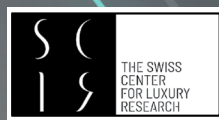




ORIGINALLUXURY

Technology For Transparency Report

3rd Edition
March 2025



Disclaimer

This report, including all its content and visual materials, has been developed in close collaboration with participating stakeholders. All profiles, testimonials, insights, and quotes attributed to specific contributors, be they technology partners, luxury brands, or thought leaders, have been reviewed and approved by the respective parties prior to publication. Their inclusion reflects their direct input, expertise, and consent.

All other content not expressly provided or approved by participating stakeholders, including but not limited to introductory texts, editorial framing, analytical commentary, thematic structuring, conclusions, and the design of the report, remain the exclusive intellectual property of ORIGINALLUXURY. This includes any original concepts, frameworks, or recommendations introduced in the context of transparency, traceability, and digital transformation within the luxury sector.

The contents of this report are protected by applicable copyright and intellectual property laws. No portion of this publication may be reproduced, distributed, or used in any manner, whether in whole or in part, without the prior written consent of ORIGINALLUXURY, except for brief quotations used in academic, industry, or media reviews with appropriate citation.

The inclusion of any brand, company, or technology does not imply an endorsement by ORIGINALLUXURY, nor does it constitute a commercial partnership unless expressly stated. ORIGINALLUXURY assumes no responsibility for the accuracy or completeness of content provided by third parties, although reasonable efforts have been made to ensure all information is up to date and factually accurate as of the date of publication.

This report is intended to inform and inspire a shared commitment to greater transparency and accountability in the luxury industry. ORIGINALLUXURY stands as a neutral and independent platform fostering best practices, open dialogue, and responsible innovation. Any forward-looking statements or perspectives presented are meant to stimulate strategic thinking and should not be interpreted as financial, legal, or regulatory advice.



The Evolution of Transparency and Traceability in Luxury

In an era where consumer expectations are shifting toward greater accountability, the luxury industry stands at the crossroads of tradition and innovation. The once opaque supply chains that supported the mystique of luxury are now being replaced by a demand for verifiable provenance, responsible sourcing, and digital authentication. The modern luxury consumer seeks not only beauty and craftsmanship but also trust, credibility, and a deeper connection to the products they purchase.

At the heart of this transformation is the growing role of transparency and traceability: two critical pillars that are reshaping how brands engage with their customers and build lasting value. No longer are these concepts merely regulatory imperatives; they have become strategic advantages, allowing brands to differentiate themselves in an increasingly competitive market. Whether it is diamonds, precious metals, fine watches, or high-end fashion, the ability to demonstrate a product's journey from origin to ownership has become essential.

The luxury sector has historically thrived on exclusivity, heritage, and craftsmanship. However, the rise of sustainability-conscious consumers, new regulatory frameworks, and digital innovation are forcing a reevaluation of traditional practices. The European Union's Ecodesign for Sustainable Products Regulation (ESPR), set to take effect in 2026, will require luxury brands to implement Digital Product Passports (DPPs), comprehensive records detailing a product's lifecycle, materials, and ethical sourcing. This regulatory shift underscores an industry-wide recognition that transparency is no longer optional, it is the new gold standard.

Technology is playing a pivotal role in facilitating this shift. Blockchain, artificial intelligence, and laser inscription technologies are being deployed to create immutable records of product authenticity, ensuring that every step of a luxury item's journey is documented. From diamonds traced through blockchain-backed platforms to watches embedded with NFT-based authenticity certificates, these innovations are setting new benchmarks for supply chain integrity.

In this report, we explore how leading companies and visionaries across the luxury ecosystem are embracing traceability and transparency. Industry pioneers are leveraging cutting-edge technology to create secure, verifiable, and consumer-friendly solutions. Their work is not just about meeting compliance standards but about reinventing the luxury experience for a new generation of discerning customers.

Beyond compliance and technology, there is a larger narrative unfolding, one that speaks to consumer desirability and brand storytelling. Today's most successful brands are those that can blend transparency with an emotional connection, crafting narratives that elevate a product beyond its material value.

As the industry evolves, one thing is certain: transparency and traceability are the new markers of true luxury. Those who embrace this shift will not only gain a competitive edge but will also redefine what it means to be a luxury brand in the modern world.

Table of Contents

Opening	03
Executive Summary	09
Technology Partners	
Introduction	55
Alpvision	57
Arianee	63
Aura Blockchain Consortium	71
Authentia	79
Authentic Vision	85
Crane Authentication	94
Diatech	100
Dynamic Element	111
iTraceiT	116
Opsydia	121
Provenance Proof	130
Sarine	140
Scs Global	154
Smartstamp	159
Tracemark	163
Tracr	167
Zatap	172
Insights & Key Findings	182

Luxury Stakeholders

Introduction	184
Bonas Group	185
Brilliant Earth	190
Breitling	195
Bubble Bee	204
Camille Louise Jewellery	214
Czi – The Art Of Skin	219
Diambel	223
Dimexon	227
Facet	240
Fairever	245
Frederique Constant	251
Kp Sanghvi & Sons	255
La Luce	259
Luc8k	263
Movo Partners	271
One Gemme	275
Politains	321
Procos	325
Saskia Shutt	326
Shamas	330
Swiss Better Gold Association	338
Vanhu Vamwe	347
Vekariya Gems	360
Insights & Key Findings	366

Thought Leadership Articles

<i>Introduction</i>	368
Aura Blockchain Consortium	370
Aura Blockchain Consortium	373
Breitling	376
Diatrace	380
iTraceiT	384
La Luce	387
OPSYDIA	390
Sarine	393
SCS Global	397
STPL	401
<i>Insights & Key Findings</i>	406
<i>Conclusion</i>	407
<i>About</i>	408



Redefining Luxury Through Transparency and Technology

Welcome to the third edition of the Technology for Transparency Report, a unique publication that captures the ongoing evolution of the luxury industry in an era of accountability, innovation, and consumer empowerment. As luxury transitions from an exclusive and opaque model to one defined by ethics, provenance, and digital connectivity, transparency and traceability have emerged as essential pillars, not just for regulatory compliance but for strategic differentiation and brand desirability.

In this report, we examine how technology is redefining the very foundations of luxury. From the increasing adoption of Digital Product Passports (DPPs) ahead of regulatory mandates, to innovations in blockchain, AI, biometric security, NFC chips and laser inscription, the industry is embracing solutions that ensure authenticity, reduce risk, and deepen trust.

What unites these solutions is a shared purpose: to make luxury not only beautiful, but verifiable, meaningful, and engaging. As consumers demand more from the brands they invest in, more transparency, more impact, and more connection, technology becomes the bridge between heritage and modernity, craftsmanship and accountability, ownership and experience.

This report brings together the voices, innovations, and reflections of those leading this transformation: technology partners, luxury brands, and thought leaders, to offer a panoramic view of the future of luxury, where transparency is not a constraint, but a source of creativity, connection, and long-term value.

Executive Summary

Why It Matters

In today's world, where consumers seek meaning, authenticity, and accountability, transparency is no longer a compliance requirement; it is a gateway to deeper connections. As luxury competes not just with other products but with experiences that promise fulfillment and memory-making, traceability emerges as a strategic asset. It transforms the static value of an object into a dynamic story that unfolds across time. This report explores how technology, particularly in traceability and transparency, is not merely a cost factor but an enabler, allowing brands to evolve from product providers into experience creators. Grounded in facts rather than perceptions, this new paradigm strengthens trust, enhances engagement, and redefines the essence of luxury in the 21st century.

Introduction

The luxury industry is undergoing a fundamental transformation. Regulatory pressure, shifting consumer values, and digital innovation redefine what it means to create and own luxury. Today, transparency is not a constraint but a catalyst: it allows brands to build trust, enable experiences, and align with a new generation that demands meaning, not just materials.

Regulations such as the European Union's Ecodesign for Sustainable Products Regulation (ESPR) and heightened scrutiny around ethical sourcing are compelling luxury brands to reassess not only their supply chains but also their consumer engagement models. In this new landscape, **traceability is no longer a box-ticking exercise, it is an opportunity to turn every product into a story.**

This edition of the Technology for Transparency report compiles insights from leading technology providers, industry innovators, and luxury stakeholders. It explores how tools such as blockchain, AI-driven automation, Digital Product Passports (DPPs), and laser marking reshape traceability across diamonds, jewelry, and the broader luxury sector. The findings illuminate challenges and the unprecedented opportunities in building a more sustainable, interactive, and consumer-centric future.

Key Findings: The Evolution of Transparency in Luxury

1. Digital Product Passports (DPPs) Are Revolutionizing Consumer Engagement

- DPPs are not merely compliance mechanisms; they are strategic assets that connect brands to consumers.
- As digital twins of physical products, DPPs provide secure, traceable records of a product's entire lifecycle, from raw material to resale.
- Secure traceability features enable instant authentication, sustainability visibility, and value-added services like warranties, care, and resale, **transforming ownership into an experience.**

2. Traceability is a Competitive Advantage, Not Just a Regulatory Requirement

- Leading luxury stakeholders and technology providers view traceability as a driver of brand trust and differentiation.

- With growing consumer demand for proof of ethical sourcing, third-party verification, AI-powered transparency, and blockchain integration are becoming essential.
- **Brands that lead with traceability not only de-risk compliance, but they also build loyalty and elevate perceived value.**

3. Blockchain and AI Are Reshaping the Luxury Supply Chain

- AI and laser marking enhance diamond and jewelry traceability, from mine to market.
- AI-powered rough-to-polished tracking ensures efficiency, verifies authenticity, and reduces human error.
- Blockchain solutions secure verifiable, tamper-proof data, safeguarding against fraud and counterfeits in an increasingly complex market.

4. Sustainability is Profitable When Integrated with Smart Business Strategies

- The idea that sustainability comes at the expense of profitability is being challenged.
- Investments in energy efficiency, carbon mitigation, and responsible sourcing are proving to be both regulatory necessities and long-term business enablers.
- Independent certification bodies add credibility, making sustainability claims more meaningful to discerning consumers.

5. Collaborative Storytelling is Key to Reigniting Consumer Excitement in Luxury

- Traceability enables storytelling, not just about provenance, but about people, purpose, and craftsmanship.
- The fragmentation of marketing strategies has distanced consumers from the meaning behind luxury goods.
- **A unified effort across the industry is essential to rebuild emotional connection and cultural relevance.**

Beyond Compliance: Making Transparency Work for Consumers and Brands

The future of transparency in luxury must evolve from static reporting to dynamic consumer engagement. It must bridge the gap between product and experience, offering not just data, but value.

Digital Product Passports, blockchain verification, and AI-powered traceability should be designed to delight. Features like personalized storytelling, embedded services, resale facilitation, and sustainability incentives can turn traceability into a touchpoint for discovery and emotional engagement.

When transparency becomes experiential, it stops being a cost factor and becomes a loyalty engine. The brands that embrace this shift will not only future-proof their business models but redefine luxury itself.

In this new era, the future of luxury is not just about exclusivity, it is about building a legacy of trust, innovation, and responsibility.

Technology Partners

The Technology for Transparency Report (T4T) showcases the most innovative solutions driving traceability, authentication, and digital transparency in the luxury sector. In this 3rd edition, we present 17 leading technology partners that are shaping the future of diamonds, jewelry, watches, fashion, and art through blockchain, AI, biometrics, and digital product passports.

As consumer demand for sustainability, responsible sourcing, and verifiable authenticity continues to rise, luxury brands must embrace cutting-edge solutions to enhance trust, compliance, and engagement. This report highlights how each technology partner is addressing key industry challenges, from counterfeiting and supply chain integrity to seamless digital-physical interactions.

With solutions spanning invisible security markers, blockchain-powered traceability, AI-driven authentication, and digital twin technology, our tech partners are not only safeguarding the integrity of luxury goods but also unlocking new opportunities for consumer engagement and circular economy initiatives.

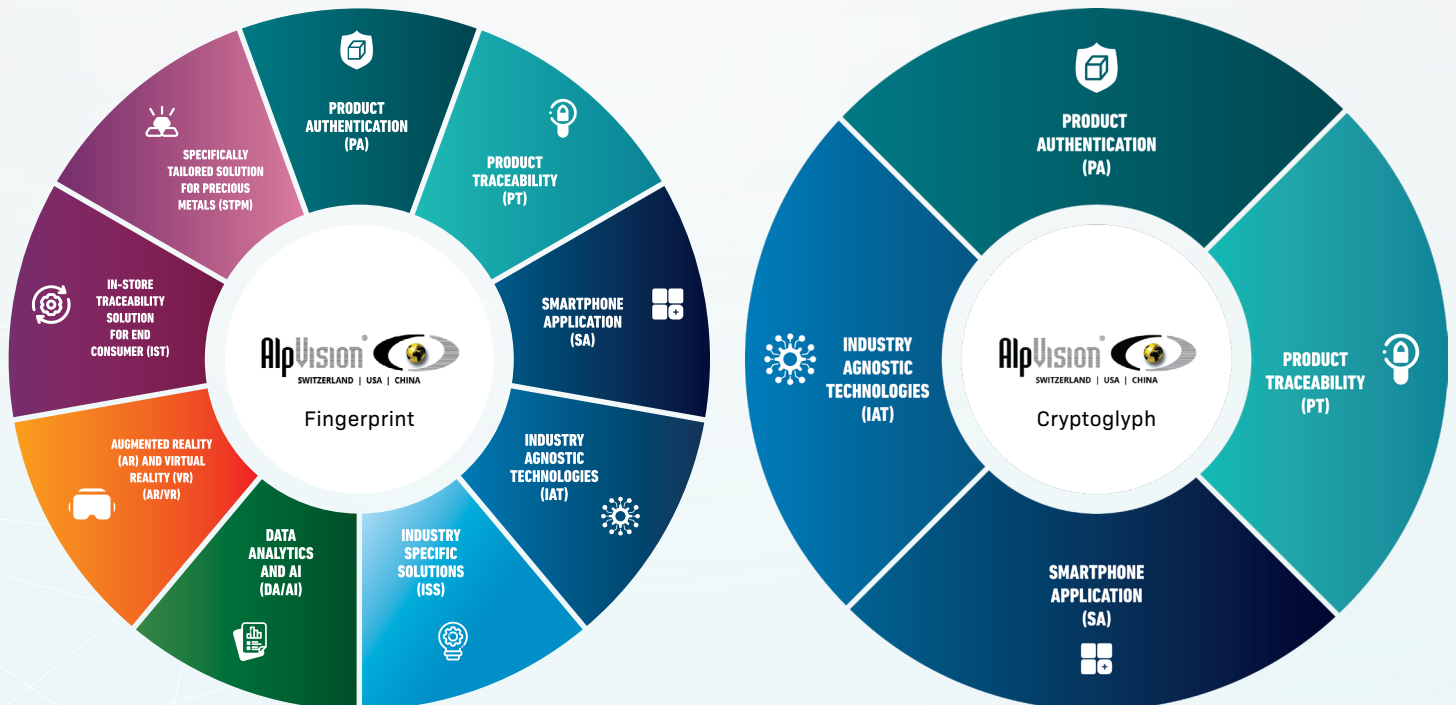
By bridging innovation and transparency, this report serves as a roadmap for luxury brands, suppliers, and policymakers to navigate the evolving landscape of trust, traceability, and responsible luxury.

AlpVision: Invisible, Scalable Protection Against Counterfeiting

AlpVision is a global leader in invisible digital security solutions, providing covert anti-counterfeiting and traceability technology for 30 billion products annually. With over 23 years of industry experience, AlpVision ensures seamless authentication with no impact on manufacturing processes.

- **Fingerprint Technology:** An invisible security layer detectable via smartphones, allowing instant product verification without added production costs.
- **Cryptoglyph Technology:** A micro-perforation-based security feature embedded in the varnish layer of packaging, combating grey market diversion and unauthorized resale.
- **Scalability & Efficiency:** Used worldwide, AlpVision's solutions provide real-time authentication, secure serialization, and seamless integration into existing supply chains without additional production steps.

By combining traceability, security, and accessibility, AlpVision is setting a new standard for counterfeit prevention and brand protection, ensuring trust and transparency in global luxury markets.



.arianee

Arianee: Pioneering Digital Product Passports for Circular Luxury

Arianee is at the forefront of Digital Product Passport (DPP) innovation, enabling luxury brands to enhance product transparency, circularity, and post-purchase engagement. By leveraging open-source blockchain technology, Arianee ensures that each product's origin, authenticity, and lifecycle data are securely recorded and accessible to consumers.

- **Open and Interoperable Digital Product Passports** provide verifiable proof of authenticity, secure ownership records, and comprehensive product histories, enhancing trust in resale markets, repairability, and sustainability initiatives.
- **The Arianee Protocol**, compliant with Ethereum ERC-721 standards, enables seamless traceability, regulatory compliance (AGEC, ESPR), and integration with service providers, such as resale, repair, and recycling platforms.
- **Industry Impact:** Over 50 luxury brands and 2.4 million durable products have adopted Arianee's solutions, with notable implementations, including Breitling's blockchain-powered digital ecosystem, providing consumers with secure digital ownership, warranty tracking, and insurance services.

By promoting sustainability, consumer empowerment, and digital sovereignty, Arianee is shaping the future of luxury through traceability, transparency, and responsible consumption.





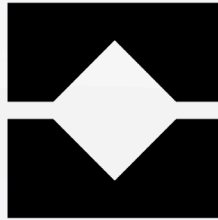
Aura Blockchain: Uniting Luxury for Secure & Transparent Digital Product Passports

The Aura Blockchain Consortium is a non-profit organization dedicated to making blockchain technology accessible to luxury brands, fostering traceability, authenticity, and sustainability. With over 50 luxury brands and 50 million+ products recorded, Aura provides a secure, industry-wide solution for digital transparency.

- **Digital Product Passports (DPPs)** offer verifiable proof of origin, ownership, and sustainability, enabling consumers to make informed decisions and brands to enhance product lifecycle management.
- **Custom Blockchain Solutions** ensure the highest data security, compliance with evolving regulations (such as ESPR), and seamless resale market integration, helping brands engage with next-generation luxury consumers.
- **Consumer-Centric Approach:** DPPs provide lifetime authentication, maintenance tracking, warranty extensions, and even resale history, creating a seamless and immersive customer experience.

By promoting collaboration over competition, Aura is shaping the future of transparency in luxury, empowering brands and consumers alike to embrace sustainability, digital innovation, and trust.



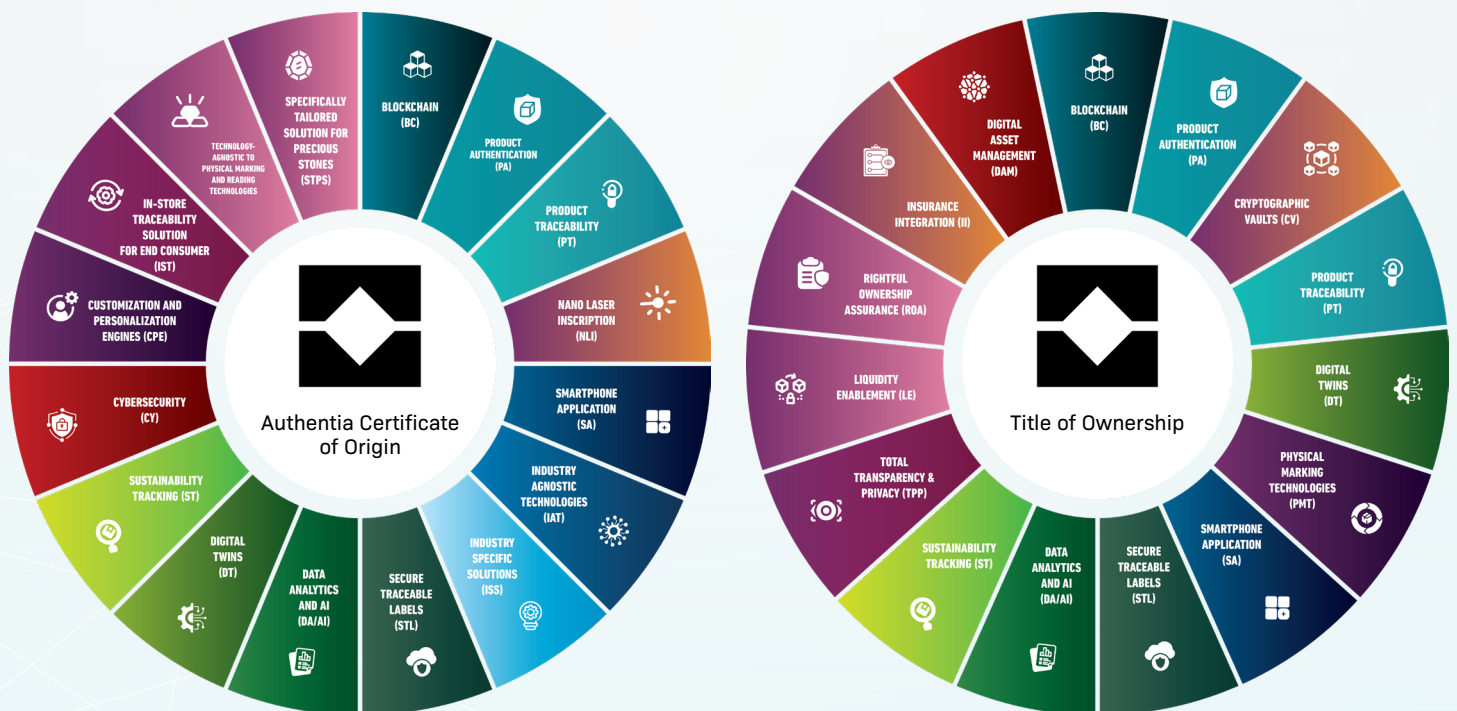


Authentia: Blockchain-Powered Traceability for Ethical Sourcing

Authentia is redefining transparency in the diamond and luxury goods industry with patented blockchain-based solutions that ensure ethical sourcing, verifiable authenticity, and secure ownership. By leveraging public blockchains, decentralized file storage, and cryptography, Authentia provides immutable records that combat counterfeiting and promote trust across the supply chain.

- **Authentia Certificate of Origin** guarantees the ethical provenance, traceability, and authenticity of diamonds, securing their journey from mine to market and enabling industry-wide compliance with transparency standards.
- **Title of Ownership** creates a hierarchical, trustless value chain, ensuring that every transaction, from rough diamonds to finished products, remains verifiable, while also providing liquidity to asset owners.

With global operations spanning Kimberley, Tel Aviv, New York, Hong Kong, Dubai, and Shanghai, and a growing adoption rate among mines, producers, and brands, Authentia is setting a new benchmark for digital transparency and accountability in the luxury sector.





Authentic Vision: Mobile-Enabled Authentication for Secure, Transparent Supply Chains

Authentic Vision is a leader in anti-counterfeiting and product authentication, providing instant mobile verification solutions to safeguard brands, consumers, and supply chains. With patented holographic fingerprint technology, Authentic Vision ensures real-time authentication, fraud prevention, and digital engagement across industries.

- **Holographic Fingerprint™ Technology:** Secure, unique, and tamper-proof product tagging, allowing instant authentication via smartphone scans, linking physical products to digital trust ecosystems.
- **Global Industry Adoption:** Used by 50+ brands, including Bacardi, HDMI, and Nexans, Authentic Vision protects luxury goods, electronics, financial services, and consumer products from fraud and unauthorized sales.
- **Proven Impact & Transparency:** Companies leveraging Authentic Vision have seen increased customer trust, counterfeit reduction, and improved supply chain security, with thousands of scans detecting fraudulent products.

By combining mobile authentication, blockchain integration, and digital engagement, Authentic Vision is redefining trust and security in the digital and physical worlds.



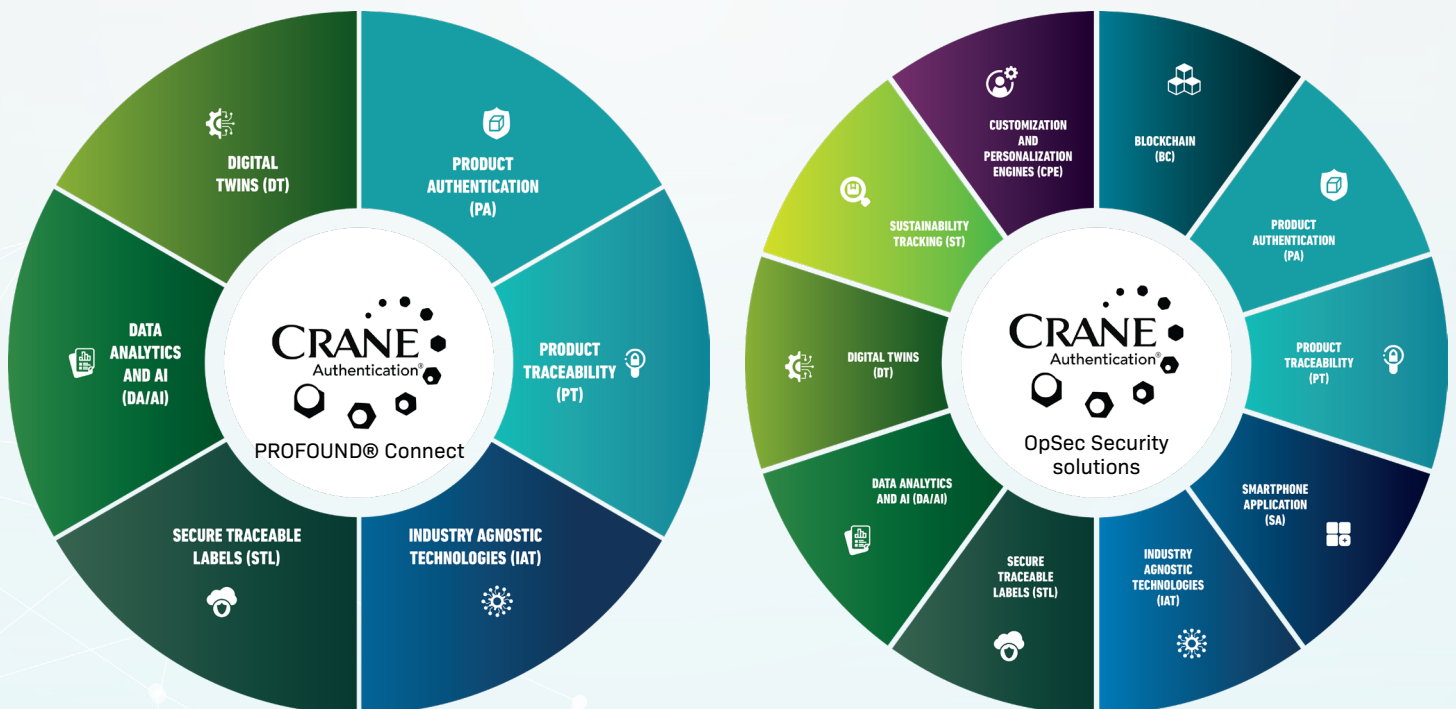


Crane Authentication & OpSec Security: Advanced Protection for Product Integrity & Brand Trust

Crane Authentication and OpSec Security, both part of Crane NXT, bring over 200 years of expertise in brand protection, anti-counterfeiting, and supply chain transparency. Their innovative security solutions safeguard 30 billion products annually, providing cutting-edge authentication and tracking technologies for luxury brands, government agencies, and financial institutions worldwide.

- **PROFOUND™ Connect:** A high-security label with physical-digital serialization, enabling tamper-proof authentication and seamless traceability across the supply chain.
- **OpSec Security Solutions:** Comprehensive brand protection services that combat counterfeiting, trade diversion, and intellectual property theft, ensuring integrity and trust in the global luxury sector.
- **Industry Impact & Global Scale:** As a New York Stock Exchange-listed company with operations worldwide, Crane provides transparent, auditable, and ethically responsible security solutions.

By combining banknote-grade security, digital authentication, and advanced brand protection, Crane Authentication & OpSec Security are redefining product integrity and consumer trust in an increasingly digital and interconnected world.



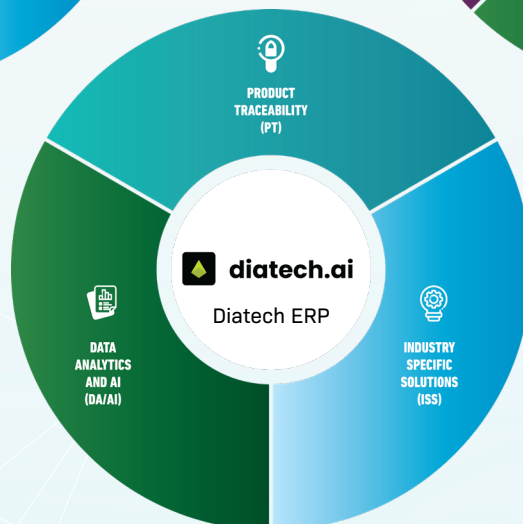
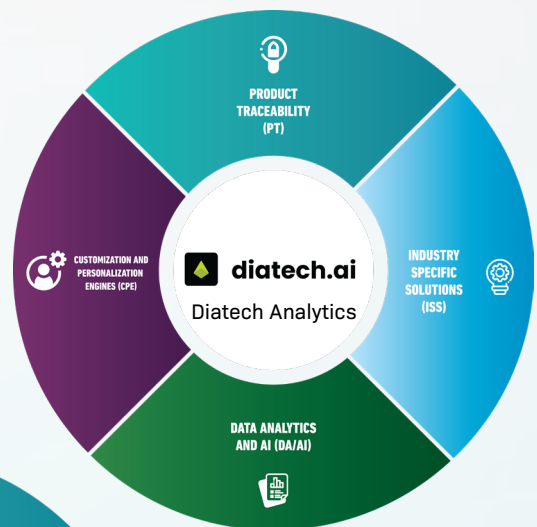
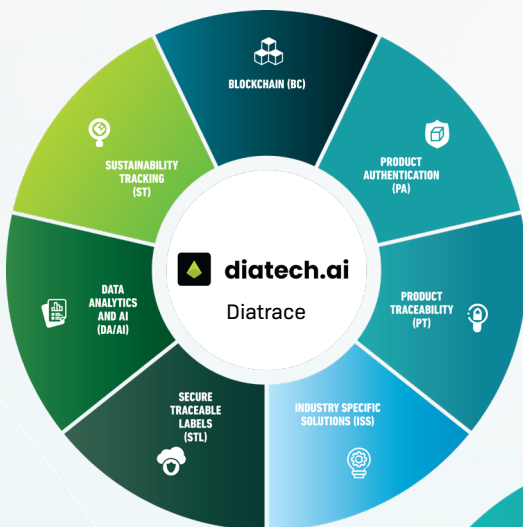


Diatech: AI & Blockchain-Powered Transparency for the Diamond Industry

Diatech is transforming diamond traceability, ESG certification, and market intelligence through cutting-edge AI, blockchain, and ERP solutions. By ensuring end-to-end transparency, Diatech empowers brands, manufacturers, and retailers to enhance trust, sustainability, and efficiency.

- **Diatrace:** A blockchain-powered traceability platform that provides secure, real-time tracking for both natural and lab-grown diamonds, promoting ethical sourcing and sustainability. Over 50,000 carats have already been traced.
- **Diatech Analytics:** AI-driven market intelligence and pricing insights, improving data visibility by 35-40%, allowing businesses to price goods 4x more frequently and accurately.
- **Diatech ERP:** Enterprise software solutions that track millions of carats, reducing fraudulent activities and increasing operational efficiency for 50-60 brands worldwide.

With a presence in India, UAE, Belgium, the USA, Botswana, and Hong Kong, Diatech is redefining transparency, security, and innovation in the global diamond industry.

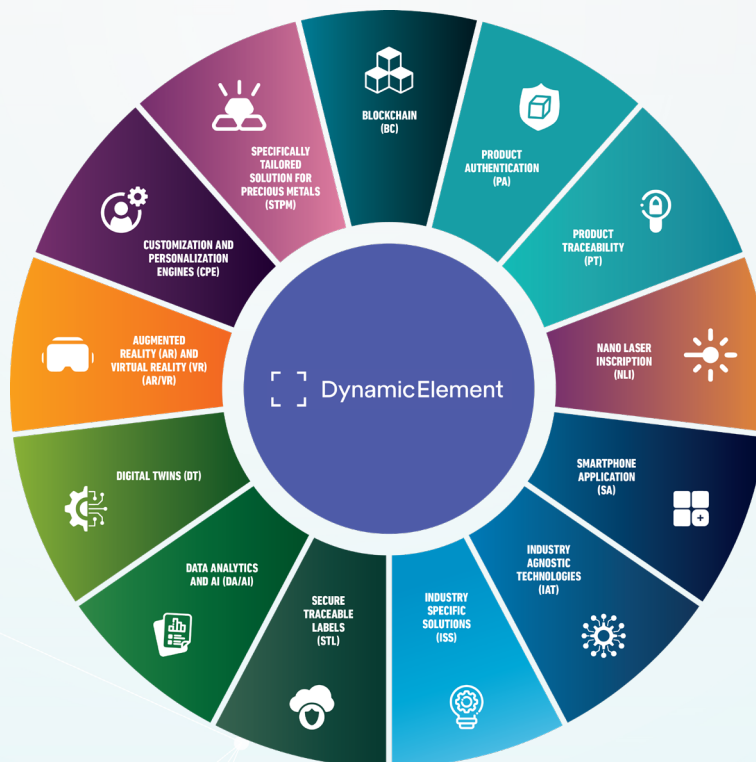


Dynamic Element: AI-Powered Product Authentication & Anti-Counterfeiting

Dynamic Element is revolutionizing product identity and brand protection through biometric surface-based authentication, ensuring trust, transparency, and security across multiple industries. By leveraging AI and computer vision, the company enables real-time verification and ownership authentication for luxury goods, pharmaceuticals, and more.

- **Crypto Stamps:** Counterfeit-proof digital stamps with embedded security features, ensuring product authenticity and engaging consumers with interactive digital experiences.
- **Scalability & Security:** Dynamic Element's technology is securing over 1 million products, achieving 90%+ reductions in fraudulent activities and significantly enhancing traceability and transparency.
- **Global Reach & Adoption:** With a growing network of partners across sectors, Dynamic Element is setting a new standard for product verification, ensuring brand integrity and consumer trust.

By combining innovation, AI-driven security, and seamless customer interaction, Dynamic Element is leading the fight against counterfeiting, transforming traceability and digital authentication worldwide.





iTraceiT: Blockchain-Powered Traceability for the Diamond & Luxury Sectors

iTraceiT is revolutionizing product traceability in the diamond, jewelry, and luxury industries through a blockchain and QR code-based solution that enhances transparency, authenticity, and ESG compliance. With 126+ license holders spanning miners, traders, manufacturers, and retailers, iTraceiT is empowering businesses to document and communicate the journey and ethical sourcing of their products.

- **End-to-End Traceability:** The iTraceiT Workflow enables brands to track diamonds and luxury components throughout the supply chain, ensuring verifiable provenance and sustainability.
- **Seamless Integration:** Designed for scalability and efficiency, iTraceiT's secure, decentralized system helps brands align with regulatory requirements and ESG goals, while enhancing customer trust.
- **Global Expansion:** With operations across Europe, India, and the UAE, iTraceiT is set to expand into the US market, reinforcing its position as a trusted partner for digital traceability.

By leveraging cutting-edge technology, iTraceiT is pioneering a new standard for secure, transparent, and responsible sourcing in the luxury industry.



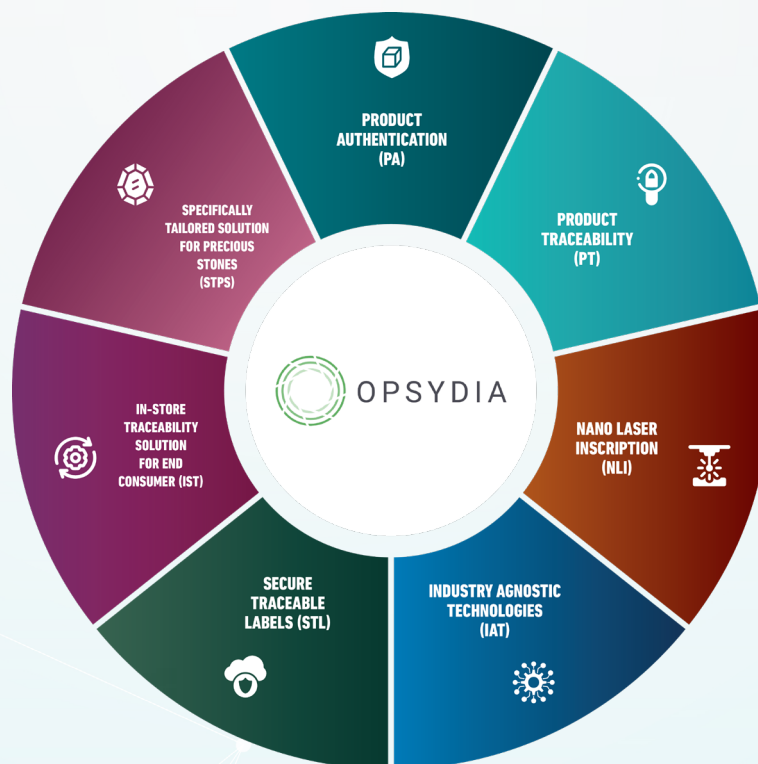


Opsydia: Tamper-Proof Laser Inscriptions for Diamond & Gemstone Authentication

Opsydia is revolutionizing traceability and authentication in the diamond, colored gemstone, jewelry, and watch industries through ultra-precise, tamper-proof laser inscriptions. Originating from the University of Oxford, Opsydia's cutting-edge technology provides a permanent, secure identity for precious stones that enhances transparency, anti-counterfeiting, and provenance verification.

- **Opsydia Systems** (D4000, D5000, D6000) create sub-surface and surface identifiers that cannot be polished away or replicated, ensuring a physical link to grading reports, blockchain records, and brand authentication.
- **Opsydia Viewer** allows luxury brands to showcase gemstone authenticity in-store, integrating with blockchain and traceability platforms to offer a seamless consumer experience.
- **Industry Impact:** Opsydia's nano-inscription technology is already securing diamonds, *melée* stones, and high-end luxury timepieces, safeguarding both primary and secondary markets.

By bridging physical and digital authentication, Opsydia is setting a new standard for luxury security, ensuring trust, provenance, and brand integrity across the global jewelry and gemstone industries.



PROVENANCE PROOF

Provenance Proof: Pioneering Traceability in the Gem & Jewelry Industry

Provenance Proof is redefining transparency in the luxury industry through cutting-edge solutions that enable full traceability of gemstones, diamonds, and jewelry. Leveraging DNA-based Physical Tracers and Blockchain technology, the company provides tamper-proof, verifiable records of a product's journey from mine to market.

- **Provenance Proof Physical Tracers** use unique, invisible DNA markers to prevent counterfeiting and ensure an indelible link between a product and its origin. These tracers, resistant to aging and industry cleaning processes, integrate seamlessly into the supply chain.
- **Provenance Proof Blockchain** offers a secure, immutable ledger, with over 35 million gemstones recorded and 750+ registered stakeholders, setting the standard for digital traceability in the industry.
- **Proof of Authenticity** combines these two technologies, providing a robust solution against fraud while enhancing consumer trust through digital product passports and authenticity certificates.

With a global reach and a commitment to innovation, Provenance Proof strengthens brand integrity, regulatory compliance, and consumer confidence, ensuring the luxury industry meets modern expectations of responsible sourcing and transparency.





Sarine: AI & Data-Driven Diamond Traceability from Mine to Market

Sarine Technologies is a global leader in diamond traceability and grading, utilizing AI, data analytics, and precision imaging to establish verifiable, tamper-proof transparency throughout the diamond supply chain. With over 30 years of innovation, Sarine's Diamond Journey Traceability™ Solution sets a new standard for objective, data-backed provenance tracking.

- **Data-Verifiable Traceability:** Sarine's multi-stage measurement system tracks diamonds from rough to polished, ensuring an immutable digital record verified at each transformation stage.
- **Seamless Industry Integration:** Sarine's technology is embedded across mining, cutting, polishing, and retail, providing brands like Boucheron and Kering Group with co-branded, AI-powered diamond reports.
- **Enhancing Consumer Confidence:** By combining digital product passports, interactive storytelling, and AI-powered 4C grading, Sarine helps luxury brands meet growing demand for ethical sourcing and sustainability.

With operations in Japan, China, the US, France, India, and beyond, Sarine is pioneering scalable, verifiable traceability, reinforcing consumer trust and strengthening industry compliance.



SCS Global Services: Pioneering Independent Certification for Sustainability & Transparency

With over 40 years of expertise, SCS Global Services is a leading independent third-party certification body, driving sustainability, ethical responsibility, and product transparency across jewelry, mining, agriculture, forestry, and climate sectors.

- **Comprehensive Certification & Verification:** SCS provides certification, auditing, and independent verification, ensuring brands meet the highest sustainability and ethical standards while fostering continuous improvement.
- **Global Impact:** With 30,000+ certifications across 125 countries and 15,000+ clients, SCS is a trusted authority for independent sustainability assessment.
- **Advancing Sustainable Development:** By utilizing scientific analysis, life-cycle assessment, and performance metrics, SCS helps businesses enhance credibility, mitigate risks, and reassure consumers about their responsible practices.

By setting global benchmarks for transparency and accountability, SCS Global Services is shaping a more ethical and sustainable future for the luxury industry.



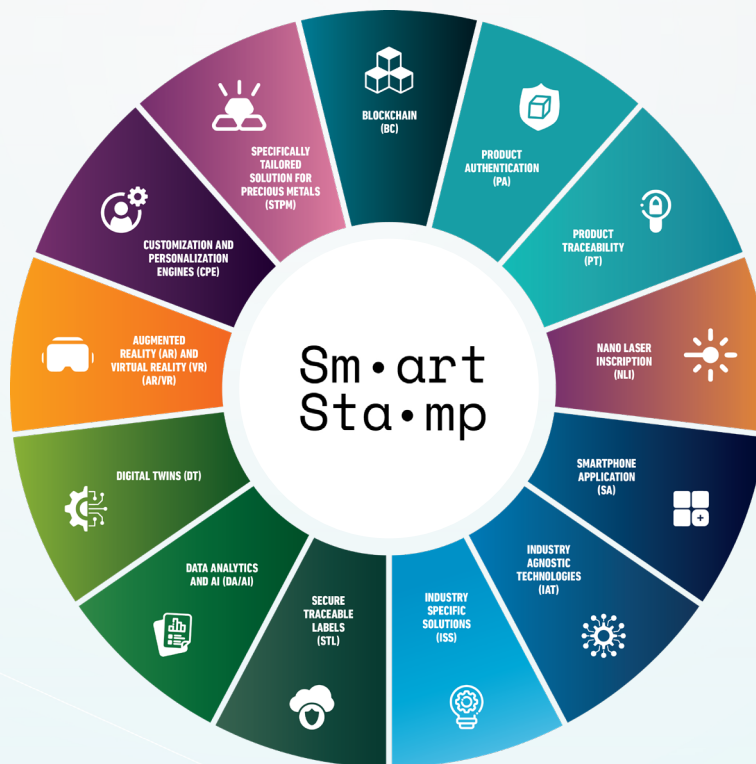
Sm•art Sta•mp

SmartStamp: AI-Powered Authentication & Provenance for the Art Market

SmartStamp is transforming art authentication and provenance tracking through AI-driven surface recognition and blockchain-secured records, ensuring artworks remain verifiable, protected, and seamlessly transferable. By addressing fragmentation, fraud, and disorganized records, SmartStamp is setting a new standard for trust and transparency in the art world.

- **AI-Based Authentication:** Non-invasive surface recognition technology creates a unique, immutable identity for each artwork, preventing counterfeiting and unauthorized alterations.
- **Blockchain-Secured Provenance:** Ensures tamper-proof documentation, ownership history, and condition records, safeguarding artworks across generations.
- **Comprehensive Management Suite:** Provides artists, collectors, and institutions with a centralized platform to preserve, manage, and transfer artworks seamlessly.

By combining cutting-edge AI, blockchain, and digital asset management, SmartStamp is reinventing the art industry's approach to authentication, transparency, and trust.





Tracemark: Certified End-to-End Traceability for Responsible Jewelry

Tracemark is the first independently certified jewelry traceability solution, ensuring authenticity, responsible sourcing, and sustainability from raw materials to the final consumer. By offering fully audited, end-to-end traceability, Tracemark is transforming transparency in the jewelry industry.

- **Certified Traceability:** Every jewelry piece is accompanied by a Digital Product Passport, allowing customers to verify provenance, claim ownership, and engage with their jewelry's journey.
- **Industry Impact:** Tracemark has provided traceability for over 50,000 jewelry pieces, increasing transparency by 80% and eliminating fraudulent activities across 20+ brands and suppliers.
- **Sustainability & Compliance:** By ensuring full supply chain accountability, Tracemark helps brands meet global sustainability and ethical sourcing standards, driving consumer trust and industry-wide change.

With operations across Europe and the USA, Tracemark is setting a new standard for transparency, integrity, and sustainability in fine jewelry.





Tracr: Scalable, Immutable Diamond Traceability from Mine to Market

Tracr™ is a world leading digital traceability platform for natural diamonds, ensuring provenance, authenticity, and transparency at scale. By leveraging blockchain and objective verification, Tracr provides a tamper-proof record of a diamond's journey from mine to client, reinforcing consumer trust and industry compliance.

- **Unparalleled Traceability:** Tracr traces diamonds at the source, integrating mining, cutting, polishing, and retail into a single immutable digital record.
- **Industry Adoption & Scale:** With over 2.8 million rough diamonds registered and 30+ manufacturers onboarded, Tracr is setting a global standard for diamond traceability.
- **Seamless Integration & Compliance:** Tracr partners with major industry players and ensures that every diamond meets RJC, BPP, and Pipeline Integrity standards, providing objective verification rather than self-declaration.

By establishing a secure, industry-wide provenance standard, Tracr is enhancing consumer confidence, preventing fraud, and elevating transparency across the diamond supply chain.



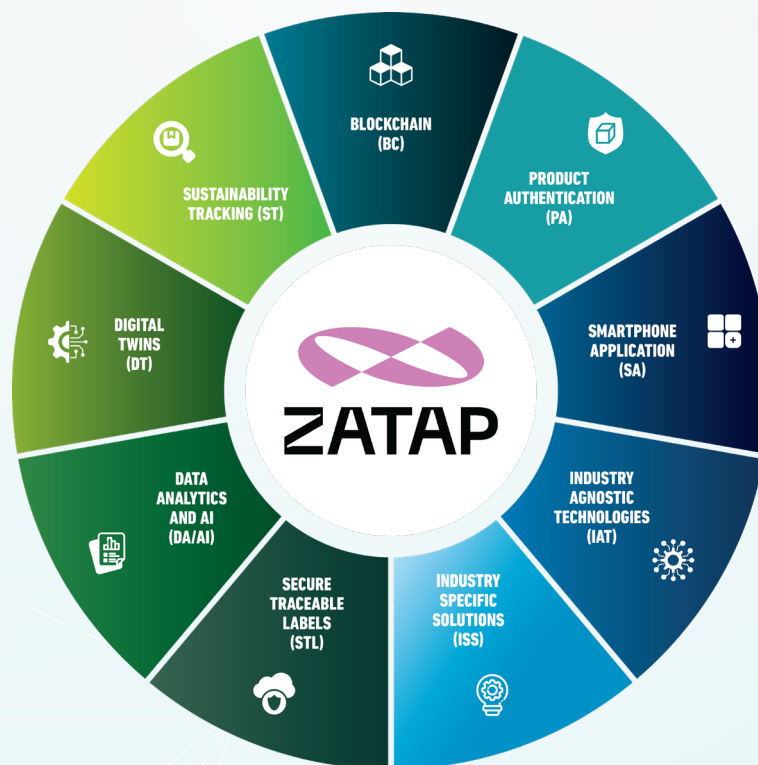


ZATAP: Phygital Experiences for Transparency & Consumer Engagement

ZATAP is redefining consumer engagement, authenticity, and traceability through its phygital technology, seamlessly bridging physical products with digital experiences. By leveraging blockchain and NFC technology, ZATAP enables brands to provide tamper-proof authentication, transparent supply chain data, and immersive customer interactions.

- **ZATAP Phygital Studio:** Empowers brands to create interactive product experiences, allowing consumers to verify authenticity, access digital product passports, and engage with brand storytelling via a simple smartphone tap.
- **Proven Industry Impact:** Successfully implemented by Hugo Boss, ELLYHA, and Maison Mollerus, ZATAP enhances customer trust, sustainability initiatives, and resale market integration. Over 500,000 products have been secured with ZATAP technology.
- **Seamless Integration & Security:** With blockchain-backed authentication, ZATAP helps brands protect against counterfeiting, track provenance, and establish direct customer relationships.

By merging physical and digital worlds, ZATAP is revolutionizing product transparency and consumer interaction, ensuring brands stay ahead in the era of digital transformation.



Driving Transparency & Trust Through Innovation

The 17 technology partners featured in this Technology for Transparency Report are at the forefront of redefining luxury through traceability, authentication, and digital innovation. Their cutting-edge solutions, ranging from blockchain traceability and AI-powered authentication to biometric security and digital product passports, are transforming the way brands engage with consumers, ensure regulatory compliance, and combat counterfeiting.

As transparency, provenance, and sustainability become non-negotiable in the luxury industry, these partners are pioneering a future where trust is embedded in every product's journey, from raw materials to the final customer. Their work not only elevates industry standards but also reinforces consumer confidence and brand integrity in an era where responsible luxury is paramount.

This report serves as a testament to the power of collaboration between technology and luxury, highlighting innovative pathways toward a more transparent, responsible, and resilient industry.



While technology is laying the foundation for traceable, trustworthy supply chains, the real transformation comes from those who implement these tools. The following luxury stakeholders exemplify how transparency and desirability can coexist, and even amplify one another, through courageous leadership and continuous innovation.

Luxury Stakeholders

In an era where values increasingly shape purchasing decisions, transparency, traceability, and ethical responsibility have become cornerstones of modern luxury. From diamonds to design, from sourcing to storytelling, today's discerning consumers expect more than craftsmanship, they demand clarity, purpose, and proof.

This third edition of the Technology for Transparency Report showcases the bold efforts of over 20 luxury stakeholders who are reshaping the industry through technological innovation, verified accountability, and shared responsibility. These contributors, ranging from multi-generational diamond houses to independent artisans, from sustainable fashion innovators to technology-driven consultants, demonstrate that transparency is no longer a competitive advantage but a collective imperative.

Each profile in this executive summary offers a glimpse into how these organizations are using blockchain, AI, digital product passports, circular design models, and ESG-aligned frameworks to drive change across their sectors. Whether through traceable supply chains, carbon footprint tracking, or empowerment of local communities, their commitments reflect a shared vision: to transform luxury into a force for trust, sustainability, and positive impact.

Together, they paint a picture of an industry in transition, not away from excellence, but toward it, defined not just by what is made, but by how and why it is made. This is transparency, elevated.



Bonas Group

With over 140 years of expertise, Bonas Group is a fifth-generation, family-owned diamond brokerage and consultancy firm that has been at the forefront of the diamond and colored gemstone industry. As the world's leading independent tender and auction house, Bonas specializes in diamond and gemstone sales, De Beers relationship management, and value chain consulting, ensuring traceability and provenance for every

stone brought to market.

Bonas has been instrumental in pioneering transparent diamond sourcing, partnering with Tracr, Sarine, GIA, and the Responsible Jewellery Council to enhance supply chain transparency and compliance. The firm integrates cutting-edge technology and verifiable provenance tracking, reinforcing trust and data integrity within the luxury sector.

BRILLIANT EARTH®

Brilliant Earth

Since its founding in 2005, Brilliant Earth has been a global leader in ethically sourced fine jewelry, setting new industry standards through supply chain transparency, sustainability, and responsible sourcing. With a mission to cultivate a more ethical, compassionate, and inclusive jewelry industry, the company has been at the forefront of diamond traceability and environmental stewardship.

Brilliant Earth was among the first jewelers to sell blockchain-verified natural diamonds at scale, expanding its Beyond Conflict Free® selection in 2023. The company collaborates with Tracr, the Alliance for Responsible Mining, and Pure Earth to ensure data integrity, regulatory compliance, and social impact tracking across its supply chain.

Through the Brilliant Earth Foundation, the company has donated \$2 million to community development projects, funding long-term grants for sustainable mining practices, environmental conservation, and social responsibility initiatives.



Breitling

Founded in 1884, Breitling is a pioneer in Swiss luxury watchmaking, now recognized as a global leader in transparency and luxury sustainability. With a commitment to traceability-based business models, Breitling introduced the Super Chronomat 38 Origins, the first watch in its collection to feature traceable artisanal and small-scale gold and lab-grown diamonds, supported by enhanced NFTs that track these precious materials from source to product.

Partnering with Arianee, Swiss Better Gold Association, and SCS Global, Breitling has reshaped its supply chain operations to align with EU regulations and consumer demand and global regulations related to transparency. Through its Better Gold Fund and Better Diamond Fund, Breitling supports education, environmental protection, and alternative livelihoods in sourcing communities across Latin America and India.

Notable projects include educational programs near Colombian mines, co-financed projects to reduce environmental impact such as renewable energy installations in the upstream value chain, and social impact leadership training in Gujarat, India. In FY24 alone, the company contributed CHF 1.7 million to social and environmental initiatives.



Bubble Bee

Bubble Bee OÜ, founded by Merily Aavik, is a luxury children's brand that blends storytelling, craftsmanship, and sustainability to create hand-drawn silk bed linens and immersive learning experiences. More than a product, Bubble Bee is a fairy tale-driven ecosystem, integrating education, entertainment, and ethical production to inspire children and families worldwide.

Beyond design, Bubble Bee actively supports educational institutions and community initiatives, aiming to integrate storytelling into learning curricula and promote meaningful parent-child connections. By leveraging traceable supply chains and sustainable craftsmanship, Bubble Bee embodies a future where luxury, ethics, and childhood wonder intertwine.



Camille Louise Jewellery

Camille Louise Jewellery (CLJ) is redefining luxury by merging cutting-edge technology with traditional craftsmanship, creating phygital (physical + digital) jewelry that enhances traceability, sustainability, and consumer engagement. Founded in 2020 by Aline d'Ambricourt and Camille Louise Merré, this mother-daughter Swiss Maison is committed to transparency, circularity, and responsible sourcing, aligning with

United Nations Sustainable Development Goals (SDGs) 5, 9, 10, 12, 13, and 17.

As a "Friends of Goals House" brand, CLJ is recognized for shifting the dial towards a more sustainable future, integrating AI-driven transparency solutions in partnership with AtriaGem Labs, set to launch in 2025. The company is also pioneering blockchain-enabled traceability through Tracr, ensuring full supply chain transparency and data integrity.



CZI – The Art Of Skin

Founded in 2022 in Switzerland, CZI - The Art of Skin is a visionary Art-to-Wear brand that merges fashion, art, and sustainability to create unique resort and beachwear pieces. Driven by a philosophy of authenticity, innovation, and ethical responsibility, CZI crafts collectible, artistic garments that empower individuals while embracing sustainable and traceable practices.

CZI is committed to responsible sourcing, craftsmanship, and short-haul logistics, prioritizing recycled fibers and ethical partnerships to minimize environmental impact. Through an upcoming transparency initiative launching in Q4 2024 & Q1 2025, the brand will provide detailed sourcing and craftsmanship insights, reinforcing its mission to restore trust and customer loyalty in luxury.



Diambel

Diambel Group, a vertically integrated natural diamond company, is committed to reimagining industry standards through sustainable sourcing, ethical practices, and full supply chain transparency. With operations spanning from rough to polished diamonds and fine jewelry, Diambel collaborates with top global miners to ensure that every diamond meets the highest ethical and quality benchmarks.

The company's "Sealed with Integrity" philosophy reinforces its dedication to traceability, compliance, and sustainability, leveraging advanced traceability solutions like iTraceiT to provide verifiable provenance data for its diamonds. By integrating technology-driven transparency into its supply chain, Diambel enhances consumer trust, operational efficiency, and regulatory compliance.

Dimexon



Dimexon, a family-owned diamond manufacturer and De Beers Sightholder since 1976, stands as a global leader in responsible sourcing, ESG excellence, and traceability. With offices in Antwerp, Dubai, Mumbai, and Hong Kong, and over 2,000 employees, Dimexon maintains a fully RJC-certified, audited, and transparent supply chain aligned with OECD due diligence and World Diamond Council protocols.

A pioneer in ESG, Dimexon was the first diamond company to voluntarily adopt IFRS, and one of the first to offer full traceability data back in 2017. Their traceability now spans 100% of both rough and polished diamond supply, with zero waste to landfill and zero liquid discharge certification at their India plant.

Socially, Dimexon is recognized for its commitment to female empowerment, with over 75% of staff being women, and its deep-rooted culture of ethical labor practices and human rights protections. The company also invests in training programs, employee satisfaction, and rigorous human rights due diligence across all levels.

Facet



Founded in 1987, FACET has become a global leader in sustainable jewellery manufacturing, renowned for its commitment to transparency, innovation, and ethical craftsmanship. With operations in Barcelona, Córdoba, New York, and Düsseldorf, FACET is one of the few manufacturers worldwide certified under both RJC CoP and CoC standards, and is a Certified Factory of Tracemark, offering audited

traceability across all product lines.

FACET combines traditional craftsmanship with cutting-edge technology, utilizing recycled CoC gold from RJC-certified suppliers and ensuring full material traceability for over 50,000 items. Their Cordoba facility runs on renewable energy via a 68.61 KWp solar panel installation, and in 2020, they created 80 skilled local jobs, reinforcing their role in economic development and regional innovation.

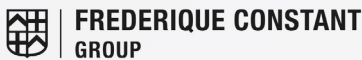
Looking forward to 2030, FACET is expanding traceability and sustainable practices aligned with the UN SDGs, while investing in low-emission production technologies. Their certified leadership has earned them multiple accolades, including the Leadership Award for Responsible Practices in Spain's jewellery sector.



Fairever

Fairever GmbH, a leading supplier of Fairtrade and Fairmined certified gold and silver, is dedicated to transforming the jewellery industry by ensuring full traceability, ethical sourcing, and sustainable mining practices. Through its commitment to supply chain transparency, Fairever empowers artisanal mining communities, guaranteeing fair wages, social premiums, and environmental protection.

By leveraging Fairmined Connect and FloCert tracking systems, 100% of Fairever's gold and silver are independently certified, ensuring they are responsibly mined and traded. The impact of these initiatives extends beyond traceability, nearly \$1 million in social premiums has been generated for mining organizations in the Global South, funding schools, infrastructure improvements, and environmental restoration projects.



FREDERIQUE CONSTANT - ALPINA WATCHES - ATELIERS DEMONACO

Frederique Constant

Founded in 1988 in Geneva, Frederique Constant has built a legacy of crafting exquisite Swiss timepieces that blend timeless elegance with technical precision. As part of its commitment to responsible luxury, the brand is actively working to integrate traceability and sustainability into its operations, aligning with the 2030 agenda for Corporate Social Responsibility (CSR).

A key focus for Frederique Constant is ensuring traceability for raw materials used in its timepieces. The company is developing supplier accountability frameworks through auditing mechanisms, reinforcing ethical sourcing and sustainable practices across its supply chain. Additionally, its sustainability initiatives target energy efficiency, plastic reduction, and the use of recyclable materials, further embedding responsible practices into its production process.



KP Sanghvi & Sons

Founded in 1965, KP Sanghvi & Sons is a third-generation diamond powerhouse, recognized for precision, transparency, and sustainability in the natural diamond industry. As a De Beers Sightholder and Select Diamantaire of Rio Tinto & Namdia, the company upholds rigorous ethical standards, ensuring a fully traceable, responsibly sourced supply chain backed by Responsible Jewellery Council (RJC) compliance.

With over 7,000 employees worldwide, KP Sanghvi integrates cutting-edge technology to enhance diamond traceability and authenticity, partnering with De Beers ForeverMark, Tracr, GIA Diamond Origin Report, and DiaDna. These advanced verification solutions bolster customer trust, supply chain transparency, and counterfeit reduction, setting new industry benchmarks.



La Luce

La Luce, founded by a mechanical engineer and a chemist, is a handcrafted fine jewelry brand that marries traditional artistry with sustainability. Every piece is individually handmade by founder and goldsmith Joy Harvey, using exclusively Fairmined Gold and Silver, ensuring traceability, responsible sourcing, and a positive impact on mining communities.

As a certified B-Corp, La Luce operates with an unwavering commitment to ethical production, supply chain transparency, and environmental responsibility. Producing only 5-10 unique pieces per year, the brand prioritizes quality over quantity, embracing organic textures, raw imperfections, and natural oxidations to create jewelry that tells a deeper story.

While traceability alone is valuable, the brand emphasizes the need for data linked to social and ecological impact, helping reshape the industry's ethical standards. Through detailed annual impact reports and continuous financial contributions to mining communities, La Luce proves that luxury and responsibility can be inseparable, setting a new benchmark for purpose-driven jewelry.



LUC8K

LUC8K, a Swiss luxury leather goods brand, is on a mission to redefine high-end fashion through transparency, sustainability, and customization. With a bold and uncompromising approach, LUC8K blends traditional craftsmanship with modern e-commerce, ensuring that every product reflects responsible sourcing and mindful consumption.

By adopting a slow fashion model, LUC8K prioritizes made-to-order production, minimizing waste while allowing customers to create one-of-a-kind luxury pieces. The brand's commitment to total transparency extends to its supply chain, LUC8K knows exactly where its leather comes from, ensuring ethical sourcing and fair treatment of farmers and artisans.

Through its brand ambassador, Sophie LUC8K the Giraffe, LUC8K uses storytelling to engage its community, raising awareness about sustainability challenges and inspiring conscious consumerism.



Movo Partners

Movo Partners is a strategic consulting firm dedicated to driving sustainable transformation for businesses by integrating environmental, societal, and economic ambitions into actionable strategies. As a contributor to the Technology for Transparency Report, Movo underscores the critical role of businesses in influencing behavioral change and leveraging sustainability as a driver for long-term success.

Their expertise spans across impact-driven consulting, helping organizations transition to purpose-led models with authenticity and transparency. Movo employs science-based methodologies like the Science Based Targets initiative (SBTi) and Greenhouse Gas Protocol to enhance supply chain transparency and sustainability impact.

In alignment with their commitment to responsible business practices, Movo has set ambitious milestones: ensuring that by 2025, 100% of their clients adopt a positive impact strategy, and that 80% of them integrate CO2 emissions tracking (Scope 1, 2, and 3) under SBTi guidelines. Additionally, by 2026, the company aims to dedicate 5% of its time to pro-bono work, supporting non-profits and startups in sustainability awareness.



Onegemme

Founded in 2023, Onegemme is a B2B wholesale and auction marketplace dedicated to bringing single-origin, high-quality cultured and natural pearls to the global market. With over 100 years of collective expertise in pearling, classification, and luxury marketing, Onegemme is transforming the industry by ensuring traceability, ethical sourcing, and sustainability at every stage of the pearl supply chain.

Onegemme leverages Provenance Proof blockchain technology to provide verifiable origin data for its curated pearls, ensuring full transparency across transactions. The company follows a universal classification system, integrating the GIA's 7 Pearl Value Factors and CIBJO's pearl guide to standardize quality assessments and enhance consumer trust.

Committed to environmental and social responsibility, Onegemme carefully selects suppliers based on ESG principles, promoting biodiversity, ecosystem health, and responsible farming. The company has pledged 1% of its revenue to environmental and social impact projects in collaboration with The Nature Conservancy (TNC), further reinforcing its dedication to marine conservation and sustainable pearl farming.



Politains

Politains, a Swiss high-end custom jewelry brand, is dedicated to transparency, ethical sourcing, and community support in the diamonds and precious stones sector. By working exclusively with family-run businesses, Politains ensures that its sourcing practices uplift local communities, reinforcing its commitment to social and economic sustainability.

The brand integrates traceability solutions by providing certificates of provenance for every gemstone, ensuring that customers have full visibility into the origins of their stones. Through commitment to compliance, trust-building, and consumer engagement, Politains enhances customer confidence in ethically sourced luxury jewelry.



PROCOS

PROCOS is a leading partner for sustainable luxury packaging solutions, providing customized, eco-conscious designs and connected logistics services for some of the world's most prestigious brands, including Richemont, Kering, LVMH, and L'Oréal Group. With a mission to align packaging innovation with the "Art of Gifting", PROCOS ensures that luxury and environmental responsibility go hand in hand.

By leveraging sustainable materials, eco-design principles, and global supply chain transparency, PROCOS integrates circular economy strategies into its luxury packaging offerings. The company collaborates with SCS Global and other sustainability partners to maintain rigorous traceability and environmental impact standards across its operations.



Saskia Shutt

As an independent artisanal goldsmith based in Brussels, Saskia Shutt is redefining luxury jewellery through ethical craftsmanship, sustainability, and transparency. Working exclusively with Fairmined eco gold and repurposed materials, Saskia's approach eliminates waste while ensuring a positive social and environmental impact.

Her commitment to responsible sourcing extends beyond material selection, she actively remodels old jewellery, transforming sentimental but unworn pieces into bespoke creations. By prioritizing Fairmined gold, she directly supports mining communities, ensuring fair wages, medical care, and education opportunities, while also eliminating toxic chemicals like mercury and cyanide from the extraction process.

Saskia's workshop operates on sustainable principles, replacing harmful chemicals with eco-friendly alternatives, recycling metal waste, and implementing circular economy practices to minimize environmental impact. Her partnerships with organizations like Alliance for Responsible Mining and Diamond for Peace reinforce her dedication to ethical jewellery practices.



Shamas

Shamas BV, a boutique diamond company based in Antwerp, is setting high standards for traceability, ethical sourcing, and sustainability in the diamond industry. With a vision to make diamonds a symbol of both beauty and responsibility, Shamas leverages iTraceiT's QR code technology and robust supplier verification protocols to ensure nearly 100% traceability, even for the smallest stones (from 0.0002 carats).

A committed member of the Responsible Jewellery Council (RJC), Shamas goes beyond compliance, requiring detailed sourcing documentation and sustainability proof from every supplier. Customers can scan a QR code to view the full journey of their diamond, from mine to final cut, backed by environmental and ethical assurances.

Shamas complements its traceability strategy with impactful community engagement, supporting initiatives like Diamonds for Peace, World Land Trust, and coral reef protection. These programs empower local communities through education, job creation, and conservation efforts.



Swiss Better Gold Association

Founded in 2013, the Swiss Better Gold Association (SBG) is a non-profit organization dedicated to creating responsible gold value chains from mine to market. Bringing together Swiss refiners, watchmakers, jewelers, and financial institutions, SBG works to uplift artisanal and small-scale gold miners (ASGM) by addressing child labor, mercury pollution, and informality while promoting ethical sourcing and fair trade practices.

Through its impact premium model, SBG channels USD 1.35 per gram of accredited gold into social and environmental projects, reinvesting over USD 6.7 million since its inception. These funds support technical assistance, ESG initiatives, mine compliance programs, and infrastructure projects such as clean drinking water systems, CO2 reduction efforts, and improved hazardous material storage.

Partnering with luxury houses like Audemars Piguet, Cartier, Breitling, and Chopard, as well as leading refiners and financial institutions, SBG ensures that luxury supply chains not only trace gold back to responsible sources but also contribute to sustainable community development.



Vanhu Vamwe

Vanhu Vamwe (VV), meaning “One People” in Shona, is a luxury artisan brand dedicated to preserving cultural heritage, empowering marginalized communities, and redefining ethical fashion. Rooted in traditional craftsmanship and modern innovation, VV collaborates with artisans in Zimbabwe and Ecuador to create handcrafted heirlooms that tell stories of cultural identity, history, and sustainability.

Recognized as a philanthropic enterprise, VV’s impact extends beyond fashion, its initiatives empower ex-prisoners, women, and young artisans through skill development, financial independence, and sustainable livelihoods. The brand has secured global retail partnerships and won the CANEX Angels Investment Pitch 2024, validating its role as a leader in conscious luxury.

Through blockchain-integrated traceability, supplier audits, and digital product passports, Vanhu Vamwe is pioneering a future where transparency, sustainability, and craftsmanship define the luxury sector.



Vekariya Gems

Vekariya Gems, a leading diamond manufacturer based in Mumbai, has made significant contributions to ethical sourcing, sustainability, and transparency in the luxury sector. With a legacy dating back to 2004, the company has built a reputation for producing high-quality, responsibly sourced diamonds while fostering long-term sustainability in the industry. The company leverages partnerships with technology

providers like iTraceiT to enhance supply chain transparency and customer trust scores, demonstrating its leadership in responsible diamond sourcing.

Beyond traceability, Vekariya Gems actively promotes worker well-being and research initiatives. The company contributed to the study “Prevalence of Work-Related Musculoskeletal Disorders among Diamond Industrial Workers,” underscoring the importance of ergonomic improvements and workforce health in diamond cutting and polishing.

Each contributor to this report is navigating an imperfect yet intentional journey toward greater transparency, responsibility, and impact. While challenges persist, what unites these diverse stakeholders is a shared commitment to clarity, continuous improvement, and the adoption of best practices across their value chains.

In the luxury world, desirability remains paramount. But today, desirability is not just about beauty or rarity, it is also about values, trust, and traceable truth. The technologies showcased in this report are not simply tools for compliance, they are drivers of growth, relevance, and long-term sustainability.

As this movement gains momentum, it is clear: luxury that aspires to lead must also commit to being transparent. By embracing innovation and placing purpose at the heart of product storytelling, the industry can elevate not only its standards, but also its meaning, market, and future.



Strategic Transparency: The Business Case for Digital Product Passports in Luxury

By Professor Jean-Philippe Bonardi, Professor of Strategy, University of Lausanne and Managing Director of E4S

The luxury industry is no stranger to reinvention. It has evolved over centuries by navigating societal shifts, redefining aspiration, and delivering excellence through craftsmanship, scarcity, and storytelling. Today, however, it faces a unique convergence of challenges: rising consumer expectations, regulatory mandates, and environmental

imperatives are demanding a profound rethinking of what luxury stands for, and how it operates.

At the center of this transformation lies an opportunity that is both technological and strategic: the rise of Digital Product Passports (DPPs). These tools are far more than a compliance response to the European Union's upcoming sustainability regulations, they are a blueprint for **circularity, value creation, and strategic differentiation**.

Circular Economy Meets Luxury Strategy

The traditional economic model of luxury has been linear: create, sell, and move on. But this model no longer aligns with a world increasingly focused on longevity, responsibility, and transparency. The circular economy, in contrast, aims to keep materials and products in use for as long as possible, reducing waste while increasing value over time.

DPPs are a key enabler of this shift. By embedding traceable, verifiable information into every product, from its origin to its afterlife, they empower luxury brands to:

- **Extend the product lifecycle** through resale, refurbishment, repair, and recycling
- **Unlock new business models**, such as circular marketplaces and service-driven offerings
- **Enhance consumer trust** through provable authenticity and ethical sourcing
- **Gain data-driven insights** that inform everything from product development to marketing

This is not just about compliance; it is a strategic pivot that allows luxury brands to move from linear to circular economies without compromising their core values of quality, exclusivity, and emotional connection.

A New Layer of Value Creation

Luxury is, at its heart, about value, and value is evolving. In the past, that value was tied primarily to material rarity and craftsmanship. Today, it increasingly depends on **narrative, transparency, and purpose**.

DPPs offer a new way to monetize that narrative. They allow brands to build digital ecosystems around their products - ecosystems that can evolve long after the point of sale. When a luxury good is linked to a DPP, it gains a digital identity that carries its provenance, care history, ownership changes, and even its environmental footprint.

In this way, products become “alive” in the digital world. They are no longer static possessions but dynamic assets: capable of gaining cultural and financial value over time, particularly in secondary markets where trust is paramount.

This is a profound shift. It transforms the luxury product from a finished good into a **platform for ongoing engagement, storytelling, and transaction**. And it does so in a way that aligns with both strategic growth and sustainability goals.

The Economic Imperative

The integration of DPPs is not just philosophically aligned with luxury, it makes strong economic sense. Here is why:

1. New Revenue Streams

A DPP-enabled resale marketplace, exclusive to authenticated goods, can generate recurring revenue and bring back customers into the brand ecosystem. Every trade, service, or upgrade becomes a branded touchpoint.

2. Operational Efficiency & Risk Reduction

By embedding traceability and data at the product level, brands can significantly reduce losses from counterfeiting, grey market diversion, and reputational risk. This translates directly into cost savings and legal risk mitigation.

3. Data as Strategic Asset

DPPs provide brands with first-party data about how products are used, where they travel, and what services consumers value most. This intelligence can drive innovation, personalization, and supply chain optimization.

4. Enhanced Brand Equity

Brands that position transparency and circularity at the core of their value proposition will be best placed to appeal to the rising generations of luxury consumers, those who see values and visibility as essential components of modern prestige.

The Strategic Call to Action

For luxury executives, the question is no longer whether to invest in traceability, but **how to turn that investment into strategic advantage**. This requires aligning traceability efforts with brand strategy, customer experience, and digital transformation.

It also requires collaboration. Technology providers, regulators, and brands must work together to ensure that DPPs are interoperable, secure, and user-centric. The goal should be to create not only trustworthy data, but experiences that inspire trust.

Most of all, it requires vision. Transparency is not a trend, it is the foundation of the next era of luxury. Brands that understand this will not only comply with regulation, they will lead the industry into a future where authenticity, responsibility, and beauty coexist.

From Transaction to Relationship

Luxury has always been about more than just products. It is about emotion, aspiration, and legacy. In that sense, DPPs are not simply digital tools. They are strategic enablers of relationships, between brands and consumers, between products and purpose, between heritage and innovation.

The most successful luxury brands of tomorrow will be those that recognize this shift today, and use it to build **a business model where circularity, transparency, and desirability are not in competition, but in perfect harmony.**

THOUGHT LEADERSHIP ARTICLES

The luxury industry is undergoing a fundamental transformation driven by increasing regulatory requirements, evolving consumer expectations, and technological advancements. Traceability, transparency, and sustainability have become critical pillars for businesses operating in the diamond, jewelry, and broader luxury sectors. With mounting pressure from regulations such as the European Union's Ecodesign for Sustainable Products Regulation (ESPR) and growing consumer demand for verified ethical sourcing, companies must rethink their supply chains and business models.

This section dedicated to Thought Leadership articles compiles insights from industry leaders and technology providers who are pioneering traceability solutions, blockchain integration, AI-driven automation, and ethical sourcing initiatives. Their collective findings highlight not only the challenges facing the industry but also the opportunities that transparency creates for brand differentiation, consumer trust, and long-term business resilience.

The key takeaways from these thought leadership articles outline the strategic and technological advancements shaping the future of luxury.



AURA
BLOCKCHAIN
CONSORTIUM

AURA BLOCKCHAIN CONSORTIUM

Digital Product Passports: A Strategic Advantage for Luxury Brands

Romain Carrere, CEO of Aura Blockchain Consortium, explores how Digital Product Passports (DPPs) are transforming the luxury industry, turning regulatory compliance into a strategic advantage. With increasing consumer demand for transparency and new sustainability regulations such as the European Union's Ecodesign for Sustainable Products

Regulation (ESPR) set to take effect by 2027, luxury brands must adapt to maintain their competitive edge.

DPPs function as digital twins of physical products, providing a secure, traceable record of a product's lifecycle, from raw material sourcing to ownership history. Through QR codes or NFC chips, consumers can instantly verify product authenticity, sustainability credentials, and service history, enhancing both trust and engagement. Beyond compliance, luxury brands can leverage DPPs to offer post-purchase services such as repairs, warranties, and resale options, reinforcing product value and customer loyalty.

The article highlights how blockchain technology is the ideal infrastructure for luxury DPPs, ensuring immutability, security, and transparency while combating counterfeiting. Blockchain-powered DPPs also enable seamless integration with Web3 technologies, opening new avenues for interactive customer experiences and digital ownership.

Carrere argues that DPPs are more than a compliance tool, they are a transformative opportunity for luxury brands to strengthen brand equity, customer relationships, and long-term sustainability. By embracing this innovation, luxury companies can redefine their industry's future, aligning exclusivity with modern transparency expectations.

Transparency Means Traceability: The Role of Digital Product Passports in the Diamond Industry

Aura Blockchain Consortium, explores the growing importance of transparency and traceability in the luxury sector, with a focus on the diamond industry. As consumers demand more information about the authenticity, origin, and sustainability of the products they purchase, digital solutions like Digital Product Passports (DPPs) have emerged as critical tools for addressing these needs.

The article highlights how DPPs offer a comprehensive record of a product's lifecycle, providing insights into its provenance, certification, ethical sourcing, and environmental impact. This is especially relevant in light of new regulations such as the Ecodesign for Sustainable Products Regulation (ESPR), which will make DPPs a requirement for luxury goods sold in the EU by 2026.

Aura's blockchain-based DPP solutions are designed to create tamper-proof, immutable records that can integrate all aspects of a product's journey, from mining to retail. The flexibility of Aura's solutions allows them to operate across different blockchain platforms, making them accessible to a wide range of luxury brands. The article also showcases how leading brands like Louis Vuitton, Bvlgari, and Prada have successfully implemented Aura's DPPs to enhance customer trust, brand reputation, and regulatory compliance.

By adopting these traceability solutions, the diamond industry can lead the way in transparency, providing consumers with verifiable, easily accessible information, while fostering long-term loyalty and trust.



DIATRACE

DIATECH

The Cost of Sustainable Luxury by Diatrace (by Vinit Jogani, Director, Diatech)

This article addresses the growing demand for sustainability and traceability within the Gems & Jewelry industry, driven by both consumer expectations and strict international regulations. Contrary to the belief that sustainability is a costly pursuit requiring premium pricing, Diatrace argues that many sustainability measures result in long-term cost savings and compliance with legal standards. The article breaks down the cost of implementing sustainability through Environmental, Social, and Governance (ESG) frameworks, emphasizing that much of what is labeled a “sustainability cost” is either a legal requirement or leads to cost reductions, such as energy efficiency and responsible resource use. Additionally, the article details how carbon emission offsets (Scope 1, 2, and 3) can be achieved at minimal expense, and how investments in renewable energy like solar power offer high returns over time. By adopting a holistic approach to sustainability, businesses in the luxury sector can find that the cost is manageable, if not profitable, when properly implemented.



iTraceiT

ITRACEIT

The Future of Luxury: Transparency, Sustainability, and Collaborative Storytelling

iTraceiT explores the critical role of transparency, sustainability, and collaborative storytelling in revitalizing the diamond and jewelry industry. Frederik Degryse reflects on the industry’s shift from the “golden years” of effortless demand to today’s market, where luxury consumers increasingly prioritize accountability, ethical sourcing, and sustainability.

Degryse argues that fragmented marketing strategies and siloed supply chain efforts have failed to reignite consumer engagement. Instead of competing for a shrinking market share, the industry must unite to expand the overall appeal of diamonds by focusing on traceability and authentic storytelling. He highlights how mining operations contribute to local communities through education and environmental initiatives, stories that are often lost before reaching consumers.

Citing studies from McKinsey and PwC, Degryse underscores that a majority of luxury buyers factor sustainability into their purchasing decisions, with many willing to pay a premium for verified ethical sourcing. By integrating transparency into the entire supply chain, luxury brands can strengthen consumer trust, drive loyalty, and differentiate themselves in an evolving market.

The article also calls for collaboration among technology providers to create interoperable traceability solutions that ensure a seamless, verifiable, and engaging consumer experience. By embracing transparency, sustainability, and unified storytelling, the diamond and luxury industries can rebuild emotional connections with consumers and ensure long-term relevance.



OPSYDIA

Revolutionizing Diamond Security: Opsydia's Role in Traceability and Ethical Sourcing

Opsydia focuses on the transformative role of advanced laser technology in ensuring traceability, security, and ethical sourcing in the diamond industry. Opsydia's sub-surface laser marking technology offers an innovative solution to marking diamonds with permanent, tamper-proof identifiers, which remain invisible to the naked eye. These markings are essential for verifying the origin of diamonds and ensuring that they meet ethical and sustainability standards.

The article emphasizes that traceability in the diamond supply chain is critical to gaining consumer trust, as buyers increasingly demand transparency around the sourcing and ethical production of luxury products. Opsydia's technology can be integrated into existing traceability platforms, such as blockchain systems, further enhancing the reliability of provenance data and preventing the infiltration of conflict diamonds into the supply chain.

The article advocates for industry-wide adoption of such advanced technological solutions to create a more transparent and secure supply chain, which not only benefits consumers but also strengthens the industry's reputation for integrity and ethical practices.



SARINE

Embracing Transparency and Cooperation: The Significance of Verifiable Third-Party Traceability in the Diamond Industry (by David Block, CEO, Sarine)

Sarine emphasizes the growing demand for transparency, authenticity, and sustainability in the diamond industry, driven by consumer expectations and social media trends. David Block highlights the necessity of harnessing advanced technology to meet these demands and improve operational efficiency. Sarine has been at the forefront of diamond technology, offering AI-driven verifiable traceability reports with interactive 3D and 360-degree diamond views to provide unparalleled transparency for consumers and retailers alike.

Block underscores that traceability is not an isolated effort but a collective mission requiring collaboration among all stakeholders, including miners, manufacturers, retailers, and technology providers. He points to Sarine's partnerships with platforms like De Beers' Tracr and the Aura Blockchain Consortium as examples of industry-wide cooperation. Ensuring that traceability systems are based on verifiable third-party data rather than self-declared claims is critical for maintaining the integrity of the supply chain.

Looking forward, Block predicts that the demand for verifiable traceability will continue to grow, and urges the industry to adopt scalable solutions and collaborate to meet international standards, build consumer trust, and champion sustainable practices.

The Future of Traceability and Transparency in the Luxury Jewelry Industry

Embracing Innovation for an Ethical, Sustainable Tomorrow (by Kat Weymouth, SCS GLOBAL)

This article discusses the critical role of third-party verification and certification in enhancing transparency and sustainability in the luxury sector, particularly in the diamond industry. It emphasizes the need for comprehensive traceability mechanisms that can independently verify claims related to product provenance, ethical sourcing, and environmental impact. The use of standards like the SCS-007 Sustainability Rated Diamond Standard is highlighted as a way to ensure diamonds are responsibly sourced and produced with minimal environmental impact.

SCS Global also addresses the growing consumer demand for transparency, with modern customers seeking assurance that the products they purchase align with their values of sustainability and social responsibility. To meet these expectations, the industry must adopt rigorous traceability standards and collaborate with independent certification bodies to verify supply chain claims.

Furthermore, the article highlights the financial and reputational benefits of implementing such systems, as they foster consumer trust, reduce the risk of reputational damage, and support long-term business sustainability. By adopting third-party verification, the luxury industry can lead by example and set a new standard for responsible business practices.

STPL



From Mine to Market: STPL's Cutting-Edge Traceability and Automation in Diamond Processing

STPL highlights the company's pioneering role in transforming the diamond processing industry through advanced automation, AI-driven precision, and innovative traceability solutions. Headquartered in Surat, India, STPL has been at the forefront of technological advancements in diamond manufacturing since 1993, offering a fully integrated suite of solutions covering diamond analysis, planning, cutting, polishing, and safe trading.

STPL has revolutionized the industry with AI-based robotic automation, significantly enhancing precision, efficiency, and cost-effectiveness. By reducing reliance on skilled labor and increasing production accuracy, STPL's laser-based diamond cutting and shaping technologies maximize yield while minimizing errors. The company's expertise in automation has led to groundbreaking innovations such as the first-ever robotic diamond processing system.

Beyond manufacturing, STPL has developed a state-of-the-art diamond traceability system, ensuring transparency and accountability across the supply chain. The TraceDiamond system captures a diamond's journey from rough to polished form, integrating data from the Kimberley Process certificate to its final certification. STPL's Smart-i15 technology verifies each diamond's unique fingerprint, allowing consumers and retailers to access a complete digital history through QR codes and blockchain-based authentication.

By partnering with blockchain platforms, STPL ensures that its traceability system aligns with industry standards for responsible sourcing and ethical practices. This seamless integration enhances consumer trust, providing verifiable provenance and reinforcing sustainability in the diamond sector. With a global footprint spanning over 30 countries and more than 17,000 systems installed worldwide, STPL continues to set the benchmark for innovation in diamond processing and traceability.



BREITLING

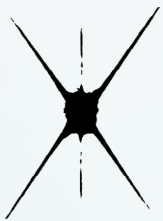
Traceability as a Foundation for Sustainability: Breitling's Commitment to Transparency

This thought leadership article by Breitling outlines the brand's transition to a traceability-based business model, highlighting how transparency and traceability are key drivers of sustainability, consumer trust, and regulatory compliance. Breitling's commitment to supply chain transparency began in 2020 with its first double materiality assessment, recognizing that consumers increasingly demand verifiable information about the origins and ethical impact of their purchases.

The article emphasizes how Breitling integrates traceability across its sustainability pillars: progress, prosperity, planet, people, and governance. The brand has pioneered traceable artisanal and small-scale gold and lab-grown diamonds, first introduced in its 2022 Super Chronomat 38 Origins watch. Breitling has also implemented digital product passports and non-fungible tokens (NFTs) to provide consumers with verifiable insights into the provenance of materials. Independent third-party verification further strengthens its traceability initiatives.

Beyond compliance, Breitling sees traceability as a competitive advantage, driving brand loyalty, supporting pre-owned product certification, and facilitating adaptation to new regulations such as the Corporate Sustainability Reporting Directive (CSRD). The company's efforts also extend to community engagement, supporting education initiatives in gold-mining regions and funding leadership programs for social impact leaders in the lab-grown diamond sector.

Looking ahead, Breitling aims to achieve full traceability of gold and diamonds across its collection by March 2026, reinforcing its role as an industry leader in responsible sourcing. The article concludes that transparency and traceability are transformative forces, not only shaping sustainability efforts but also enhancing brand credibility, consumer engagement, and long-term resilience.



LA LUCE

B-Corp and Beyond: Navigating Ethics in a Flawed Supply Chain

The article reflects the journey of a small jewelry company, co-founded by Joy Harvey, which achieved B-Corp certification after a two-year process of documentation and legal challenges. The company prioritized sustainability from the start, not as a marketing strategy, but as a moral commitment. Although the B-Corp certification process helped formalize

the company's Corporate Social Responsibility (CSR) practices, it also exposed limitations in the jewelry supply chain, particularly around third-party audits and legal bindings for suppliers. While the certification is a significant step, Harvey expresses concerns about the need for deeper transparency and digital technologies to provide real insights into working conditions, wages, and environmental impacts. She emphasizes the importance of creating a truthful landscape in the supply chain, even if it reveals imperfections, and highlights the limitations of current traceability in some materials used in her products.

Key Findings from the Thought Leadership Articles

1. Digital Product Passports (DPPs) Are Redefining Transparency and Consumer Engagement

Digital Product Passports (DPPs) as a transformative tool for traceability, regulatory compliance, and brand storytelling. DPPs serve as digital twins of luxury products, offering consumers access to detailed product history, sustainability credentials, and authentication records via blockchain technology.

Multiple Luxury Maisons have successfully implemented DPPs, demonstrating their ability to build consumer trust, enhance resale value, and comply with upcoming regulations such as ESPR.

2. Traceability is No Longer an Option: It's a Competitive Advantage

Companies are embedding traceability across their supply chain, ensuring transparency in sourcing artisanal gold and lab-grown diamonds. By leveraging digital product passports and independent verification, the companies can position themselves ahead of regulatory mandates and strengthened consumer loyalty.

Verifiable third-party traceability is essential for maintaining the integrity of the diamond supply chain. AI-powered traceability reports and collaborations with blockchain platforms ensure that luxury retailers and consumers have access to reliable provenance data.

3. Blockchain and AI Are Transforming Diamond and Jewelry Supply Chains

Integrating AI-driven automation and blockchain-powered traceability into the diamond manufacturing process, by tracking rough-to-polished transformations and linking data to blockchain systems, enhances efficiency, accuracy, and ethical accountability.

Pioneering sub-surface laser marking technology, by creating invisible, tamper-proof identifiers on diamonds ensures permanent traceability, preventing fraud and reinforcing ethical sourcing practices.

4. Ethical Sourcing and Sustainability Are Business Imperatives

The need for third-party verification standards ensures environmentally responsible and ethically sourced materials.

Challenging the notion that sustainability is an added cost by demonstrating that investments in energy efficiency, carbon offsets, and responsible sourcing often result in long-term cost savings and regulatory compliance.

5. Collaborative Industry Storytelling Is Needed to Reignite Consumer Engagement

Fragmented marketing strategies and siloed supply chain efforts have led to a disconnect with modern consumers. The future of luxury relies on collaborative, industry-wide storytelling, ensuring that the social, environmental, and craftsmanship narratives behind products reach the consumer.

At the same time, the limitations of current traceability mechanisms highlight the need for stronger digital verification systems and deeper supply chain accountability.

A Call for Industry-Wide Action

The luxury industry stands at a critical inflection point, where technology, transparency, and consumer trust must converge to create a more responsible, accountable, and resilient sector. From Digital Product Passports to AI-driven traceability solutions, the tools for transformation are available. However, the industry must move beyond compliance and proactively adopt these innovations as strategic enablers for long-term success.

By embracing collaborative storytelling, responsible sourcing, and blockchain-powered verification, luxury brands can redefine consumer expectations and set new benchmarks for integrity and authenticity. The future of luxury is not just about exclusivity, it's about building a legacy of trust, innovation, and responsibility.

Each contributor to this report acknowledges a simple truth: transparency is a journey, not a destination. No brand, supplier, or artisan claims perfection, but each is taking bold, intentional steps toward clarity, accountability, and continuous improvement.

In the world of luxury, desirability is essential, but its definition is evolving. Today's luxury must reflect not just beauty and rarity, but also integrity, traceability, and values that resonate with conscious consumers.

Technology, when used with purpose, becomes more than a compliance tool, it becomes a driver of desirability, a storytelling enabler, and a foundation for sustainable growth.

As we look ahead, one truth becomes clear: growth and sustainability are not opposing forces, they are interdependent. Only through transparency can the luxury sector remain relevant, resilient, and truly remarkable.





Deliver Sustainability Customers Can Trust

Third-Party Certifications from SCS Global Services

SCS is a global leader in sustainability certification for over 40 years. Together with our clients and partners, we are positively impacting the world around us.



**SUSTAINABILITY
RATED DIAMONDS**



**RESPONSIBLE
JEWELLERY
COUNCIL**



LBMA

IRMA
Initiative for Responsible
Mining Assurance



SCS has certifications to fit
your sustainability claims

Learn More →

SCSglobal
SERVICES 
Setting the standard for sustainability™

www.scsglobalservices.com

MORE THAN
JUST A PRODUCT.



Your brand. Your identity.
Your reputation. **Your legacy.**

Contact info@opsydia.com | +44 (0)1865 309 620 | opsydia.com



Sub-Surface Nano ID in diamond, revealed with the Opsydia Jewellery Viewer, and a Nano ID in emerald and ruby.

Opsydia is the global leader in diamond and coloured gemstone authentication. We meet industry needs for supply chain transparency using ultra-high-precision lasers to create permanent sub-surface inscriptions. These provide a tamper-proof link between a specific stone and its blockchain record or branded origins. Discover how our flexible technology can differentiate your brand and create enduring value.



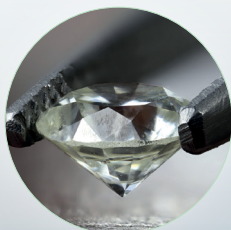
Securing traceability, authenticity and brand in diamonds and precious gems. Forever.

SECURING THE IDENTITY AND INTEGRITY OF DIAMONDS



ORIGIN

Inscriptions to support provenance



MANUFACTURING

Proof of traceability initiatives with blockchain compatibility



BRANDING

Sophisticated branding and authentication for the primary and secondary markets



RETAIL

Enhancing the in-store client experience



Securing traceability, authenticity and brand in diamonds and precious gems. Forever.

Opsydia is an innovative solution throughout the diamond pipeline

Speak to us to find out more.

Contact info@opsydia.com | +44 (0)1865 309 620 | opsydia.com



From Compliance to Desire: The Future of Transparency is Keeping Products Alive

By Hans J. Schwab, Co-founder of ORIGINALLUXURY and OriginAll

In the rapidly evolving landscape of luxury, technology has proven essential in verifying origin, proving authenticity, and meeting compliance obligations. But this is only the beginning. If we are to unlock the full potential of traceability and digital product passports (DPPs), we must shift our focus beyond compliance to value creation, brand desirability, and the ongoing life of products.

Today's consumers are not simply looking to confirm whether a product is real. They are looking for a deeper relationship with the objects they invest in: relationships built on meaning, transparency, and continuous engagement. This opens a vast, mostly untapped opportunity for tech providers to think creatively, beyond verification, and deliver experiences that inspire, captivate, and connect.

Desirability is the New Differentiator

In a saturated market where every brand is working toward more sustainable sourcing and responsible production, the true differentiator will be how well they can translate transparency into desirability. This requires a change in mindset: from technology as a backend tool to technology as a storytelling and value-enhancing platform.

Imagine a world where a luxury product doesn't become silent once it is purchased. Instead, its digital passport continues to evolve, recording its care, resale, ownership transfers, customizations, exhibitions, and even future enhancements. Each product becomes a living entity, a legacy in motion.

For this vision to materialize, tech partners must begin designing for the full lifecycle of the product, not just the origin story. This means building solutions that:

- Enable real-time consumer engagement through apps or platforms connected to the product's DPP
- Allow for dynamic updates to the product passport, such as service records, resale, provenance changes, or sustainability upgrades
- Provide immersive storytelling features (e.g., augmented reality, behind-the-scenes maker stories, geo-tagged journeys)
- Create emotional and economic incentives for consumers to remain connected to the product

A Marketplace for DPP-Enabled Products

To fully capitalize on this potential, we must go one step further: establish a dedicated marketplace exclusively for products with Digital Product Passports.

Such a marketplace would not only offer consumers the assurance of authenticity, ethical sourcing, and traceable provenance, but also provide brands with an additional revenue channel that supports resale, upcycling, and ongoing engagement.

More importantly, it enables products to live on, not just in wardrobes or display cases, but in digital ecosystems where every transaction, transformation, or story adds to their value. This makes the product:

- More desirable at resale
- More secure against fraud or counterfeiting
- More valuable to collectors, curators, and future consumers

In this model, luxury becomes circular and interactive, and technology becomes the engine that sustains it.

The Role of Tech Partners: Innovate Beyond the Brief

For this ecosystem to thrive, technology providers must expand their role. It is no longer enough to create tools that help brands tick compliance boxes. We need creative technologists who see DPPs not as endpoints, but as gateways to living experiences.

We must encourage and expect our tech partners to:

- Design for desire, not just security
- Co-create with brands and users, exploring ways to make traceability more emotional and engaging
- Prototype new digital services that enhance resale, gifting, personalization, and storytelling
- Build platforms that are interoperable and consumer-facing, not locked away in supply chain silos

In short, we need design-led innovation with emotional intelligence, that elevates both the product and the brand in the eyes of the consumer.

The Next Chapter of Luxury Lives in Its Continuity

Traceability is not just about where a product comes from. It is about where it is going. A watch passed down across generations. A necklace reborn through resale. A handbag repaired and restored. These stories matter. They are part of what makes luxury worth preserving.

By keeping products “alive” through digital technologies, we are not only reinforcing their physical value but also enriching their emotional and historical significance. This is the future of transparency: not as a bureaucratic duty, but as a catalyst for connection, continuity, and consumer delight.

The time has come to think outside the compliance box. Let’s create the tools, platforms, and marketplaces that make luxury live longer, grow stronger, and matter more.

Introducing the Technology Partners

Introduction to the Technology Partners Section

As the luxury industry undergoes a profound transformation, transparency, trust, and technological innovation have become essential pillars for brands navigating today's evolving landscape. The demand for verifiable provenance, responsible sourcing, and digital engagement is reshaping consumer expectations and regulatory frameworks alike. In response, a new wave of technology-driven solutions is enabling brands to fortify their supply chains, authenticate products with certainty, and foster deeper consumer trust.

This section of the Technology for Transparency Report presents 17 pioneering technology partners whose innovations are redefining traceability, security, and consumer engagement. Their collective impact is bridging the gap between physical products and digital trust ecosystems, helping brands combat counterfeiting, unauthorized resale, and supply chain opacity while unlocking new opportunities for consumer interaction, resale markets, and circular economy initiatives.

Key Insights & Findings

- **Traceability from Mine to Market:** Solutions are leading the way in diamond and gemstone tracking, ensuring an immutable digital record of a stone's journey from rough to polished. Their data-driven verification methods enhance consumer confidence and align with industry regulations and G7 compliance standards.
- **Blockchain-Powered Authentication:** Companies are leveraging decentralized ledgers and digital product passports to create tamper-proof proof of origin, ownership, and sustainability claims, offering brands a scalable solution for compliance and customer transparency.
- **AI & Biometric Security:** Others are utilizing AI, nanotechnology, and holographic fingerprinting to provide unbreakable security layers, ensuring that luxury goods can be authenticated in real-time and preventing counterfeit infiltration.
- **Enhanced Consumer Engagement & Brand Protection:** Solutions are pioneering phygital (physical + digital) solutions that enable seamless product authentication via smartphone interaction, linking consumers to exclusive content, sustainability data, and resale opportunities.
- **Independent Certification & Compliance:** Some are providing third-party verification and security measures that help brands meet sustainability goals, regulatory mandates, and supply chain transparency commitments.

What to Expect in This Section

Each technology partner's profile offers a detailed exploration of their solutions, key differentiators, and industry impact. You will gain insights into:

- How their technology works and its applications in luxury goods, from jewelry and watches to fashion and fine art.
- Real-world case studies demonstrating successful implementations and measurable benefits.
- Scalability and integration potential for brands seeking to enhance transparency and trust across their value chains.

With the adoption of cutting-edge authentication, traceability, and digital engagement technologies, the luxury sector is entering a new era, one where transparency is not just an expectation but a business imperative.

Explore the full company profiles ahead and discover how these innovators are shaping the next chapter of responsible luxury.

INTRODUCING
ALPVISION



Company Information:

AlpVision

rue du clos 12

1800 Vevey

Switzerland

Contact Person:

Fred Jordan

CEO

fred.jordan@alpvision.com

+41219486464

Website:

www.alpvision.com

Company Description:

Providing covert security feature for traceability and serialisation on 30 billion products/year.

Providing smartphone app for authenticating products.

Number of employees: 11-50

Company's Tagline:

**Counterfeit Protection
Made Simple**



MISSION

Stay the best supplier of anti-counterfeit and traceability solutions.



VISION

We provide ideal solutions based on 3 fundamentals:

- Invisible solutions
- Detection with smartphone
- No impact on manufacturing



IMPACT

With 30 billion products protected each year, we are the largest supplier of invisible digital solution. We are also the most industry-proven company in the digital field of security solution with 23 years of experience.

Solution I:

Solution Name

- Fingerprint

Solution Overview

- Invisible detection by smartphone, no additional manufacturing costs

Geography:

- Worldwide

Specific Traceability & Transparency Challenges Addressed:

- Invisibility



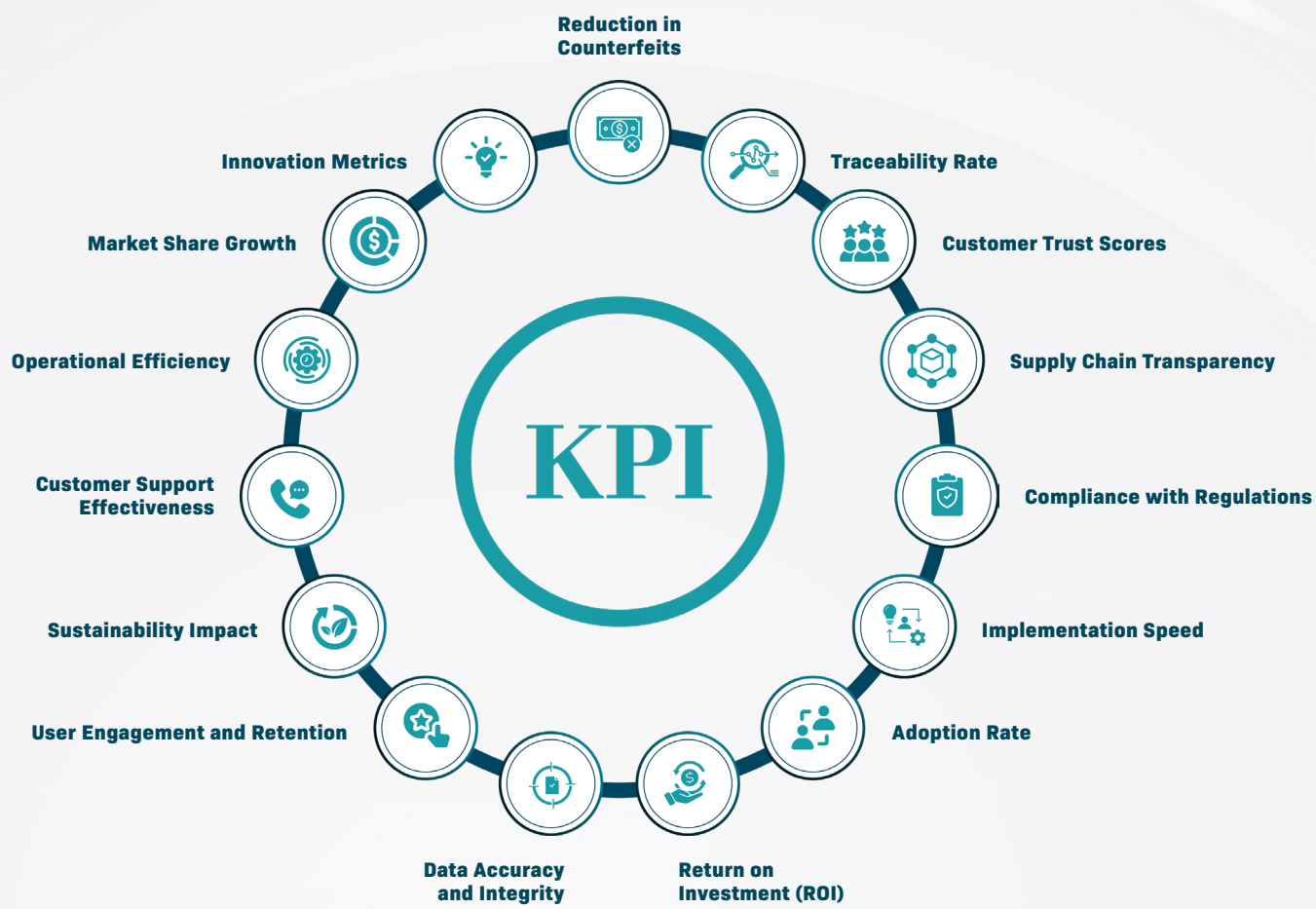
Legend:

- Core Organization
- Partnerships
- Clients

Technology Features:



KPIs used to measure the effectiveness of our solution



Solution II:

Solution II Name

- Cryptoglyph

Solution II Overview

- Micro-holes in the varnish layer on in printed

Geography:

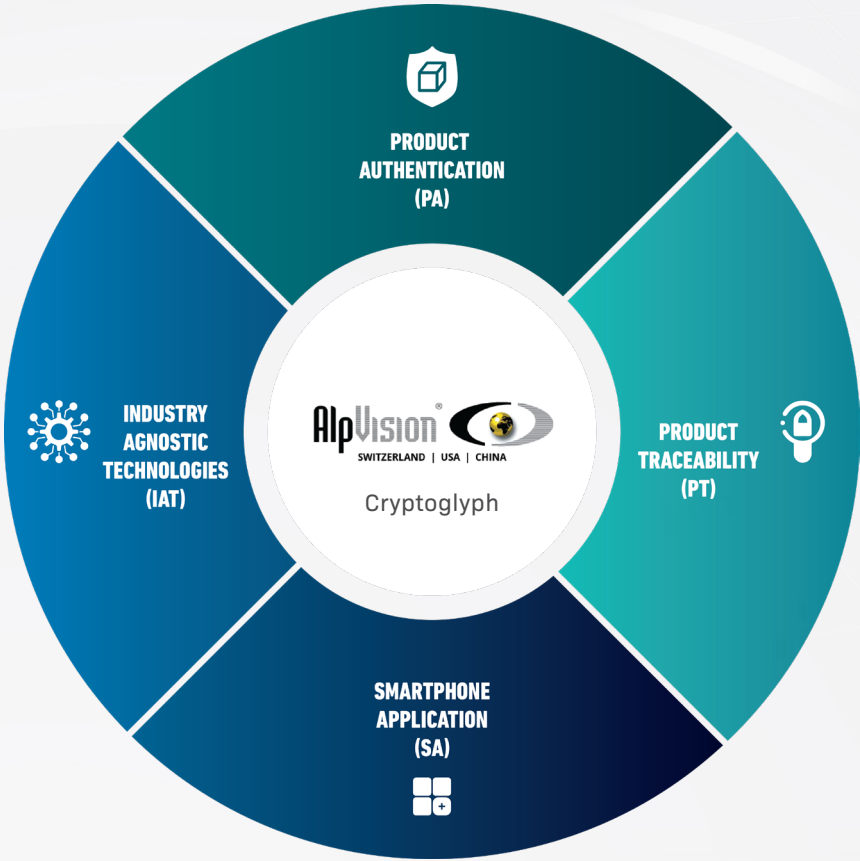
- Worldwide

Specific Traceability & Transparency Challenges Addressed:

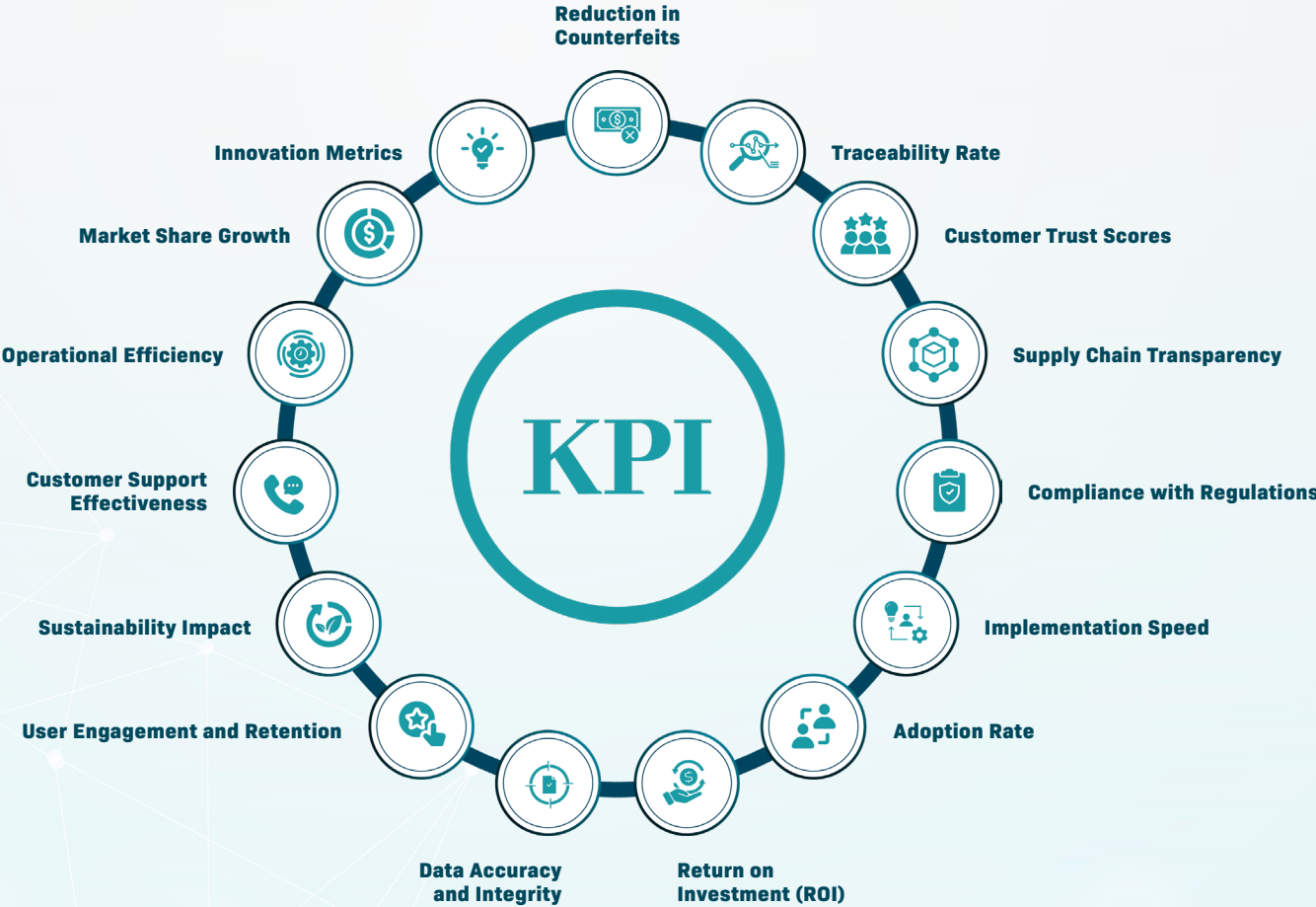
- Gray market



Technology Features:



KPIs used to measure the effectiveness of our solution





**30 BILLION PRODUCTS
each year are protected
with our solution**

Support Contact:

- fred.jordan@alpvision.com



ORIGINALLUXURY

INTRODUCING

ARIANEE

.arianee



.arianee

Company Information:

Arianee

12 rue philippe de girard
75010 Paris
France

Contact Person:

Pierre Nicolas Hurstel
CEO & CO-FOUNDER
pn@arianee.org

Contact Person:

Dorian Wansek
Event Manager
dorian@arianee.org

Website:

www.arianee.com

Company Description:

Arianee promotes circularity, data compliance, and post purchase engagement through Digital Product Passports.

Number of employees: 11-50

Company's tagline:

**Digital Product Passports:
Open and Interoperable for *Durable Goods***



VALUES

Digital sovereignty, positive economic and ecological impacts, striving for excellence.



MISSION

Through our solutions, we allow users to make more responsible purchasing decisions by having full visibility into the lifecycle of a product. We help people better use their products, keeping them longer, eventually reselling them at ease, and moving towards a circular economy.



Solution I: Digital Product Passports

Solution Name

- Open and Interoperable Digital Product Passports

Solution Overview

- Arianee, founded in 2017, is the leading solution provider of Digital Product Passports (DPPs), offering an open, interoperable framework powered by blockchain and open-source technology.

Description

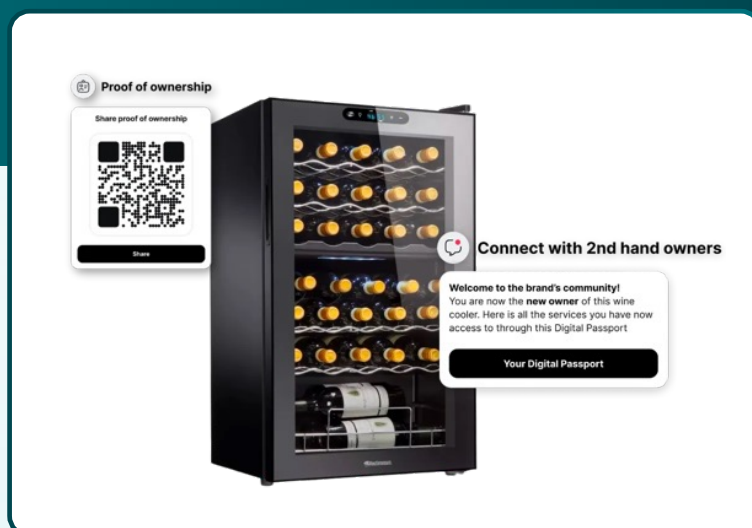
- At the core of Arianee's offerings is the Arianee Protocol—a blockchain-based set of smart contracts that enables the creation of secure, verifiable digital product passports for durable goods. The protocol allows brands to issue NFTs compliant with the Ethereum ERC-721 standard, enriching them with advanced features to track and manage products across their lifecycle.
- The Arianee Protocol provides a robust, open data infrastructure designed to enhance circularity, ensuring compliance with regulations like AGEC and ESPR, while also enabling post-purchase marketing. It allows for greater product transparency, creating new opportunities for services such as repair, resale, rental, and remanufacturing.
- Arianee's enterprise-grade solutions, including APIs, simplify the adoption of this technology for brands, minimizing development efforts and enabling large-scale implementation. These blockchain-based tools provide brands, integrators, and third parties with seamless access to product data and value-added services.
- Enhance
 - Trust Through Transparency

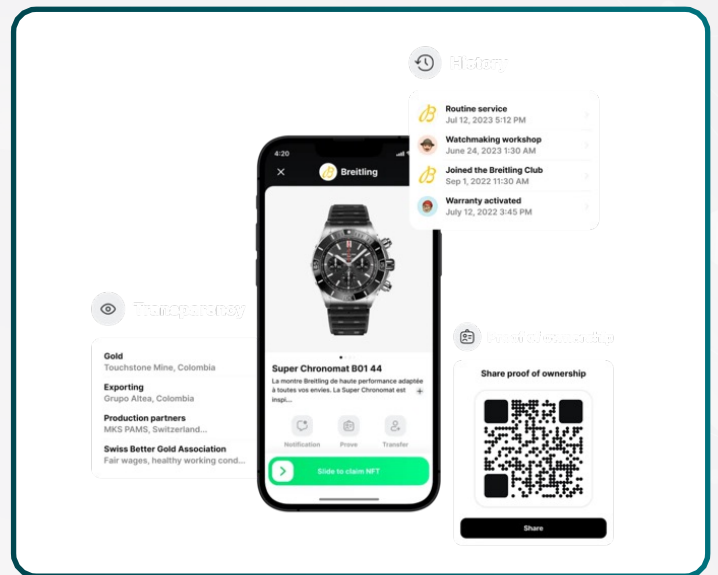
Target Audience:

- Luxury brands, Durable goods brands, Retailers
- Tech integrators
- Eco-organisms
- Service providers (resellers, repairers,...)

Geography:

- Mostly France and Europe





Traceability & Transparency Enhancement:

Traceability & Transparency Goals:

Circularity is a significant challenge in the luxury sector. Many of these products retain substantial residual value over time or, in some cases, even appreciate. They are often repairable, necessitate regular maintenance, or checks, and frequently have a second life, allowing their components to be reused, recycled, or resold.

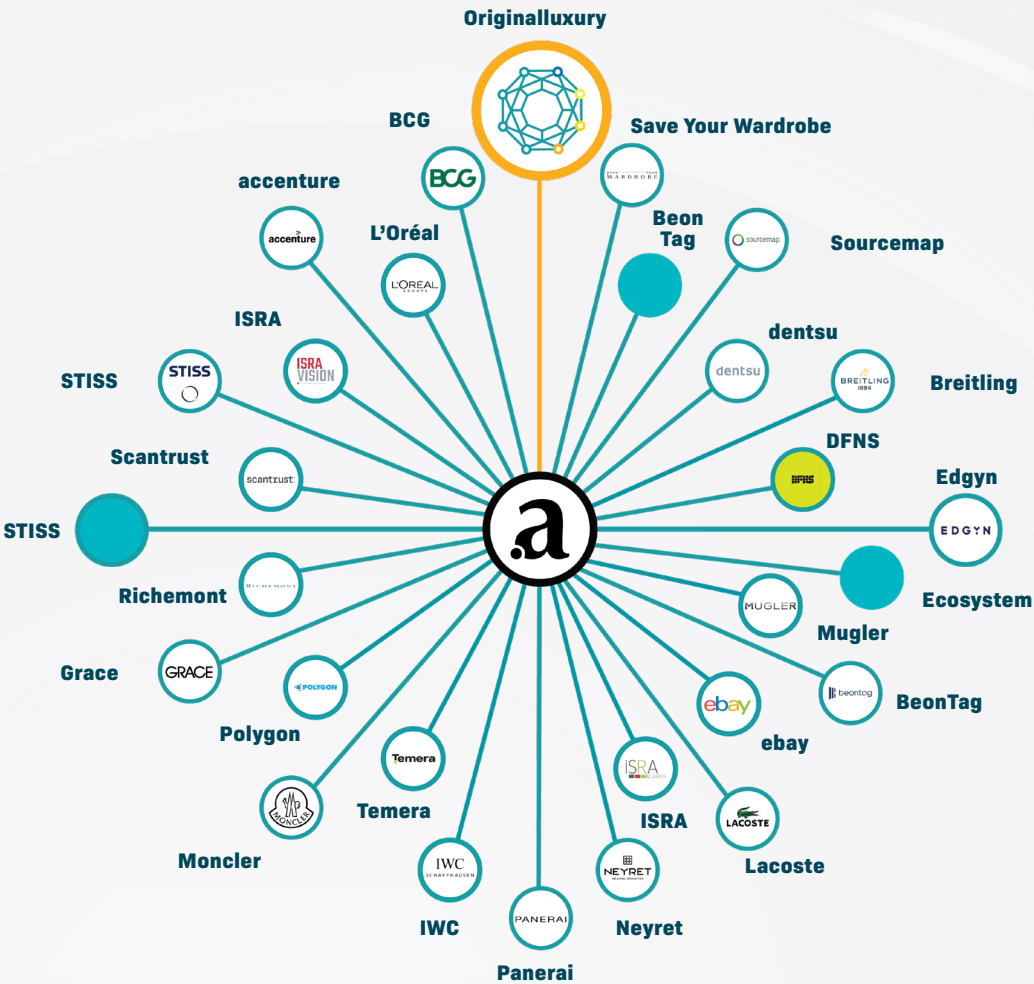
Our solution fosters seamless collaboration among these parties by offering a unified standard and an open infrastructure that allows easy access to data based on permissions. This approach aims to extend product lifecycles and improve recycling initiatives. More broadly, this presents an opportunity for businesses to reach growth through circular services without producing more.

Key traceability and transparency challenges that our solution helps our customers overcome:

Arianee's Digital Product Passport (DPP) helps consumers overcome key challenges in traceability and transparency by providing verifiable proof of authenticity, secure ownership records, and detailed product histories. It ensures trust in resale markets, offers insights into sustainability practices, and simplifies product care with maintenance reminders. Additionally, the DPP guides responsible recycling and supports circularity, empowering consumers to make informed and sustainable choices throughout the product lifecycle.

Legend:

- Core Organization
- Partnerships
- Clients



Technology Used:



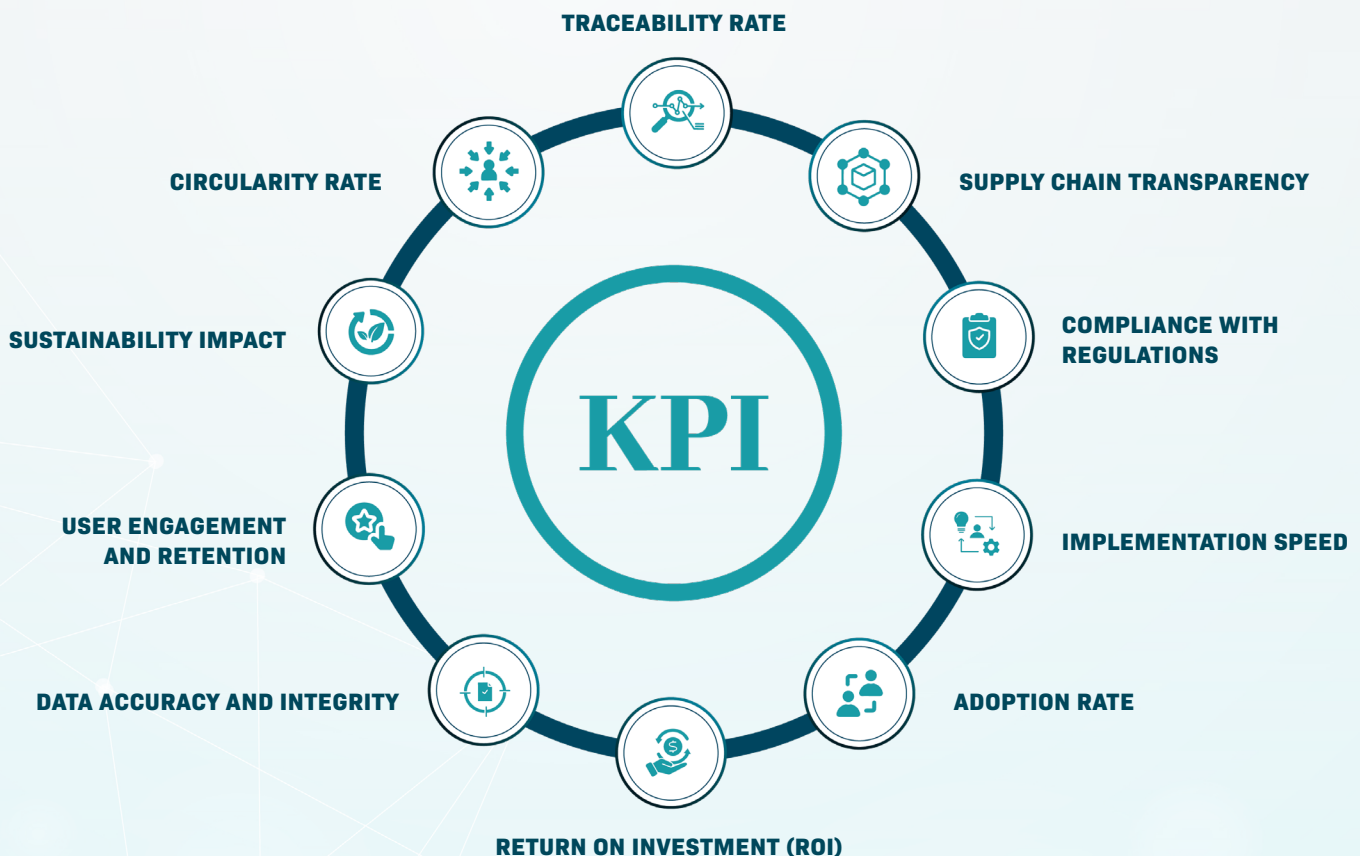
How our solution has been implemented in the luxury sector.

Since 2020, Breitling has transformed the industry by offering its customers a new and innovative digital ecosystem built around its watches. By partnering with Arianee, Breitling has ensured that all of its watches come with a digital passport powered by blockchain technology, providing digital security and proof of ownership. This digital passport connects to Breitling's digital warranty program, allowing customers to initiate and track repairs and soon to extend the warranty period and subscribe to insurance for theft or loss. With Arianee's protocol, customers have the ability to control their personal data and remain anonymous.

In 2022, Breitling took its customer engagement to the next level by releasing its first-ever traceable watch, The Super Chronomat Automatic 38 Origins. Each owner of the watch has access to fully transparent information about their watch, including its precious materials, verified by third-parties, and stored in the Arianee enriched NFT.

- Customers have the option to access the NFT features from the Arianee mobile wallet app or the web wallet accessible within the Breitling web account.
- Watch owners have access to essential information, repair tracking guarantees, and insurance for theft or loss.
- Customers have the ability to control their personal data and remain anonymous while enjoying an innovative brand-customer relationship.
- The digital passport ensures the authenticity of each product and provides a unique digital identity for every watch.
- With the traceable watch, customers have access to fully transparent information about their timepiece, including its precious materials and verified by Sourcemap.

KPIs used to measure the effectiveness of our solution.



Data Points for solution:



Number of items benefiting from our solution

- 2.4M+ durable products



Number of brands/suppliers adopting the solution

- 50+ brands

Client Testimonials

“Because Arianee is an open-source solution, each consortium member can use the core platform and move in their own direction, whether that’s for specifications or new ideas”

- Pedro Lopez-Belmonte, Blockchain Tech Lead, Richemont

<https://www.ledgerinsights.com/cartier-owner-richemont-why-it-chose-a-public-blockchain/>

“Arianee brings a leading blockchain based digital identity solution that ensures security and transparency for our clients”

- Nicolas Mordacq, Business Development Manager - Dentsu Tracking

Success Stories:

Provide detailed success stories or case studies highlighting significant achievements and benefits.

<https://www.arianee.com/use-cases/breitling>

<https://www.arianee.com/use-cases/ecosystem-and-darty-launch-first-digital-product-passports-for-appliances>

<https://www.arianee.com/use-cases/mugler-digital-product-passports-customer-experience>

<https://www.arianee.com/use-cases/panerai-elevating-luxury-watch-ownership-with-digital-product-passports>

Future Developments :

Upcoming Features:

- Increase DPP utilities through partnerships with service providers
- Make it easy for brands to integrate DPP solution into their systems

Vision :

- Arianee's solutions help decouple growth from new production by empowering brands and consumers to embrace circularity. Through Digital Product Passports (DPPs), we enable seamless resale, refurbishment, and recycling, extending product lifecycles and reducing reliance on virgin resources. This approach fosters sustainable growth by maximizing the value of existing products while minimizing environmental impact.

Additional Information :

Partnerships:

- Ecosystem, ISRA, Neyret, DFNS, Polygon, BCG, Ebay, Stiss, Dentsu, Accenture, Temera, Beontag, SaveYourWardrobe, Grace,...
- <https://www.arianee.com/arianee-partners>

Certifications:

- SOC2, Ecovadis, Veridise

Contact Information:

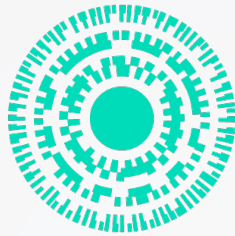
- alexandre.mare@arianee.org



ORIGINALLUXURY

INTRODUCING

AURA BLOCKCHAIN CONSORTIUM



AURA
BLOCKCHAIN
CONSORTIUM





AURA
BLOCKCHAIN
CONSORTIUM

Company Information:

Aura Blockchain Consortium

Rue Vallin, 2
1201 Geneva
Switzerland

Contact Person:

Rachel McHugh
Marketing & Communications Specialist
rachel.mchugh@auraconsortium.com
+41 79 501 94 04

Website:

www.auraconsortium.com

Company Description:

The Aura Blockchain Consortium is a non-profit organisation created from and for the luxury industry to make blockchain technology easy and available to all luxury brands. We act for the greater good by uniting over 50 luxury brands to enhance traceability, authenticity, and sustainability, recording over 50 million products on our blockchain.

With our blockchain expertise, Aura provides secure, customized solutions, with the highest data security that will remain in trusted hands for the long-term

Number of employees: 11-50



VALUES

Create a culture of collaboration

Collaborative spirit, trust and innovation drive the Aura Blockchain Consortium.

Give the customer experience a new dimension

Enhancing the customer journey throughout the physical and virtual dimension is key to our business model.

Inclusive to any luxury brand

We are easily accessible to any luxury organisation which defines itself through uniqueness, brand recognition, highest market positioning and quality standards, including any groups, brands and ecosystem partners who share similar values.



MISSION

- We, the Aura Blockchain Consortium, are a non-profit association of luxury brands investing in technologies to enhance the customer experience and build a virtuous future for luxury.
- We strive to make blockchain solutions and related technologies easy and available to all luxury brands.
- We strive to provide tools to assist in creating transparency and trust for all customers and stakeholders.
- We strive to improve the buying, owning, selling, reselling and recycling experience of luxury goods.

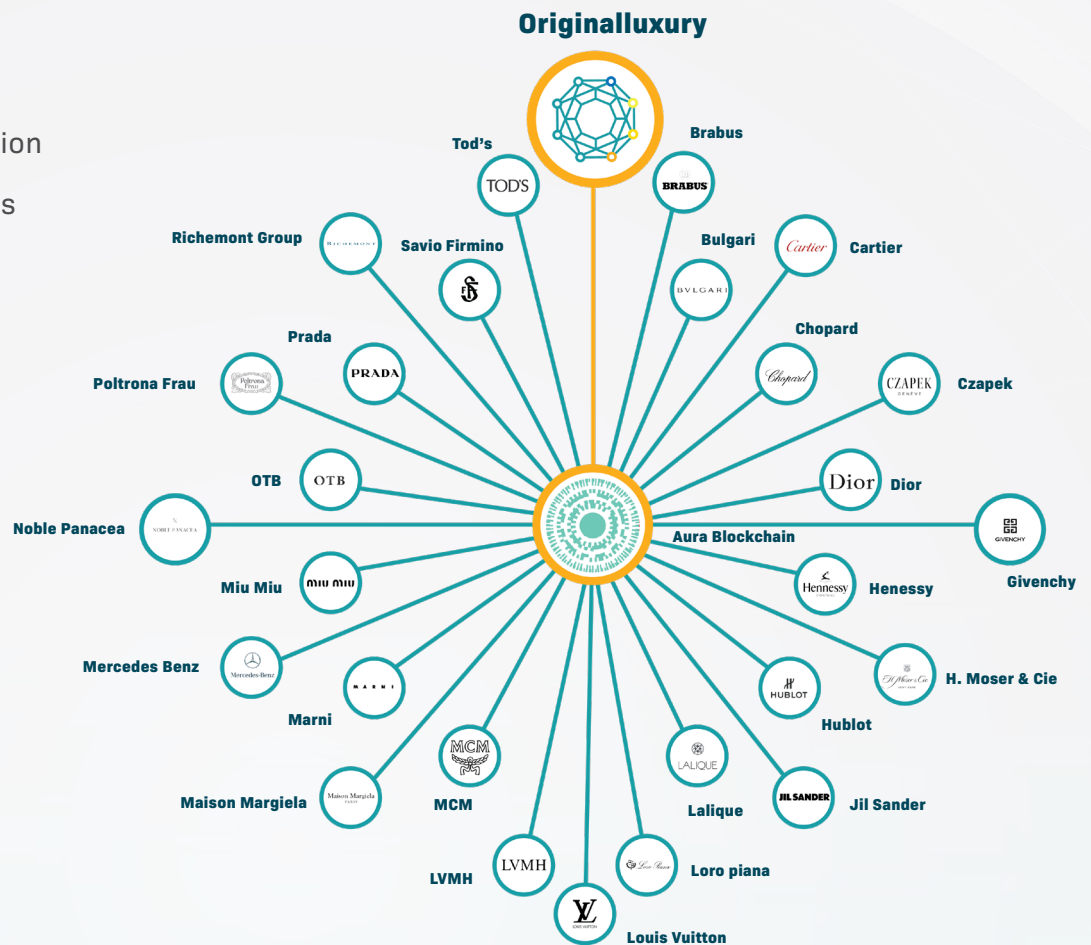


Company's tagline:

The Aura Blockchain Consortium is a luxury partner, making blockchain solutions and related technologies easy and available to all luxury brands.

Legend:

- Core Organization
- Member Brands



Solution I:

Solution Name

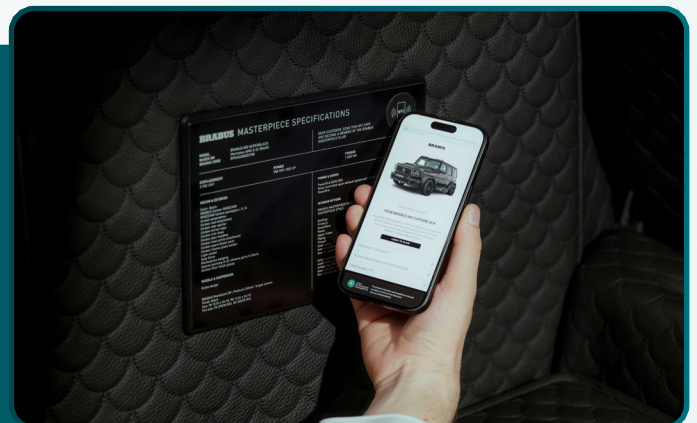
- Digital Product Passport

Solution Overview

- The digital DNA of your luxury product with full traceability and guaranteed data security

Description

- A digital product passport is a digital ID that contains key information about a product, such as its origin, materials, and how it can be recycled or resold. It helps consumers easily track the product's history and ensures authenticity and transparency. This information is securely stored and can be accessed to verify the product's details.





Enhance

Trust Through Transparency

Authenticate each product with irrefutable proof of origin and craftsmanship. Aura's DPP offers a clear, traceable journey from raw material to finished product, giving customers the confidence they deserve.



Elevate

Customer Experience

Delight your customers with instant access to rich product details, care instructions, and sustainability credentials—all through a simple scan. The DPP turns every product into a story, enhancing the buying experience and building brand loyalty.



Embrace

Sustainability & Circularity

Seamlessly track a product's lifecycle, promoting responsible consumption and supporting recycling, reuse, and resale. Aura's DPP helps brands lead the charge in sustainability, one item at a time.

Benefits for Brands



Comprehensive Product Lifecycle Tracking

- Monitor your product's entire journey, from sourcing to retail, with full visibility and traceability.



Secure Data Storage

- Store sensitive product information safely on the Aura blockchain, offering the most secure platform for your Digital Product Passport (DPP).



Enhanced CRM Tools

- Extend customer relationship management with advanced tools, enabling personalised experiences and better engagement.



Direct Customer Communication

- Connect directly with customers, fostering stronger relationships and brand loyalty.



Regulatory Compliance

- Ensure your brand remains compliant with evolving transparency and sustainability regulations.
- EU Regulation for Digital Product Passports — As part of the EU's Ecodesign for Sustainable Products Regulation (ESPR), DPPs are being introduced to promote transparency, sustainability, and circularity. These passports will provide essential details about a product's lifecycle—from materials and production to recycling or disposal—helping consumers make informed decisions and encouraging responsible use.



Rich Storytelling Capabilities

- Leverage DPPs as a storytelling tool, showcasing the product's journey from conception to customer, enhancing brand narrative.



Pre-Owned Market Control and Access

- Seamlessly engage with second-hand and future customers while maintaining control over the rapidly growing luxury resale market, positioning your brand for the future of luxury shopping favoured by the next generation.

Beyond meeting transparency requirements, Aura leverages DPPs to craft a more elevated and immersive experience for the customer.

DPP Features

- | | |
|-----------------------------------|-----------------------------|
| • Luxury authentication | • Warranty |
| • Raw materials | • Insurance |
| • Traceability | • Digital Twin |
| • Lifetime Warranty | • AI Recognition |
| • Sustainability | • Augmented Reality |
| • Circularity | • Apple/Google Card |
| • Claim of ownership | • Direct customer messaging |
| • Transfer of ownership / Gifting | • Resale |
| | • Maintenance |

Target Audience:

- Luxury Brands, Customers, Suppliers, Regulators

Geography:

- International



Traceability & Transparency Enhancement:

Traceability & Transparency Goals:

An enhanced experience for the customer through the entire product lifecycle, from raw materials sourcing all the way to gifting and product maintenance.

Consumer persecutive:

Key traceability and transparency challenges that our solution helps our customers overcome.

Benefits for Customers:



Enhanced Product Transparency and Authenticity

Customers can access complete transparency and peace of mind with access to verified information about your product’s origin, materials, and lifecycle, ensuring authenticity and fostering trust in your luxury purchases.



Informed Purchasing Decisions

Make better purchasing choices by accessing comprehensive details about the product’s journey and sustainability practices.



Sustainability Assurance

Verify the ethical sourcing and environmental impact of your luxury products, aligning your purchases with your values.



Engagement with Brands

Experience direct communication with brands, enhancing customer service and personalizing your shopping experience.



Access to Provenance Information

Discover the story behind your luxury items, from materials to craftsmanship, enriching your connection to the product.



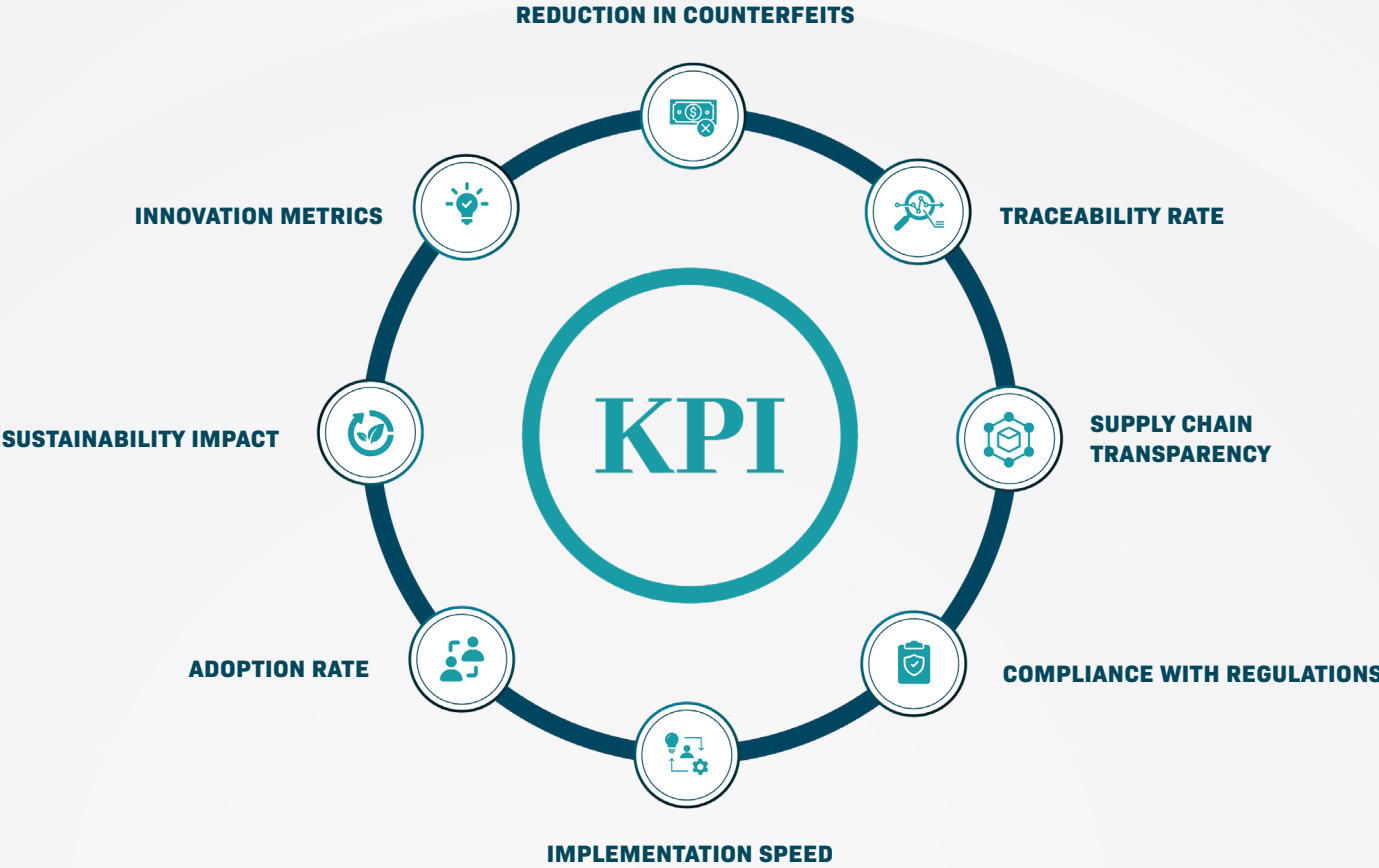
Second-Hand Assurance

Feel confident when purchasing pre-owned luxury items, knowing you have access to verified history and authenticity through DPPs.



Technology Used:



KPIs used to measure the effectiveness of our solution.



Data Points for solution:

-  Number of items benefiting from our solution
 - Over 50 million luxury goods are recorded on our private blockchain.
-  Number of brands/suppliers adopting the solution
 - Over 50 luxury member brands are a part of our consortium

Qualitative Data for solution:

List Client Names:

<https://auraconsortium.com/members>

Vision: Our long-term vision for traceability & transparency in the luxury sector and how our solution will contribute.

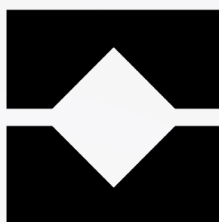
- Our guiding principle is believing that collaboration can coexist with competition for a greater good.
- We are putting consumers at the heart of the process.
- Our community of brands and customers value trust, sustainability, authenticity, innovation, and shared decision-making.
- We are working to strengthen relationships between brands and their customers to increase sustainability and enable the circular economy to combat counterfeiting and the grey market.

Contact Information:

- rachel.mchugh@auraconsortium.com

INTRODUCING

AUTHENTIA





Company Information:

Authentia

Fifth Ave, Suite 1518, Blg 580
New York, NYC, USA

Contact Person:

Frank Müller
Chief Product Officer
frank@authentia.io
+1 917-540-1032

Website:

www.authentia.io

Company Description:

Authentia is a trailblazer in blockchain-powered traceability, transforming the diamond and luxury goods industry. Using advanced cryptography, decentralized file storage, and transparent public blockchains, Authentia ensures secure, immutable records that guarantee ethical sourcing, verified authenticity, and rightful ownership.

By merging cutting-edge technology with a user-centric approach, Authentia offers producers, retailers, and consumers the tools to trace each asset's unique journey—from extraction to ownership—while fostering trust and transparency. The platform not only combats counterfeiting but also tells the compelling story of each item, empowering stakeholders with a shared sense of value and purpose in every asset's lifecycle.

Number of employees: 11-50



MISSION

At Authentia, our mission is to bring true traceability to life. Leveraging our state-of-the-art, patent-backed technologies, public blockchains, and decentralized file storage, we create digital twins of assets at inception and immutably trace their complete commercial lifecycle all the way to the final consumer. By ensuring every transaction is verifiable and transparent, we empower businesses and consumers to trust the authenticity of their products and make informed decisions. We are dedicated to ensuring that provenance comes from ethical sources and that assets with unwanted provenances don't hit the market.



VISION

Our vision is to create a world where transparency is the norm, and trust is inherent in every transaction. We aspire to be the global standard for traceability, setting new benchmarks for transparency, security, and reliability across various industries. Through innovative technologies and community engagement, we aim to build a decentralized future where authenticity is indisputable and accessible to all.



IMPACT

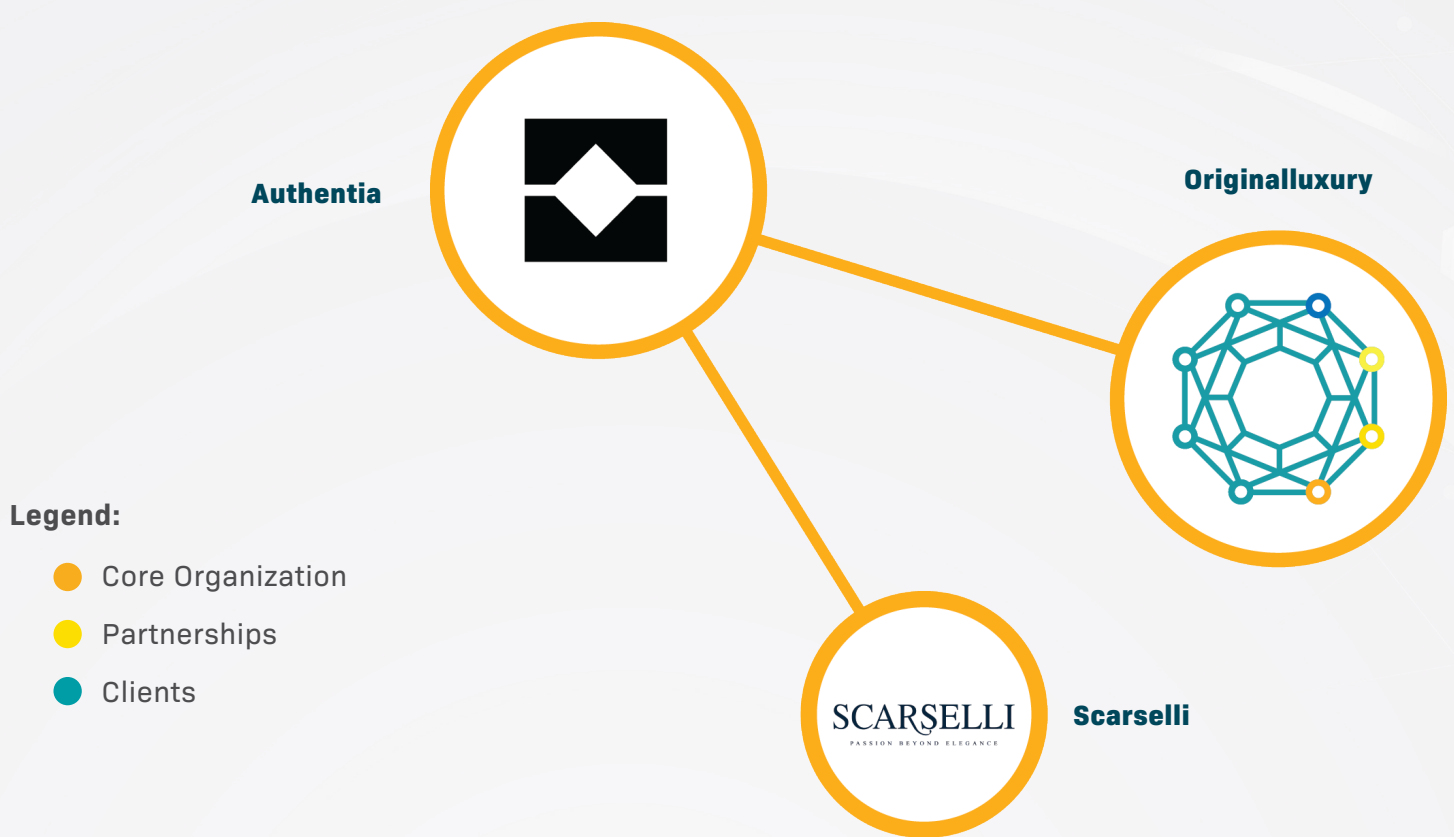
Authentia is transforming the landscape of product traceability, enhancing consumer trust and security.

Our state-of-the-art, patent-backed technologies bring the rule of law to the traceability and diamond industries, ensuring every transaction complies with the highest standards of authenticity and legality.

By pioneering the use of public blockchains and decentralized file storage systems, we contrast the obscurity of private blockchains, offering the only working key to true transparency. Additionally, our system ensures that provenance comes from ethical sources and prevents assets with unwanted provenances from entering the market.

By creating digital twins of assets at inception and immutably tracing their complete commercial lifecycle to the final consumer, we drive a shift towards a more transparent and trustworthy global economy, benefiting industries, communities, and the environment.





Solution I:

Solution Name

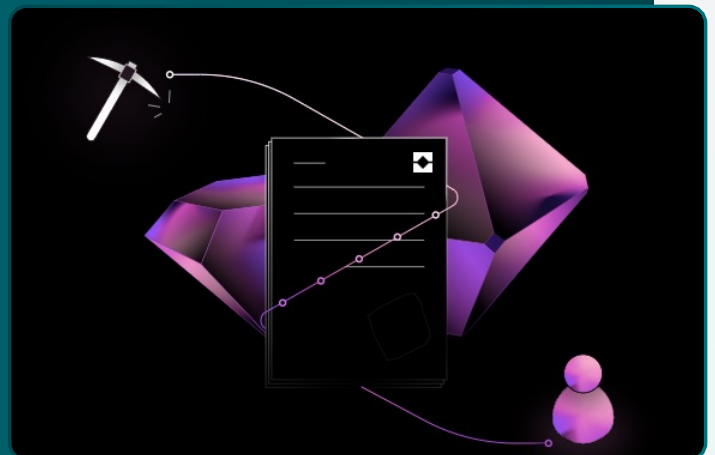
- Authentia Certificate of Origin

Solution Overview

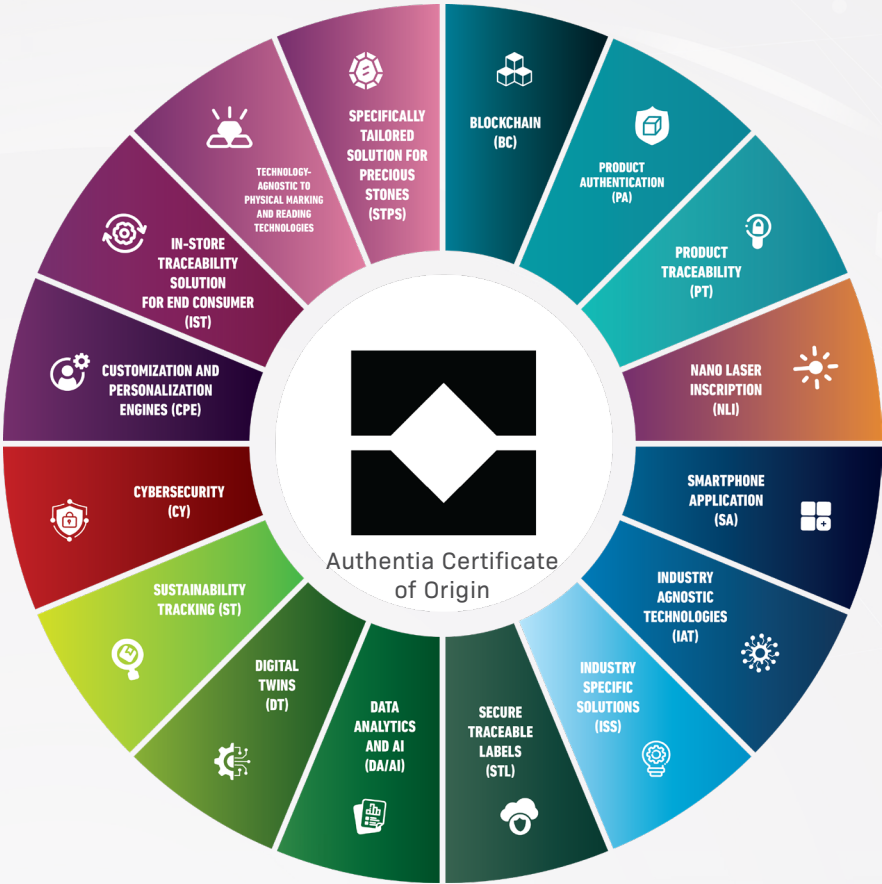
- The Authentia Certificate of Origin is a patented blockchain-based traceability solution that ensures diamonds are ethically sourced, fully authenticated, and traceable. The certificate guarantees the origin, authenticity, and ethical provenance of each diamond, providing transparency and trust throughout the supply chain. Authentia is poised to expand operations in many key diamond-producing regions.

Geography:

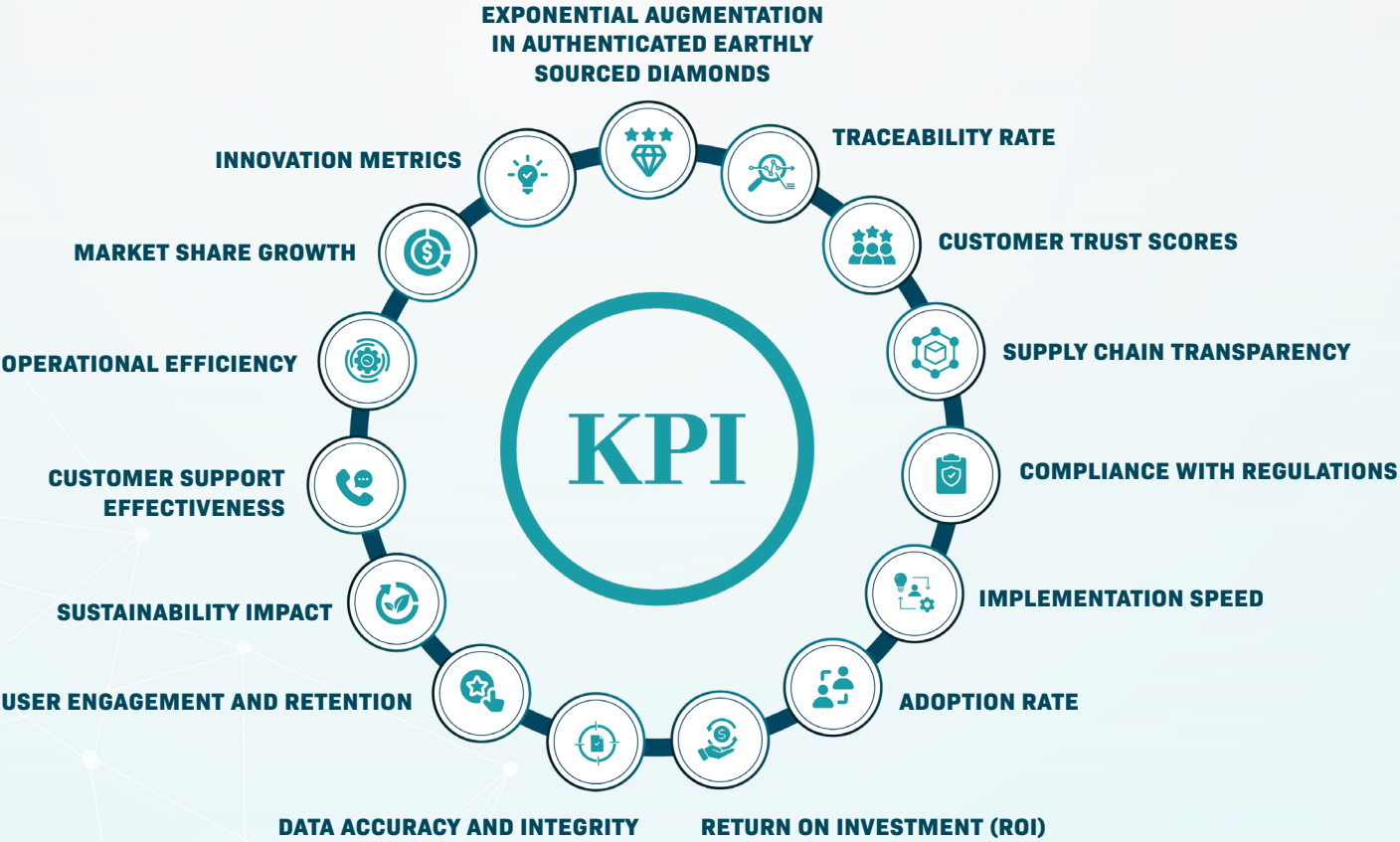
- With offices in Kimberley, South Africa, Tel Aviv, New York, Hong Kong, Dubai, and Shanghai, Authentia's patented Certificate of Origin and fully trustless permissioned value chain are setting new standards in ethical sourcing, transparency, and ownership security for the global diamond industry.



Technology Used:



KPIs used to measure the effectiveness of our solution.



Data Points for solution:



Number of items benefiting from our solution

- More than a hundred mines have adopted the solution, leading to a significant increase in the number of traceable, natural diamonds, ensuring they are both authenticated and ethically sourced.



Percentage increase in traceability/transparency/trust

- Authentia has supported producers and mines in implementing traceability solutions where none previously existed, fostering a noticeable improvement in transparency and trust at the origin.



Augmentation in authenticated diamonds

- The implementation of the Authentia system has strengthened the verification of diamond provenance, ensuring each stone is natural and verifiably sourced from the earth, reducing concerns around lab-grown alternatives.



Number of brands/suppliers adopting the solution

- Dozens of brands and suppliers have embraced the Authentia solution, reflecting a growing industry-wide commitment to ethical sourcing, authenticity, and transparency

Solution II:

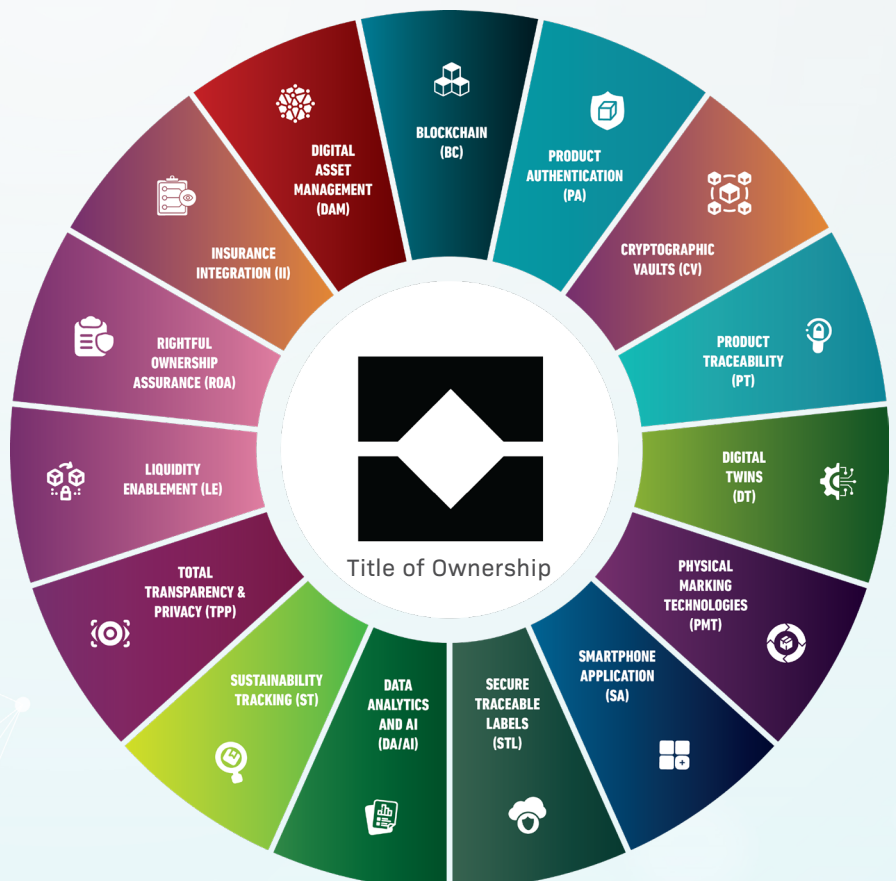
Solution Name

- Title of Ownership

Solution Overview

- Incorporates a hierarchical structure from rough to cut & polished in the case of diamonds and brings liquidity to owners of all types of assets.

Technology Used:



KPIs used to measure the effectiveness of our solution.



Contact Information :

- frank@authenticia.io



ORIGINALLUXURY

INTRODUCING

AUTHENTIC VISION GMBH



Authentic
Vision®





**Authentic
Vision®**

Company Information:

Authentic Vision GmbH

Ludwig-Bieringer-Platz 1

5071 Salzburg

Austria

Contact Person:

Florian Theissig

Marketing

florian.theissig@authenticvision.com

Website:

www.authenticvision.com

Company Description:

Authentic Vision, headquartered in Salzburg and with a global presence, has more than a decade of expertise across multiple industries. We support global brands to combat counterfeiting, fraud, and unauthorized gray market activities, all while fostering exceptional customer experiences. As a leading provider for Secure Product Digitalization and Mobile Authentication, our commitment to research and development ensures that we equip our customers with the technology of tomorrow. Additionally, its Meta Anchor™ technology bridges physical products with digital assets, enhancing brand interaction.

Number of employees: 11-50

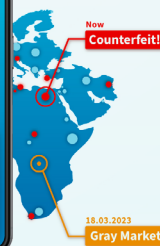
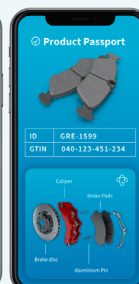


VISION

To safeguard companies and consumers and enable incredible experiences that securely bridge the digital and physical world, built on a transparent ecosystem of partners inspired to create innovative solutions around our technology.



Holographic Fingerprint™
can only be produced once



Solution I:

Solution Name

- Mobile Product Authentication

Solution Overview

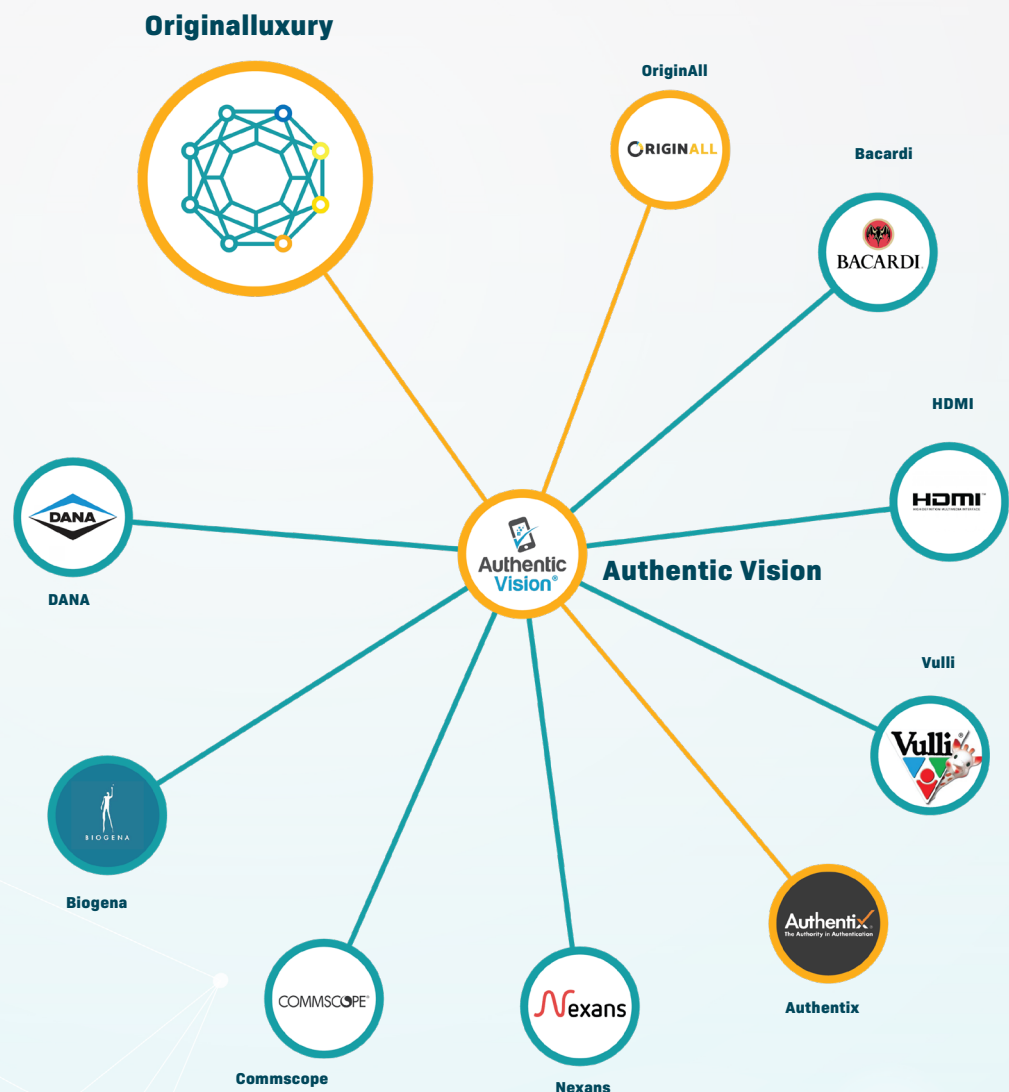
- Authentic Vision provides anti-counterfeiting solutions using its patented Holographic Fingerprint™, enabling instant product authentication with any smartphone and connecting physical products to digital assets for enhanced brand protection and customer engagement.

Geography:

- Global

Legend:

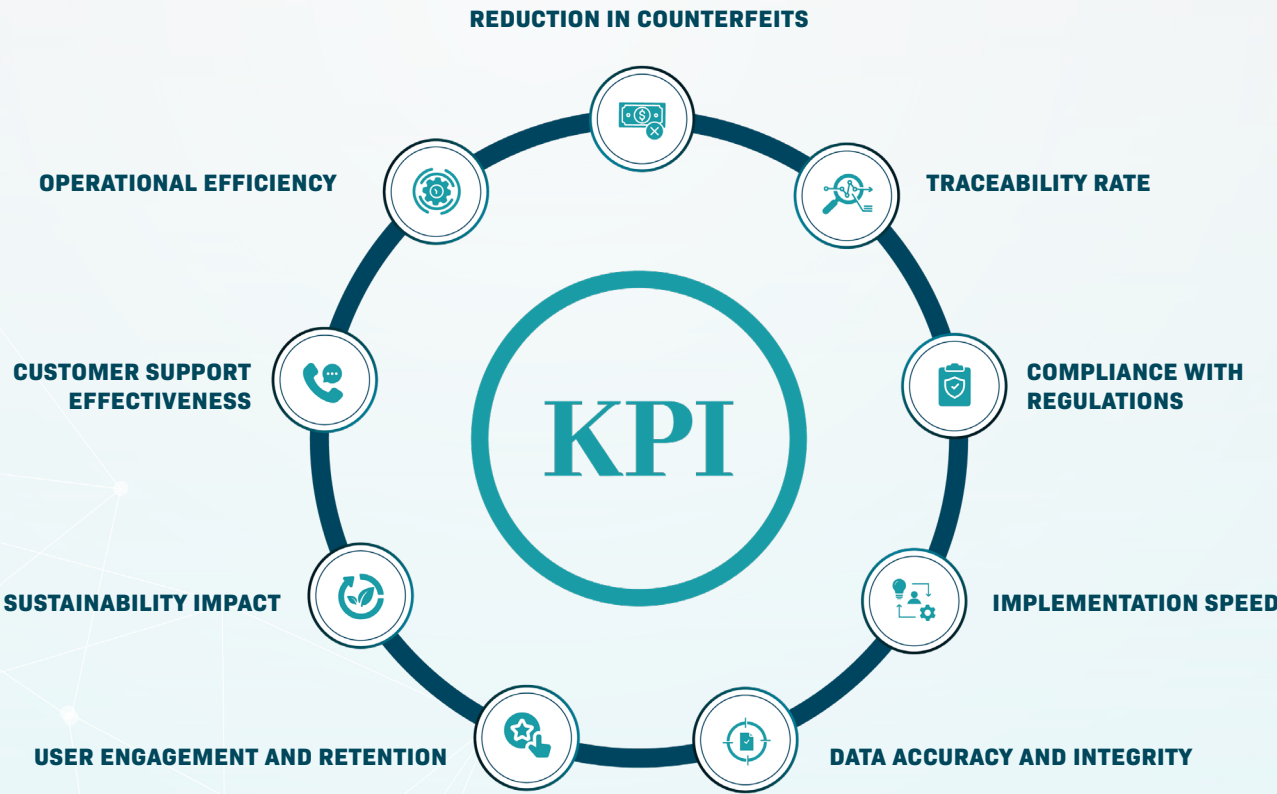
- Core Organization
- Partnerships
- Clients



Technology Used:



KPIs used to measure the effectiveness of our solution.



Data Points for solution:



Number of brands/suppliers adopting the solution

- >50 customers

Contact Information:

- **Support@authenticvision.com**

Use Cases: Success Stories

Nexans – Success Story

Nexans



Nexans (FR)

Leader in the design and manufacturing of cable systems and services across five main business areas: Energy Generation & Transmission, Distribution, Usages, Industry & Solutions, Telecom & Data.

25,000 people in 42 countries, €6.1 billion generated in standard sales in 2021.

Achievement

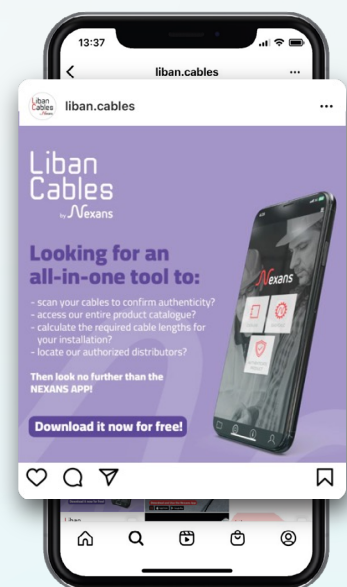
After a 3-month test phase, the AV solution was deployed for Nexans products in Peru and Lebanon; deployment in other countries is planned.

“Through our partnership with Authentic Vision, digital innovation plays a key role in our customers’ safety. It helps Nexans guarantee its products’ conformity in terms of manufacturing and safety standards”

Jérôme Fournier, Vice-President Innovation

Nexans Liban Cables – Success Story

Liban Cables
by Nexans



Indeco – Success Story



Original vs Fake
(original is tagged with AV Holographic Fingerprint)

INDECO (PER)

Cable and wire manufacturer in Peru - Part of Nexans Group

Problem

- Steel/Aluminum is used instead of copper: Different resistance of material generates more heat
- Insulation material is not fireproof: high risk of fires and potentially hazardous to health

Achievements

- INDECO generates increased revenue on the AV labeled products
- Clients start to demand products with the AV label applied
- Electricians enthusiastic about having a efficient mean to authenticate products

CommScope – Success Story



CommScope (US)

Leading provider of enterprise network equipment and advanced infrastructure solutions based in the US.

Problem

Former security tag allows visual inspection only, causing counterfeiting issues, loss of revenue and brand damage.

ACHIEVEMENT

Since the deployment of the program, thousands of scans of blacklisted labels have been captured, allowing CommScope to act quickly to investigate and shut down counterfeiting.

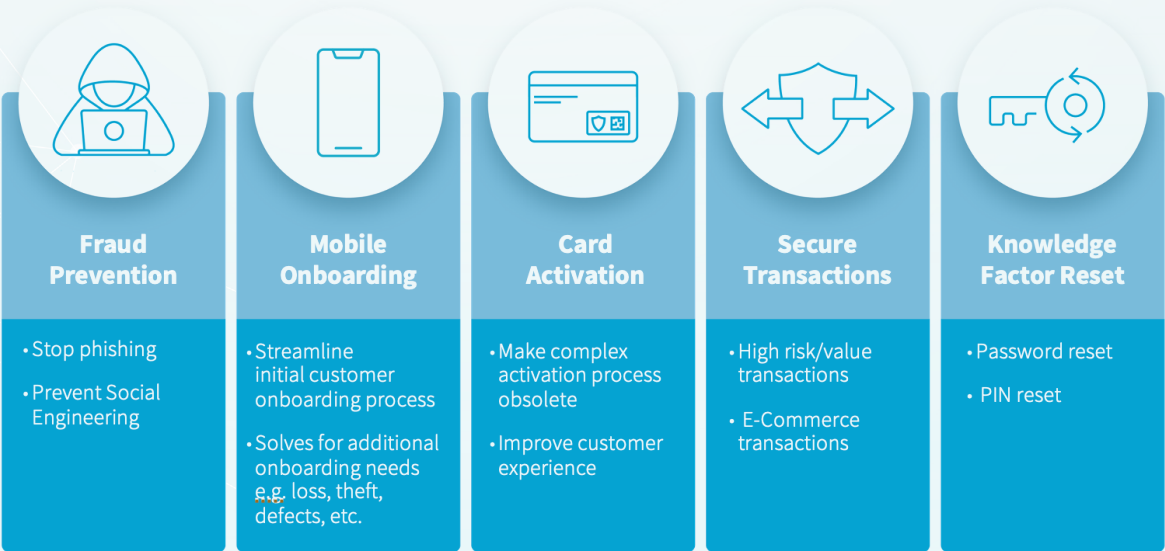


UniCredit Group – Success Story



BANK AUSTRIA (AUT)

Bank Austria is one of the biggest banks in Austria and belongs to the international banking group UniCredit.



LIONSGATE



LIONSGATE (USA)

Lionsgate piloted a successful program with Authentic Vision as part of its 4K Ultra HD Blu-ray release of “Robin Hood” and based on the successful results, used AV technology broadly in the “John Wick 3” release to limit unauthorized code sharing.

ACHIEVEMENT

The digital-copy insert inside select “Robin Hood” 4K Ultra HD Blu-rays includes a “Lionsgate VIP” label. Using the Lionsgate VIP mobile app, users scan to authenticate the label and access their digital copy of the movie.



“Authentic Vision labels provide an efficient, customer-friendly way for Lionsgate to control access to digital copies of its films.”

BRIAN DAY, SVP STRATEGIC PARTNERSHIPS, LIONSGATE

INTRODUCING

CRANE AUTHENTICATION





Company Information:

Crane Authentication & OpSec Security

1245 Old Alpharetta Road
Alpharetta, USA

Website:

www.craneauthentication.com

Contact Person:

Julian Liev,
Director of Strategic Marketing &
Communications
+41 79 193 5549

Number of employees (range)

1001-5000

Company Description:

Crane Authentication and OpSec Security are subsidiaries of Crane NXT, an international company with over 200 years of banknote heritage in the US, Sweden and a state-of-the-art banknote printing facility in Malta.

Crane Authentication offers the PROFOUND® technology, the equivalent of the Crane Currency micro-optic technology MOTION® for brand customers, which provides advanced visual effects enhancing product security and consumer trust.

OpSec Security helps enterprises build and protect the value of their intellectual property and brands. We tackle threats from infringement, counterfeit, trade diversion, content piracy, and fraud, to protect brand assets, identity, and reputations. We also work in many areas of brand management and operations, from licensing, merchandising, and engagement marketing, to compliance and supply chain transparency.

Crane Currency is part of Crane NXT, a global leader in brand protection and authentication solutions. Crane NXT is a global company with over 4,000 associates worldwide and revenue of USD 1.4 billion, supplying innovative authentication, tracking, and anti-counterfeiting solutions, payment systems, paper, printed banknotes and micro-optic security technology to central banks and brands worldwide. In 2024, Crane NXT acquired OpSec Security.

As Crane NXT is a public company..., quoted on the New York Stock Exchange, our customers benefit from the additional confidence that comes with full transparency about our financial strength, our external audit results, and our adherence to the highest standards of ethical, social, and environmental practices.



MISSION

Together, we are a passionate team of creators and problem solvers, united by our mission to secure, detect and authenticate what matters most. Around the world, our customers trust us to anticipate their needs with innovative, reliable, and high quality solutions and services – just as they have for generations.



VISION

We give people confidence every day in moments that matter.



IMPACT

We believe our greatest returns come from investing in our communities.

Solution I:

Solution Name

- PROFOUND® *Connect*

Solution Overview

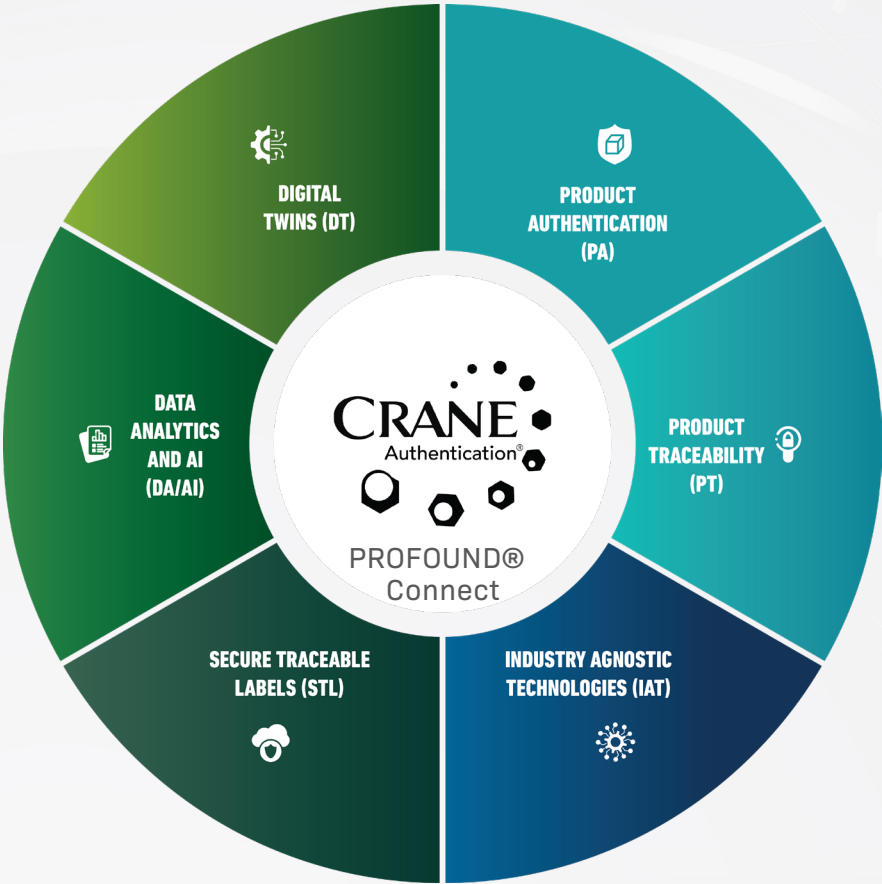
- PROFOUND® *Connect* is an overt security label with a physical-digital link and serialization options.

Geography:

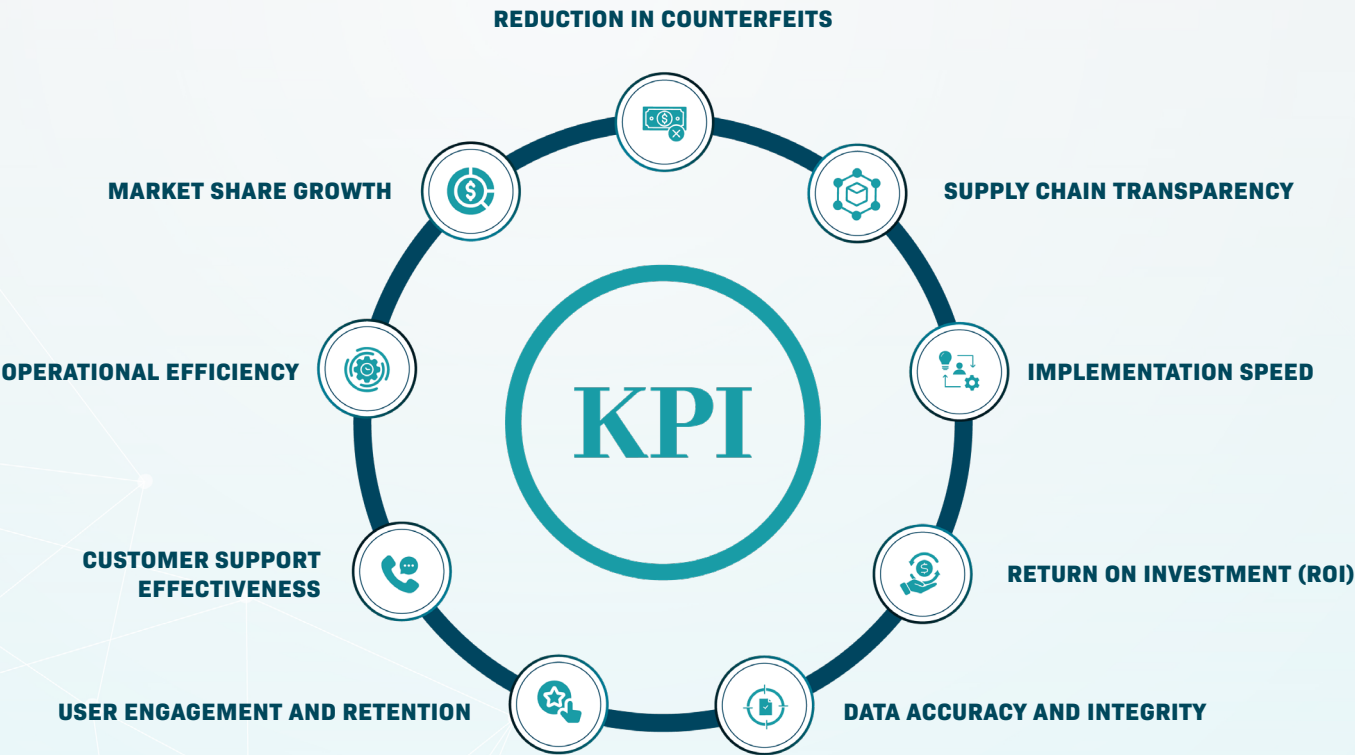
- Global.



Technology Used:



KPIs used to measure the effectiveness of our solution.





30 BILLION PRODUCTS
each year are protected
with our solution

Solution II:

Solution Name

- OpSec Security solutions

Solution Overview

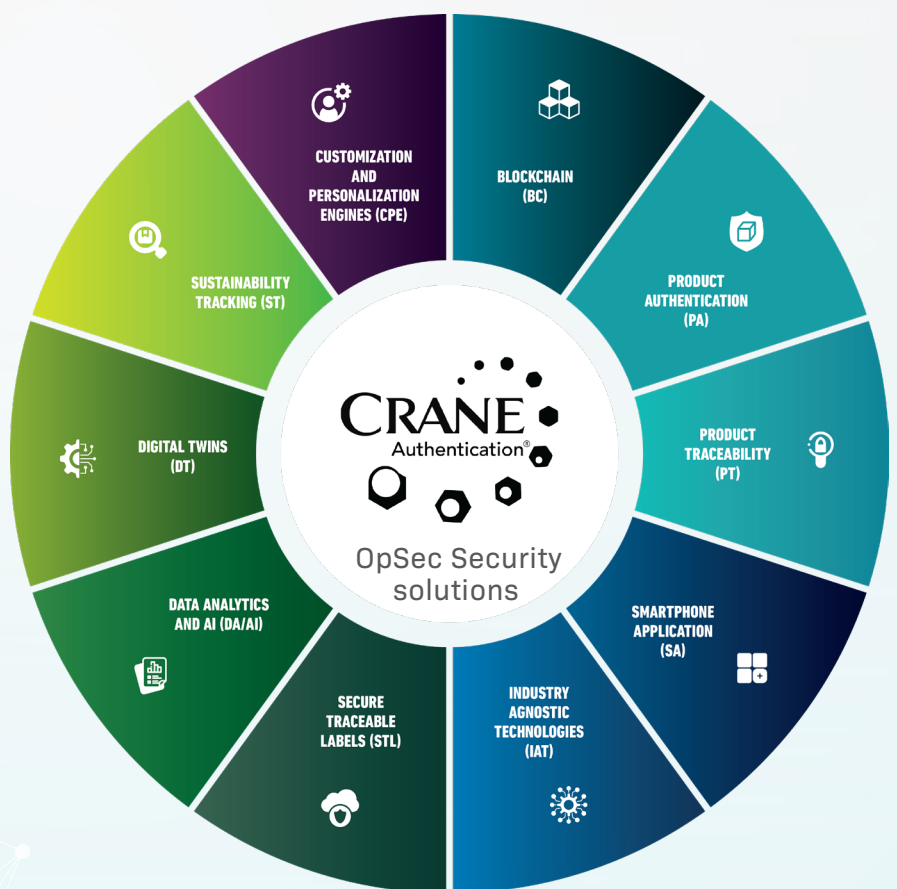
- OpSec Security offers comprehensive brand protection solutions through a proven combination of advanced technologies and tailored services.

Geography

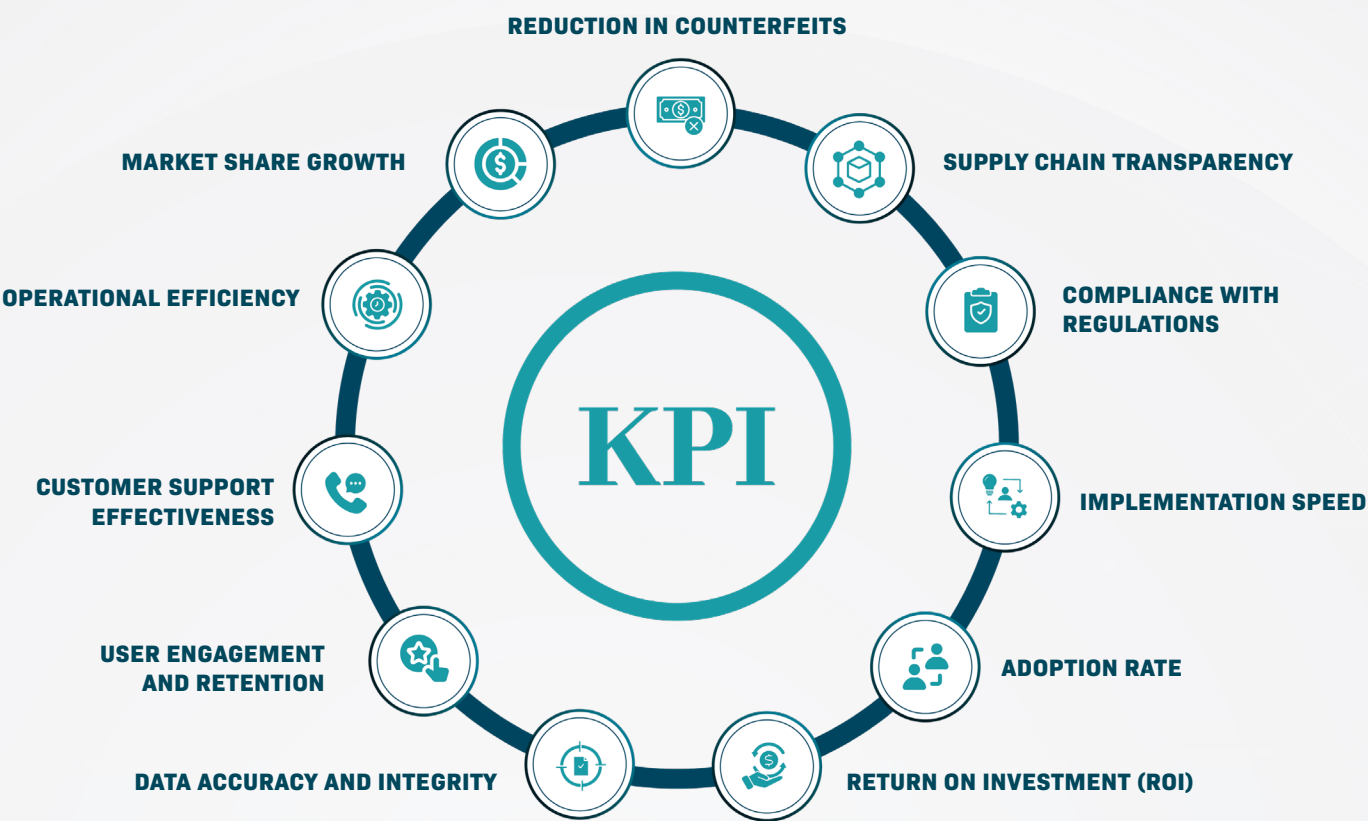
- Global



Technology Used:



KPIs used to measure the effectiveness of our solution.





ORIGINALLUXURY

INTRODUCING

DIATECH PLATFORMS



DIATRACE





DIATRACE

Company Information:

Diatech Platforms

Jumeirah Lake Towers
Almas Tower 8E
Dubai, United Arab Emirates

Contact Person:

Vinit Jogani
Director
md@diatech.ai
+971561388200

Website:

www.diatech.ai

Company Description:

Diatech Platforms specializes in advanced technology solutions tailored for the Gems & Jewelry industry. By harnessing the power of AI (artificial intelligence) and web3, Diatech empowers businesses to make data-driven decisions in key areas such as demand-supply dynamics, price analytics, and market forecasting. Diatech also supports sustainable practices through Diatrace - its blockchain powered provenance and ESG tracking system, ensuring transparency across the supply chain. Diatech also provides advance technologies on cutting-polishing of special stones and natural fancy colour optimization for diamonds. Trusted by industry leaders, Diatech AI helps businesses stay competitive and ahead of evolving market trends.

Number of employees: 51-200



MISSION

To revolutionize the diamond industry through cutting-edge technology that ensures complete transparency, ethical sourcing, and sustainability for both natural and lab-grown diamonds. We aim to provide unparalleled traceability with thorough certification standards to promote trust and integrity for all diamonds.



VISION

To become the global benchmark for ethical and sustainable diamonds, setting new standards in environmental and social responsibility through innovative technology solutions, and to give a voice to all the positive impact of diamonds in the world.



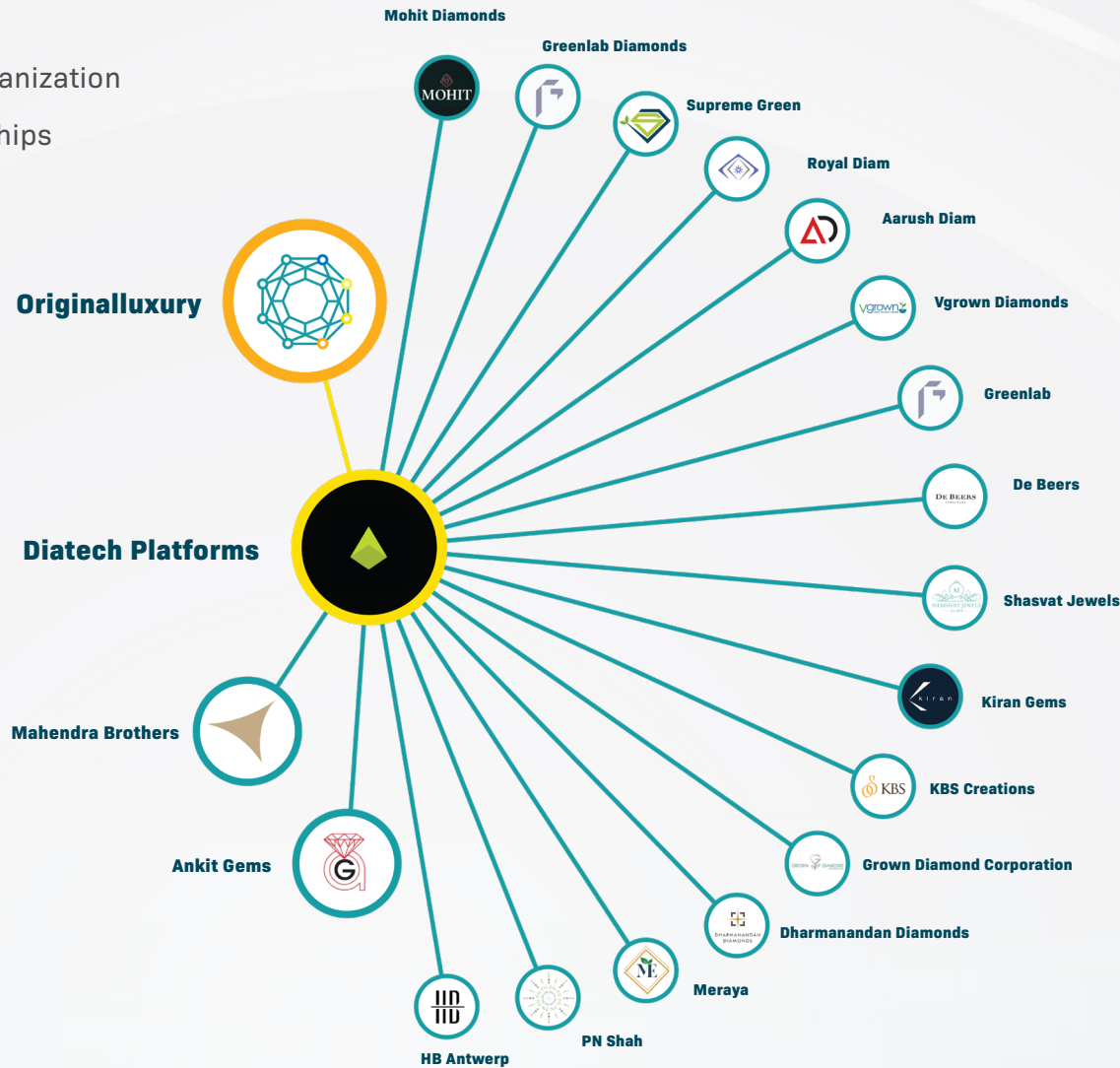
IMPACT

By pioneering comprehensive traceability and ESG rating processes, Diatech empowers consumers and businesses to make informed choices, fostering a diamond industry that is accountable, transparent and sustainable. At the same time, Diatech empowers diamond manufacturers to convey the facts of all the positive impact of diamonds on communities and the environment.



Legend:

- Core Organization
- Partnerships
- Clients



Solution I:

Solution Name

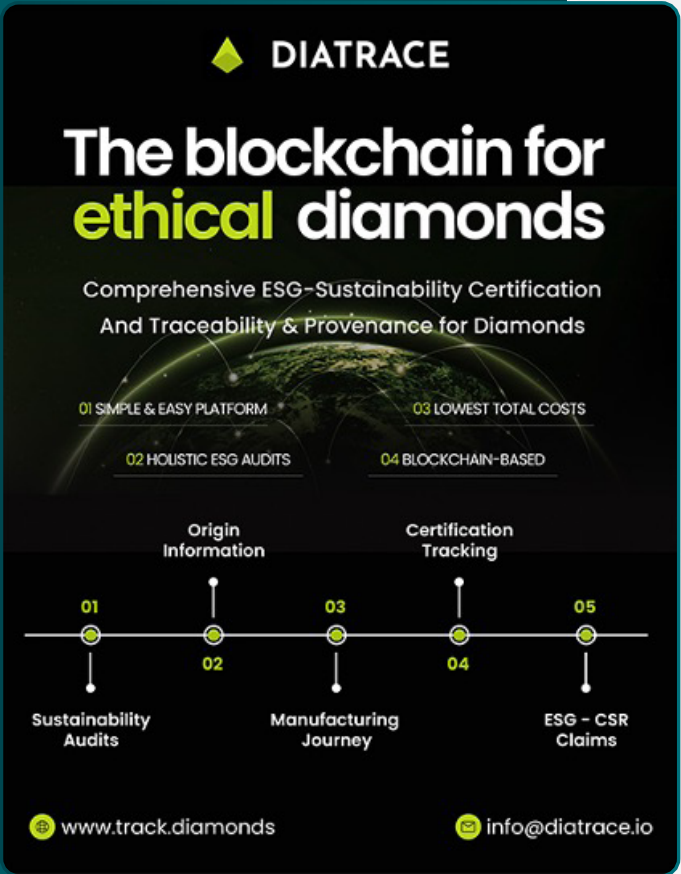
- Diatrace

Solution Overview

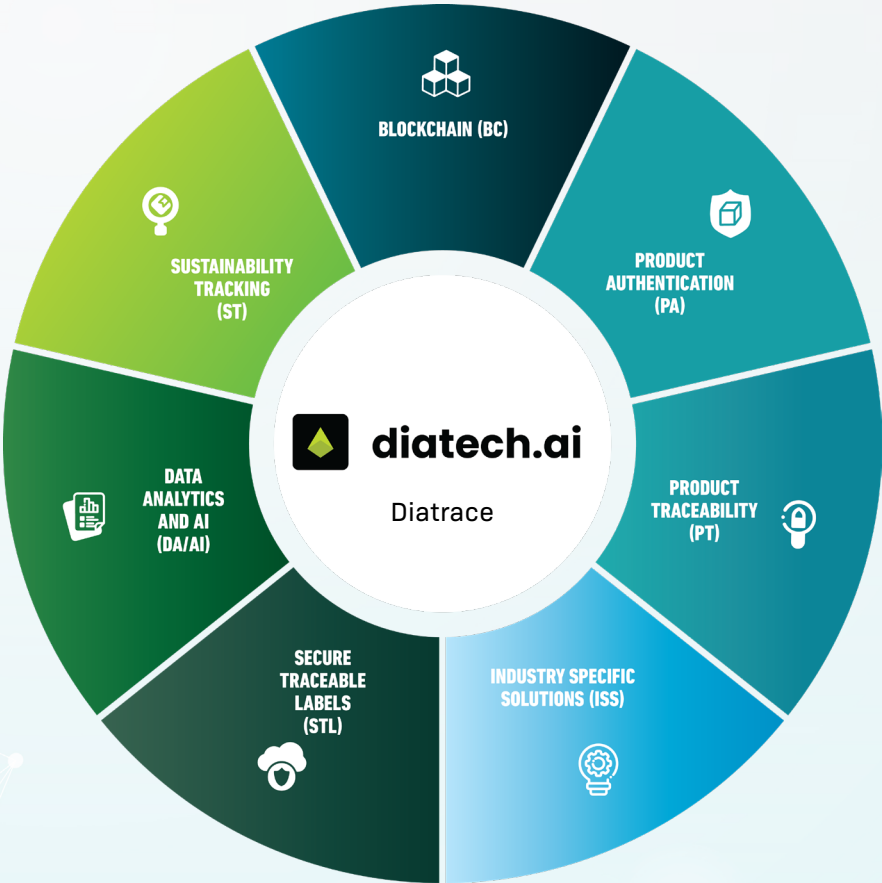
- Diatrace provides comprehensive traceability and ESG certification for diamonds, utilizing AI and blockchain to ensure transparency from source to sale. Its platform offers secure, real-time tracking of both natural and lab-grown diamonds, promoting ethical and sustainable practices.

Geography:

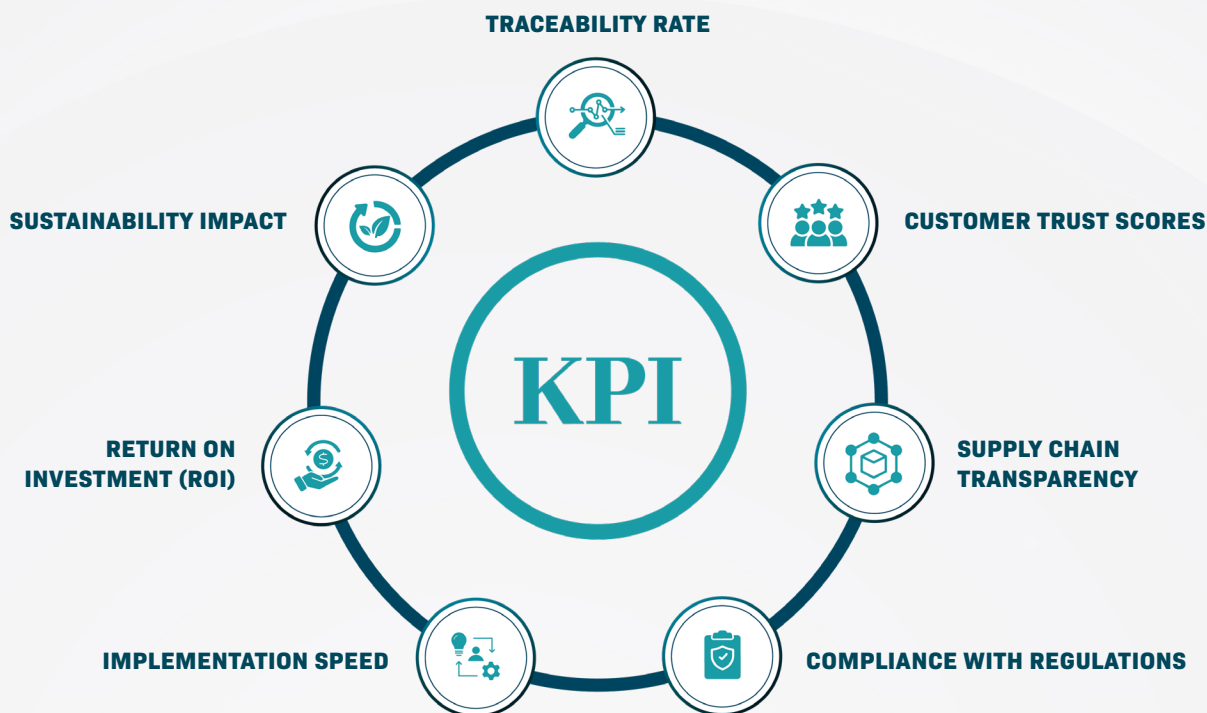
- India
- United States
- United Arab Emirates
- Botswana



Technology Used:



KPIs used to measure the effectiveness of our solution.



Data Points for solution:



Number of items benefiting from our solution

- Over 50,000 carats worth of diamonds and jewelry have already been traced through the Diatrace platform.



Percentage increase in traceability/transparency/trust

- Compared to non-existent systems and processes before the implementation of the Diatrace programme, companies have gone from 0 to 100 through this program.



Number of brands/suppliers adopting the solution

- Over 30 manufacturers are registered on the platform, and many more retailers consume data from here.



diatech.ai

Solution II:

Solution Name

- Diatech Analytics

Solution Overview

- Diatech Analytics empowers businesses with the power of AI to make better decisions.

Geography:

- India
- United Arab Emirate
- Belgium
- United States of America
- Botswana
- Hong Kong

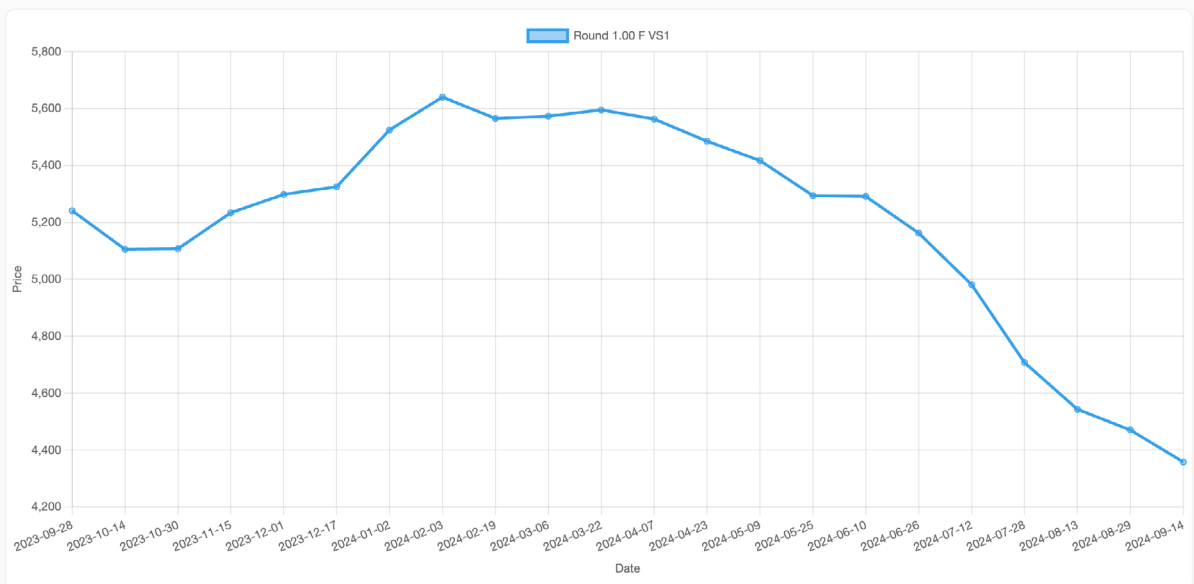


Price Trends

Natural



Round 1.00 F VSI x



- My Stock
- Price Trends
- Planning
- API Docs
- Back

- Support
- Logout

My Stock

Price Trends

Planning

API Docs

Back

Support

Logout

My Stock

Stock Levels

Movement

Supply

Summary

Price Trends

Round

Pear

Princess

Radiant

Cushion

Heart

Oval

Emerald

Marquise

The heatmap below represents an estimate of how many days worth of stock you have in the respective SKUs based on past sales and current stock. Black spots indicate lack of data.

Overstock

Understock

00.30-00.39

	IF	VVS	VS	SI	I	TOT
DEF	94 (44)	54 (134)	46 (83)	45 (9)		54 (270)
GHI	135 (9)	32 (18)	65 (28)			53 (57)
JK+						
TOT	99 (53)	50 (152)	50 (111)	55 (11)		54 (327)

00.40-00.49

	IF	VVS	VS	SI	I	TOT
DEF	67 (20)	49 (99)	20 (28)	120 (4)		38 (111)
GHI	75 (5)	55 (11)	17 (11)			31 (28)
JK+						
TOT	68 (25)	50 (70)	20 (40)	150 (5)		37 (140)

00.50-00.59

	IF	VVS	VS	SI	I	TOT
DEF	70 (21)	42 (81)	74 (104)	28 (29)		51 (236)
GHI		111 (40)	86 (66)			128 (151)
JK+						
TOT	143 (43)	55 (130)	79 (172)	44 (45)		67 (381)

00.60-00.69

	IF	VVS	VS	SI	I	TOT
DEF	345 (23)	45 (42)	40 (16)			61 (86)
GHI	150 (5)	90 (18)	38 (10)	60 (4)		65 (37)
JK+						
TOT	280 (28)	56 (64)	44 (29)	135 (9)		66 (130)

00.70-00.79

	IF	VVS	VS	SI	I	TOT
DEF	63 (21)	44 (70)	44 (93)	116 (54)		53 (239)
GHI	160 (32)	79 (131)	140 (140)	480 (48)		119 (352)
JK+	180 (9)	1770 (99)	115 (23)			341 (91)
TOT	104 (59)	79 (280)	77 (256)	185 (105)		88 (682)

00.80-00.89

	IF	VVS	VS	SI	I	TOT
DEF	90 (9)	300 (70)	73 (58)	228 (38)		135 (175)
GHI	450 (15)	81 (51)	88 (53)	150 (35)		104 (156)
JK+	30 (6)	180 (42)	52 (19)			89 (71)
TOT	90 (30)	148 (163)	74 (130)	193 (77)		112 (402)

00.90-00.99

	IF	VVS	VS	SI	I	TOT
DEF	72 (12)	498 (85)	44 (43)	330 (22)		107 (142)

01.00-01.49

	IF	VVS	VS	SI	I	TOT
DEF	23 (21)	19 (62)	22 (77)	51 (80)	3 (3)	24 (243)

01.50-01.99

	IF	VVS	VS	SI	I	TOT
DEF	12 (2)	19 (9)	8 (4)	58 (29)	10 (1)	25 (45)

Market Analytics

Pricing AI

Movement

Supply

Certificates

Economy

AI Forecast

Marketplace

Premium

Natural

Support

Logout

Leverage the power of AI to get a realtime pulse on the market. Harness the power of machine learning, analytics and automation with our suite of tools to make smarter, more informed decisions.

Diatech Diamond Index

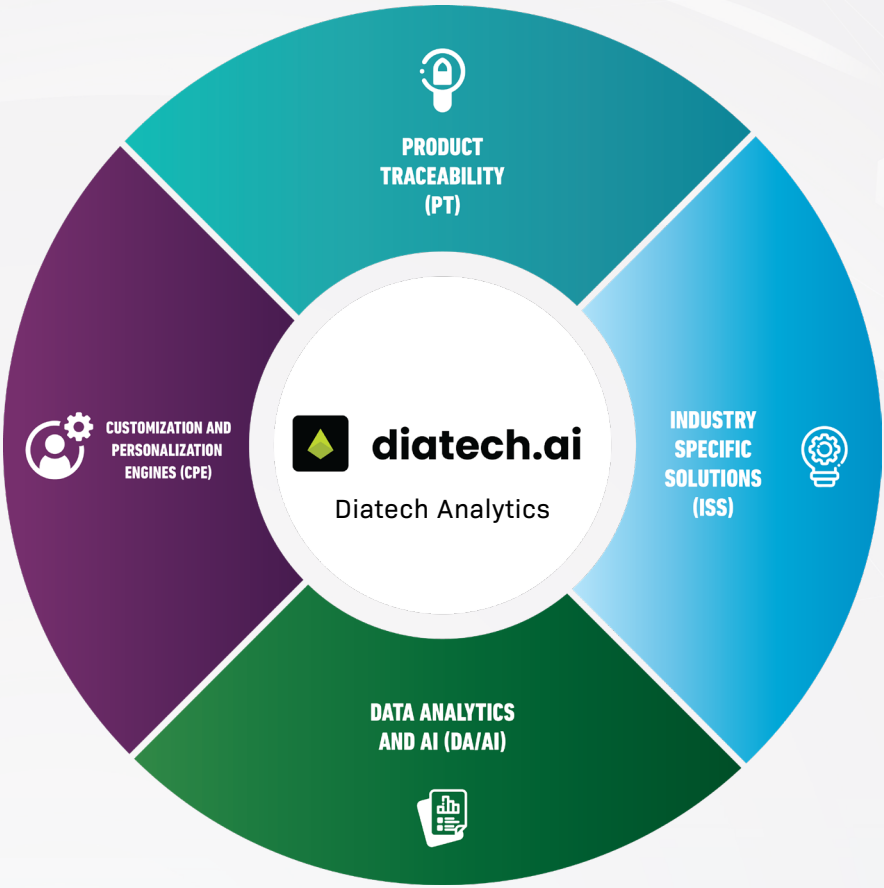
Diamond Index 2017=100

70.00 (-6.07%)

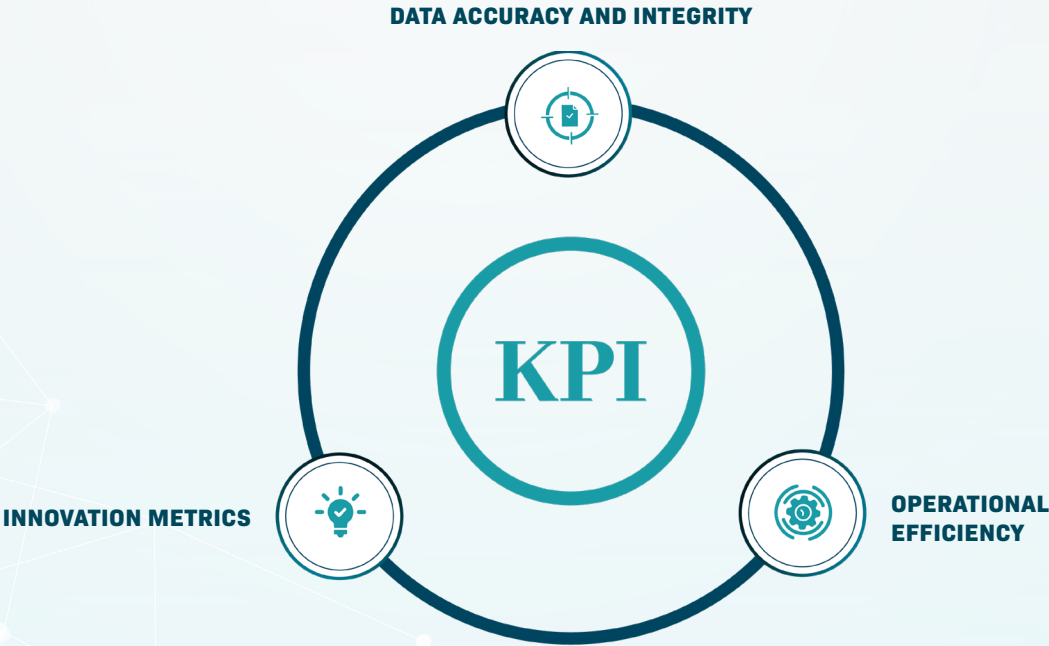
The above index measures natural diamond prices compared to 2017 as a benchmark for a basket of Round 1ct 3EX NON GIA stones across colors and clarities.

106 3rd Technology For Transparency Report | © 2025 ORIGINALLUXURY. All rights reserved

Technology Used:



KPIs used to measure the effectiveness of our solution.



Data Points for solution:



Number of items benefiting from our solution

- Over 600,000 carats of inventory flowing through the Diatech Platform



Percentage increase in traceability/transparency/trust

- Through improvements in data availability, users are able to price goods 4x more frequently and with higher accuracy with much less manual effort. This is improving the transparency by at least 35-40% by making data more visible.



Number of brands/suppliers adopting the solution

- 900+ users

Solution III:

Solution Name

- Diatech ERP

Solution Overview

- Helping the diamond industry solve enterprise challenges with cutting-edge software

Geography:

- India
- UAE



Diatech-SGI (SURAT-LOCAL - All)

Single Stock Search

Party Name: Party Person:

Terms:

Department: Process:

Inward From Date: Inward To Date:

From CertiDate: To CertiDate:

Count: 0

Trans Mode:

Availability: ☒ InStock ☐ Memo ☐ Certification ☐ Recut

Update Price By: Value:

Transaction Number:

Exclude Inhouse Party? ☒

Ready To Sale:

Stone Type:

All:

Is Global: ☐

With RFID: ☐

SEARCH

CLEAR SEARCH

Saved Seard

SAVE SEARCH

SAVE DEMAND

FEWER OPTIONS

QUICK SEARCH

SUMMARY

Stone Parameters Filter

Fr Crown Angle: Fr Crown Ht%: Fr Pav. Angle: Fr Pav. Height %: Fr LR Half: Fr STR Length: Fr Ratio: Fr Tab%: Fr Dep%: Fr Girdle: Fr Culet: Fr Len:

To Crown Ang: To Crown Ht%: To Pav. Angle: To Pav. Height %: To LR Half: To STR Length: To Ratio: To Tab%: To Dep%: To Girdle: To Culet: To Len:

Fr Width: Fr L/W Ratio: Fr Age: Fr Disc: Fr Price: Fr Amount: As On Date:

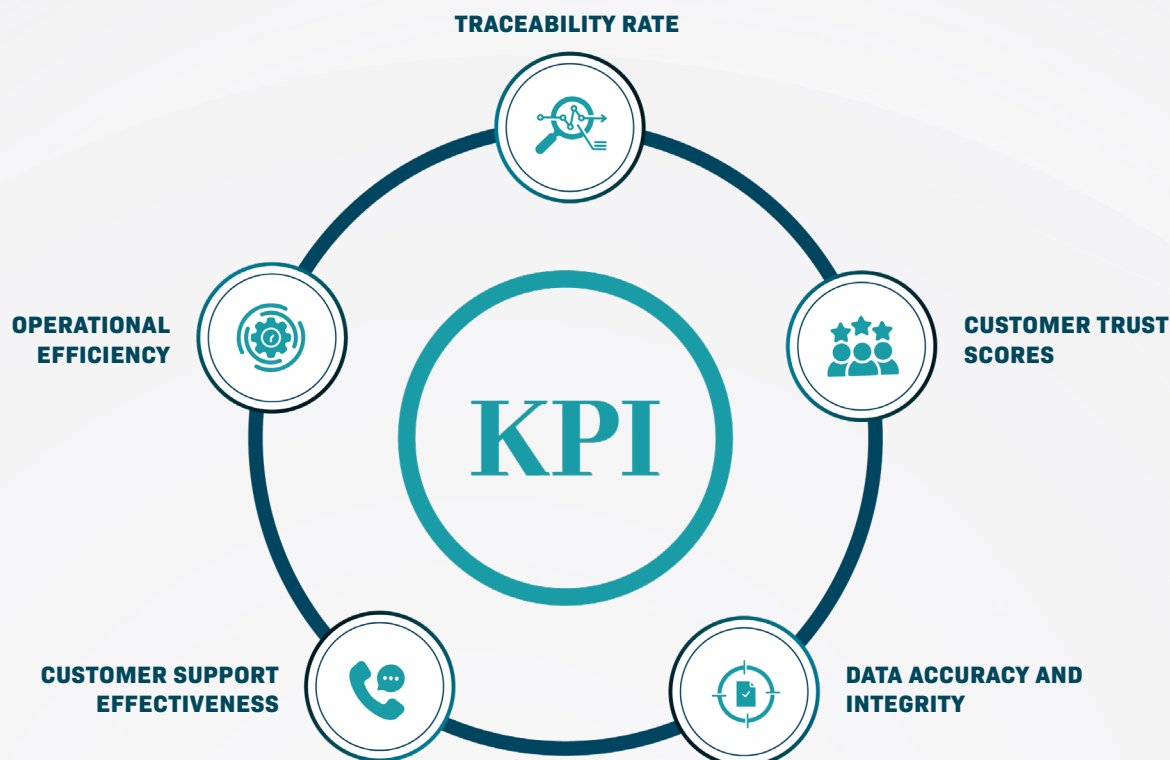
To Width: To L/W Ratio: To Age: To Disc: To Price: To Amount:

Internal Graining:





Surface Graining:

	Pcs	Cts	\$/Ct	Disc	Amt
Tot.	0	0	0	0	0
Sel.	0	0	0	0	0

KPIs used to measure the effectiveness of our solution.



Data Points for solution:

-  Number of items benefiting from our solution
 - Millions of carats tracked through our ERP systems in over 20 years of our legacy.
-  Percentage increase in traceability/transparency/trust
 - Compared to Excel, companies now have access to 25x more data at a granular level for reporting and insights.
-  Reduction in fraudulent activities
 - With a closer tracking of all the operations, companies have been able to reduce significant risks of goods switching, broker fraud and other fraudulent activities within an organization.
-  Number of brands/suppliers adopting the solution
 - 50-60

Contact Information :

- Diatrace Team: info@diatrace.io
- Diatech Analytics Team: support@diatech.ai
- ERP Team: tech@lemontechnologies.net



ORIGINALLUXURY

INTRODUCING

DYNAMIC ELEMENT AG



DynamicElement

giving your products
an identity





DynamicElement

giving your products
an identity

Company Information:

DynamicElement AG

Rothausstrasse 1
Switzerland

Contact Person:

Friedrich Kisters
CEO

friedrich.kisters@dynamicelement.com
+41792222221

Website:

www.dynamicelement.com

Company Description:

We create “biometric”, surface-based identities for products, fostering trust in a secure and dynamic way. Our security elements may change over time and can still be recognized.

Number of employees: 11-50



MISSION

Our mission is to provide product identity, protect brands, and connect companies to their customers through innovative solutions.



VISION

DynamicElement AG envisions a world where every product carries a unique, secure identity, providing reliable and detailed information about its production. By leveraging cutting-edge AI and computer vision, we ensure authenticity and trust, enabling consumers to easily verify a product before purchase and confidently prove ownership afterward.



IMPACT

DynamicElement AG transforms industries by delivering secure, scalable solutions that combat counterfeiting and protect brand integrity. Our technology safeguards products across many sectors, from luxury goods to pharmaceuticals, while enabling seamless customer interaction. Through innovation and reliability, we drive trust and transparency in global markets.

Secure your products, elevate your brand

Ensure security and authenticity for your products.

[Learn more](#)



Anti-Counterfeiting

Get empowered to proactively deter counterfeit activities, ensuring heightened control over your supply chain and distribution channels with our innovative technology.



Gray Market Protection

Our advanced solutions equip you to detect and manage gray market activities, contributing to better control over distribution channels.



Customer Engagement

Unlock new possibilities for meaningful interactions, building lasting connections with your audience. Foster loyalty and satisfaction.



Brand Image

Safeguard your brand narrative, ensuring heightened influence over perception and authenticity through our advanced technology.

Solution I:

Solution Name

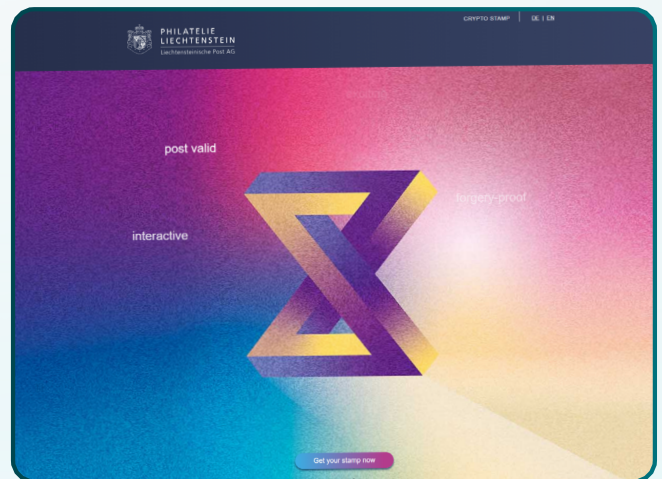
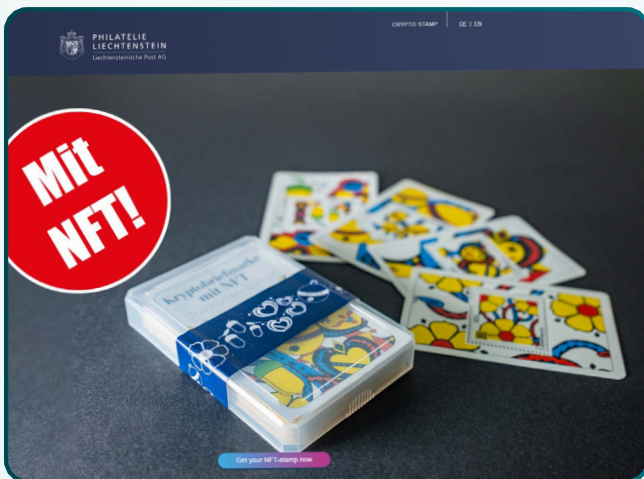
- Crypto stamps

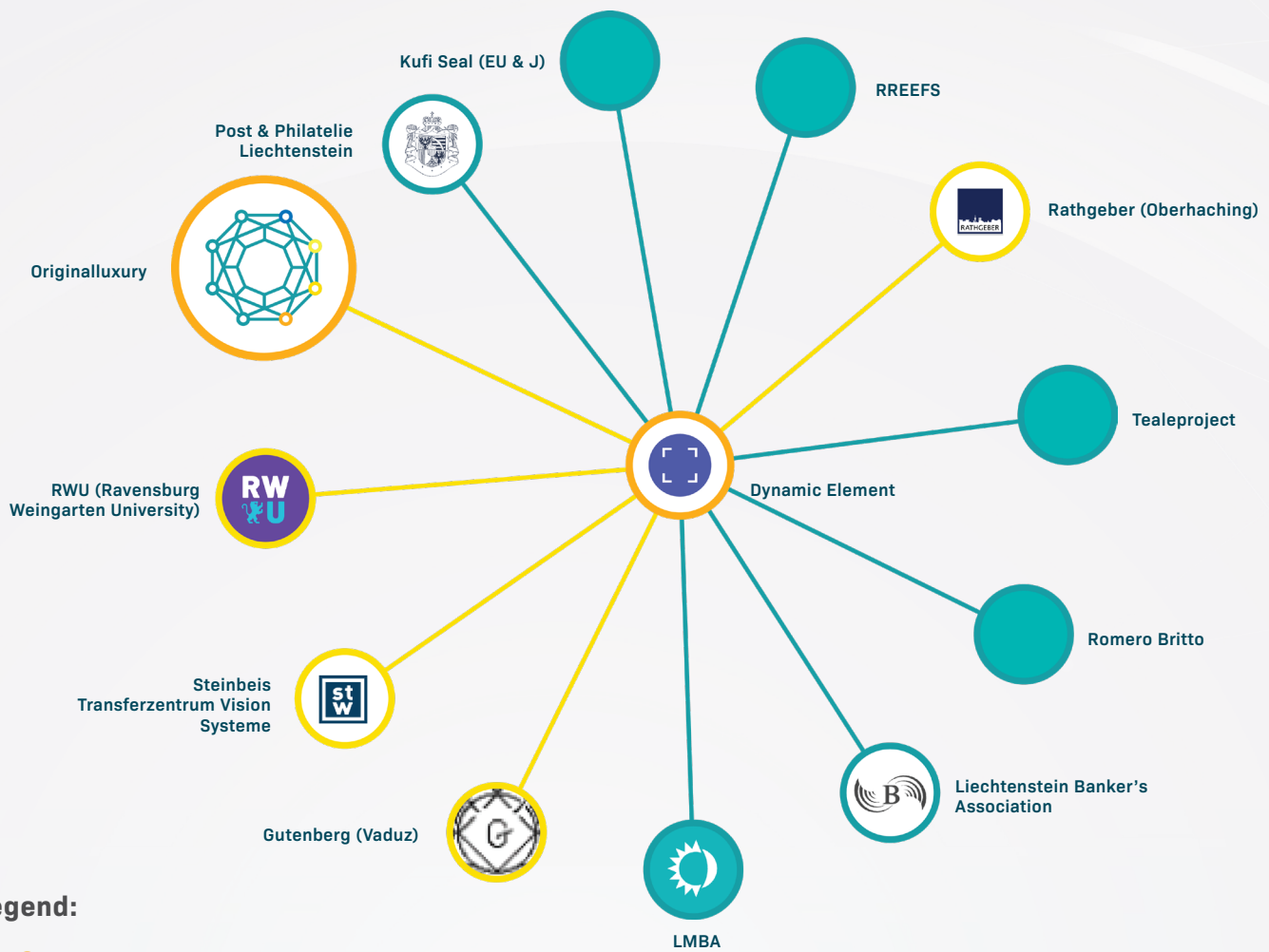
Solution Overview

- Counterfeit secure stamps with digital surprises

Geography:

- International

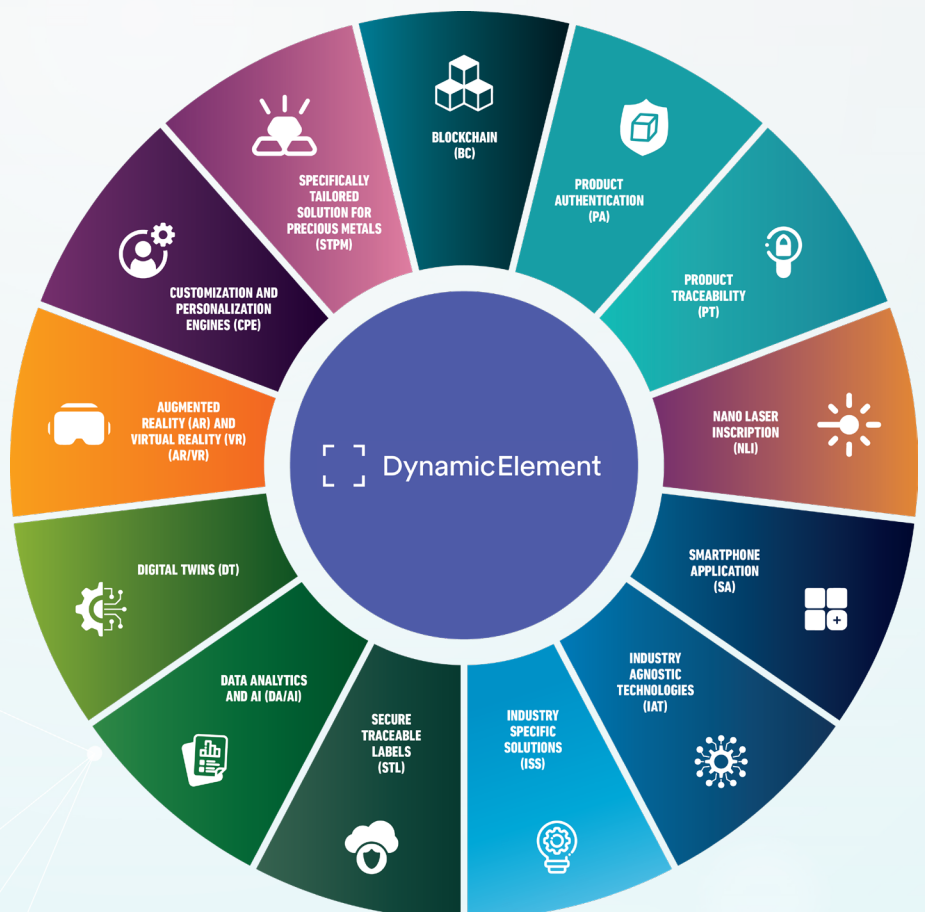




Legend:

- Core Organization
- Partnerships
- Clients

Technology Used:



KPIs used to measure the effectiveness of our solution.



Data Points for solution:



Number of items benefiting from our solution

- > 1 Mio



Percentage increase in traceability/transparency/trust

- > 90%



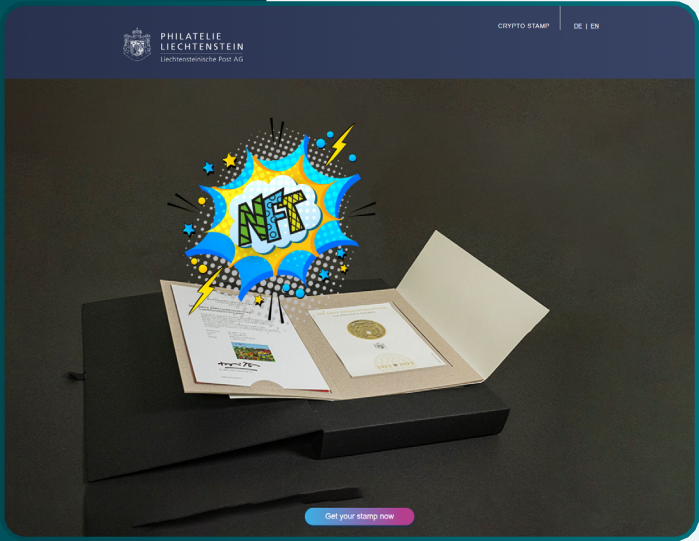
Reduction in fraudulent activities

- > 90%



Number of brands/suppliers adopting the solution

- > 5



INTRODUCING

ITRACEIT





Company Information:

iTraceiT

Rue du Grand Peril, 108
Braine-le-Comte
Belgium

Contact Person:

Frederik Degryse
CEO
frederik@itraceit.io
0032474665744

Website:

www.itraceit.io

Company Description:

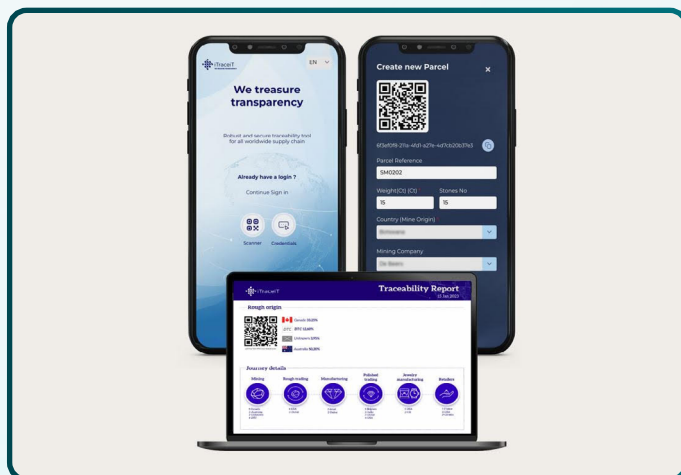
iTraceiT is a technology company specializing in traceability solutions using Blockchain and QR code technology. We offer innovative tools for documenting the origin and journey of products, with a primary focus on the watch, jewelry, and luxury industries. Our solutions enable companies to enhance transparency and authenticity, ensuring that customers can trust the provenance and ethical sourcing of the products they purchase. iTraceiT aims to be a leading partner for brands seeking to incorporate robust traceability into their ESG (Environmental, Social, and Governance) reporting frameworks.

Number of employees: 11-50



iTraceiT aims to revolutionize the way businesses document and communicate the journey and origin of their products by providing state-of-the-art traceability solutions. Through the integration of Blockchain and QR code technology, the company empowers brands, particularly in the watch, jewelry, and luxury industries, to enhance transparency, build trust, and meet their sustainability goals.

iTraceiT is dedicated to being a trusted partner in helping companies showcase their commitment to ethical sourcing and responsible business practices, ultimately driving positive change in the industry.





- 118 3rd Technology For Transparency Report | © 2025 ORIGINALLUXURY. All rights reserved

Solution I:

Solution Name

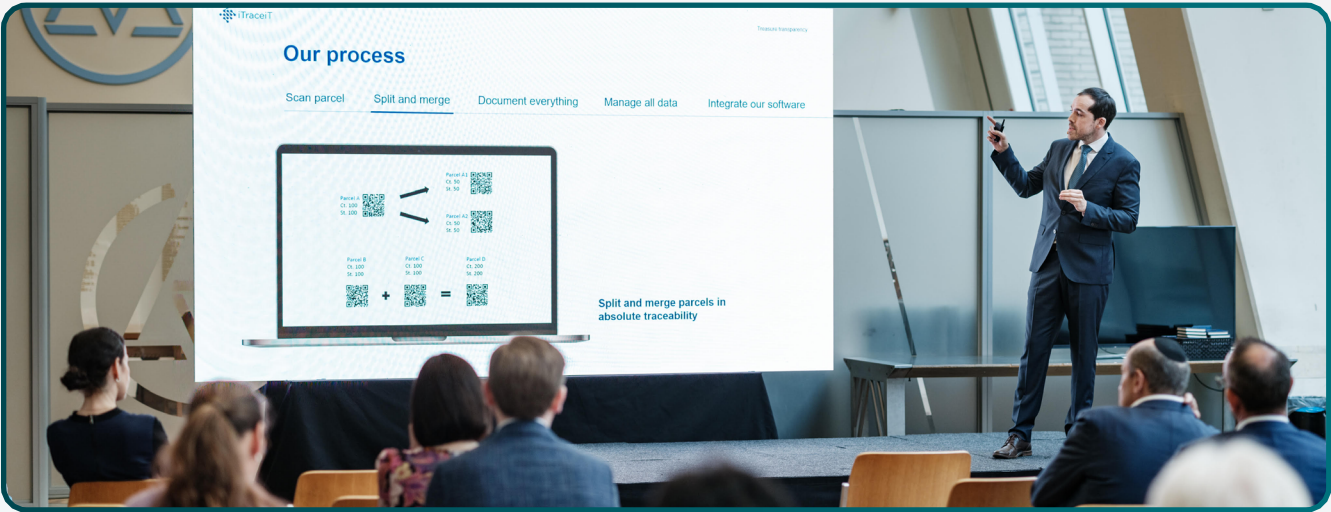
- iTraceiT Workflow

Solution Overview

- Traceability solution for all diamonds and luxury item components.

Geography:

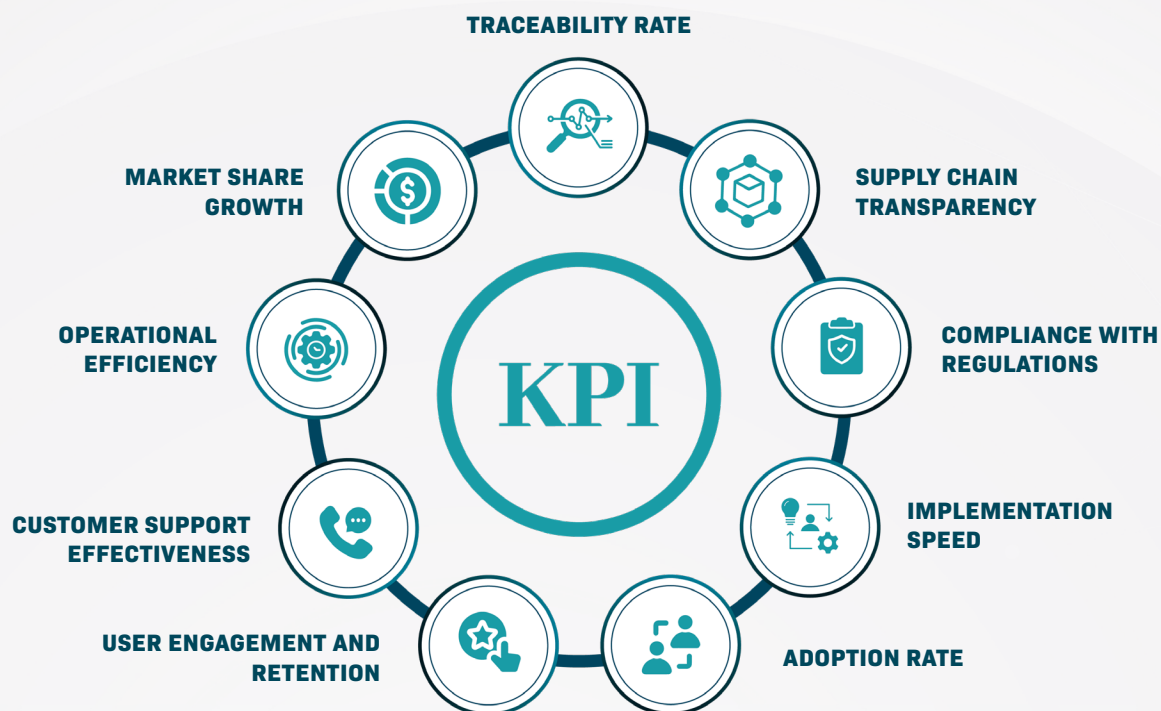
- Europe, India and UAE.
- Future plan to expand to the US market.



Technology Used:



KPIs used to measure the effectiveness of our solution.



Data Points for solution:



Number of items benefiting from our solution

- It is a company policy that we don't have access to the data of our customers.



Number of brands/suppliers adopting the solution

- To date we have 126 license holders, which range from miners and traders to manufacturers and retailers/brands.

Contact Information :

- support@itraceit.io



ORIGINALLUXURY

INTRODUCING

OPSYDIA



OPSYDIA





OPSYDIA

Company Information:

Opsydia

Centre for Innovation & Enterprise
Woodstock Road, Begbroke
Oxfordshire OX5 1PF, United Kingdom

Contact Person:

Jacqui Larsson
Sales & Marketing Director
jacqui.larsson@opsydia.com
+44 (0) 7786 065 045

Website:

www.opsydia.com

Number of employees:

11-50



MISSION

Opsydia is committed to providing a cutting-edge solution for the diamond, coloured gemstone, jewellery and watch industries. We envision a future in which valuable products are distinguished with tamper-proof inscriptions that ensure brand and product protection, and enhance traceability and transparency in the primary market, while adding protections against counterfeiting in the secondary market. As a result, Opsydia is empowering the entire life cycle of luxury goods and creating positive change.



VISION

We envision a future in which the entire diamond pipeline benefits from the implementation of Opsydia technology through our systems, identifiers, jewellery viewer and upcoming melée inscription system. With ultra precise, tamper-proof and permanent sub-surface inscriptions, manufacturers, brands and retailers can secure the identity and integrity of diamonds and coloured gemstones throughout the supply chain and provide enduring value, which has tangible benefits to the secondary market.



Company Description:

Opsydia specialises in innovative laser inscription technology for the diamond, gemstone, jewellery and watchmaking industries. Our world leading systems use laser technology to inscribe ultra-high precision, tamper proof inscriptions both on and beneath the surface of

gemstones. Formed as a spin-out company from the University of Oxford, we specialise in creating high-volume industrial processes for practical applications based on cutting edge research. Our mission is to promote transparency, support provenance and traceability initiatives, and offer businesses a unique method of elevating their brands, authenticating premium products and creating enduring value in both primary and secondary markets.

Company's tagline:

Securing traceability, authenticity and brand in diamonds and precious gems. Forever.

Company's values:



Product Integrity – Opsydia draws upon cutting-edge research at the University of Oxford with a focus on academic excellence and innovative ongoing development. Our business is staffed by a high concentration of engineers and specialists educated to PhD level, many of whom are global leaders in laser technology and optics. This committed expertise ensures our systems are ready to be deployed globally to benefit businesses at all stages of the diamond and coloured gemstone pipelines.



Confidentiality & Security – We take client confidentiality and privacy seriously and are committed to maintaining trust. High level encryption techniques and software security ensure the integrity of proprietary logos, with access to brand and business information strictly controlled. Only authorised agents and third parties with Opsydia Systems can access logos and artwork to use on behalf of their clients. This is in-keeping with our absolute focus on authenticity, anti-counterfeiting and data protection.



Flexibility – Opsydia technology has been purposefully designed to be interoperable and agnostic. We work with all blockchain technology providers and seamlessly blend with a client's existing technical and digital processes for achievable integration. We prioritise client choice and do not advocate single solution options.





Customer Service – Providing unmatched support and technical assistance to clients globally no matter their requirements. Our team of laser and optics specialists, engineers, gemmologists and diamond experts can speak knowledgeably to clients about their needs and supply chains, providing a responsive, global service. We strive to consistently and confidently respond to the needs of the diamond, coloured gemstone, jewellery and watchmaking industries as they seek to address contemporary market challenges, including traceability, transparency and anti-counterfeiting.

Solution I:

Solution Name

- Opsydia Systems D4000, D5000 and D6000

Solution Overview

There are three commercially available Opsydia Systems that are ready to be deployed globally:

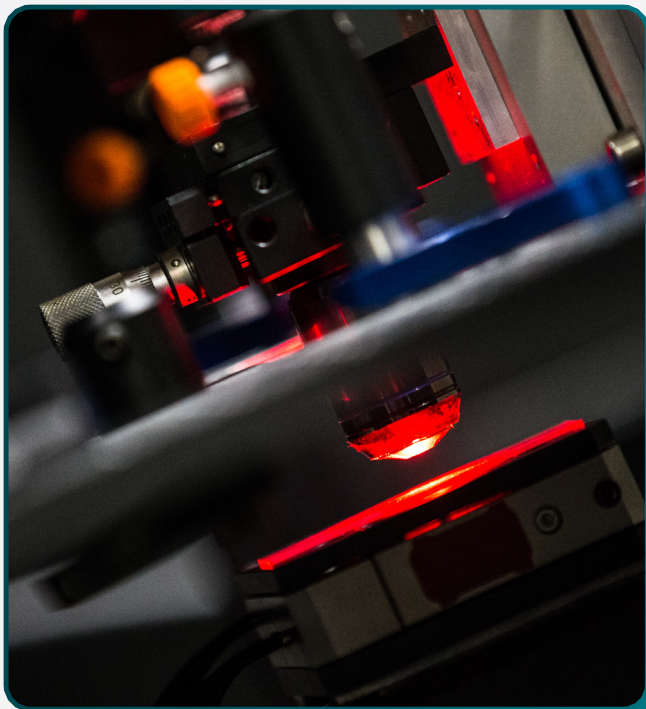
- the Opsydia Surface ID System (D4000)
- the Opsydia Sub-Surface ID System (D5000), and
- a third combined System that offers both capabilities, the D6000.

All three are suitable for use in factory, office and laboratory environments and share the same beneficial software, encryption, and high-volume processing power.

Description

- Our Systems can create Surface IDs, Loupe Visible IDs and Nano IDs or a combination of Sub-Surface and Surface IDs in one device. The D4000 only offers Surface IDs, while the D5000 – our inaugural System – focuses on sub-surface identifiers that vary by visibility. Finally, the D6000 incorporates all our technologies to offer Surface, Loupe and Nano IDs within a single device. Opsydia Systems are approximately one metre wide and are standard doorway accessible.
- **Our devices can process 100,000+ stones per year.**
- Jewellery Viewer – The Opsydia Viewer is an internet-enabled device designed with the luxury retailer in mind. Its on-screen appearance and visuals can be tailored to blend seamlessly with other brand touchpoints, ensuring a consistent look-and-feel in consumer-facing environments. The Jewellery Viewer allows users to see microscopic Sub-Surface Nano IDs in diamonds and coloured gemstones and captures macro and micro images that end consumers can share with their family and friends. The Opsydia Viewer integrates with blockchain, traceability and information management platforms to create a new kind of consumer experience and provide compelling evidence of provenance, authenticity and integrity.





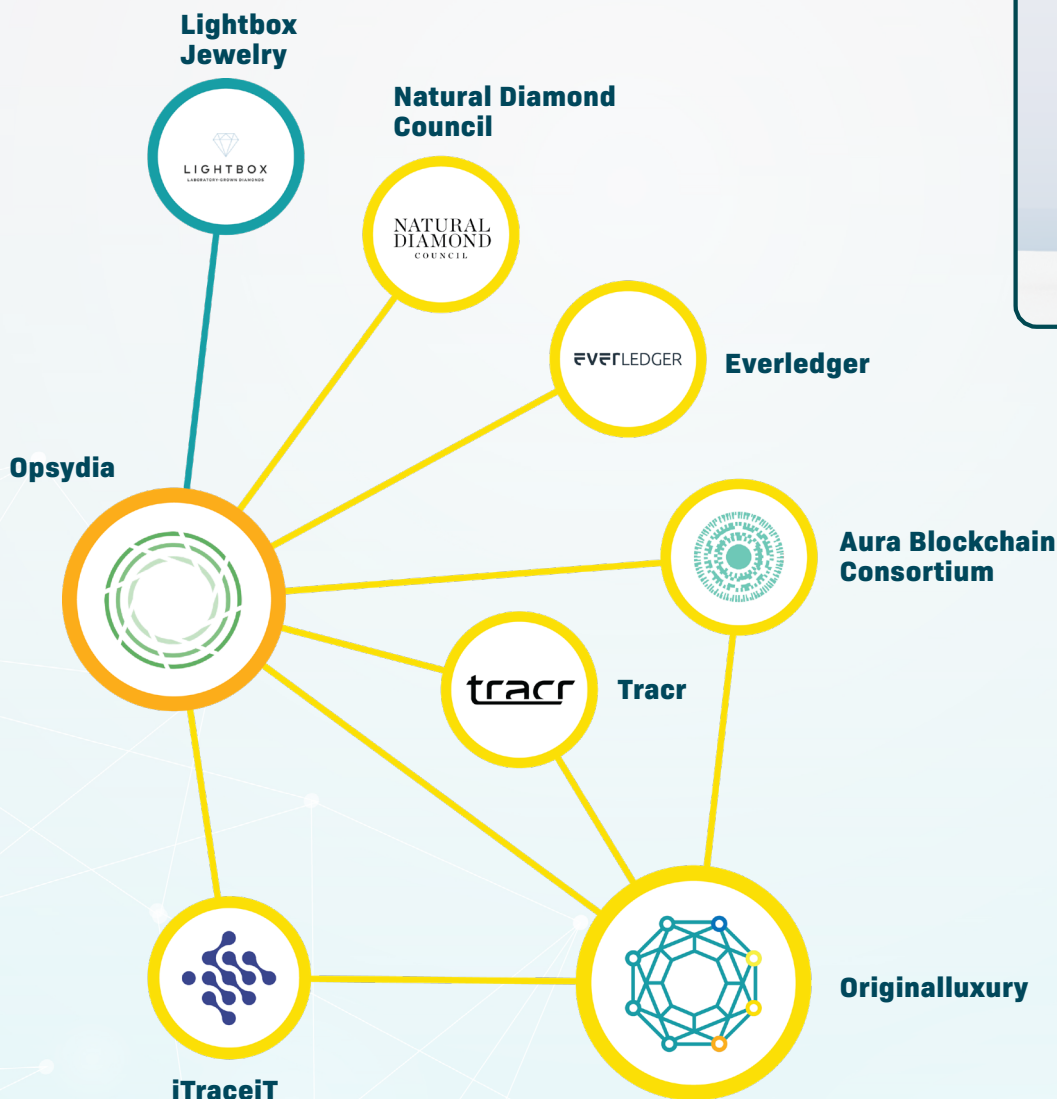
The device gives retailers the opportunity to present tangible evidence of origin, supply chain provenance and CSR initiatives, while also enhancing the storytelling around these important concepts in-store. This first-of-its-kind viewer is an innovative and experiential way to establish trust and elevate brand values.

Target Audience

- Opsydia Systems are suitable for a wide range of businesses at all stages of the diamond and coloured gemstone pipeline, including miners, manufacturers, gem certification laboratories, melée producers/setters, luxury jewellery brands and retailers and premium watch businesses.

Geography:

- Global



Traceability & Transparency Enhancement:

Specific traceability & transparency challenges that our solution address:



Tamper-Proof Inscriptions – Current industry-standard diamond identification is achieved by surface marking the girdle of diamonds which can be easily polished away or fraudulently replicated. There are many examples of inferior and laboratory-grown diamonds being marked with false grading report numbers to mask their true identity. Opsydia laser technology creates a tamper-proof physical link between a specific diamond or coloured gemstone and its blockchain record or grading report. Our Nano ID and Loupe ID features can be placed beneath the surface of a gemstone in a way that can't be polished away or removed without re-cutting a stone, making efforts to do so uneconomical.



Record of Origin/Provenance – Customisable sub-surface inscriptions can provide a record of origin and product provenance, while also creating a physical link to blockchain records, grading reports or traceability initiatives (through logos, serial numbers or other features).



Authenticity and Anti-Counterfeiting – Uniquely securing brand identity in physical products, whether through a single diamond, coloured gemstone, multiple melée diamonds or sapphire crystal glass. This adds another layer of security and anti-counterfeiting protection for large luxury brands.



Supporting the Secondary Market – As the secondary market continues to grow for luxury fine jewellery and premium timepieces, Opsydia inscriptions add enduring value to a brand and product by confirming its identity and branded origins.



Agnostic Technology – Our agnostic technology is interoperable with all blockchain and IM systems. This accessibility addresses the challenges of a fragmented marketplace, extending choice and flexibility to clients.



The Opsydia Viewer – Internet-enabled luxury retail jewellery viewer allows users in a store environment to view Sub-Surface Nano IDs in diamonds and coloured gemstones. This serves as irrefutable evidence of innovative methods being used to secure the identity and authenticity of precious stones, thus elevating trust and brand reputation among consumers.



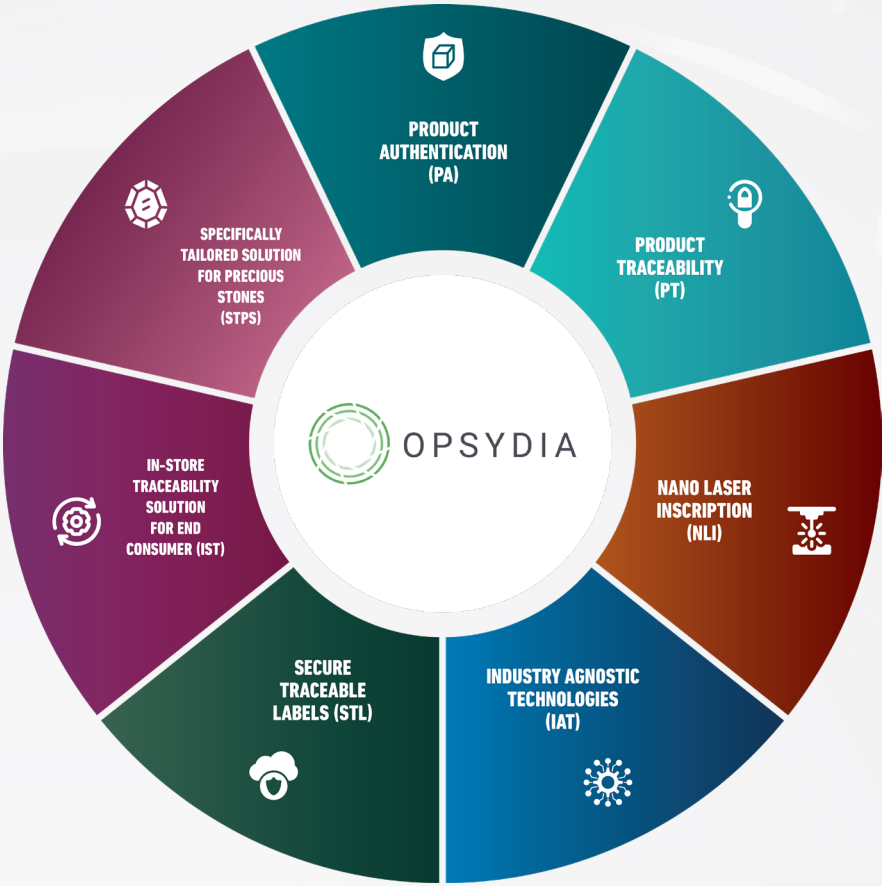
Data Collection and Inventory Management – Sub-surface identifiers provide data for inventory control and reconciliation, which can be particularly important if inscriptions are undertaken by authorised third parties. Each inscription is evidenced by a quality control image, with the time and date stamped and the operator noted in a ledger – this is suitable for high-volume workflows in busy manufacturing environments.

Consumer perspective:

Key traceability and transparency challenges that our solution help customers overcome?

- **Fraudulent Girdle Inscriptions** – Opsydia Sub-Surface Nano IDs and Loupe IDs cannot be easily polished away or fraudulently replicated. This overcomes the challenges associated with the current method of inscribing the girdle of polished diamonds, alleviating pressures on gemmology laboratories and protecting the consumer.

Technology Features:



KPIs used to measure the effectiveness of our solution:



Client Testimonials:

“We are honoured to have been able to collaborate with Opsydia in refining the criteria for a Nano ID so that it can be integrated into diamond grading practices. Diamond traceability and security are important issues in the diamond supply chain, and it is important that such scientific techniques be developed for the trade and to ultimately strengthen consumer confidence,”

Dr. Michael S. Krzemnicki, Director of the Swiss Gemmological Institute SSEF, Basel

“Opsydia’s technology has proven itself to be a highly effective method of including a quality mark and tamperproof tag into our laboratory grown diamonds. Our customers value the ability to easily loupe a stone and see our inscribed logo-mark to distinguish between LGD diamonds that have been grown in our laboratory, and natural diamonds. The logo mark, while easily identifiable under magnification, does not impact the visual beauty or grading characteristics of the stones, and as it sits beneath the surface, our customers can be assured that it will not easily be removed or altered,”

Nick Smart, Commercial Director, Lightbox Jewelry

“Myne London, (now incorporating Myne USA), are proud and pioneering partners with Opsydia. Acquiring the Swat Valley emeralds that are the hallmark of their collection demanded heavy investment in order to secure a mine-to-market supply route that met the founders’ strict ethical criteria. With an exclusive and bespoke jewellery range that targets a young and discerning audience Myne London has been proud to further inspire consumer trust with Opsydia’s subtle sub-surface identifiers setting them apart from all competition. Linking the work of their all-woman team cutting emeralds in Pakistan with their goldsmiths in California, Opsydia provides the ultimate seal of trust for Myne London customers,”

Charles Evans, Gemmologist, Myne London



Future Developments :

Upcoming Features - planned updates or new features that will further enhance traceability & transparency.

One of the greatest reputational risks currently facing the diamond industry and luxury retailers is providing assurances on the **provenance of melée diamonds**. Given their relative low cost, there is a disinclination to invest in proof of origin or traceability measures to enhance provenance. Opsydia is currently developing a system that can inscribe melée (to a minimum size of Ø 0.8mm) at volume. This system will inscribe up to 500,000 stones per annum and gems from any given parcel will all bear the same code. This will solve significant industry challenges and provide an option for large-scale manufacturers and brands looking to secure the identity and integrity of melée.



Vision - Our long-term vision for traceability and transparency is that these concepts become more than buzzwords and develop into rigorous and quantifiable initiatives that place as much emphasis on the upstream as they do the downstream. Opsydia technology is wholly blockchain compatible and is the ideal companion tool to ensure that these future goals are met.

- Identifiable diamonds and coloured gemstones
- Proof of origin encoded at the manufacturing level
- Quantifiable evidence of traceability initiatives
- Anti-counterfeiting for luxury brands in the primary and secondary markets
- Brand storytelling centred around provenance, traceability and transparency

Opsydia specialises in innovative laser inscription technology for the diamond, gemstone, jewellery and watchmaking industries. Our world leading systems use laser technology to inscribe ultra-high precision, tamper proof inscriptions both on and beneath the surface of gemstones. Formed as a spin-out company from the University of Oxford, we specialise in creating high-volume industrial processes for practical applications based on cutting edge research. Our mission is to promote transparency, support provenance and traceability initiatives, and offer businesses a unique method of elevating their brands, authenticating premium products and creating enduring value in both primary and secondary markets.

Partnerships - key partnerships or collaborations that support our solution.

- Opsydia is an agnostic technology provider, meaning our systems and software can be integrated into pre-existing workflows and solutions. Our technology is blockchain compatible with Sarine, Everledger, Aura, iTraceiT, Synova and Tracr, among others.



Support Contact

- info@opsydia.com



ORIGINALLUXURY

INTRODUCING

PROVENANCE PROOF

PROVENANCE
PROOF





Company Information:

Provenance Proof

Maihofstrasse 102
6006 Luzern
Switzerland

Contact Person:

Klemens Link
Director
klemens.link@provenanceproof.com
+41 41 429 16 36

Website:

www.provenanceproof.com

Company Description:

Provenance Proof provides products which enable stakeholders within the gem and jewellery industry to participate in transparency. By integrating advanced DNA markers and secure blockchain technology, Provenance Proof provides unparalleled and provable traceability throughout the supply chain, from the rough gemstone to the finished jewellery piece. These technologies not only promote responsible sourcing but also enhance customer trust and loyalty, helping brands meet modern expectations of transparency and sustainability.

The DNA- based Provenance Proof Physical Tracers combat counterfeiting and fraudulent claims by embedding invisible, unique physical markers into gemstones or jewellery at any stage of the supply chain. These tracers ensure an indelible, verifiable physical link to the product's origin, safeguarding brands from unauthorised replicas and strengthening consumer confidence.

The Provenance Proof Blockchain provides a secure, tamper-proof record of a gemstone's journey. The underlying blockchain technology ensures the integrity of the stored information throughout the supply chain which at the same time remains exclusive and private to the owner of the asset. With over 35 million gemstones and jewellery items recorded and more than 750 professional stakeholders registered, the Provenance Proof Blockchain has become an industry benchmark for transparency and accountability.

Number of employees: 1-10

Company's tagline:

Transparency Redefined



MISSION

Provenance Proof's mission is to enhance transparency and trust within the global gems and jewellery industry through innovative technologies.

Solution:

Solution Name

- Provenance Proof Physical Tracer

Solution Overview

- Provenance Proof provides physical tracers that enable the traceability of gemstones and diamonds back to their place of origin.

Description

- The DNA-based Provenance Proof Physical Tracers combat counterfeiting and fraudulent claims by embedding invisible, unique physical markers into gemstones, diamonds, watches, or jewellery at any stage of the supply chain. These tracers provide an indelible, verifiable physical link to the product's origin, protecting brands from unauthorised replicas and boosting consumer confidence. Each partner receives a unique DNA marker that securely connects their products to their company and values. Our physical tracers are resistant to aging and common industry cleaning procedures. They are easily scalable to large volumes and can be seamlessly integrated into existing production processes. The DNA tracers can be detected and the information read through simple PCR tests at any time.

Target Audience

From miners to cutters, traders, and manufacturers, we provide this solution to all stakeholders who add value to gemstones, diamonds, pearls, jewellery, and watches.

Geography

- Global



Traceability & Transparency Enhancement:

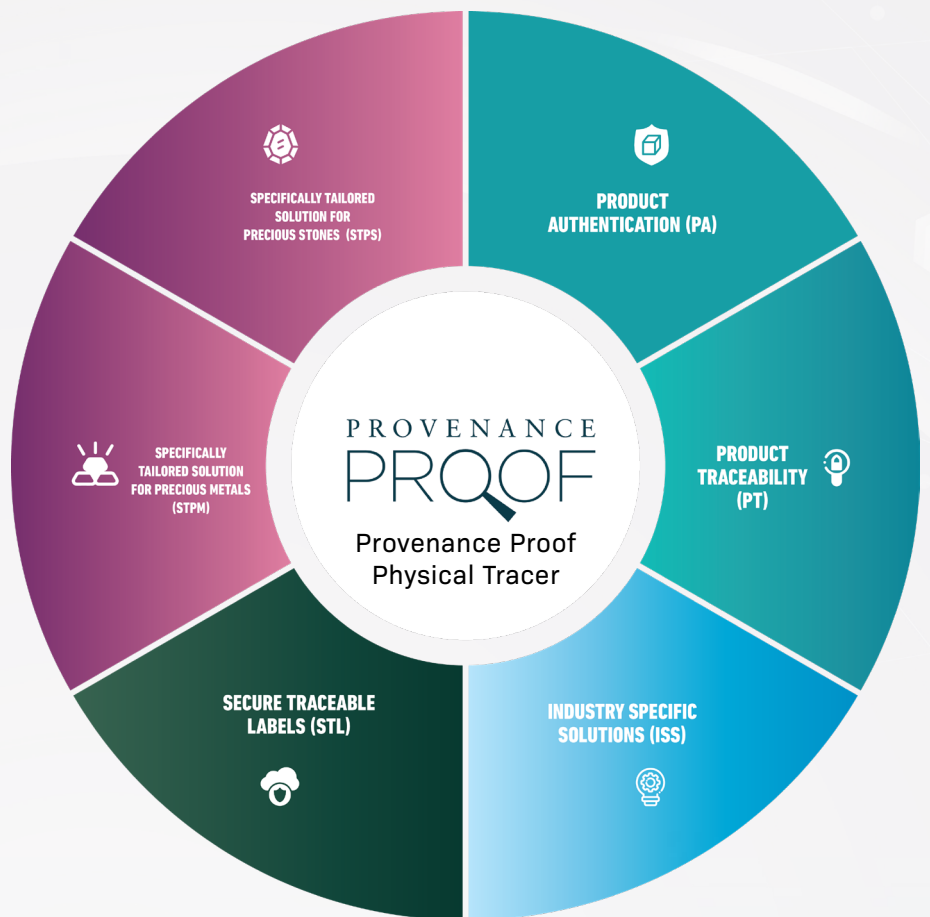
Traceability & Transparency Goals :

Our Physical Tracers address several critical traceability and transparency challenges, including supply chain risk management, product mixing, and counterfeiting. By embedding unique, invisible markers in gemstones, diamonds, pearls, and jewellery, our tracers provide an indelible link to the product's origin, ensuring its authenticity and protecting brands from counterfeit goods. They also eliminate the risk of product mixing at any stage of the supply chain, providing clear identification and verification. Additionally, our tracers streamline internal quality control processes, enhancing efficiency and accuracy in verifying product provenance. Overall, our solution builds trust in the final product and helps businesses comply with both internal and legal frameworks, offering a credible, evidence-based approach to provenance assurance.

Consumer persecutive:

Our Physical Tracers help our customers overcome key traceability and transparency challenges like counterfeiting, product mixing, and inefficient quality control. By embedding unique, invisible markers in products such as gemstones, diamonds, pearls, and jewellery, our tracers provide an indelible, verifiable link to each product's origin, effectively combating counterfeit goods and fraudulent claims.

Technology Used:

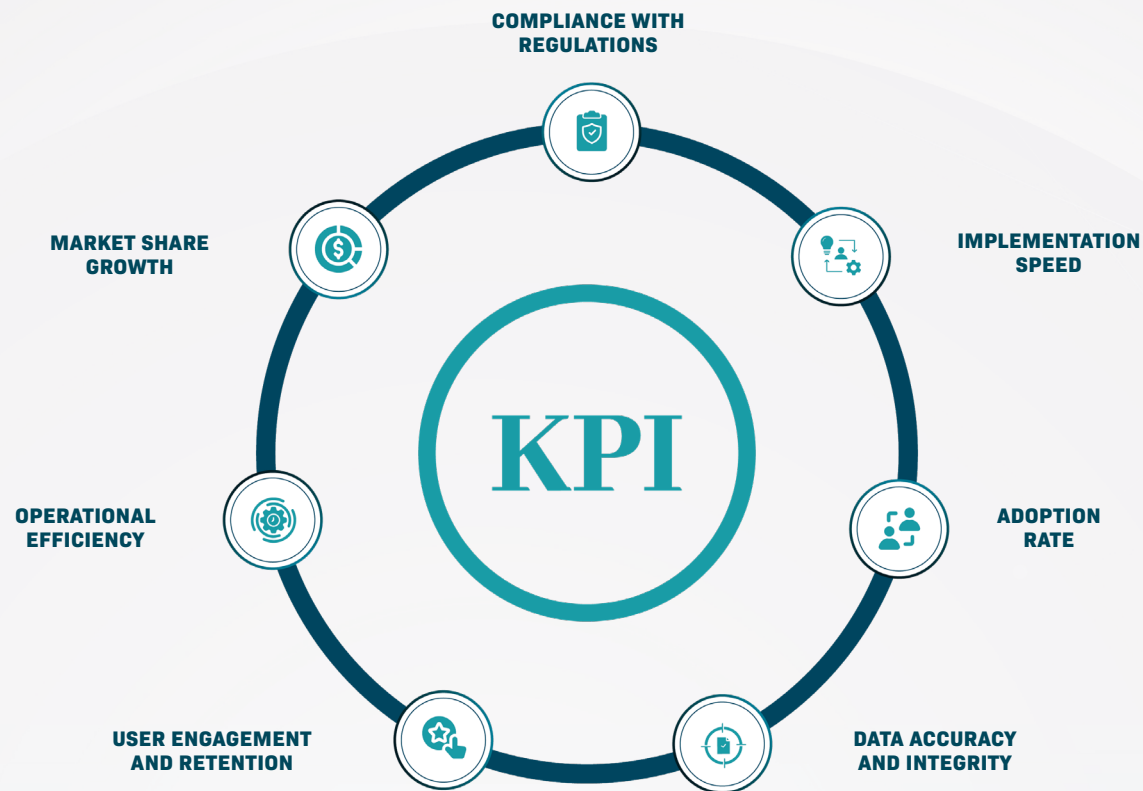


Implementation:

Since 2017, we have been marking rough emeralds at the Kagem mine in Zambia (Gemfields), enabling physical traceability back to their exact origin.

In 2024, we launched a program to enable traceability for melee-sized diamonds. This project, in collaboration with KGK Suisse, ensures the verifiable traceability of tiny diamonds throughout the supply chain.

KPIs used to measure the effectiveness of our solution.



Data Points for solution:



Number of items benefiting from our solution

- In the millions: All kinds of gemstones, pearls, and diamonds

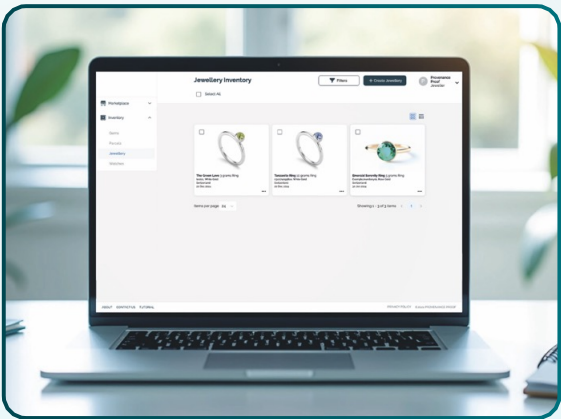
Solution II:

Solution Name

- Provenance Proof Blockchain

Solution Overview

- The blockchain permits to create comprehensive digital twins of assets. These digital twins can travel together with the physical item along the supply chain and any further added value will be tracked. Jewellers have the option to convert the digital twins into comprehensive digital twins of their final products and pass these on to their customers.



Description

- The Provenance Proof Blockchain offers a secure, tamper-proof record of a gem's journey, ensuring the integrity of information throughout the supply chain. This blockchain technology guarantees that all data remains private and exclusive to the asset's owner. With over 35 million gemstones and jewellery items recorded, and more than 750 professional stakeholders registered, the Provenance Proof Blockchain has become the industry benchmark for transparency and accountability. It empowers jewellers and watchmakers to create comprehensive digital product passports for each item, allowing them to securely pass on verified provenance details to their customers.

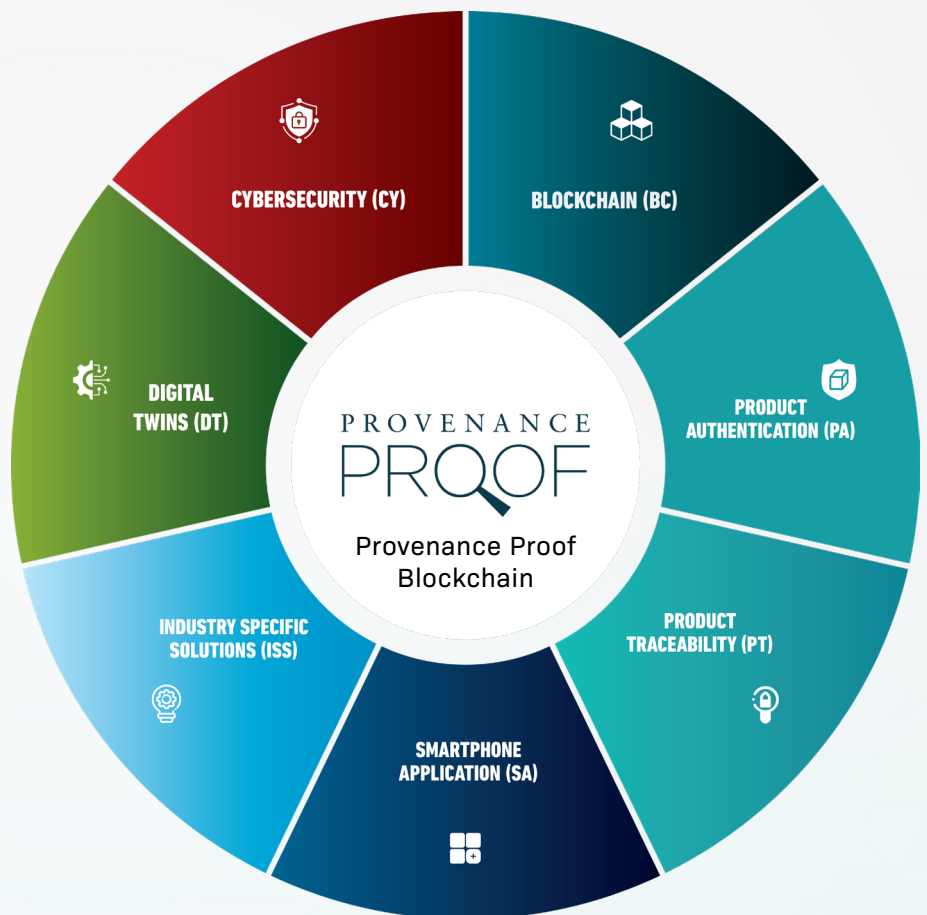
Target Audience

- All the stakeholders within the gems, jewellery and watch industry.

Geography:

- Global

Technology Used:



Traceability & Transparency Enhancement:

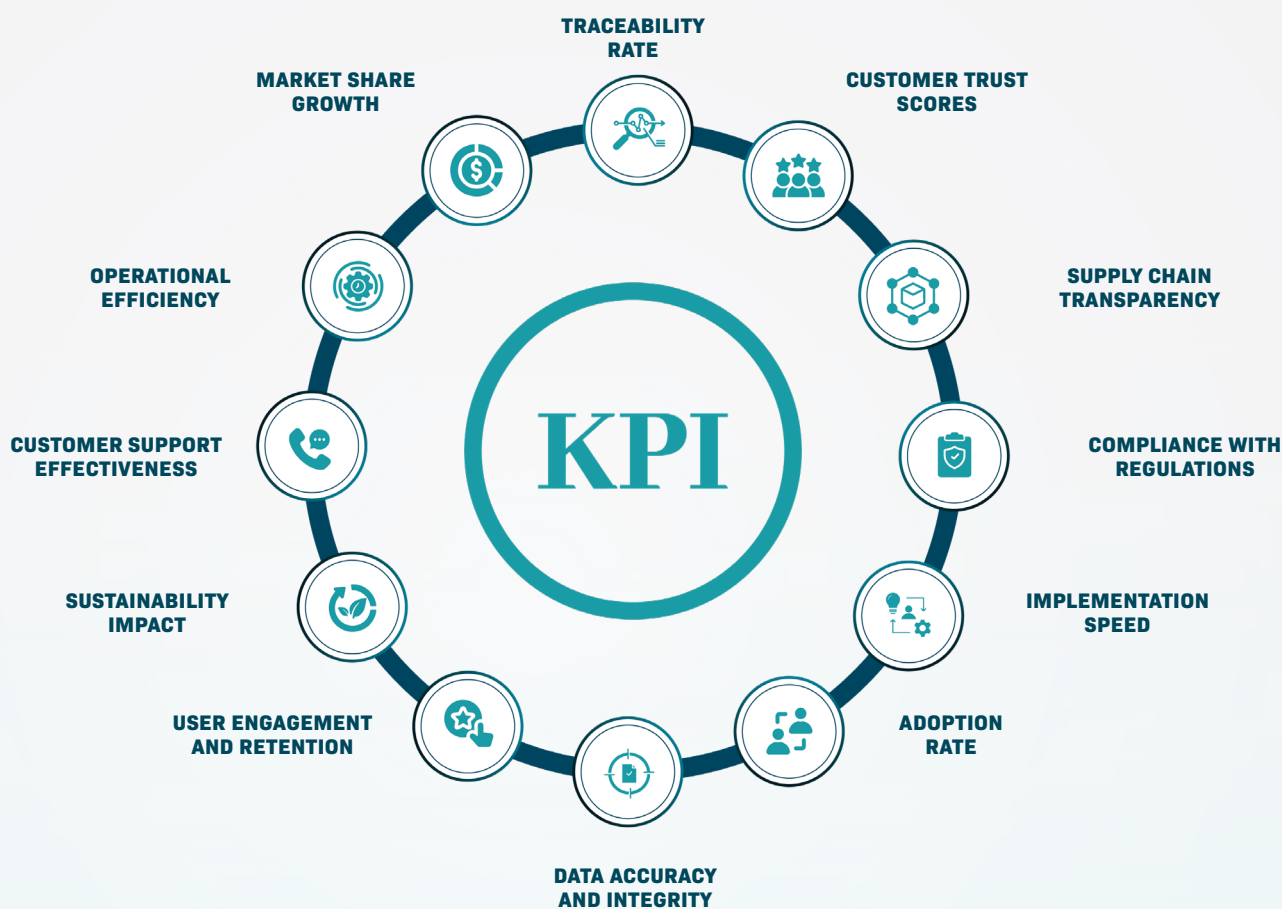
Traceability & Transparency Goals :

Our Provenance Proof Blockchain addresses several key traceability and transparency challenges. It ensures data integrity by providing a secure, tamper-proof record of a product's journey through the supply chain, preventing counterfeiting and fraudulent claims. The blockchain guarantees exclusive ownership of asset data, allowing the owner to control and protect the information while maintaining privacy. It also tackles the challenge of lack of transparency by offering clear, accessible records to all stakeholders, enhancing accountability. Additionally, it enables the creation of digital twins, providing consumers with verifiable provenance details and strengthening brand trust.

Consumer persecutive:

Our Provenance Proof Blockchain helps our customers overcome key traceability and transparency challenges like ensuring data integrity, preventing tampering with product information, and offering full visibility throughout the supply chain. By securely recording every transaction, our blockchain guarantees an immutable, tamper-proof record of a product's journey, providing an unaltered and trustworthy history. This combats issues like fraud and counterfeiting, as each product's provenance can be easily verified. Additionally, it simplifies compliance with regulatory frameworks by offering a secure, easily accessible solution for tracking product origin, ensuring that businesses meet legal requirements and provide verifiable proof of authenticity to their stakeholders.

KPIs used to measure the effectiveness of our solution.



Data Points for solution:



Number of items benefiting from our solution

- Over 30 million items



Number of brands/suppliers adopting the solution

- Over 650 from more than 60 countries

Qualitative Data for solution:

List Client Names

- <https://www.provenanceproof.com/blockchain/participants>

Client Testimonials

- <https://www.provenanceproof.com/>

Solution III:

Solution Name

- Proof of Authenticity

Solution Overview

- Proof of Authenticity is a cutting-edge solution that combines Provenance Proof Physical Tracers and Blockchain technology to provide businesses and consumers with verifiable proof of origin and authenticity for jewellery, and watches.

Description

- The Proof of Authenticity solution works by marking luxury items with a unique synthetic DNA-based tracer, which is invisible to the naked eye and resistant to tampering, wearing and alteration. This tracer ensures that each item's authenticity is securely recorded and traceable throughout the product's life cycle. Once marked, the item receives a Proof of Authenticity Certificate, which can be shared with customers to offer full confidence in its origin.

The product is also recorded on the Provenance Proof Blockchain, creating a secure, immutable digital record that serves as a permanent proof of origin. This ensures businesses protect their brand from fraud and counterfeiting.

Target Audience

- Jewellery and watch manufacturers who face counterfeit products on the market.

Geography:

- Global



Technology Used:



Traceability & Transparency Enhancement:

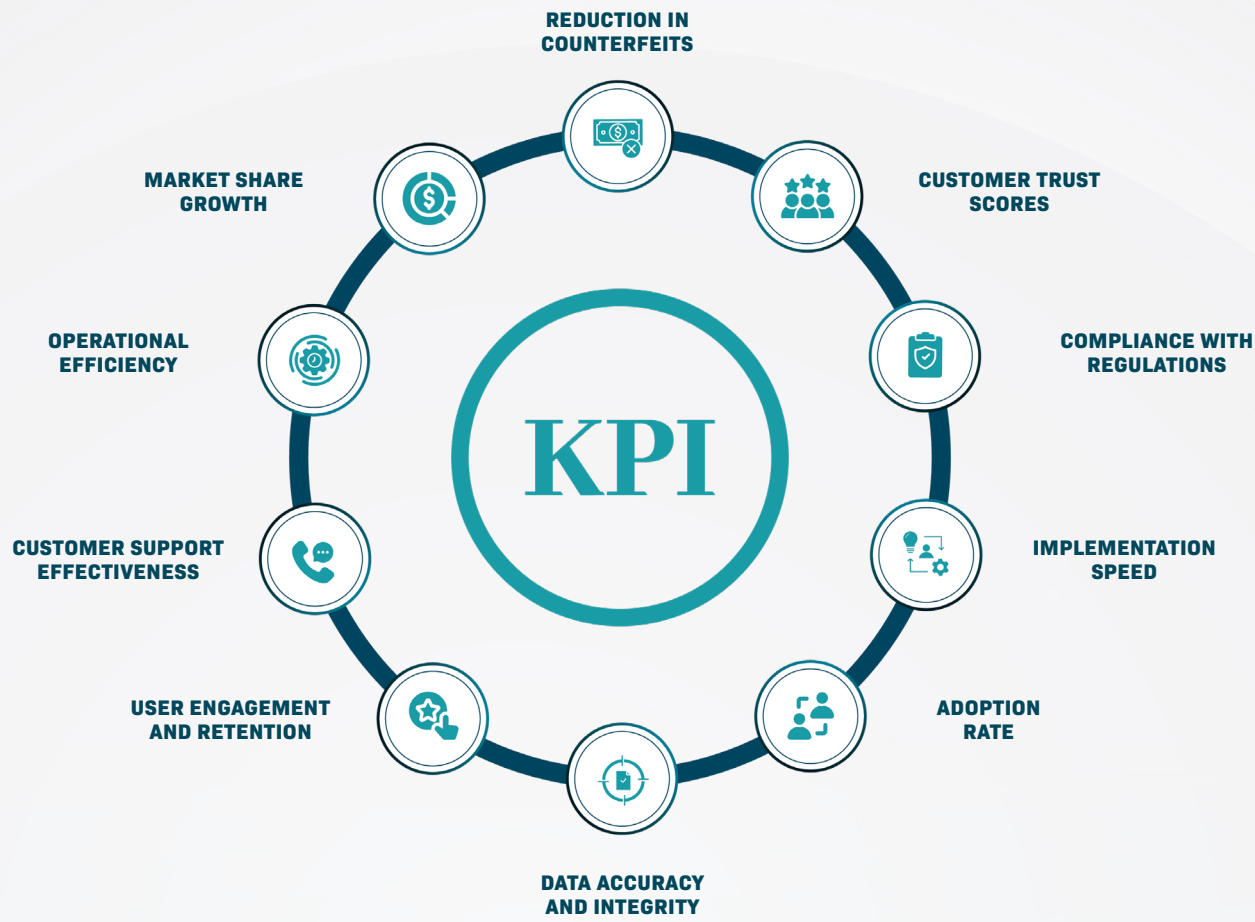
Traceability & Transparency Goals :

Proof of Authenticity addresses key traceability and transparency challenges by combating counterfeiting and fraud with unique synthetic DNA tracers. It builds consumer trust by providing Proof of Authenticity Certificates and digital twins, allowing businesses to offer irrefutable proof of authenticity and origin to customers, enhancing confidence in their purchases. This empowers businesses to protect their brand, reduce fraud, and offer customers complete confidence in their purchases.

Consumer perspective:

Proof of Authenticity helps customers overcome challenges such as counterfeiting and fraud by providing tamper-proof synthetic DNA tracers that verify product authenticity. Additionally, it builds consumer trust by offering Proof of Authenticity Certificates and digital records, allowing businesses to provide irrefutable proof of origin and authenticity. At any stage later, consumers can gain the confidence of holding a real watch or jewellery item in their hands

KPIs used to measure the effectiveness of our solution.



Contact Information :

Partnerships:

- info@provenanceproof.com

INTRODUCING

SARINE





Company Information:

Sarine Technologies Ltd.

4 Haharash St.

Hod Hasharon

Israel 4524075

Contact Person:

Romy Gakh Baram

Director Global Marketing and Brand

romy.gakh-baram@sarine.com

+972 52 8000133

Website:

www.sarine.com

Company Description:

Established in 1988, Sarine Technologies Ltd. is a worldwide leader in the development and manufacturing of advanced modeling, analysis, evaluation, planning, processing, finishing, grading and trading systems for diamonds. Sarine products include the Galaxy® family of inclusion and tension mapping systems, rough diamond planning and optimization technologies, laser cutting and shaping tools, laser-marking, inscription and fingerprinting equipment, automated (AI-derived) Clarity, Color, Cut and light performance grading systems and traceability, visualization and retailing services. Sarine systems have become standard tools in every modern manufacturing plant, properly equipped gemology lab and diamond appraisal business, and are essential aids for diamond polishers, dealers and retailers.

Number of employees: 501-1000

Company's tagline:

The Diamond Industry, Reimagined™



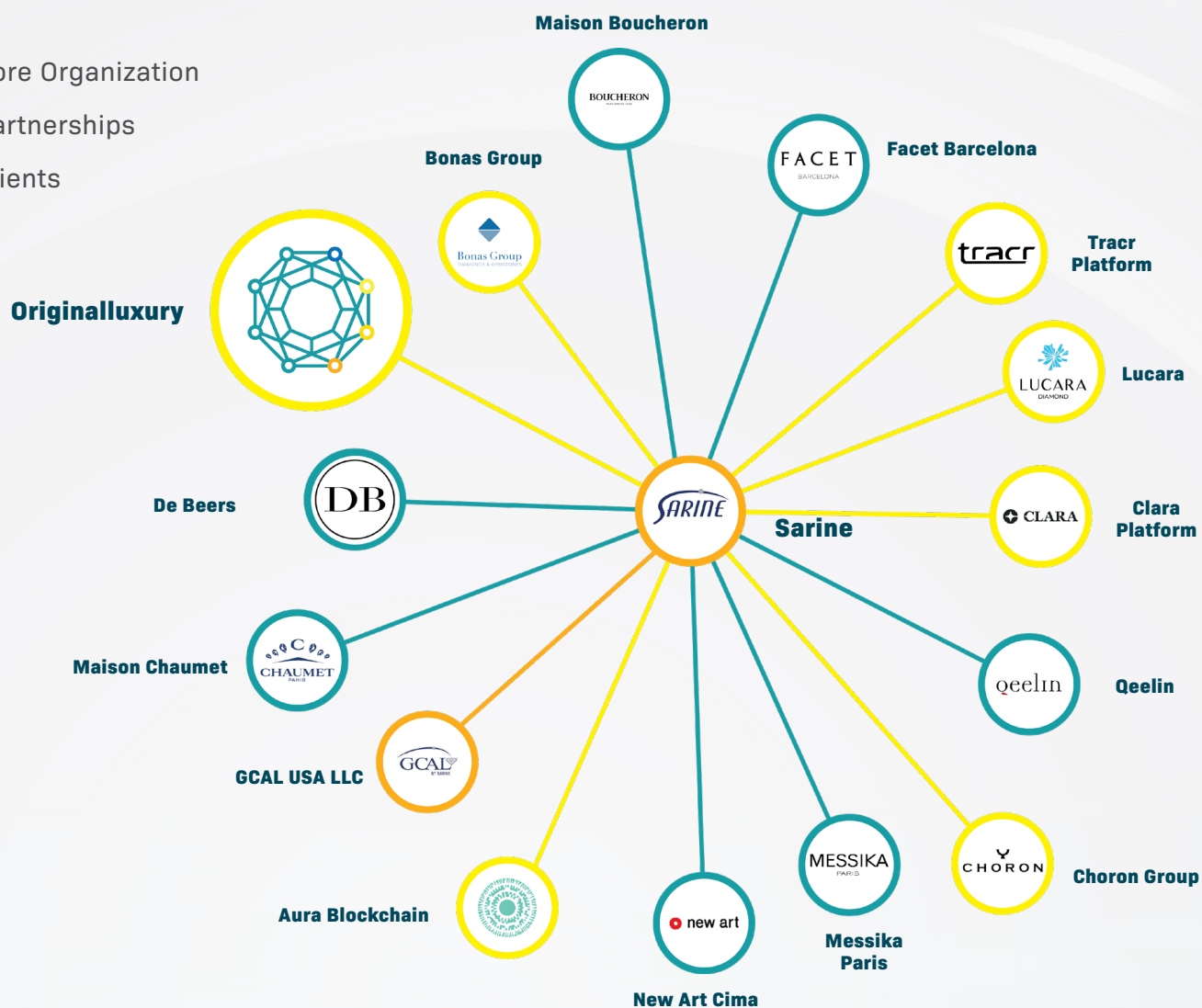
MISSION

Most diamonds, at their different life stages, are touched by Sarine through our innovative technology. Our mission is to participate in formalizing the diamond language, set the standards, inspire confidence, and optimize the diamond life cycle to benefit the public and our customers. We are committed to excellence, leadership and an ongoing passion for innovation.



Legend:

- Core Organization
- Partnerships
- Clients



Solution I:

Solution Name

- Diamond Journey Traceability™ Solution

Solution Overview

- Data Verifiable Traceability, a cutting-edge innovation that brings transparency, trust, and a unique story to every diamond.

Description:

- Sarine's data verifiable traceability method is to measure the diamond at different phases of the diamond's route. At each measurement stage data is collected and stored. The diamond is "birth registered" at the first measurement as a rough diamond in the traceability program. At each following measurement, additional data of the diamond is collected and registered. Matching algorithms developed by Sarine compare between the data in each two adjacent measurements to check the connection and verify that it is indeed the same diamond at different phases.



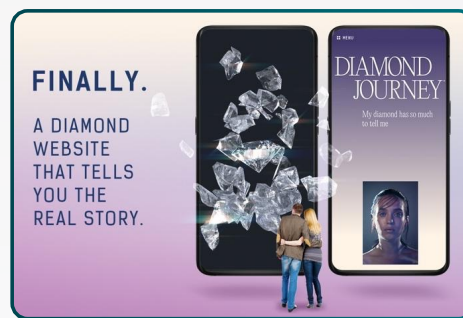
This is done again and again until there is a final verification of the connection of the diamond from its rough state all the way to its final polished state. This enables Sarine to also collect the data regarding the owners and users that possessed the diamond throughout its entire manufacturing and trading processes. Sarine uses data to objectively establish the link between a polished diamond and the rough diamond from which it was derived.

Target Audience:

- Luxury Jewelry brands, diamond suppliers, diamond buyers, wholesalers

Geography:

- Japan, China, France, India, US, Australia, Thailand, Indonesia, Taiwan, Korea



Traceability & Transparency Enhancement:

Traceability & Transparency Goals: What specific traceability & transparency challenges does your solution address?

- Diamond Data Verifiable traceability from rough to polished, from mine to the retail store.

Consumer persecutive: What are the key traceability and transparency challenges that your solution helps your customers overcome?

- To truly assess the traceability of diamonds, we must examine the entire supply chain, not just the source. The Sarine Diamond Journey™ traceability report offers a number of advantages as compared to other solutions. Most important is that Sarine provides an unmatched level of confidence, based on verifiable data received directly from thousands of Sarine systems in use along the diamond pipeline. Sarine systems at the producers or suppliers' facilities, capture the diamond's data every step of the way, enabling tracking of the diamond as it moves down the diamond pipeline from the mine to the consumer.

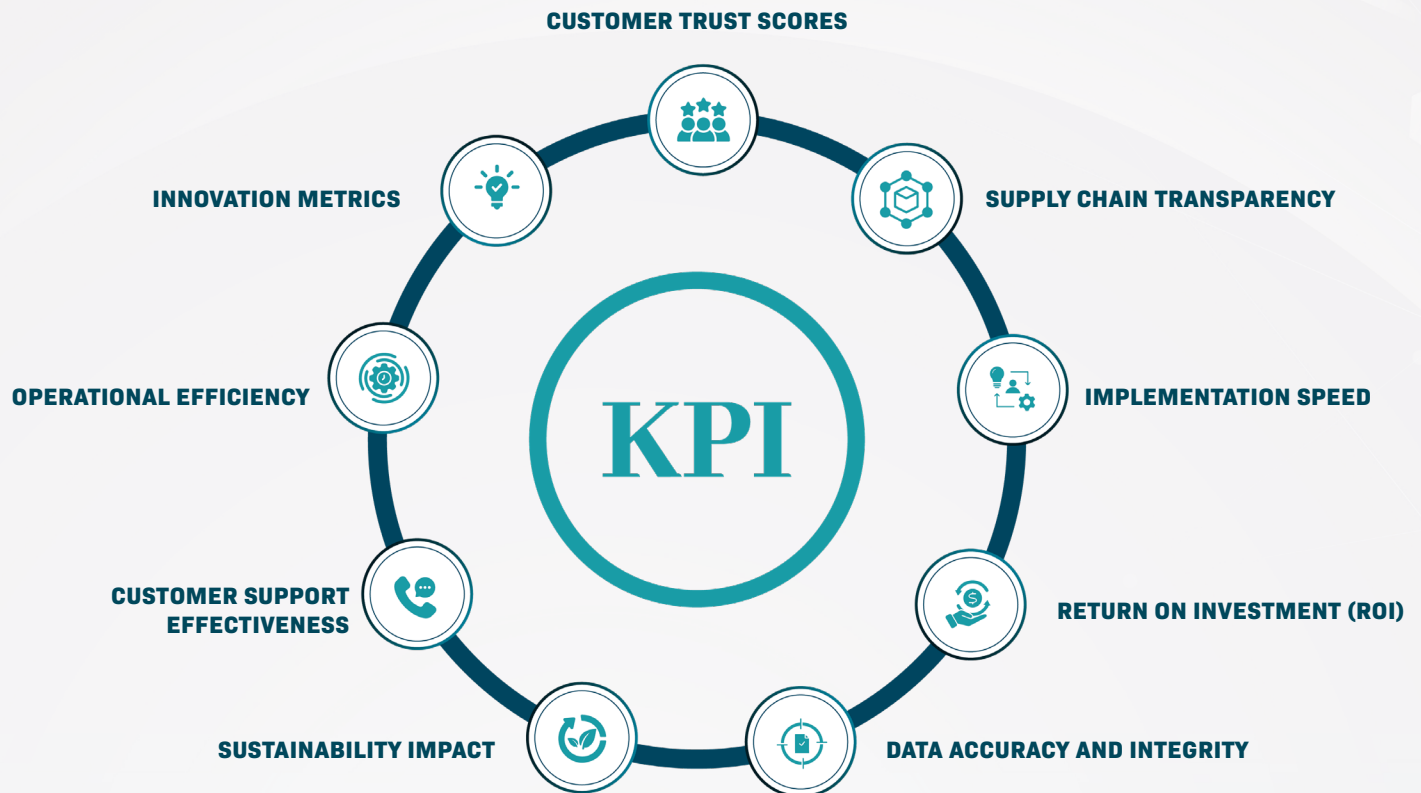
Technology Used:



Implementation:

French High Jewelry Maison Boucheron, part of the Kering Group (KER.PA), launched a new bridal jewelry line in January 2022, partnering with Sarine to offer Boucheron-branded diamond reports “powered by Sarine.” These co-branded reports provide a comprehensive overview of each diamond’s journey, from its natural rough state to its final jewel form. They detail the diamond’s mining and processing within Boucheron’s carefully curated supply chain ecosystem. Each report includes visual presentations of the diamond at various stages, culminating in its polished form, along with detailed 4C grading made possible by Sarine’s cutting-edge artificial intelligence technology. Available exclusively in digital format, these reports underscore Boucheron’s commitment to a sustainable jewelry industry.

KPIs used to measure the effectiveness of our solution.



Data Points for solution:

- Number of items benefiting from your solution
- Percentage increase in traceability/transparency/trust
- Reduction in fraudulent activities
- Number of brands/suppliers adopting the solution

Qualitative Data for solution:

- Client Testimonials:



"This new solution will provide complete transparency on product sourcing history and verifiable authenticity documentation, which is key to strengthening consumer trust in brands and fostering a long-term relationship, which is critical in today's rapidly evolving retail landscape. We anticipate additional leading luxury brands will soon be joining our unique consortium."

Daniela Ott
Secretary General



"Diamond traceability is rapidly becoming a must-have in our industry. We are adopting Sarine's solution, as it perfectly meets our needs — it provides a steadfast data-based solution and is scalable to our volumes of stones, as it only requires us to add a quick scan. Just as important, it integrates seamlessly with our customers' operations since they already employ Sarine systems in their cutting and polishing processes, which can now automatically continue the traceability process."

Mr. Philip Hoymans
Managing Director



"Finally, we decided to offer to our client a custom Boucheron Diamond Certificate, fully digitalized. We want to offer to our clients a unique experience, to tell them the beautiful story of their diamond. And we want to give them assurance on their stone's quality in a Boucheron certificate, not a certificate from an external laboratory. This creates a real trust relationship between the client and our Maison."

Hélène Poulit
CEO



"We are happy that we have found a strategic partner in Sarine that continuously introduces new high quality innovative solutions for diamond retailing. We have clearly benefited from this relationship and we believe that by now being the first retail chain worldwide to offer the Sarine Diamond Journey™, greatly enhanced by the new 3D-Origin™, we will maintain our brand's leadership and differentiation."

Mr. Shiraishi
President



"Almost every diamond is touched by Sarine's technology and being documented along the pipeline. Having a Sarine Diamond Journey™ is proof that your diamond is ethically sourced and helps gain the public's trust."

Mr. Timothy Sung
CEO

Company's values:

Forefront of the Diamond Industry, Honesty and Fairness, High Performance, Sarine People



Future Developments :

Vision:

- In recent years, the diamond industry has faced increasing demand to ensure the ethical sourcing and transparency of its supply chain. Therefore, a robust traceability mechanism based on independent and verifiable data is crucial to ensure the ability to know the source of diamonds entering G7 countries. Another important parameter is the ability to implement and seamlessly scale such a solution across the industry without imposing significant overheads. The Sarine Diamond Journey™ traceability solution addresses these challenges by leveraging advanced technology while using existing industry infrastructure to provide a detailed and transparent account of a diamond's journey from mine to consumer. Sarine's solution offers the only verifiable data solution in the market for tracking diamonds from rough to polish. Our proven technology is already in use across the pipeline and is ready for broader implementation.

Contact Information:

- **Technical support product:** oz.bennoon@sarine.com
- **Customer support:** anital.shoham@sarine.com

Use Cases with Boucheron

How Boucheron Uses Sarine To Transform The Customer Experience

At Boucheron, engagement consumers discover an exciting interactive customer experience like no other. That's because Boucheron teamed up with Sarine to create a custom diamond report that combines precise AI-powered grading with true verifiable traceability. Value and values come together to give clients confidence that this is the right diamond and the right store to buy it in.

Why did Boucheron decide to create a custom diamond report powered by Sarine?

Boucheron is committed to full traceability of its key raw material by 2025. Traceability and transparency of our supply chain is crucial to guarantee we uphold all our partners to our high social and environmental standards.

The Sarine Diamond Journey report enables us to gain verifiable data from every step of the supply chain, from the mine to the cutting factory to our workshops. The solution also relies on existing infrastructure and technology that are already integrated by our partners across the value chain.

Finally, we decided to offer to our client a custom Boucheron Diamond Certificate, fully digitalized. We want to offer to our clients a unique experience, to tell them the beautiful story of their diamond. And we want to give them assurance on their stone's quality in a Boucheron certificate, not a certificate from an external laboratory. This creates a real trust relationship between the client and our Maison.

How has the report been received by consumers?

Clients were very receptive to the story and our approach on transparency and traceability. On top of that, the digital certificate is innovative, experiential, and adapted to our modern lifestyles. You can store it easily, share it, and access it whenever you want from wherever.

Rigorous 4C grading remains key for every solitaire diamond client. We have confidence in the precision and accuracy of Sarine's AI grading. And the interactive digital certificate enables us to offer a comprehensive overview of the stone's beauty and character. Clients appreciate learning more about their stones in a visually impacting way. For example, the Diamond Journey report shows clients the steps their unique stone has travelled, from rough to polished, which is an engaging experience.



Boucheron CEO Hélène Poulit-Duquesne



The historic Boucheron boutique 26 Place Vendôme.

Founded in 1858, Boucheron has an important legacy. How do you balance tradition and the modernity of AI diamond grading and a digital-only report?

Boucheron enjoys a rich history and heritage, but innovation and progress are in our DNA. We like to challenge the status quo and believe that what our clients want is the utmost accuracy of their diamond grading and that is what AI grading can offer. They also care about the provenance of their diamond and the impact it can have on the world. They are curious and want to discover the beautiful story of their stone. And thanks to Sarine that's what our Boucheron digital report can offer.

Boucheron, Sarine Partner on Traceability Report



RAPAPORT... Sarine Technologies and French jeweler Boucheron have created a cobranded diamond report featuring grading information and provenance details.

The unit of luxury group Kering will use the Boucheron Diamond Certificate for a new traceable bridal line called Etoile de Paris, Sarine said Monday

The document, available in digital form only, presents the stone's journey from rough to polished, featuring an image of the rough and stating the country of origin. It also displays a scan showing how mapping technology helped the manufacturer plan the final piece.

The viewer can see the diamond's measurements and 4Cs on an interactive page, and download a PDF version of the certificate, which bases its grades on Sarine's artificialintelligence systems. There's an option to share the report via email, WhatsApp or SMS.

"We believe that sustainability is of the utmost importance and are pleased we can contribute to ensuring that our industry can demonstrate it is upholding much-needed standards," said Sarine CEO David Block. "We are confident this will further increase the value of natural diamonds."

Boucheron's branding is the most prominent throughout the report, with the jeweler's logo appearing at the top of the certificate. The words "powered by Sarine" appear in smaller print.

Boucheron joins a growing list of mining and retail companies that have signed up to use Sarine's traceability technology. The segment is still a small part of the Israel-based company's business, with sales from its wholesale and retail activities contributing just under 6% of total revenues in the first half of 2021. Most of the remainder comes from sales of mapping equipment and services to cutting firms.

In October 2021, Pomellato, another Kering jewelry brand, launched a mobile app enabling customers to trace the origins of the gold and gemstones in a given product.

Image: A Boucheron store in Vilnius, Lithuania. (Shutterstock)



DATA VERIFIABLE TRACEABILITY

Welcome to Sarine's Diamond Journey Traceability™ Solution, a cutting-edge innovation that brings transparency, trust, and a unique story to every diamond.

The essence of diamond traceability

Every natural diamond is a masterpiece of nature, and its journey from the depths of the Earth to your hands is a story waiting to be told. Sarine's Diamond Journey Traceability™ Solution is designed to capture every step of this remarkable journey. At Sarine, we employ data verifiable technology to track a diamond's journey from its source through every transformation from rough form to polished beautiful stone.

Our solution:



Origin Verification

Unveiling the diamond's precise origin, whether it's a mine in Botswana, Namibia, Canada or South Africa. We provide you with the transparency you need to make informed choices.



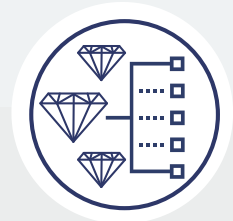
Data Verifiable Traceability process

Follow your diamond's progress as it moves through the various stages of its journey. From rough to polished, from cutter to jeweler, every transformation is verified by Sarine systems.



Diamond Storytelling

Every diamond has a unique narrative, and we help you bring that story to life in Sarine Diamond Journey Traceability™ Reports. Digital and printed reports contain diamond data that was requested by a retailer.



Scalable Traceability you can rely on

The solution leverages deployed Scalable Traceability, integrates seamlessly into existing manufacturing processes, and incorporates data deliverables into any trusted platform.

Brief Explanation of the Sarine Traceability Process

Sarine's traceability method is to measure the diamond at different phases of the diamond's route. At each measurement stage data is collected and stored. The diamond is "birth registered" at the first measurement as a rough diamond in the traceability program. At each following measurement, additional data of the diamond is collected and registered. Matching algorithms developed by Sarine compare between the data in each two adjacent measurements to check the connection and verify that it is indeed the same diamond at different phases. This is done again and again until there is a final verification of the connection of the diamond from its rough state all the way to its final polished state. This enables Sarine to collect the data regarding the owners and users that possessed the diamond throughout its entire manufacturing and trading processes. Sarine uses data to objectively establish the link between a polished diamond and the rough diamond from which it was derived.

The phases of diamond data collection for traceability purposes:



Birth Registration
at rough diamond stage.



Rough to Rough Change of Ownership Registration
each time a rough diamond switches ownership.



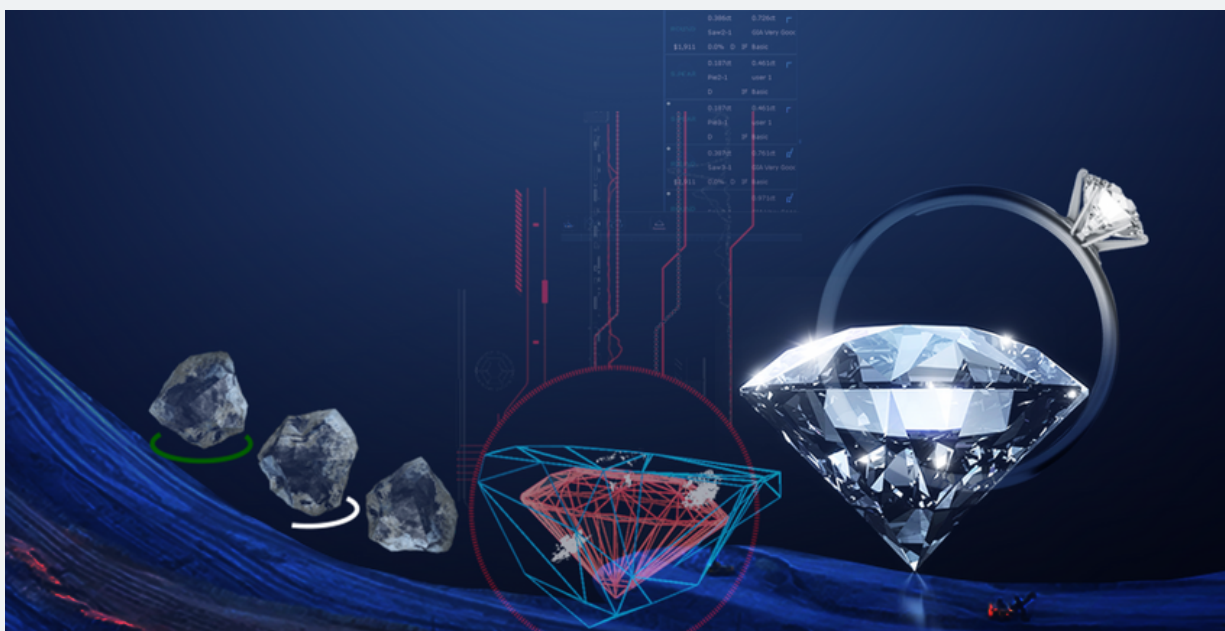
Part Final Plan Registration
polished diamond final plan on a rough part from which a single diamond will be extracted.



Polish Registration
registration of the fully polished diamond.



Polish to Rough Ownership Trail Verification
final measurement of polished diamond that enables rough to polish verification and ownership trail.



Sarine.com

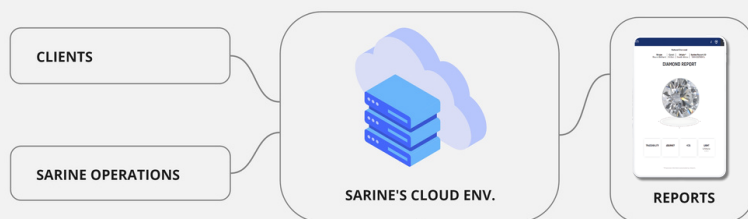
© Sarine Technologies Ltd.

Sarine traceability report™

Sarine packages the traceability data in a detailed Sarine report, available digitally, with options for a hard copy and a 3D replica of your rough diamond.



Data access high-level hierarchy



- **Sarine's operations** – Data can be accessed only for support and maintenance purposes by permitted employees.
- **Clients** – Data of each client can be accessed by the specific client through dedicated web applications.
- **Sarine's cloud environment** – A secured environment hosts Sarine's cloud services and storage.
- **Reports** – Data is stored in a main storage and backups.



Embrace the future of diamonds

As the diamond industry evolves with lab-grown diamonds and demands for transparency, traceability and ethics become increasingly crucial, retailers in this space will face new challenges and opportunities.

Start your journey with Sarine.

Contact us to learn more

sales@sarine.com

[Sarine.com](https://www.sarine.com)

© Sarine Technologies Ltd.



ORIGINALLUXURY

INTRODUCING

SCS GLOBAL SERVICES

SCSglobal
SERVICES
Setting the standard for sustainability



Company Information:

SCS Global Services

Powell Street 2000, Suite #600
Emeryville, CA, United States

Contact Person:

Kat Weymouth
Director
kweymouth@scsglobalservices.com
+15104529090

Website:

www.scsglobalservices.com

Company Description:

SCS Global Services is a 40-year-old company who has been a pioneer and leader in the field of sustainability. They are an independent third-party certification body who works across every sector from jewelry and mining to agriculture, forestry, building products and climate. Their work partners with companies, government agencies, and nonprofit organizations to advance sustainable development goals through independent assessment, the application of sound science, and innovative solutions.

Number of employees: 201-500

VISION

A sustainable future that safeguards our environment and our climate, respects and supports the dignity, health and wellbeing of workers and communities, and raises the standard of living for all.

To achieve this vision, SCS Global Services has established programs and services designed to recognize the outstanding achievements of companies, institutions, and organizations who are meeting the highest levels of performance in environmental protection, social/ethical responsibility, product safety and quality, while stimulating continuous improvement on the path toward sustainability. In this undertaking, SCS Global Services employs a life-cycle framework, state-of-the-art-science, proven analytical methods, performance metrics and professional expertise.



Solution I:

Solution Name

- SCS Global Services

Solution Overview

- Certification
- Verification
- Auditing
- Providing the independent perspective needed to help clients evaluate their own performance, identify improvement opportunities, determine the best steps forward, and reassure customers and stakeholders.

Geography:

- Global



Legend:

- Core Organization
- Partnerships
- Clients

Technology Used:



Data Points for solution:



Number of items benefiting from our solution

- Over 30,000 certifications in 125 countries.



Number of brands/suppliers adopting the solution

- Over 15,000 clients.



Contact Information :

- Phone: +1.510.452.8000
- Email: info@scsglobalservices.com
- <https://www.scsglobalservices.com/about/contact-us>

Partners and Accreditations



 [SCS Corporate Capabilities Brochure](#)



ORIGINALLUXURY

INTRODUCING

SMARTSTAMP

Sm • art
Sta • mp



Sm•art Sta•mp

Company Information:

SmartStamp AG

Rothausstrasse 1
Switzerland

Contact Person:

Gregor Kisters
CEO
gregor@smartstamp.com
+41 763472200

Website:

www.smartstamp.com

Company Description:

SmartStamp is the solution designed for the art industry, addressing challenges of fragmentation, fraud, and disorganized records. By leveraging AI authentication, blockchain-secured provenance, and a comprehensive management suite, SmartStamp ensures that artworks are safeguarded against counterfeits, tampering, and inefficiencies.



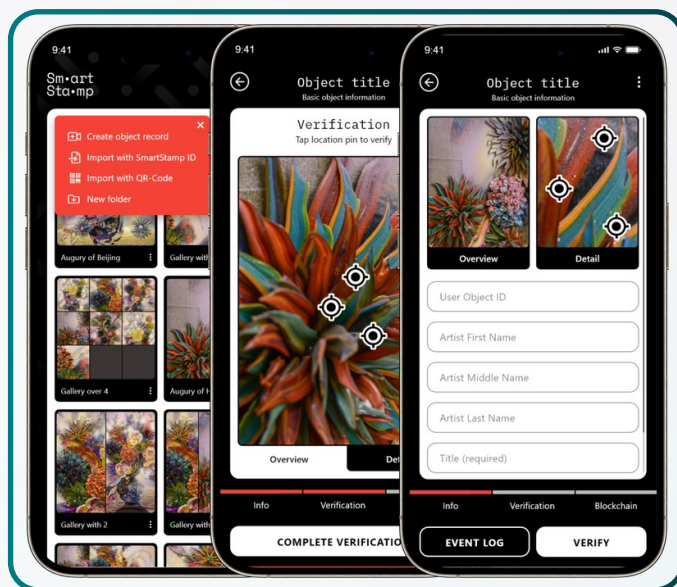
MISSION

Our mission is to provide product identity, protect brands, and connect companies to their customers through innovative solutions.



VISION

DynamicElement AG envisions a world where every product carries a unique, secure identity, providing reliable and detailed information about its production. By leveraging cutting-edge AI and computer vision, we ensure authenticity and trust, enabling consumers to easily verify a product before purchase and confidently prove ownership afterward.



IMPACT

DynamicElement AG transforms industries by delivering secure, scalable solutions that combat counterfeiting and protect brand integrity. Our technology safeguards products across many sectors, from luxury goods to pharmaceuticals, while enabling seamless customer interaction. Through innovation and reliability, we drive trust and transparency in global markets.

Core Pillars of SmartStamp Solution



PRESERVE

Securely capture and safeguard all documentation, provenance records, and condition reports.



AUTHENTICATE

Provide a robust identity for each artwork via non-invasive surface recognition and blockchain anchoring.



NURTURE

A comprehensive management suite offering insights, convenient access, and streamlined processes for growth.



VIEW

Access comprehensive details on each asset via mobile and desktop, anytime, anywhere.



SHARE

Easily share selected details or asset profiles with friends, potential buyers, or collaborators.



TRANSFER

Whether selling, gifting, or donating, ensure that all documentation and provenance seamlessly follow the asset to its new home.

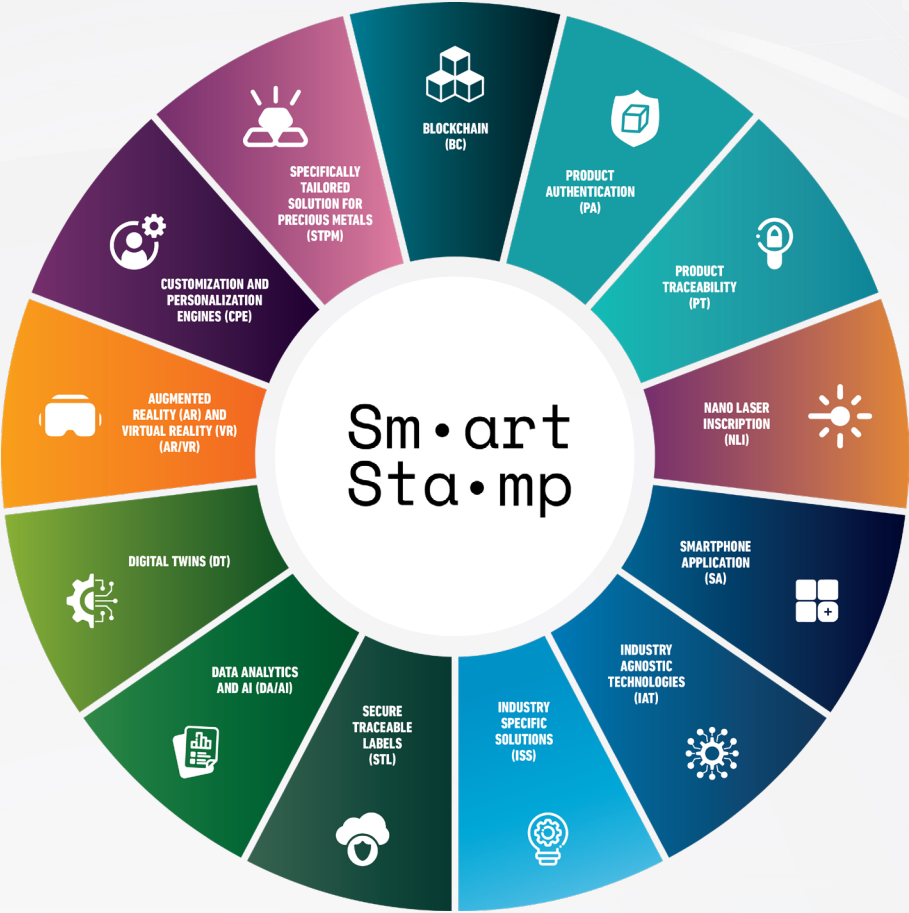


“We are determined to make sure that there will be no more counterfeits in the future of art, there will be no second Beltracchi”

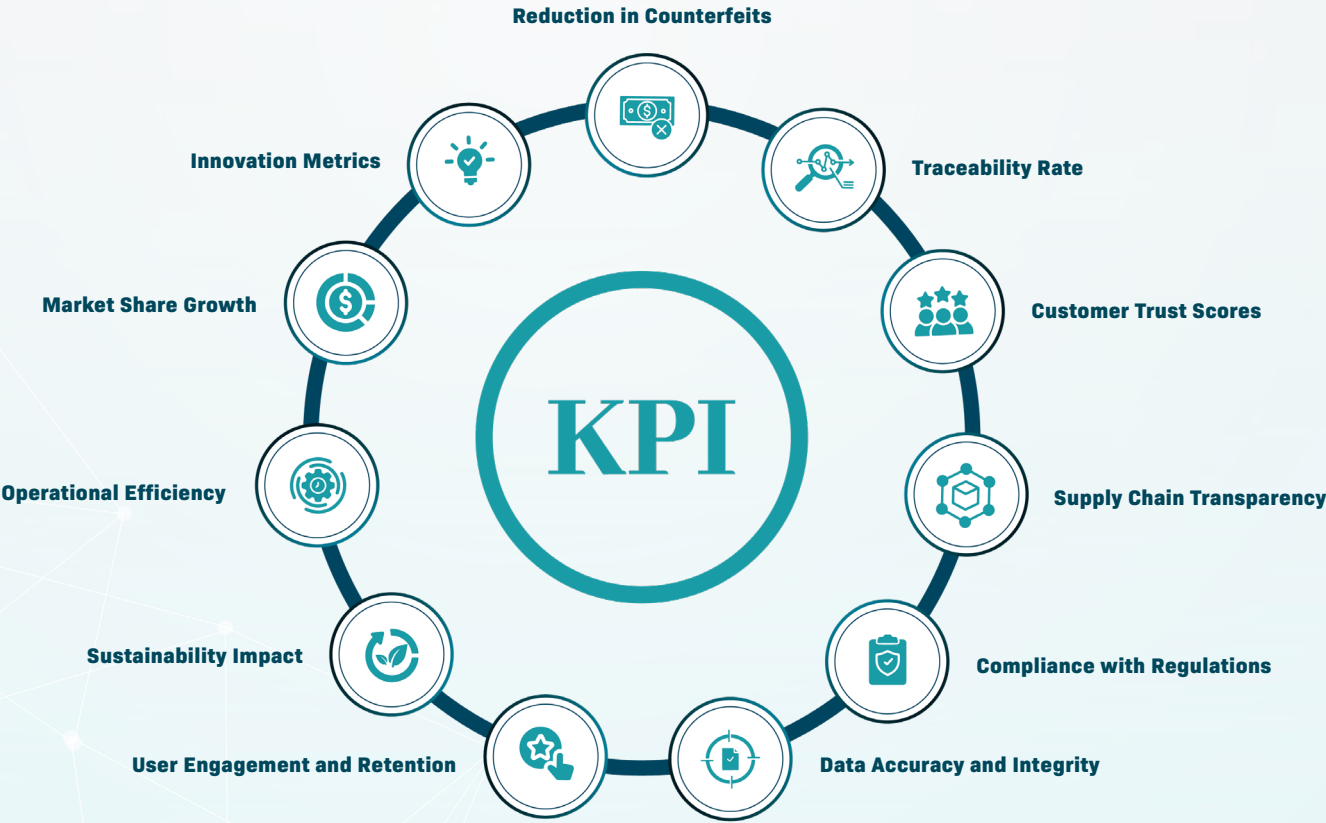
Wolfgang Beltracchi

German visual artist & former art forger

Technology Used:



KPIs used to measure the effectiveness of our solution.



INTRODUCING

TRACEMARK





Company Information:

Tracemark

Pasaje Cardedeu 20
Barcelona, Spain

Contact Person:

Berta Serret
Founder & CEO
berta.serret@tracemark.tech
+34637808560

Website:

www.tracemark.tech

Company Description:

Tracemark is the first and most flexible solution in the jewellery industry, able to provide complete and independently certified end-to-end jewellery traceability, from the origin of raw materials, through every step across the supply chain, including manufacturing processes, until the hands of the end consumer.

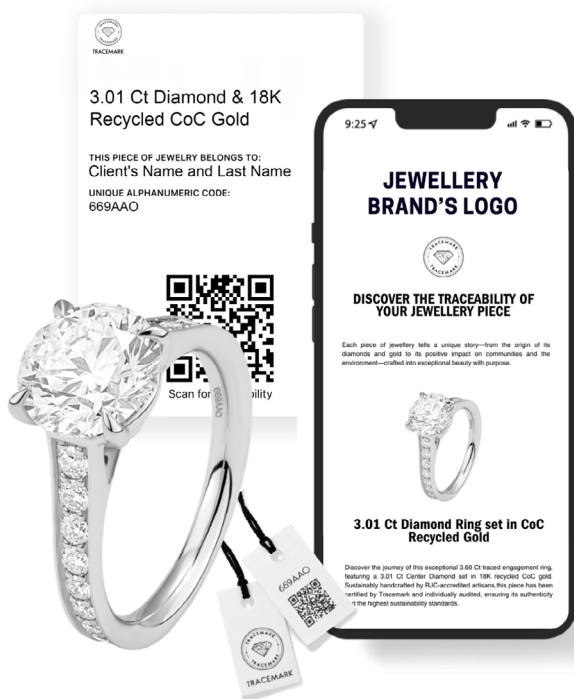
As a benchmark for certified jewellery traceability, Tracemark transforms traceability into a seamless digital experience for end customers. Each traced jewellery piece is accompanied by a unique Digital Product Passport, allowing customers to claim ownership while showcasing the detailed journey of their jewellery.

Number of employees: 1-10



MISSION

Tracemark's mission is to lead positive change in the jewellery industry by ensuring authenticity, promoting responsible sourcing, and advancing sustainability through certified end-to-end traceability. By fostering a robust and collaborative ecosystem, we engage every stakeholder involved in the creation of each jewellery piece, building trust and accountability at every stage of the value chain—from the origin of raw materials to the final consumer.



Solution I:

Solution Name

- Tracemark

Solution Overview

- Deliver fully certified and audited traceability for every jewellery piece, driving transparency and sustainability across the jewellery industry

Geography:

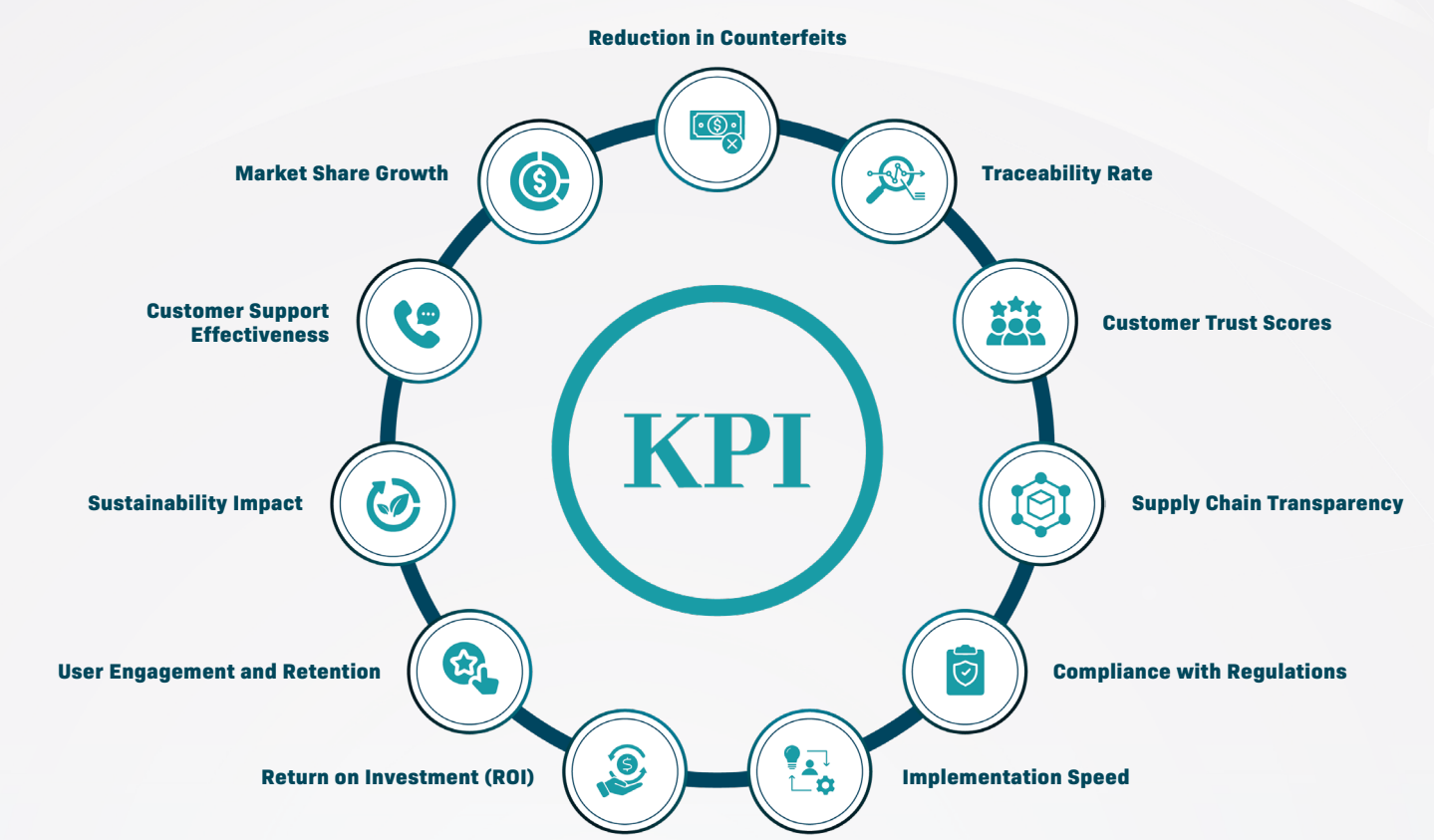
- Europe and USA



Technology Used:



KPIs used to measure the effectiveness of our solution.



Data Points for solution:

- Number of items benefiting from our solution
 - More than 50'000 jewellery pieces.
- Percentage increase in traceability/transparency/trust
 - 80%
- Reduction in fraudulent activities
 - 100%
- Number of brands/suppliers adopting the solution
 - 20



Contact Information :

- info@tracemark.tech



ORIGINALLUXURY

INTRODUCING

TRACR

tracr





Company Information:

Tracr

Giltspur Street, 1
London
United Kingdom

Contact Person:

Kate Taylor
Marketing & Commercial Operations
kate.taylor@tracr.com
+447704667360

Website:

www.tracr.com

Company Description:

Tracr™ is the world's leading digital platform for tracing natural diamonds from source at scale, bringing you the ability to explore the provenance, authenticity and the unique journey your diamond has taken along the diamond value chain.

Number of employees: 11-50



MISSION

Tracr's mission is to establish a foundational platform that enhances the diamond industry's ability to build desire and confidence in natural diamonds by creating an industry-wide provenance standard to share a diamond's story from source to client. Tracr also strives to enable an ecosystem for participants to foster value-enhancing innovation through data sharing, information exchange, and verification across the platform.

Solution I:

Solution Name

- Tracr

Solution Overview

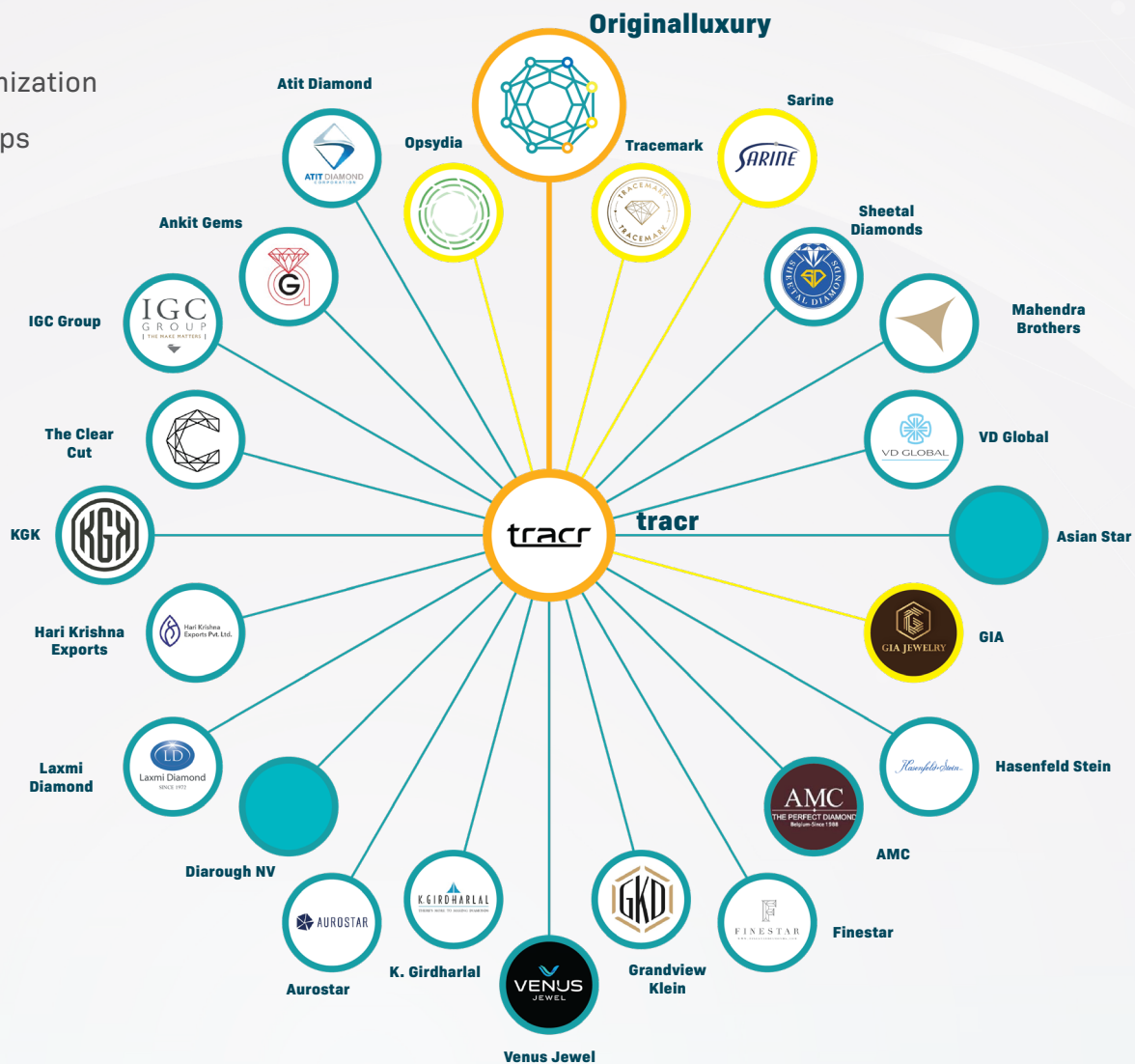
- Tracing natural diamonds from source at scale.

Geography:

- Worldwide

Legend:

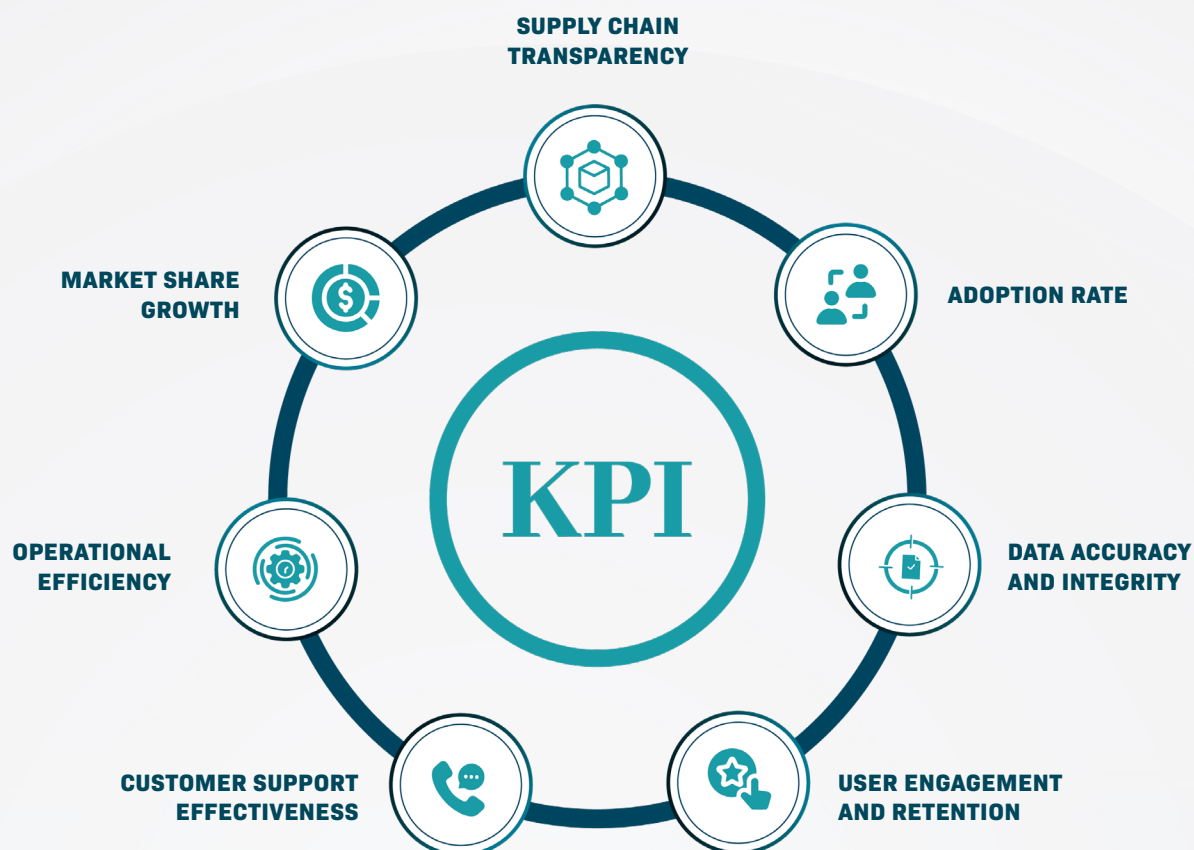
- Core Organization
- Partnerships
- Clients



Technology Used:



KPIs used to measure the effectiveness of our solution.



Data Points for solution:



Number of items benefiting from our solution

- Over 3 million rough diamonds on the platform.



Number of brands/suppliers adopting the solution

- 30+ manufacturers on the platform.

Contact Information :

- Support@tracr.com

How does Tracr differ compared to other solutions:



Seamless Integration

Tracr integrates with widely accepted technologies to simplify the lives of our customers.



Traceability at Source

Tracr is the only platform that starts from the mine, ensuring transparency from the source..



Objective Verification

Unlike other solutions that rely on self-declaration, Tracr conducts objective verification of individual diamonds.



Extensive Ecosystem

Tracr is working with many of the largest industry players to ensure traceability at scale

Key Standards in Place

When you buy a diamond with a Tracr ID, you are purchasing from an approved producer in a non-sanctioned country. These stones are individually registered at the source. The diamond is then manufactured by an RJC or BPP certified manufacturer and adheres to the Pipeline Integrity or the Tracr Data Validation Standard. This information is recorded on the blockchain, ensuring a tamper-proof, immutable record.



ORIGINALLUXURY

INTRODUCING

ZATAP



ZATAP





Company Information:

ZATAP by collectID

Neumarkt 11

Winterthur, Switzerland

Contact Person:

Joel Krummenacher

Head of Product

joel@zatap.io

+41763411508

Website:

www.zatap.io

Company Description:

With ZATAP, consumers are just one tap away from authenticity, transparency, and traceability through blockchain technology. The ZATAP technology creates a new customer-centric communication channel by combining physical products with digital experiences.

Number of employees: 11-50



MISSION

To redefine consumer's joy and connection with the brands they love.



IMPACT

Every physical product is a magic hub to the brands' digital universe.

Solution I :

Solution Name

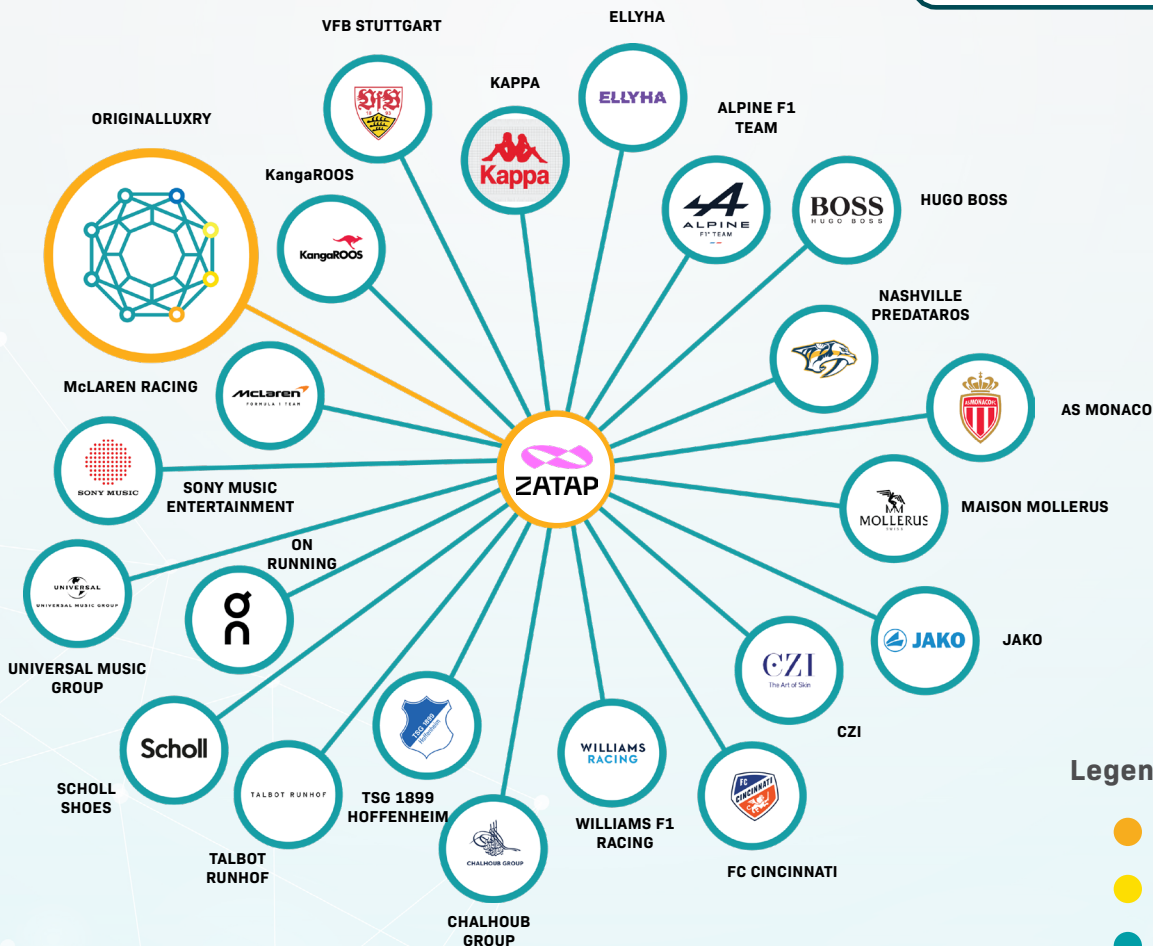
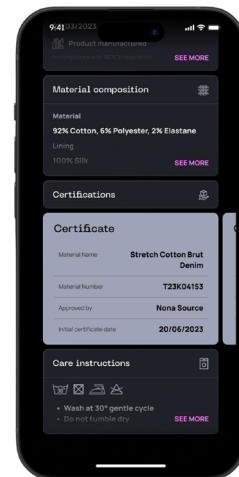
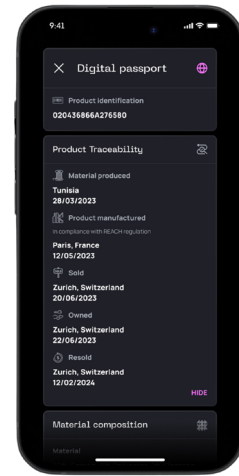
- ZATAP Phygital Studio

Solution Overview

- The ZATAP Phygital Studio allows brands to easily and dynamically build phygital experiences for consumers through their physical products. Such experiences encompass a tamper-proof product authentication guarantee, transparent supply chain information, care instructions and other relevant product information, as well as captivating brand stories and exclusive benefits to promote customer engagement and retention. Consumers simply tap the product with their smartphone to dive into the magic hub of the brands' digital universe.

Geography:

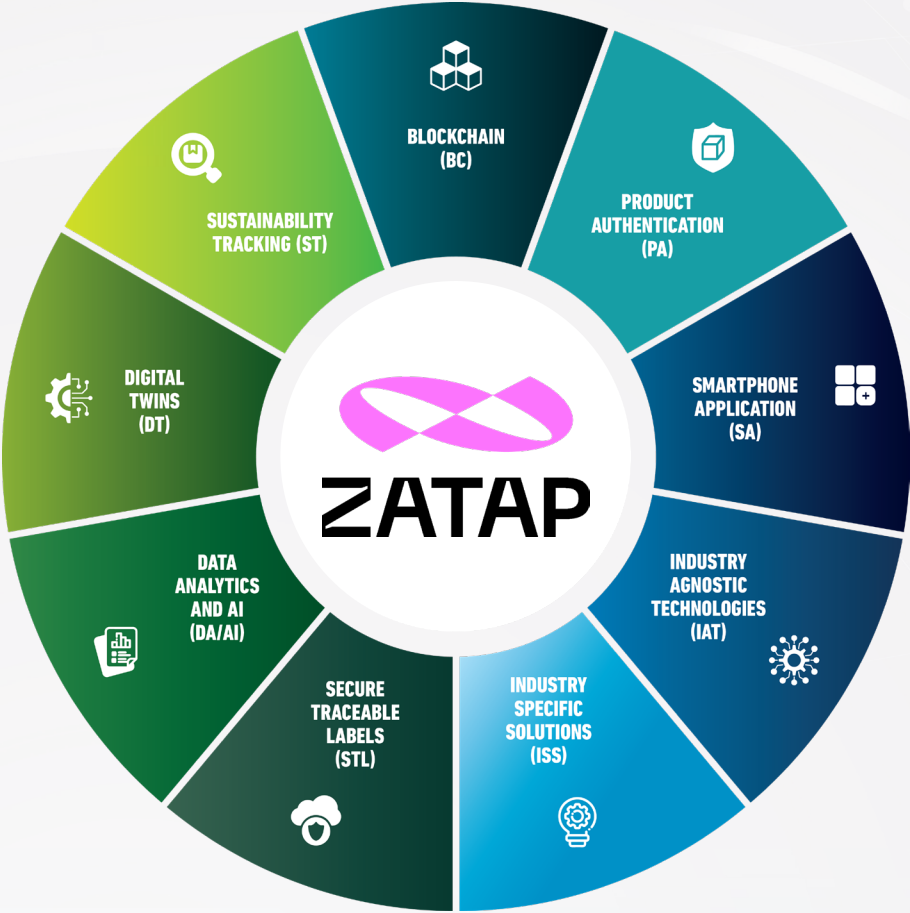
- Globally



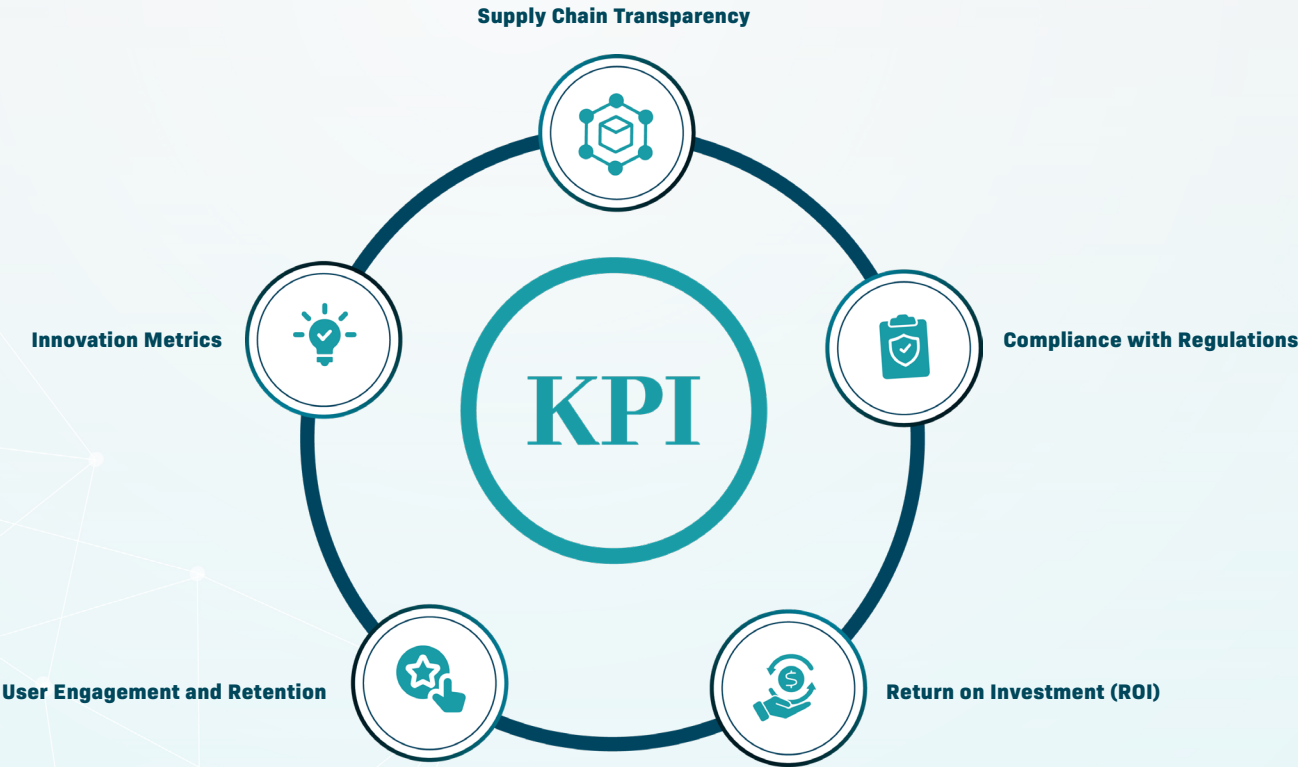
Legend:

- Core Organization
- Partnerships
- Clients

Technology Used:



KPIs used to measure the effectiveness of our solution.



Data Points for solution:



Number of items benefiting from our solution

- 500'000+



Number of brands/suppliers adopting the solution

- 30+

Contact Information:

- info@zatap.io



ZATAP - ONE TAP AWAY FROM PHYGITAL

Use Cases: Luxury and Fashion

In the pursuit of enhancing transparency and authenticity in the luxury sector, we are thrilled to present three illuminating use cases that showcase how the ZATAP Phygital Studio has revolutionized the customer experiences of leading brands. These cases exemplify the transformative power of technology, forging seamless connections between the physical and digital worlds. Join us as we delve into the stories of ELLYHA, Hugo Boss, and Maison Mollerus, as they leverage our solutions to deliver groundbreaking experiences for their customers.

1. ELLYHA: Transforming Fashion with Transparency and Innovation

In partnership with ZATAP, ELLYHA, a Swiss high-end ready-to-wear brand, is revolutionizing the fashion industry through innovation and a commitment to sustainability. Their latest venture, DROP 02, represents a pivotal step towards enhanced transparency. This use case delves into ELLYHA's initiatives and the transformative power of their collaboration with ZATAP.

Release Information

- DROP 02 features a curated selection of six sustainable pieces, each equipped with a serialized Digital Product Passport and a unique identity.
- The DPP provides information on the origin of the repurposed garments and their journey across the short supply chain.
- To minimize waste and overproduction, ELLYHA introduced a pre-order mechanism for their iconic silhouettes made from carefully sourced leftover materials of the LVMH Group.



Project Goals

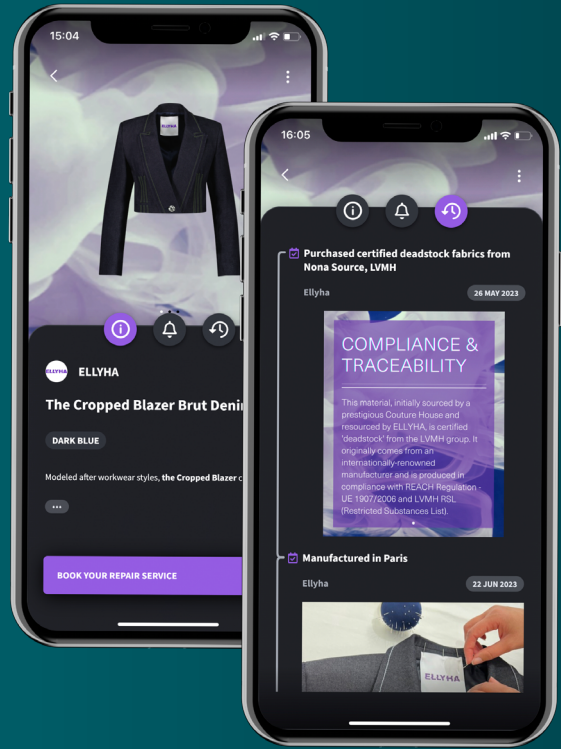
- With the DPP, ELLYHA wants to provide customers with a transparent view of their supply chain, from material sourcing to production facilities.
- The introduction of a Digital Product Passport aligns perfectly with ELLYHA's mission to differentiate itself from the competition by promoting conscious consumerism.

"As each of our physical pieces showcases a unique serial number, our customers are very excited to discover which piece they own out of the produced serialized number. Their overall feedback is very positive and they are curious to further discover the perks of owning a phygital product."

Elissa Lefoll, Founder of ELLYHA

User Journey and Customer Benefits

- ELLYHA empowers customers with a transparent supply chain, shedding light on material sourcing and production locations.
- Detailed information about material composition and origin allows customers to make informed choices.
- ELLYHA offers a repair service, fostering product longevity and encouraging customers to invest in sustainable fashion.
- By providing care instructions, ELLYHA helps customers maintain product quality and extend the lifespan of their garments.
- Owners of previous collections enjoy early access and discounts for pre-orders, strengthening customer loyalty.



Project Recap and Brand Benefits

- ELLYHA gains a direct channel to communicate with customers, fostering customer-brand relationships and driving sales.
- The brand's differentiation through innovation and sustainability positions ELLYHA as a responsible and forward-thinking brand, building a unique reputation.
- ELLYHA takes on a pioneering role in contributing to the development of digital product passports, thereby anticipating upcoming EU legislation.

"Our second drop, powered by ZATAP, is a step toward a more sustainable fashion future. By allowing customers to access the journey of their garments through the Digital Product Passport, we're promoting conscious consumerism and enabling a deeper connection between consumers and the fashion they wear. We want to empower individuals with knowledge about their clothing and inspire a sense of responsibility in the fashion choices they make."

Elissa Lefoll, Founder of ELLYHA

This collaboration between ELLYHA and ZATAP propels the brand towards a more sustainable and transparent future, enriching the customer experience and strengthening its commitment to environmental responsibility.

2. Hugo Boss x Imaginary Ones: Connecting Physical and Digital

In the ever-evolving world of premium and luxury fashion, authenticity stands as a non-negotiable cornerstone. Hugo Boss recognizes the paramount significance of authenticity and provides its customers with a groundbreaking method to ensure the integrity of their products. This transformation was ignited through a pioneering collaboration between Hugo Boss and Imaginary Ones, facilitated by our cutting-edge technology. The result is an unprecedented gateway, bridging physical products with the digital realm while placing authenticity at its core.



Release Information

- In the vein of the collaboration between Hugo Boss and the NFT studio Imaginary Ones, a highly limited phygital cap was released.
- The cap was made exclusively available to holders of the HUGO x Imaginary Ones NFT, adding a layer of exclusivity and uniqueness to the product.
- Through ZATAP, owners could verify the authenticity of their cap and unlock a digital wearable with additional perks.

Project Goals

- The cornerstone of the project is the creation of an immutable proof of authenticity stored on the blockchain.
- The project sought to create a seamless connection between physical caps and their digital twins, unlocking a myriad of possibilities for customers.

User Journey and Customer Benefits

- Customers tap their cap to receive irrefutable proof of authenticity.
- The unique ID allowed customers to unlock their digital twin on the Ready Player Me platform to then wear it in various virtual environments.
- Unique redemption codes ensured that only customers with physical access to the cap could redeem the digital wearable, providing a secure and exclusive experience.
- Customers were restricted to redeeming the digital wearable only once, safeguarding the exclusivity of the product and discouraging sharing of access.



Project Recap and Brand Benefits

- The Imaginary Ones community expressed overwhelming enthusiasm for the innovative experience, lauding the fusion of physical and digital realms.
- The project strengthened Hugo Boss' ability to protect its brand against counterfeiting, ensuring the authenticity of its products.
- By offering a digital extension of the physical product, Hugo Boss prolonged the customer journey into the digital realm, creating increased engagement and laying the foundation for new revenue streams.
- The innovative approach elevated the overall customer experience, aligning with Hugo Boss's commitment to innovation and authenticity.

This collaboration between Hugo Boss, Imaginary Ones, and ZATAP marks a transformative step toward a more authentic and immersive future, where luxury fashion and innovation merge seamlessly.

3. Maison Mollerus: Pioneering Sustainability and Authenticity in Handbags

Maison Mollerus, renowned for its exquisite handbags and leather goods, is leading a sustainable fashion movement in partnership with ZATAP. In this use case, we delve into Maison Mollerus' project, presenting a collection of handbags crafted from recycled leather and the introduction of the brand's first iteration of a Digital Product Passport.



Release Information

- Maison Mollerus unveiled a collection featuring four distinct models of handbags, each meticulously crafted from recycled leather.
- Each of the recycled handbags is equipped with a digital twin that tells the story of the eco-friendly production process.

Project Goals

- Maison Mollerus wanted to create awareness for recycled leather products and grant customers a behind-the-scenes look into their production facilities.
- With the ZATAP Phygital Studio, Maison Mollerus wants to provide customers with immutable proof of authenticity for their handbags.
- Especially because of its diverse target audience, reaching from young to old, Maison Mollerus wanted to get to know its customers and establish a direct relationship with them.

User Journey and Customer Benefits

- With a simple smartphone tap, customers access the bag's proof of authenticity.
- The digital twin guided handbag owners through the innovative manufacturing process around the recycled leather handbags, fostering appreciation and trust for sustainable practices.
- Maison Mollerus rewards customer loyalty by offering those, who unlock their digital twin, an exclusive discount for their next purchase.
- Customers could utilize their proof of authenticity to trade their handbags on the secondary market, promoting circularity and sustaining value.



Project Recap and Brand Benefits

- By using recycled leather and innovative manufacturing, Maison Mollerus promoted a more sustainable and environmentally responsible production process.
- The ZATAP Phygital Studio allowed Maison Mollerus to establish a direct communication and sales channel with customers, building stronger customer-brand relationships.
- Maison Mollerus set itself apart from the competition by being an early adopter of NFC technology for product authentication and promoting sustainable manufacturing processes.
- The project laid the groundwork for secure and autonomous peer-to-peer secondary trading, offering added value to customers and the brand.

This collaboration between Maison Mollerus and ZATAP exemplifies their commitment to sustainability, authenticity, and innovation, enhancing customer experiences while laying the foundation for change in the fashion industry.

Useful links

- [ZATAP Success Stories](#)
- [ZATAP x Maison Mollerus](#)
- [Swiss Fashion Brand ELLYHA Partners with ZATAP for Second Drop](#)
- [3 Revolutionary Reasons Why ELLYHA is Changing Swiss Fashion](#)

Contact Details

collectID AG, Neumarkt 11, 8400 Winterthur, Switzerland

info@zatap.io | [LinkedIn](#)

Unlocking the Full Potential of Transparency Technologies

The technology solutions presented in this report highlight a new frontier for the luxury industry, one where traceability, authentication, and consumer engagement are not just compliance-driven necessities but powerful tools for value creation. While these innovations provide essential security, provenance tracking, and sustainability verification, the next step is ensuring they deliver tangible returns on investment (ROI) for brands and retailers while also driving deeper, long-term consumer engagement.

Beyond Compliance: Creating True Business Value

For technology providers, the challenge is no longer just about delivering secure and transparent supply chains, it is about making a compelling case for value creation that justifies investment by retailers and brands. To achieve widespread adoption, these solutions must offer more than just compliance benefits; they must provide clear ROI metrics that demonstrate efficiency gains, cost reductions, and revenue growth opportunities.

- **Retailers and brands investing in traceability and authentication solutions must see direct economic benefits**, whether through improved operational efficiency, reduced losses from counterfeiting, enhanced product valuation, or streamlined regulatory compliance.
- **Supply chain transparency should not be seen as an added cost but as a competitive advantage**, one that strengthens brand positioning, reduces reputational risks, and enables storytelling that connects with modern consumers who demand authenticity.
- **Data-driven insights** generated from these technologies must be leveraged not just for auditing and compliance but to enhance brand strategy, optimize product offerings, and personalize consumer experiences.

Yet, ROI should not be measured solely in financial terms. The consumer experience must be at the heart of these innovations.

Technology Must Go Beyond Security: It Must Captivate

While luxury brands and retailers recognize the strategic importance of transparency and traceability, their success depends on how well these technologies engage consumers. In an era where experience is everything, consumers must feel that these innovations are not just about security and verification, but about creating immersive and enriching brand interactions.

Technology providers must push beyond functional solutions and start thinking outside the box to create truly engaging, interactive, and emotional experiences for users.

- **Gamification & Rewards:** Platforms should incorporate gamification elements that encourage consumers to engage with their digital product passports, unlock exclusive content, and earn rewards for continued interaction.
- **Augmented Reality & Digital Storytelling:** Consumers should be able to visually explore the journey of their luxury goods, whether it is seeing a diamond's transformation from rough to polished through AR, tracking the artisans behind a watch's craftsmanship, or engaging with the history of their luxury handbag.

- **Personalized Engagement:** Technologies should allow consumers to continuously interact with their products and brands beyond the point of purchase, receiving real-time updates on their product's journey, care recommendations, exclusive brand content, and resale opportunities.
- **Seamless Digital Ecosystems:** The success of these platforms depends on frictionless integration into consumers' digital lives. A consumer should not have to switch between multiple apps to engage with their purchases; instead, digital product passports, loyalty programs, and authentication tools should be interconnected within a single, engaging brand ecosystem.

The Future of Transparency Is About Consumer Retention

A technology solution's true impact is not just in securing supply chains but in its ability to make consumers return to the platform again and again. If these platforms remain static verification tools, they risk becoming forgotten after a single use. Instead, they must become dynamic, ever-evolving spaces where consumers can derive continuous value, whether through ownership benefits, product-related content, or exclusive brand interactions.

For brands and retailers, the question should no longer be "Do we need transparency and authentication technologies?" but rather "How do we make these technologies a core part of our brand experience?". For technology providers, the challenge is to elevate their solutions from compliance tools to immersive, engaging ecosystems that create lasting consumer relationships.

This report is a call to action for technology providers, luxury brands, and retailers alike:

- **Innovate beyond functionality:** Turn transparency and authentication into tools for storytelling, engagement, and brand differentiation.
- **Showcase value beyond compliance:** Prove the ROI of traceability through financial benefits, brand protection, and consumer loyalty.
- **Make technology come alive:** Deliver experiences that captivate, educate, and excite consumers, making transparency a key part of their luxury journey.

The future of traceability, transparency, and authentication is not just about proving where a product comes from, it is about making that journey meaningful, interactive, and emotionally compelling for everyone involved.

The luxury industry stands at a crossroads: those who leverage these technologies to their full potential will not only lead in transparency but also in consumer engagement, brand loyalty, and long-term business success.

Transparency Through the Eyes of the Luxury Stakeholders

While technology provides the tools, it is the brands, designers, manufacturers, and suppliers who bring transparency to life. This section of the report features a diverse group of luxury stakeholders: from iconic watchmakers and global jewelry houses to independent designers, ethical gold refiners, and next-generation startups, each navigating their own path toward greater traceability and trust.

These stakeholders are more than just adopters of technology; they are active agents of change, shaping the narrative and expectations around what responsible luxury means today. Whether integrating blockchain-backed traceability platforms, pursuing B-Corp certification, or embedding QR codes into product packaging, these leaders are exploring how transparency can serve as a catalyst for innovation, consumer loyalty, and reputational strength.

This section aims to:

- Illustrate the diverse motivations and approaches behind transparency initiatives
- Highlight the challenges and opportunities faced by industry players across the value chain
- Surface real-world examples of how traceability is being implemented and received in practice

Through their experiences, we gain a deeper understanding of what transparency looks like in action: its complexity, its power, and its ability to redefine the relationship between brand and consumer.



ORIGINALLUXURY

INTRODUCING

BONAS GROUP



Bonas Group
DIAMONDS & GEMSTONES





Bonas Group
DIAMONDS & GEMSTONES

Company Information:

Bonas Group

Contact Person:

BonasDiamondBrokers@bonasgroup.com
+32 3 233.70.80

Industry category:

Diamonds and Coloured Gemstones

Website:

www.bonasgroup.com

Company Description:

Bonas Group is a fifth-generation, family-owned diamond brokerage and consultancy firm with over 140 years of experience in the diamond industry. Operating globally, Bonas specializes in three key business areas: diamond and coloured gemstone sales, De Beers relationship management, and value chain consulting. Since 2011, the company has been organizing diamond and gemstone tenders and has grown to the world's leading independent tender and auction house for precious gemstones.

Bonas currently brings over 10 primary diamond and gemstone productions to market, all with verifiable provenance, ensuring that the story of each natural gemstone is shared with clients and consumers.

Number of employees: 11-50

Company's Tagline:

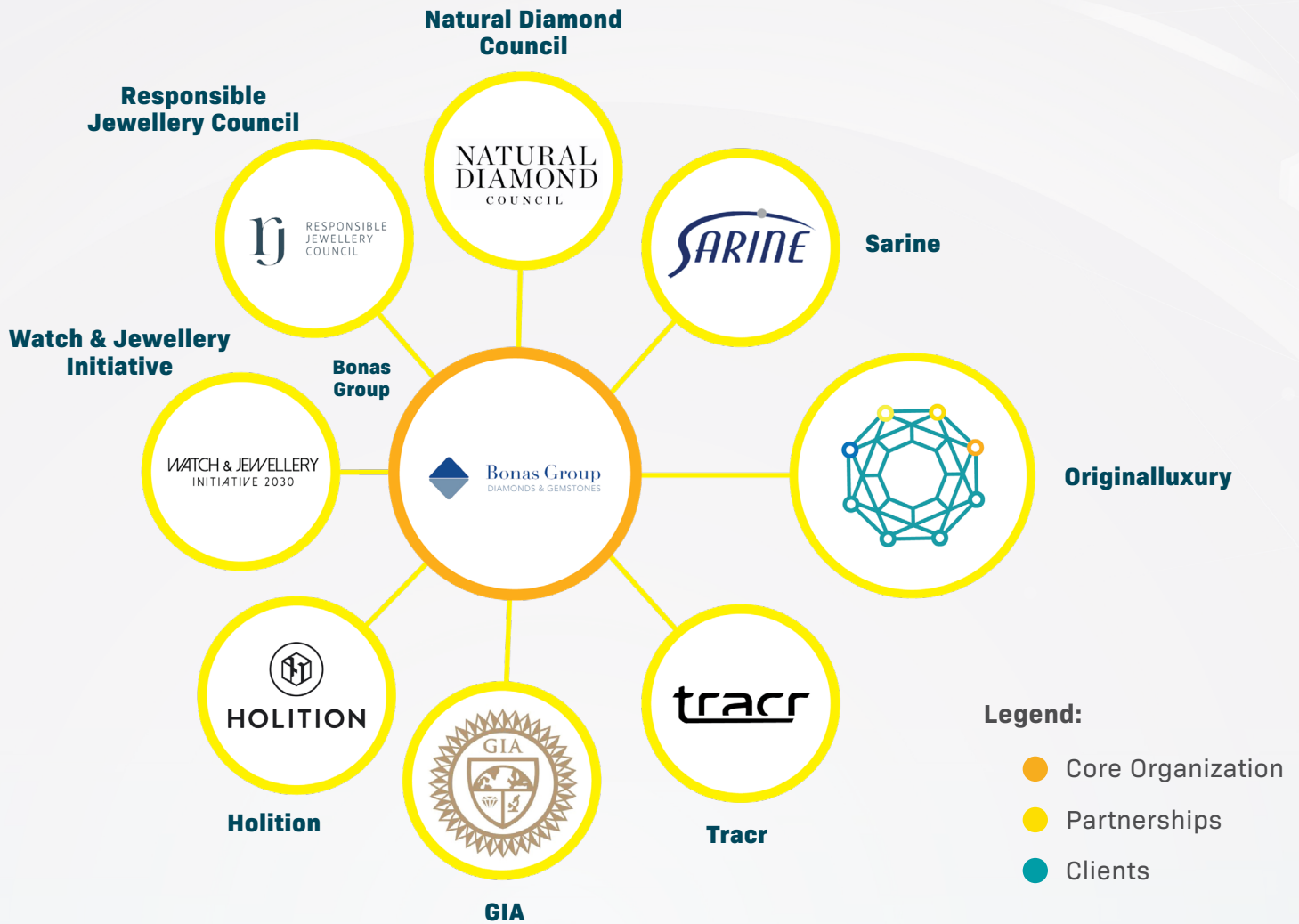
At the forefront of the diamond industry for over 140 years.



VALUES

Integrity, transparency, compliance





Relevant Links:

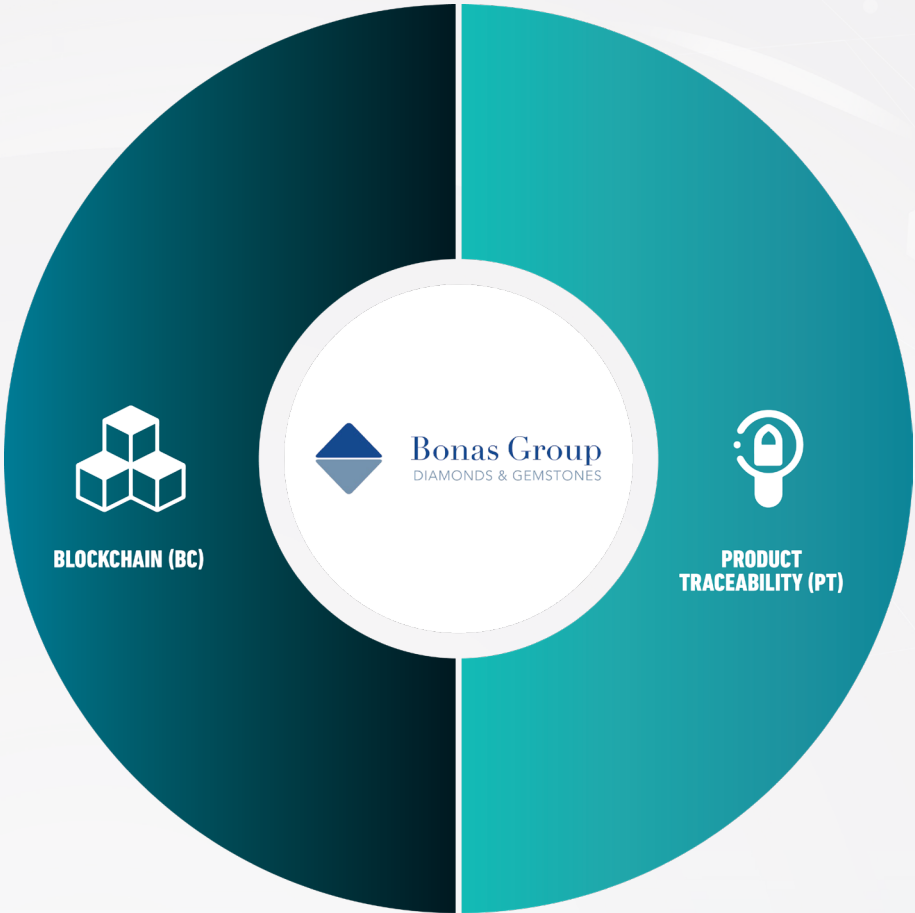
www.bonasgroup.com

https://sarine.listedcompany.com/newsroom/20220322_002626_U77_T80K3LVRXED7KM4T.1.pdf

<https://www.tracr.com/news/mountain-province-works-with-tracr-for-diamond-traceability%20>



Technology Used:



KPIs used to measure the effectiveness of our solution



Additional Information:

Certifications and recognitions:

- Bonas & Co Ltd have been members of the RJC since 2005 and have been part of the Standards Committee since its inception. A representative from Bonas has actively served on the organization's Board for 9 years, contributing to its strategic direction and decision making. Bonas Group is also a proud member of the World Diamond Council (WDC) and the Watch & Jewellery Initiative 2030. Through this partnership with WJI, the Group helps driving positive change across the diamond and gemstone industry.

Partnerships:

- Bonas Group also collaborates with the industry marketing body, the Natural Diamond Council, to promote and strengthen the natural diamond category.

Contact Information :

- BonasDiamondBrokers@bonasgroup.com
- +32 3 233 70 80



ORIGINALLUXURY

INTRODUCING

BRILLIANT EARTH

BRILLIANT
EARTH®



BRILLIANT EARTH®

Company Information:

Brilliant Earth

300 Grant Ave, 3rd Floor
San Francisco, CA 94108
USA

Contact Person:

Allison Charalambous
VP Responsible Sourcing & Sustainability
acharalambous@brilliantearth.com

Industry Category

- Jewellery

Website:

www.brilliantearth.com

Company Description:

At Brilliant Earth, we transform precious materials into fine jewelry that celebrates your unique story. As a global leader in responsible sourcing, design, and craftsmanship, we blend artistic vision with meticulous attention to detail.

Number of employees: 501-1000

Company's tagline:

Delight in the details



MISSION

Our Mission to cultivate a more transparent, sustainable, compassionate, and inclusive jewelry industry has been at the core of everything we do from day one.



PURPOSE

At Brilliant Earth, jewelry is self-expression in its truest form — a way to wear confidence, creativity, and unforgettable memories. We know that jewelry is a joyful reflection of who we are, capturing our personal style and symbolizing the moments that matter most.



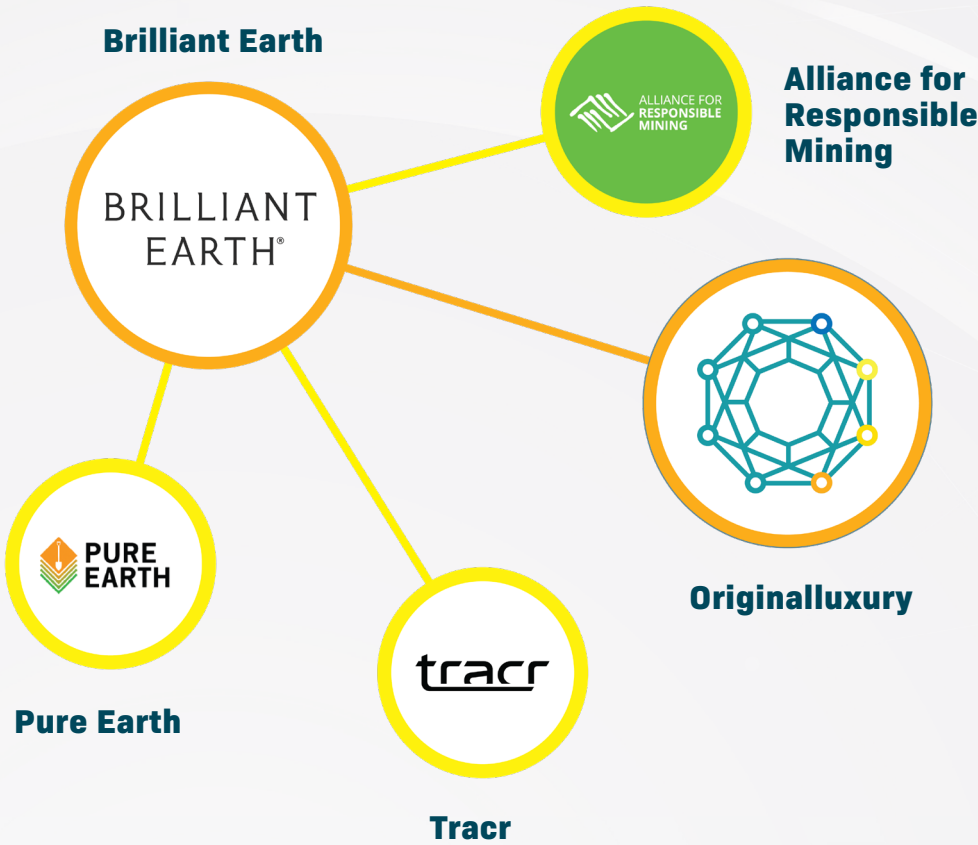
VISION

For 20 years, we've been changing the game and raising the bar. From our pioneering diamond standards to our unmatched transparency, we're redefining what it means to design and craft jewelry that makes a real difference. Join us on our mission to transform the jewelry industry for good.



Legend:

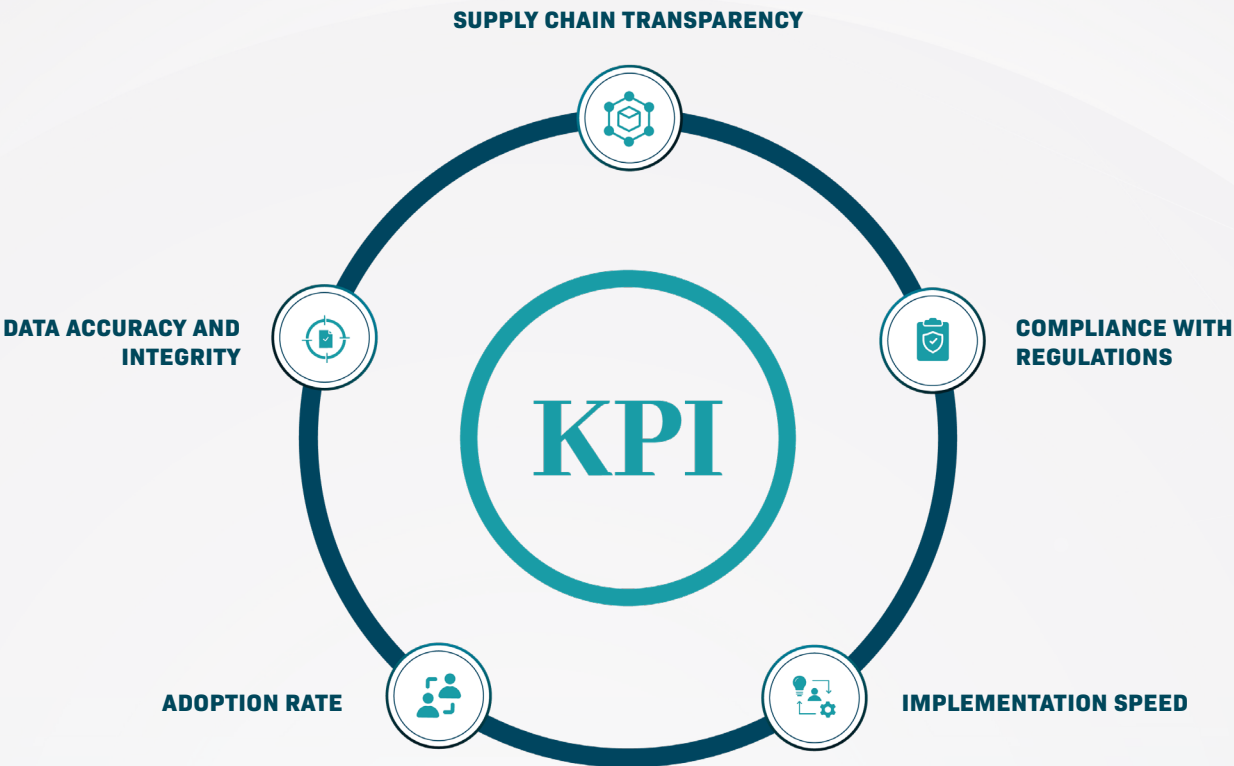
- Core Organization
- Partnerships
- Clients



Technology Used:



KPIs used to measure the effectiveness of our solution.



Number of items tracked through traceability solutions:

- From blockchain-verified to our Beyond Conflict Free® natural diamonds, we've been leaders in ethical sourcing and diamond traceability from the very beginning. In 2019, we became one of the first jewelers to sell blockchain-verified natural diamonds at scale. And in 2023, we expanded our blockchain-verified natural diamond assortment.

<https://www.brilliantearth.com/about/mission/transparency/natural-diamonds/>



Amount of financial support provided to communities

- In 2021, we started the Brilliant Earth Foundation to expand our positive impact. Since then, we've donated \$2 million to causes and communities we care about.

<https://www.brilliantearth.com/about/mission/compassion/be-foundation/>



Number of community projects funded

- In 2024, the main long term grants through the Brilliant Earth Foundation went to 4 organizations: : Pact-Moyo Gems, Pure Earth, Alliance for Responsible Mining, and Gem Legacy.

Client Testimonials:

<https://www.pureearth.org/field-visit-to-the-first-fairmined-certified-gold-mining-association-in-madre-de-dios-peru/>

Success Stories :

Reuters 2024 Sustainability Trailblazer Award

"It is an honor to accept the Reuters 2024 Sustainability Trailblazer Award. The spirit of planet-first innovation has been our focus at Brilliant Earth since the beginning — and this award is a testament to the extraordinary Brilliant Earth team and their relentless dedication to our mission.

From my earliest days building our company, my passion has been to inspire change. This extends to every facet of our business: how we source, craft, and present our beautiful jewelry to our customers — and recognize its impact on our communities."

- Beth Gerstein

<https://events.reutersevents.com/sustainable-business/sustainability-awards/winners>

https://www.linkedin.com/posts/beth-gerstein-5921982_sustawards-activity-7250558190667382784-nY4?utm_source=share&utm_medium=member_desktop&rcm=ACoAAARd2YcBdQXH5E0V6MYMTCfnDLJLWsczOa8

Allison Charalambous, Force of Nature Award:

Held on International Women's Day, Pure Earth's Force of Nature awards recognize the strength and achievements of honorees as well as countless women the world over working every day to solve pollution, protect their families and communities, and advocate on behalf of the most vulnerable.

<https://www.pureearth.org/event/international-womens-day-force-of-nature-celebration/>

Certifications and recognitions :

Great Place to Work April 2024 - April 2025

Brilliant Earth is proud to be Certified™ as a Great Place To Work®! Great Place To Work® is the global authority on workplace culture, employee experience, and the leadership behaviors proven to deliver employee retention and increased innovation. Through this achievement, Brilliant Earth continues to amplify our focus on building diverse, inclusive, high performing teams and showcasing our outstanding culture.

https://www.linkedin.com/posts/brilliantearth_brilliant-earth-is-proud-to-be-certified-activity-7191472509047693312-9hpa?utm_source=share&utm_medium=member_desktop&rcm=ACoAAARd2YcBdQXH5E0V6MYMTCfnDLJLWsczOa8

<https://www.greatplacetowork.com/certified-company/7013379#:~:text=The%20employee%20experience%20below%20at,a%20typical%20U.S.%20based%20company.&text=Source%3A%20Great%20Place%20To%20Work%C2%AE%202021%20Global%20Employee%20Engagement%20Study>

2025 Built In Best Place to Work

Built In's Best Place to Work award recognizes companies that offer top-tier compensation, benefits, and overall culture for their employees. Brilliant Earth is proud to be a 5-time winner of Built In's Best Places to Work®, having won this award every year since 2021.

<https://builtin.com/company/brilliant-earth>

Partnerships:

The Jane Goodall Collection:

The launch of Brilliant Earth's exclusive, limited edition Jane Goodall Collection is an important milestone in the company's 20-year journey, encapsulating the company's unwavering commitment to diamond innovation, expert artistry, and planet-first practices.

The Jane Goodall Collection is crafted with Brilliant Earth's industry-leading ethically and sustainably sourced materials, including Capture Collection lab diamonds, which are made in clean energy facilities with CO2 before it is released into the atmosphere, and repurposed gold sourced from responsible refiners.

<https://www.brilliantearth.com/jewelry/collections/jane-goodall/>

Held on International Women's Day, Pure Earth's Force of Nature awards recognize the strength and achievements of honorees as well as countless women the world over working every day to solve pollution, protect their families and communities, and advocate on behalf of the most vulnerable.

<https://www.globenewswire.com/news-release/2024/09/26/2953877/0/en/Brilliant-Earth-Unveils-Rethink-Everything-You-Know-About-Diamonds-Campaign-and-Introduces-The-Jane-Goodall-Collection.html>



ORIGINALLUXURY

INTRODUCING

BREITLING



BREITLING
1884



Company Information:

Breitling

Léon Breitling-Strasse, 2
2540 Grenchen
Switzerland

Contact Person:

Aurelia Figueroa
Chief Sustainability Officer
Aurelia.Figueroa@breitling.com
+41 79 636 48 68

Industry Category:

Watches

Website:

www.breitling.com

Company Description:

Founded in 1884, Breitling is a leading Swiss watchmaker. The innovative company invented the modern chronograph and pioneered the navigational tool watch. Today, it is still breaking new ground as a casual, inclusive, and sustainable luxury brand with more than 280 industrial-loft-inspired retail locations around the world. Breitling's collections center around air, land, and sea pursuits, all captured in the brand's unmistakable modern-retro style. The exceptional quality of every watch movement is confirmed by its status as a COSC-certified chronometer, and the brand remains one of only a handful of independent watchmakers to produce its own manufacture calibers. Today, Breitling is on a mission to do better, by creating beautiful products and experiences with better materials, better manufacturing, better packaging, and end-to-end traceability. Combining classic watchmaking with the latest and most sustainable innovations, Breitling is both a company with history and one that is ahead of its time.

Number of employees: 1,980



MISSION

To redefine Swiss watchmaking by offering casual, inclusive and sustainable luxury that reflects the real aspirations of today's consumers.



PURPOSE

Our purpose is to inspire the dream of a casual, uplifting and meaningful life through a tasteful yet approachable luxury style.

Company's tagline:

**Casual, conscious luxury watch brand
with purpose and a touch of fun.**



VISION

To be the undisputed leader of neo-luxury.

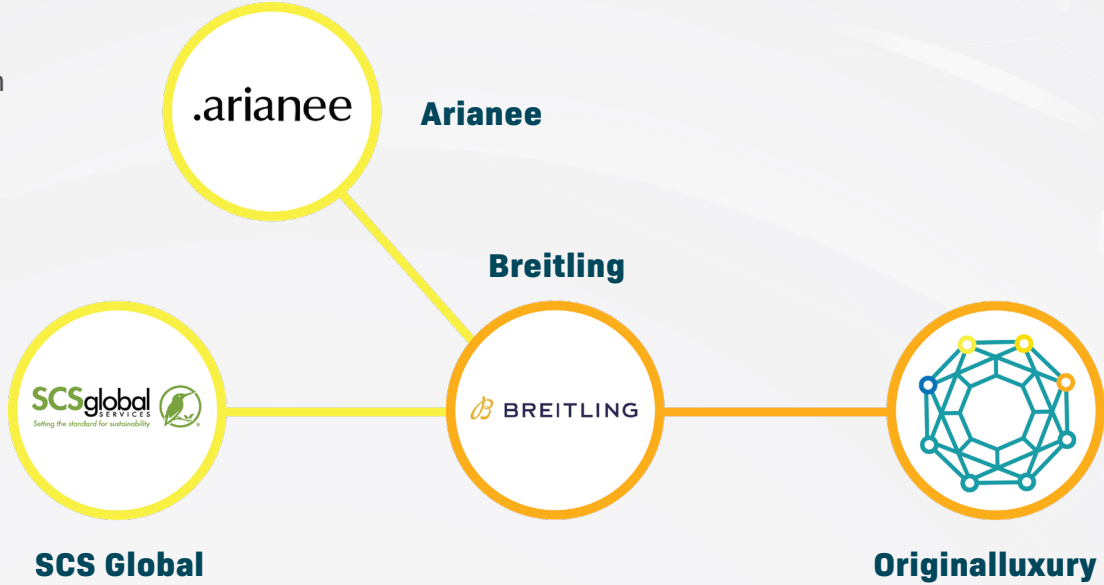


VALUES

Neo-luxury - casual, inclusive and sustainable.

Legend:

- Core Organization
- Partnerships
- Clients



Technology Used:





Community Support:

A keystone of our efforts as a Squad On A Mission To Do Better is enabling traceability to attest to the social and environmental impacts across our sphere of influence. In 2022, we launched this important mission to the public with the release of Super Chronomat 38 Origins, our first watch to contain traceable gold and traceable lab-grown diamonds, the materials within our overall supply chain with the greatest potential to have meaningful social and environmental impact. With this, we released our first enhanced traceability non-fungible token (NFT), complementing that already provided to Breitling owners in an industry-leading move in 2020.

We see traceability as an absolutely essential foundation for our engagement across our pillars of progress, prosperity, planet, governance and people. It enables us to know the communities across our value chain and understand our role as a member of these systems. It allows us to establish high-quality, primary data of our environmental and social impact and establishes the baseline upon which we report. And it enables us to transparently share our efforts with our customers and global stakeholders.

Many materials we source are commodities, and commonly processed in a manner that does not allow for traceability. This has required us, and our value chain partners, to fundamentally redesign operating methods. It is thanks to this pioneering collaboration that we have been able to transform supply chain systems and work towards integrating traceable artisanal small-scale gold and lab-grown diamonds across our collection.

We see clear near-term and ongoing returns on the proactive investments we have made in terms of consumer and market relevance and regulatory adherence and recognize this as a validation of our industry-leading shift towards the traceability-based business model.

We have been able to make meaningful strides towards achieving supply chain transformation – in concert with our highly valued partners and further industry collaborators. This will enable us to navigate towards our ambitious and industry-leading targets of achieving traceable gold and diamonds across our main collection products by the end of the next reporting cycle, or March 2026.

Our decision to transition to a traceability-based business model was based on our values and guided by the inclusive input of our global stakeholders – internal and external to Breitling – from our inaugural double materiality assessment in 2020. We find it to be future-maximizing in several ways. The first concerns societal and consumer interest, which research continually points to be increasing in corporate transparency, including supply chain traceability topics. The second is the introduction of numerous regulations, for which traceability is a key enabling factor for compliance. The proactive investments we have made since 2020 place Breitling in an advanced position in order to facilitate timely uptake of key guidelines, including the Corporate Sustainability Reporting Directive and the Ecodesign for Sustainable Products Regulation, to name just two examples. Finally, traceability underpins the ongoing improvement of full-scope risk mitigation across the supply chain, through the greater understanding and supplier engagement we have developed through these efforts.

Given the benefits listed above, we are continuing to expand our approach to the traceability-based business model across our business activities and informed from a risk-based perspective in order to prioritize our efforts to trace and engage with our value chain. We will continue to report on our efforts in our annual Sustainability Mission Report.



Sustainability Programs:

The conduct of certain Breitling stakeholders is guided by the Breitling ESG Policy, Supplier Code of Conduct, and Employee Code of Conduct. These are publicly available at www.breitling.com and based on key international guidance and instruments, including the OECD Guidelines for Multinational Enterprises, the International Labour Organization Core Conventions, the Universal Declaration of Human Rights, and the Ten Principles of the UNGC. In addition to this, we also engage key suppliers in third-party ESG benchmarking on EcoVadis, a leading global provider of sustainability ratings across key dimensions: Labor and human rights, ethics, environment, and sustainable procurement. Questionnaires are tailored to industry sectors and company jurisdiction and size and are assessed by international experts based on verifiable documentation. The results then inform sustainability roadmaps to continually improve performance of these factors across our supply chains.

Breitling also works with its partners in potentially high-risk areas, such as gold sourcing, to ensure that human rights are respected throughout the value chain and there is no presence of child labor. These objectives are regularly audited, including by supporting counterparts such as the Swiss Better Gold Association in the case of gold sourcing and SCS Global Services in the case of lab-grown diamond sourcing. We furthermore conduct in-person audits of relevant operations in order to ensure that our guidelines for sustainability are being met.



Economic Impact:

Breitling is committed to source traceable artisanal and small-scale (ASM) gold from the Swiss Better Gold Association. Through the distribution of our impact premium fund, which is paid on each gram of gold sourced, we have been able to support meaningful projects for mining operations and local communities in Latin America, with a focus on education, health care provision and environmental protection.

Our switch to lab-grown diamonds benefits not only our customers with a high-quality product featuring fully traceable type-IIa diamonds for which we are able to attest to social and environmental measures taken along the value chain, but also local sourcing communities. For each lab-grown diamond carat purchased, Breitling has established a Better Diamond Fund which allocates 30 CHF per carat purchased to support positive social and environmental impact along the supply chain.



BETTER GOLD FUND

In 2021, we committed to source Swiss Better Gold, a target that is well underway thanks to transformational efforts across our supply chain to support this ambitious and industry-leading goal. Together with our partners, we are continuing to develop resilient artisanal and small-scale gold mining (ASGM) supply chains while contributing to meaningful development for workers in the value chain and affected communities.

ASGM is a method of gold extraction based primarily on the use of manual labor. It can be conducted in a formalized manner, such as the integration of informal activities into the formal supply chain by setting and enforcing responsible sourcing standards that benefit the health and safety of workers. Through premium contributions distributed at a rate of \$1.35 per gram of gold sourced, we contribute to employees in the mines with resources including training for health and safety or investments in on-site infrastructure, along with the sustainable development of the local communities in which the mines are located.

In the period from April 2023 - March 2024, we supported the establishment of small fish ponds for the consumption of local households in the Colombian village of El Pescado in the municipality of Segovia, in the area surrounding the Touchstone mine from which Breitling sourced in previous reporting cycles, thereby contributing to the Better Gold Fund \$ 1 per gram of gold sourced (the cost of the premium at that time). The project was identified and suggested by the local community and co-created with the local authorities, Touchstone mine representatives and the Swiss Better Gold teams. The aim of the project was to provide an alternative income generating activity for the community with lower impacts on the environment compared to the agroforestry which is often carried out informally or even illegally in this area. This project enabled further community engagement to develop other relevant projects such as home gardens and ecological cookstoves.

This is an important public-private partnership with the local government of Segovia to foster the relationship between the government, the community and the private sector while demonstrating the viability of such collaborative initiatives. To date, six families in the village of El Pescado have constructed seven fishponds. These will generate alternative income streams and enhance food security and socio-economic development. Through this project, six families are now self-employed and generating an income, allowing them a certain economic independence that responds to their needs. At the same time, the project has fostered the integration and collaboration among community members. This project was developed in addition to the educational project serving community members that has been running since 2022. In this remote area close to the Touchstone mine, the lack of educational facilities contributed to additional challenges facing the community, such as a high rate of informal or even illegal activities. Together with Swiss Better Gold and the Corporación Latina as the implementor, we developed a long-term educational project for which the first phase was successfully completed in 2022.

In 2023, the educational project had 30 students enrolled across a range of ages, with class sizes of seven students, far lower than the average in Colombia of 22. Among the various positive impacts of this educational project has been an increase in social cohesion among the community, the biggest beneficiary of the project. The community not only managed to complete the first phase with great success, but also carried out the academic process into the second phase. This underscores the importance community members give to education and the robustness of the program. Our educational program is now a flagship project in the region with the infrastructure of the school serving adults and children during their studies.

We are working to find long-term support for this project in the future in collaboration with the local government so as to ensure its continuity as a recognized space for public education. To this end, Swiss Better Gold has signed an agreement with the municipal authorities as they will assume ownership of the facility in the medium to long term.



BETTER DIAMOND FUND

Since shifting to lab-grown diamonds in 2022, we have also been contributing to the local communities in western India from which we source through a voluntary contribution of CHF 30 per carat purchased. In consultation with a diverse group of local community stakeholders active in the impact space, it was determined that the greatest benefit could be derived through the creation of a tailored education program and of a space for which impact at this time leaders can gather.

In January 2024, we were elated to welcome the inaugural class of social impact leaders to the Better Diamond Fund education program. This community-designed initiative is conducted in partnership with Amani Institute, a leading global non-profit organization supporting social impact leaders with high-quality leadership education. To date, 45 have enrolled in this program conducted in the state of Gujarat in western India, where all of our lab-grown diamonds are grown, cut and polished.

The program is sponsored by Breitling and conducted over five modules, culminating in a Social Impact Project Showcase highlighting a project developed by the participants that relates to their work in women's economic empowerment, social entrepreneurship for economic development, childhood education, and environmental protection.

In addition to the tailored training program, we have also created with the Amani Institute regular gatherings where local impact leaders are invited in response to a key need identified in stakeholder consultations. Both participants in the training program and community members are invited to these gatherings, providing a platform to support collaboration among individuals working in similar and complementary spaces related to social and environmental impact.

We have a large range of metrics aligned to the guidance of the EU Corporate Sustainability Reporting Directive that are available in our 2024 Sustainability Mission Report:

https://issuu.com/breitling.com/docs/breitling_sustainability_mission_report_2024?fr=xKAE9_zU1NQ

Data Points for solution:



Number of items tracked through traceability solutions

- All Breitling Products are issued with an NFT. One-third of those with gold and lab-grown diamonds are issued with a traceability enhanced NFT.



Amount of financial support provided to communities

- 1.7M CHF total for social and environmental projects in FY24.

Qualitative Data:

Client Testimonials:

In our 2024 Sustainability Mission Report:

https://issuu.com/breitling.com/docs/breitling_sustainability_mission_report_2024?fr=xKAE9_zU1NQ we include detailed testimonials from a broad range of stakeholders. Perhaps the most pertinent for this purpose are those found on pages 59 and 113.

Success Stories:

This is detailed in our 2024 Sustainability Mission Report:

https://issuu.com/breitling.com/docs/breitling_sustainability_mission_report_2024?fr=xKAE9_zU1NQ, particularly in the prosperity chapter beginning on page 50.

Future Developments :

Upcoming Features:

- Given the benefits listed above, we are continuing to expand our approach to the traceability-based business model across our business activities and informed from a risk-based perspective in order to prioritize our efforts to trace and engage with our value chain.

Vision:

- Transparency and traceability will be expected by the customer as a standard aspect of the luxury offering.
- First movers on the topic will be rewarded as traceability and transparency are cornerstones of sustainability competitiveness and brand authenticity.
- Greater transparency and traceability are the essential foundation upon which to realize positive social and environmental impact along the value chain, with greater accountability fostered through these approaches.

Certifications and recognitions :

- Winner of the 2023 ESG Transparency Award
- Inaugural Winner of Best Sustainable Watch by Temporis International Awards in 2023
- EcoVadis Platinum Medal in most competitive large companies category (Breitling ranked at 99th percentile globally in 2024), Carbon Disclosure A-score for Climate in 2025

Contact Information:

<https://www.breitling.com/ch-en/service/>

INTRODUCING

BUBBLE BEE





Company Information:

Bubble Bee OÜ

Raua tn4
78003 Rapla maakond
Estonia

Contact Person:

Merily Aavik
Founder and owner
Info@bubblebee.eu
+41 76 202 82 72
+372 5555 2215

Industry category

- Fashion and Textiles
- Other: Entertainment, education, interior decoration elements

Website:

www.bubblebee.eu

Company Description:

Bubble Bee by Merily is a unique, hand-drawn silk bed sheet brand for children and families that brings an enchanting story of the Bubble Bees to its little friends. The core concept of the Bubble Bee by Merily is a fairy tale that leads to a high-end luxury production. Currently, the concept consists of three main parts: education, entertainment, and production, with the potential to have a widespread impact. Our brand is built on the belief that when it comes to sleep, only the best is good enough. Our exclusive fabric qualities and simple detailed prints strive to create a fresh, unique and enchanting design. The extra bit of attention to detail is the signature of the Bubble Bee brand. Bubble Bee is inspired by the simplicity and joy of childhood where the child's sincere and playful world meets the magical side of nature.

Number of employees: 1-10

Company's Tagline:

"Welcome to the enchanting world of Bubble Bee, where each page turn and click unfolds stories of joy, inspiration, and gentle guidance for the imaginative minds of children across the globe - welcome to the world, where imagination creates miracles!"





VISION

At Bubble Bee by Merily, our ultimate goal is to ensure that the magic of Bubble Bee reaches every corner of the world, touching the hearts of children and parents while making a positive difference in their lives. We believe that this fairy tale world has the power to inspire, entertain, and impart valuable life lessons to its audience. By combining the artistry of dance, music, and storytelling, we aspire to create a truly magical experience that not only captivates but also educates and inspires. Through the power of imagination and creativity, The Bubble Bee world aims to help children discover their inner strength and make a meaningful impact. These art and storytelling initiatives are created to benefit children, schools, and parents alike.



MISSION

We believe in a miraculous and playful world where imagination is everything and through which understanding and thoughts about the world begin and can be explored and developed. Our philosophy in life is that life can be viewed as a wonderful, colorful art project – a source of all-encompassing and never ending inspiration, limited only by our own imaginations.

In creating the Bubble Bee story world, we invite children to discover and become friends the secretive, magical Bubble Bees through hand-drawn illustration on silk bed linens, enchanting tactile books, and engaging and thought inspiring playing cards.

Through a gentle voyage of discovery within the safe, compassionate, fun and stimulating environment of the Bubble Bees, children can explore and develop their natural sincerity and playfulness, thinking about the world from a wholesome perspective.

As the Creative Director of Bubble Bee, I am committed to ensuring that the world of the Bubble Bees provides children with joy and inspiration, encouraging them to explore their creativity and embark on a path of gentle self-development that serves as a guiding light in the real world.



IMPACT

At Bubble Bee by Merily, our impact extends beyond creating luxurious, hand-drawn silk bed sheets for children and families. Our brand is dedicated to fostering an enchanting world that inspires creativity, nurtures imagination, and instills valuable life lessons. We believe that our unique narrative and artistic approach can lead to transformative experiences for children, parents, and communities.

EMPOWERING IMAGINATION AND CREATIVITY



Through our enchanting stories and captivating illustrations, we empower children to explore their imaginations. By engaging with the Bubble Bee world, children can develop their creativity, which is essential for problem-solving and innovative thinking in their futures.

EDUCATIONAL VALUE



Our initiative combines entertainment with education, using storytelling as a medium to teach important life lessons. Each product—whether it be our silk bed linens, tactile books, or playing cards—serves as a tool for learning, encouraging children to think critically and empathize with others.

CULTURAL ENRICHMENT



By integrating elements of dance, music, and art into our storytelling, we promote cultural appreciation and understanding. This holistic approach not only entertains but also broadens children's perspectives, fostering a sense of global citizenship.

POSITIVE FAMILY ENGAGEMENT



Our products are designed to create shared experiences between parents and children. By inviting families into the Bubble Bee world, we encourage quality time spent together, fostering deeper connections and meaningful interactions that contribute to healthy emotional development.



IMPACT

SUPPORT FOR EDUCATIONAL INSTITUTIONS



Our commitment to education extends to schools, where we aim to provide resources that enhance learning environments. By collaborating with educators, we hope to integrate our storytelling into curricula, enriching the educational experience for students.

SUSTAINABLE LUXURY



In our pursuit of high-end luxury production, we are committed to transparency and traceability in our supply chain. By prioritizing ethically sourced materials and sustainable practices, we ensure that our impact on the environment is minimal, while still delivering a premium product.

COMMUNITY IMPACT



Through various initiatives, we aim to give back to the communities we serve. Whether through donations, collaborations with local artists, or partnerships with educational organizations, we strive to create a ripple effect of positive change that extends beyond our brand.

In summary, Bubble Bee by Merily is not just a brand; it's a movement toward nurturing creativity, fostering learning, and building connections within families and communities. Our impact statement reflects our commitment to making a meaningful difference in the lives of children and parents, empowering them to dream, explore, and grow in a world where imagination knows no bounds.





VALUES



IMAGINATION AND CREATIVITY:

We believe that imagination is the cornerstone of childhood development. At Bubble Bee by Merily, we encourage children to unleash their creativity, allowing them to explore new ideas and perspectives. Our products and stories are designed to inspire the imaginative minds of children, fostering a sense of wonder and possibility.



QUALITY AND CRAFTSMANSHIP

We are committed to delivering exceptional quality in every aspect of our brand. Our hand-drawn silk bed sheets and thoughtfully designed products reflect a dedication to craftsmanship and attention to detail. We believe that luxury should also encompass ethical and sustainable practices, ensuring our offerings are both beautiful and responsible.



EDUCATION AND EMPOWERMENT

Education is at the heart of our mission. We strive to empower children through storytelling, providing valuable life lessons and encouraging critical thinking. Our aim is to create an enriching learning experience that inspires curiosity and personal growth, benefiting both children and their families.





VALUES

FAMILY CONNECTION



We value the importance of family bonds and shared experiences. Our products are designed to facilitate quality time between parents and children, promoting meaningful interactions that foster emotional connection and support healthy development.

SUSTAINABILITY AND RESPONSIBILITY



We are dedicated to sustainable luxury. Our commitment to transparency and traceability in our supply chain reflects our responsibility to the environment and the communities we engage with. We prioritize ethically sourced materials and sustainable practices to minimize our ecological footprint while providing premium products.

CULTURAL APPRECIATION AND INCLUSIVITY



We embrace diversity and believe in the power of storytelling to bridge cultural gaps. Our narratives incorporate elements from various art forms, fostering appreciation for different cultures and perspectives. We aim to create an inclusive environment where every child can see themselves reflected in our stories.

COMMUNITY ENGAGEMENT



We recognize the importance of giving back to the communities we serve. By collaborating with local artists, supporting educational initiatives, and engaging in philanthropic efforts, we aim to create a positive impact that extends beyond our brand. We believe in the collective strength of community and the importance of contributing to a brighter future.

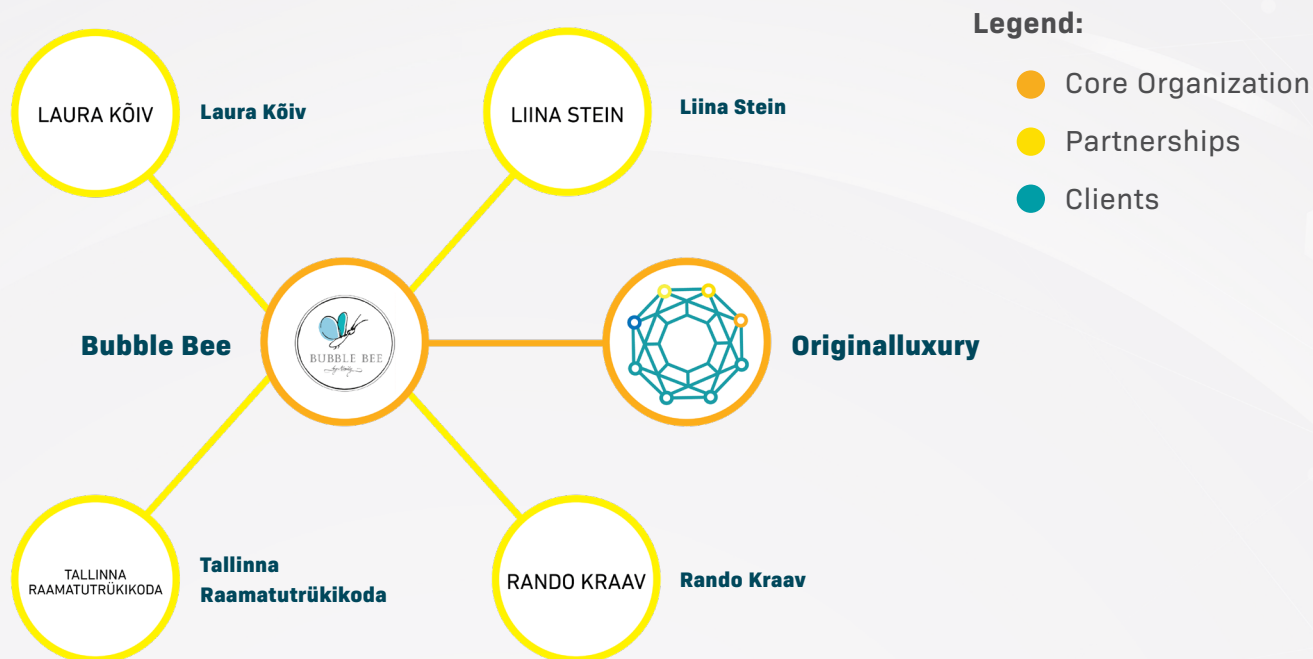
JOY AND INSPIRATION



Above all, we are committed to bringing joy and inspiration to children and families. Our enchanting stories and products are crafted to evoke happiness and spark curiosity. We believe that a joyful childhood lays the foundation for a fulfilling life, and we strive to be a source of positivity and inspiration for all.

In essence, Bubble Bee by Merily embodies a set of core values that guide our mission and operations. We are dedicated to nurturing creativity, fostering connections, and making a meaningful difference in the lives of children, families, and communities while upholding the highest standards of quality and responsibility.





Nature of the Partnership:

We are deeply grateful to all our partners who have gone above and beyond in their efforts to help us achieve outstanding results. Their dedication and heartfelt commitment to our projects have been invaluable, allowing us to maintain the highest quality without concern for cost.







Textiles ❁❁❁ Storyworld ❁❁❁ Accessories

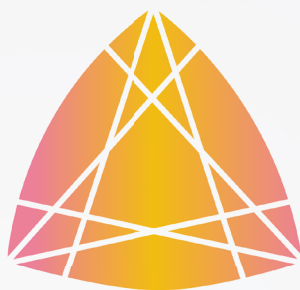
www.bubblebee.eu



ORIGINALLUXURY

INTRODUCING

CAMILLE LOUISE JEWELLERY



CAMILLE LOUISE





Company Information:

Camille Louise Jewellery S.à.r.l

ComService S.A Rue De-Candolle
Building number: 34
1205 Geneva
Switzerland

Contact Person:

Camille Merré
CEO & Co-Founder
cm@camillelouise-jewellery.com
+41799376886

Industry category

Jewellery

Website:

www.camillelouise-jewellery.com

Company Description:

Camille Louise Jewellery (CLJ) is a Swiss “phygital” (physical & digital) jewellery Maison committed to transparency-by-design and excellence, adapting to the evolving demands. Founded with a passion for craftsmanship while building the future of jewellery ownership and narrative, CLJ actively contributes to Sustainable Development Goals (SDGs) 5, 9, 10, 12, 13, and 17. Established in 2020 by Aline d’Ambricourt and Camille Louise Merré, a mother-daughter duo and GIA-certified jewellers recognized in 2023 as “Friends” of the SDG Goals House, CLJ harnesses technology to promote circularity, enhance the consumer experience, and minimize environmental impact and carbon emissions.

Number of employees: 1-10

Company’s tagline:

Beyond Jewellery



VISION

Redefining jewellery merging cutting-edge tech with traditional craftsmanship, creating pieces that exist in both physical and digital realms (tangible, physical piece and its digital twin) for an all-in-one, accessible experience.



IMPACT

Why choose between the tangible and the virtual, when you can shine in both? CLJ pieces empowers to express oneself in the physical world and the digital realm.



MISSION

To lead the industry in responsible, inclusive, and digitally-enhanced jewellery, transforming how the next generation engages both offline and online.



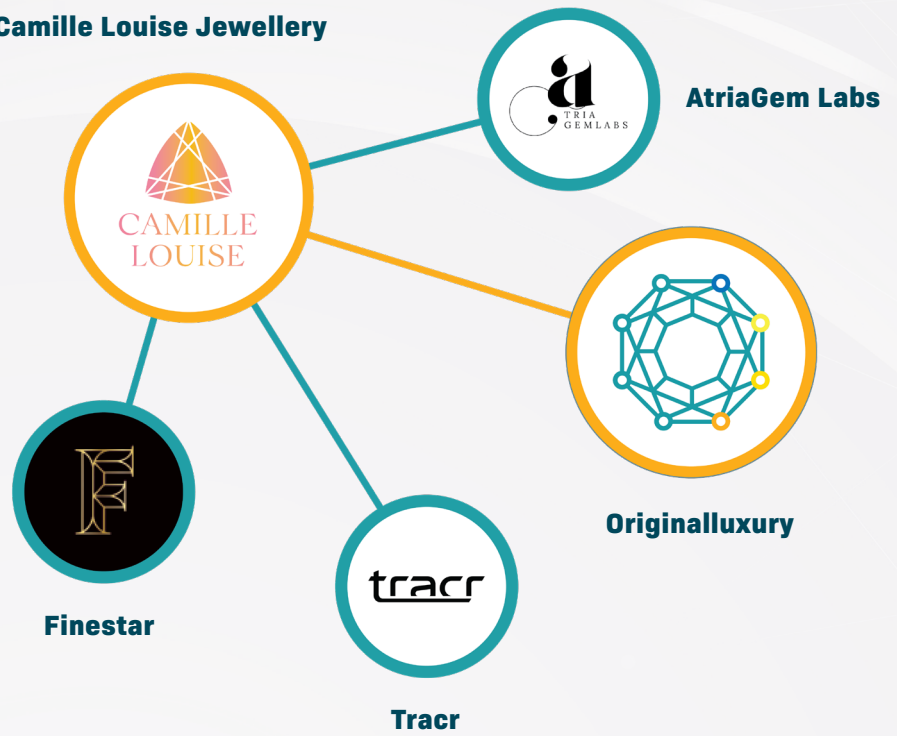
VALUES

Authenticity, Craftswomanship, Innovation, Sustainability, Social Responsibility, Integrity and Transparency.

Legend:

- Core Organization
- Partnerships
- Clients

Camille Louise Jewellery



Collaborations:

We are building an AI technology with our 2nd company AtriaGem Labs S.A (Geneva) and release it in 2025. CLJ will be a pilot brand.

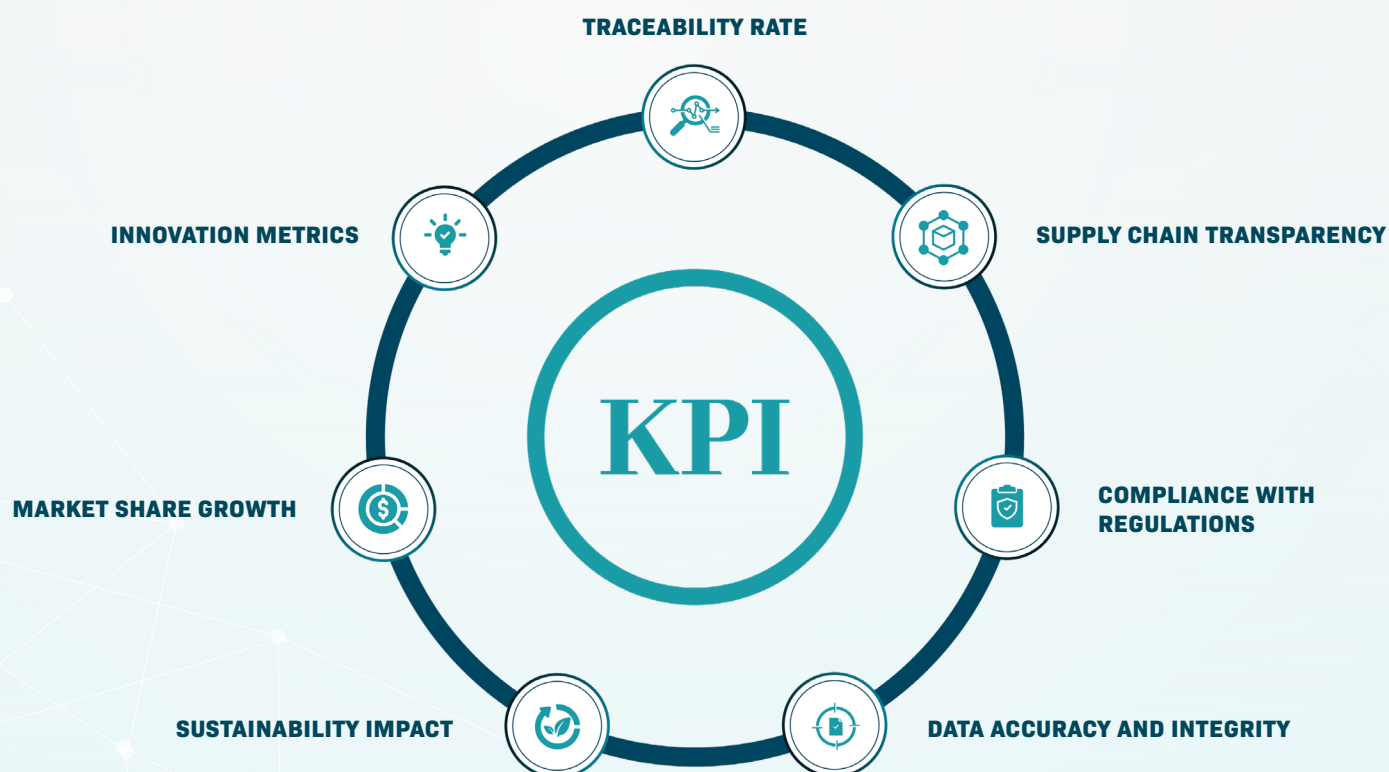
Goals House: CLJ is “friends” of Goals House, recognised as a brand shifting the dial to a more sustainable, future, incorporating the latest innovations aligning with the United Nations Sustainable Development Goals (SDGs).
<https://www.goalshouse.com/>



Technology Used:



KPIs used to measure the effectiveness of our solution.



Vision:

Outline your long-term vision for transparency and traceability best practices in the luxury sector.

At Camille Louise Jewellery (CLJ), our long-term vision for transparency and traceability in the luxury sector is deeply personal. We believe that every piece of jewelry we create carries not just beauty but also a story—a story rooted in ethical sourcing, sustainability, and respect for the communities and environments involved in its journey. Our commitment is to foster trust with our customers by ensuring that they can feel confident about the origins of their jewelry, knowing that it has been sourced responsibly and crafted with care.

We envision a luxury industry that prioritizes integrity and transparency, where brands are held accountable for their sourcing practices and where consumers are empowered to make informed choices. As we continue to grow and evolve, we aspire to set new industry standards that reflect our values of craftsmanship, sustainability, and social responsibility, resonating with our customers' desire for ethical luxury.

We hope to see a collective movement in the industry towards greater transparency, where traceability is not just an afterthought but a fundamental aspect of luxury goods. We believe that sharing the stories behind our jewellery—highlighting the artisans, communities, and ecosystems involved—will create a more meaningful connection between our jewelry and those who wear it.

At CLJ, we are excited about the possibilities that lie ahead. We are committed to collaborating with like-minded suppliers, partners, and organizations to push the boundaries of what luxury can mean in today's world. By embracing innovative technologies and fostering a culture of openness, we aim to inspire others in the industry to join us on this journey toward a more sustainable and ethically driven future. Together, we can transform the luxury sector into one that not only enchants but also uplifts, creating a positive impact for people and the planet.



INTRODUCING

CZI

CZI

The Art of Skin



The Art of Skin

Company Information:

CZI, the Art of Skin

Rue de l'Eglise 1

Crans

Switzerland

Contact Person:

Sandra Czich

Founder

sandra.czich@czi-artofskin.com

+41 (0)79 656 12 80

Industry Category

Art / Fashion and Textile / Wellbeing

Website:

www.czibeachwear.com

Company Description:

CZI, the Art of Skin is a swimwear and « Art-to-Wear » brand founded by Sandra Czich, Investment Fund Lawyer, Artist and Creative Director of the brand and her twin sons, Elie and Gabriel Chevalier.

Sandra's vision is to inspire and empower her clients with one-of-a-kind swim and resort wear created from her paintingst. CZI exclusive collections reflect confidence and freedom, showing how art and colors can elevate our spirit.

Number of employees: 1-10

Company's tagline:

The Masterpiece is You



MISSION

We create emotions and uniqueness with resort and beachwear that feature artworks, giving birth to nomadic artistic experiences.



IMPACT

Inspired by love and the beauty of nature, we want to create sustainable wealth for the next generations, embracing art and fashion to elevate the souls and empower people. Ethically responsible, we choose partners who align with our vision and values. Whenever possible, we favour craftsmanship, short hauls and recycled fibers to create our collections.



VISION

Inspire and empower people with Art-to-Wear collectibles.

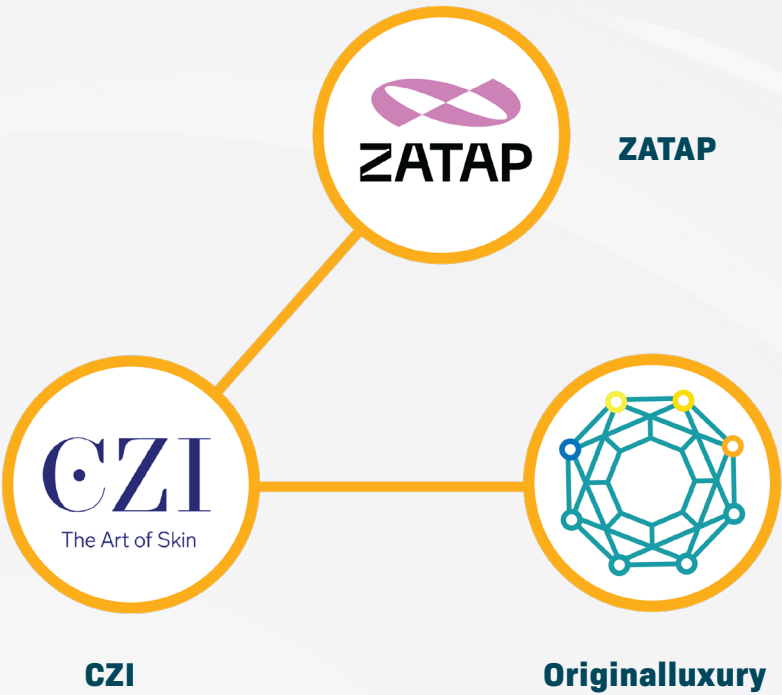


VALUES

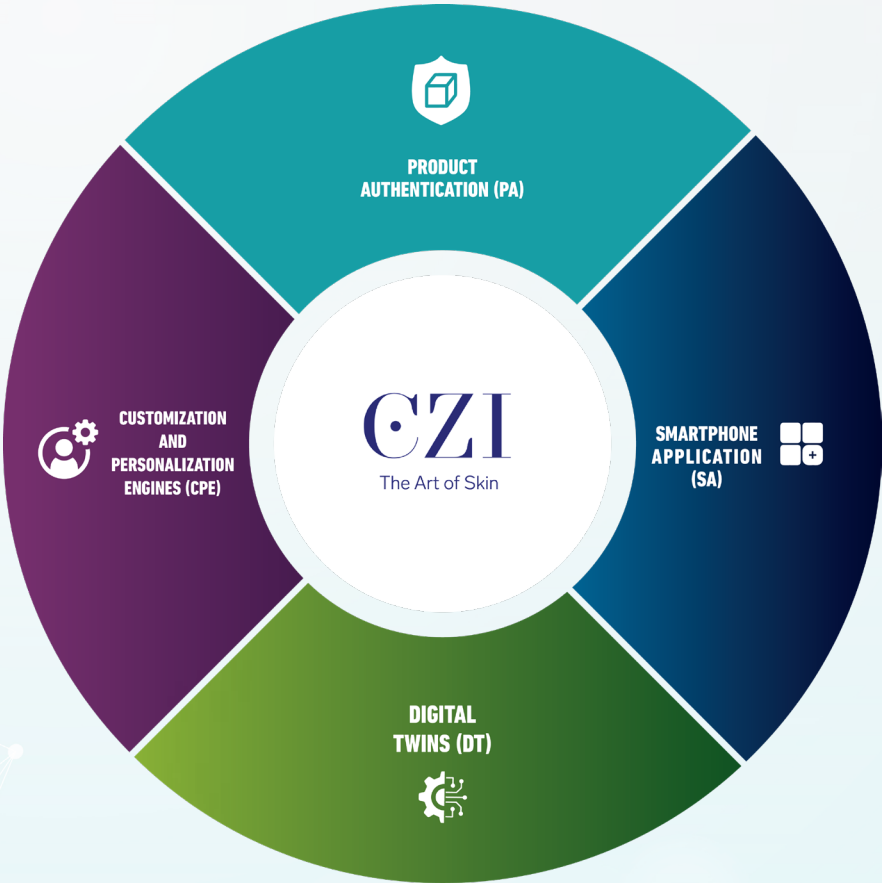
Authenticity - Innovation - Sustainability

Legend:

- Core Organization
- Partnerships
- Clients



Technology Used:



Future Developments :

Upcoming Features:

- Q4 2024 & Q1 2025 Elevate informative online content about the sourcing and craftsmanship of our collections to deliver more detailed guidance and enhance client awareness. New communication program to leverage on our transparency policy and our positioning as an ethically responsible brand.

Vision:

- We believe luxury shall be a beacon of ethical responsibility to restore trust, ensure genuine customer loyalty and engage new generations. As such, setting the standard with industry-wide frameworks and harmonized best practices on transparency and traceability is pivotal to the future of luxury. Success involves a commitment to continuous improvement with clear goals and timeline including full supply chain and sourcing visibility, zero tolerance policy, innovation, audit and reporting, aiming not only to minimize social and environmental impact but to develop regenerative practices. This translates into a redefined vision of luxury that includes the promise of a better, more sustainable future.





INTRODUCING

DIAMBEL



DIAMBEL
SEALED WITH INTEGRITY



DIAMBEL
SEALED WITH INTEGRITY

Company Information:

Diambel Group

Diambel ME DMCC

Office 28J, Almas Tower

Jumeirah Lakes Towers

Dubai, United Arab Emirates

Contact Person:

Pasmi Sanghvi

Marketing and Communications
Manager

pasmi@diambelgroup.com

+32479870121

Industry category:

Natural Rough And Polished Diamonds

Website:

www.diambelgroup.com

Company Description:

We are vertically integrated in the natural diamond pipeline, offering end-to-end solutions in rough and polished diamonds as well as jewellery.

Number of employees: 11-50

Company's Tagline:

Sealed with Integrity



VISION

Reimagining the standards in the diamond industry through ethical practices and sustainable sourcing.



IMPACT

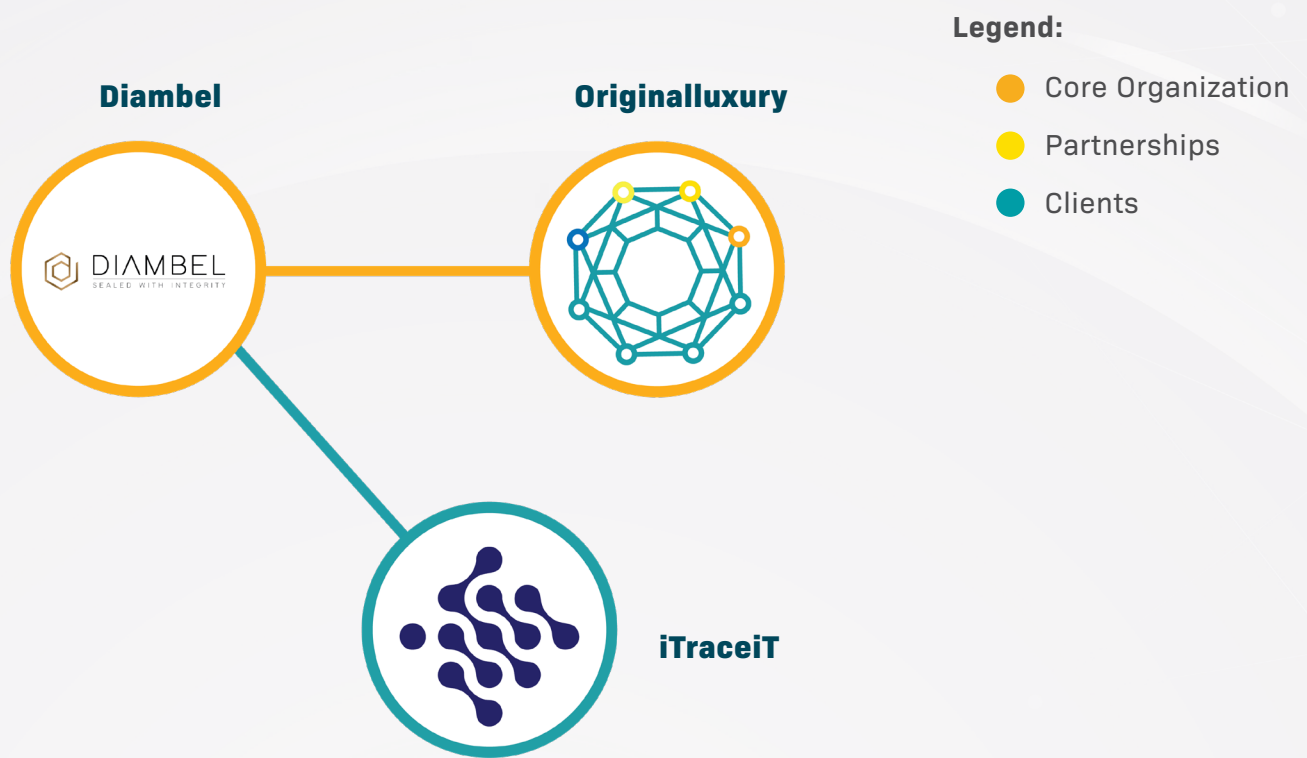
To honour the unmatched value of natural diamonds at every step of the process, we have alliances with top miners in the world. We only work with sustainably sourced natural diamonds that meet our ethical and quality standards.



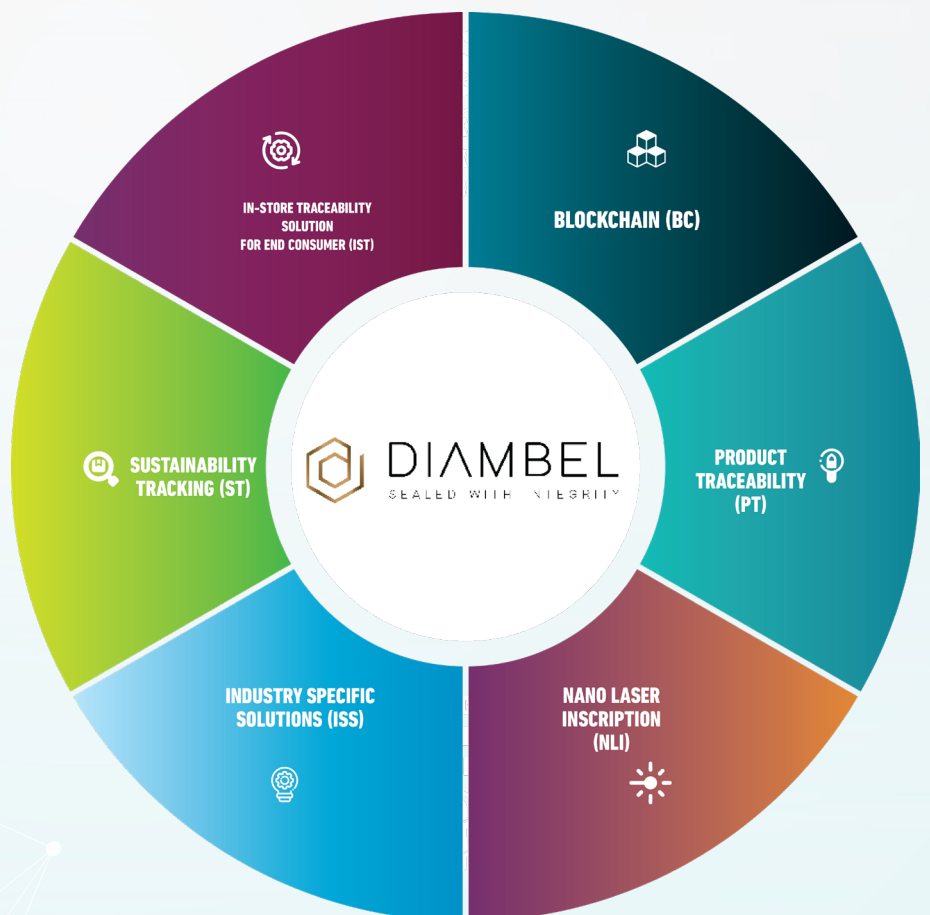
VALUES

Transparency, Relationships,
Integrity, Trust

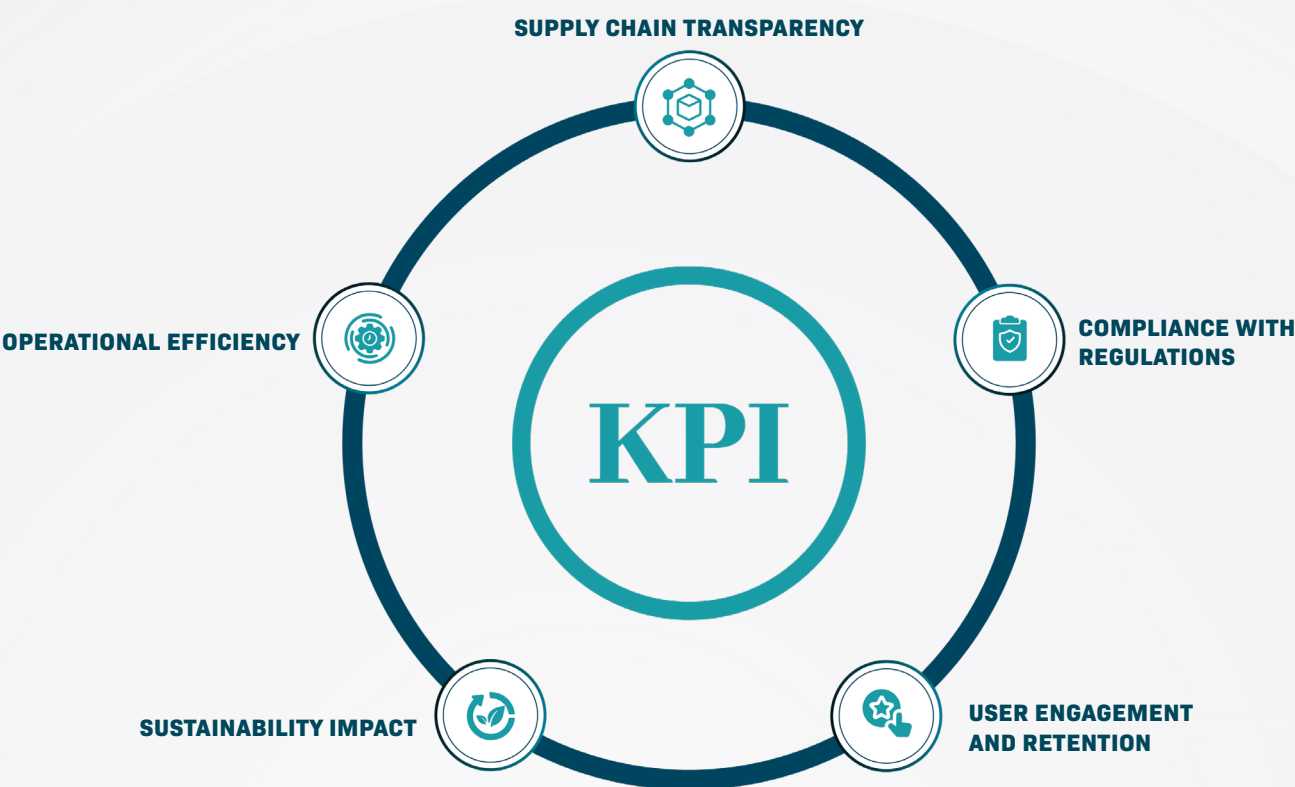




Technology Used:



KPIs used to measure the effectiveness of our solution.





ORIGINALLUXURY

INTRODUCING

DIMEXON

D I M E X O N .



DIMEXON.

Company Information:

Dimexon

Hovenierstraat 53,
Diamond Exchange Building,
9th Floor, P.O. Box 80
B-2018 Antwerp
Belgium

Contact:

+32 3 206 61 00
infobelgium@dimexon.com
Company No. BE0874584266

Website:

www.dimexon.com

Company Description:

Dimexon is a world-leading diamond manufacturer, founded in 1966 by Pankaj Mehta, and has been a De Beers Sightholder since 1976.

The family-owned company has offices around the world including in Antwerp, Dubai, Mumbai, Hong Kong and Paris.

Number of employees: >2000

Legend:

- Core Organization
- Partnerships
- Clients

Watches and Jewellery Initiative 2030



Sightholders De Beers Group



World Diamond Council



Dimexon



Responsible Jewellery Council



RioTinto Select Diamantaire





Corporate social responsibility:

- Dimexon is a fully audited member of the Responsible Jewellery Council, a signatory to the Watch & Jewellery Initiative 2030, UN Women's Empowerment Principles, and a member of the World Diamond Council.
- The manufacturer is an ESG leader within the industry, often raising the bar with voluntary standards. Dimexon is fully Anti Money Laundering (AML) compliant, and in 2005 it became the first diamond company in the world to be a voluntary signatory of the International Financial Reporting Standards (IFRS). In 2017, it began providing clients with traceability data and reporting, and then in 2023 it signed up to the Science Based Targets Initiative (SBTi) and achieved Zero Waste to Landfill (ZWL) certification in 2024.
- Dimexon produces a publicly available ESG report annually that documents all its environmental, social and governance activities, as well as setting out targets for the future.



Female empowerment:

- When Pankaj Mehta set up his manufacturing plant in Coimbatore more than five decades ago, he had a desire to break down barriers by hiring mostly local women - something unheard of at that time. Today, more than three quarters of our staff are women. We believe it is our duty as a modern, diverse and forward-thinking business to support women's rights and dignity in the workplace, creating a fairer and more productive business structure.
- Equality, fairness and female empowerment are core elements of the Dimexon DNA. Technical training and flexible working hours help us retain and promote our female staff. At our offices around the world, from Asia to Antwerp, women hold roles in account management, finance, servicing, sales and manufacturing.



Learning and development:

- As part of our commitment to maintaining a responsible and ethical workplace, we conducted a series of comprehensive training programmes to enhance the knowledge and skills of our employees. This training covered crucial topics from human rights and workplace safety to anti-bribery measures and emergency preparedness. We meticulously monitor program efficacy, track individual progress, and actively solicit feedback. By equipping our team with essential knowledge and skills, we aim to create a safe, inclusive and compliant workforce that aligns with our core values and ESG objectives.



Employee satisfaction:

- We acknowledge that our employees are pivotal to our success, and integral to our ESG objectives. Our approach to employee satisfaction encompasses promoting work-life balance, offering professional development opportunities, rewarding excellence and maintaining transparency in communication.
- Our workers receive production incentives and variable bonuses based on performance, while managers earn annual bonuses based on their achievements. This approach ensures everyone's contributions are recognised and valued.



Human rights:

- We firmly believe that ethical behaviour is the foundation of our operations and stakeholder relations. To foster such behaviour, we strive to balance operational needs with our responsibility to protect human rights. Our comprehensive human rights policy guides daily activities and actively addresses potential adverse impacts. We align our practices with internationally recognised principles, including the Universal Declaration of Human Rights, ILO Fundamental Conventions, the UN Guiding Principles on Business and Human Rights, and the International Bill of Human Rights, ensuring that our actions consistently respect and uphold these standards. We also provide comprehensive training to our employees on human rights and our policy, ensuring they uphold these standards and contribute to a respectful workplace.

Zero tolerance policy towards child and forced labour

- We have a zero-tolerance policy for unethical practices such as child labour, forced labour, harassment, and sexual abuse throughout our operations and supply chain. Any evidence of such behaviour is met with swift and decisive action, including corrective measures or the termination of business relationships. We scrutinise the documents of potential employees to confirm their age and fitness for work before hiring them.

Human rights training to security personnel

- We conduct quarterly human rights training sessions for our security guards, emphasising our policies against child labour and discrimination based on gender, caste and religion. This training equips them to handle inquiries at the factory gate, perform frisking procedures and manage potential suspects without harassment or mistreatment. In the case of any such incident, the security personnel refer the individuals to the appropriate department. The training enables the security guards to prevent potential disputes and maintain positive employee relations.

Human rights due diligence

- As part of our commitment to upholding human rights, we conduct proactive due diligence to identify and address potential violations early. Our human rights due diligence process ensures we operate responsibly and sustainably, respecting the rights of all individuals and communities affected by our operations.



Responsible sourcing policy:

- Our Responsible Sourcing Policy ensures the ethical procurement of all our diamonds, in adherence to the Kimberly Process Certificate, the World Diamond Council's System of Warranties and the Organisation for Economic Co-operation and Development (OECD) Due Diligence Guidance for Responsible Supply Chains.
- The policy ensures that Dimexon avoids any involvement in trading diamonds from conflict-affected areas, thereby promoting ethical and conflict-free sourcing practices. It involves identifying potential red flags, conducting rigorous due diligence and executing detailed risk assessments to address and mitigate any ethical concerns.



Key highlights:

Certified RJC member

- We successfully achieved recertification for a three-year period (June 30, 2022 to June 30, 2025)

First IFRS signatory

- First diamond company worldwide to voluntarily sign on to the International Financial Reporting Standards (IFRS)

WDC member

- A member of the World Diamond Council since 2014, with our director Rajiv Mehta serving on its board



Product range:

Manufacturer of high-quality, small round pavé diamonds and fancy-cut diamonds

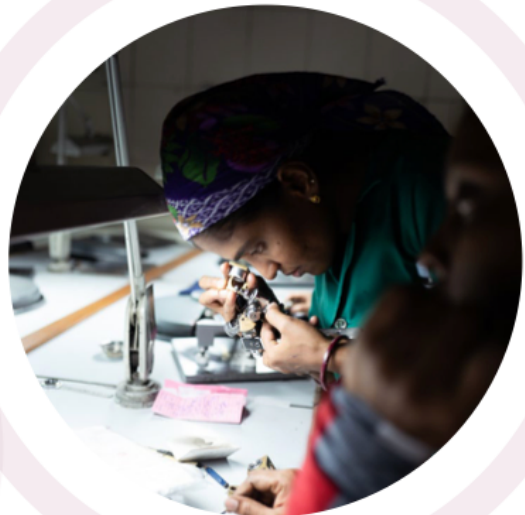
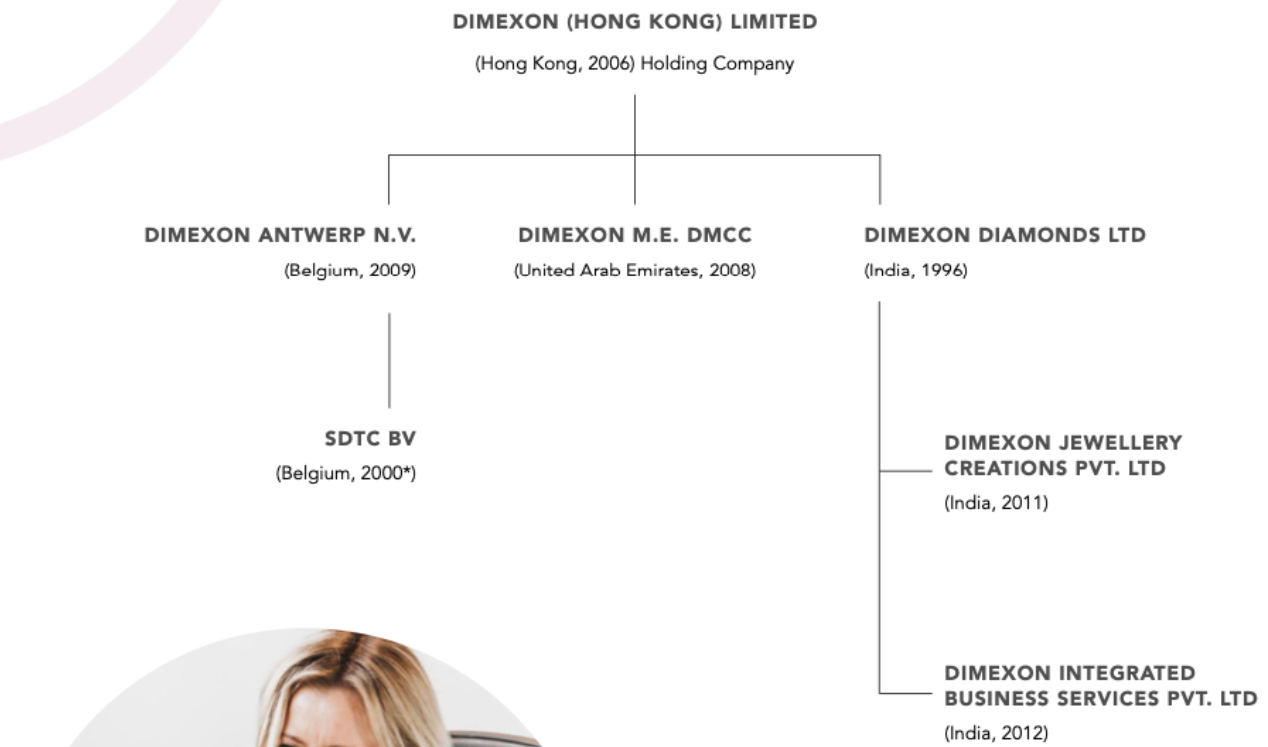


Group companies:

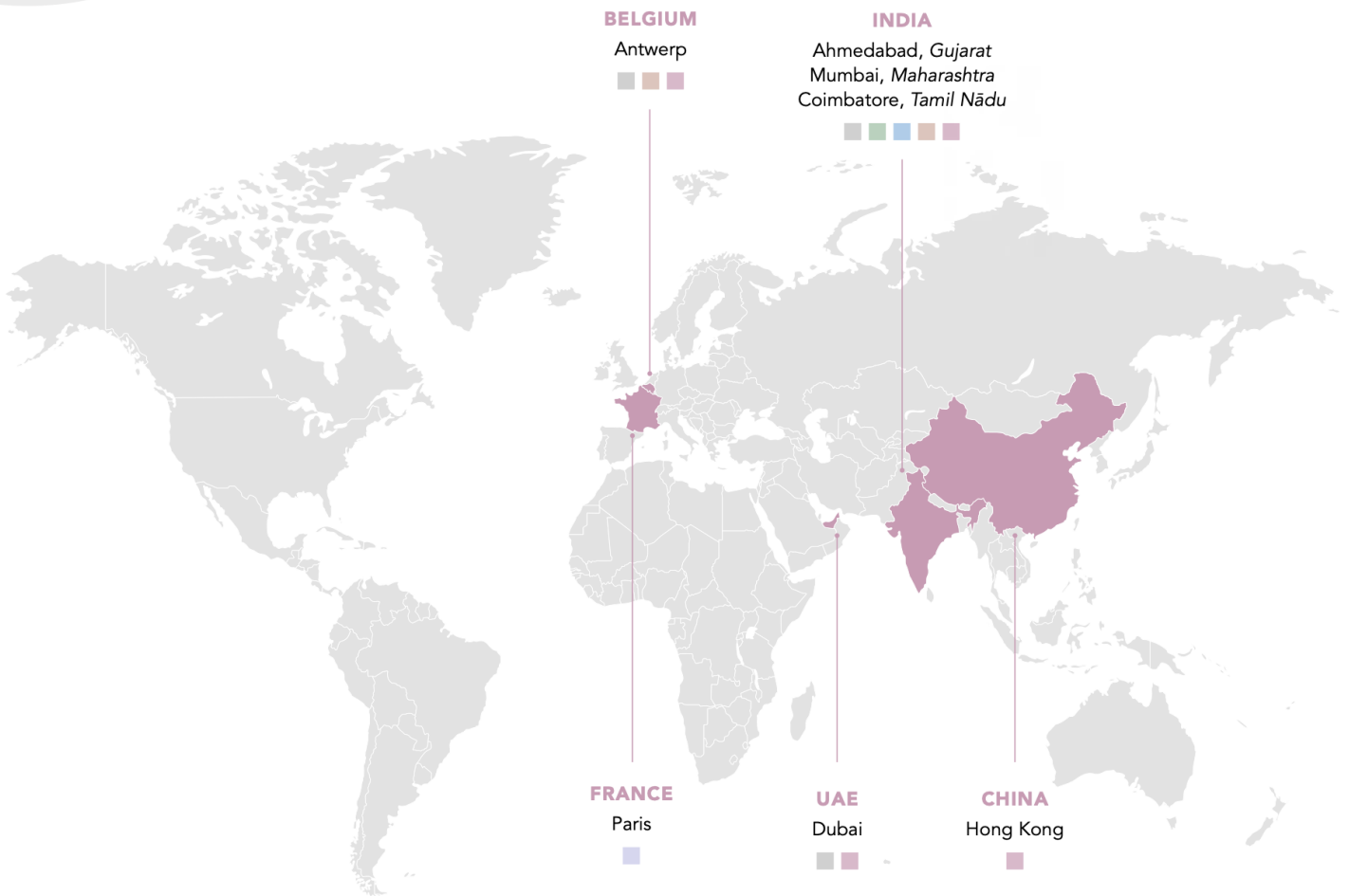
- Dimexon (Hong Kong) Limited
- Dimexon Diamonds Limited
- Dimexon Middle East DMCC
- Dimexon Antwerp N.V.
- SDTC B.V.



Group structure



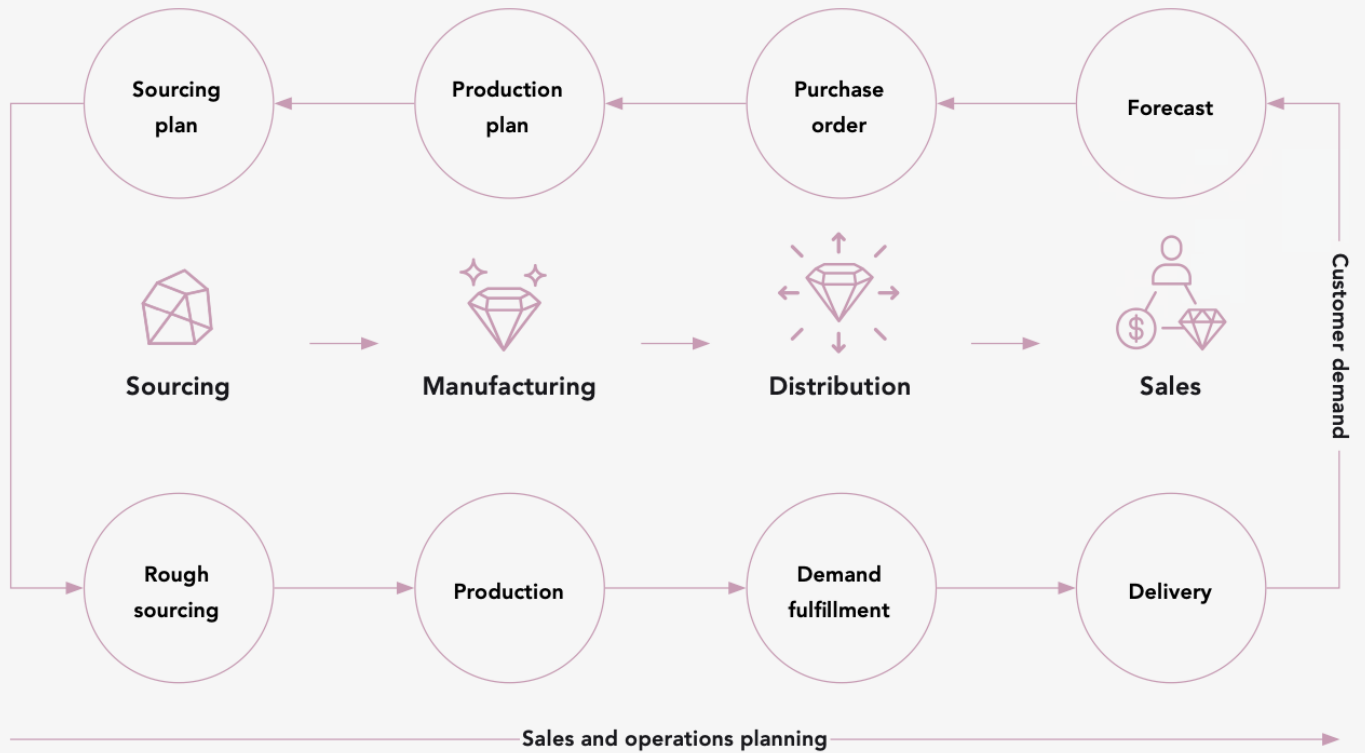
Geographic presence



ACTIVITY BY COUNTRY*

	Rough diamond sourcing	Diamond manufacturing	Polished diamond distribution	Polished diamond sourcing	Polished diamond sales	Business development
Map colour key	■	■	■	■	■	■
Antwerp	■			■	■	■
Dubai	■				■	
Ahmedabad		■				
Mumbai	■	■	■	■	■	■
Coimbatore		■				
Hong Kong					■	■
Paris						■

Our supply chain



ABOUT THE REPORT



Five steps: the assessment process

1

Analyse business priorities and compare with peers and industry leaders



2

Identify internal and external stakeholders



3

Incorporate stakeholder expectations and leadership insights to prioritise the material topics



4

Align the material topics with business objectives and risks to arrive at the final list of material topics

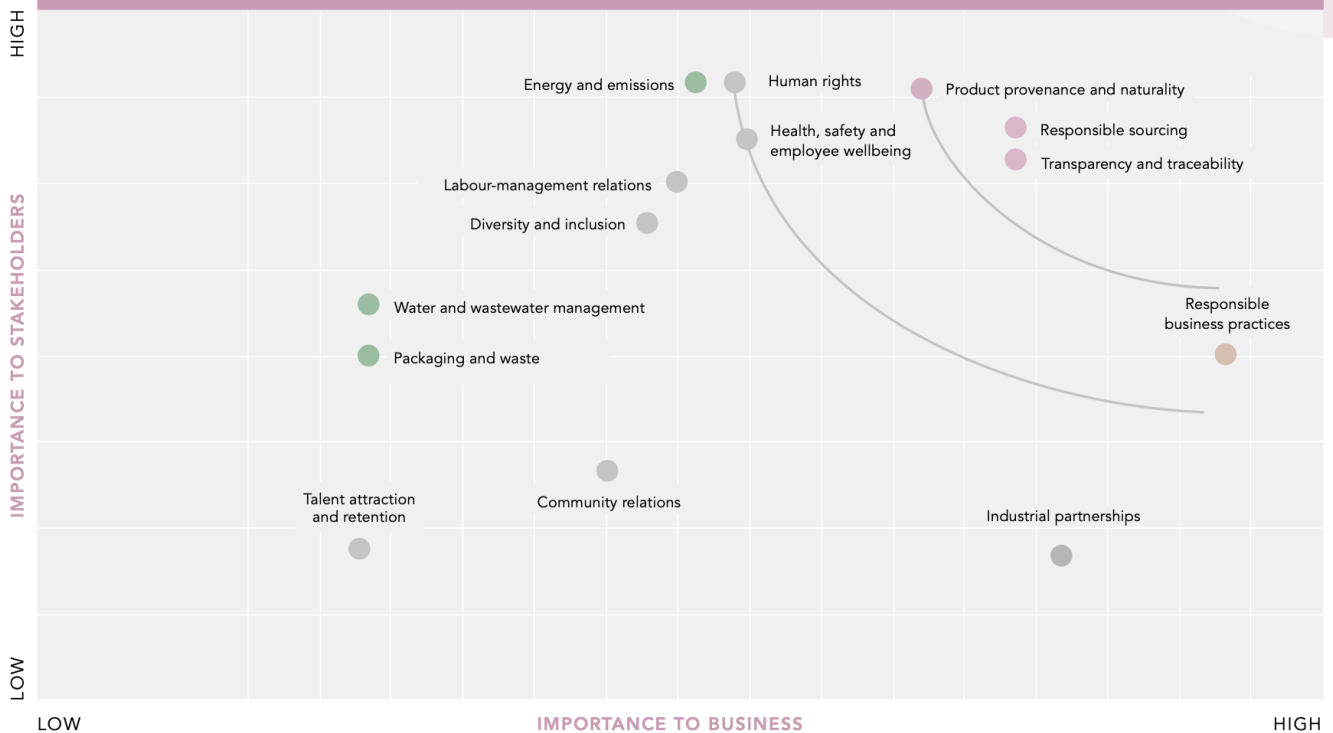


5

Develop the materiality matrix



MATERIALITY MATRIX



Pillars: ● Environmental synergy ● Product integrity ● Social stewardship ● Responsible business conduct

Key highlights



1st

Our first climate risk assessment was conducted during the year



-437GJ

Our energy consumption dropped 437 GJ compared to base year CY2019



-10.8%

A 10.8% reduction in absolute Scope 1 and 2 emissions on base year CY2019



12,783kl

We recycled and reused 12,783kl of wastewater in the business



0

We achieved zero liquid discharge at our Coimbatore manufacturing unit



Zero Waste to Landfill

Our Coimbatore site won a Gold ZWL diversion rate for recycling 93.91% of its hazardous waste, and a Platinum ZWL diversion for recycling 98.48% of its non-hazardous waste

Training highlights

2,806

The total number of staff training hours delivered*

1.35

The average training hours received per employee

100%

All employees received performance and career development reviews

ADDITIONAL POLICIES UNDER THE HUMAN RIGHTS POLICY



Read more about our approach to human rights on p55.

OTHER POLICIES

Anti-money
laundering

Counterfinancing
of terrorism

Environment

Kimberly
Process and
System of
Warranties

Prevention
of sexual
harassment in
the workplace

Product
disclosure

Product
security

Remuneration

Stakeholder
engagement

Usage of security
personnel

Working
hours

Partners in Provenance

Dimexon's 2024 ESG report demonstrates our commitment to sustainability. We believe in the power of collaboration and want to further emphasize the importance of traceability and provenance in order to commit to the future of sustainable luxury.

Report highlights for 2023:

- Reduction of 437 GJ in energy consumption (from CY2019 baseline)
- Reduction of 10.8% in Scope 1 and 2 emissions (from CY2019 baseline)
- 12,783 kL of wastewater recycled and reused
- Zero liquid discharge and zero waste to landfill certifications at our Coimbatore, India manufacturing site
- 100% of rough and polished diamond suppliers aligned with Dimexon's Responsible Sourcing Policy
- 100% traceability information for individual diamonds and multi-stone packages.



ORIGINALLUXURY

INTRODUCING

FACET

F A C E T



FACET

Company Information:

FACET

Offices: Barcelona, Cordoba, New York, Düsseldorf

Contact Person:

Jose Miguel Serret
CEO & CO-FOUNDER
facet@facet.es
(+34) 933 633 480

Industry category:

Jewellery

Website:

www.facetbarcelona.com

Company Description:

Founded in 1987, FACET is a global leader in sustainable jewellery, known for high-quality, fully integrated manufacturing.

With RJC CoP and CoC certifications across both production centres, FACET stands out for its commitment to sustainability and responsible practices.

As a Certified Tracemark Factory, it is the first luxury jewellery manufacturer to prove sustainability through certified, audited traceability.

Its focus on innovation and craftsmanship has earned the trust of the main international jewellery brands.

Number of employees: 201-500

Company's tagline:

A global leader in sustainable jewellery, known for excellence in end-to-end, high-quality craftsmanship.



MISSION

Our mission is to deliver high-quality jewellery tailored to each client's needs, nurturing strong and lasting partnerships. Guided by excellence, commitment, and transparency, we build long-lasting relationships that support a sustainable future.



VISION

To be the global benchmark in sustainable and high-quality jewellery manufacturing, offering tailored, responsible, and local solutions that empower each of our clients.



IMPACT

At FACET, they believe that excellence in jewellery manufacturing goes hand in hand with responsibility. As proud members of the RJC under both CoP and CoC certifications and Certified Factory of Tracemark, they lead the way in transparency and certified traceability for the jewellery we craft.

Our commitment to sustainability is tangible:

Our Cordoba factory is powered by renewable energy through a 68.61 KWp solar panel installation.

We promote social responsibility through the implementation of our Gender Equality Plan.

Company's values



Honesty



Transparency



Cooperation



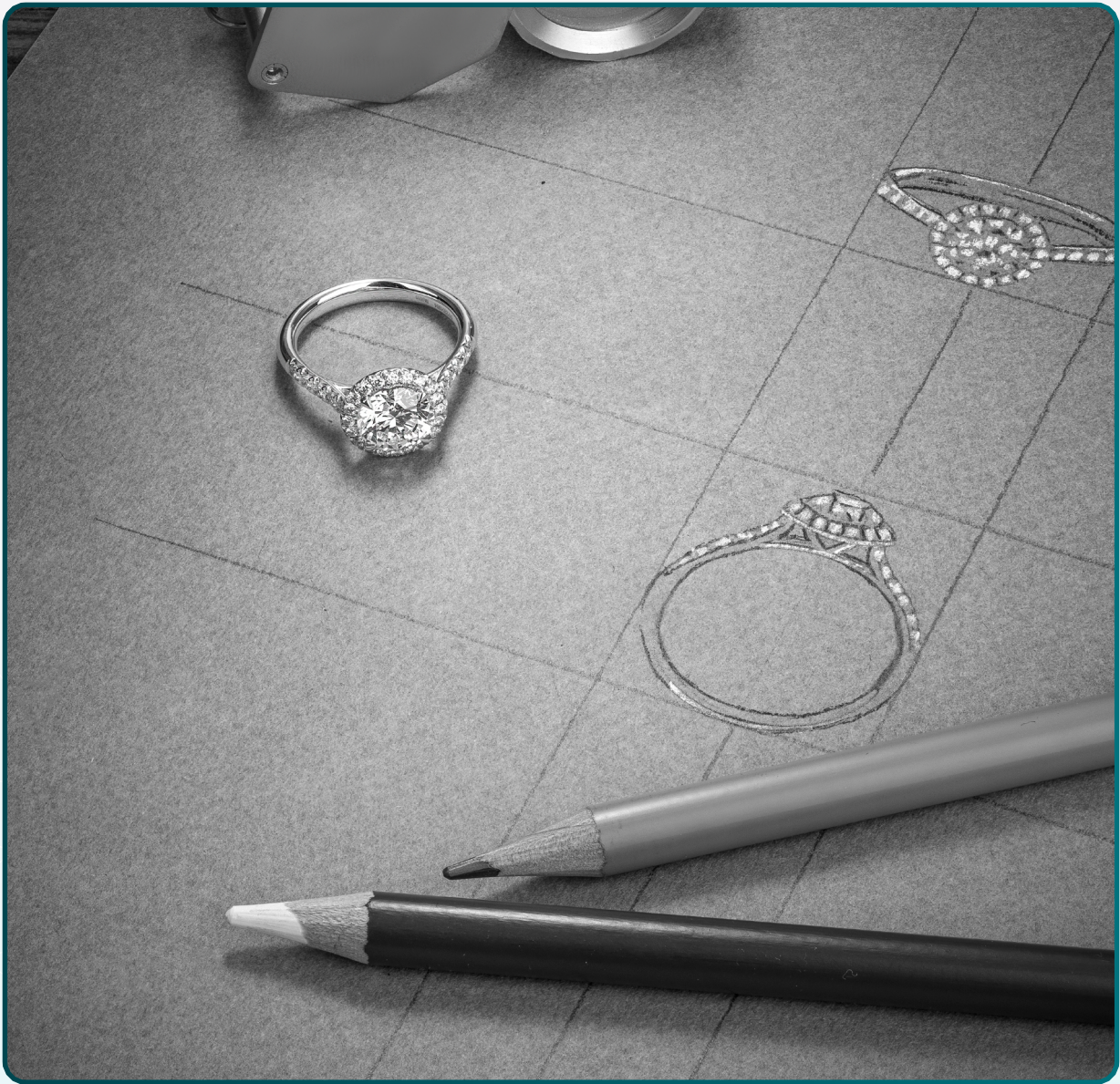
Excellence



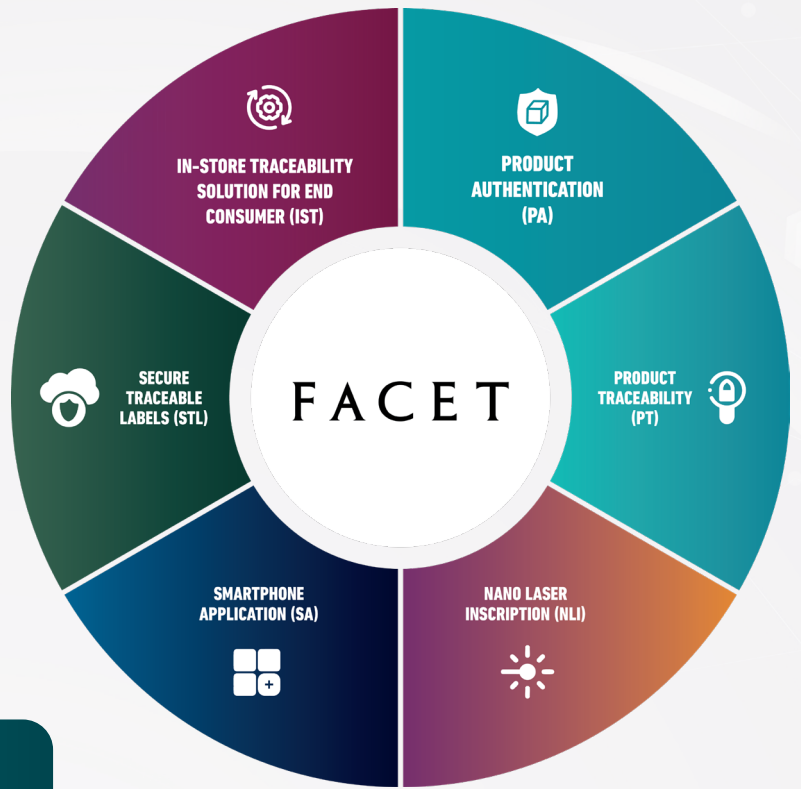
Sustainability



Teamwork



Technology Used:



Sustainability Programs:

FACET applies a comprehensive strategy to reduce its environmental impact:

- **Sustainable Facilities:**
Renovation of the facilities in Córdoba (October 2023) ensuring energy efficiency and the sustainable use of resources.
- **Renewable Energy:**
Installation of solar panels at the Córdoba factory with a capacity of 68.61 KW, significantly contributing to emission reductions.
- **Full Traceability with Tracemark:**
Increase and ensure traceability across all product lines and develop new sustainable practices aligned with the Sustainable Development Goals (SDGs).
- **Responsible Sourcing Materials:**
Since 2016, we have used recycled CoC gold sourced from RJC-certified suppliers and responsibly sourced raw materials in all our collections, combining craftsmanship with technology and innovation to guarantee a high-quality and ethically valuable product.

Economic Impact:

In 2020, FACET expanded its operations by establishing a jewellery manufacturing facility in Córdoba, Spain, creating 80 skilled jobs and reinforcing its commitment to local industry and innovation.

Number of items tracked through traceability solutions:

- 50.000

Future Developments:

Vision:

FACET is committed to adhering to a strict Plan until 2030 based on the following areas:

- Certifications: Renew and strictly comply with RJC, CoC, and COP certifications and audits.
- Partnerships: Continue to actively participate in associations that promote sustainable and responsible jewellery.
- Full Traceability: Increase and ensure traceability across all product lines and develop new sustainable practices aligned with the Sustainable Development Goals (SDGs).
- Process Innovation: Implement new production technologies that reduce energy consumption and pollutant emissions.

Additional Information:

Certifications and recognitions:

- RJC COP
- RJC COC
- Tracemark Certified Factory
- BEST PYME (medium company) OF CORDOBA 2023
- LEADERSHIP AWARD IN IMPLEMENTING RESPONSIBLE AND SUSTAINABLE PRACTICES WITHIN THE JEWELLERY INDUSTRY, by the Provincial Association of Jewellers, Silversmiths, and Watchmakers of Cordoba, Spain



INTRODUCING
FAIREVER





Company Information:

Fairever GmbH

Torgauer Strasse, 231

Leipzig

Germany

Contact Person:

Desiree Binternagel

CEO

desiree@fairever.gold

+49 34 12182 9080

Industry category:

Jewellery

Website:

www.fairever.gold

Company Description:

**Supplier of Fairtrade certified gold,
Fairmined certified gold.**

Number of employees: 1-10

Company's Tagline:

**Together, we can make fair gold
the new norm.**



IMPACT

People bring about change.

Our community has impacted the lives of thousands already. The premiums that were generated through the sales of Fair Gold and Silver helped to build new schools and other facilities. New renaturation projects were started, infrastructures improved and solar panels installed.



VALUES

150 million people are dependent on artisanal and small-scale mining. We are on a mission to support.



MISSION

Our mission is to enable mining communities so they can work under safe conditions and live in an intact environment. Together, we can make fair gold the new norm.



VISION

TOGETHER FOR FAIR GOLD.

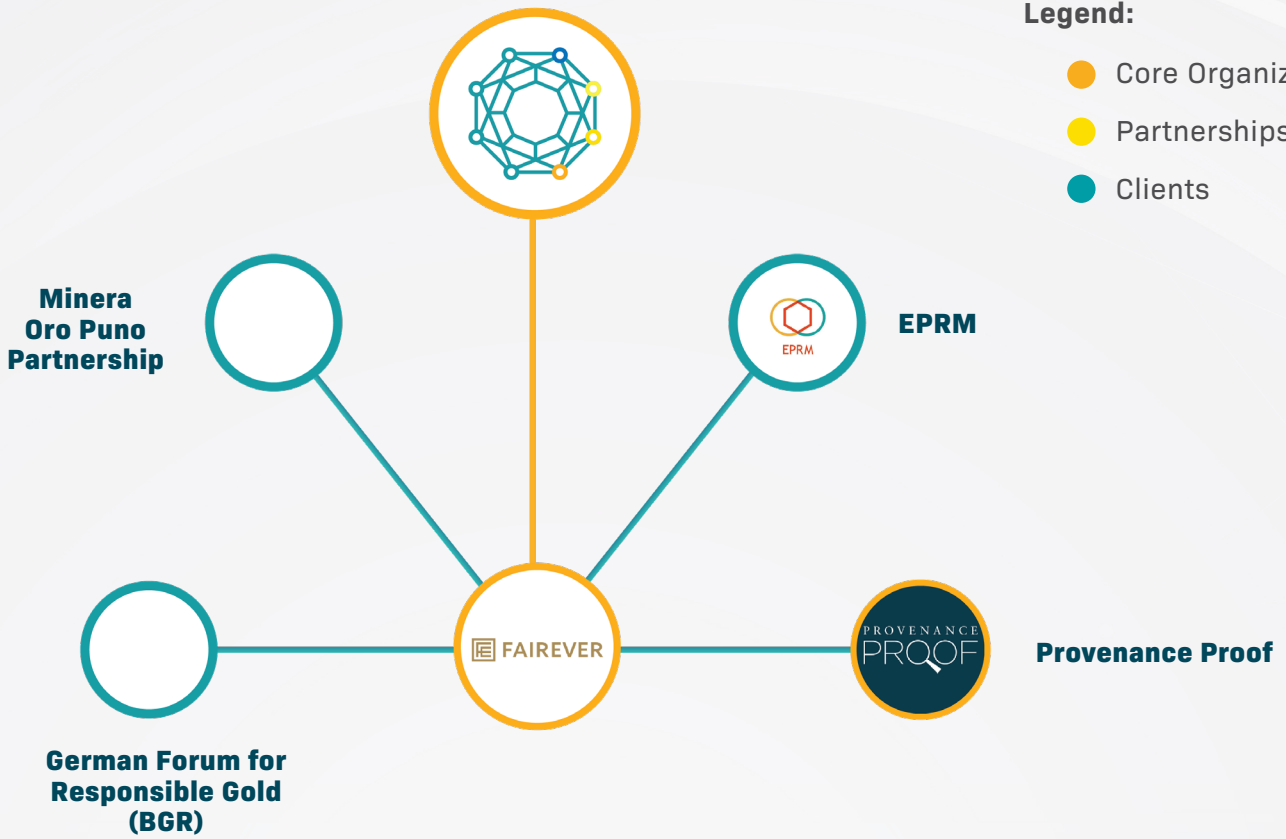
At Fairever, we are dedicated to making a difference for mining communities. Our commitment to sourcing and supplying Fairtrade Gold, Fairmined Gold and Fairmined Silver, as well as promoting sustainable mining practices, sets us apart. We believe in the power of ethical jewelry to create a positive impact on communities and the environment.



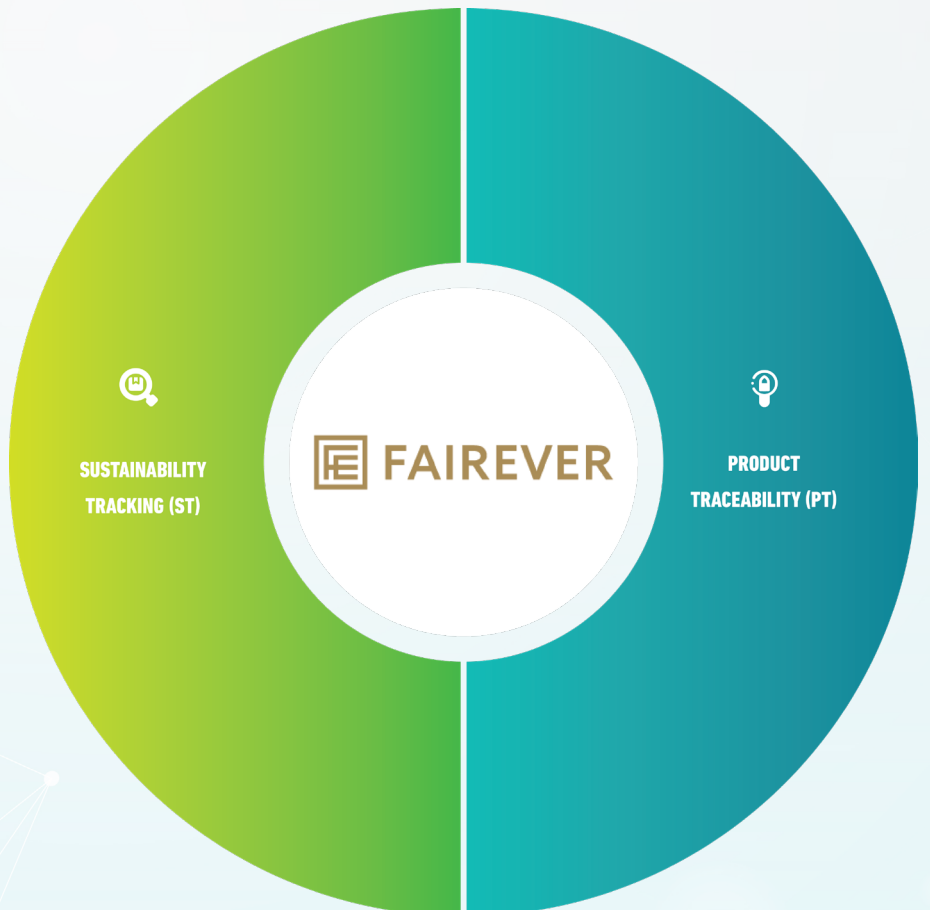
Originalluxury

Legend:

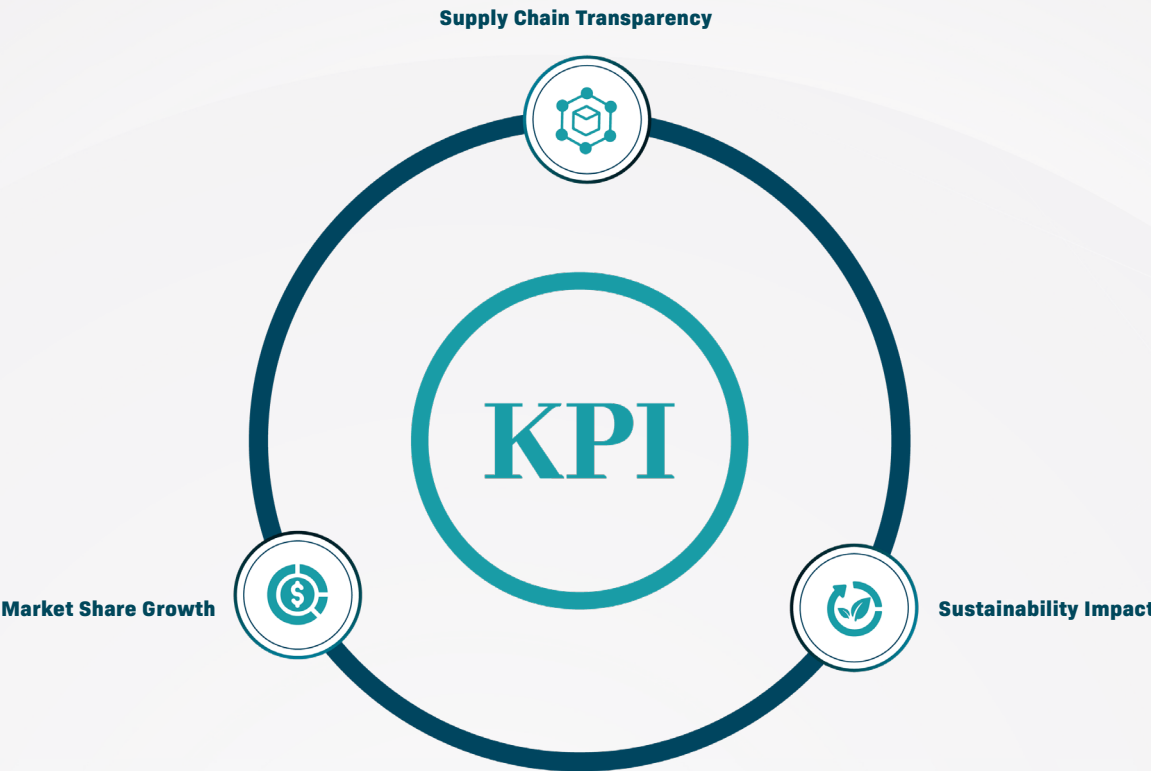
- Core Organization
- Partnerships
- Clients




Technology Used:



KPIs used to measure the effectiveness of our solution.



Data Points for solution:

-  Number of items benefiting from our solution
 - 100 % of our products are tracked via Fairmined Connect and FloCert.
-  Amount of financial support provided to communities
 - Up to the end of 2024, we have generated through our sales almost 1 Million USD in form of a social premium for mining organizations in the Global South.



Additional Information:

Certifications and recognitions:

- German Sustainability Award 2024.

Support Contact:

- desiree@fairever.gold



Fairever is a Fairtrade certified supplier of Fairtrade Gold and Silver. This seal stands for Fair Trade.



Fairever is a Fairmined authorized supplier for Fairmined Gold and Silver.

The Fairmined and Fairtrade product seals for gold ensure that the gold has been fairly mined and traded and is directly traceable at all stages of production. With every purchase, you are directly contributing to the sustainable development of communities by enabling fairer trading conditions, social change, and environmental protection.



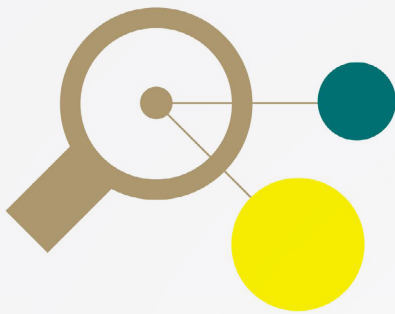
Gold is our chance to have an impact.

- Safe or no use of toxic chemicals
- Water supplies are protected
- Renaturation measures are applied



Gold is our chance to have an impact.

- Fair wages & social premiums are paid
- No child labor allowed
- Women are empowered



Gold is our chance to have an impact.

- Supply chains are 100 % transparent
- Certified by independent auditors
- No links to conflict situations



ORIGINALLUXURY

INTRODUCING

FREDERIQUE CONSTANT



**FREDERIQUE CONSTANT
GROUP**

FREDERIQUE CONSTANT - ALPINA WATCHES - ATELIERS DEMONACO





**FREDERIQUE CONSTANT
GROUP**

FREDERIQUE CONSTANT - ALPINA WATCHES - ATELIERS DEMONACO

Company Information:

Frederique Constant

Chemin du champs des filles, 32
Geneva
Switzerland

Contact Person:

Pia Paterno
Compliance Manager
ppaterno@frederique-constant.com
+41(0)22 556 2099

Industry category:

Watches

Website:

www.frederiqueconstant.com

Company Description:

Frederique Constant is a company founded in 1988 in Geneva with a rich history of crafting exquisite timepieces. Our pieces blend timeless elegance with Swiss precision, embodying the essence of luxury and our commitment to excellence is reflected in our in-house calibers and attention to detail.

Number of employees: 51-200

Company's Tagline:

Live your passion



IMPACT

Inspiring Generations: Our Timeless Commitment



MISSION

Let more people enjoy luxury



VISION

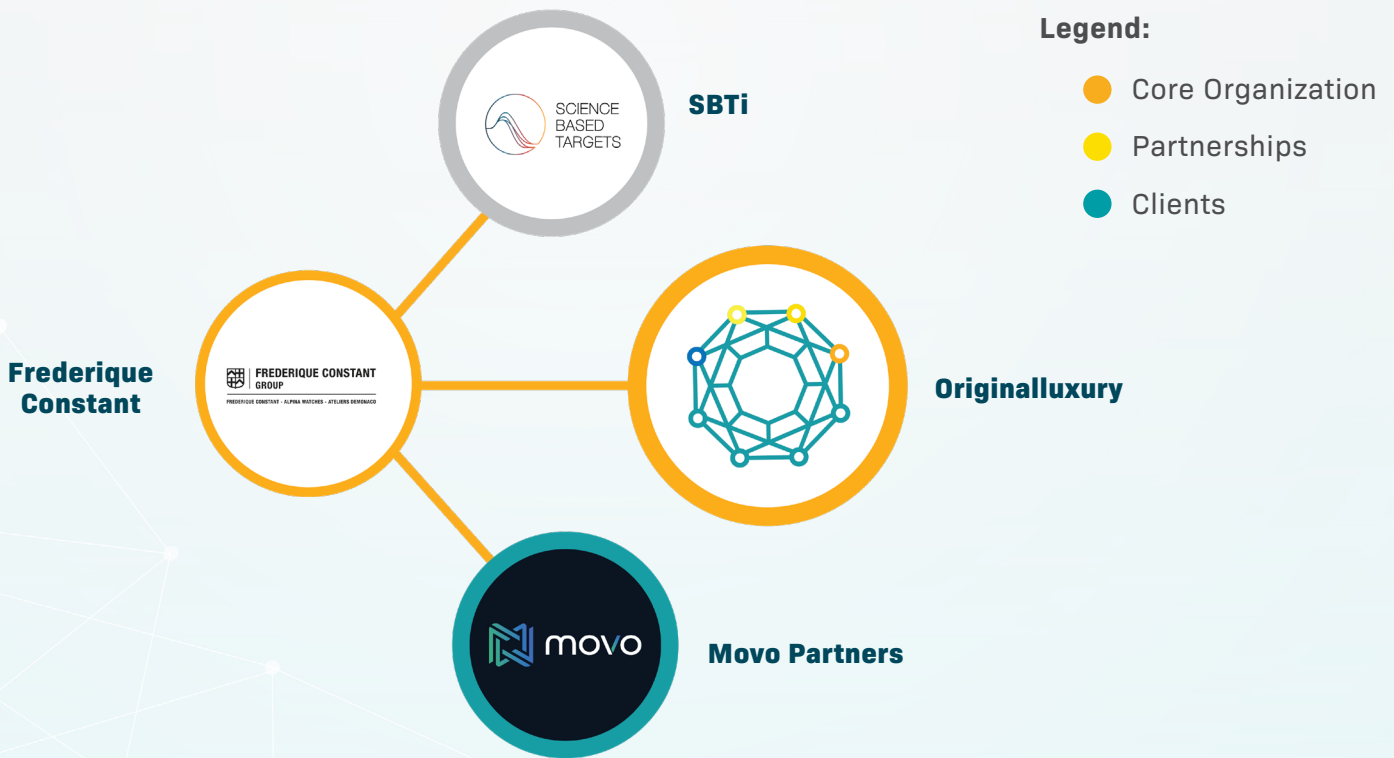
Our commitment extends beyond craftsmanship; it's a promise to honor time, people, and our planet.



VALUES

- Achievement
- Honesty
- Efficiency
- Creativity
- Cooperation
- Personal Development







We aim to ensure traceability for the raw materials we use, also holding our partners accountable to high standards, through a system which audits our suppliers.

Socio-Economic Actions:



Sustainability Programs:

We are working on our Sustainability project, which is based on the pillars of CSR, social, environmental and governance, implementing within each of these concrete initiatives and objectives to align with the 2030 agenda.



Economic Impact:

Our current projects are oriented towards a better use of energy resources mainly, as well as the elimination of plastics and non-recyclable materials from our products. With regard to raw materials, we are working on a strategy to align our suppliers to our traceability objective.





INTRODUCING

KP SANGHVI



K P S A N G H V I
S I N C E 1 9 6 5



Company Information:

KP Sanghvi & Sons

Contact Person:

Aadesh Sanghvi
Executive Director
aadesh@kpsanghvi.com
+91-9323213337

Industry category:

- Exclusive Natural Diamonds
- Jewellery

Website:

www.kpsanghvi.com

Company Description:

Founded in 1965, KP Sanghvi & Sons is a distinguished third-generation family business renowned for excellence in sourcing, trading, and manufacturing high-quality diamonds. As a De Beers Sightholder, Select Diamantaire of Rio Tinto & Namdia, we uphold an unwavering commitment to quality, innovation, and ethical integrity.

Leading the diamond industry through cutting-edge technology, we craft diamonds with precision while maintaining a responsible, sustainable approach. Our adherence to the Responsible Jewellery Council (RJC) and Best Practice Principles (BPP) ensures a fully audited, traceable supply chain backed by rigorous in-house and third-party verification.

With a global presence, we serve luxury retailers and brands worldwide, delivering only the finest diamonds. Beyond business, we are dedicated to sustainability, women's empowerment, and rural education, aligning our initiatives with the Watch and Jewellery Initiative 2030 and the United Nations Sustainable Development Goals.

Number of employees: 7000+



MISSION

To place our clients at the heart of everything we do, delivering precision-crafted diamonds that reflect their unique needs while upholding the highest standards of transparency and responsibility.



VISION

To redefine the diamond industry by embedding transparency, integrity, and craftsmanship at the heart of every process, creating enduring value for our clients, our communities, and the planet.



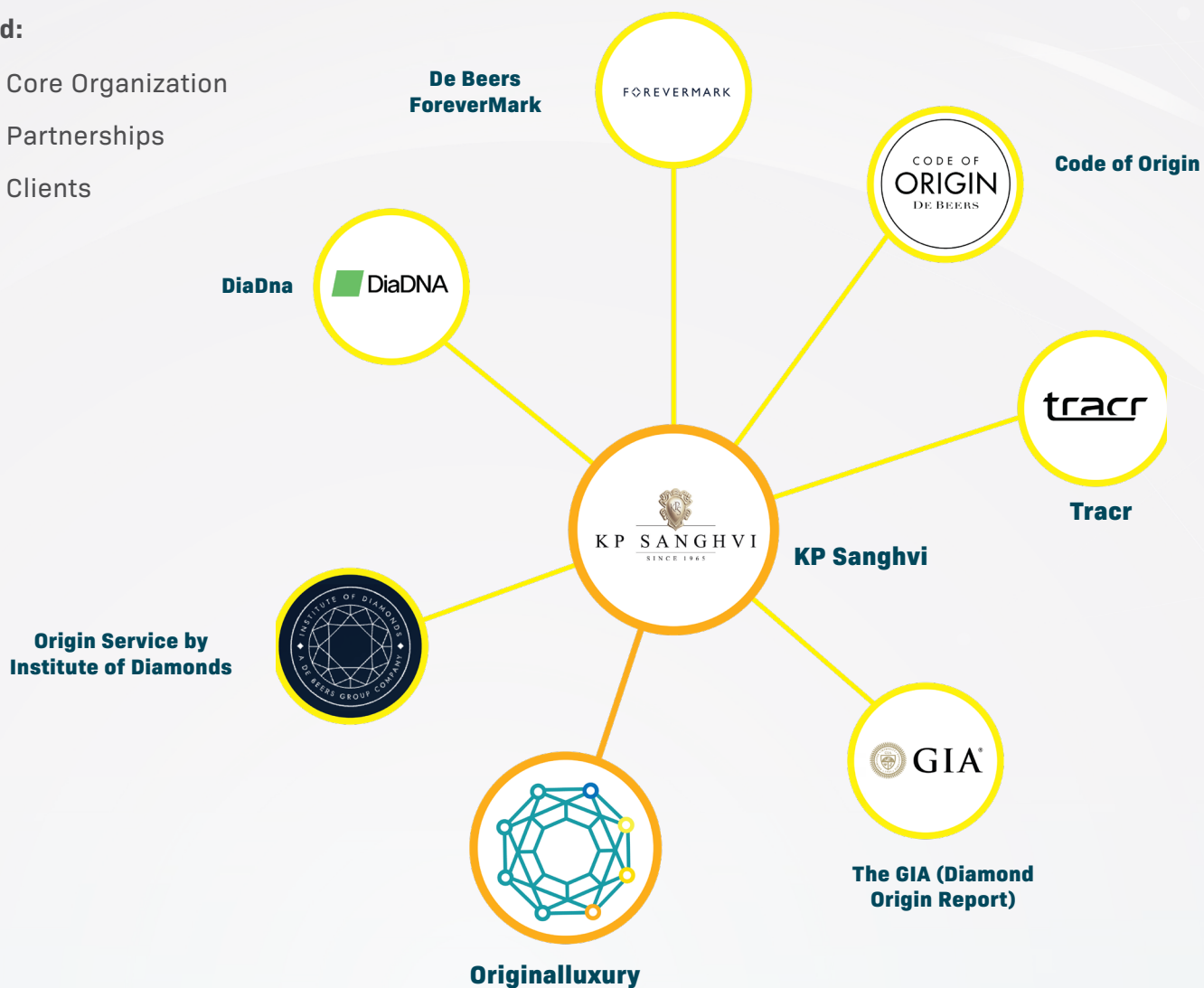
IMPACT

KP Sanghvi transforms lives and landscapes through responsible luxury, integrity, and innovation. We empower communities, uphold ethical practices, and minimize environmental impact while setting new industry benchmarks. By supporting artisans, fostering trust, and driving sustainability, we create a lasting legacy that balances growth with care for people and the planet.

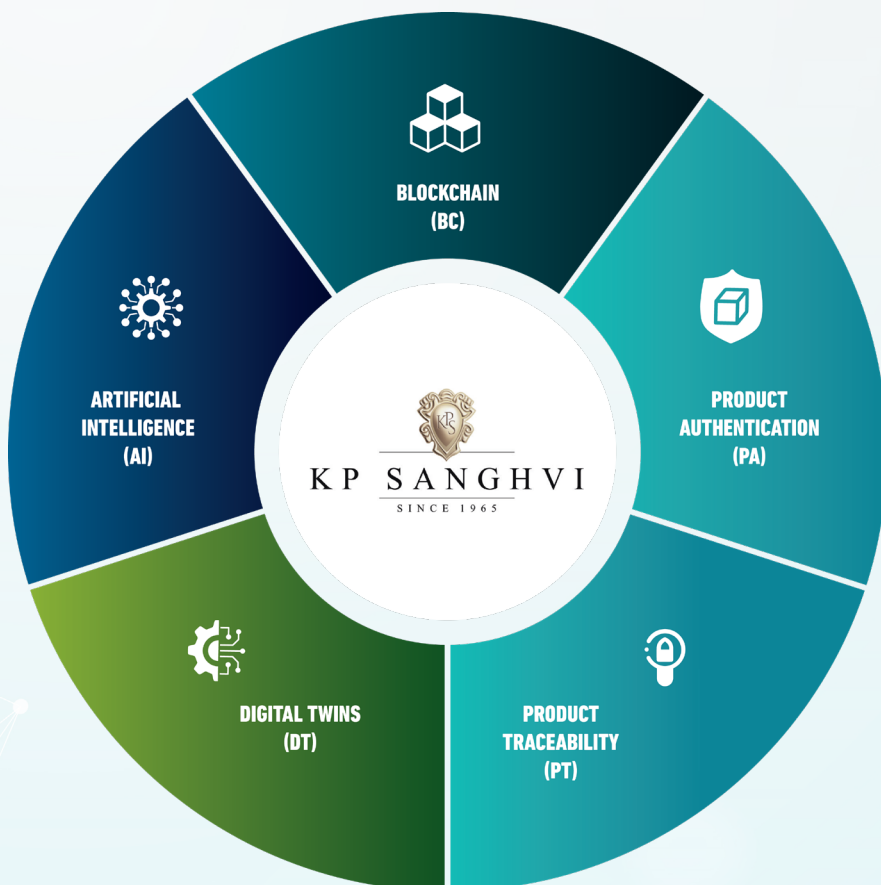


Legend:

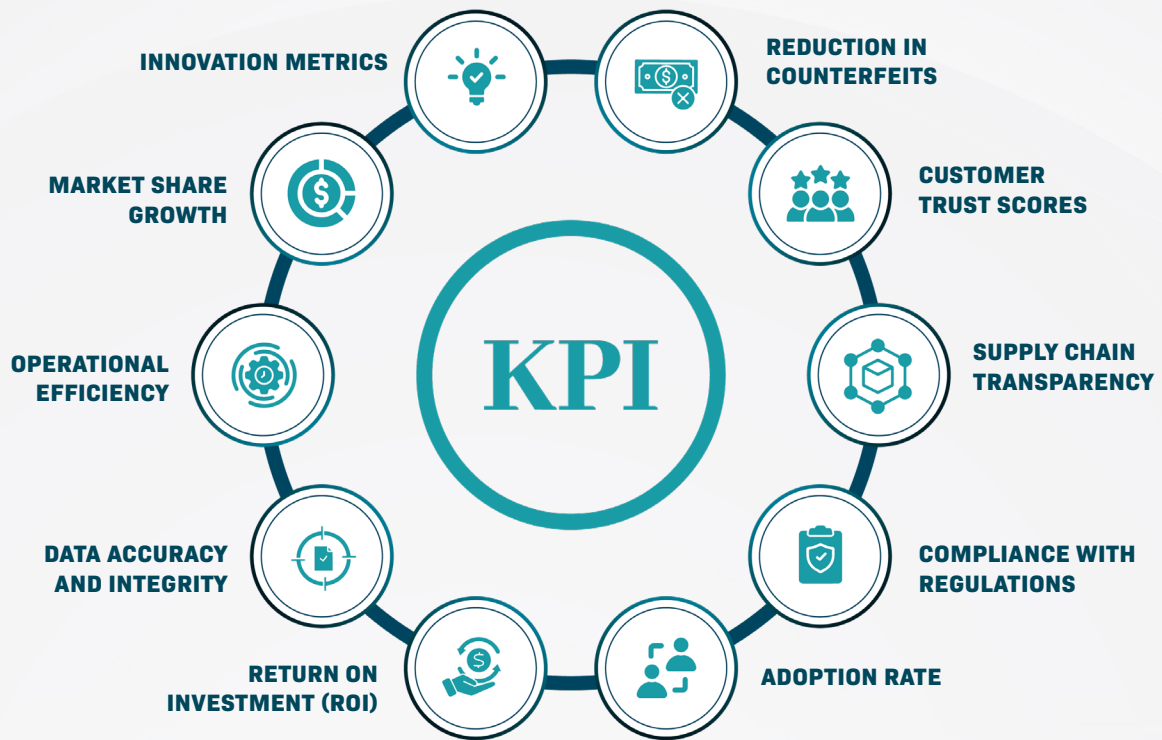
- Core Organization
- Partnerships
- Clients



Technology Used:



KPIs used to measure the effectiveness of our solution.



Qualitative Data :

Success Stories: Provide detailed success stories or case studies highlighting significant achievements and benefits.

- DE BEERS (Code of Origin, TRACR, Origin Story)
- RIO TINTO (Argyle Browns, Diavik Sourced)
- Other programmes with global retailers

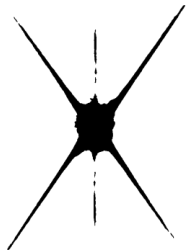
Contact Information:

- Aadesh Sanghvi - aadesh@kpsanghvi.com

INTRODUCING

LA LUCE





Company Information:

**LA LUCE DI JOY HARVEY E MARCO
ROSSI SNC SB**

LA LUCE

Via s.giovenale, 86

Rimini

Emilia Romagna

Italy

Contact Person:

Joy Harvey

Founder

joyharvey@lalucegioielleria.com

+39 335 150 5982

Industry category:

Jewellery

Company Description:

La luce is a labour of love, founded by a mechanical engineer and a chemist. Each jewel is completely handmade from grains of exclusively Fairmined Gold and Silver by one goldsmith, Joy. To her, this is the only way to truly bring her vision to life. Each of the 5-10 pieces produced per year is one of a kind and made of materials that have a positive impact on the earth and its inhabitants. La luce uniquely combines a love for traditional techniques, impeccable taste, and a profound need to truly responsibly source its materials, and energy and dispose of its waste. For this reason, in 2024 la luce became a certified B-Corp. "Bringing to life my creations, imperfect and stunning is the greatest form of privilege. Instead of searching for perfect, geometric, pristine beauty, these jewels are inspired by moulds, dying flowers, and mosses, uneven textures, and aged surfaces. I play with scratches, oxidations, and irregular facades, creating beauty through balancing the unbalanced."

Number of employees: 1-10



IMPACT

La luce writes a detailed impact report each year, highlighting what we have achieved and where we fell short each year, it's available for everyone on our website.



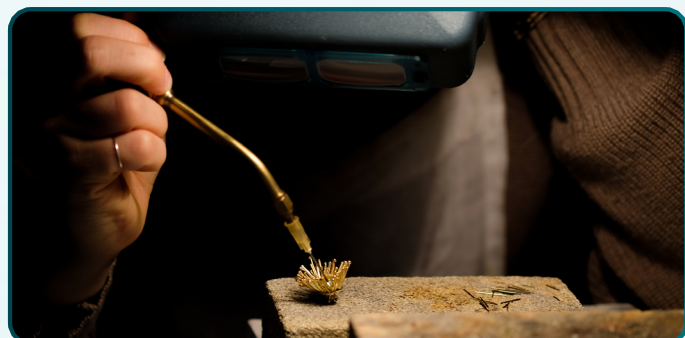
MISSION

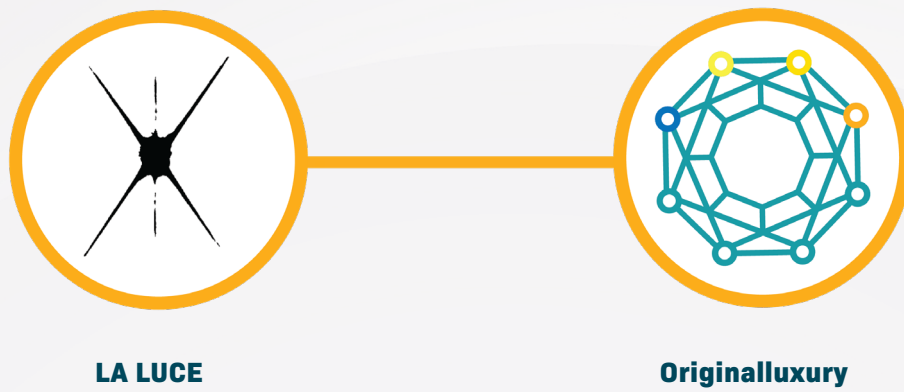
We strive to create the most beautiful, meaningful, and immortal jewellery with a fully environmentally and socially responsible supply chain. In particular, we focus on giving back to the mining communities and on providing services to make our jewellery everlasting.



VALUES

Our company is based on 2 pillars, handmaking and responsible sourcing, none is open to unnecessary compromises.

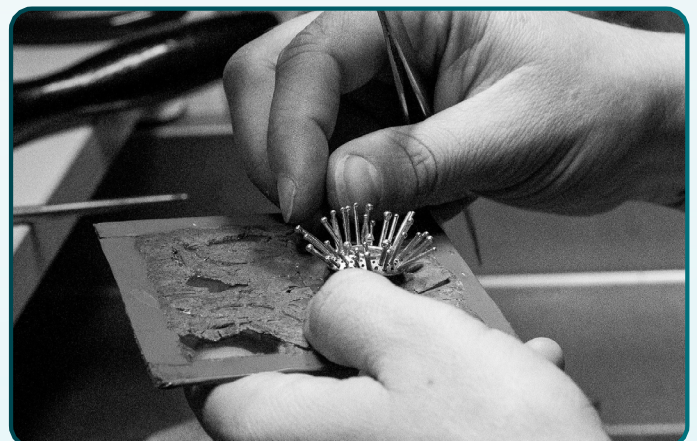
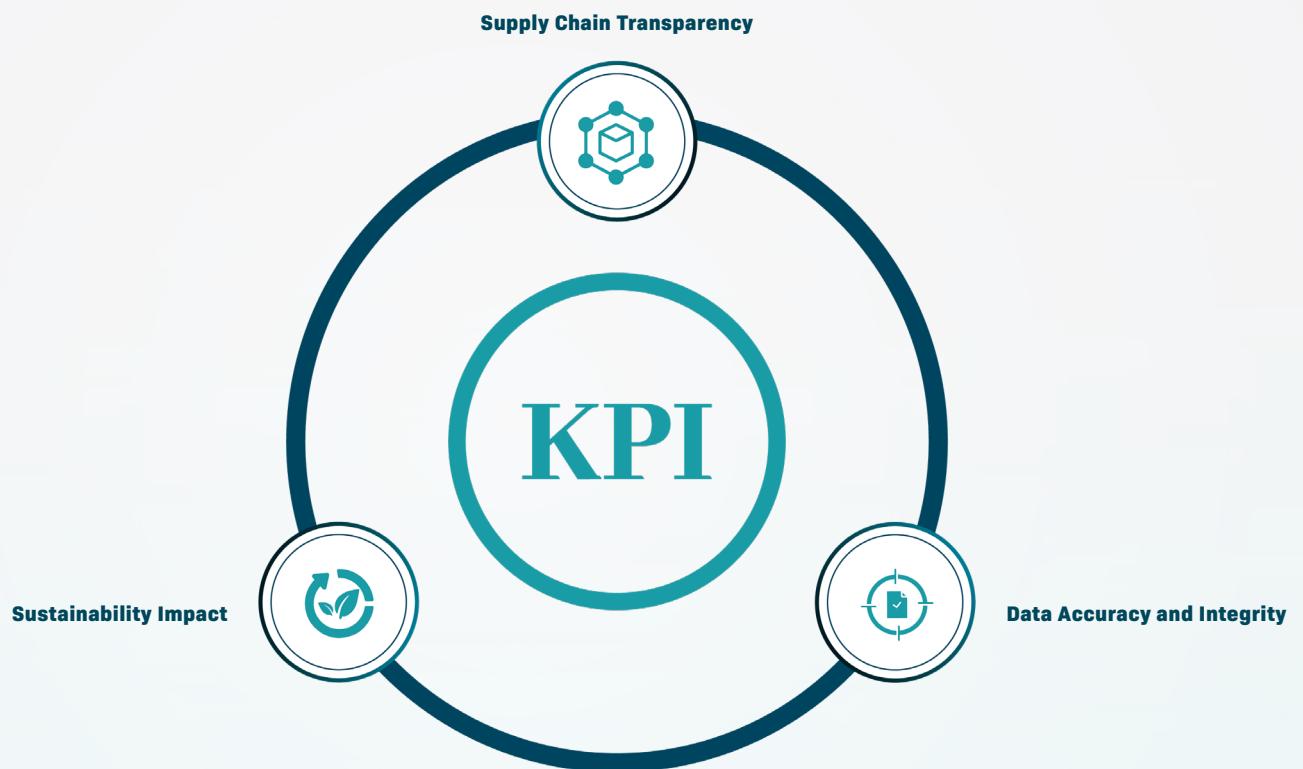




Legend:

- Core Organization
- Partnerships
- Clients

KPIs used to measure the effectiveness of our solution.



Amount of financial support provided to communities

- The amount that we can measure for sure is limited to gold, and it's around 700USD per year since we are a small company. All of our materials have a positive impact that should be around 30% of the price but we can't measure it since our suppliers don't share how much they pay for the rough and how much they pay the cutters compared to other cutting facilities.

Vision:

Outline your long-term vision for transparency and traceability best practices in the luxury sector.

- We would like to see more third party certification schemes that could provide a clean and reliable supply chain for diamonds and coloured gemstones. These certifications shouldn't be for big companies but for ASM since that it's where the bulk of the social impact lies. I am not interested in traceability alone, I would like to have data linked to fair wages, health and safety measures, comparisons with other companies in the areas, complaints form NGO, impacts on nature, CO2 expenditure etc.



B Lab Italia

15.913 follower

4m • Modificato •



Diamo il Benvenuto nella Community delle B Corp® a La Luce!
Congratulazioni 🙌

...vedi altro



INTRODUCING

LUC8K





Company Information:

LUC8K AG

Zollikerstrasse, 155
Zurich
Switzerland

Contact Person:

Karen Olivo
Founder, CEO
karen@luc8k.com
+41 79 474 10 41

Industry category:

Luxury Leather Goods

Website:

www.luc8k.com

Company Description:

LUC8K is more than just a luxury Swiss brand. We're on a mission. We're small but we think big. Ultimately, we want to redefine high-end fashion from top to bottom. How do we do this? By being honest. Transparent. Ballsy. To start with, we combine traditional artistry with the convenience of modern e-commerce. Our philosophy, "less is more," guides us as we create pieces that are meaningful, not just beautiful. Our sassy, delightful brand ambassador 'Sophie LUC8K the Giraffe' shares our vision and runs with it. She takes our followers on her global adventures, shining a light on sustainability challenges along the way whilst inspiring our community to make conscious choices in their everyday lives. Like Sophie, we stick our necks out and we aren't afraid to speak the truth.

Number of employees: 1-10

Company's Tagline:

Live Your Colors, Make Your
Own LUC8K



VISION

We imagine a future where luxury leather goods are accessible to everyone, allowing everyone to express their individuality through personalized, sustainable, and responsibly made products. Ultimately, we strive to foster mindful consumption and inspire awareness about the importance of environmental and social responsibility. It's our world, and it's on us to look after it for generations to come.



MISSION

At LUC8K, we aim to craft timeless, customizable leather goods that stand the test of time, all while championing responsible practices. We work hard to create a direct bond between skilled artisans and our discerning consumers. Through Sophie the Giraffe's adventures, wit, charm, and wisdom, we engage our community by helping them discover the beauty of this precious, beautiful, tiny little planet we share, and the vital importance of circularity and transparency in fashion plays in making a meaningful difference for all of us.



IMPACT

We're passionately dedicated to minimizing our environmental footprint in the luxury sector. We want other brands to do the same. By embracing responsible sourcing and production methods, we advocate for slow fashion and the principles of a circular economy. Our storytelling approach not only raises awareness about global sustainability challenges but also inspires action and positive change within our community and beyond. It's nice to look good, but it feels even better to make the right choices for our planet and for those who will inherit it after we're gone.



VALUES

RESPONSIBILITY



We will only ever use eco-friendly materials and practices to protect our planet. We're not perfect, but we aim to be the most sustainable fashion brand on earth. This won't happen overnight, but with each step at a time, we'll get there.

TRANSPARENCY



We believe in total honesty, no BS, and openly share our sourcing and production processes. We're proud of how we work. It costs us more, but in the long run, we leave less carbon footprint on the earth, and that makes everything we do worthwhile.

CUSTOMIZATION



Our made-to-order products empower our customers to create something that is completely unique to them and reflects the kind of people they are. They might have to wait a little longer for their order to arrive, but they care more about the planet than they do about having nice things, and that's OK with us.

QUALITY



We focus on durability and craftsmanship, embodying the spirit of "less is more." Our products are all made to order. They last longer and get even better with age. We don't have a warehouse full of stock. We're not wasteful, and we don't waste a single opportunity to make a meaningful difference to the world.



VALUES

INTEGRITY



We avoid greenwashing since we are dedicated to moral corporate behavior. Rigorous due diligence has given us insights into our supply chain. The cows we use for their hides lead healthy lives, grazing freely in fields in France. We know the farmers by name, as we should, and we are pushing for greater transparency throughout the leather supply chain.

INNOVATION



We blend traditional techniques with modern technology for unique designs so, like our customers, each piece is one of a kind. We work with mystical elves in our tannery in France and eco-friendly focused Wizards in Switzerland, and between them, they make the magic happen, online and offline.

EDUCATION



Through Sophie LUC8K the Giraffe (the only Giraffe to ever feature in Forbes) we raise awareness about global issues and do our best to inspire positive change.

ACCESSIBILITY



We strive to make luxury attainable through personalized, sustainable luxury leather for everyone, no matter who they are or where they're from.



Originalluxury

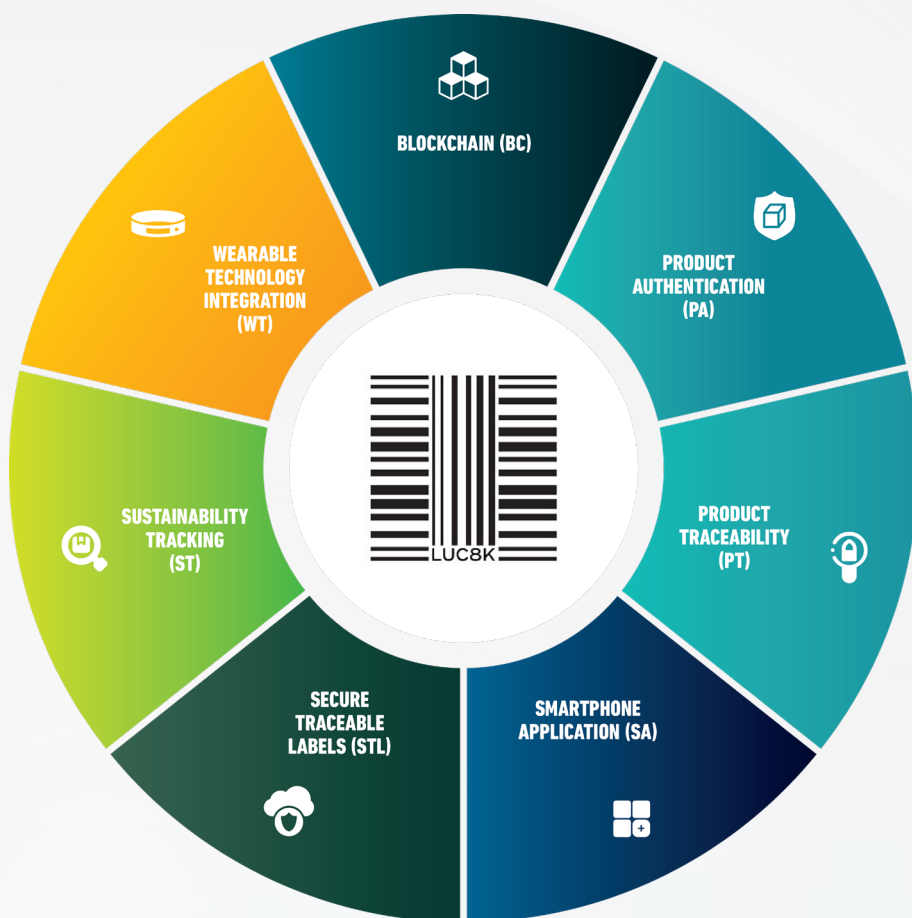


Luc8k

Legend:

- Core Organization
- Partnerships
- Clients

Technology Used:



Success stories highlighting significant achievements and benefits

Provide detailed success stories or case studies highlighting significant achievements and benefits.

<https://www.forbes.com/sites/anthonydemarco/2016/08/17/leather-bags-for-women-men-and-for-all-occasions/>

<https://www.forbes.com/sites/anthonydemarco/2018/11/26/the-challenges-of-producing-sustainable-luxury-goods/>

Our long-term vision for transparency and traceability best practices in the luxury sector

Outline your long-term vision for transparency and traceability best practices in the luxury sector.



- Customization is crucial to reducing waste, and LUC8K envisions a world where luxury and sustainability coexist together, benefiting all living things, including our planet. Based on nature's wisdom, LUC8K creates high-quality items that demonstrate both the need for immediate change and the patience required for exquisite craftsmanship. Customers, including investors, can participate in this significant transformation through personalized, made-to-order products that reduce overproduction and inventory by prioritizing authenticity and traceability.

Testimonials



Extract from The New Luxury Experience: Creating the Ultimate Customer Experience [1st ed.], Is Luxury Experience Compatible with CSR?

By Wided Bata, Pages 211-228.

1. At LUC8K we create value that connects

In addition to providing bespoke luxury and reliable quality, LUC8K has cemented itself as a fun brand with great personlaity thanks largely to the use of its mascot, Sophie. The 15-foot giraffe is depicted traveling the globe with her LUC8K bags and accessories, showcasing the products as well as the company's charm that consumers of all backgrounds can identify with. That sense of resonating with the audience is additionally shown by the fact that all buyers are treated as ambassadors of the company. After all, by designing a handbag or accessory, the customer has played an active role in the company's continued journey.

2. How can you define LUC8K luxury experience?

Th LUC8K luxury experience is a private and personal experience for customers, both when choosing, making, and wearing their own product. LUC8K offers sustainable luxury goods that inspire, stimulate and excite those who create and wear them. Wearing a LUC8K makes you stand out of the crowd. A LUC8K bag is unique outward statement of a woman's mindset adn lifestyle. The customized LUC8K look include· clear and clean lines and a combination of functionality, quality, and craftsmanship.

Our shoppers experience luxury primarily digital. Word-of-mouth recommendations and what people talk to people about is that what matters. Pop-up stores and selected retail will act as sensoriall touchpoints, as· unfortunately you can't touch the Internet. We use primarily online experience to thrive on the basis of storytelling. We don't sell a product. We sell a service that has a story to tell. Our customers di:cover LUC8K on their terms, by staying online.

3. How do you define the digital strategy and UX of LUC8K on mobile phone? Do you use digital devices in store to enhance customer experience? How?

Our website is responsive, easy to use on mobile. We do not use an app since customers would need to download an app and this puts customers off, as they have many apps on their phone already. So our website is built responsive to be viewed on any mobile device out there, from tablets to phones. In store we use tablets that display an offline version of our entire collection that can be customized. That being said, most of the customers walk our with a pre-customized LUC8K that are part of our limited collection we offer on demand with selected retail only. That's the on-the-dot purchase feeling the Internet can't provide.

4. How can digital and sustainability help you to create the true luxury experience targeting millennials?

The #whomademyclothes is the latest kin-of-fashion revolution hastag expressing the demand for #sustainable fashion. Millennial. are a state of mind, not just an age group. Their customer behavior influences across generation, and is greatly influencing consumer habits of future generations, too. Basically, they want to save the planet! Our LUC8K digital strategy however runs counter to prevailing indunstry trends. LUC8K customers influence sustainable luxury by building trust with a large group of sustainable luxury influential individual who build a community of sustainable lifestyle lovers that seek value for their money.

LUC8K experience is about sustainable luxury and authentic content. We are a niche brand with major ambitions! We act in a sustainable way, and we stimulate our community by taking them along with Sophie our mascot who travels the world, exhibiting her style, having fun, and pontificating on sustainability and other issues. LUC8K democratizes luxury. LUC8K is not a statement bag of your earning power. LUC8K is an expression of social independence. Customization becomes accessible through the Internet, and your personal luxury lifestyle shopping affordable. With bags and accessories starting at around \$70, the LUC8K price tag isn't nearly as exclusive as the products themselves. Even at higher end of the scale, around \$2,000, items are appropriately priced given the quality and attention to detail.

Hiring "influencers" with a heavy "followership" and "likes" on social media to increase perception is not part of our strategy nor vision. On a long run, we believe that paid engagement from individuals with large social audience will lose their influence as they dilute the real purpose of influencing a community to the positive when driven by commercial reasons. LUC8K has come a long way since opening its digital doors in 2016, providing men and women around the world with personalized luxury that they deserve. With the latest collection of colors and design options, we take that sustainable luxury to a new level, and the journey has just begun.

INTRODUCING

MOVO PARTNERS





Company Information:

Movo Partners

Avenue Edouard Dapples 15
1006 Lausanne
Switzerland

Contact Person:

Sebastien Creteigny
CEO & Founder
seb@movopartners.ch
+41788982215

Industry category

Consulting

Website:

www.movo-partners.com

Company Description:

Movo is a consulting firm with expertise in designing strategic action plans that lead to a sustainable transformation. We are a one-stop shop that can address all aspects of an impact-driven strategy combining environmental, societal, and economical ambitions.

Number of employees: 1-10

Company's tagline:

Change Business to Change the World



At Movo, we believe that businesses have a key role to play in influencing behavioral changes and that sustainability represents a unique opportunity to respond to current and future challenges. One step after another, business after business, we can change the World.



By fostering responsibility, we guide organizations in their strategic transformation with authenticity and transparency towards a purpose-driven business model, inclusive and fair for all their stakeholders.

Legend:

- Core Organization
- Partnerships
- Clients



Technology Used:



KPIs used to measure the effectiveness of our solution.



Through our work with our partners, we mainly contribute to the following Sustainable Development Goals (SDGs) :



Our Commitments:

By 2025, 100 % of our clients will adopt our positive impact strategy and align their sustainability objectives according to the iSMART criteria, compared to 20 % in 2023.

By 2025, we ensure that 80 % of our clients have their CO2 emissions (Scope 1, 2 & 3) covered by the Science Based Targets initiative (SBTi), compared to 0 % in 2023.

By 2026, we allocate 5 % of our time to pro-bono activities, raising awareness for non-profit organizations and/or start-ups, compared to 0 % in 2023.



ORIGINALLUXURY

INTRODUCING

Onegemme





Company Information:

Onegemme

1B Hood street, Level 3
Subiaco
Western Australia
Australia

Contact Person:

Pierre Fallourd
Co-founder and managing director
pearls@onegemme.com
+61406835061

Industry category:

Pearls, Cultured pearls

Website:

www.onegemme.com

Company Description:

Onegemme is a B2B wholesale and auction marketplace for pearls. It was founded in 2023 by 3 passionate individuals with over 100 years of accumulated experience in pearling, classification, value-adding, trading and luxury marketing.

Number of employees: 1-10

Company's Tagline:

Single origin
Positive impact
Quality pearls



VISION

A pearl reflects the journey of the mollusc it was harvested from. Its quality, origin and impact are embedded within layers of nacre. At Onegemme, we help you unlock and share the secrets of those natural beauties.



A CASE STUDY FOR REGENERATIVE AND RESTORATIVE AQUACULTURE

Marine Pearl Farming

January 2024

The Nature
Conservancy
aquaculture.science@tnc.org



MISSION

Origin



- Pearl harvests are often mixed and consolidated to increase matching opportunities and the story behind them is lost as it changes hands. We curate single origin loose pearls, matchings, and strands which details can be uploaded on Provenance Proof blockchain platform and passed on for generations to come.

Quality



- Pearlers and traders developed grading systems specific to the type of pearl they harvest and sell. We describe our pearls using a universal classification system derived from the Gemological Institute of America's (GIA) 7 Pearl Value Factors and the World Jewellery Confederation's (CIBJO) pearl guide.

Impact



- Molluscs are filter-feeders, their survival and growth make them bioindicators and bio-monitors of ecosystems health. We select our suppliers based on their commitment to extend molluscs multiple services to ecosystems and support them on their Environmental, Social and Governance (ESG) journey. Until a global impact certification framework is in place, we acknowledge our suppliers based on the regulatory environment they operate within, their commitments to and how they assess their impact.



IMPACT

We curate single origin cultured and natural pearls from all corners of the world using the same comprehensive and universal classification system for all our pearls and support our suppliers on their Environmental, Social and Governance (ESG) journey.

AWARE



Pearlers and pearl farmers who took steps to self-assess their social and environmental impact. They usually operate under an internal quality and productivity driven code of practice.

ENGAGED



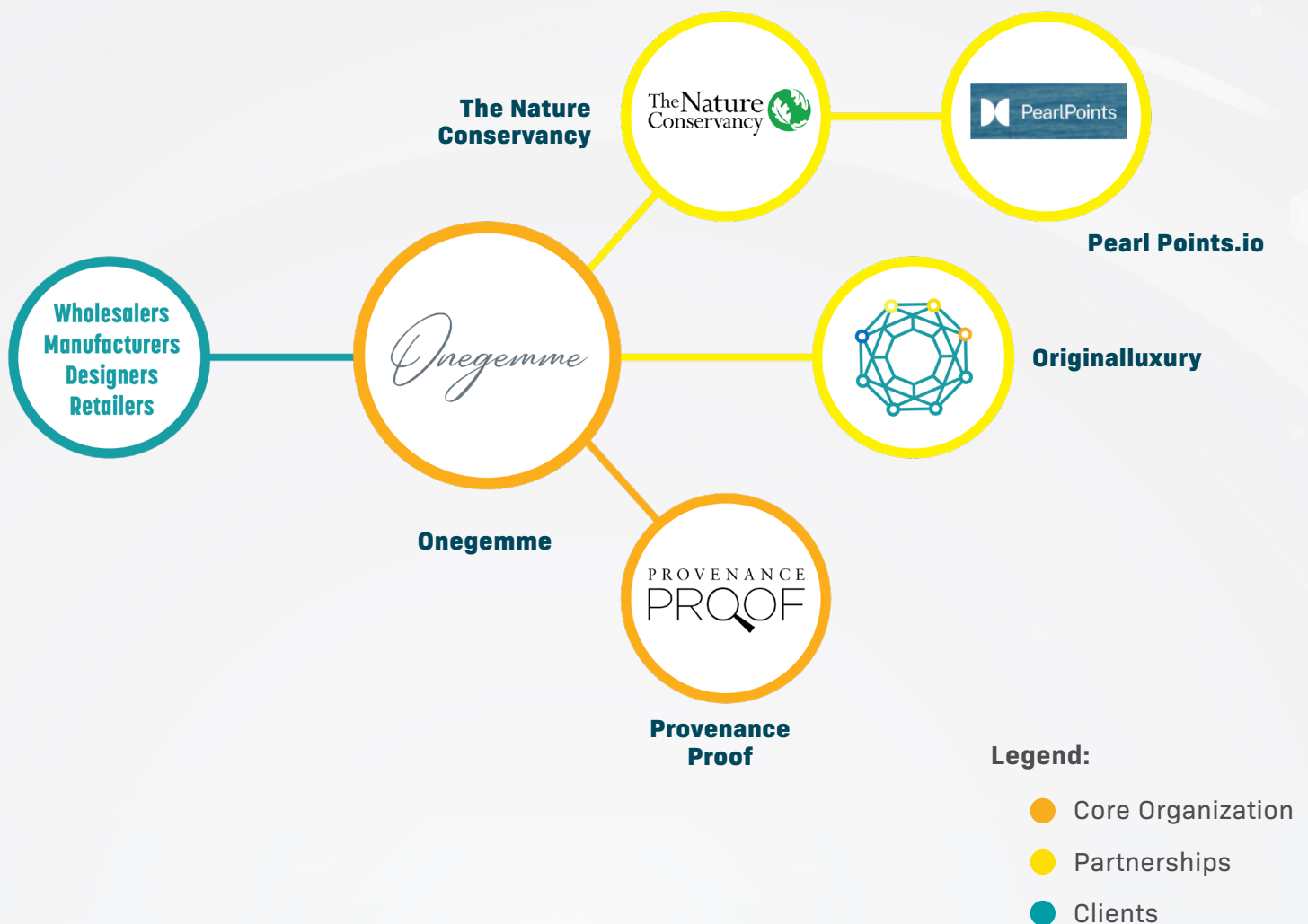
Pearlers and pearl farmers who are taking action to improve their social and environmental impact. They typically operate under a sector code of practice and/ or run sustainability projects.

CERTIFIED



Pearlers and pearl farmers who commit to impact measurable targets assessed by a 3rd party. They typically operate under global code of conducts and subject themselves to regular audits.





Relevant Links:

https://news.jewellerynet.com/uploads/ebook/Supplement/Pearl-Report_2024-2025/16/#zoom=true

https://news.jewellerynet.com/uploads/ebook/Supplement/Pearl-Report_2024-2025/60/

https://www.aquaculturescience.org/content/dam/tnc/nature/en/documents/MEL_Framework_TNC_Final_MedRes.pdf

https://www.aquaculturescience.org/content/dam/tnc/nature/en/documents/Pearl_Case_Study_TNC_web1.pdf



Sustainability Programs:

Outline any sustainability program(s) in place, such as fair trade practices, environmental conservation efforts, and ethical sourcing.

1% of Onegemme revenues will be allocated to support pearling and pearl farming social and environmental impact measurement and management projects under the supervision and/ or support of The Nature Conservancy (TNC)

Technology Used:



KPIs used to measure the effectiveness of our solution





Environmental and biochemical research helps drive the resurging consumer demand for pearls

By Kenneth Scarratt, President
CIBJO Pearl Commission

The CIBJO Pearl Commission continues its work in updating and improving its Blue Book and guides, following the successful 2023 congress in Jaipur, India.

The Guide for Classifying Natural Pearls and Cultured

Pearls, a 62-page illustrated document that provides an overarching view of natural and cultured pearls, is now available for free download from <https://cibjo.org/pearl-guide/> in English (the official version), Japanese, Thai and French, with Italian coming to the website soon.

Following the 2024 congress in Shanghai, work will begin on updating the entire guide. The informative and well received document “The Environmental, Social and

CIBJO SPECIAL REPORT 2024
PEARL COMMISSION
PAGE 1



Kenneth Scarratt, President of the CIBJO Pearl Commission.

Economic Impact of Natural and Cultured Pearls,” agreed upon during the Jaipur congress, is now available at <https://cibjo.org/the-environmental-social-and-economic-impact-of-natural-and-cultured-pearls/>. Additionally, the English version of the CIBJO’s Do’s & Don’ts Guide has been updated at <https://cibjo.org/dos-donts-guide/>.

With regards the CIBJO Pearl Blue Book, in recent months the Pearl Commission Steering Committee, following a recommendation made during the Jaipur congress, reassessed the manner in which the bleaching¹ of pearls should be addressed. This has at its core an awareness that it is in the best interests of the trade for consumers to be fully informed with regards to all treatments applied to pearls, both natural and cultured.

In the past, a “grandfathered” exception has been made for the practice of bleaching that allowed for a non-specific (general) disclosure, but in the interests of protecting consumer confidence long-term, the Steering Committee will be suggesting during the Shanghai congress that the practice of bleaching shall henceforth be specifically declared for both natural and cultured pearls.

¹ Bleaching (code B): Using a bleaching agent to remove or alter colour. This treatment may not be permanent regardless of special care requirements.

Microplastics and their potential impact on ‘pearl oysters’ – An update

In our 2023 Special Report we highlighted that potential impact of the presence of microplastics (MPs) in the marine environment where “pearl oysters” are present, both in the wild and in culturing farms. We reported that in the natural pearling beds of the UAE’s northern shores, the Arabian and Andaman Sea, Southern Iran, the Argentinean estuaries, East China Sea, China, and India there is an abundance of microplastics, both in sediments and the oysters themselves. Additionally, we cited reports stating that, in culturing areas, important evidence has been collected that indicates that exposure to MPs may impact the appearance of biominerals and the expression of biomineralisation-related genes, posing a new potential threat to aquatic organisms.

Over the past year we have continued to monitor research reports concerning MPs within the pearling environments (Habib 2022) and note that considerable research is on-going and becoming more specific in its focus.

Lu et.al., in their paper “Effects of polyvinyl chloride microplastic on pearl oyster (*Pinctada fucata martensii*), (Lu 2024), observed that PVC-MPs had a negative effect in that exposure altered the immune, antioxidant and digestive systems, and that PVC-MPs caused oxidative stress, immune distortion and digestive impairment.

However, another study by Mkuys et.al., “The impacts of PVC microplastics on physiology and transcriptomic responses of pearl oyster *Pinctada fucata martensii*” (Mkuye 2024), reported that an examination of pearl retention rate and thickness revealed no significant differences across treatments. This indicated that short-term PVC MPs exposure did not notably affect pearl oysters’ capability to retain the nucleus or form pearl layers, and highlighted *Pinctada fucata martensii*’s pearl retention and thickening resilient ability to PVC MPs.

There is still much to learn from the enormous body of work being published, but given the already significant pollution challenges within our oceans and waterways it might be prudent to continually monitor the presence of MP’s within pearling waters and also report the disposal of fishing gear and plastics in general, from which the MP’s originate.

An interesting insight gained from the current reported research is that ‘bivalves can contribute to the removal and trapping of MPs’ (Abdel Ghani 2023), although one has to wonder upon the eventual impact on this amazing marine life. For example, Abd-Elkader et.al., report that in the Red Sea “Bivalves [including the Pearl Oyster *P. radiata*] exhibited



Marine debris washed up on a beach at Sharm el-Naga, Egypt, not far from the Gimsha Bay, which has been a significant source for the pearl oyster *Pinctada radiata* (Yassien 2009). Image by Vberger (2010).

higher MPs abundances per gram of tissue wet weight compared to other groups.” (Abd-Elkader 2023).

As stated in CIBJO’s The Environmental, Social and Economic Impact of Natural and Cultured Pearls². “Molluscs and pearl products generate value for communities (employment), impact climate (carbon capture and release), affect biodiversity (abundance and diversity), and mitigate pollution (water filtration).”

However, if MPs continue to pollute our pearling grounds at an ever increasing rate, one might legitimately question the along term filtration capabilities of our precious bivalves.

² <https://cibjo.org/the-environmental-social-and-economic-impact-of-natural-and-cultured-pearls/>

Current status of the Akoya pearl industry in Japan

CONTRIBUTION BY RYUICHORO MACHIZAWA

Japan’s export and import performance in fiscal 2023 almost recovered to pre-pandemic levels, and in terms of value grew even larger.

One of the most remarkable results was the import value, which jumped 109.7 percent to 71.2 billion yen from 33.9 billion yen in the previous year (see Table 1, Page 4). Comparing long-term differences in exports and imports, the extent of the import surplus tended to lessen after the 2008 financial crisis (See Table 2, Page 4). However, the gap widened again, especially in terms of value, in fiscal 2023.

Historically, there used to be The Pearl Culture Industry Law in Japan. Under this law, the Japanese pearl industry maintained a policy of not disclosing its bead inserting technique. But, in the latter half of the 20th century, whereas Japan traditionally had been the dominant exporter of pearls, pearl cultivation began to flourish in many other parts of the world.

In fact, the import and export figures were reversed in terms of weight in 1998, when the Pearl Culture Industry Law was abolished, and in value five years later in 2003.

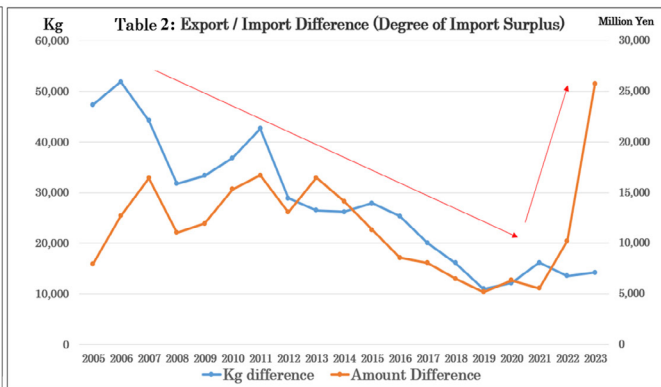
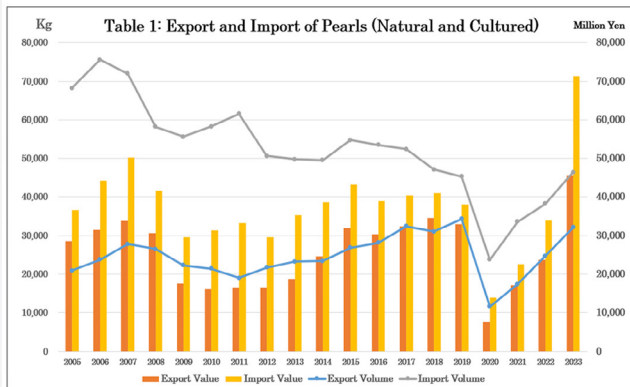
Since then, Japan has changed its position in the global market from a net exporter to a net importer of cultured pearls.

Considering the actual figures shown in the two tables,



Akoya Pearls.

JAPANESE PEARL IMPORTS AND EXPORTS



along with various factors such as the decrease in production of Akoya cultured pearls, the stagnation of the domestic market, and the demand to procure Akoya substitute goods against the backdrop of overseas demand, fiscal 2023 gave the impression that Japan once again is steering to be a net pearl importer.

Utilisation of pearl oyster genome knowledge for sustainable pearl production

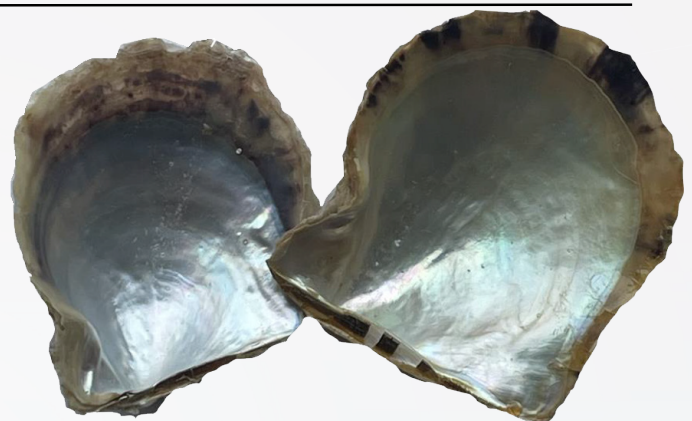
CONTRIBUTION BY RYUICHO MACHIZAWA

A research group of the Okinawa Institute of Science and Technology Graduate University (OIST) Marine Genomics Unit, the University of Tokyo, and K. Mikimoto & Co. Ltd., sequenced the entire genome of Akoya pearl oyster and published the results of the research in the online edition of the scientific journal DNA Research on February 7, 2012 (Takeshi and Hirotochi 2012).

The Akoya pearl oyster is currently facing a mass mortality crisis due to the effects of the red tide dinoflagellate *Heterocapsa circularisquama*, a new species of plankton that emerged in the 1990s, and red discoloration of the adductor muscle caused by bacterial infection (Fukuyo 2002; Yamaguchi 1997).

The sequencing of the Akoya pearl oyster genome makes it possible to study environmental changes in the ocean at the genetic level and protect the Akoya pearl oyster. In addition, future progress in experiments and analysis is expected to clarify the mechanism of producing pearls and apply it to quality control of Akoya oysters.

In addition, the Japan Pearl Promotion Society established



The Akoya pearl oyster.

a research center for the Akoya pearl oyster genome on April 1, 2024, in Shima City, Mie Prefecture (the Mikimoto satellite office of the Japan Pearl Promotion Society). It is equipped with advanced equipment for genome science and molecular biology research, and is working to realise sustainable pearl cultivation using the genome data collected.



Culturing Akoya pearls.

Update on the condition of the Bahrain pearl oyster beds

CONTRIBUTION BY DANAT

DANAT and Bahrain's Supreme Council for Environment and the Directorate of Fisheries conducted a research project to assess the status of the pearl oyster beds around Bahrain. This followed the launch of the National Plan to Revive the Pearl Sector in 2016.

The temporal comparison was based on data collected during three phases of the project, which extended from 2020 to 2023. It was compared to data collected from a similar study in 2012, and was conducted to assess pearl oyster beds (also known as "Hayr" in the local language), so as to compare them to other selected oyster bed areas in Bahrain over time.

As a result of the project, several objectives were achieved, including determining the density and abundance of pearl oysters, the size structure and distribution of pearl oyster populations, and natural pearl yield changes.

Compared to 2012, pearl oyster density increased at three sites (Hayr Bu Amamah, Hayr Bul Thamah, and the Buffer Zone) while the data for another site (Hayr Shtayyah) revealed a complex pattern that indicated a population decline. There also was a shift in the population size structure

from the older to the younger generation. Northern Hayrat saw a slight increase in natural pearl yield.

However, when each oyster bed area was compared individually, there was a significant difference in pearl yield and a shift in yield between sites.

The results showed that there was no statistically significant difference since 2012 in pearl incidence. This temporal comparison provided critical insights into the *Pinctada sp.* population dynamics across various sites.

The study highlights the need for continued monitoring to support species conservation. DANAT aims to continue the project in collaboration with the pertinent government authorities.



A DANAT diver collecting research during the research project.



One of the oyster beds (Hayr) that was studied during the research project in Bahrain.

Paving the way from pearl impact to value through the Pearl Development Community

CONTRIBUTION BY PIERRE FALLOURD

On May 20, 2024, the Gems and Jewellery Trade Association of China held the 2024 Pearl Industry Development Symposium in Haikou. More than 50 representatives from leading pearl farming enterprises and related organisations from Australia, China, French Polynesia, Hong Kong SAR, Indonesia, Japan, Myanmar and Philippines participated in and supported the event.

The symposium provided an interpretation of the relevant tax policies of the Hainan Free Trade Port, exchanged views on the development status of the industry in eight global pearl production areas, and analysed and discussed the development prospects of the worldwide pearl market. Participants unanimously agreed that, despite the relative downturn in most jewellery markets in recent years, the pearls have shown remarkable growth and performance, yet there is still ample room for further development.

A key subject of discussion was the establishment of the Pearl Development Community, and the forum adopted a set of draft statutes for the new body and nominated a list of member organisations.

In establishing the Pearl Development Community, it was decided to follow the trend of global economic integration, promoting strong alliances, and resource and industrial integration in the global pearl industry. Its members pledged to work towards the “extensive consultation, joint construction and shared benefits in the supply chain, talent in workplace and innovation. Practical efforts will be made to strengthen international trade and exchanges, and to promoting the transformation and upgrading of the pearl industry, enhancing high-quality sustainable development and the worldwide influence of pearl brands.

To ensure a robust commencement for the Pearl Development Community, the following action plan was outlined:

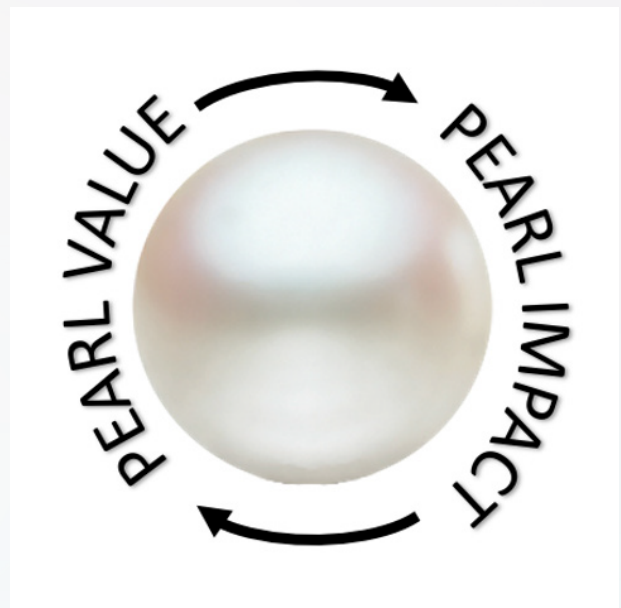
- Actively pursuing favourable policies and efficient trading channels for the global pearl trade.
- Advocating for the development of global pearl quality grading standards.
- Proactively promoting pearl culture in the contemporary era.
- Organising timely pearl culture exchanges in key pearl-

consuming nations and regions to bolster the overall image and impact of the industry.

- Conducting comprehensive research on the pearl industry, conducting statistical analysis of data, annually publishing reports on the development status of member bodies of the Pearl Development Community, actively providing consulting services and work recommendations, coordinating and resolving conflicts and issues, and promoting the sustainable high-quality development of the pearl industry.

Regenerative pearl farming

CONTRIBUTION BY PIERRE FALLOURD

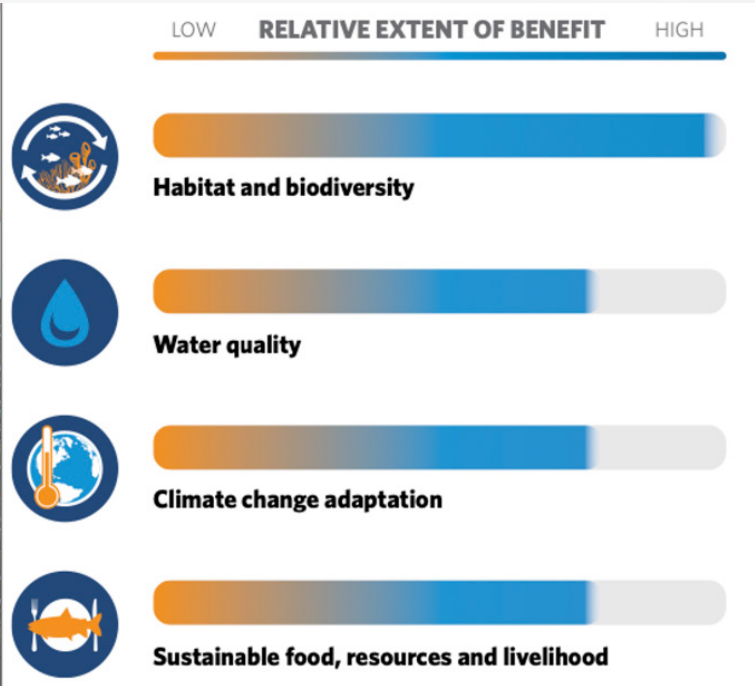


Marine pearl farming

The Nature Conservancy supported by the Gemological Institute of America published in January 2024 the first ever regenerative aquaculture potential assessment applied to pearl farming.

The climate impact of saltwater pearls ranges from a few grams to a few kilos of CO₂ equivalent (CO₂-eq) per pearl harvested, ranking it among the lowest of all gem materials.

The environmental impact of marine pearl farming varies greatly between species and locations, often as a result of farming operations. In the aquatic environment, the oysters farmed will also provide benefits to the ecosystems in which they grow, and these are values that can be included in studies of the impacts of the life cycle of production of a pearl.



Oysters cycle carbon dioxide, enhance water quality, and create thriving ecosystems. Additionally, crushed shells (and meat) can nurture soil, make cement and seed reefs, not to mention ornamental uses of nacre and the extraction of active ingredients for cosmetic and medical applications.

Intentionally applying best practices in marine pearl farming can:

- Reduce emissions, from a few kilos to a few grams of CO₂-eq per pearl.
- Increase nutrient bio-extraction, specifically phosphorus and nitrogen.

- Improve marine life abundance and diversity.
- Provide communities with alternative livelihood opportunities.

The assessment was published alongside a framework laying out the basis of a standard assessment tool, which will measure and monitor the actual impact of shellfish aquaculture.

Discussions started with various pearl producers setting up impact baseline measurement and monitoring protocols, to confirm and demonstrate the expected net positive impact of pearl farming on an on-going basis.

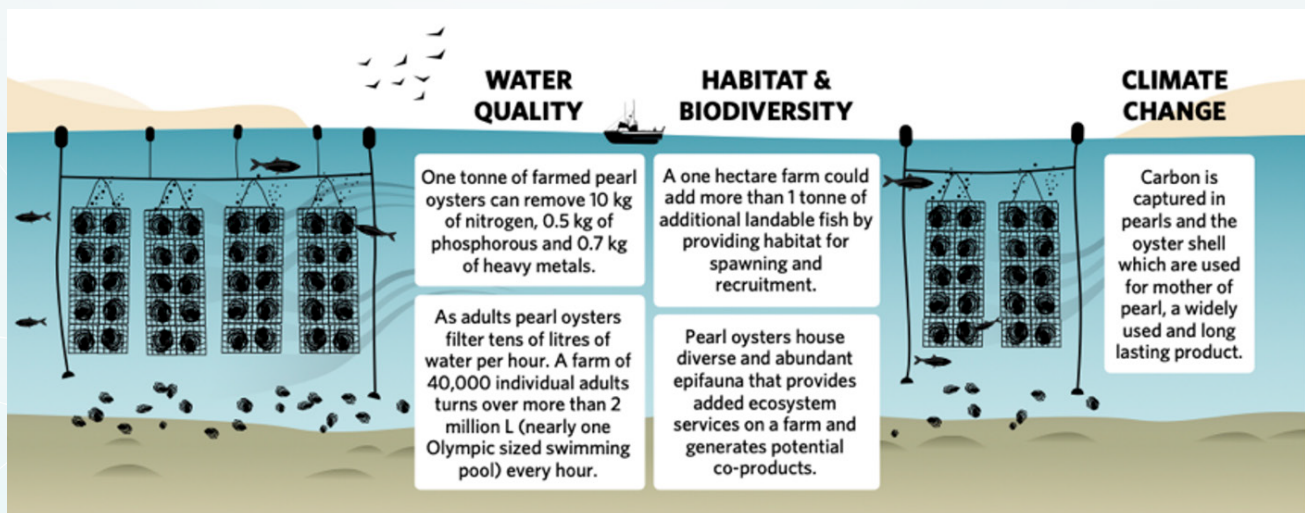


Image credits: The Nature Conservancy

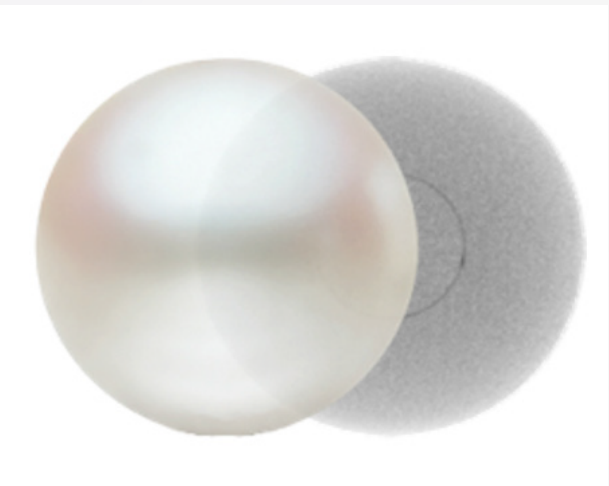
Freshwater pearl farming

The combined impact of pollution and climate change have severely affected the ability of producing quality freshwater and saltwater culture pearls alike.

Facing urgent ecological issues, the Chinese government took drastic measure as early as 2017 to halve production. This forced the industry to reinvent itself, and explore alternative production method that aim at quality rather than volume.

As a result, the range of freshwater pearls available is wider than ever, and their improved quality drove prices up,.

Large-scale programmes now aim at restoring urban waterways, turning mussels into bio extractors and fed aquaculture into potential nature-based solution to restore ecosystems.



Natural intelligence

Nacre is a core attribute to the value of a cultured pearl as its structure influences lustre, colour, shape, size and sometimes surface. Its relative thickness (typically proportionate to the nuclei size) and continuity (the absence

of undersurface disruptions) are assessed to support pearls durability and rarity.

Nacre’s unique structure—the foundation for all value factors – is strong (with extraordinary strength and toughness) but soft (low on Mohs) and sensitive to temperature, hygrometry and light. Individual nacre platelet thickness supports lustre and can trigger structural colour (overtone and orient). Long wave and short wave ultra-violet reliably identify treatments, which if excessive can negatively impact nacre.

Pearls reflect both the journey and the DNA heritage of the molluscs they grow within. Selective breeding and husbandry can influence cultured pearls physical attributes, but temperature, salinity and/or PH drive nutrients availability and aragonite crystals thickness, which impact colour and lustre for all pearls.

The Japan Pearl Standards 2020 (Japan-Pearl-Promotion-Society 2020) lists nacre thickness alongside shape, surface, colour and lustre as part of the beauty of pearls but also mention the structural soundness of its organic matrix (conchiolin) as a factor of durability.

It is common for pearl producers to refer to nacre thickness and/or structure. Autore and Paspaley have been rating a pearl’s “grain” and nacre tightness and movement to value – what can be described as the canvas on which the other value factors anchor themselves.

The Gemological Institute of America (GIA) has been working on defining and classifying nacre continuity (in addition to thickness and condition) as part of its GIA 7 Pearl Value Factors™ classification system, whilst also supporting pearl impact assessment pilot projects. For Saltwater cultured pearls, GIA currently applies standards for structural integrity and minimum nacre thicknesses (according to type), resulting in a designation of “Acceptable” or “Unacceptable, “as well as offering an optional nacre thickness measurement service.

	Beauty	Durability	Rarity
Characteristics	Shape, nacre thickness flaws, color, luster	Nacre thickness, structural soundness of organic matrix (conchiolin)	Overall ratio of high to low quality pearls produced
Improvement measures	Production to enhance quality, orientation towards nacre thickness	Treatments, stability	Maintaining a sustainable production rate

Summary of “determining the jewel value of pearls” extracted from page 15 of the Japan Pearl Standards 2020.

“We recently updated our pearl reports to include Peacock and Hanadama (GIA 2023) comments (in addition to our existing Golden comment) to acknowledge and support important trade denomination,” said Chunhui Zhu, head of GIA’s Global Pearl Identification Division.

“We are currently finalizing the parameters of a scale for what GIA refers to as ‘nacre continuity,’ to classify the continuity of the concentric nacre layer deposition around a pearl nucleus. This scale will provide more specificity on nacre quality and complete GIA’s pearl classification system in the near future,” he added.

Nacre continuity reflects the quality of both the human care and natural environment in which pearls form.

An update on Australia

CONTRIBUTION BY PETER BRACHER

The Australian pearling industry uses predominantly wild-caught *Pinctada maxima* pearl oysters for South Sea pearl production. For the past 40 years, the number of pearl oysters collected each year has been regulated through a system of

licenses and quota. Wild oysters are hand-collected by divers which prevents damage to the seabed and avoids collection of by-catch.

Wild oysters are larger in size and have greater hybrid vigour than hatchery-reared oysters. This means they have greater disease resistance and produce larger pearls. Another benefit of using wild oysters is that the industry still finds important natural pearls.

The wild oyster population is assessed annually by the Western Australian Department of Fisheries, which sets a sustainable annual catch limit. The total allowable catch varies from year to year depending on variations in population of both juvenile and mature oysters on the pearl beds. These measures ensure this important natural resource is used in a sustainable way that assures its long-term health and viability.

In addition to regulation of the wild oyster fishery, Australian pearl farms are also regulated through a combination of Crown leases, licenses and a quote system that sets a maximum number of oysters that can be farmed and seeded each year.

The wild *Pinctada maxima* fishery has been certified as



Paspaley wild shell diving operations off the coast of Western Australia.

sustainable by the Marine Stewardship Council since 2018. It was re-certified in 2023 and this certification is valid to 2028. Paspaley's *P. maxima* pearl fishery certification process was independently evaluated by bio.inspecta and accredited by ASI under the ASI-ACC-041 voluntary sustainability standard.

In recent years, both the total allowable catch and the catch rate (the number of oysters that can be collected by a diver per hour) have been increasing. This is a strong indicator that the wild oyster population is in excellent condition.

Although the pearl trade is aware of the regulation of Australia's industry, there is a common misconception that production can be increased to meet demand when the market is strong. In reality, the annual catch rate is determined solely on the basis of sustainability and without regard to market conditions. Because of the long husbandry period of two to three years, production increases can only occur over an extended period. Paspaley expects production remain relatively stable for the foreseeable future.

Large freshwater cultured pearls with atypical bead nuclei

CONTRIBUTION BY GIA

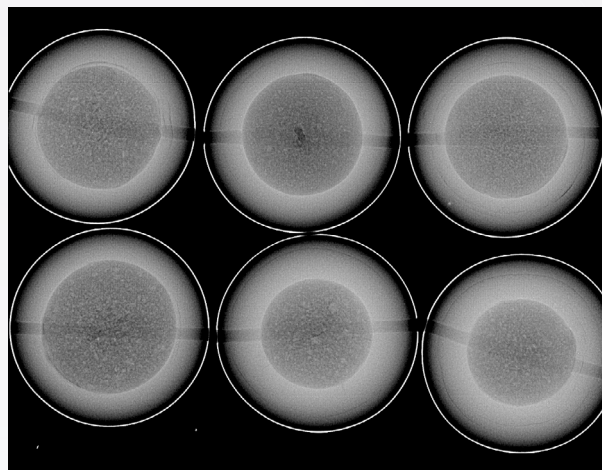
GIA's New York laboratory recently examined two necklaces consisting of large pearls of mostly orangy pink to purplish pink colors, ranging in size from 15.40 to 17.42 × 16.70 millimetres and from 18.00 to 19.96 × 19.06 millimetres.

From the first impression, these pearls resembled the freshwater bead cultured pearls of large size, commonly known as "Edison" (C. Zhou, Ho, J.W.Y., Shih, S.C., Tsai, T., Sun, z., Persaud, S., Qi, L. 2021) pearls in the trade.

However, the pearls caught laboratory's attention

with unusual internal growth features found under X-ray-microradiography.

Real-time X-ray microradiography revealed that all the pearls were bead cultured, but not with the shell bead nuclei typically used for cultured pearls. Instead, a more X-ray transparent material with a distinct outline and near-round shape was found inside them. The material appeared porous and non-uniform, and did not resemble the "mud-like" material found in "soufflé" freshwater cultured pearls previously studied.



X-ray analysis of the necklaces revealed the near-round atypical bead nucleus used to culture each of the pearls. (Photo: GIA)

However, the exact nature of this material could not be determined. Energy-dispersive X-ray fluorescence analysis of their trace elemental concentrations of manganese and strontium confirmed that the pearls were grown in a freshwater environment. Furthermore, Raman spectroscopy using 514 nanometre laser excitation indicated that their



The two necklaces consisting of large freshwater cultured pearls that are displaying strong hues with orient. Photos: Sood Oil (Judy) Chia, GIA.

colors were natural, with two strong peaks around the 1125 and 1510 cm^{-1} associated with natural polyenic pigments.

Cultured freshwater pearls with large size, a near-round shape, and intense coloration are highly sought after and more valuable than traditional freshwater cultured pearls. These large freshwater cultured pearls are especially noteworthy because of the unique bead nuclei used during the culturing process, which suggests that culturing techniques are continuously evolving, resulting in higher-quality products. This finding was originally reported as a lab note in 2024 spring issue of *Gems & Gemology* (C. Zhou, Yazawa, E., Dragone, M. 2024)

Natural pearls from the Placunidae family (Windowpane Oysters)

CONTRIBUTION BY GIA

GIA's Bangkok and New York laboratories recently reported unusual natural pearls produced by molluscs belonging to

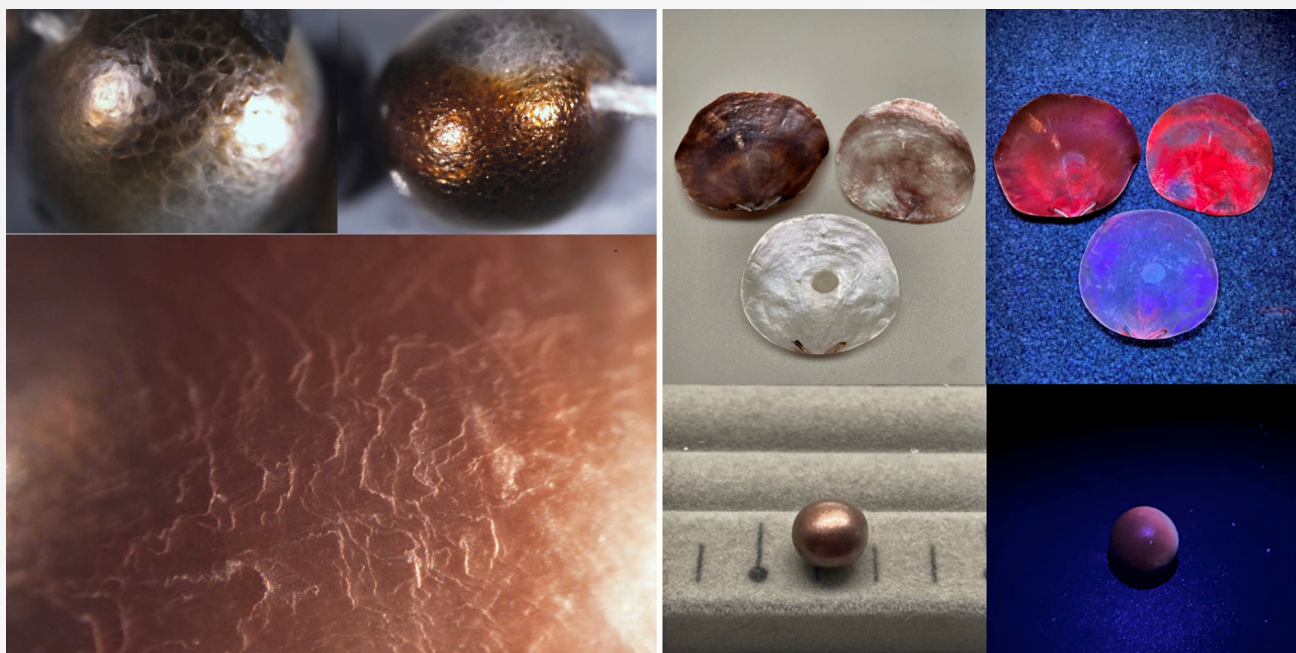
the *Placuna* genus in the *Placunidae* family, or commonly known as “windowpane oysters.” They were variously shaped, measuring 3 to 8 millimetres. Their body colors ranged from silver to brown or gray, with varying degrees of tone and saturation.

Windowpane oysters are found along the coasts of India, Malaysia, China, and the Philippines. *Placuna* mollusks are widely valued for their thin, durable mica-like translucent flat shells, called capiz shells, which were once a popular alternative to glass and often used as windowpanes and decorations. Although the mollusks were also known to produce small pearls, these were not commercially available until recent decades.

Pearls produced by these unique mollusc species (Achuthankutty 1979) exhibit certain characteristics that can be identified using gemological and advanced instrumental techniques. Viewed under 40X magnification, they display diagnostic surface features of distinctive mosaic or botryoidal patterns, but could also show overlapping platelets typically found in nacreous pearls.



Two loose pearls from windowpane oysters submitted to the GIA Bangkok laboratory and a mixed strand containing mostly windowpane and *Pteria* species pearls submitted to the GIA New York laboratory. (Photo: Jian Xin (Jae) Liao, GIA)



LEFT: Characteristic surface features of mosaic pattern and botryoidal structure were observed from the windowpane pearls in the necklace, and the typical nacreous-looking surface of fingerprint-like platy structure was observed on a loose windowpane pearl. Field of view 7.19 millimetres, 9.61 millimetre and 2.90 millimetre respectively. (Photos: Joyce Wing Yan Ho (A, B) and Artitaya Homkrajae (C), GIA). **RIGHT:** Three variously coloured windowpane shells and a brown windowpane pearl, shown in daylight (left) and long-wave UV light (right). (Photos: Joyce Wing Yan Ho (top) and Kwanreun Lawanwong (bottom), GIA)

Under long-wave ultraviolet radiation, the pearls can display a striking reddish fluorescence, particularly in the darker areas, which is comparable to the reactions observed on the windowpane oyster shells.

Similar reddish fluorescence has been observed in dark pearls from the *Pteria* species. However, it is important to note that the composition of calcite in windowpane pearls and aragonite in *Pteria* pearls can be distinguished using Raman spectroscopy.

Additional analytical results such as UV-Vis reflectance features, Raman photoluminescence features, and their internal growth structures can also be used for identification purposes (Ho 2024).

Ancient Pearls From Bahrain

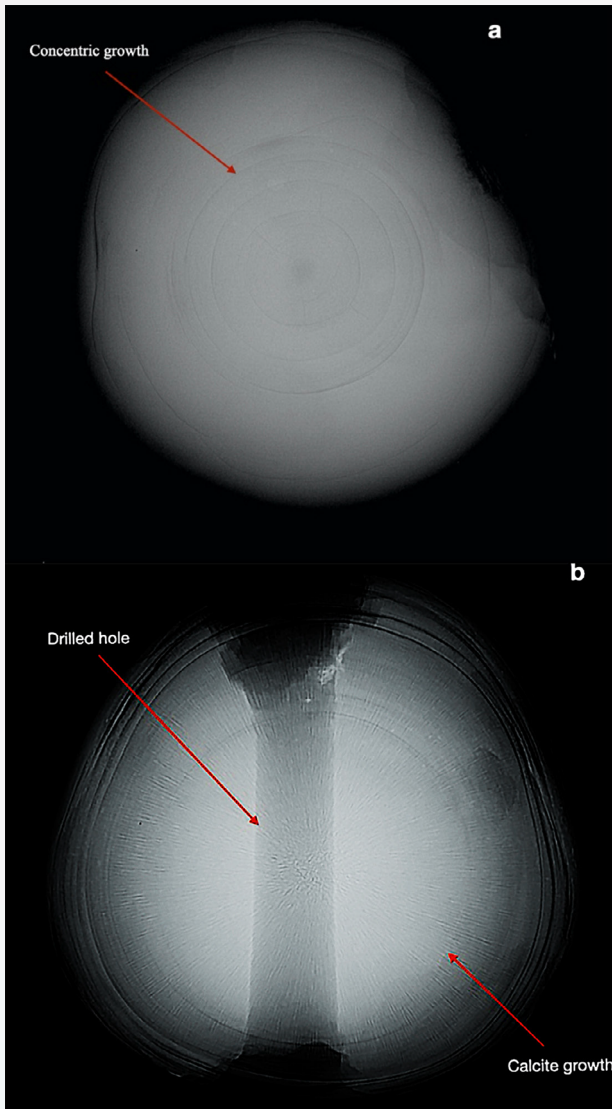
CONTRIBUTION BY DANAT

Over the course of history, Bahrain has been referred to be the country of immortality. It is told that Gilgamesh, the warrior, journeyed to Bahrain in search of the pearl oyster, which was believed to hold the secret to eternal life.

Ancient historians such as Pliny the Elder wrote about Tylos (an ancient name of Bahrain) and the abundance of natural pearls on its shores. Bahraini pearls were sought after by jewellers throughout history because they were renowned for their exquisite luster and shape.



Sample of three ancient pearls that have underwent testing by DANAT.



X-Ray microradiography images of two pearls, with (a) exhibiting a circular growth pattern, and (b) showing calcitic growth.

Although historians wrote about Bahrain and natural pearls, there were no analytical studies conducted on any ancient Bahraini pearls. This is the reason the Bahrain Institute for Pearls and Gemstones (DANAT), in collaboration with the Bahrain National Museum and the Massachusetts Institute of Technology (MIT), sought to study eight ancient pearls excavated in Bahrain at different archeological sites from the Dilmun, Tylos and Islamic periods.

By analyzing this information, it was hoped that might be possible to ascertain if the pearls originated from Bahrain or were imported from various sources, thereby mapping out the ancient trading routes.

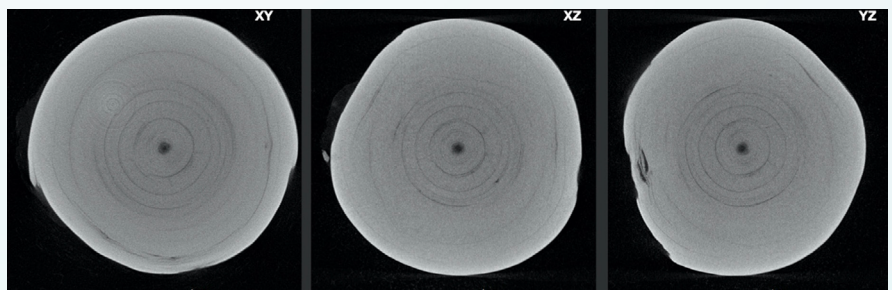
A total of eight pearls recovered from archaeological sites in Bahrain have been analyzed to determine their physical and chemical characteristics. The pearls had a weight range of 0.2 to 1.57 carats with near-round, button, and near-baroque shapes. The pearls exhibited colours from light cream to yellow, with certain specimens displaying hints of pinkish and purplish hues. The pearls were examined using different test methods that are typically used to identify pearls.

The examination of the surface characteristics of the pearls indicated that they had not undergone any form of treatment, regular cleaning or bleaching. They plainly exhibited signs of ageing and still retained traces of the dirt from which they were collected. Three out of eight pearls had been drilled, and it appeared that the drilling process was carried out using antiquated tools. The pearls exhibited several imperfections, including pits and scratches.

X-ray microradiography and x-ray microtomography (micro-CT) revealed natural growth structures, with some displaying the distinctive concentric pattern of natural pearls resembling a tree trunk cross-section. Additionally, there were pearls that included a prominent calcite core, while the remaining pearls exhibited faint features that are associated with their natural growth. The internal structures observed for pearls from the *Pinctada radiata* oyster found around Bahrain are quite comparable.

EDXRF analysis confirmed that all the pearls were derived from the shells of the *Pinctada* species in a saltwater environment. Additionally, no discernible pigment peaks or absorption were detected in the UV-vis and Raman spectra, which could aid in identifying the specific shell species.

DANAT will maintain its collaboration with the Bahrain National Museum to conduct additional investigations



X-Ray microradiography images of two pearls, with (a) exhibiting a circular growth pattern, and (b) showing calcitic growth.

utilizing advanced chemical analysis techniques such as LA-ICP-MS and DNA analysis. These methods will be employed to establish the provenance of the shell species, while Carbon-14 dating analyses will be employed to ascertain the age of pearl creation.

Traditional bleaching for natural pearls

CONTRIBUTION BY DANAT

Hydrogen peroxide (H₂O₂) is commonly employed as a bleaching chemical by pearl traders in Bahrain. The primary objectives are to cleanse the pearls and enhance the uniformity of their pearl collections.

To achieve this, a gentle bleaching procedure is employed to avoid any harm to the valuable natural pearls. A diluted solution of hydrogen peroxide is typically employed, often in conjunction with undisclosed chemical agents or/and elevated temperatures to expedite the process. The duration of the procedure typically spans a few days, however, in certain instances, it may extend beyond that time frame.

The outcome of this procedure yields natural pearls that are cleaner in appearance, exhibiting a consistent white to cream coloration.

DANAT conducted an experiment to investigate detection methods for this type of treatment. It followed certain methods that had been disclosed by traders, with some alterations. The natural

The Raman spectra observed during the DANAT bleaching study demonstrated a decrease in the strength of the peaks, corresponding to polyenes as time increased.

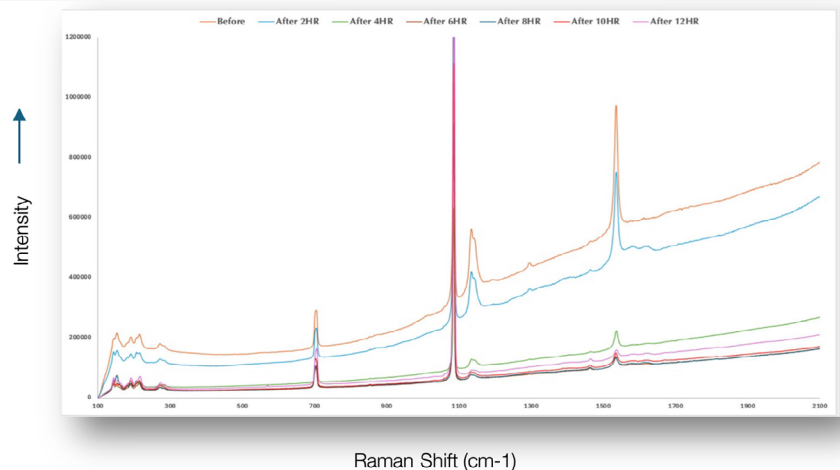
pearls used were from the species *Pinctada radiata*, which were obtained from the northern region of the country.

Analytical techniques such as Raman spectroscopy, UV-vis spectroscopy, and fluorescence spectroscopy were used to analyse the pearls. In addition, high-resolution surface pictures were obtained using X-ray and X-ray tomography before the pearls underwent treatment. Data was consistently collected at 2-hour intervals for a total duration of 12 hours.

Upon analysis, it was evident that the pigments peaks shown in the Raman spectra had undergone a decrease in intensity over time. This can be attributed to the bleaching process, which gradually breaks down the chemical bonds of the pigment, resulting in a less pronounced appearance.

Prior to treatment, the fluorescence spectra exhibited a wide peak at 470 nanometres. However, throughout the treatment, this peak gradually changed to become the highest at 450 nanometres.

DANAT is continuing its investigation in order to provide a quick and straightforward approach for detecting any bleaching that has been done on natural pearls.



Each pearl in the DANAT bleaching experiment was individually handled for the purpose of tracking.

References

- Abd-Elkader, A., Hamed, S.A.E., Mahdy, A., Shabaka, S. (2023), 'Microplastics in marine invertebrates from the Red Sea Coast of Egypt: Abundance, composition, and risks', *Marine Pollution Bulletin*, 197, 115760.
- Abdel Ghani, S. A., Shobier, A.H., El-Sayed, A. A.M., Shreadah, M. A., Shabaka, S. (2023), 'Quantifying microplastics pollution in the Red Sea and Gulfs of Suez and Aqaba: Insights from chemical analysis and pollution load assessment', *Science of The Total Environment*, 901, 166031.
- Achuthankutty, C.T., Sreekumaran Nair, S.R., Madhupratap, M. (1979), 'Pearls of the Windowpane oyster, *Placuna placenta*', *Mahasagar - Bulletin of the National Institute of Oceanography*, 2 (3), 187-9.
- Anonymous (2024a), 'Epic of Gilgamesh', in The Editors of Encyclopaedia. (ed.), *Britannica* (<https://www.britannica.com/topic/Epic-of-Gilgamesh>: Britannica).
- (2024b), 'Windowpane oyster', *Wikipedia* (https://en.wikipedia.org/wiki/Windowpane_oyster): Wikipedia).
- Fukuyo, Y., Imai, I., Kodama, M., Tamal, K. (2002), 'Red tides and other harmful algal blooms in Japan', in F.J.R. Taylor, Trainer, V.L. (ed.), *Harmful algal blooms in the PICES region of the North Pacific*; Sidney Canada: North Pacific Marine Science Organization (PICES), 7-20.
- GIA (2023), 'GIA Adds 'Hanadama' Quality Range Comment to All Pearl Classification Reports', (<https://www.gia.edu/gia-news-press/hanadama-quality-range-comment-added-to-pearl-classification-reports>: Gemological Institute of America).
- Habib, R.H., Thies, T. (2022), 'Microplastic in the marine environment of the Red Sea – A short review', *Egyptian Journal of Aquatic Research*, 48 (4), 383-88.
- Ho, J.W.Y., Lawanwong, K., Homkrajae, A. (2024), 'Pearls from the Placunidae Family (Windowpane Oysters)', *Gems and Gemology*, 60 (1).
- Japan-Pearl-Promotion-Society (2020), 'Pearl Standard 2020', (<https://jp-pearl.com/wp-content/uploads/2022/05/Pearl-Standard-2020-New-Edition.pdf>: Japan Pearl Promotion Society), 91.
- Liddicoat, R.T. (1967), 'Cultured Pearl Farming and Marketing', *Gems and Gemology*, XII (6), 162-72.
- Lu, F., Guo, C., Mkuye, R., Chen, W., Yang, X., Zhou, Z., He, Y., Yang, C., Deng, Y.H. (2024), 'Effects of polyvinyl chloride microplastic on pearl oyster (*Pinctada fucata martensii*)', *Regional Studies in Marine Science*, 69, 103313.
- Mkuye, R., Huang, L., Yang, C., Yang, X., Masanja, F., Ibrahim, S., Lu, F., Zhu, S., Hailing Wu, H., Deng, Y. (2024), 'The impacts of PVC microplastics on physiology and transcriptomic responses of pearl oyster *Pinctada fucata martensii*', *Journal of Oceanology and Limnology*.
- Takeshi, T., Takeshi, K., Ryo, K., Fuki, G., Makiko, T., Tetsuro, I., Eiichi, S., Mayuki, F., Chuya, S., Kanako, H., Manabu, F., Takeshi, U., Kiyohito, N., Kaoru, M., Kikuhiko, O., Hideo, A., Takashi, I., Tetsuji, M., Atushi, F., Kazuyoshi, E., and Hirotochi, E., Hiromichi, N., Shigeharu, K., Shuichi, A., Shugo, W., Nori, S., (2012), 'Draft Genome of the Pearl Oyster *Pinctada fucata*: A Platform for Understanding Bivalve Biology', *DNA Research*, 19 (6 February), 117-30.
- Yamaguchi, M., Itakura, S., Nagasaki, K., Matsuyama, Y., Uchida, T., Imai, I. (1997), 'Effects of temperature and salinity on the growth of the red tide flagellates *Heterocapsa circularisquama* (Dinophyceae) and *Chattonella verruculosa* (Raphidophyceae)', *Journal of Plankton Research*, 19 (8), 1167-74.
- Yassien, M.H., El-Ganainy, A.Z., Hasan, M.H. (2009), 'Shellfish Fishery in the North Western Part of the Red Sea', *World Journal of Fish and Marine Sciences*, 1 (2), 97-104.
- Zhou, C., Ho, J.W.Y., Shih, S.C., Tsai, T., Sun, z., Persaud, S., Qi, L. (2021), 'Detection of Color Treatment and Optical Brightening in Chinese Freshwater "Edison" Pearls', *Gems and Gemology*, 57 (2), 124-34.
- Zhou, C., Yazawa, E., Dragone, M. (2024), 'Large Freshwater Cultured Pearls with Atypical Bead Nuclei', *Gems and Gemology*, 60 (1), 63-4.



COVER PHOTO CREDIT
Butterfly on Photo AC.

ALL RIGHTS RESERVED
© The World Jewellery Confederation (CIBJO) 2024
www.cibjo.org

CIBJO Pearl Commission Annual Report 2024

Pearl Blue Book and Guides

Following the successful Jaipur Congress the CIBJO Pearl Commission continues its work in updating and improving its Blue Book and Guides. The Guide for Classifying Natural Pearls and Cultured Pearls, a 62-page illustrated document that provides an overarching view of natural and cultured pearls is now available for free download from <https://cibjo.org/pearl-guide/> in English (the official version), Japanese, Thai and French with Italian coming to the site soon. Following the Shanghai Congress work will begin on updating the entire Guide. The informative and well received document “The Environmental, Social and Economic Impact of Natural and Cultured Pearls” agreed during the Jaipur Congress is now available at <https://cibjo.org/the-environmental-social-and-economic-impact-of-natural-and-cultured-pearls/>. Additionally, the English version of the CIBJO’s Do’s & Don’ts Guide has been updated at <https://cibjo.org/dos-donts-guide/>.

With regards the CIBJO Pearl Blue Book; in recent months the Pearl Commission Steering Committee, following a recommendation made during the Jaipur Congress, have reassessed the manner in which the bleaching* of pearls should be addressed. This reassessment has at its core an awareness that it is in the best interests of the trade for consumers to be fully informed with regards to all treatments applied to pearls, both natural and cultured. In the past a ‘grandfathered’ exception has been made for the practice of bleaching that allowed for a non-specific (general) disclosure, but in the interests of protecting consumer confidence, long-term, the Steering Committee will be suggesting during the Shanghai Congress that the practice of bleaching shall henceforth be specifically declared for both natural and cultured pearls.

**Bleaching (code B) Using a bleaching agent to remove or alter colour. This treatment may not be permanent regardless of special care requirements.*

Microplastics and their potential impact on ‘Pearl Oysters’ – Update.

In the 2023 Annual Report we highlighted that potential impact of the presence of microplastics (MPs) in the marine environment on the ‘Pearl Oysters’ both in the wild and in culturing farms. We reported that in the natural pearling beds of the UAE’s northern shores, the Arabian and Andaman Sea, Southern Iran, the Argentinean estuaries, East China sea, China, and India the presence of an abundance of microplastics both in sediments and oysters had been revealed. Additionally, we cited reports stating that in culturing areas important evidence that microplastics exposure may impact the appearance of biominerals and the expression of biomineralization-related genes, posing a new potential threat to aquatic organisms.

Over the past year we have continued to monitor research reports concerning MPs within the pearling environments (Habib 2022) and note that considerable research is on-going and becoming more specific in its focus. Lu et.al., in their paper “Effects of polyvinyl chloride microplastic on pearl oyster (*Pinctada fucata martensii*)”, (Lu 2024), observed that PVC-MPs had

a negative effect in that exposure altered the immune, antioxidant and digestive systems and that PVC-MPs caused oxidative stress, immune distortion and digestive impairment. Whereas in another study by Mkuys et.al., “The impacts of PVC microplastics on physiology and transcriptomic responses of pearl oyster *Pinctada fucata martensii*” (Mkuye 2024) it was concluded that In the study, the examination of pearl retention rate and thickness revealed no significant differences across treatments, indicating that short-term PVC MPs exposure did not notably affect pearl oysters’ capability to retain the nucleus or form pearl layers, thus highlighting *Pinctada fucata martensii*’s pearl retention and thickening resilient ability to PVC MPs.



Figure 1: Marine debris washed up on a beach at Sharm el-Naga, Egypt, not far from the Gimsha Bay which has been a significant source for the pearl oyster *Pinctada radiata* (Yassien 2009), (image PD from 2010 by Vberger).

There is still much to learn from the enormous body of work being published, but given the already significant pollution challenges within our oceans and waterways it might be prudent to continually monitor the presence of MP’s within pearling waters and also report the disposal of fishing gear and plastics in general, (from which the MP’s originate). An interesting insight gained from the current reported research is that ‘bivalves can contribute to the removal and

trapping of MPs” (Abdel Ghani 2023), although one has to wonder upon the eventual impact on this amazing marine life, e.g., Abd-Elkader et.al., report that in the Red Sea “Bivalves [including the Pearl Oyster *P. radiata*] exhibited higher MPs abundances per gram of tissue wet weight compared to other groups”(Abd-Elkader 2023)..

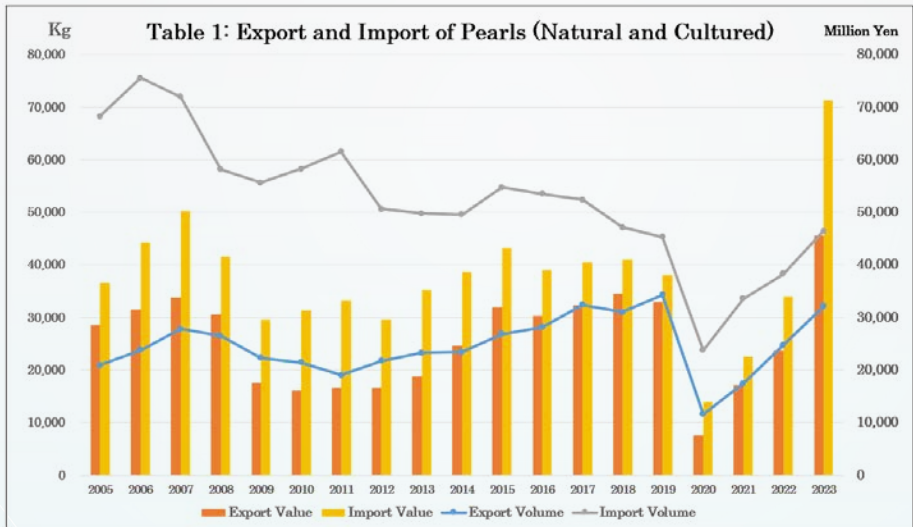
As stated in CIBJO’s The Environmental, Social and Economic Impact of Natural and Cultured Pearls¹. “Molluscs and pearl products generate value for communities (employment), impact climate (carbon capture and release), affect biodiversity (abundance and diversity), **and mitigate pollution (water filtration)**”. However, if MPs continue to pollute our pearling grounds at an ever increasing rate one might legitimately question the long term filtration capabilities of our precious bivalves.

Current status of the Akoya pearl industry in Japan

Cointributions from Ryuichiro Machizawa

Japan's export and import performance in fiscal 2023 has almost recovered to pre-pandemic levels, and in particular, the value of exports grew more. One of the most remarkable results was the import value, which jumped 109.7% to 71.2 billion yen from 33.9 billion yen in the previous year (Table 1).

Table 1:Export and Import of pearls (natural and cultured).



The top three importers were Indonesia (30.4 billion yen, up 18.6 billion yen from the previous year), Australia (18 billion yen, up 7.3 billion yen from the previous year), and French Polynesia (13.1 billion yen, up 7.7 billion yen from the previous year). Among them, Indonesia recorded the highest import amount since 2005. The increase in the import amount can be seen in the rise in the unit price of momme. In 2023, Indonesia recorded 11,000 yen (up 77% from the previous year), Australia 13,000 yen (up 62% from the previous year), and French Polynesia 5,900 yen (up 78% from the previous year) (Table 2). In particular, the rise in the unit price of Australia, which increased only 3% (161 tons) from 2022, is noticeable here (Table 3).

¹ (<https://cibjo.org/the-environmental-social-and-economic-impact-of-natural-and-cultured-pearls/>)

Table 2: Unit price of import momme (Yen)

Unit price of import momme (Yen)	2018	2019	2020	2021	2022①	2023②	②-①	②÷①
Indonesia	5,000	4,900	3,300	4,100	6,200	11,000	4800	177%
Australia	6,600	6,900	5,200	7,200	8,400	13,600	5200	162%
French Polynesia	3,500	3,300	2,100	2,300	3,300	5,900	2600	178%

Table 3: Import volume (Ton)

Import volume (Ton)	2018	2019	2020	2021	2022①	2023②	②-①	②÷①
Indonesia	9,589	9,170	4,505	6,570	7,197	10,354	3157	144%
Australia	7,131	7,053	3,236	3,966	4,810	4,971	161	103%
French Polynesia	10,486	8,526	2,965	4,575	6,004	8,276	2272	138%

One of the factors behind the rise in the unit price of momme is the depreciation of the yen since the latter half of 2022. The U.S. dollar against the yen fluctuated between 105 yen and 115 yen for about five years from 2016 to 2021. From April 2022, however, the yen began to weaken sharply, and in October 2023, it exceeded 150 yen for the first time since August 1990. The two graphs of the unit price of imported momme and the exchange rate of the U.S. dollar against the yen (Tables 4-5) clearly show a similar upward trend since 2022.

Table 4: Unit price of import momme

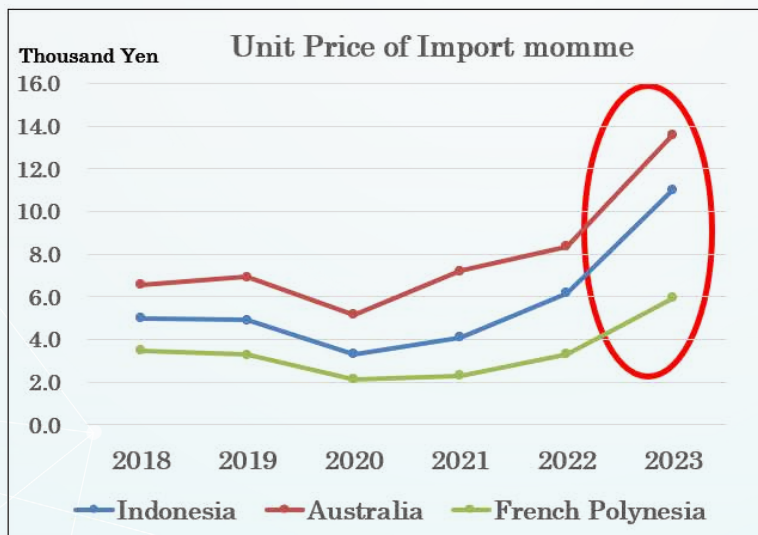
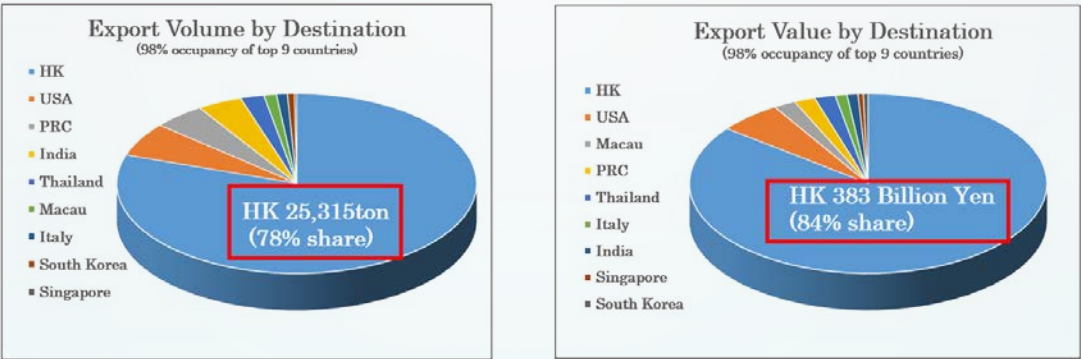


Table 5: US Dollar v Japanese Yen



On the other hand, exports in FY2023 increased by 30% (7,400 tons) in volume and 92% (21.8 billion yen) in value compared to the previous year. In addition, there is no change in the trend of Hong Kong dominating others by destination (Table 6). The volume of 25,315 tons (78% of the market share) recovered to the pre-COVID level, and the value of 38.3 billion yen (84% of the market share) showed the highest value since 2005 (49% increase in volume and 122% increase in value compared to the previous year). Other highlights included export value to Macau, which exceeded that to China for the second consecutive year (¥290 million to China and ¥900 million to Macau in 2022, and ¥850 million to China and ¥900 million to Macau in 2023).

Table 6: export volume and value by destination for 2023.



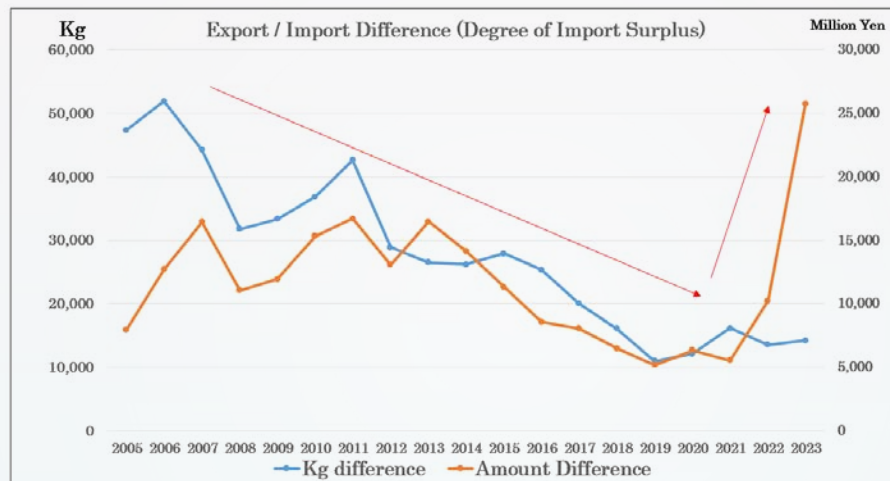
Looking at the breakdown of this export, Akoya pearls, which account for more than 85% of the total in terms of both quantity and value, increased by 27.2% in terms of quantity and by 83.7% in terms of value in FY2023 compared to the previous year. On the other hand, white and black South Sea pearls increased by 135.4% in terms of quantity and by 242% in terms of value compared to the previous year, showing a large increase exceeding that of Akoya. Although their share of the total is still lower than that of Akoya, it can be inferred that the increase in imports has had a considerable impact on the large increase in exports.

Table 7: Year over year export volume & value

Export Volume & Value	Natural Pearl		Akoya Cultured Pearl		South Sea W & B Pearl		Other Pearl	
	Volume (Momme)	Value (Thousand Yen)	Volume (Momme)	Value (Thousand Yen)	Volume (Momme)	Value (Thousand Yen)	Volume (Momme)	Value (Thousand Yen)
2021③	27,397	75,425	4,419,447	15,132,230	140,343	1,257,862	720,055	758,441
2022②	55,386	180,846	6,229,824	21,359,952	199,027	1,495,871	1,005,677	994,320
2023①	60,688	369,008	7,923,504	39,241,664	468,478	5,116,441	552,317	1,142,650
Y o Y ②÷③	202.2%	239.8%	141.0%	141.2%	141.8%	118.9%	139.7%	131.1%
Y o Y ①÷②	109.6%	204.0%	127.2%	183.7%	235.4%	342.0%	54.9%	114.9%
Unit Price of Momme (Yen)	Natural Pearl		Akoya Cultured Pearl		South Sea W & B Pearl		Other Pearl	
2022	2,753		3,424		8,963		1,053	
2022	3,265		3,429		7,516		989	
2023	6,080		4,953		10,921		2,069	

A comparison of these differences between imports and exports reveals a pronounced import surplus in terms of value; after the 2008 financial crisis, the extent of the import surplus tended to dissipate, but looking only at value, the gap has again widened significantly.

Table 8: Export / Import Difference



On the other hand, the domestic production of pearl (akoya cultured pearl) in FY2022 was 12,768 tons (about 3400 kan), and the preliminary figure for FY2023 was 12,100 tons (about 3200 kan). The production was reduced by about 200 tons (98.5%) from the previous year in 2022 and about 600 tons (94.7%) in 2023. This is the fifth consecutive year of the production reduction trend since 2019.

Meanwhile, the domestic retail market size of pearl jewelry in FY2023 was 143 billion yen, 96.8% compared to the previous year (Table 10). It has been maintained at the 140 billion yen level for three consecutive years since 2020, but the growth has reached a ceiling. Some department stores are seen to be booming due to sales to overseas customers attracted by the weak yen, but the domestic market as a whole is still on the way to recovery after the COVID-19 pandemic.

Based on the actual figures so far, the Japanese market has seen an increase in requests for collection of overseas cultured pearls, which are an alternative to akoya, against the backdrop of the domestic production reduction of akoya cultured pearls. However, domestic

consumption of these pearls is limited, and it can be seen that most of them are exported mainly to Hong Kong. FY2023 once again gave the impression that Japan is an importer of pearls.

Table 9: Akoya cultured pearl production (Kan) by year.

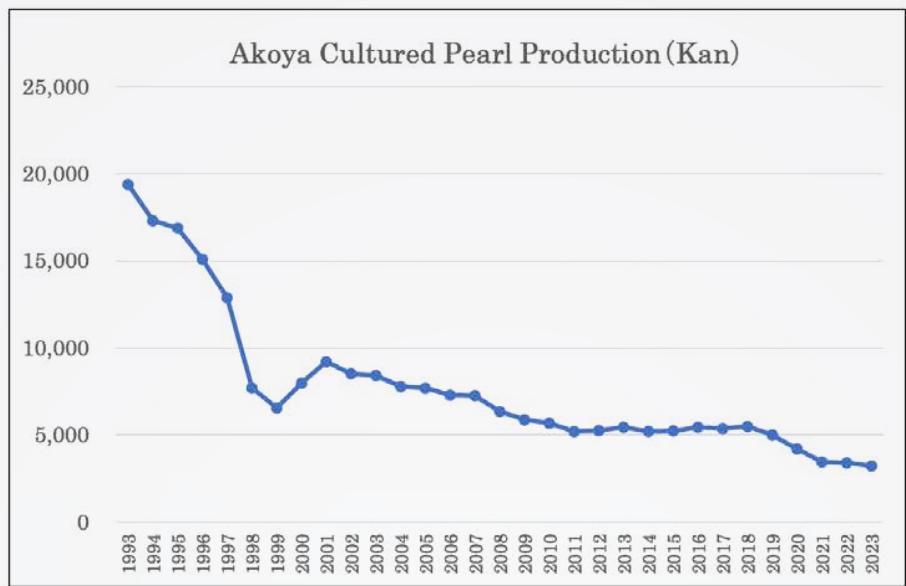
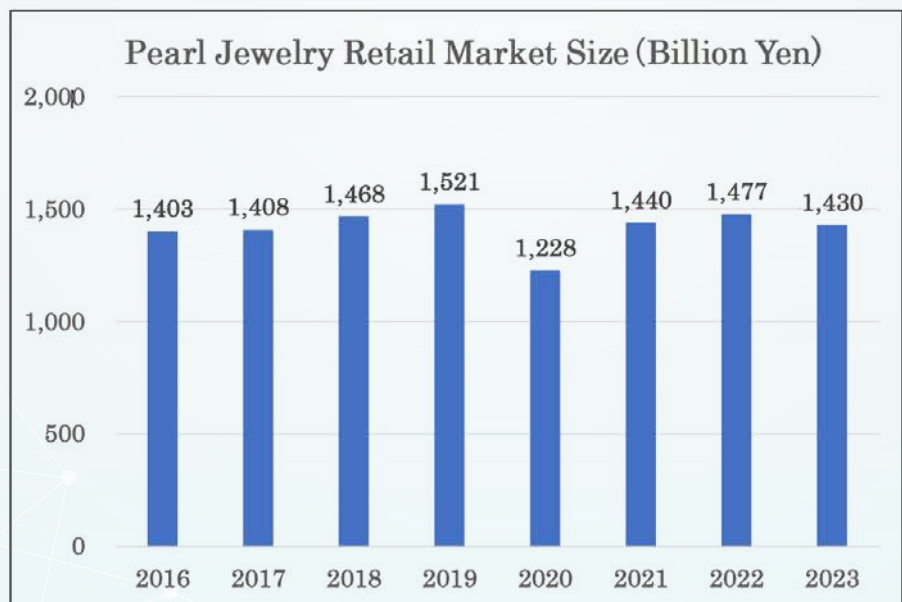


Table 10: Pearl retail jewellery sales in billion Yen.



Utilization of pearl oyster genome knowledge for sustainable pearl production

Cointribution from Ryuichiro Machizawa

A research group of the Okinawa Institute of Science and Technology Graduate University (OIST) Marine Genomics Unit, the University of Tokyo, and K. Mikimoto & Co. Ltd., sequenced the entire genome of akoya pearl oyster and published the results of the research in the online edition of the scientific journal DNA Research on February 7, 2012 (Takeshi and Hirotochi 2012). The akoya pearl oyster is facing a mass mortality crisis due to the effects of the red tide dinoflagellate *Heterocapsa circularisquama*, a new species of plankton that emerged in the 1990s, and red discoloration of the adductor muscle caused by bacterial infection (Fukuyo 2002; Yamaguchi 1997). The sequencing of the akoya pearl oyster genome makes it possible to study environmental changes in the ocean at the genetic level and protect akoya pearl oyster. In addition, future progress in experiments and analysis is expected to clarify the mechanism of producing pearls and apply it to quality control of akoya pearl oysters.



Figure 2: the Akoya Pearl Oyster

In addition, the Japan Pearl Promotion Society established a research center for akoya pearl oyster genome on April 1, 2024 in Shima City, Mie Prefecture (the Mikimoto satellite office of the Japan Pearl Promotion Society). This research center is equipped with advanced equipment for genome science and molecular biology research, and is working to realize sustainable pearl cultivation by utilizing akoya pearl oyster genome data.

Update report on the condition of the Bahrain pearl oyster beds.

Cointribution from DANAT

DANAT, the Supreme Council for Environment and the Directorate of Fisheries conducted a research project to assess the status of the pearl oyster beds around Bahrain, following the launch of the National Plan to Revive the Pearl Sector in 2016.

The temporal comparison was based on data collected during three phases of the project, which extended from 2020 to 2023. This was compared to data collected from a similar study in 2012. It was conducted to assess pearl oyster beds (also known as “Hayr” in the local language) and compare selected oyster bed areas in Bahrain over time. As a result of the project, several objectives were achieved, including determining the density and abundance of pearl oysters, the size structure and distribution of pearl oyster populations, and natural pearl yield changes.



Figure 3 One of the oyster beds (Hayr) that has been studied in the research

Compared to 2012, pearl oyster density increased in three sites (Hayr Bu Amamah, Hayr Bul Thamah, and the Buffer Zone) while the data for another site (Hayr Shtayyah) revealed a complex pattern indicating population decline. There was a shift in the population size structure from the older to the younger generation. Northern Hayrat saw a slight increase in natural pearl yield.

However, when each oyster bed area was compared individually, there was a significant difference in pearl yield and a shift in yield between sites. The results showed that there was no statistically significant difference since 2012 in pearl incidence. This temporal comparison provided critical insights into *Pinctada* sp. population dynamics across various sites. It also

highlights the need for continued monitoring to support species conservation. DANAT aims to continue the monitoring project in collaboration with pertinent government authorities



Figure 4: One of Danat's study team is evaluating the density and abundance of oysters

Paving the Way from Pearl Impact to Value

Cointribution from Pierre Fallourd

Pearl Development Community.

On 20 May 2024, the Gems and Jewellery Trade Association of China held the 2024 Pearl Industry Development Symposium in Haikou, China. Over 50 representatives from leading pearl farming enterprises and related organisations from Australia, China, French Polynesia, Hong Kong SAR, Indonesia, Japan, Myanmar, and Philippines participated to and supported the event.

The symposium provided an interpretation of the relevant tax policies of the Hainan Free Trade Port, exchanged views on the development status of the pearl industry in eight global pearl production areas, and analysed and discussed the development prospects of the global pearl market. Participants unanimously agreed that, despite the relative downturn in most jewellery markets in recent years, the global pearl market has shown remarkable growth and performance, yet there is still ample room for further development.

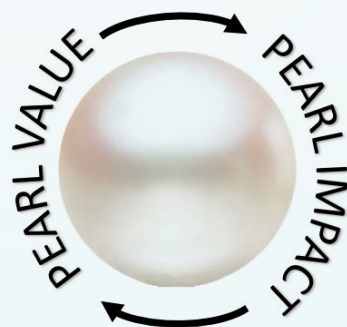
The symposium adopted the "Draft Statutes of the Pearl Development Community for Consideration" and the "Nominated List of Member Bodies of the General Conference of the Community for Consideration". It was decided to follow the trend of global economic integration, establish the Pearl Development Community, promote strong alliances, resource integration, and industrial integration in the global pearl industry, and work towards the "extensive consultation, joint construction, shared benefits" of the supply chain, industrial chain, talent chain, and innovation chain of the pearl industry. Practical efforts will be made in strengthening international trade and exchanges, promoting the transformation and upgrading of the pearl industry, enhancing high-quality sustainable development, and enhancing the worldwide brand influence of pearls.

To ensure a robust commencement for the Pearl Development Community, the following action plan was outlined:

- Actively pursuing favourable policies and efficient trading channels for global pearl trade,
- Advocating for the development of global pearl quality grading standards,
- Proactively promoting pearl culture in the contemporary era,
- Organising timely pearl culture exchanges in key pearl-consuming nations and regions to bolster the overall image and impact of the pearl industry.
- Conducting comprehensive research on the pearl industry, conducting statistical analysis of industry data, annually publishing reports on the development status of member bodies of the Pearl Development Community, actively providing consulting services and work recommendations, coordinating and resolving conflicts and issues, and promoting the sustainable high-quality development of the pearl industry.

Regenerative Pearl Farming EGE

Cointribution from Pierre Fallourd



Marine Pearl Farming

The Nature Conservancy supported by the Gemological Institute of America published in January 2024 the first ever regenerative aquaculture potential assessment applied to pearl farming.

The climate impact of saltwater pearls ranges from a few grams to a few kilos of CO2 equivalent (CO2-eq) per pearl harvested, ranking it among the lowest of all gem materials. The environmental impact of marine pearl farming varies greatly between species and locations, often as a result of farming operations. In the aquatic environment the oysters farmed will also provide benefits to the ecosystems in which they grow, values that can be included in analysis of the impacts of the life cycle of production of a pearl.

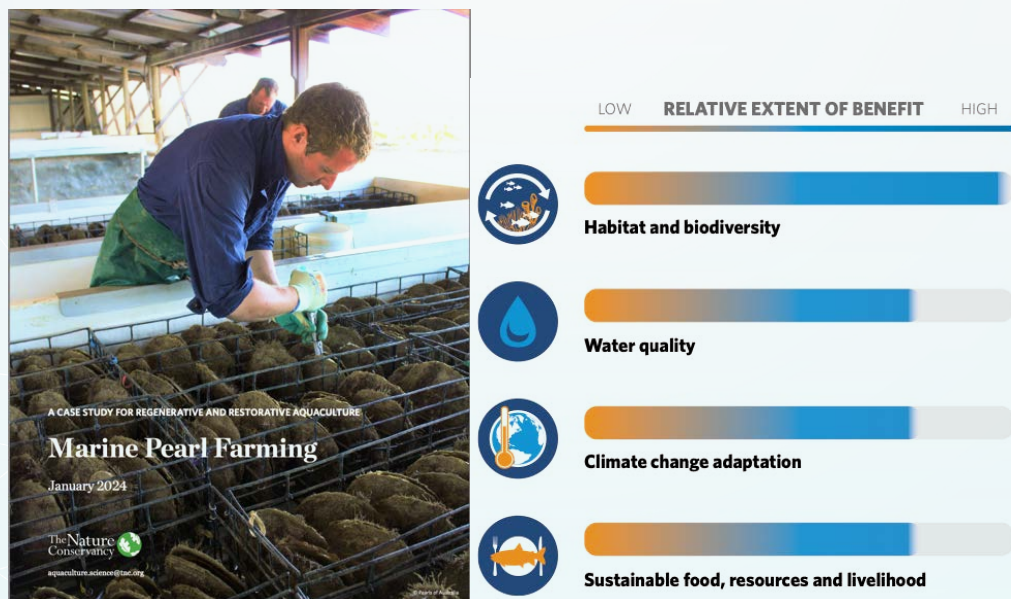
Oysters cycle carbon dioxide, enhance water quality, and create thriving ecosystems. In addition, crushed shells (and meat) can nurture soil, make cement and seed reefs, not to mention the long history of ornamental uses of nacre and the extraction of active ingredients for cosmetic and medical applications.

Intentionally applying best practices in marine pearl farming can:

- Reduce emissions, from a few kilos to a few grams of CO2-eq per pearl,
- Increase nutrient bio-extraction, specifically phosphorus and nitrogen,
- Improve marine life abundance and diversity,
- Provide communities with alternative livelihood opportunities.

The assessment was published alongside with a framework laying-out the basis of a standard assessment tool to measure and monitor the actual impact of shellfish aquaculture.

Discussions started with various pearl producers to set-up impact baseline measurement and monitoring protocols to confirm and demonstrate the expected net positive impact of pearl farming on an on-going basis.



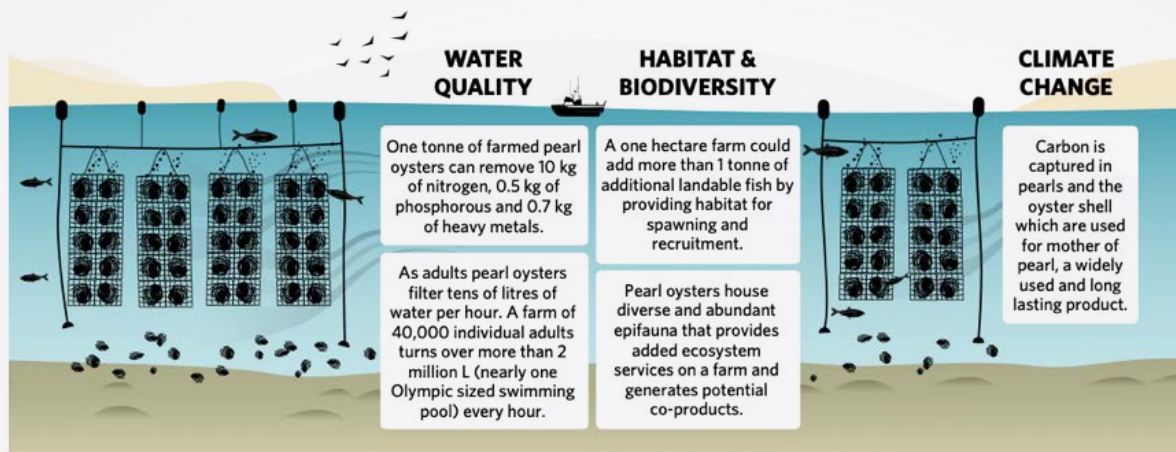
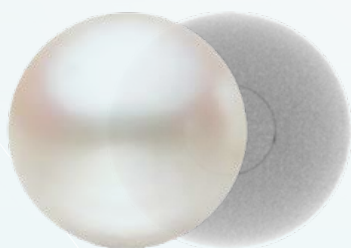


Image Credits: The Nature Conservancy

Freshwater Pearl Farming

The combined impact of pollution and climate change have severely affected the ability of producing quality freshwater and saltwater culture pearls alike. Facing urgent ecological issues, the Chinese government took drastic measure as early as 2017 to half the production which forced the industry to reinvent itself, explore alternative production method aiming at quality rather than volume. As a result, the range of freshwater pearls available is wider than ever, their quality drove prices up, and large-scale programs aim at restoring urban waterways turning mussels into bio extractors and fed aquaculture into a potential nature-based solution to restore ecosystems.

Natural Intelligence



Nacre is a core attribute to the value of a cultured pearl as its structure influences lustre, colour, shape, size and sometimes surface. Its relative thickness (typically proportionate to the nuclei size) and continuity (the absence of undersurface disruptions) are assessed to support pearls durability and rarity.

Nacre's unique structure – the foundation for all value factors - is strong (with extraordinary strength and toughness) but soft (low on Mohs) and sensitive to temperature, hygrometry and

light. Individual nacre platelet thickness supports lustre and can trigger structural colour (overtone and orient). Long wave and short wave ultra-violet reliably identify treatments which if excessive can negatively impact nacre.

Pearls reflect both the journey and the DNA heritage of the molluscs they grow within. Selective breeding and husbandry can influence cultured pearls physical attributes, but temperature, salinity and/or PH drive nutrients availability and aragonite crystals thickness which impact colour and lustre for all pearls.

The Japan Pearl Standards 2020 (Japan-Pearl-Promotion-Society 2020) lists nacre thickness alongside shape, surface, colour and lustre as part of the beauty of pearls but also mention the structural soundness of its organic matrix (conchiolin) as a factor of durability.

Table 11: Summary of “determining the jewel value of pearls” extracted from page 15 of the Japan Pearl Standards 2020.

	Beauty	Durability	Rarity
Characteristics	Shape, nacre thickness flaws, color, luster	Nacre thickness, structural soundness of organic matrix (conchiolin)	Overall ratio of high to low quality pearls produced
Improvement measures	Production to enhance quality, orientation towards nacre thickness	Treatments, stability	Maintaining a sustainable production rate

It is common for pearl producers to refer to nacre thickness and/or structure. Autore and Paspaley have been rating a pearl’s “grain” and nacre tightness and movement to value what can be described as the canvas on which the other value factors anchor themselves.

The Gemological Institute of America (GIA) has been working on defining and classifying nacre continuity (in addition to thickness and condition) as part of their GIA 7 Pearl Value Factors™ classification system, whilst also supporting pearl impact assessment pilot projects. For Saltwater cultured pearls, GIA currently applies standards for structural integrity and minimum nacre thicknesses (according to type), resulting in a designation of *Acceptable* or *Unacceptable*, as well as offering an optional nacre thickness measurement service.

“We recently updated our pearl reports to include Peacock and Hanadama (GIA 2023) comments (in addition to our existing Golden comment) to acknowledge and support important trade denomination.” said Chunhui Zhu, head of GIA global pearl identification division.

“We are currently finalizing the parameters of a scale for what GIA refers to as ‘nacre continuity,’ to classify the continuity of the concentric nacre layer deposition around a pearl nucleus. This scale will provide more specificity on nacre quality and complete GIA’s pearl classification system in the near future.” Nacre continuity reflects the quality of both the human care and natural environment in which pearls form” he added (Liddicoat 1967).

Australian update

Cointribution from Peter Bracher

The Australian pearling industry uses predominantly wild-caught *Pinctada maxima* pearl oysters for South Sea pearl production. For the past 40 years, the number of pearl oysters collected each year has been regulated through a system of licenses and quota. Wild oysters are hand-collected by divers which prevents damage to the seabed and avoids collection of by-catch.

Wild oysters are larger in size and have greater hybrid vigour than hatchery-reared oysters. This means they have greater disease resistance and produce larger pearls. Another benefit of using wild oysters is that that we still find important natural pearls.

The wild oyster population is assessed annually by the Western Australian Department of Fisheries which sets a sustainable annual catch limit. The total allowable catch varies from year to year depending on variations in population of both juvenile and mature oysters on the pearl beds. These measures ensure this important natural resource is used in a sustainable way that assures its long-term health and viability. In addition to regulation of the wild oyster fishery, Australian pearl farms are also regulated through a combination of Crown leases, licenses and a quote system that sets a maximum number of oysters that can be farmed and seeded each year.



Figure 5: Diving for wild shell Western Australia.

The wild *Pinctada maxima* fishery has been certified as sustainable by the Marine Stewardship Council since 2018. It was re-certified in 2023 and this certification is valid to 2028.

Paspaley's *P. maxima* pearl fishery certification process was independently evaluated by bio.inspecta and accredited by ASI under the ASI-ACC-041 voluntary sustainability standard.

In recent years, both the total allowable catch and the catch rate (the number of oysters that can be collected by a diver per hour) have been increasing. This is a strong indicator that the wild oyster population is in excellent condition.

Although the pearl trade is aware of the regulation of Australia's industry, there is a common misconception that production can be increased to meet demand when the market is strong. In reality, the annual catch rate is determined solely on the basis of sustainability and without regard to market conditions. Because of the long husbandry period of two to three years, production increases can only occur gradually over an extended period. We expect production remain relatively stable for the foreseeable future.

Large Freshwater Cultured Pearls with Atypical Bead Nuclei

Cointributions from GIA

Recently, GIA's New York laboratory examined two necklaces consisting of large pearls of mostly orangy pink to purplish pink colors, ranging in size from 15.40 to 17.42 × 16.70 mm and from 18.00 to 19.96 × 19.06 mm (Figure 6). From the first impression, these pearls resemble the freshwater bead cultured pearls of large size commonly known as "Edison" (C. Zhou, Ho, J.W.Y., Shih, S.C., Tsai, T., Sun, z., Persaud, S., Qi, L. 2021) pearls in the trade. However, they caught our attention with unusual internal growth features found under X-ray-microradiography.

Real-time X-ray microradiography revealed that all the pearls were bead cultured—but not with the shell bead nuclei typically used for cultured pearls (Figure 7). Instead, a more X-ray transparent material with a distinct outline and near-round shape was found inside them. The material appeared porous and nonuniform and did not resemble the "mud-like" material found in "soufflé" freshwater cultured pearls previously studied. However, the exact nature of this material could not be determined. Energy-dispersive X-ray fluorescence analysis of their trace elemental concentrations of manganese and strontium confirmed that the pearls were grown in a freshwater environment. Furthermore, Raman spectroscopy using 514 nm laser excitation indicated that their colors were natural, with two strong peaks around 1125 and 1510 cm⁻¹ associated with natural polyenic pigments.

Cultured freshwater pearls with large size, a near-round shape, and intense coloration are highly sought after and more valuable than traditional freshwater cultured pearls. These large freshwater cultured pearls are especially noteworthy because of the unique bead nuclei used

during the culturing process, which suggests that culturing techniques are continuously evolving, resulting in higher-quality products. This finding was originally reported as a lab note in 2024 spring issue of Gems & Gemology (C. Zhou, Yazawa, E., Dragone, M. 2024).



Figure 6: These two necklaces consisting of large freshwater cultured pearls displayed strong hues with orient.
Photos: Sood Oil (Judy) Chia, GIA.

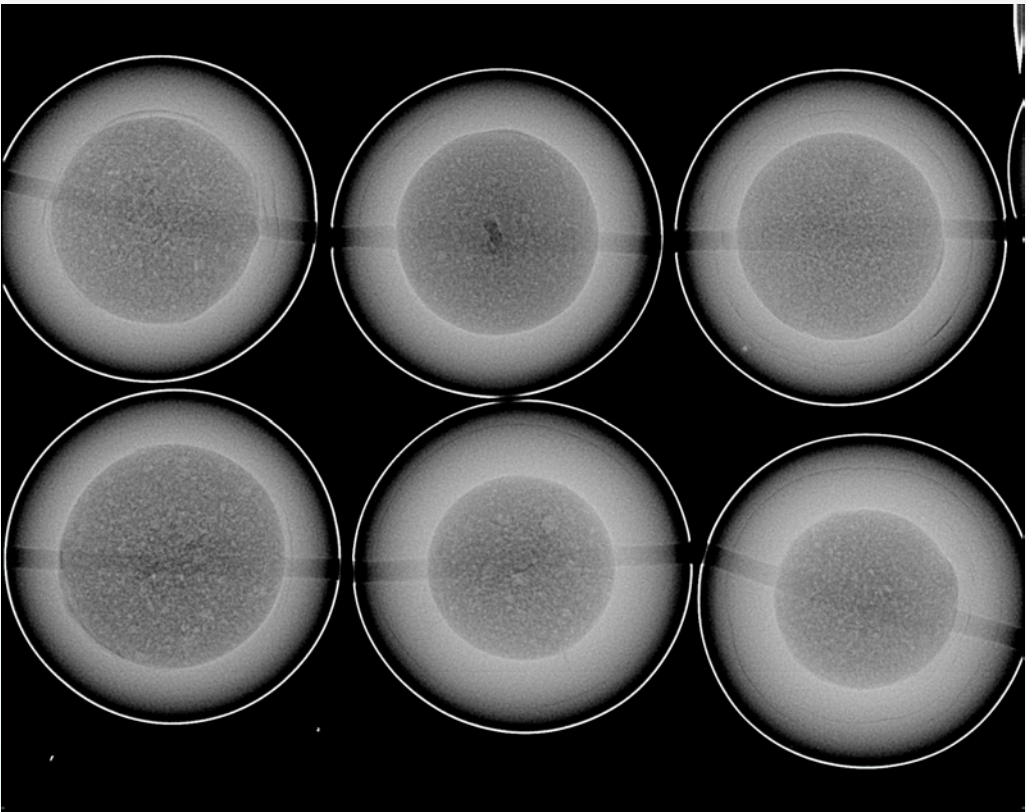


Figure 7: X-ray analysis revealed the near-round atypical bead nucleus used to culture each of the pearls.

Natural Pearls from the Placunidae Family (Windowpane Oysters)



Figure 8: Two loose pearls from windowpane oysters submitted to the GIA Bangkok laboratory and a mixed strand containing mostly windowpane and *Pteria* species pearls submitted to the GIA New York laboratory. Photo: Jian Xin (Jae) Liao, GIA.

GIA's Bangkok and New York laboratories recently reported unusual natural pearls produced by molluscs belonging to the *Placuna* genus in the Placunidae family, or commonly known as "windowpane oysters (Anonymous 2024b) (Figure 8). The studied pearls were variously shaped, measuring 3 to 8 mm. Their bodycolors ranged from silver to brown or gray, with varying degrees of tone and saturation.

Windowpane oysters are found along the coasts of India, Malaysia, China, and the Philippines. *Placuna* mollusks are widely valued for their thin, durable mica-like translucent flat shells, called capiz shells, which were once a popular alternative to glass and often used as windowpanes and decorations. Although the mollusks were also known to produce small pearls, these were not commercially available until recent decades.

Pearls produced by these unique mollusc species (Achuthankutty 1979) exhibit certain characteristics that can be identified using gemological and advanced instrumental techniques. Viewed under 40× magnification, they display diagnostic surface features of distinctive mosaic or botryoidal patterns, but could also show overlapping platelets typically found in nacreous pearls (Figure 9).

Under long-wave ultraviolet radiation, the pearls can display a striking reddish fluorescence, particularly in the darker areas, which is comparable to the reactions observed on the windowpane oyster shells (Figure 10). Similar reddish fluorescence has been observed in dark pearls from the *Pteria* species. However, it is important to note that the composition of calcite in windowpane pearls and aragonite in *Pteria* pearls can be distinguished using Raman spectroscopy. Additional analytical results such as UV-Vis reflectance features, Raman photoluminescence features, and their internal growth structures can also be used for identification purposes (Ho 2024).

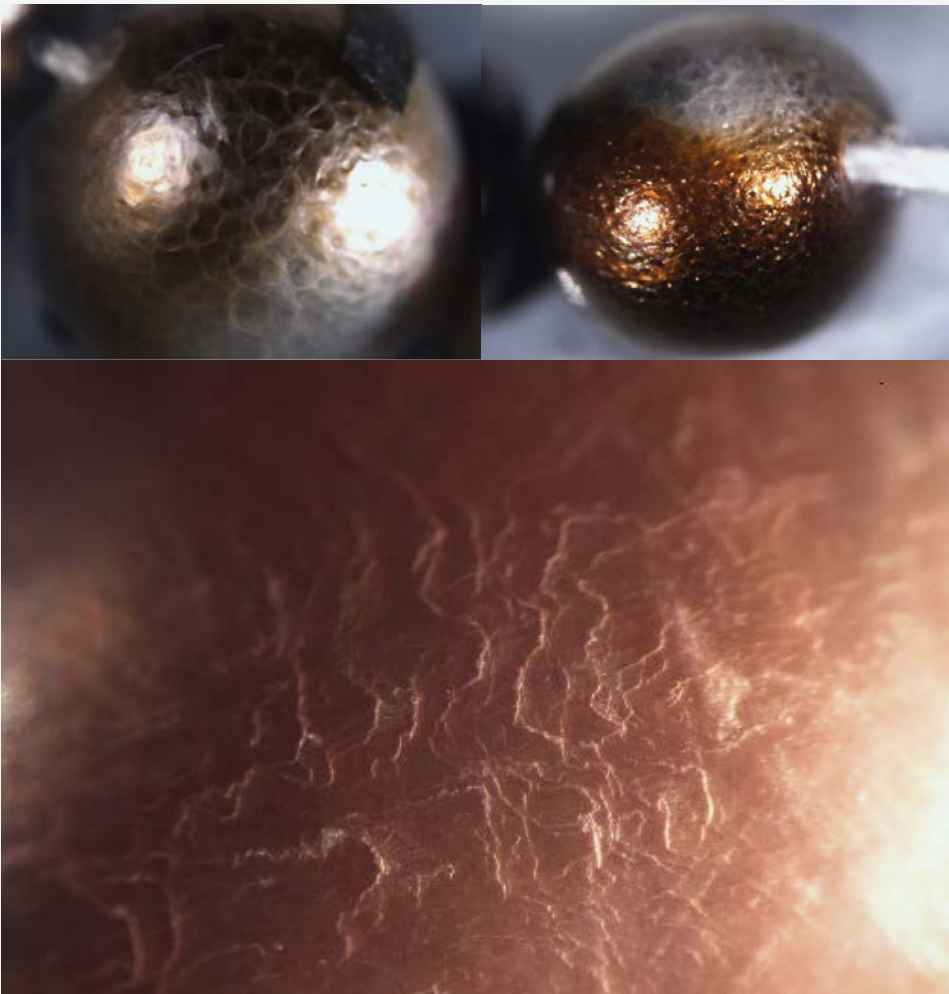


Figure 9: Characteristic surface features of mosaic pattern (A) and botryoidal structure (B) were observed from the windowpane pearls in the necklace, and the typical nacreous-looking surface of fingerprint-like platy structure (C) was observed on a loose windowpane pearl. Field of view 7.19 mm, 9.61 mm and 2.90 mm respectively. Photos: Joyce Wing Yan Ho (A, B) and Artitaya Homkrajae (C), GIA.

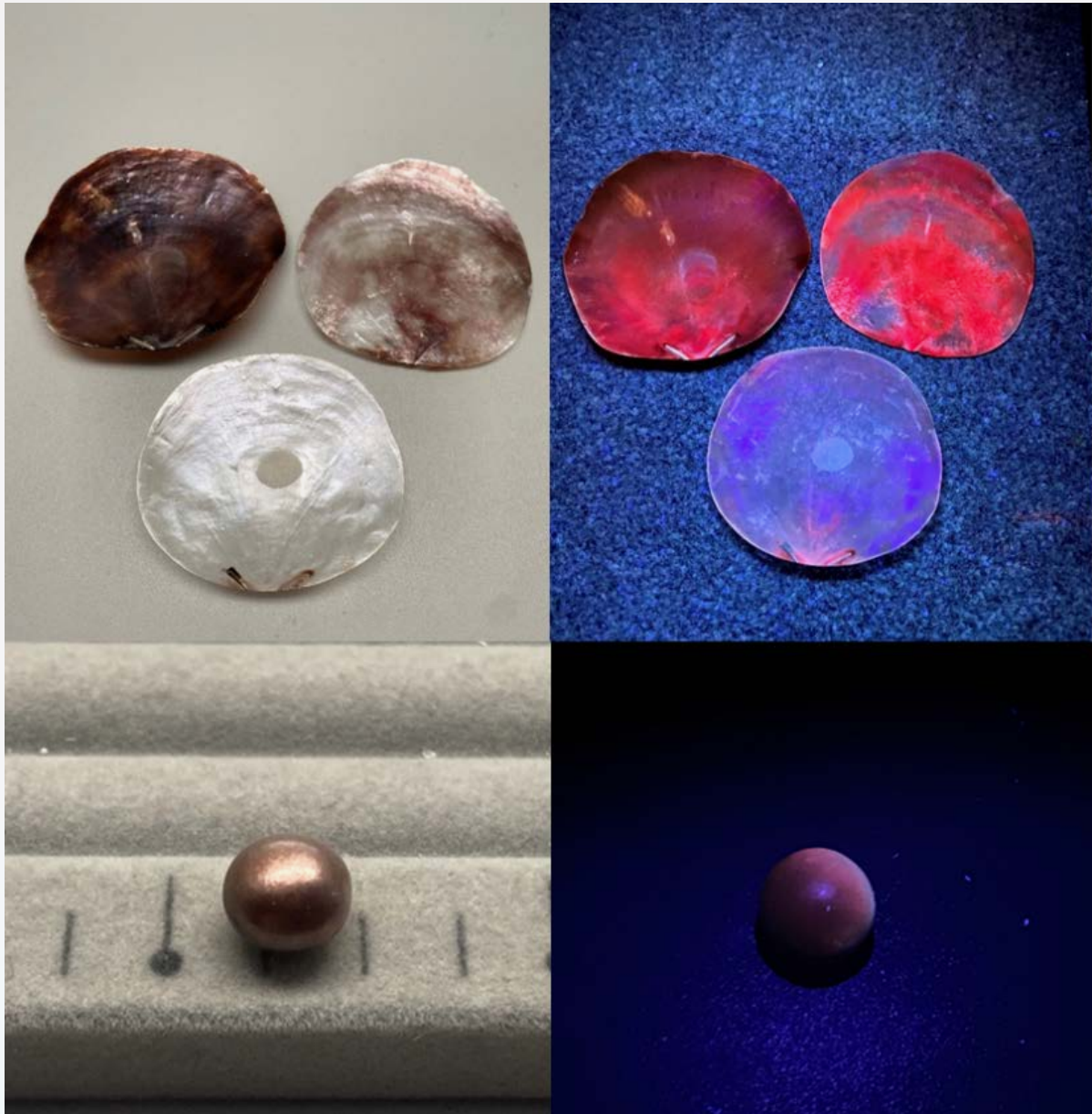


Figure 10: Three variously coloured windowpane shells and a brown windowpane pearl, shown in daylight (left) and long-wave UV light (right). Photos: Joyce Wing Yan Ho (top) and Kwanreun Lawanwong (bottom), GIA.

Ancient Pearls From Bahrain

Cointributions from DANAT

Over the course of history, Bahrain has been referred to be the country of immortality. Gilgamish (Anonymous 2024a), the warrior, journeyed to Bahrain in search of the pearl oyster, which was believed to hold the secret to eternal life. Ancient historians such as Pleny the Elder wrote about Tylos (an ancient name of Bahrain) and the abundance of natural pearls on

its shores. Bahraini pearls were sought after by jewellers throughout history because they were renowned for their exquisite luster and shape.

Although historians wrote about Bahrain and natural pearls, there were no analytical studies conducted on any ancient Bahraini pearls. This is the reason the Bahrain Institute for Pearls and Gemstones (DANAT), in collaboration with the Bahrain National Museum and the Massachusetts Institute of Technology (MIT), sought to study eight ancient pearls excavated in Bahrain at different archeological sites from the Dilmun, Tylos and Islamic periods. The aim of the research was to determine the geographical origin of the pearl species. By analyzing this information, it might be possible to ascertain if the pearls originated from Bahrain or were imported from various sources, thereby mapping out the ancient trading routes.

A total of eight pearls recovered from archaeological sites in Bahrain have been analyzed to determine their physical and chemical characteristics. The pearls have a weight range of 0.2 to 1.57 carats with near-round, button, and near-baroque shapes. The pearls exhibited colours from light cream to yellow, with certain specimens displaying hints of pinkish and purplish hues. The pearls were examined using different test methods that are typically used to identify pearls.

The examination of the surface characteristics of the pearls indicated that they had not undergone any form of treatment, regular cleaning or bleaching. They plainly exhibit signs of ageing and still retain traces of the dirt from which they were collected. Three out of eight pearls have been drilled, and it appears that the drilling process was carried out using antiquated tools. The pearls exhibit several imperfections, including pits and scratches (Figure 11).



Figure 11: Sample of three pearls that have undergone testing. The pits and scratches exhibit clearly apparent

X-ray microradiography and x-ray microtomography (micro-CT) revealed natural growth structures, with some displaying the distinctive concentric pattern of natural pearls resembling a tree trunk cross-section. Additionally, there are pearls that included a prominent calcite core, while the remaining pearls exhibit faint features that are associated with their natural growth. The internal structures observed for pearls from the *Pinctada radiata* oyster found around Bahrain are quite comparable.

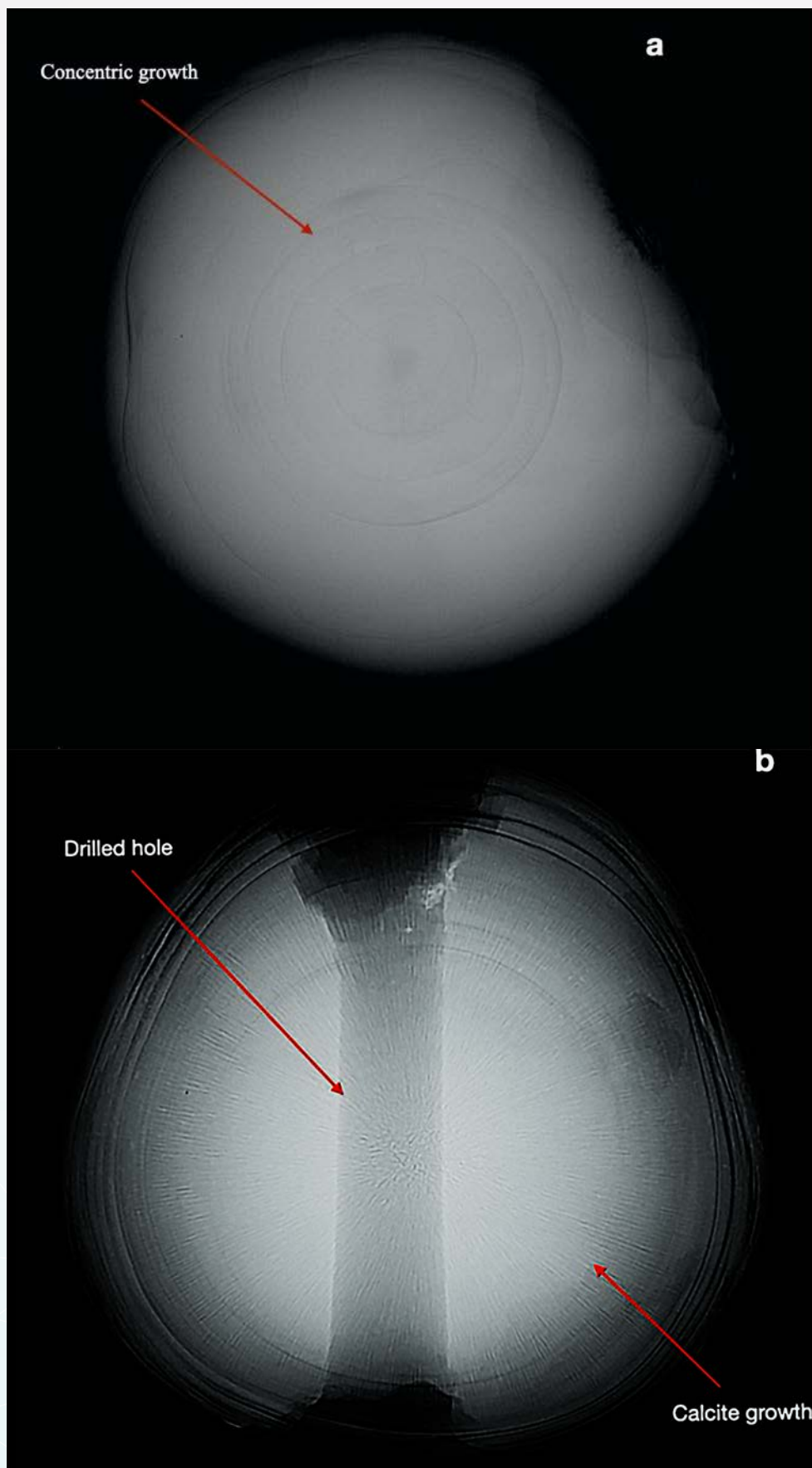


Figure 12: X-Ray microradiography images of two pearls (a) exhibiting a circular growth pattern and (b) showing calcitic growth.

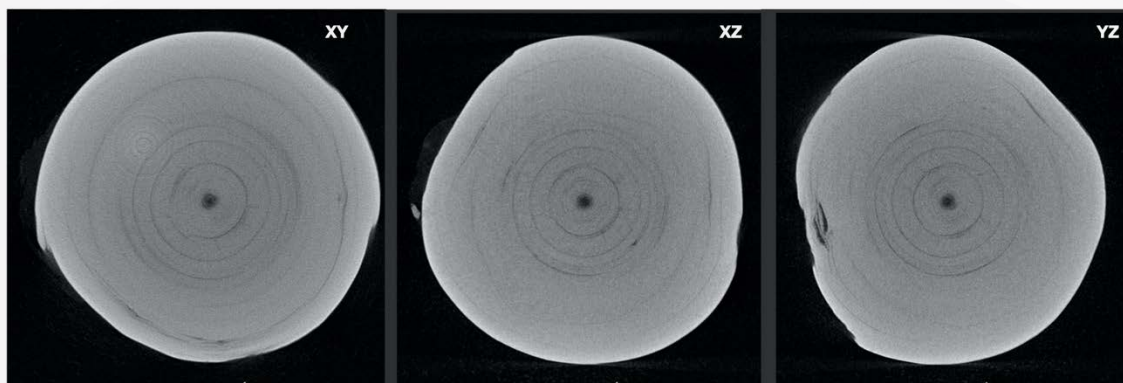


Figure 13: The MicroCT images of one of the samples clearly showing the circular growth pattern of a natural pearl in three directions.

EDXRF analysis confirms that all the pearls are derived from the shells of Pinctada species in a saltwater environment. Additionally, no discernible pigment peaks or absorption were detected in the UV-vis and Raman spectra, which could aid in identifying the specific shell species. DANAT will maintain its collaboration with the Bahrain National Museum to conduct additional investigations utilizing advanced chemical analysis techniques such as LA-ICP-MS and DNA analysis. These methods will be employed to establish the provenance of the shell species, while Carbon-14 dating analyses will be employed to ascertain the age of pearl creation.

Traditional Bleaching for Natural Pearls

Hydrogen peroxide (H_2O_2) is commonly employed as a bleaching chemical by pearl traders in Bahrain. The primary objectives are to cleanse the pearls and enhance the uniformity of their pearl collections. To achieve this, a gentle bleaching procedure is employed to avoid any harm to the valuable natural pearls. A diluted solution of hydrogen peroxide is typically employed, often in conjunction with undisclosed chemical agents or/and elevated temperatures to expedite the process. The duration of the process typically spans a few days, however in certain instances it may extend beyond that timeframe. The outcome of this procedure yields natural pearls that are cleaner in appearance, exhibiting a consistent white to cream coloration. DANAT conducted an experiment to investigate the detection methods for this type of treatment. The experiment utilized natural pearls of the species Pinctada radiata, which were obtained by Danat from the northern region of Bahrain. Analytical techniques such as Raman spectroscopy, UV-vis spectroscopy, and fluorescence spectroscopy were used to analyse the pearls. In addition, high-resolution surface pictures were obtained using X-ray and X-ray tomography before the pearls underwent treatment.

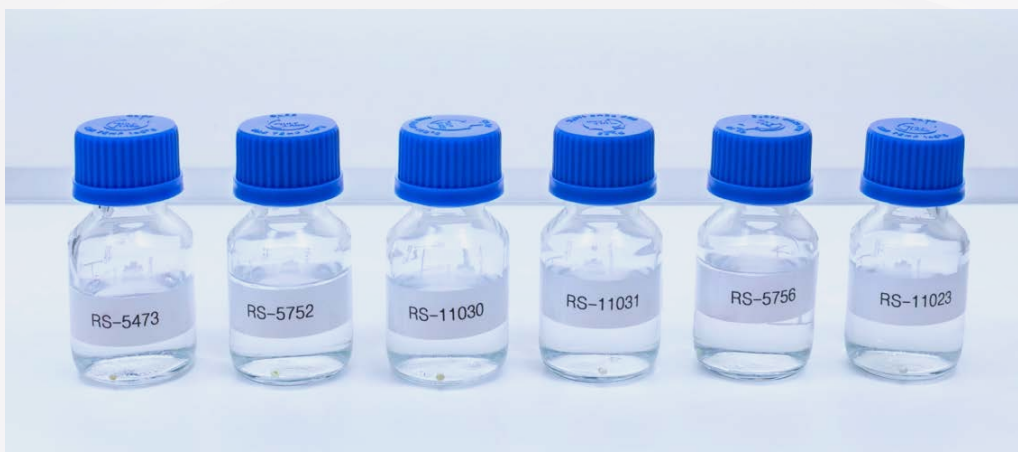


Figure 14: Each pearl was individually handled in a bleaching experiment for the purpose of tracking

An experiment on bleaching treatment has been designed and conducted in the DANAT laboratory, following certain methods that were disclosed by traders, with some alterations. Data have been consistently collected at 2-hour intervals for a total duration of 12 hours. Upon analysis, it is evident that the pigments peaks shown in the Raman spectra have undergone a decrease in intensity over time. This can be attributed to the bleaching process, which gradually breaks down the chemical bonds of the pigment, resulting in a less pronounced appearance.

Prior to treatment, the fluorescence spectra exhibited a wide peak at 470nm. However, throughout the treatment, this peak gradually changed to become the highest at 450nm. DANAT is continuing its investigation in order to provide a quick and straightforward approach for detecting any bleaching that has been done on natural pearls.

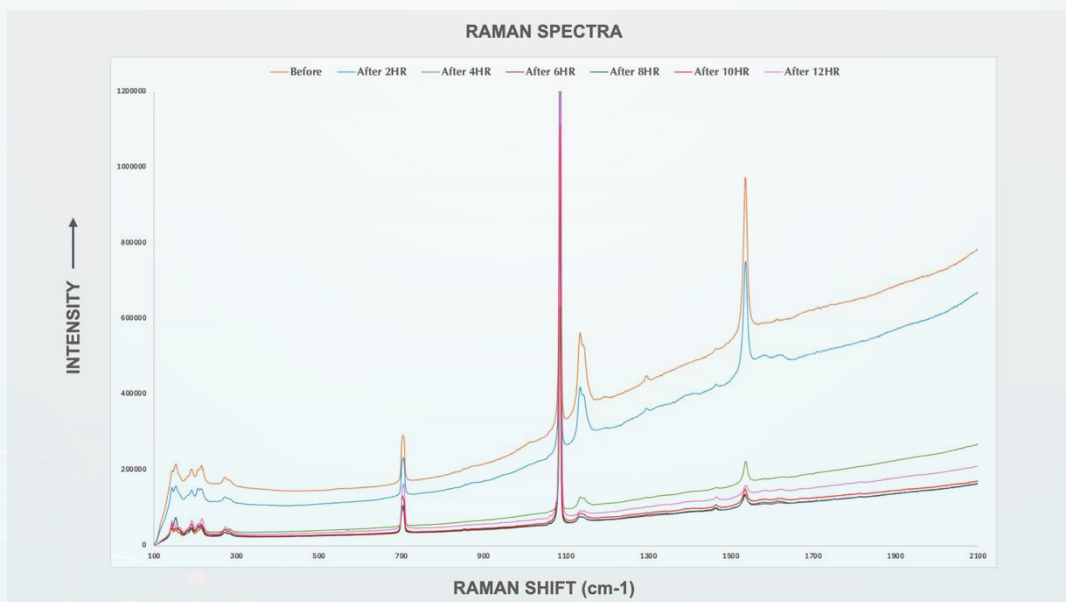


Figure 15: The Raman spectra demonstrate a decrease in the strength of the peaks corresponding to polyenes as time increases

References

- Abd-Elkader, A., Hamed, S.A.E., Mahdy, A., Shabaka, S. (2023), 'Microplastics in marine invertebrates from the Red Sea Coast of Egypt: Abundance, composition, and risks', *Marine Pollution Bulletin*, 197, 115760.
- Abdel Ghani, S. A., Shobier, A.H., El-Sayed, A. A.M., Shreadah, M. A., Shabaka, S. (2023), 'Quantifying microplastics pollution in the Red Sea and Gulfs of Suez and Aqaba: Insights from chemical analysis and pollution load assessment', *Science of The Total Environment*, 901, 166031.
- Achuthankutty, C.T., Sreekumaran Nair, S.R., Madhupratap, M. (1979), 'Pearls of the Windowpane oyster, *Placuna placenta*', *Mahasagar=Bulletin of the National Institute of Oceanography*, 2 (3), 187-9.
- Anonymous (2024a), 'Epic of Gilgamesh', in The Editors of Encyclopaedia. (ed.), *Britannica* (<https://www.britannica.com/topic/Epic-of-Gilgamesh>): Britannica).
- (2024b), 'Windowpane oyster', *Wikipedia* (https://en.wikipedia.org/wiki/Windowpane_oyster): Wikipedia).
- Fukuyo, Y., Imai, I., Kodama, M., Tamal, K. (2002), 'Red tides and other harmful algal blooms in Japan', in F.J.R. Taylor, Trainer, V.L. (ed.), *Harmful algal blooms in the PICES region of the North Pacific*. (1; Sidney Canada: North Pacific Marine Science Organization (PICES)), 7-20.
- GIA (2023), 'GIA Adds 'Hanadama' Quality Range Comment to All Pearl Classification Reports', (<https://www.gia.edu/gia-news-press/hanadama-quality-range-comment-added-to-pearl-classification-reports>: Gemological Institute of America).
- Habib, R.H., Thies, T. (2022), 'Microplastic in the marine environment of the Red Sea – A short review', *Egyptian Journal of Aquatic Research*, 48 (4), 383-88.
- Ho, J.W.Y., Lawanwong, K., Homkrajae, A. (2024), 'Pearls from the Placunidae Family (Windowpane Oysters)', *Gems and Gemology*, 60 (1).
- Japan-Pearl-Promotion-Society (2020), 'Pearl Standard 2020', (<https://jp-pearl.com/wp-content/uploads/2022/05/Pearl-Standard-2020-New-Edition.pdf>: Japan Pearl Promotion Society), 91.
- Liddicoat, R.T. (1967), 'Cultured Pearl Farming and Marketing', *Gems and Gemology*, XII (6), 162-72.
- Lu, F., Guo, C., Mkuye, R., Chen, W., Yang, X., Zhou, Z., He, Y., Yang, C., Deng, Y.H. (2024), 'Effects of polyvinyl chloride microplastic on pearl oyster (*Pinctada fucata martensii*)', *Regional Studies in Marine Science*, 69, 103313.
- Mkuye, R., Huang, L., Yang, C., Yang, X., Masanja, F., Ibrahim, S., Lu, F., Zhu, S., Hailing Wu, H., Deng, Y. (2024), 'The impacts of PVC microplastics on physiology and transcriptomic responses of pearl oyster *Pinctada fucata martensii*', *Journal of Oceanology and Limnology*.
- Takeshi, T., Takeshi, K., Ryo, K., Fuki, G., Makiko, T., Tetsuro, I., Eiichi, S., Mayuki, F., Chuya, S., Kanako, H., Manabu, F., Takeshi, U., Kiyohito, N., Kaoru, M., Kikuhiko, O., Hideo, A., Takashi, I., Tetsuji, M., Atushi, F., Kazuyoshi, E., and Hirotoishi, E., Hiromichi, N., Shigeharu, K., Shuichi, A., Shugo, W., Nori, S., (2012), 'Draft Genome of the Pearl Oyster *Pinctada fucata*: A Platform for Understanding Bivalve Biology', *DNA Research*, 19 (6 February), 117-30.
- Yamaguchi, M., Itakura, S., Nagasaki, K., Matsuyama, Y., Uchida, T., Imai, I (1997), 'Effects of temperature and salinity on the growth of the red tide flagellates *Heterocapsa*

- circularisquama (Dinophyceae) and Chattonella verruculosa (Raphidophyceae)', *Journal of Plankton Research*, 19 (8), 1167-74.
- Yassien, M.H., El-Ganainy, A.Z., Hasan, M.H. (2009), 'Shellfish Fishery in the North Western Part of the Red Sea', *World Journal of Fish and Marine Sciences*, 1 (2), 97-104.
- Zhou, C., Ho, J.W.Y., Shih, S.C., Tsai, T., Sun, z., Persaud, S., Qi, L. (2021), 'Detection of Color Treatment and Optical Brightening in Chinese Freshwater “Edison” Pearls', *Gems and Gemology*, 57 (2), 124-34.
- Zhou, C., Yazawa, E., Dragone, M. (2024), 'Large Freshwater Cultured Pearls with Atypical Bead Nuclei', *Gems and Gemology*, 60 (1), 63-4.

INTRODUCING
POLITAINS





Company Information:

Politains

Seestrasse 361
8038 Zurich
Switzerland

Contact Person:

Fanny Chan
Founder
fanny@politains.com
+41 79 528 34 83

Industry category

- Diamonds and Precious Stones
- Jewellery

Website:

www.politains.com

Company Description:

Custom-made high-end jewellery
made with precious stones.

Number of employees: 1-10

Case study:

Specific traceability use case:

We give a certificate with provenance of the stone

Socio-Economic Actions:

Community Support:

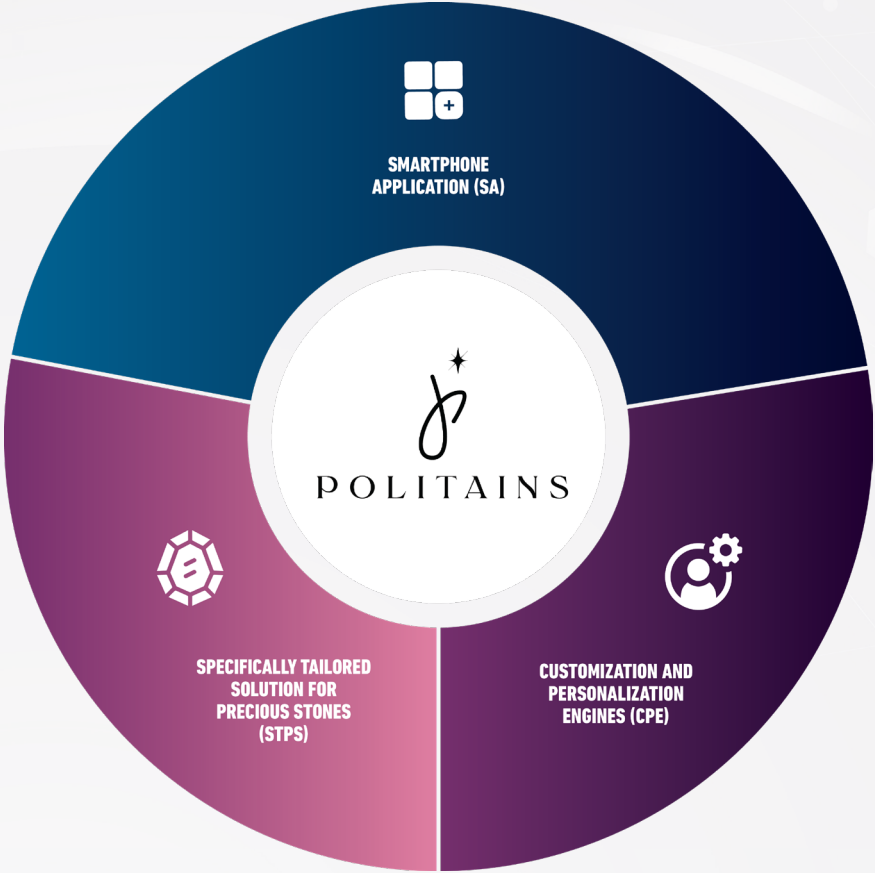
We work exclusively with family businesses for the sourcing of our stoness so that it helps local communities.

Legend:

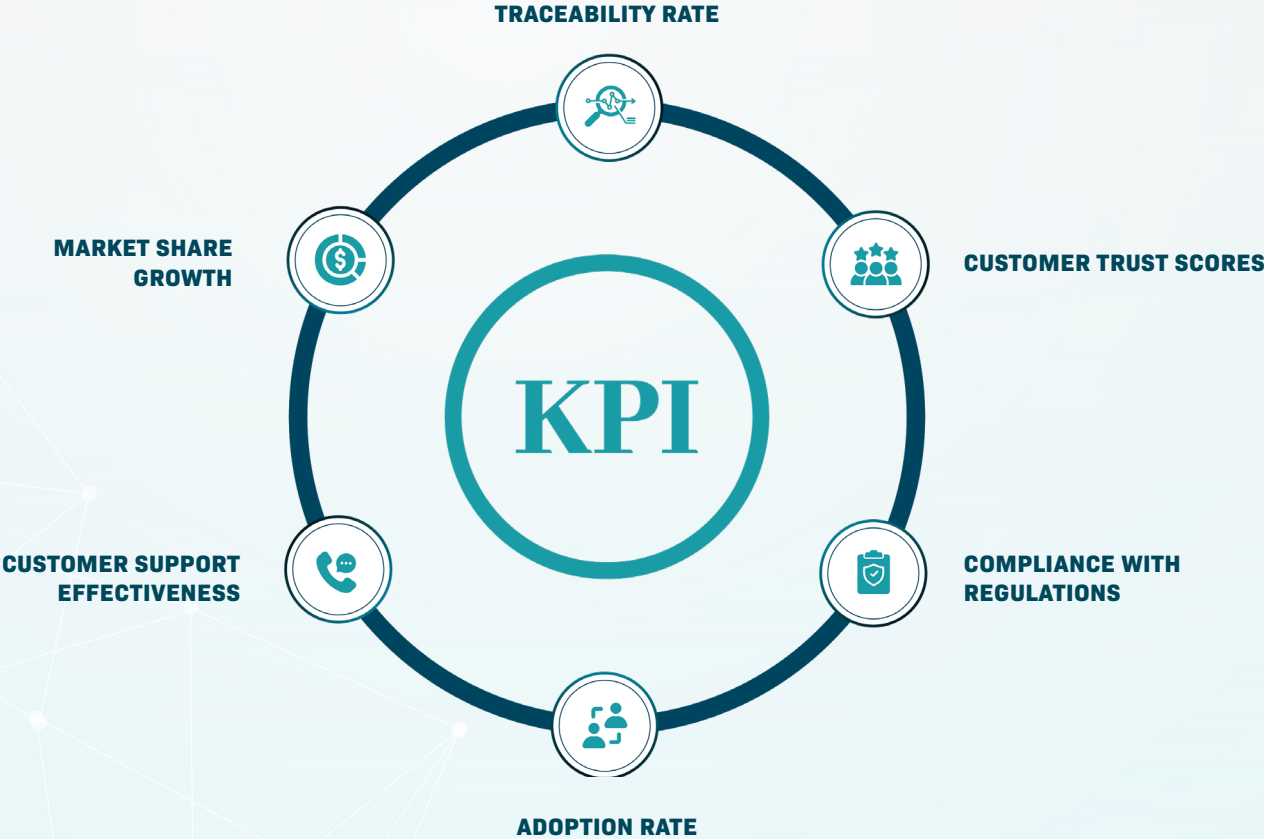
- Core Organization
- Partnerships
- Clients



Technology Used:



KPIs used to measure the effectiveness of our solution.





INTRODUCING

PROCOS

PROCOS

PROCOS

Company Information:

PROCOS

Gottfried-Keller-Strasse 37
81245 Munich
Germany

Contact Person:

Murielle Re-Collaud
Key Account Manager
mrecollaud@procos.info
+41789222373

Industry category:

Luxury Packaging

Website:

www.procoss.info

Company Description:

We are your direct partner for sustainable luxury packaging solutions, and connected logistics services for worldwide luxury brands.

Number of employees: 51-200

Company's tagline:

Luxury packaging by experts



MISSION

Our mission is to develop customized packaging solutions in line with the luxury brands' Art of Gifting, and by respecting the environment.

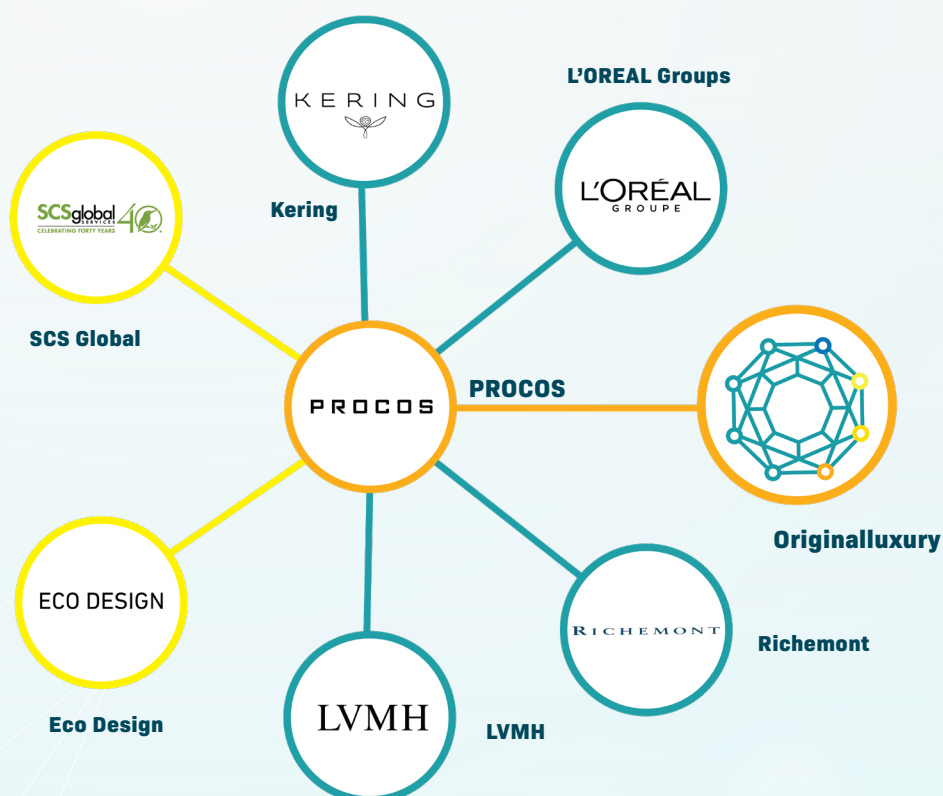
Legend:

- Core Organization
- Partnerships
- Clients

KPIs used to measure the effectiveness of our solution.



SUSTAINABILITY IMPACT





ORIGINALLUXURY

INTRODUCING

SASKIA SHUTT



SASKIA SHUTT

JEWELLERY DESIGNER & GOLDSMITH



Company Information:

Saskia Shutt

Dansaert Centrum, Aalststraat 7-11
Brussels, Belgium

Contact Person:

Saskia Shutt
Owner
jewellery@saskiashutt.com
+3228808251

Industry category:

Jewellery

Website:

www.saskiashutt.com

Company Description:

Independent artisanal goldsmith,
works to order only in Fairmined
eco gold and also remodelling of the
customer's old gold jewellery.

Number of employees: 1-10



MISSION

My mission is to create bespoke, timeless jewellery that reflects both exceptional craftsmanship and a deep commitment to sustainability. I work closely with my clients to bring their unique visions to life, using ethically sourced materials and meticulous attention to detail. Every piece I create is not only a celebration of artistry but also a responsible choice that respects both people and the planet.

Company's tagline:

Jewellery to be proud of



VISION

To create timeless jewellery that reflects ethical craftsmanship, celebrates individuality, and ensures full transparency and sustainability throughout the entire supply chain, and fosters a sustainable future for both people and the planet.



IMPACT

- In my jewellery business, I focus on creating bespoke pieces, which means I don't keep stock or participate in sales to clear overstock. This allows me to operate sustainably without contributing to excess waste or the push to sell unnecessary inventory.
- I also dedicate 50% of my work to remodelling customers' old jewellery. Clients bring in their unworn and unwanted pieces, which I carefully dismantle, remelt, and transform into new, bespoke jewellery. This process not only gives new life to old treasures but also reduces the need for new raw materials.
- In my workshop, I've replaced harmful chemicals with natural and bioproducts wherever possible, ensuring that I'm protecting both my health and the environment. By sourcing Fairmined gold, I make a direct impact on the lives of miners and their communities. They receive fair wages, have access to medical care, life insurance, and pensions, and their children can attend school. The premiums they earn from Fairmined gold allow them to adopt safer, modern techniques—eliminating the use of toxic chemicals like mercury and cyanide. They now rely on solar-powered shaking tables and, in some cases, have returned to traditional panning and sifting methods.
- Even the water used during mining is collected in basins, filtered, and reused, ensuring minimal impact on the environment. Once a mine has been fully excavated, it's refilled and transformed into a green zone, revitalizing the land and leaving a positive environmental footprint.
- In my workshop, all metal waste is collected in a recycling bin. Once I accumulate 100 liters, I take it to a refinery where it is melted, separated, refined, and resold into the industry, ensuring that even my waste materials are repurposed responsibly.
- By making conscious choices at every stage of my work, I aim to create jewellery that not only tells a unique story but also reflects my deep commitment to the planet and its people.

Company's values



Sustainability



Craftsmanship



Customer Satisfaction

Originalluxury



Saskia Shutt

Alliance for Responsible Mining

Diamond for Peace

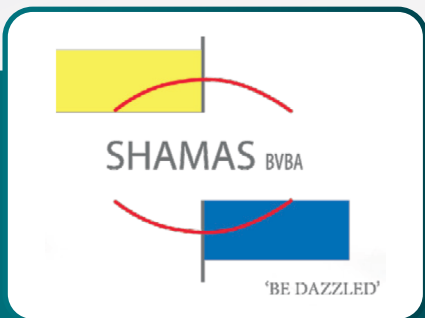
Legend:

- Core Organization
- Partnerships
- Clients

INTRODUCING

SHAMAS





Company Information:

SHAMAS BV

Hoveniersstreet 30
ADH Building 30
2018 Antwerp
Belgium

Contact Person:

Anuj Sahny
Director
ANUJ@SHAMASBVBA.COM
+32475710390

Industry category:

- Diamond only
- Diamond jewellery only

Number of employees: 1-10

Company's Tagline:

'BE-DAZZLED' Completing your Diamond requirements



VISION

At Shamas bv, we envision a future where diamonds not only symbolize beauty and craftsmanship but also embody sustainability, transparency, and responsibility. We strive to set an industry standard by offering nearly 100% diamonds and pioneering eco-conscious practices. Our commitment is to ensure that every diamond reflects ethical sourcing, environmental stewardship, and innovation, while enhancing the lives of those who touch and wear them.



IMPACT

At Shamas bv, we are doing our part to drive positive change by integrating sustainability and transparency at every stage of our process. Through our nearly 100% diamonds, we ensure ethical sourcing and full accountability, from mine/miner to market. Our sustainability efforts, including carbon neutrality initiatives and support for wildlife and nature preservation, reflect our deep commitment to giving back to communities and protecting the natural world. We believe in not only delivering exquisite diamonds but also contributing to a future where luxury and responsibility coexist, honoring both people and the Earth.



MISSION

At Shamas bv, our mission is to produce and supply the finest natural diamonds with a commitment to sustainability, transparency, and ethical sourcing. We are dedicated to delivering exceptional quality while ensuring that every diamond we offer is fully traceable and aligned with eco-friendly practices. By fostering innovation and supporting wildlife and nature development, we aim towards a more responsible and sustainable future.



VALUES

INTEGRITY



We uphold the highest standards of honesty and transparency in everything we do, ensuring that every diamond we offer is ethically sourced and fully traceable.

SUSTAINABILITY



We are committed to minimizing our environmental impact through eco-conscious practices, aiming to achieve carbon neutrality while actively supporting wildlife and nature conservation.

QUALITY EXCELLENCE



is at the heart of our work. We strive to deliver diamonds of unparalleled quality, crafted with precision and care, the finest standards in quality of service.

INNOVATION

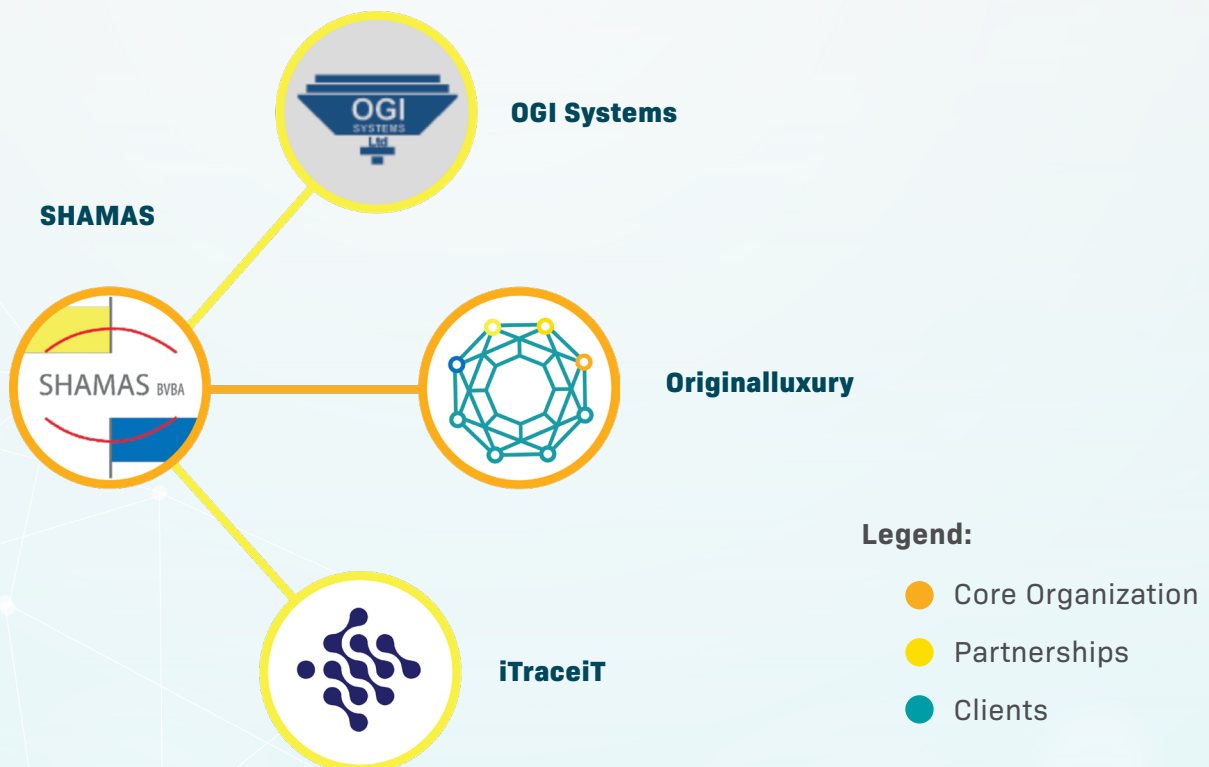


We embrace innovation, constantly seeking new technologies and methods to enhance transparency, improve sustainability, and elevate the jeweller/final customer's experience.

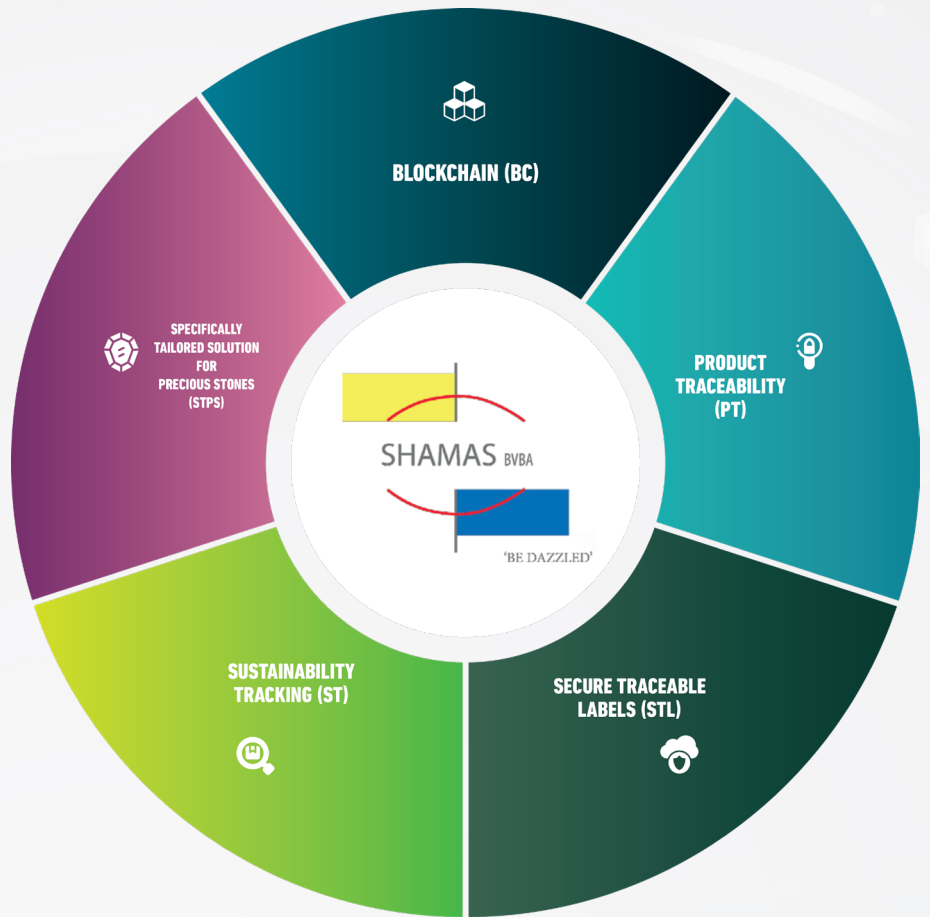
RESPONSIBILITY



We believe in giving back to the communities we serve and to the planet. Our business practices are designed to create a positive social and environmental impact, reflecting our commitment to future generations. We aim to provide an exceptional experience, building trust through personalized service and lasting relationships.



Technology Used:



Case study:



Traceability and Transparency Use Case: ItracelT System and Supplier Verification

At Shamas bv, we are committed to full transparency and ethical sourcing in the diamond industry. To ensure this, we've adopted a comprehensive approach involving a detailed supplier questionnaire, the ItracelT traceability QR code system, and our membership in the Responsible Jewellery Council (RJC). These initiatives collectively contribute to the integrity and accountability of our supply chain.



Supplier Verification Process

For every single purchase, we require our suppliers to complete a detailed questionnaire, providing comprehensive information about the diamonds they supply. This includes the diamond's origin, ethical sourcing standards, environmental practices, and any certifications. All information must be verified with supporting documentation, and we actively check proof wherever necessary. Additionally, as members of the RJC, we impose many conditions on our manufacturers/suppliers that go above and beyond the requirements set by WDFB/RJC/G7, ensuring that our standards are among the highest in the industry.



ItracelT Traceability System

We are fully integrated with the ItracelT QR code system, ensuring nearly 100% traceability for all diamonds from 0.0002 carats and up. Each parcel or larger diamond is assigned a unique QR code that digitally tracks its entire journey from the mine/miner to the final customer. This allows us to maintain transparency at every stage of the diamond's life cycle, including cutting, polishing, and certification processes.



Customer Transparency

When a customer purchases one of our diamonds, they can scan the ItracelT QR code to access all relevant information, including:

- **Origin:** The exact mine or region where the diamond was sourced and manufactured.
- **Journey:** Key details on where the diamond was cut, polished, and certified, offering complete transparency.
- **Proof of Sustainability:** Verified proof from our supplier questionnaire and additional documentation demonstrating that the diamond was sourced responsibly, in line with our sustainability goals. Commitment to Continuous Improvement

Our supplier questionnaire and traceability systems not only ensure transparency but also provide a foundation for continuous improvement. By requiring verifiable data at every stage, we can continuously refine our practices, making our diamond supply chain more responsible and sustainable.



Socio-Economic Actions:



Community Support and Sustainability Programs:

- **Diamonds for Peace, World Land Trust, Coral Reef protection**
- **At Shamas bv, we believe that our responsibility extends beyond ethical sourcing and sustainability; we are also dedicated to fostering economic development in the communities connected to our diamond supply chain. Our involvement in various charitable initiatives, such as Diamonds for Peace, World Land Trust, and coral reef protection, is designed to create lasting positive impacts on both local economies and the environment.**
- **Diamonds for Peace** Through our partnership with Diamonds for Peace, we support initiatives aimed at promoting peace and stability in diamond-producing regions. This program focuses on:
- **Empowering Local Communities:** By funding educational programs and vocational training, we help equip individuals with the skills they need to secure sustainable livelihoods, reducing dependency on conflict and exploitation.
- **Creating Jobs:** Our collaboration with local cooperatives fosters job creation in artisanal mining, allowing communities to benefit directly from the value of their natural resources.



World Land Trust

Our commitment to the World Land Trust enables us to contribute to the preservation of critical habitats and ecosystems while fostering economic growth through:

Sustainable Land Use:

By supporting conservation efforts, we help protect biodiversity and promote sustainable land management practices. This approach encourages ecotourism and sustainable agriculture, providing alternative income sources for local communities.

Community Engagement:

Through initiatives that involve local populations in conservation efforts, we ensure that communities benefit from protecting their environment, fostering a sense of ownership and responsibility toward their natural resources.

Coral Reef Protection:

Our efforts in coral reef protection contribute to the health of marine ecosystems, which are vital for the livelihoods of many coastal communities through:

Fostering Fisheries:

Healthy coral reefs support diverse marine life, which in turn sustains local fisheries. By protecting these ecosystems, we help ensure that communities reliant on fishing can continue to thrive. Promoting Ecotourism: By safeguarding coral reefs, we enhance opportunities for ecotourism, which can bring significant economic benefits to coastal communities while raising awareness about the importance of marine conservation.

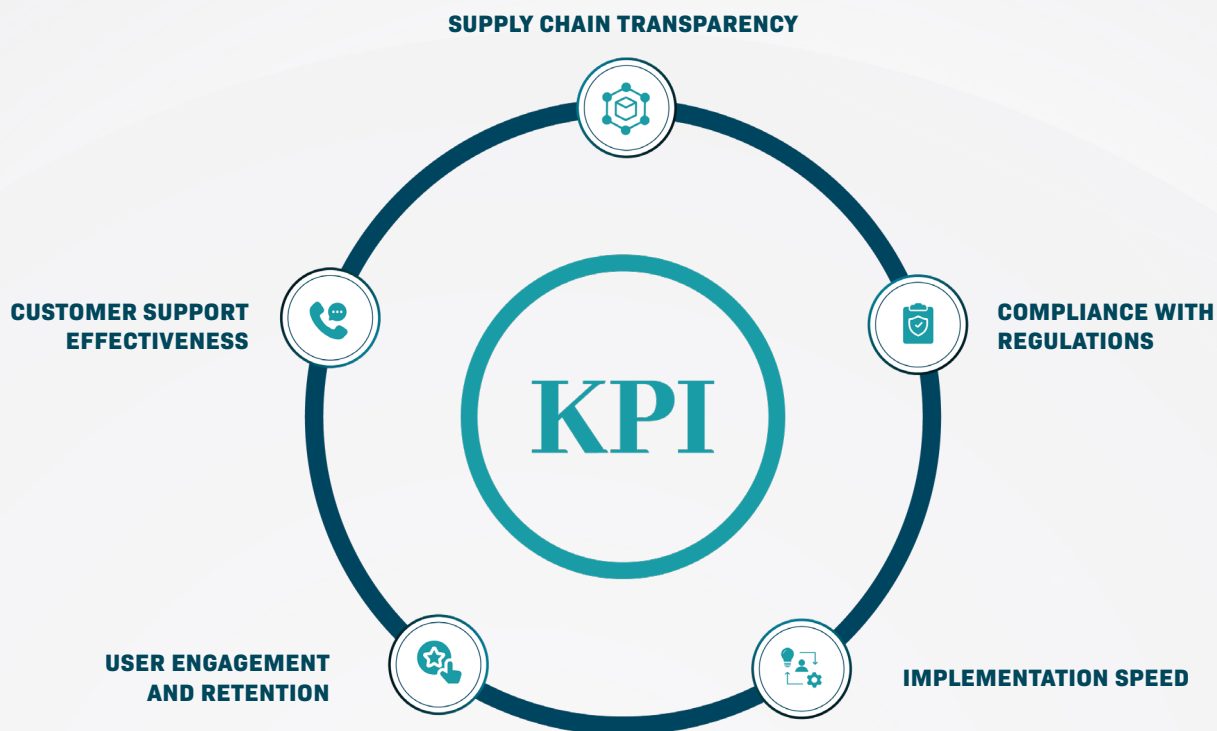


Overall Impact

Through these initiatives, we are committed to creating a positive ripple effect in the communities involved. By supporting education, job creation, sustainable practices, and conservation efforts, we aim to enhance the economic development of these regions while ensuring that the natural beauty and resources they offer are preserved for future generations.



KPIs used to measure the effectiveness of our solution.



Future Developments:

Upcoming Features:

Planned Initiatives to Enhance Transparency and Traceability

At Shamas, we are continually striving to improve and expand our transparency and traceability initiatives. Our commitment to ethical sourcing and sustainability drives us to explore innovative solutions that will not only elevate our practices but also set new standards within the diamond industry. Here are some key initiatives we are currently working on:

1. Blockchain Technology Integration

We are actively exploring the implementation of blockchain technology to further enhance the traceability of our diamonds. By utilizing a decentralized ledger, we can provide an immutable record of each diamond's journey through the supply chain. This will:

- Increase Transparency: Customers will have access data about their diamonds, including detailed information about the sourcing, cutting, and certification processes.
- Build Trust: The transparency provided by blockchain will strengthen customer confidence in our commitment to ethical sourcing and responsible practices.

2. Enhanced Supplier Audits

We plan to implement a more rigorous auditing process for our suppliers. This will involve:

- A Regular On-Site Inspection: Conducting regular inspections of supplier facilities to verify compliance with our ethical and sustainability standards.
- Comprehensive Reporting: Requiring suppliers to submit regular reports detailing their sourcing practices, environmental impact, and community engagement initiatives and verified by their accountant/auditor.

3. Collaboration with Technology Partners

To stay ahead of the industry advancements, we will be collaborating with technology partners specializing in traceability solutions. This collaboration will focus on:

- **Developing New Tools:** Creating user-friendly tools and applications that allow both our suppliers and customers to access traceability information easily.
- **Enhancing Data Collection:** Implementing systems that facilitate the collection of comprehensive data at every stage of the supply chain, ensuring complete transparency.

4. Customer Engagement Programs

We are designing programs aimed at educating our customers about the importance of transparency and traceability in the diamond/jewellery industry. This will include:

- **Workshops and Webinars:** Offering educational sessions to share insights on ethical sourcing, sustainability, and the journey of diamonds from mine/miner to market.

Conclusion

Through these planned initiatives, we aim to enhance our existing programs and set new benchmarks for transparency and traceability for our clients/jewellers. By leveraging technology, improving supplier relationships, and engaging with our customers, we are committed to building a more transparent and responsible future for our business and the communities we serve.

Vision

Long-Term Vision for Transparency and Traceability in the Luxury Sector 1.

1. Establishing Industry Standards Collaborative Frameworks:

Work with industry stakeholders, including luxury brands, suppliers, NGOs, and government bodies, to develop comprehensive standards for transparency and traceability in the luxury sector.

Certification Programs: Advocate for the creation of certification programs that recognize brands adhering to high standards of ethical sourcing and transparency.

2. Leveraging Technology Blockchain Implementation:

Promote widespread adoption of blockchain technology across the luxury supply chain to create immutable records of products, ensuring complete traceability from origin to consumer.

Smart Labels and QR Codes: Encourage the use of smart labels and QR codes on luxury items, allowing consumers to access detailed information about the product's journey, including the sourcing, production, and environment.

Support Contact :

Customer inquiries can be sent to anuj@shamasbvba.com



ORIGINALLUXURY

INTRODUCING

SWISS BETTER GOLD ASSOCIATION

S B G **SWISS BETTER GOLD**



Company Information:

Swiss Better Gold Association

8B, Chemin des Coulevres
1295 Tannay
Switzerland

Contact Person:

Silke Olsen
Programme Officer
silke.olsen@sbga.ch
+41229607162

Website:

www.swissbettergoldassociation.ch

Company Description:

The Swiss Better Gold (SBG) Association is a non-profit organisation founded in 2013 to create responsible gold value chains from mine to market. The association brings together Swiss businesses active in the gold sector, including refiners, jewellers, watchmakers and financial institutions. SBG was created to address critical issues faced by artisanal and small-scale mining (ASM) producers, such as child labour, difficult working conditions, mercury pollution and informality, and provide some answers in the field.

By providing practical solutions to these challenges, SBG pioneers a model for supporting ASM producers and their inclusion in global value chains. The association firmly believes that small producers can be a source of responsible, transparent and better gold.

Number of employees: 1-10



MISSION

Support ASGM communities' development through an inclusive step-wise approach consisting of establishing direct supply chains, ESG project funding and technical assistance.



VISION

Provide ASGM and the gold industry a business solution to support continuous improvement and enable responsible, traceable and resilient supply chains.



IMPACT

Support responsibly produced ASM gold and implement an innovative business solution to reinvest in local communities through targeted technical, social, and environmental development projects.



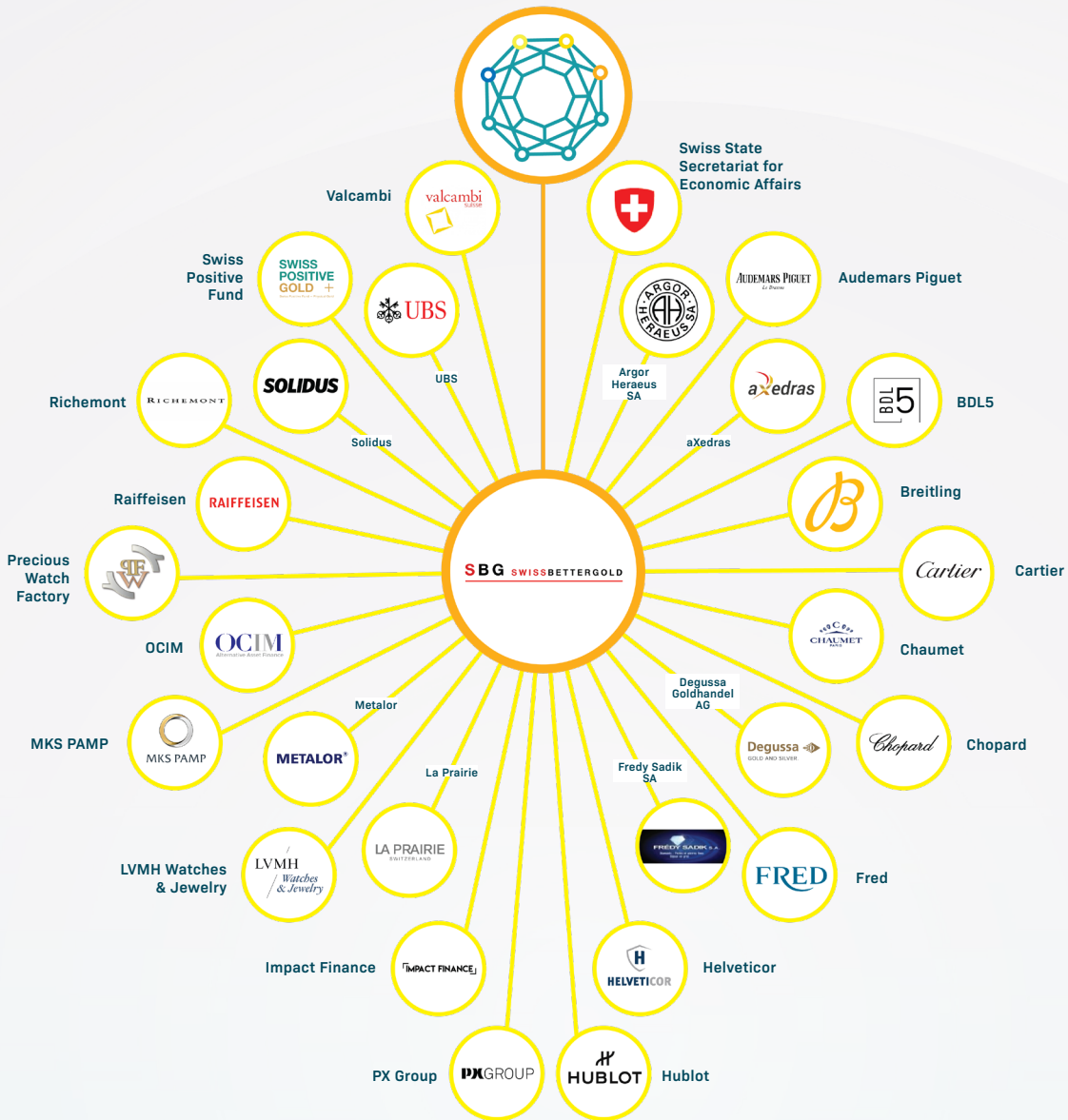
VALUES

Continuous improvement for responsible mining practices.

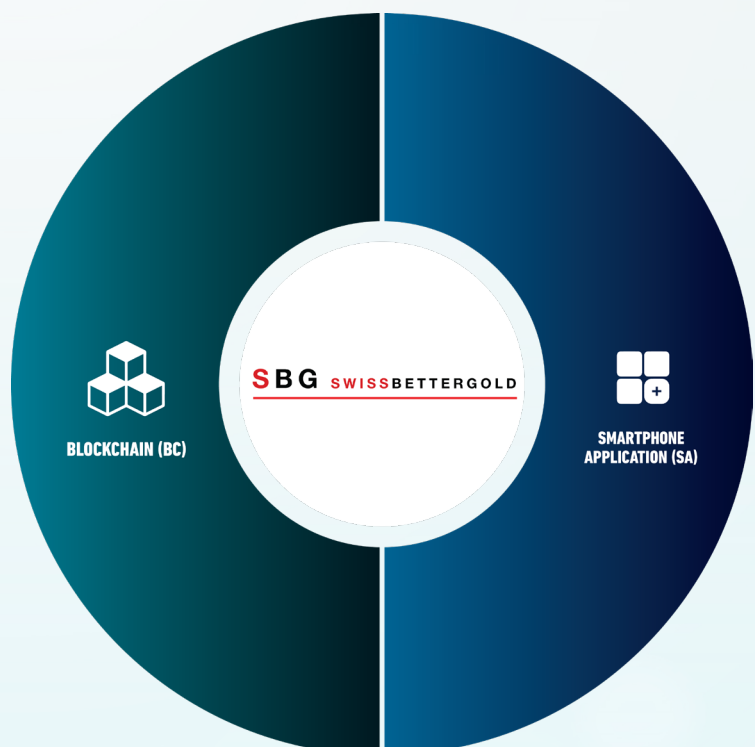
Originalluxury

Legend:

- Core Organization
- Partnerships
- Clients



Technology Used:





Socio-Economic Actions:

Community Support:

- Swiss Better Gold implements an incentive mechanism for participating Artisanal and Small-Scale Gold Mining (ASGM) producers.
- SBG members pay an impact premium of USD 1.35 per gram of fine gold exported, provided that the producers are fully accredited by the association.
- This premium generates the Swiss Better Gold Fund (SBGF) which is allocated as follows:
 - USD 0.70 go into the Social/Environmental Fund: This Fund co-finances social and environmental projects together with accredited SBG producers. It aims at supporting environmental and social sustainable development of the mines and the mining communities.
 - USD 0.50 go into the Technical Assistance Fund: Through this Fund, the technical assistance activities of the SBG teams are covered. Moreover, the Fund is invested in technical assistance projects in the mines that are still on their journey to achieve full compliance with all SBG sourcing criteria. It aims at directly supporting ASGM producers to close their compliance gaps and establish long-term foundations for the collaboration between these mines and SBG.
 - USD 0.15 are separated to cover SBG verification and organisational costs.
- The technical assistance activities of the SBG implementing teams on the ground include the identification of potential new mining producers, the establishment of a gap analysis to see where the mining producers stand in relation to compliance with the SBG sourcing criteria, the elaboration and implementation of a Continuous Improvement Plan together with the mining producers and providing technical assistance on the ground, as well as a constant follow-up on the mining producers' performance against the SBG criteria even after full compliance is met.
- Through its activities on the ground and the constant accompaniment and monitoring of partner mines, SBG creates a virtuous cycle which ensures fair and good working conditions for the miners. This has a positive impact on the miners and their families.



Sustainability Programs:

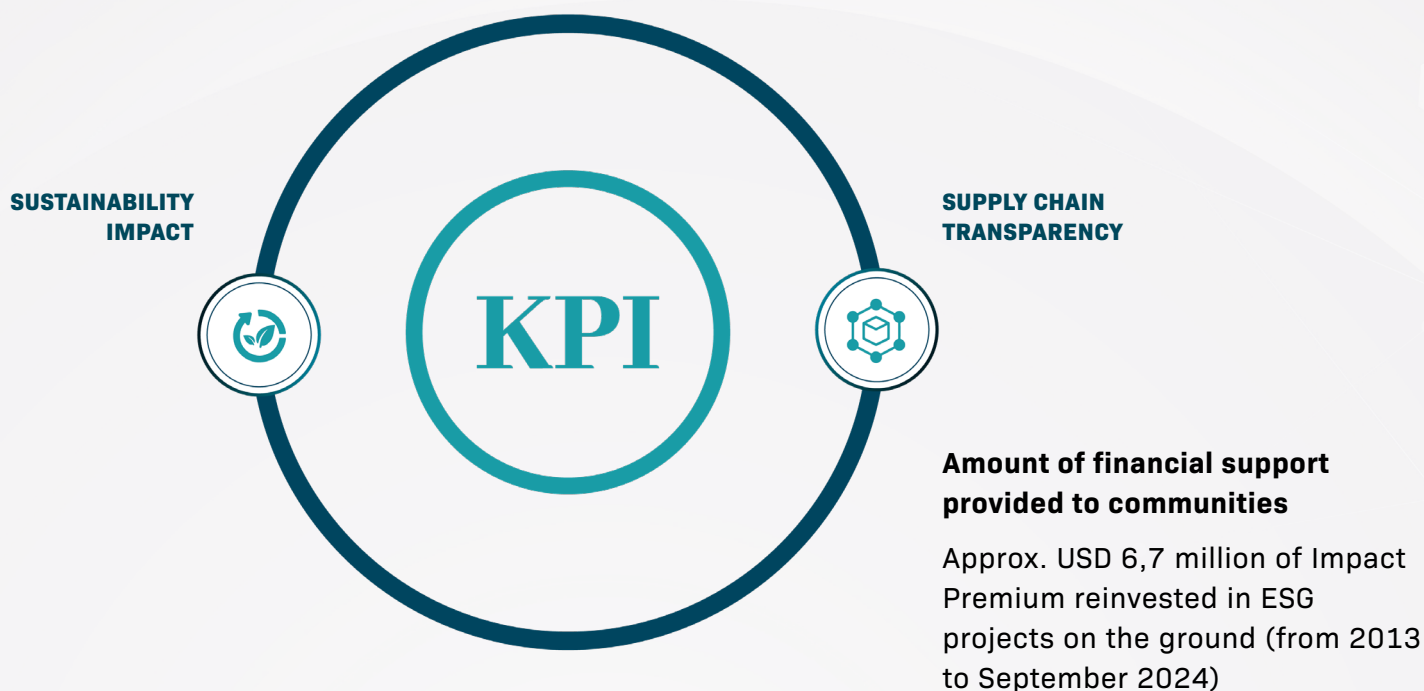
Swiss Better Gold is itself an accreditation programme for ESG performance of ASM.



Economic Impact:

Swiss Better Gold partner mines are fully formalised mining producers. Through the formal employment, as well as better working conditions, these mines contribute to improving the financial situation for miners, their families and in the national economy (through the payment of taxes and royalties).

KPIs used to measure the effectiveness of our solution.



Qualitative Data:

Client Testimonials:

Testimonial from Metalor, a supply member of Swiss Better Gold:

- *“SBG has been instrumental in improving the working conditions of artisanal and small-scale miners. Metalor is proud to participate in this effort. We are fully aligned with the values and goals of SBG. This Initiative is the vehicle that makes a real and positive impact on these mining communities possible. Without SBG, Metalor would not have engaged with ASGM.”*

Metalor’s approach to ASGM is not unilateral but we seek a collaborative approach with associations established in the field. In this context, we see a lot of opportunities to reach other ASGM operations exporting through a successful model, something that we would not consider doing by ourselves.

As an SBG Association Board member, I am trying to provide the perspective of a refiner in the complex world of ASGM as well as to contribute to the consideration of ASGM as a real business opportunity. Together with SBG, we have proven that even if it may be challenging, this model works. SBG accredited producers can be fully regarded as responsible.”

- More testimonials are available in the 2023 Swiss Better Gold Impact Report.

https://www.swissbettergoldassociation.ch/sites/default/files/2024-05/SBG_Impact_report_2023_web.pdf



Success Stories:

Improving Storage of Hazardous Substances Project

In 2023, Swiss Better Gold implemented a technical assistance project to improve the diesel storage facilities at an ASM operation in the Department of Antioquia, Colombia, in order to reduce risks of environmental pollution and protect workers' health.

Although the purchase, handling and final disposal of hazardous substances was duly certified and carried out by qualified personnel, the existing temporary storage facilities lacked the necessary infrastructure to prevent environmental and health risks in the event of incidents, such as spills of dangerous liquids.

The project's objective was to establish adequate storage facilities that would ensure safer handling of hazardous substances. This not only helps prevent contamination of water sources and soil, but also reduces the risk of environmental sanctions while protecting all the workers in regular contact with these substances.

Reducing CO2 emissions by improving electrical lines

In 2022, Swiss Better Gold supported a technical assistance project at a mine in Segovia, Colombia. This mine previously relied on diesel generators due to frequent power line disruptions caused by the climate in the region. These power cuts resulted in increased carbon emissions, as the generator emitted 2.5 times more CO2 than using the electricity supplied through the power lines.

The project's objective was to enhance the reliability and stability of the electrical network. This involved relocating power lines, pruning trees, maintaining roads, and training community members in essential maintenance work.

As a result, the project helped reduce carbon emissions by decreasing reliance on diesel generators. Additionally, the surrounding communities also benefit from the commitment of the mining operation to train and employ local individuals for maintenance work along the electricity lines.



Access to Drinking Water: Water Treatment Project

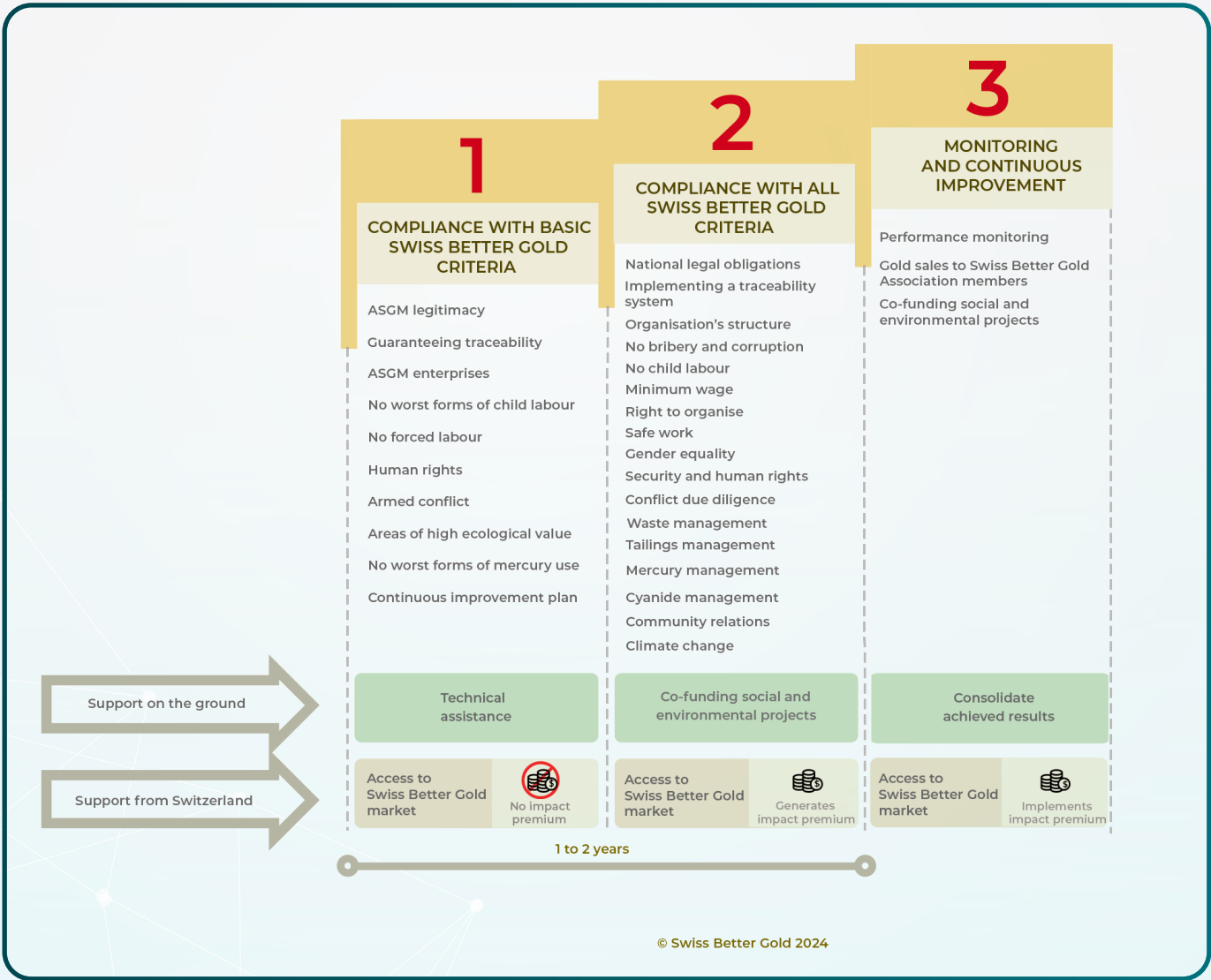
In order to address the critical need for a functional drinking water system at a school in the community of Los Cargueros in the Department of Antioquia, Colombia, Swiss Better Gold supported a water treatment project jointly with the local mining company operating in the area.

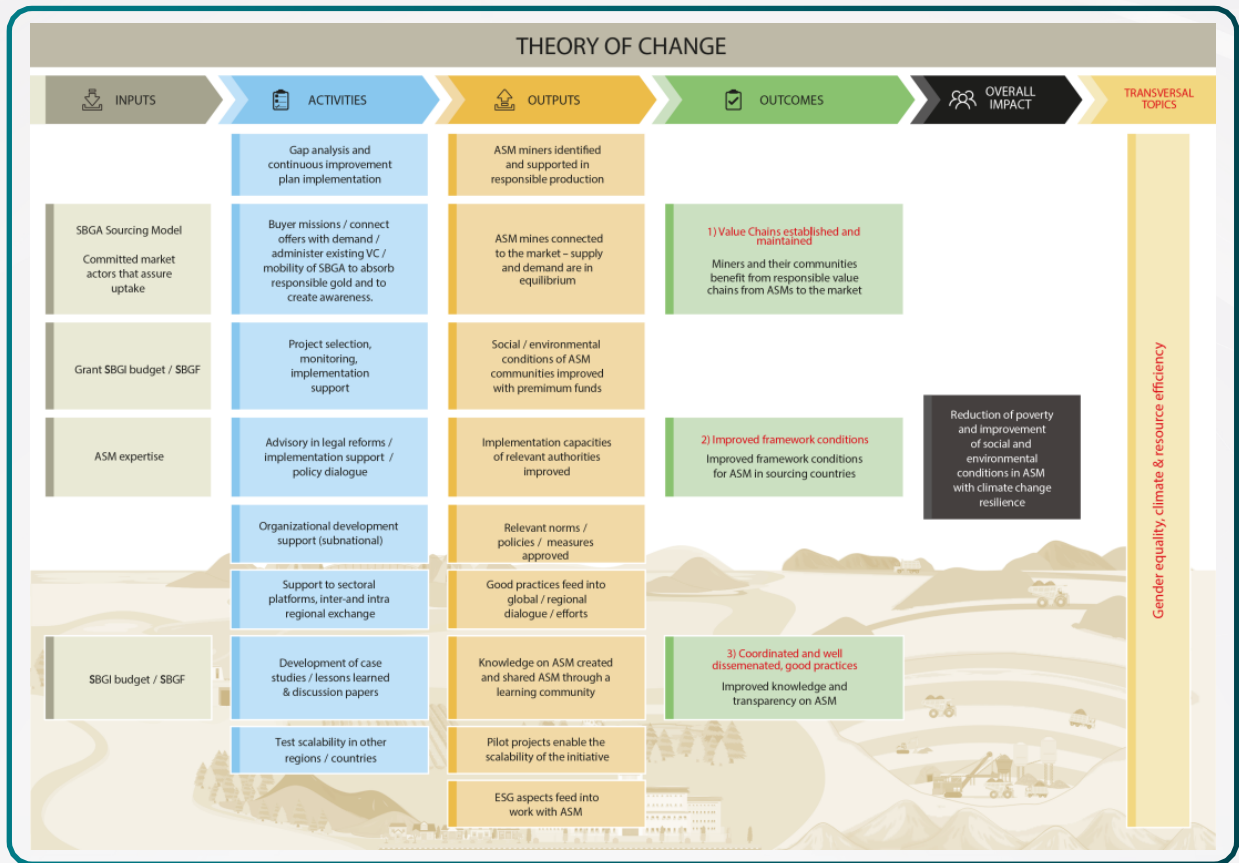
Completed in April 2023, the project provides a comprehensive water treatment system and improves the sanitary facilities at the school, benefiting 460 students and staff members. By providing access to clean drinking water and upgraded sanitary facilities, the project improves health and hygiene, reducing the risk of waterborne diseases and promoting the overall well-being of students, staff, and the wider community. Additionally, the improved infrastructure created a more conducive learning environment, positively impacting education. Environmentally, the project promoted sustainable water management through the installation of a water treatment system, rainwater capture, and training on eco-friendly practices, encouraging efficient resource use and reducing reliance on external water sources, contributing to environmental conservation.

***** More examples projects are available on our website:**

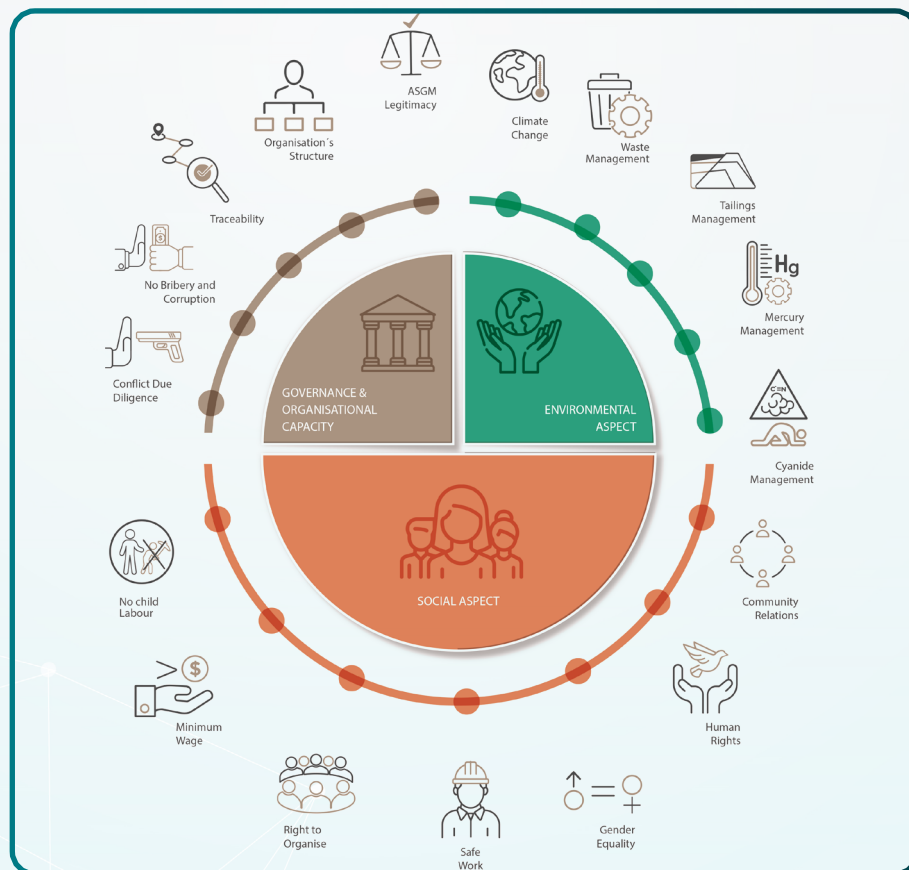
<https://www.swissbettergoldassociation.ch/our-achievements>

Swiss Better Gold Continuous Improvement Escalator





Swiss Better Gold Sourcing Criteria



Future Developments:

Vision:

- Luxury supply chains should not only be transparent and traceable, but also contribute to the sustainable development of ASGM and communities.

Additional Information:

Certifications and recognitions:

- ISEAL Community Membership

Partnerships :

- The Swiss Better Gold Association partners with the Swiss State Secretariat for Economic Affairs (SECO). Through this partnership, SBG also conducts policy dialogue in the implementing countries, supporting authorities and local institutions in improving the context for ASGM.

Contact Information:

- info@sbga.ch

© *Swiss Better Gold*



ORIGINALLUXURY

INTRODUCING

VANHU VAMWE



Putting People First





Company Information:

VANHU VAMWE

Leaning Row, Lot 3
Nottingham
NG7 1QZ Nottinghamshire
UNITED KINGDOM

Contact Person:

PAM SAMASUWO NYAWIRI
CREATIVE DIRECTOR, CO- FOUNDER
pam@vanhuvamwe.com
+447428087951

Industry category

Fashion and Textiles

Website:

www.vanhuvamwe.com

Company Description:

Vanhu Vamwe (VV) SHONA for 'One People' is a legacy brand that has created an ethical framework of luxury handcrafted heirlooms that articulate a strong brand aesthetic based on traditional crafts and modern innovation. VV explores playful, quirky, innovative storytelling highlighting cultural, historical and social themes through engaging conceptual handbags and is committed to working with artisans in Zimbabwe and Ecuador by bridging culture through design. The brand has become a philanthropic enterprise which stands for a social mission to bring economic empowerment to women living in marginalised communities.

Number of employees: 51-200

Company's Tagline:

Bridging design through culture



IMPACT

Our impact lies in preserving traditional culture while creating modern, innovative products.



VISION

Our goal is to establish the foremost macrame artisan community in Africa and beyond.



MISSION

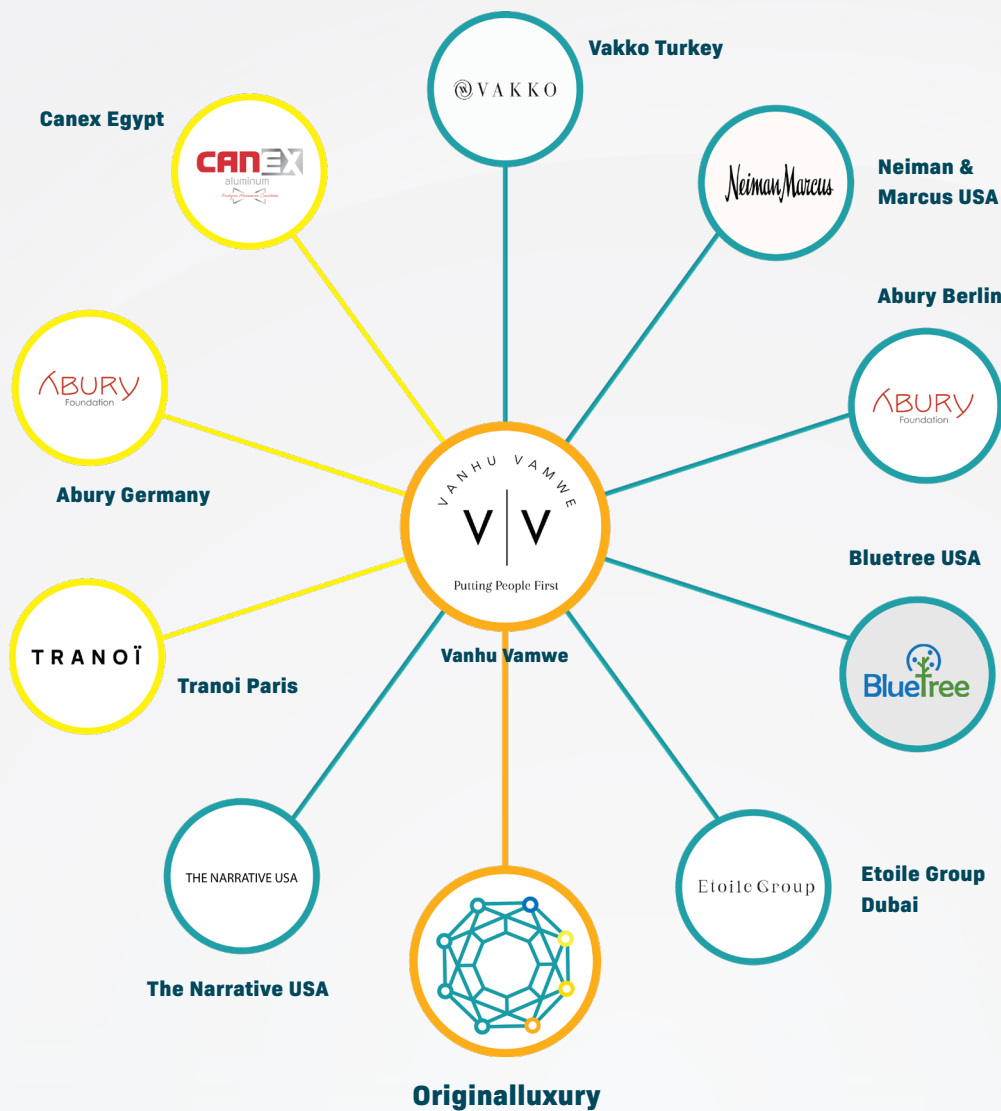
To develop communities through design



VALUES

At Vanhu Vamwe, we are committed to the principles of fair trade, ensuring equitable treatment and fair wages for all artisans. We champion slow fashion, focusing on quality, sustainability, and the mindful production of timeless pieces. Transparency is at the core of our values, as we provide clear and honest information about our products' origins and production processes.





Technology Used:





Sustainability Programs:

1. Fair Trade Practices:

- A. **Ethical Sourcing:** Vanhu Vamwe is committed to fair trade principles, ensuring that all raw materials, including recycled PET plastic for cords, are sourced from suppliers who meet fair labor standards. By directly partnering with local artisans and cooperatives, the company ensures that fair wages are paid, working conditions are safe, and labor rights are upheld throughout the supply chain.
- B. **Fair Compensation and Empowerment:** Vanhu Vamwe ensures artisans and workers, including ex-prisoners, are compensated fairly for their skills and efforts. By providing fair wages and transparent pricing, the company empowers artisans to take ownership of their craft, elevating their standard of living and fostering economic independence.
- C. **Transparent Supply Chain:** Through traceability and transparency initiatives, Vanhu Vamwe maintains clear and honest communication about the sources of materials, manufacturing processes, and the environmental impacts of its products. Customers are provided with information on how their purchases contribute to supporting artisans and fair trade practices.

2. Environmental Conservation Efforts:

- A. **Use of Recycled Materials:** Vanhu Vamwe uses recycled PET plastic bottles to produce cords, significantly reducing waste and contributing to the circular economy. By repurposing plastic waste, the company minimizes the environmental impact of production while reducing reliance on new, virgin materials.
- B. **Eco-Friendly Dyeing Practices:** To ensure sustainability in the manufacturing process, Vanhu Vamwe employs eco-friendly dyeing techniques. These processes use non-toxic, natural dyes that have minimal impact on the environment compared to traditional chemical dyes.
- C. **Sustainable Packaging:** Vanhu Vamwe prioritizes the use of sustainable packaging materials. This includes using recycled cardboard and biodegradable or recyclable packaging, which helps reduce the environmental footprint of the brand's products.
- D. **Energy-Efficient Production:** Vanhu Vamwe works with artisans and factories that prioritize energy efficiency in their production processes. This includes adopting low-energy machinery, utilizing renewable energy sources where possible, and optimizing production methods to reduce energy consumption.

3. Tree Planting and Land Restoration:

- A. **Reforestation Initiatives:** As part of its commitment to environmental sustainability, Vanhu Vamwe has partnered with local communities and environmental organizations to plant trees and support reforestation efforts. This initiative helps combat deforestation, improves local biodiversity, and contributes to carbon sequestration, ultimately reducing the company's environmental footprint.
- B. **Promoting Agroforestry:** In some regions, Vanhu Vamwe supports agroforestry practices where artisans and local farmers are encouraged to plant trees alongside their crops. This approach improves soil health, enhances water retention, and increases food security, benefiting both the environment and the local economy.



Economic Impact:

Vanhu Vamwe's initiatives are designed to significantly contribute to the economic development of the communities involved, focusing on empowering local artisans, supporting sustainable livelihoods, and fostering long-term growth. Here are the key ways in which our initiatives are making a positive economic impact:

1. Empowering Local Artisans through Skill Development

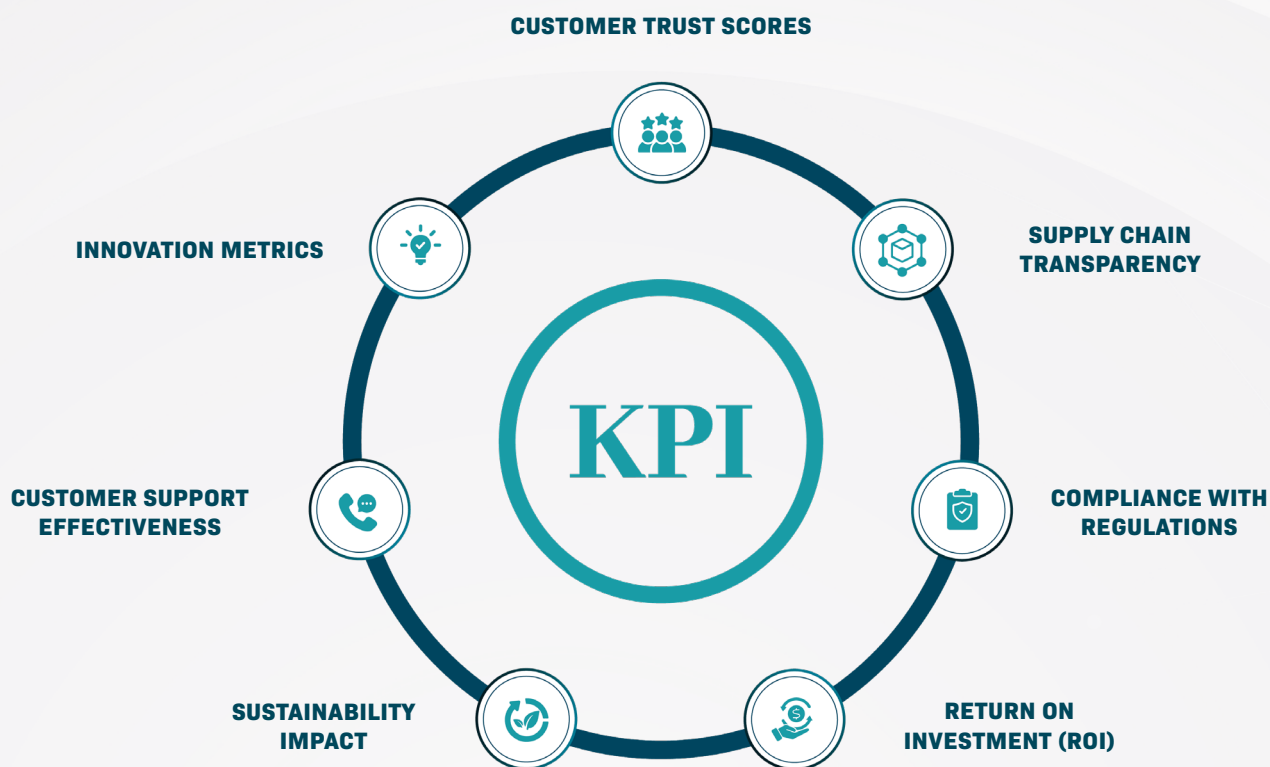
- A. **Providing Marketable Skills:** Vanhu Vamwe offers skill development programs for local artisans, including ex-prisoners and young people, teaching them traditional and contemporary craft techniques. This training equips them with the skills necessary to create high-quality products that are in demand both locally and globally. By learning specialized skills like weaving, macrame, and sustainable dyeing, artisans can diversify their income sources and secure steady work.
- B. **Job Creation and Steady Employment:** By incorporating these artisans into the production process, Vanhu Vamwe ensures that they have access to stable, fair-wage employment. This steady source of income directly contributes to their financial independence, reduces poverty, and improves the overall standard of living for artisans and their families. Many artisans who once relied on subsistence farming or casual labor now have a reliable income stream from their craft.

2. Fair Trade Practices and Livelihood Improvement

- A. **Fair Wages and Ethical Work Conditions:** Vanhu Vamwe adheres to fair trade principles, ensuring that artisans are paid fairly for their labor. This includes providing competitive wages that are above the local average, guaranteeing that artisans can support themselves and their families. By providing a living wage, Vanhu Vamwe helps reduce income inequality and supports community development through improved household incomes.
- B. **Profit Sharing and Co-Ownership:** As part of our fair trade commitment, Vanhu Vamwe encourages artisans to take ownership of their craft and business. In some cases, artisans are offered profit-sharing opportunities, which allows them to benefit directly from the sales of their products. This fosters a sense of pride, ownership, and investment in their work, leading to greater economic stability within the community.



KPIs used to measure the effectiveness of our solution.



Data Points for solution:



Amount of financial support provided to communities

- \$40,000 US per year
- Reduction in supply chain fraudulent activities

Vanhu Vamwe employs several strategies to reduce fraudulent activities within its supply chain. These initiatives ensure transparency, promote accountability, and protect both the brand and its partners. Here are key approaches Vanhu Vamwe utilizes to mitigate the risk of fraud within its supply chain:

1. Transparent Supply Chain Practices

- Traceability of Raw Materials:** Vanhu Vamwe ensures that all raw materials used in production, such as recycled PET plastic for cords, are traceable. Each batch of materials is sourced from verified suppliers, and the journey of these materials from origin to final product is documented. This transparency reduces the likelihood of fraudulent claims about the materials' origin, quality, or environmental impact.
- Verification of Suppliers:** The company works only with suppliers who adhere to rigorous vetting processes. Supplier audits are conducted regularly to ensure compliance with ethical and legal standards. By establishing strong relationships with trusted, verified suppliers, Vanhu Vamwe reduces the risk of fraudulent sourcing and production.

- C. Use of Digital Tracking Systems: Vanhu Vamwe is exploring the integration of digital technologies, such as blockchain or other supply chain tracking platforms, to further enhance traceability. These technologies provide a secure, immutable record of transactions and movements of goods, making it much harder for fraudulent activities such as product misrepresentation or diversion to occur.

2. Clear Contracts and Legal Protections

- A. Detailed Contracts with Suppliers and Partners: Vanhu Vamwe ensures that all suppliers and partners sign detailed, legally binding contracts that outline the terms and conditions of their relationship. These contracts include clauses related to product quality, delivery timelines, ethical sourcing, and penalties for fraud or non-compliance. Clear contracts create a formalized framework that discourages fraudulent practices.
- B. Regular Audits and Compliance Checks: To ensure compliance with both contractual obligations and industry standards, Vanhu Vamwe conducts regular audits of its supply chain. These audits are performed by third-party auditors or through internal checks, assessing areas such as quality control, labor conditions, and ethical sourcing. Any irregularities or fraudulent activities discovered during audits are promptly addressed.



3. Supplier Education and Capacity Building

- A. Training on Ethical Practices: Vanhu Vamwe works closely with its suppliers to educate them about the importance of ethical practices, legal compliance, and the potential consequences of fraud. This training fosters a culture of accountability and trust across the supply chain, reducing the likelihood of fraudulent behavior.
- B. Encouraging Supplier Transparency: Vanhu Vamwe encourages its suppliers to adopt their own transparency measures. This may include sharing sourcing information, production methods, and quality certifications. By promoting transparency at all levels, the company reduces the chances of fraudulent claims being made by suppliers who might otherwise conceal unethical practices.

4. Quality Control and Product Testing

- A. Stringent Quality Control: Vanhu Vamwe employs stringent quality control measures to ensure that every product meets the company's high standards. This includes product testing at different stages of the production process, from raw material inspection to finished goods evaluation. By maintaining a rigorous inspection process, the company can quickly identify substandard products or fraudulent misrepresentations about the quality of materials.
- B. Certification and Lab Testing: Vanhu Vamwe works with accredited labs and certification bodies to verify the quality of the raw materials and final products. For instance, recycled PET plastic used in products is tested to ensure it meets environmental and safety standards. Independent certifications act as additional safeguards against fraud in the supply chain.

5. Partnering with Ethical Organizations

- A. Collaboration with Fair Trade and Ethical Certification Bodies: Vanhu Vamwe partners with recognized fair trade and ethical certification organizations. These partnerships provide an additional layer of protection against fraudulent activities by ensuring that the company's suppliers and partners are committed to fair trade practices and ethical standards. These external certifications also enhance consumer confidence in the authenticity of the company's products.
- B. Working with Industry Groups to Set Standards: Vanhu Vamwe actively participates in industry groups and forums that set standards for ethical practices and transparency in the supply chain. By being part of such groups, the company stays informed about best practices for combating fraud and ensures that it adheres to industry norms for reducing fraudulent activities.

6. Reporting and Accountability Mechanisms

- A. Whistleblower Policies: Vanhu Vamwe has established a whistleblower policy that allows employees, suppliers, and other stakeholders to report suspicious activities anonymously. This mechanism ensures that fraudulent behavior can be flagged without fear of retaliation, creating an environment of openness and accountability.

- B. **Clear Lines of Communication:** To further reduce fraud, Vanhu Vamwe maintains clear and open lines of communication with all partners. Regular check-ins, meetings, and reports help to ensure that everyone involved in the supply chain is aligned and working toward the same ethical standards. Clear communication helps detect any discrepancies or fraudulent activities early.

7. Customer Transparency and Feedback

- A. **Open Product Information:** Vanhu Vamwe provides customers with detailed product information, including the origins of materials, production processes, and sustainability efforts. This openness not only builds customer trust but also serves as a deterrent to fraudulent practices, as customers can easily verify claims about the products they purchase.
- B. **Customer Feedback Loop:** Vanhu Vamwe actively engages with its customers, inviting them to provide feedback on product quality, sourcing, and authenticity. This feedback loop helps identify any potential issues early, allowing the company to address concerns and correct any fraudulent misrepresentations that may arise in the supply chain.

8. Proactive Fraud Prevention

- A. **Identifying Red Flags Early:** Vanhu Vamwe employs a proactive approach to identify red flags in the supply chain, such as unusual pricing, inconsistent product quality, or suspicious supplier behavior. By staying vigilant and conducting regular checks, the company can detect and address potential fraudulent activities before they escalate.
- B. **Strong Vendor Relationships:** By cultivating long-term, trusting relationships with its suppliers, Vanhu Vamwe reduces the likelihood of fraud. Strong relationships create mutual accountability, where both parties are invested in the success and integrity of the supply chain.

Number of community projects funded

- TWO



Client Testimonials:

1. Testimonial from an Artisan Partner:

"Working with Vanhu Vamwe has been a life-changing experience. Not only have I gained valuable skills in traditional crafts, but I've also been able to provide a better future for my family. Through their fair trade practices, I now receive a fair wage that supports my household. The sense of pride in crafting high-quality, culturally meaningful products has given me a new sense of purpose. Vanhu Vamwe has truly uplifted our community and empowered artisans like myself to thrive." – Tinashe M., Artisan Partner

2. Testimonial from a Customer:

"As a conscious consumer, I am always looking for brands that align with my values. Vanhu Vamwe has exceeded my expectations by not only creating beautiful, high-quality products but also staying true to their mission of preserving traditional crafts. Knowing that my purchase supports fair wages, ethical sourcing, and community development gives me confidence in my decision to shop with them. Their dedication to sustainability is truly inspiring." – Sarah J., Loyal Customer

3. Testimonial from a Community Leader:

"Vanhu Vamwe's commitment to rehabilitation through employment has brought real change to our community. The job training and support they provide to ex-prisoners have helped many individuals reintegrate into society and find meaningful work. This initiative has not only improved lives but has also reduced crime rates and fostered a culture of second chances. Vanhu Vamwe is a true force for positive change, and we are grateful for their partnership." – Dumisani T., Community Leader

4. Testimonial from a Supplier:

"Partnering with Vanhu Vamwe has been incredibly rewarding. Their dedication to transparency and ethical sourcing practices has not only strengthened our business but also allowed us to reach new markets. We appreciate their commitment to fostering long-term relationships and providing fair trade opportunities. Vanhu Vamwe has shown us the importance of preserving culture while creating innovative products, and it has been an honor to work with them." – Lindiwe K., Textile Supplier

5. Testimonial from a Program Participant (Youth):

"The apprenticeship program with Vanhu Vamwe gave me a chance to learn traditional crafts while also developing important business skills. I never imagined that my passion for crafting could turn into a career, but with their mentorship, I now have the confidence to start my own business. Vanhu Vamwe has empowered me and so many other young people in our community, and I am proud to be a part of their mission." – Kudzai R., Youth Program Participant

Success Stories:

Winning the CANEX Angels Investment Pitch in Algeria October 2024

In a major milestone for the brand, Vanhu Vamwe recently won the prestigious CANEX Angels Investment Pitch in Algeria. This award highlights the company's innovative approach to bridging culture through design, focusing on sustainable, ethical fashion and community-driven initiatives. The victory not only provided vital investment to expand Vanhu Vamwe's operations but also validated the brand's unique position in the fashion and craftsmanship industry.

Achievements & Benefits:

- **Access to Capital:** Winning this pitch provided the brand with much-needed funding, enabling the expansion of its artisan programs and the development of a broader product line.
- **Increased Visibility:** The pitch garnered international attention, positioning Vanhu Vamwe as a leading brand in the ethical fashion and traditional craft preservation space.
- **Networking Opportunities:** The event facilitated connections with investors, mentors, and industry leaders, enhancing the brand's future prospects and expansion into new markets

** Multi-Award Winning Brand: Recognizing Excellence in Craft and Design*

Vanhu Vamwe has garnered multiple awards for its innovative designs, ethical business practices, and commitment to preserving traditional crafts. These awards, including the CANEX Angels Investment Pitch and others, reflect the company's consistent dedication to excellence and sustainability.

Achievements & Benefits:

- **Brand Recognition:** The numerous accolades validate Vanhu Vamwe's position as a leader in the field of ethical fashion and traditional craft preservation, attracting new customers and investors.
- **Industry Influence:** Winning multiple awards has enhanced the brand's credibility, attracting top-tier partnerships and collaborations with other ethical brands and organizations.
- **Increased Market Share:** These awards have played a crucial role in expanding Vanhu Vamwe's customer base, particularly among socially-conscious consumers who prioritize sustainability and ethical sourcing.

** Vanhu Vamwe products are stocked in over 48 retail department stores and boutiques across all continents globally.*

Future Developments:

Upcoming Features:

Vanhu Vamwe is committed to continually improving transparency and traceability within its operations. Here are some planned initiatives and updates to existing programs aimed at further enhancing these aspects:

1. Blockchain Technology for Supply Chain Traceability

Vanhu Vamwe is exploring the integration of blockchain technology to create an immutable, transparent record of every step in the supply chain. By utilizing blockchain, the company aims to:

- **Ensure Authenticity:** Every product's journey, from sourcing raw materials to the final sale, will be securely documented, enabling customers and partners to verify the product's origin and quality.
- **Improve Accountability:** Blockchain will help track the ownership and movement of materials throughout the supply chain, reducing the potential for fraud and ensuring that suppliers adhere to the brand's ethical standards.

2. Real-Time Inventory Tracking System

Vanhu Vamwe plans to implement a real-time inventory tracking system that allows the company to monitor and report on product quantities, movements, and status in the supply chain instantly. This system will:

- **Reduce Mismanagement:** By providing accurate, up-to-date information on stock levels, the brand can better manage inventory, avoiding overproduction or understocking.
- **Enhance Customer Experience:** Real-time tracking will improve order fulfillment accuracy and provide customers with better visibility into product availability.

3. Supplier Audits and Certifications

Vanhu Vamwe will continue to conduct rigorous audits of its suppliers and partners but plans to increase the frequency and scope of these audits. The updates include:

- **Third-Party Auditors:** Engaging independent, certified third-party auditors to assess compliance with the company's sustainability and ethical standards. This will provide an unbiased evaluation of the supply chain and help ensure consistent quality and ethical practices.
- **Sustainability Certifications:** Expanding the number of sustainability certifications that suppliers must hold, such as Fair Trade, Global Organic Textile Standard (GOTS), and others, to ensure ethical and environmental standards are met across the supply chain.



4. Digital Product Passports

Vanhu Vamwe will introduce digital product passports for each of its products. These digital files will provide consumers with a detailed history of the product, including:

- **Material Sourcing:** Information on the origins of raw materials, including whether they were sourced sustainably or ethically.
- **Production Process:** Insights into the manufacturing stages, detailing the artisans involved, the techniques used, and whether environmental standards were met.
- **End-of-Life Information:** Guidance on how to recycle or dispose of the product in an environmentally

Vision:

Outline your long-term vision for transparency and traceability best practices in the luxury sector.

Vanhu Vamwe's long-term vision for transparency and traceability in the luxury sector is to set a new benchmark for ethical and sustainable practices that seamlessly integrate with the craftsmanship and exclusivity of high-end products. We aim to create a fully traceable supply chain where every step, from sourcing raw materials to the final product, is accessible to both consumers and stakeholders. By leveraging cutting-edge technologies like blockchain and real-time tracking, combined with our commitment to fair trade and sustainability, we aspire to lead the way in ensuring that luxury is synonymous with integrity, authenticity, and respect for both people and the planet.

Contact Information :

- simba@vanhuvamwe.com



ORIGINALLUXURY

INTRODUCING

VEKARIYA GEMS



VEKARIYA GEMS

Diamond Manufacturer, Importer & Exporter





Company Information:

Vekariya Gems

S V Road, Tanishka Industrial, B - 411
Near Dahisar Petrol Pump
Dahisar, Mumbai
India

Industry category:

Diamonds and Precious Stones

Contact Person:

Videsh Vekariya
CEO
videsh@vekariyagems.com
+91-9819315805

Number of employees:

11-50



MISSION

To provide our customers with ethically sourced, high-quality diamonds through a transparent and sustainable supply chain.

This mission statement highlights Vekariya Gems commitment to:

- Ethical sourcing
- High-quality products
- Transparency
- Sustainability
- ESG



VISION

“To be the global leader in ethical and transparent diamonds sourcing, delivering unparalleled quality and value to our customers through innovative solutions and unwavering commitment to sustainability.”

This statement encapsulates Vekariya Gems focus on:

- Ethical sourcing: The company’s commitment to responsible and sustainable practices.
- Transparency: The emphasis on providing clear information and traceability.
- Quality and value: The goal of offering exceptional products at competitive prices.
- Innovation: The desire to stay ahead of the curve with new approaches and solutions.

Company’s Tagline:

A diamond is for life not just for special occasions



IMPACT

“Vekariya Gems is committed to redefining the diamond industry by prioritizing ethical sourcing, sustainable practices, and unparalleled transparency. Our impact extends far beyond the beauty of our stones, as we strive to create a more just and sustainable world for all.”

This statement highlights Vekariya Gems’ focus on:

- Ethical sourcing: Emphasizes the company’s commitment to responsible and sustainable gemstone procurement.
- Sustainability: Highlights efforts to minimize the environmental impact of their operations.
- Transparency: Emphasizes the company’s dedication to providing clear and honest information to customers and stakeholders.
- Our Aims: We will also expand on specific initiatives or achievements, such as:
 - “Our partnership with Local NGO supports education and environment.”
 - “We’ve reduced our carbon footprint through planting more trees and our factory has been continuously adopting strategies to ensure that the energy consumption in the manufacturing process and the impact it would have on the environment is minimized.

Company Description:

Vekariya Gems is a Mumbai (Maharashtra, India) based manufacturer, operating in the regional and global marketplace. Our company operations are managed by Mr. Gobarbhai R Vekariya and Mr. Jitendra R Vekariya. Working under their expert knowledge, we have been serving the demands of the clients with the utmost ease. As a manufacturer, we came into being in 2004.

Vekariya Gems is a known name, operating as a manufacturer, exporter, and supplier of a variety of diamonds. Known for their excellent cut grade, our offered array is inclusive of loose diamonds, polished diamonds, and round brilliant cut diamonds. Our company operations are conducted with expert training and vast product knowledge. Keeping quality and precision at the center of our operations, we have successfully mustered a large client base in the international marketplace.

Company's values



INTEGRITY

Committing to honest, ethical, and transparent business practices.



QUALITY

Striving for excellence in every aspect of their business, from sourcing to customer service.



TRANSPARENCY

Providing clear and honest information to customers and stakeholders.



TRUST

Building strong relationships with customers based on trust and reliability.



SUSTAINABILITY

Prioritizing environmental responsibility and long-term sustainability.



INNOVATION

Embracing new ideas and technologies to stay ahead of the curve.



CUSTOMER-CENTRIC VALUES

Customer Satisfaction: Putting the needs and desires of customers at the forefront of their business.



SERVICE EXCELLENCE

Delivering exceptional service that exceeds customer expectations.

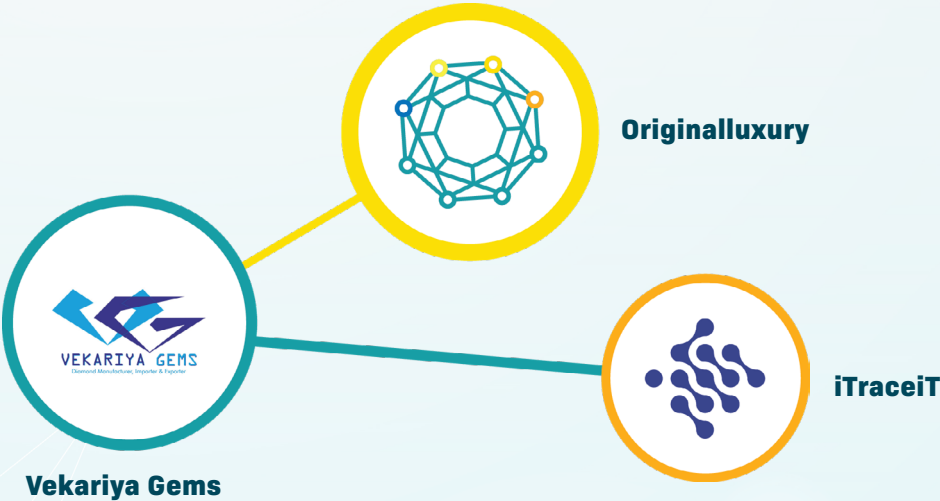
ETHICAL VALUES



- Fair Trade: Supporting fair trade practices and ensuring that suppliers and workers are treated fairly.
- Conflict-Free: Avoiding the purchase of conflict diamonds and other ethically questionable gemstones.
- Human Rights: Respecting human rights throughout their supply chain.

Legend:

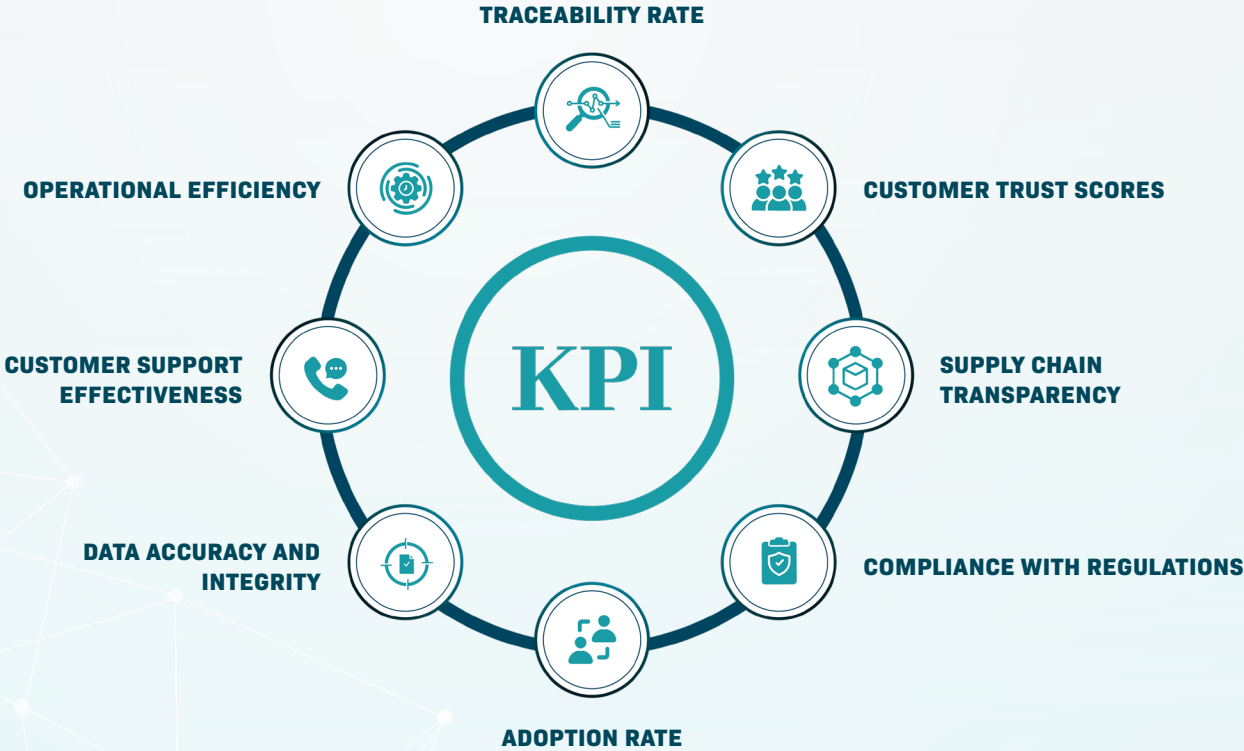
- Core Organization
- Partnerships
- Clients



Technology features we look for or require in a traceability solution:



Metrics to measure the impact of our traceability, transparency and socio-economic initiatives



Publication Certificate

*Acta Scientific Orthopaedics (ASOR), is delighted to award you for publishing
your eminent Article entitled*

Prevalence of Work-Related Musculoskeletal Disorders among Diamond Industrial Workers: A Descriptive study

Authored by “**Bhavesh Bhalala*, Riddhi Naik, Riddhi Kaswala and Sahil Khattar**” that has undergone
double blinded peer review and the article is published in Volume 6 Issue 11

We heartily congratulate you for the successful publication!



With Kind Regards,
Mr. Sanjay Kumar,
Acta Scientific Publications
Contact: +91-9182824667

ACTA SCIENTIFIC



Vekariya Gems: A Pioneer in Ethical Practices and Worker Well-Being

At Vekariya Gems, we take pride not only in the quality of our diamonds but also in the well-being of our employees who contribute to our success. Our commitment to sustainability extends beyond our environmental footprint to include a focus on the health and safety of our workforce. In line with this, Vekariya Gems contributed to the study titled “Prevalence of Work-Related Musculoskeletal Disorders among Diamond Industrial Workers,” which sheds light on the physical challenges faced by diamond workers in the industry. The study highlights the prevalence of musculoskeletal disorders due to prolonged sitting and repetitive tasks, emphasizing our dedication to improving ergonomic conditions and worker safety.

Through such research initiatives, Vekariya Gems is actively working to address these challenges, ensuring that our diamond production is not only of the highest quality but also achieved with the well-being of our valued workers in mind.



[Acta Scientific Orthopaedics \(ISSN: 2581-8635\)](#)

Key Findings: How Luxury Brands Are Operationalizing Transparency

1. Transparency is Being Embedded as a Brand Value

Across segments, from watches and jewelry to beauty and fashion, brands are no longer treating transparency as a secondary feature. It is becoming a core pillar of brand identity, woven into product development, marketing, and customer service strategies.

2. Consumer Education and Engagement Remain Critical Gaps

While traceability tools are increasingly implemented, many stakeholders note that consumers are often unaware or under-informed about these features. Bridging this gap will require creative storytelling, user-friendly tech integration, and omnichannel communication strategies.

3. There Is No One-Size-Fits-All Approach

Stakeholders are tailoring their transparency strategies based on sector, scale, geography, and customer profile. Boutique brands, for instance, are leveraging traceability for deeper brand storytelling, while larger players focus on compliance, scalability, and data security.

4. Collaboration Is Emerging as a Competitive Edge

Stakeholders who work collaboratively, with tech providers, peers, and even competitors, report greater momentum, reduced implementation friction, and higher impact. Cross-sector and cross-discipline partnerships are accelerating innovation and credibility.

5. Traceability Alone Is Not Enough: It Must Be Activated

Many brands emphasized the importance of making traceability visible, emotional, and interactive. QR codes, AR-enhanced product journeys, and resale-friendly digital twins are just a few examples of how brands are transforming supply chain data into engaging customer experiences.

From Transparency as Obligation to Transparency as Opportunity

The profiles in this section reveal a clear trajectory: transparency is no longer an operational afterthought, it is a strategic imperative. As luxury stakeholders from across the value chain embrace traceability, sustainability, and responsible sourcing, they are not merely reacting to regulation or consumer pressure. They are actively reimagining what it means to be a luxury brand in the 21st century.

Yet, the journey is far from complete. Many stakeholders still face significant hurdles: from fragmented supply chains and the complexity of global compliance to the challenge of turning technical traceability into meaningful consumer experiences. What emerges is the recognition that technology alone is not enough. It must be supported by leadership, creativity, and a willingness to engage in cross-sector collaboration.

Crucially, luxury stakeholders must now move beyond the language of compliance and reporting and begin to **communicate the emotional and symbolic value of transparency**. The future of luxury will belong to the brands that can take traceability data and translate it into stories: stories of people, places, purpose, and progress.

As this section demonstrates, many are already doing just that, turning product passports into platforms for education, trust, and loyalty. The most forward-thinking brands are using transparency not just to prove their integrity, but to inspire their customers.

Ultimately, this is a call for the luxury industry to **elevate transparency from a requirement to a creative force**: one that drives differentiation, deepens desirability, and helps luxury reconnect with its highest ideals: excellence, responsibility, and timeless value.



Thought Leadership: Shaping the Future of Luxury with Transparency and Innovation

In an era where authenticity, traceability, and responsible practices define the future of luxury, the voices of industry leaders have never been more crucial. The luxury sector stands at a pivotal crossroads, where the demand for greater transparency is reshaping the very foundation of consumer expectations, regulatory frameworks, and brand strategies. The thought leadership presented in this section provides invaluable insights from pioneers who are driving this transformation.

From blockchain-based traceability solutions to the evolution of Digital Product Passports (DPPs), from innovative ethical sourcing practices to technology-driven authentication methods, these articles explore the cutting-edge advancements that are not just responding to the changing landscape but shaping it.

Luxury brands, technology providers, and industry stakeholders are increasingly embracing collaborative approaches to solve some of the most pressing challenges: ensuring sustainable sourcing, combating counterfeits, enhancing consumer trust, and creating immersive digital experiences that connect products with their stories. This section brings together perspectives from key players who are leading this movement, each offering a distinct viewpoint on how transparency, innovation, and responsibility are redefining the luxury market.

Among the contributions, Aura Blockchain Consortium discusses the potential of blockchain-driven traceability in the diamond sector, while Breitling shares its transition to a traceability-based business model. Diatrace and iTraceIT highlight the importance of verifiable provenance, while SCS Global Services explores the role of certification and third-party validation in ethical luxury. Meanwhile, Sarine, Opsydia, and STPL showcase groundbreaking technological innovations that ensure every facet of a product's journey, from mine to market, is documented, secured, and accessible to the consumer. La Luce brings a candid and thought-provoking perspective on the realities of ethical sourcing in jewelry, sharing their journey toward B-Corp certification while questioning the limitations of current certification systems and advocating for greater transparency beyond compliance-driven narratives.

These thought leadership pieces are more than reflections on industry trends; they are calls to action, challenging luxury brands and stakeholders to embrace a future where technology, transparency, and trust are at the heart of desirability. By leveraging digital tools, embracing sustainability, and fostering an ecosystem of collaborative innovation, the luxury sector is not just adapting to change but setting new standards for the decades to come.

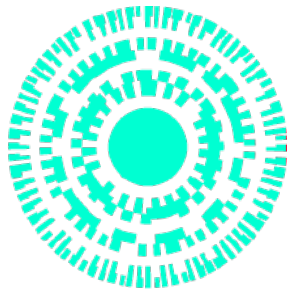
As you explore the perspectives shared in this section, you will gain a deeper understanding of the forces driving the future of luxury, one where transparency is no longer an option but an expectation, and where technology is not just a facilitator but a defining characteristic of modern luxury experiences.



ORIGINALLUXURY

INTRODUCING

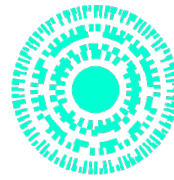
AURA BLOCKCHAIN CONSORTIUM



AURA
BLOCKCHAIN
CONSORTIUM



TRANSPARENCY MEANS TRACEABILITY



AURA
BLOCKCHAIN
CONSORTIUM

By Romain Carrere, CEO of Aura Blockchain Consortium

In today's global luxury market, transparency, authenticity and sustainability have become non-negotiable values for brands and consumers alike. Consumers, who have access to more information than ever before, now expect this information to be easily accessible and all in one place. As more and more solutions bring light and visibility to both upstream and downstream product processes, the real opportunity is to bring this all together.



THE DIAMOND INDUSTRY IN THE DIGITAL AGE

For the diamond industry, we now stand at an exciting moment in history. In recent years, the value chain has been structured with traceability in mind. Technology has already played a critical role in collecting, consolidating and verifying the remarkably complex steps from mining to final product, on the one hand, as well as adding new ways to engage and entice in the realm of customer experience, on the other.

Despite many new solutions, however, the market for digital solutions remains fragmented from

both a customer and brand perspective. In an industry that holds some of the highest levels of independent product scrutiny and audit, fragmentation leads only to complexity. With this, we also have the greater potential for error.

For Aura Blockchain Consortium, we see complexity as an opportunity. There is huge potential for this industry to benefit from a more holistic approach to ownership, authentication, certification, storytelling, and customer experience, as we have seen with our comprehensive approach to blockchain-based Digital Product Passports (DPPs). From here, any desired level of traceability is possible.



THE POTENTIAL OF DIGITAL PRODUCT PASSPORTS

One of the leading examples for any traceability solution is the multi-faceted DPP. DPPs serve as a comprehensive digital record of a product's lifecycle, offering transparent information about its origin, production, certification and environmental impact.

For diamonds, this means not just verifying the stone's authenticity, but also providing insights into its ethical sourcing policies, providing a central reference point for official certifications, offering added value in the form of warranty or product servicing, and so much more. Tracing a diamond's provenance and journey brings a crucial dimension of depth and transparency to the traceability of the finished product.



A primary reason for brands' increasing focus on DPPs is new regulations intended to make transparency and traceability a regulatory requirement for any luxury brand in Europe. In 2022, European legislators announced the Ecodesign for Sustainable Products Regulation (ESPR). The legislation is reshaping brands' relationships with their supply chains, and many luxury products sold in the EU will need digital product passports when the ESPR comes into effect as law from 2026. Given the environmental, social and ethical complexities of the diamond industry's supply chains, these regulations will have a major effect on the diamond landscape as DPPs become a requirement.

At Aura, our DPP solutions go beyond just traceability - but we appreciate the significance of this point in the context of the diamond industry. Whether the Kimberley Process Certificate, G7 Certificate, or a laboratory certification such

as GIA, customers now have immediate access to proof of product authenticity and ethical production. The depth and accessibility of this information has the potential to build levels of trust and transparency never seen before.

Furthermore, they unlock new avenues for consumer engagement and storytelling, allowing brands to create personalized experiences and offer additional services.

We work with every brand to find the mix of DPP benefits that works best for them, whether that may include exclusive product branding or assets, warranty information, membership and rewards, repair and servicing, transfer of ownership, gifting or even recycling options. In the context of diamonds, this enables brands to strengthen their relationship with consumers even further, creating new and exciting avenues to enhance loyalty and trust for the entire lifecycle of product ownership.

TAMPERPROOF RECORDS, IMMUTABLE OWNERSHIP

Aura Blockchain Consortium's DPP solutions are independent and blockchain agnostic, meaning they can operate on both private and public blockchains. This flexibility ensures that the consortium's solutions are, first and foremost, accessible and adaptable to all luxury brands, regardless of their existing technological infrastructure and can be tailored to a wide range of needs.

In the diamond sector, this has the potential to aggregate all existing digital solutions, certificates and customer experience programmes into a single, customer-facing platform.

Through blockchain, we can provide a tamperproof digital ledger that records every step of a diamond's journey, from the mine to rough cut screening, to cutting, to polishing, to setting, all the way to the retail counter and beyond. This level of visibility offers a unique advantage in the market: consumers can now verify the origin, authenticity, and ethical sourcing of their diamonds with unparalleled certainty. For luxury brands, this means enhanced consumer trust, improved brand reputation, and compliance with increasing regulatory demands for sustainability and ethical transparency.



PROOF, AT YOUR FINGERTIPS

Aura Blockchain Consortium's traceability solutions are already being implemented by leading brands in the jewellery industry, and we continue to expand our reach and impact across the sector. With over 50 million luxury products recorded on our private blockchain, our benchmark-setting growth affirms the consortium's role as a trusted partner for the most diverse selection of global luxury brands using blockchain technology.

In terms of DPP applications to diamonds, Aura proudly supports a range of applications and customer-facing solutions. This includes those for Louis Vuitton with their LV Diamonds collection,

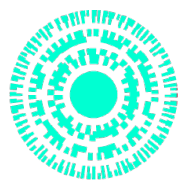
which included the creation of the first ever fully digital, blockchain-based LV Diamond Certificate of authenticity; the Bvlgari Digital Passport, where customers can access unique characteristics, gemstone certifications, product life cycle, and warranty details; and the Prada Eternal Gold collection, which includes fully recycled, certified gold and a fully traceable diamond - tracked from mining to setting.

In each case, the digital certificate employs Aura blockchain technology to ensure that the information and certification for each product is accessible, transparent, verifiable, and tamper-proof.

SETTING THE STANDARD FOR THE FUTURE

The luxury sector is at a pivotal moment. Consumers are increasingly demanding transparency, and regulators are implementing stricter obligations around sustainability and ethical sourcing. At Aura Blockchain Consortium, we are not just responding to these changes, we are leading them with a view that all of this information should be accessible in one place. As we continue to innovate and expand our offerings, we remain committed to our mission of creating a more transparent, sustainable, and ethical future for the luxury industry as a whole.

FROM COMPLIANCE TO OPPORTUNITY: DIGITAL PRODUCT PASSPORTS AS LUXURY'S STRATEGIC EDGE



AURA
BLOCKCHAIN
CONSORTIUM

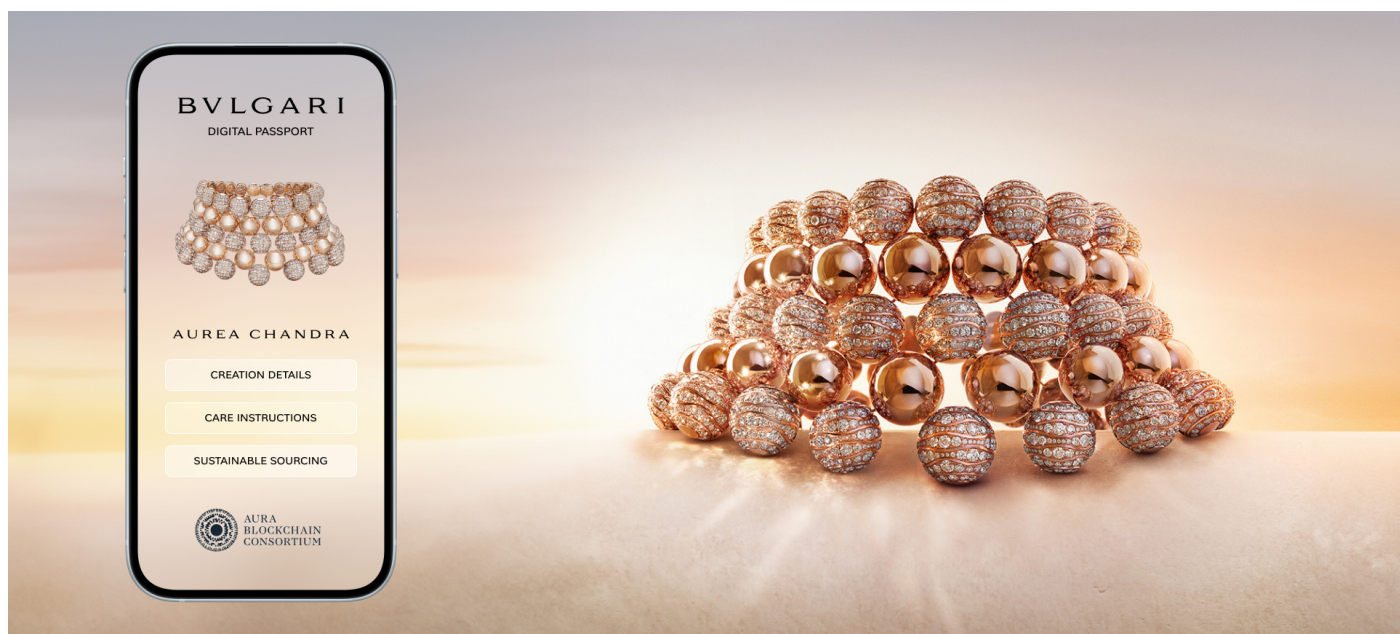
By Romain Carrere, CEO of Aura Blockchain Consortium

The luxury industry has long mastered the art of merging tradition with innovation. Today, as sustainability regulations and consumer demand for transparency increase, luxury brands face a pivotal moment. The Digital Product Passport stands at the frontier of this new inflection point, offering not only a solution to regulatory compliance but also a strategic advantage in strengthening brand equity and consumer trust.

WHAT IS A DIGITAL PRODUCT PASSPORT?

A Digital Product Passport is a digital twin of a physical product, providing a secure, accessible record of its lifecycle—from the sourcing of raw materials to manufacturing, ownership, and beyond. This tool enables luxury brands to showcase their commitment to craftsmanship, sustainability, and authenticity in an increasingly scrutinized market.

DPPs act as a dynamic, evolving platform that adapt to a product's lifecycle. By scanning the associated data carrier, such as a QR code or NFC chip, customers can instantly retrieve product details, from its provenance and sustainability credentials to authentication and repair history. For luxury consumers, this level of transparency enhances their experience, making each product more than just an object but part of a story they can own.



TURNING REGULATORY MANDATES INTO OPPORTUNITY

The European Union's Ecodesign for Sustainable Products Regulation (ESPR) requires DPP implementation across multiple sectors by 2027, aiming to drive circularity and environmental responsibility, the luxury sector will be heavily impacted. While compliance is non-negotiable, forward-thinking brands are reframing this requirement as an opportunity to innovate and differentiate.

DPPs allow for not just upstream transparency, but also for brands to build connections with customers by offering post-purchase services like repairs, e-warranties, or resale options. For instance, imagine a luxury watch whose DPP provides a seamless experience for service and care, enhancing the product's longevity and the customer's perception of value.

WHY LUXURY IS CHOOSING BLOCKCHAIN

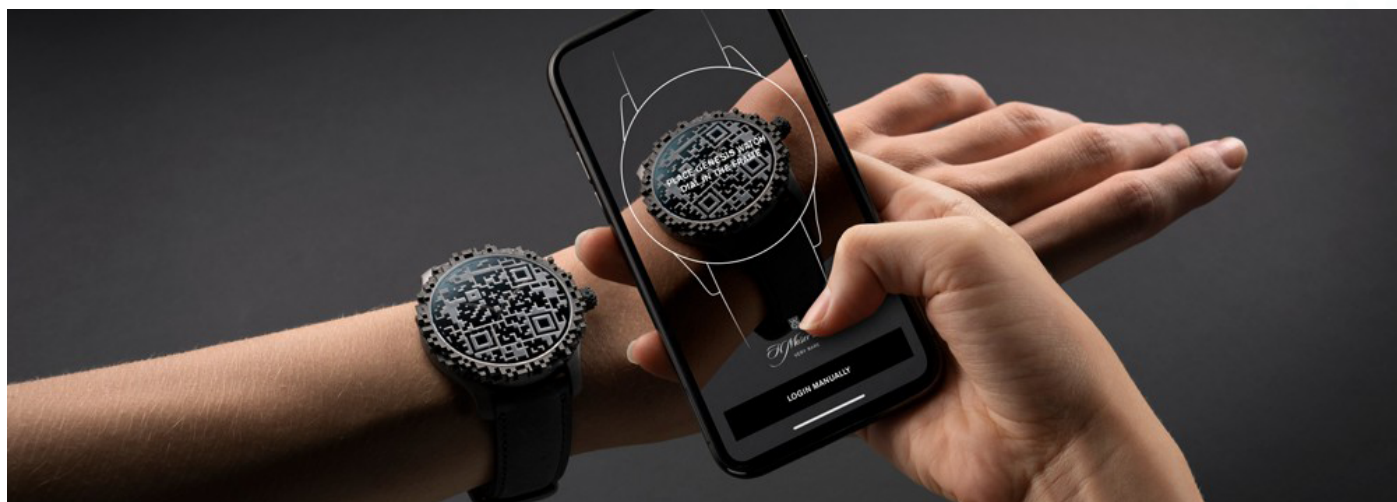
A blockchain-based DPP offers unparalleled advantages specifically for luxury brands. Its immutability ensures that product data is secure, transparent, and immutable, which is key in protection against counterfeiting. Blockchain also facilitates seamless interactions with web3 technologies, enabling unique digital experiences and customer loyalty.

For luxury brands, blockchain-based DPPs go beyond regulatory needs. They create a foundation for secure authentication, traceability, and interactive customer experiences, differentiating brands in a competitive landscape. By adopting blockchain, brands can align with the highest standards of transparency while preserving the exclusivity and trust that define the industry.

BEYOND COMPLIANCE: A PATH TO COMPETITIVE EDGE

The move toward Digital Product Passports is not merely a regulatory obligation but a transformative opportunity. By embracing this tool, luxury brands can redefine customer relationships, enhance product value, and lead in a market where transparency and sustainability are no longer optional.

The luxury industry's hallmark has always been its ability to adapt while staying true to its essence. With DPPs powered by blockchain, brands can maintain this tradition while setting the standard for a future defined by trust, innovation, and customer-centric experiences.





ORIGINALLUXURY

INTRODUCING

BREITLING



BREITLING
1884



AURELIA FIGUEROA, CSO OF BREITLING



FOREWORD

Transparency is a vital input for sustainable transformation. It is a powerful signal of accepting and acknowledging, without shame, the status quo. In my opinion, this deeply matters because only once we have done this, can we move forward. Furthermore, this process establishes both a baseline and a key enabling condition for urgently realizing progress for sustainability. It allows for exchanges to develop pathways towards progress, thereby establishing the essential aspects of accountability and trust. Transparency's partner in progress is traceability, a powerful, fact-based means of consumer and broader community engagement that builds value across sectors, particularly in the luxury sector. Together, transparency and traceability are powerful elements to build trust, credibility, authenticity and ultimately, brand value.



KEYSTONES FOR SUSTAINABILITY

At Breitling, our decision to transition to a traceability-based business model was founded on our values and guided by the inclusive input of our global community from our inaugural double materiality assessment in 2020. We find it to be futureproofed in several ways. It anticipates societal and consumer demands, which research continually points to be increasing with regards to transparency and traceability. The second is the introduction of numerous regulations, for which traceability is a key enabling factor for compliance.

Traceability is an essential foundation for our engagement across our pillars of progress, prosperity, planet, people and governance. We have experienced clear near-term and ongoing returns on the proactive investments we have made in terms of consumer and market relevance and regulatory adherence and recognize this as a validation of our industry-leading shift towards the traceability-based business model. It enables us to engage with the communities across our value chain and understand our role as a member of these systems, working together to craft opportunities for shared resilience.

It allows us to establish high-quality, primary data of our environmental and social impact and establishes the baseline upon which we report. And it enables us to transparently share our efforts with our customers and global stakeholders, building trust and brand value along the way.

Many materials we source are commodities, and commonly processed in a manner that does not allow for traceability. This has required us, and our value chain partners, to fundamentally redesign operating methods. It is thanks to this pioneering collaboration that we have been able to transform supply chain systems and work towards integrating traceable artisanal gold and lab-grown diamonds across our collection, an important starting point on our broader traceability journey. Most importantly, it has strengthened our relationships along these supply chains, with our efforts made based on shared values.



TRANSPARENCY AND TRACEABILITY FOR VALUE CREATION

A keystone of our efforts as a Squad on a Mission to do Better is enabling traceability to attest to the social and environmental impacts across our sphere of influence. In 2022, we launched this important mission to the public with the release of Super Chronomat 38 Origins, our first watch to contain traceable artisanal and small-scale gold and traceable lab-grown diamonds, the materials within our overall supply chain with the greatest potential to have meaningful social and environmental impact. With this, we released our first enhanced traceability non-fungible token (NFT), complementing that already provided to Breitling owners in an industry-leading move in 2020. Complementing this NFT was our publicly available supply chain transparency through our independent verification conducted by Sourcemap, a leader in supply chain traceability.

Among other factors, it allows us to benefit from a first mover advantage amidst growing sustainability consciousness in luxury demand.

Our early efforts in this space, based on competitiveness rather than compliance, were values-based, enabling an authentic approach to this key topic, that in turn allows us to communicate our brand values in a powerful and tangible manner. Transparency and the trust it fosters drives brand loyalty. Meanwhile, the ease of traceability we offer our customers through our digital product passports facilitates resale and boosts our certified preowned program.

In addition to this, the proactive investments we have made since 2020 place Breitling in an advanced position to facilitate timely uptake of key guidelines, including the Corporate Sustainability Reporting Directive and the Corporate Sustainability Due Diligence Directive, to name just two examples. Finally, traceability underpins the ongoing improvement of full-scope risk mitigation across the supply chain, through the greater understanding we have developed through these efforts.



THIS IS JUST THE BEGINNING

We have made meaningful strides towards achieving supply chain transformation – in concert with our highly valued partners. This will enable us to navigate towards our ambitious and industry-leading targets of achieving traceable gold and diamonds across our main collection products by March 2026. Given the benefits listed above, we are continuing to expand our approach to the traceability-based business model across our business activities and informed from a risk-based perspective in order to prioritize our efforts to trace and engage with our value chain.

We are incredibly grateful for the opportunity these efforts have afforded us to engage with the communities along our global value chains. We have, for example, been able to support education in a remote community in Colombia in collaboration with the Swiss Better Gold Association that has enabled access to education across ages.

This has been one of our key accomplishments, among other objectives related to environmental and social impact. Together with my colleagues I have the opportunity to regularly visit mining communities in South America and with each visit, it underlines the importance of our engagement and the value we can create together in this vital industry.

Along our lab-grown diamond value chain, we have been able to support inspiring social impact leaders through a tailored leadership education program developed in concert with Amani Institute. These social impact leaders in turn impact their communities, through their diverse and meaningful activities related to childhood education, women's economic empowerment, environmental protection, and others. It is just the beginning of our efforts, and we look forward to continuing to refine our approach in close collaboration with our fellow community members.

TRANSPARENCY AND TRACEABILITY FOR TRANSFORMATION

Our experience has clearly demonstrated the transformative capacity of transparency and traceability for sustainability. They have been catalysts for growth, driving momentum across the full range of our sustainability objectives. They have created value for our brand by building trust, credibility and authenticity while proactively responding to consumer demands. And they anticipated key regulations, allowing us to act from a position of competitiveness rather than compliance. If you are interested in learning more about our efforts, please read our latest Sustainability Mission Report, available at [Breitling.com](https://www.breitling.com).



ORIGINALLUXURY

INTRODUCING

DIATRACE



DIATRACE



THE COST OF SUSTAINABLE LUXURY

by  **DIATRACE**

The Gems & Jewellery industry is inadvertently gravitating towards sustainability and traceability to meet the growing demand for ethically sourced, eco-friendly products, and comply with strict international regulations. However, a common mentality in the movement is that while most agree sustainability is beneficial, executing it is a costly endeavour only justified if customers pay a premium - and there's little consensus on just how strong that pull from customers is yet.

We believe this perspective can mislead. In this article, we will break down the real costs of sustainability. While our primary focus is the Gems & Jewellery segment, much of what we explore applies to other forms of luxury.

WHAT DOES SUSTAINABILITY REALLY ENTAIL?

Sustainability is often oversimplified as merely achieving carbon neutrality. However, true sustainability requires a holistic approach encompassing environmental, social, and governance (ESG) frameworks. Each pillar is crucial for assessing the actual cost of sustainability and identifying potential savings.



Environmental

This includes energy efficiency, waste reduction, responsible resource use, water conservation, and green building practices.



Social

Fair wages, labor law compliance, health and safety standards, diversity, human rights, and social responsibility are part of a business's social impact.



Governance

This involves provenance verification, ethical standards, conflict-free certifications, anti-money laundering policies, and adherence to international regulations / sanctions.

A comprehensive look at these three pillars reveals that a lot of what is framed as a "sustainability cost" is either a legal requirement or it leads to long-term savings rather than ongoing expenses.

COST CENTRE OR PROFIT CENTRE?

Health, safety, and environmental (HSE) compliance costs, while crucial, are often relatively minor compared to the high-level cost structure of luxury goods. Ensuring safe working conditions and compliance with labor laws is a given in today's regulatory environment, and these expenses should be seen as a standard part of doing business, not as a sustainability cost. While there may be costs associated with safety upgrades, these are investments in risk mitigation and brand protection. Much like how having certain systems and processes e.g. for traceability can provide comfort to the regulators and mitigate potential legal risks.

Additionally, efficiency gained from responsible resource usage is often cost-neutral. For instance, optimizing water and energy consumption, minimizing waste, and using sustainable materials frequently lead to long-term savings. Companies may need agencies to identify gaps and implement resource-saving measures, but these are usually one-time investments resulting in ongoing cost reductions. Consider energy-efficient equipment or waste management systems: while they may require an upfront investment, the savings in operational costs over time can more than compensate for the initial expenditure. Therefore, this also is not always an added cost but instead a strategic advantage that yields financial and environmental benefits over the long run.

This should demonstrate that many companies may already be somewhere along the sustainability spectrum without even fully realizing or leveraging it, and many others can take steps to start on this journey with minimal costs. This is also why instead of having a pass-fail system when certifying facilities, we provide a comprehensive ESG Score at Diatrace, allowing companies of all sizes to demonstrate initiative and progress.

BREAKING DOWN THE CARBON COST

The primary expense of sustainability often arises from carbon emissions and remediation measures—particularly in compliance with Scope 1, Scope 2, and Scope 3 emissions standards.

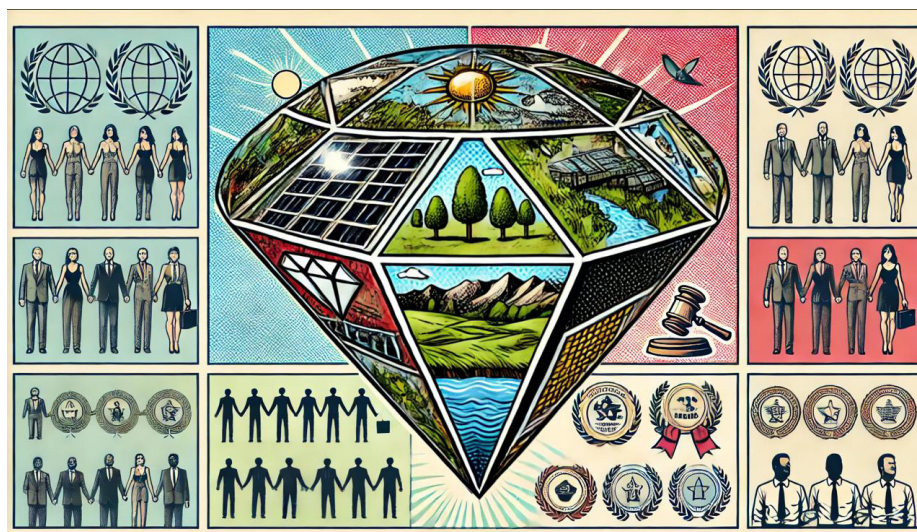
- **SCOPE 1:** These are direct emissions from owned or controlled sources, like fuel used in transportation or factory operations.
- **SCOPE 2:** Primarily related to energy consumption, particularly electricity usage.
- **SCOPE 3:** This includes indirect emissions from supply chains, encompassing everything from mining to retail.

Scope 1 and Scope 3 emissions can be offset by purchasing carbon credits. According to Diatrace's estimates, about 1.5 carbon credits are needed to offset the carbon footprint for every 100 carats of diamond produced. With carbon credit prices between \$2 and \$15, this adds only about 15 to 20 cents per carat. This minimal expense underscores how small the cost of offsetting emissions can be, especially compared to the broader profitability of luxury goods.

Scope 2 emissions are typically addressed by implementing renewable energy sources, predominantly solar. Although going solar requires a significant upfront capital expenditure, this is not merely a "cost". With payback in about 5-7 years (in countries like India) based on utility bill savings alone, this is an asset yielding over 10-15% annualized returns. Furthermore, tax deductions for depreciation and other financial optimizations can boost this return even more. Also, as electricity costs rise over time, solar power protects companies from this with more energy independence. Accounting for an average cost of finance, this can mean that moving to renewables is a net-zero or near-zero cost endeavour!

COST OF IMPLEMENTATION

Another inhibiting component of the sustainability journey is often the actual implementation which involves certifications, audits, traceability platform, etc., which can be a major cost or hassle. Here again, while some platforms can be expensive, platforms like Diatrace are making this journey extremely accessible with costs starting at just \$1999 per year. These systems make it easier for companies to adopt sustainable practices and verify their claims to customers and regulatory bodies alike.



CONCLUSION

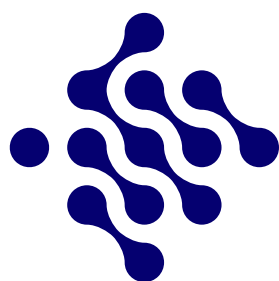
The narrative that sustainability is an expensive endeavor in the luxury industry is outdated and inaccurate. When businesses take a holistic approach, factoring in long-term savings and optimized production, the cost of sustainability is not only manageable – it often pays for itself. If planned well, the total amortized costs can be as low as just \$2-3 per diamond even excluding any assumptions on price premium customers may be willing to pay. The future of luxury is not just about exclusivity and aesthetics; it's about being responsible, transparent, and sustainable and the move towards is both affordable and achievable.



ORIGINALLUXURY

INTRODUCING

ITRACEIT



iTraceiT



THE FUTURE OF LUXURY: TRANSPARENCY, SUSTAINABILITY, AND COLLABORATIVE STORYTELLING



Ever since I entered the diamond and jewelry industry 15 years ago, I've often heard my colleagues reminisce, saying: "Frederik, you should have been here in the golden years. Everything was so easy back then!" Diamonds, the ultimate symbol of both love and luxury, captured the minds of generations - its arguably limited functional value more than made up by its incredible storytelling capabilities. Fast forward to today, however, and the industry faces significant challenges. The days of coasting on the wave of De Beers' iconic marketing are long gone, replaced by a need to re-engage consumers in a world where luxury demands more accountability than ever.

Of course, diamonds and jewelry don't operate in a vacuum. Across the luxury sector, signs of challenges are evident. Recent quarterly reports from major houses show lackluster results, pressured by geopolitical uncertainties and slowed consumer spending in key markets like China. Yet, many experts would argue that the diamond sector has been in decline for longer.

In response, the industry has rolled out various marketing initiatives, but they've been highly fragmented. With each player in the supply chain striving to differentiate themselves or protect market share, efforts have remained siloed. Yet, as a much smarter person than I once said, "There are no industry challenges that can't be solved by inspiring more consumers to buy your product." Rather than trying to increase market share of a shrinking pie, our focus should shift to growing that pie as a whole.

This is precisely why I advocate for collaborative, industry-wide storytelling. At iTraceiT, one of our guiding principles has always been to empower the entire supply chain to share its rich narratives. Our traceability solution was developed to allow the remarkable stories behind each piece—stories that span from mines to workshops to boutiques—to reach the consumer. During my time in mining, I witnessed inspiring community initiatives, from building schools and hospitals to developing environmental programs, yet these stories rarely reached the public. This information, representing craftsmanship, care, and dedication, was often lost as diamonds passed through each stage of the supply chain.

Consider the fact that a McKinsey report found that over half of luxury consumers now factor sustainability into their purchase decisions, with 70% willing to pay a premium for a product that is sustainably produced according to a PwC study.

This suggests a tremendous opportunity to reinvigorate our sector by making sure these stories don't just exist in isolation but flow seamlessly from the source to the store. Jewelry is often purchased to celebrate life's most memorable moments; let's make sure that consumers feel even better about their choices. We can empower retail sales teams with meaningful stories that embody not only luxury and beauty but also responsibility and provenance.

Let's not wait for regulatory pressures to enforce transparent supply chains and comprehensive sustainability reporting across the luxury sector. Instead, we should take the lead. By fostering transparency and accountability, we can rebuild the emotional connection with our audiences.

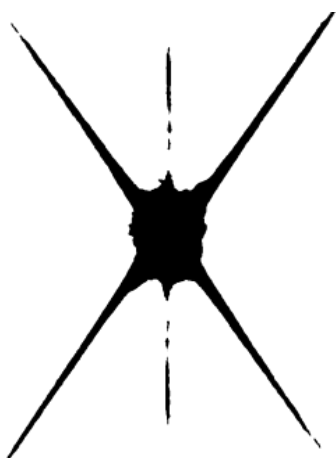
When consumers know the journey their product has taken—from its origins to the hands of the artisans—trust is enhanced, and loyalty follows.

A vital element of this shift will be collaboration among technology providers within our industry. While iTraceiT's traceability solutions are already used extensively within the diamond and jewelry sector, we are not the only players in this space. To avoid a fragmented narrative that risks losing its impact, technology providers must work together. By connecting our platforms, we can ensure that no story or critical piece of information is left behind and that our collective efforts produce a cohesive, compelling story for every luxury product.

The luxury sector stands at a crossroads: we can resist change and watch our market continue to contract, or we can embrace transparency, sustainability, and collaboration to breathe new life into it. By leading with our values and empowering consumers with the rich stories behind each piece, we have the opportunity to restore luxury's allure while ensuring its relevance for the next generation. The future of luxury lies not only in the quality of our products but in the authenticity of the stories we tell.

INTRODUCING

LA LUCE



B-CORP AND BEYOND: NAVIGATING ETHICS IN A FLAWED SUPPLY CHAIN



In March 2024, after two years of documentation, Zoom calls, and legal hurdles, we finally received the email we'd been waiting for: our company had officially become a B-Corp.

Since co-founding the company in July 2021, I always knew B-Corp certification was one of our goals. As a small business run by 30-year-olds, we had the freedom to prioritise sustainability, not for marketing purposes, but because it felt like the right thing to do. It was a moral decision, not a business one.

Back in late 2021, when I first started compiling our B Impact Assessment (the tool B-Lab offers to define and assess your practices), it was exciting and challenging. We believed in the movement. Personally, I've always been a conscious consumer—choosing Fairtrade nuts and coffee, sustainably sourced tuna, vintage clothing, and repairing anything possible before throwing it away for example. (My mom is a bit of an eco-tyrant, so I grew up with this mindset.) When we founded the company, being responsible was non-negotiable, and B-Corp felt like the perfect way to show it to the world.

As a small company, we didn't have to submit as much documentation as a large multinational would, and we weren't required to have an in-person audit. But the process still pushed us to formalise our Corporate Social Responsibility (CSR) practices and think deeply about things like waste management, future partnerships, and our whole supply chain. It helped us grow in ways we hadn't expected.



I chose B-Corp because I believe it's the most well-rounded certification available. Yet, a part of me feels disappointed. While universal metrics like CO2 emissions or waste management are relatively easy to regulate, the jewellery supply chain is more nuanced. Most of my suppliers are good people who genuinely care about the planet and their workers, but they lack the capacity for third-party audits. Our relationship is based on trust. To meet B-Corp requirements, I drew up documents that outlined their practices and commitment to positive impact. They signed them, but are these legally binding? No.



Now that we've achieved B-Corp status, it's something that influences my decisions every day. It's like having a moral guardian on my shoulder, reminding me not to cut corners or compromise my principles, even in the smallest decisions. But is it enough if there are no legal bindings all along the supply chain?

At the end of the day, having a certification helps us navigate the future, pointing out where we're falling short and offering possible guidelines for improvement. But until we can transparently and efficiently solve the human challenges in our supply chain, no certification—whether it's B-Corp, blockchain verification, or RJC —will be enough. I don't think B-Corp is useless by any means.

It's a enormous step forward, but I would love to see digital technologies used not just to tell a nice story of provenance, but to provide a true picture of wages, working conditions, benefits, and environmental impact. If we don't learn to be sincere—even if we are far from perfect—we won't be able to improve our supply chain. I'll start: while I use Fairmined gold and silver, I also use copper, brass, and palladium, which have no available traceability documents. This is just one small example, but I hope we can focus on creating a truthful landscape, rather than a sellable one.

JOY HARVEY

Co-founder la luce gioielleria
B-corp





ORIGINALLUXURY

INTRODUCING

OPSYDIA



OPSYDIA



ANDREW RIMMER, CEO, OPSYDIA



Being part of a community like ORIGINALLUXURY is proof that technology-enabled transparency and traceability is achievable for the diamond and precious gemstone industries - not as a nebulous concept but as an achievable present day operational process. The challenge remains, however, in packaging these advancements in ways that are tangible and engaging for the consumer.

New generations of customers are increasingly interested in knowing the origin of their jewellery and want to engage with a piece's story. This includes the benefits brought to mining communities and the CSR principles followed throughout the manufacturing process. Industries across the board, not limited to precious jewellery, gemstones, and premium timepieces, are in the process of sharing these stories with varying degrees of success. In today's market, traceability and branding are interconnected and studies have revealed that consumers are willing to spend more on products with socially responsible qualities. There is marketing power in informing shoppers about the benefits of responsible supply chains and offering products with genuine provenance.

Businesses committed to well-evidenced transparency initiatives have a huge advantage - they limit reputational risk whilst simultaneously generating consumer trust and loyalty. While communicating traceability to consumers is still in its infancy, we have reached a critical tipping point in the diamond industry. Sophisticated brands are increasingly sharing ethical, sustainable and traceable messages to meet consumer expectations for transparent supply chains.

The solution to building trust and ensuring differentiation is physical proof, something tangible which discerning luxury consumers can see with their own eyes. There is precedent for this type of consumer protection. An example in the UK domestic market is the law governing the independent application of precious metal hallmarks applied by national Assay Offices. Consumers don't need to blindly assume that the necklace they are purchasing is 18k gold - it has been independently tested and physically stamped as evidence of its purity.

Since the inception of Opsydia, our ultra-precision laser technology has provided this physical 'missing link' in the form of Sub-Surface Nano ID inscriptions. These are permanent identity features placed within diamonds and precious gemstones that connect a specific stone to its blockchain record, grading report or branded origins. We have recently expanded the repertoire of our technology to inscribe Nano IDs in sapphire crystal glass and are developing a system to inscribe *melée* diamonds at scale. It has also been inspiring to see our clients explore non-conventional applications, too, including bespoke identifiers, precision sub-surface images and limited edition runs of inscribed gems. A future filled with personalised diamonds and precious gemstones is entirely possible with this innovative mind-set.

Furthermore, we are also preparing to launch the Opsydia Jewellery Viewer - an internet-enabled device allowing consumers to see our microscopic identifiers in the luxury retail environment. As each Nano ID is indicative of a wider initiative - a trail of evidence - they can quickly build trust and showcase the wider story behind a stone as part of the sales experience. With the Jewellery Viewer, luxury retailers and brands no longer have to rely on words but can showcase their credentials in-store as part of an elevated experience.

For brands, the benefits of tamper-proof inscriptions don't end at the primary point of sale. The secondary market is an ever-evolving landscape of digital resellers and auction houses, with even the likes of eBay introducing an 'Authenticity Guarantee' for second-hand luxury goods. Maintaining brand integrity and achieving reliable authentication is critical for protecting shoppers and tackling counterfeit goods. We are committed to creating enduring value that remains with a gemstone throughout its lifespan.

The luxury industry differentiates itself by its heritage, craft, innovation and above all, aspirational storytelling. To be truly timeless and appealing, these stories should be meaningful, authentic and evidence based. Physical inscriptions are a real-world representation of practising what you preach. Without this, from the consumer perspective, your hard-won traceability achievements could seem like nothing more than words on a page.

"There is a need for precise, tamper-proof evidence of supply chain integrity in a way that is straightforward for the consumer,"

Andrew Rimmer, CEO, Opsydia.



ORIGINALLUXURY

INTRODUCING

SARINE



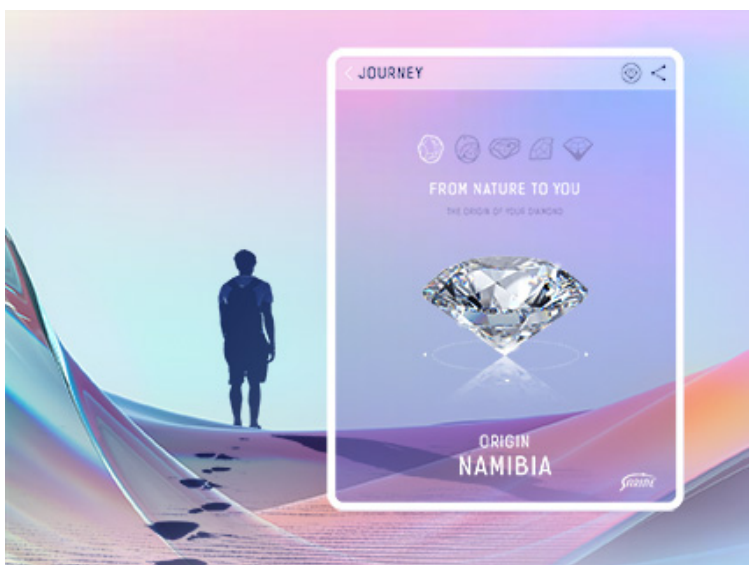
EMBRACING TRANSPARENCY AND COOPERATION: THE SIGNIFICANCE OF VERIFIABLE THIRD-PARTY TRACEABILITY IN THE DIAMOND INDUSTRY



(By David Block, CEO Sarine)

In today's dynamic marketplace, the call for transparency and accountability has never been more relevant. As awareness of ethical sourcing and sustainability takes center stage, tracing the origins of diamonds is now a fundamental requirement. The diamond industry stands at a pivotal moment where technology must be harnessed to enhance operational efficiency, reduce cycle times, streamline inventories, and adapt to the demands of modern retailer and consumer. Social media platforms like TikTok and Instagram serve as mirrors, reflecting the evolving questions and expectations of consumers seeking detailed information about the diamonds they purchase.

In 2024, the emphasis on product authenticity, sustainability, and digital twins has intensified, with most luxury brands integrating these elements into their products. For retailers, leveraging advanced technology isn't just an advantage—it's a necessity to remain relevant in today's evolving market. Sarine, as a leader in diamond technology for over 35 years, has consistently aimed to drive innovation in this industry. Our AI-driven, verifiable traceability reports, enhanced with 3D imaging and interactive 360-degree diamond views, offer an unparalleled level of transparency, providing insights that complement in-store experiences.

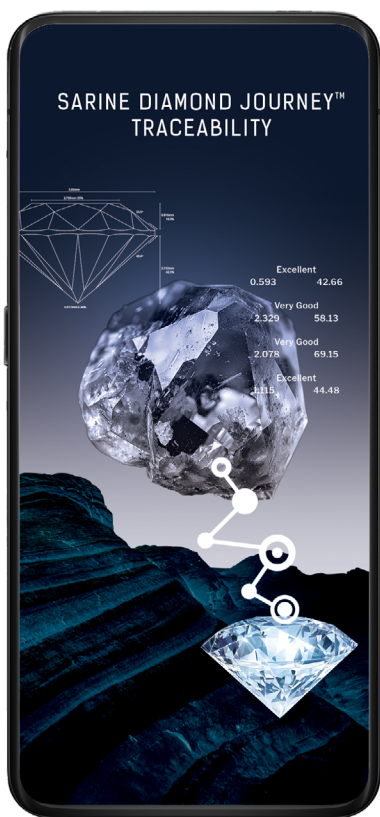


A SUSTAINABLE FUTURE IS A TRANSPARENT ONE.



THE POWER OF COOPERATION

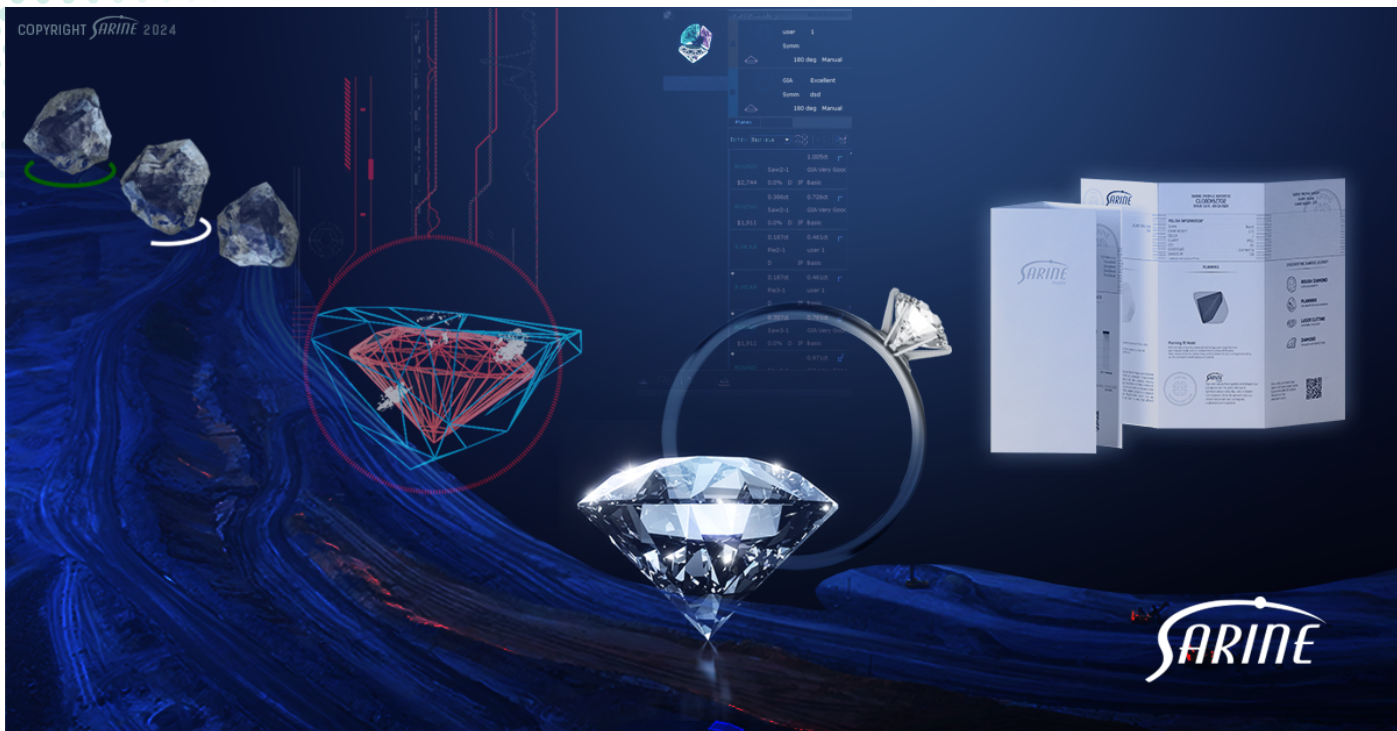
Traceability isn't an endeavor of a single company—it's a collective mission. The complexity of the diamond industry demands a unified approach involving miners, manufacturers, retailers and technology providers to set a consistent traceability standard. Through collaboration, we can establish interoperable systems, share best practices, and build a framework that benefits all stakeholders. Our active collaboration with platforms like De Beers' Tracr and Aura Blockchain Consortium exemplifies our commitment to fostering an industry-wide traceability solution. An effective solution requires an integrated ecosystem that welcomes participation from all relevant players. By combining cutting-edge technology with cross-industry partnerships, we're at a tipping point that ensures adherence to international regulations, bolsters consumer confidence, and adds substantial value for retailers and jewelers.



SCALING SOLUTIONS ACROSS THE INDUSTRY

While the necessity for traceability is evident, implementing these solutions on an industry-wide scale remains a challenge. The diamond supply chain, with its intricate stages from mining to retail, presents multiple opportunities for diamonds of uncertain origin to infiltrate the pipeline. It is therefore crucial to ensure any traceability system provides for a high level of integrity and assurance by utilizing verifiable data, raising the bar from the existing declarative processes.

Since 2018, Sarine has been unwavering in our mission to provide scalable and accessible technology tailored to the diverse needs of the industry. By delivering scalable solutions based on verifiable 3rd party data, we aim to make traceability the norm, rather than the exception. It is crucial to ensuring traceability initiatives can be effectively integrated across different operational scales but without compromising on the integrity of the data.



THE PATH FORWARD

Looking ahead, the demand for verifiable third-party traceability will only grow stronger. Achieving the highest standards in traceability requires a steadfast commitment to transparency and collaboration from all industry stakeholders. By leveraging technology and fostering cooperation, the diamond industry can create a marketplace that embodies integrity, builds consumer trust, and champions sustainable practices.



ORIGINALLUXURY

INTRODUCING

SCS GLOBAL SERVICES

SCSglobal
SERVICES
Setting the standard for sustainability



THE FUTURE OF TRACEABILITY AND TRANSPARENCY IN THE LUXURY JEWELRY INDUSTRY



Embracing Innovation for an Ethical, Sustainable Tomorrow

The quest for traceability and transparency has become a pivotal theme in the luxury jewelry market. Consumers are increasingly conscious of the origins and ethical implications of their purchases, leading to a surge in demand for verifiable provenance in diamonds and other precious gemstones. This evolving landscape is driven both by advancements in technology and a collective commitment to prioritize sustainability and ethical sourcing.

For forty years [SCS Global Services](#) (SCS) has served as a pioneer in sustainability standards and a leader in third-party certifications, working across the global economy in natural resources, the built environment, food and agriculture, consumer products, and climate sectors. In 2020, SCS Standards launched the [Certification Standard for Sustainability Rated Diamonds](#) (SCS-007), which set the bar as the world's first comprehensive, multi-stakeholder sustainability standard developed for the diamond sector.

In this article, we discuss some of the most important lessons learned from our time working closely with a wide variety of organizations, from world-class retailers and diamond suppliers to small-scale cutters and polishers across the diamond industry. We also offer our take on some of the most important technological developments inspiring massive changes in ethical business practices and diamond traceability – and how your company can get a head start in meeting the demands of the world's most conscientious consumers.

THE IMPORTANCE OF TRACEABILITY AND TRANSPARENCY

Since the launch of the Kimberley Process in 2000 – aimed at preventing the trade of conflict diamonds – the jewelry industry has made significant strides in ensuring the ethical sourcing of diamonds. Traditional methods of origin verification, however, have often fallen short of providing the necessary accuracy and confidence to consumers. Increased consumer awareness of the impacts and origins of their purchases has motivated jewelry manufacturers and retailers not only to seek innovative solutions for traceability, but also to demonstrate how their business practices uphold human rights and ecological responsibility.

Since SCS-007 entered the international diamond scene, SCS has certified ten laboratory-grown diamond producers, 15 diamond handlers, and 65 retailers in 14 countries where over 100,000 certified diamonds have been sold through more than 500 stores worldwide.

At SCS, we have seen how traceability and transparency work hand in hand – and, more importantly, how neither is concerned with merely confirming the geographic source of diamonds.

Traceability must function at every critical control point through value and supply chains – from mining sites or lab producers to cutters and distributors to retail storefronts – and the entire process must be underpinned by ethical and sustainable business practices. Transparency includes providing consumers with clear and verifiable information about the journey of their jewelry, thereby fostering trust and integrity in not only the individual products but also the companies and brands responsible for creating them.

TECHNOLOGICAL ADVANCEMENTS IN DIAMOND TRACEABILITY

Recent technological advancements have revolutionized the way the industry approaches traceability. One of the most significant breakthroughs has been the development of highly sensitive trace element and isotopic analysis techniques, such as laser-ablated inductively coupled mass spectrometry (LA-ICP-MS). This technology – a fundamental component of SCS-007 – offers unparalleled accuracy in determining the origin of diamonds.

The traceability requirements included in the Sustainability Rated Diamonds Certification are the most stringent in the diamond industry. These assurances range from the use of accredited origin testing and grading laboratories, accredited handlers, in-depth recordkeeping, empirical testing, and third-party surveillance auditing and sampling – all of which overlap and intersect to provide layers of independent assurance.

While LA-ICP-MS technology provides the scientific backbone for traceability, blockchain technology offers a complementary solution for enhancing transparency.

Blockchain's immutable ledger system ensures that every transaction and transfer of ownership is recorded in a secure and tamper-proof manner. This creates an unbroken chain of custody from the mine or lab to the consumer. The integration of blockchain with traceability technologies like LA-ICP-MS can provide a comprehensive solution for the industry. For instance, the SCS-007 Sustainability Rated Diamonds Certification leverages blockchain to document and verify each step in the supply chain, ensuring that information about the diamond's origin, journey, and ethical credentials is accessible and trustworthy.

STRATEGIC PERSPECTIVES: LOOKING AHEAD

The luxury jewelry industry stands at a critical juncture where the convergence of technology and consumer demand is driving unprecedented change. In terms of the next big focus for improvement in diamond traceability and transparency, SCS foresees that strategic collaboration across sectors – science-based origin determination, verifiable traceability, and third-party certification – will be invaluable to enhancing ethics and sustainability in the broader jewelry industry. SCS is partnering with organizations building innovative approaches to origin determination to provide, essentially, an iron-clad trifecta of sustainable, ethical assurance.

Beyond the adoption of advanced traceability and transparency solutions, the most important strategy to improve the luxury jewelry industry involves prioritizing human rights and ecological responsibility above all else. At SCS, we have been building programs and services over the last four decades that are designed to recognize the outstanding achievements of companies, institutions, and organizations who are meeting the highest levels of performance in environmental protection, social and ethical responsibility, product safety and quality, while stimulating continuous improvement on the path toward sustainability. We are a Participant of the United Nations Global Compact, joining thousands of other companies globally committed to taking responsible business action to create the world we all want.

Diamond industry leaders face an unprecedented opportunity to ensure that the priceless nature and timeless beauty of diamonds are honored by the strongest ethical commitments and sustainability practices. The journey towards a sustainable future is a collective effort; by working together, we can create a legacy of trust and excellence in the world of fine jewelry.





INTRODUCING

STPL



PIONEERING TECHNOLOGICAL EXCELLENCE IN DIAMOND PROCESSING AND BEYOND



STPL, headquartered in Surat, India, is a global leader in developing cutting-edge technological solutions for the diamond processing industry, serving both natural and lab-grown diamond markets.

Since its inception in 1993, the company has continually set benchmarks in innovation, bringing transformative advancements to every stage of diamond manufacturing. With a global presence, STPL is one of the very few companies worldwide offering comprehensive technology solutions that span diamond analysis, planning, cutting, blocking, polishing, and safe trading.



STPL offers an unparalleled suite of solutions for AI-driven and robotic diamond planning, shaping, blocking, and cutting, making it the only company in the world that provides both comprehensive diamond planning and advanced laser-based cutting technologies under one roof. STPL's diamond planning solutions leverage sophisticated technology to analyze and optimize rough diamonds, ensuring maximum yield and value.

Once planned, the diamonds undergo precise Cutting, Shaping and Faceting using state-of-the-art laser technology with AI-based automation. This AI-based approach ensures exceptional accuracy, speed, and cost-efficiency, saving on skilled manpower and eliminating the limitations of traditional methods. By seamlessly integrating these key processes, STPL delivers unmatched productivity, precision, and significant savings in skilled labor costs across the entire diamond processing chain.



In fact, as an innovation-driven enterprise, STPL pioneered laser diamond-cutting technology in India, revolutionizing the way diamonds are processed. Over the decades, the company has consistently integrated the most advanced laser technology into its solutions, ensuring increased productivity while reducing operational costs. By focusing on automation and minimizing resource-intensive finishing processes, STPL has empowered the diamond industry to achieve higher efficiency with greater precision. This shift towards automation not only enhances precision but also reduces the reliance on skilled manpower, streamlining operations and significantly lowering labor costs without compromising quality.

STPL's automation solutions, now fortified with Artificial Intelligence (AI) and Robotics, are at the forefront of industry innovation. The company's milestone achievement, the development of the diamond industry's first-ever robot, exemplifies its commitment to merging technology with forward-thinking engineering. This groundbreaking solution underscores STPL's commitment to providing its clients with state-of-the-art tools that streamline the diamond processing workflow and optimize the profit.

STPL's latest technology solutions bring transformative advantages to diamond processing units, enabling them to operate with greater efficiency, precision, and profitability.

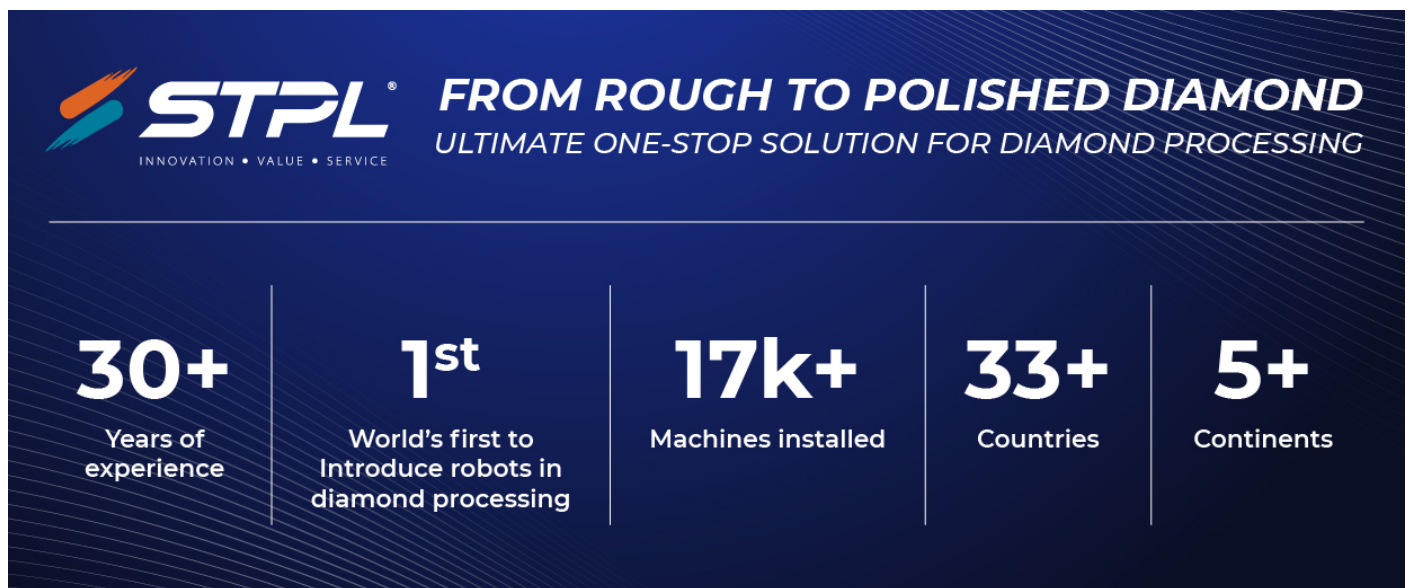
By utilizing advanced laser-based cutting and automated planning solutions, these units can achieve significantly higher yields from each rough diamond, maximizing the value of their raw materials. The precision of STPL's future-proof machines ensures that diamonds are cut with unparalleled accuracy, resulting in superior finished products and reducing the risk of costly errors. With a focus on long-term viability and scalability, STPL's solutions are designed to evolve with industry advancements, ensuring that processing units stay ahead of the curve.

Automation also minimizes the reliance on manual labor, leading to fewer human errors and more consistent results across production. With enhanced speed and efficiency, processing units can increase their throughput while maintaining the highest quality standards. Additionally, the data-driven approach of STPL's solutions helps optimize every step of the diamond processing journey, enabling SPC (Statistical Process Control) to monitor and refine processes for even greater precision and consistency. This allows businesses to make more informed decisions, further increasing their profit margins. In short, STPL's cutting-edge technology provides a significant competitive edge to diamond processing units, offering a blend of higher productivity, lower operational costs, and superior product outcomes.

Whether a small-scale enterprise or a large international firm, STPL's scalable solutions are designed to deliver exceptional value without compromising on quality.

This flexibility, combined with the company's values-driven approach, has cemented STPL's position as a preferred technology partner for businesses around the world. As a global trendsetter in AI-driven diamond processing technologies, STPL proudly serves a diverse customer base spanning over 30 countries across five continents. STPL's commitment to innovation and excellence has resulted in the remarkable installation of more than 17,000 systems worldwide, revolutionizing the diamond processing industry.

STPL has garnered numerous prestigious national and international awards for its cutting-edge diamond processing technologies and innovations. Notable accolades include the **"GOOD DESIGN AWARD"** from Japan, the **"VISION SYSTEM DESIGN INNOVATORS AWARD"** from the United States, and the **"INDUSTRY INNOVATION of the YEAR AWARD"** from the JNA Awards in Hong Kong.



By striking the perfect balance between technological innovation and affordability, STPL has not only retained its status as a global trendsetter but also expanded its influence beyond the diamond sector. With a legacy of innovation and a forward-looking mindset, STPL is not just shaping the diamond industry it is defining the future of technology-driven manufacturing across the globe.

STPL FROM MINE TO MARKET: TRACE EVERY SPARKLE: GUARANTEEING THE MOST RELIABLE DIAMOND TRACEABILITY WITH CUTTING-EDGE TECHNOLOGY!

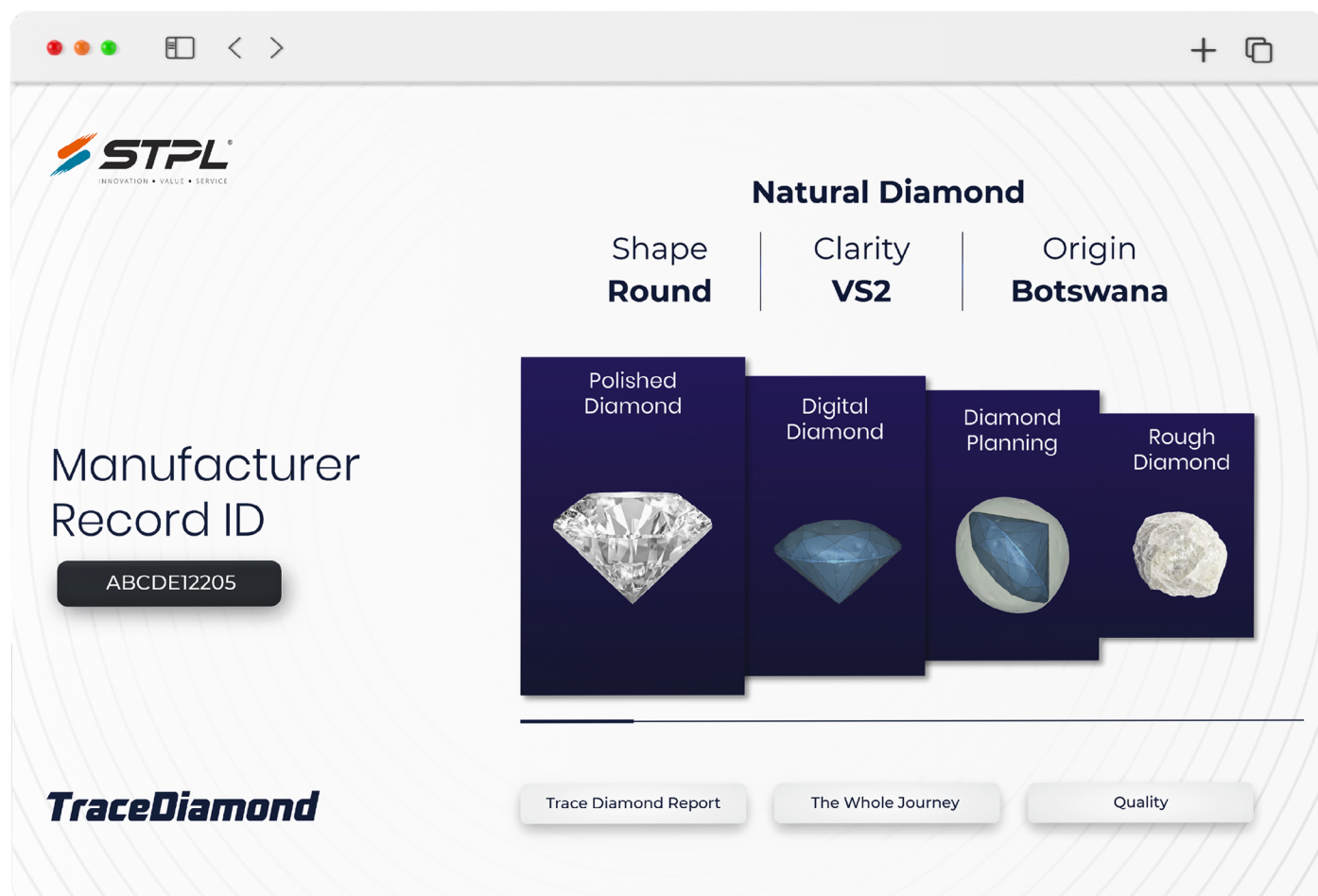
STPL, a global leader in diamond processing technology, has now introduced an advanced diamond traceability system that sets a new benchmark in ensuring transparency and accountability throughout the diamond's process

This state-of-the-art solution leverages STPL's expertise in diamond planning, cutting, and polishing technologies, combined with cutting-edge data analysis tools, to provide an unbroken chain of traceability for diamonds.

At the core of STPL's traceability solution, is the ability to track individual diamonds through each stage of the supply chain, ensuring the integrity of the stone and verifying its authenticity at every step. The process begins at the diamond manufacturer, where the manufacturer will first tag the Kimberley certificate for the particular rough diamond stone and then the particular rough diamond stone gets scanned in STPL technology which captures key characteristics such as shape, size, inclusions, and other unique features of the rough diamond. This data creates a digital profile of the rough diamond, which is then automatically and continuously updated as the diamond moves through the manufacturing process. At each critical stage whether planning, cutting, shaping faceting or polishing the diamond undergoes the process of digital scanning which records all the stone data and photos of the evolving physical attributes of the original rough diamond data.

At the final stage after polishing, a diamond manufacturer tags the lab certificate of the particular polished diamond, and then the polished diamond gets placed in STPL's unique technology called Smart-i15, which captures the unique fingerprint of polished diamonds. Smart-i15 provides instant access to a comprehensive digital record of each diamond, including detailed rough-to-polish data, high-resolution images, and videos of the individual stones. By scanning a QR code, users can easily retrieve the full history and specifications of the diamond—ensuring complete transparency and traceability throughout the entire process.

For smooth and fast data access STPL has partnered with various blockchain platforms, which creates a unique TraceDiamond Record for every rough diamond stone which is a digital ID of any diamond that contains all the key data along the supply chain.



The TraceDiamond system is capable of collecting and transmitting critical product data, including detailed information on the country of origin, along with each diamond's entirely unique and distinct characteristics—such as size, shape, color, carat weight, clarity, cut, and specific inclusions (natural imperfections). Additionally, it integrates certification data from accredited gemological laboratories, ensuring comprehensive traceability and authenticity.



Rahul Gaywala, CEO of STPL said,

"STPL's traceability system is the most authentic and trustworthy solution in the diamond industry, providing unparalleled accuracy in tracking a diamond's journey from its origin to the final consumer. STPL's traceability system integrates seamlessly with its extensive range of diamond processing equipment, making it possible to gather comprehensive data as the diamond progresses from mine to market."

The solution compares scans at different stages, verifying the match between the rough stone and its polished form, ensuring that the diamond retains its original identity and can be accurately traced back to its source. Moreover, STPL's traceability system is compatible with existing blockchain platforms, allowing for the integration of the data into broader networks. This flexibility makes it a future-proof solution for diamond traceability, aligned with the industry's growing emphasis on genuine, responsible sourcing and ethical practices."

With a robust data infrastructure and strategic partnerships with miners and manufacturers, STPL ensures that diamonds processed through its traceability system come with a verified trail of ownership. This not only strengthens the ethical credentials of the diamond industry but also gives consumers confidence in the provenance of their purchases.

STPL's traceability programme also allows retailers to enhance their customer experience by sharing the diamond's integrity sequence with buyers. Using these verified data, retailers can provide consumers with detailed information on the origin and ethical practices associated with their diamonds, reinforcing trust and transparency.

Through this innovative system, STPL continues to lead the way in combining technology with transparency, ensuring that every diamond not only reflects brilliance in craftsmanship but also in the processing voyage it undertakes to reach the consumer.

Rahul Gaywala

CEO | STPL

Mobile: +91 99251 72485

Email: rahul@stpl.com

Website: www.STPL.com

Key Findings from the Thought Leadership Articles

1. Digital Product Passports (DPPs) Are Redefining Transparency and Consumer Engagement

Digital Product Passports (DPPs) as a transformative tool for traceability, regulatory compliance, and brand storytelling. DPPs serve as digital twins of luxury products, offering consumers access to detailed product history, sustainability credentials, and authentication records via blockchain technology.

Multiple Luxury Maisons have successfully implemented DPPs, demonstrating their ability to build consumer trust, enhance resale value, and comply with upcoming regulations such as ESPR.

2. Traceability is No Longer an Option: It's a Competitive Advantage

Companies are embedding traceability across their supply chain, ensuring transparency in sourcing artisanal gold and lab-grown diamonds. By leveraging digital product passports and independent verification, the companies can position themselves ahead of regulatory mandates and strengthened consumer loyalty.

Verifiable third-party traceability is essential for maintaining the integrity of the diamond supply chain. AI-powered traceability reports and collaborations with blockchain platforms ensure that luxury retailers and consumers have access to reliable provenance data.

3. Blockchain and AI Are Transforming Diamond and Jewelry Supply Chains

Integrating AI-driven automation and blockchain-powered traceability into the diamond manufacturing process, by tracking rough-to-polished transformations and linking data to blockchain systems, enhances efficiency, accuracy, and ethical accountability.

Pioneering sub-surface laser marking technology, by creating invisible, tamper-proof identifiers on diamonds ensures permanent traceability, preventing fraud and reinforcing ethical sourcing practices.

4. Ethical Sourcing and Sustainability Are Business Imperatives

The need for third-party verification standards ensures environmentally responsible and ethically sourced materials.

Challenging the notion that sustainability is an added cost by demonstrating that investments in energy efficiency, carbon offsets, and responsible sourcing often result in long-term cost savings and regulatory compliance.

5. Collaborative Industry Storytelling Is Needed to Reignite Consumer Engagement

Fragmented marketing strategies and siloed supply chain efforts have led to a disconnect with modern consumers. The future of luxury relies on collaborative, industry-wide storytelling, ensuring that the social, environmental, and craftsmanship narratives behind products reach the consumer.

At the same time, the limitations of current traceability mechanisms highlight the need for stronger digital verification systems and deeper supply chain accountability.

A Call for Industry-Wide Action

The luxury industry stands at a critical inflection point, where technology, transparency, and consumer trust must converge to create a more responsible, accountable, and resilient sector. From Digital Product Passports to AI-driven traceability solutions, the tools for transformation are available. However, the industry must move beyond compliance and proactively adopt these innovations as strategic enablers for long-term success.

By embracing collaborative storytelling, responsible sourcing, and blockchain-powered verification, luxury brands can redefine consumer expectations and set new benchmarks for integrity and authenticity. The future of luxury is not just about exclusivity, it's about building a legacy of trust, innovation, and responsibility.

To truly harness the power of transparency, the luxury ecosystem must continue building bridges between technology providers, brands, and consumers. The stakeholders featured in this section have taken critical first steps, but the journey is collective. As transparency becomes a core element of consumer desire and brand equity, aligning efforts across the value chain is essential. Only through continued collaboration, investment in education, and a shared commitment to innovation can we scale the impact of these efforts and shape a more responsible, inclusive, and inspiring future for luxury.

ABOUT

ORIGINALLUXURY is a public-private partnership dedicated to advancing digital innovation in the luxury industry, with a current focus on transparency and traceability.

As an inclusive, impartial, technology-neutral initiative, we bring together brands, suppliers, organizations, and technology providers to foster knowledge-sharing, best practices, and innovation. Our mission is to empower the luxury sector with insights that enhance consumer trust, lead to responsible sourcing, support long-term industry resilience and can drive consumer desirability.

We operate as an independent hub, facilitating open dialogue between stakeholders by bridging expertise from academia, industry leaders, and cutting-edge technology providers. ORIGINALLUXURY serves as a collaborative force shaping the future of transparency in luxury, ensuring that data-driven decision-making benefits both businesses and consumers alike.

Established in 2022, ORIGINALLUXURY was founded as a collaborative venture between E4S (Enterprise for Society Center) and OriginAll, with the Swiss Center for Luxury Research as a founding partner. This strong foundation ensures that ORIGINALLUXURY operates at the intersection of academia, industry, and technology, providing a knowledge-driven, solution-oriented approach to shaping the future of luxury with integrity, responsibility, and innovation.

Currently, ORIGINALLUXURY is primarily funded by OriginAll, with additional support from academia and contributions from our technology partners through their yearly membership. To maintain our independence and continue delivering value to the industry, we also generate revenue through tailored workshops, consulting services, and specialized offerings that help businesses navigate transparency and traceability challenges effectively.

ORIGINALLUXURY operates as a not-for-profit initiative, where all funds are continuously reinvested into the initiative's growth. Our ambition is to become financially self-sufficient, ensuring the long-term sustainability of our work. However, achieving this goal requires the active participation of our stakeholders, by engaging with our services, leveraging our expertise, and contributing to our mission. By actively supporting our initiative, industry players can help drive meaningful change while securing the future of transparency in the luxury sector.

** E4S is a research and action center created by three leading academic institutions: the University of Lausanne (UNIL-HEC), the Institute for Management Development (IMD), and the École Polytechnique Fédérale de Lausanne (EPFL), under the stewardship of its College of Management of Technology.*



Technology for Transparency Report
3rd Edition
March 2025