Open I

INNOVATION IN JEWELLERY

Evolving Landscape of Jewellery Industry

ABOUT OPENI

OpenI is an End to End platform to build and manage your Startup Investment and Innovation Sourcing Ecosystem.

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Executive Summary

The global jewellery market is on a strong growth trajectory, projected to expand from $353 billion in 2023 to $482 billion by 2030. India's jewellery sector is poised for substantial growth, from $80-85 billion in FY24 to $225-245 billion by FY35, driven by evolving consumer preferences, digital transformation, and sustainability trends. The Asia-Pacific region dominates with a 60% share, while India's market is witnessing a shift towards branded, premium, and digitally-enabled purchases. With a growing direct-to-consumer (DTC) model and increasing preference for lab-grown diamonds, the industry must leverage technology and sustainable practices to stay competitive.

The report explores key trends and innovations in the jewellery industry, highlighting:

- Technology Integration: Adoption of AI-driven design tools, blockchain-backed gold trading, and augmented reality (AR) for virtual try-ons.
- Sustainability Initiatives: Companies like Pandora transitioning to 100% recycled gold and silver, and consumer demand for ethically sourced materials is expected to triple by 2025.
- Retail Evolution: Brands investing in omnichannel strategies, immersive digital experiences, and enhanced inventory management using RFID technology (as seen in Chow Tai Fook's operations).
- Data-Driven Decision Making: Signet Jewellers' use of big data analytics to personalise marketing, streamline operations, and enhance customer engagement.

Key Trends, Market, Segments

Key Trends: Global & India

GLOBAL		INDIA
Global jewellery market is expected to grow from $353 billion in 2023 to $482 billion by 2030	Growth	Indian jewellery sector is projected to expand from $80-85 billion in FY24 to $225-245 billion by FY35
The Asia-Pacific region dominates the global jewellery market with a 60% share, driven by strong cultural demand in India and China.	Region Play	Southern Indian states account for 40% of the market, while the Western region contributes 25% and Northern and Eastern regions contribute 20% & 15% respectively
By 2025, $2.4 billion in annual revenues is expected to shift from multi-brand retailers to brands.	D2C & Ecommerce	Online fine jewellery sales in India are expected to rise significantly, mirroring global trends. DTC brands and digital marketplaces gaining traction.
Sustainability-driven jewellery purchases will grow 3x by 2025. Consumers increasingly prefer lab-grown diamonds and ethically sourced materials	Sustainability	Younger consumers are increasingly choosing lab-grown diamonds, driven by affordability and sustainability.
Men's jewellery is gaining broader acceptance, expanding beyond traditional pieces like wedding rings.	Consumer Segment	The rising women in workforce (from 22% in 2017-18 to 40.3% in 2023-24) is expanding the jewellery consumer base.
Branded jewellery is projected to grow at a CAGR of 8-12% (2019-2025), outpacing the overall market. Its market share is expected to rise from 18% in 2019 to 25-30% by 2025.	Branded Jewellery	Consumers are increasingly opting for premium, branded, and heritage jewellery, with the market shifting towards trust-based and transparent purchases.

Other significant trends: India

Organised Retail Growth

More brands are expanding through franchise models, omnichannel strategies, and premium retail spaces to expand.

International Expansion

Indian jewellery brands are actively entering global markets, particularly the UAE and the US, leveraging trade agreements like the Comprehensive Economic Partnership Agreement (CEPA).

Shift in Consumer Preferences

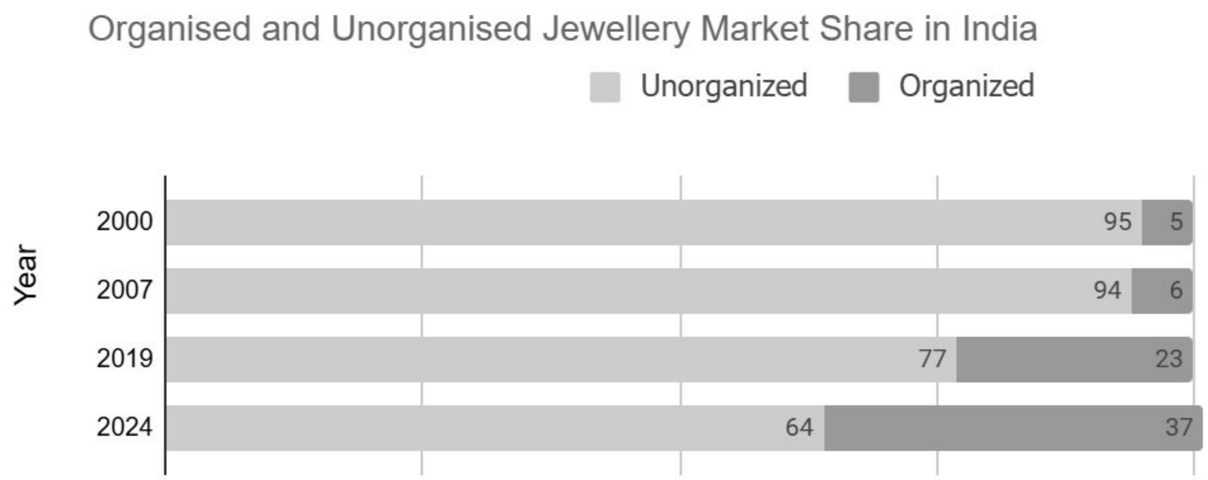
Demand for everyday, minimalist, and contemporary designs is growing, especially among younger buyers.

Gold Investment Demand

Gold remains the top jewellery investment choice, with demand rising in rural markets.

Source: MOSL Jewelry Report 2024, Mckinsey State of Fashion 2025, Statista

Jewellery Segments & Regions: India



Top 10 players in the organised jewellery sector collectively control over 30% (90% of the organised market) of the total jewellery demand in India

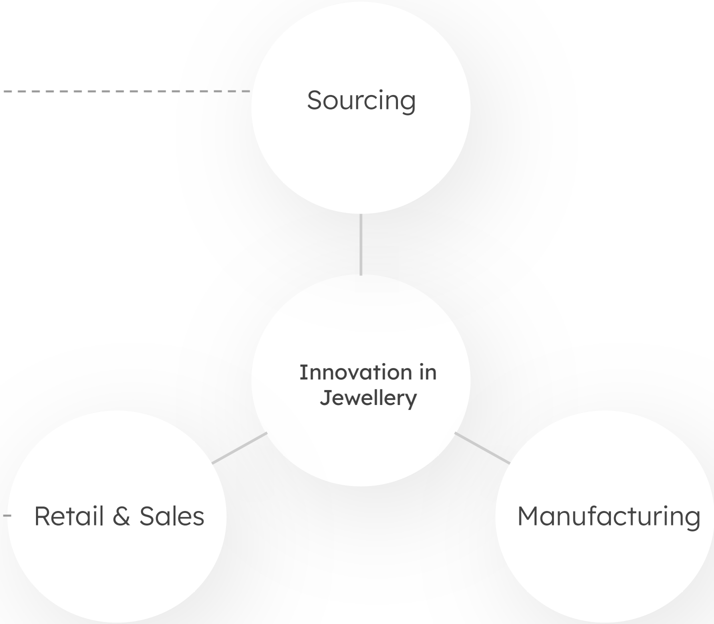
The top 5 states with the highest number of jewellery stores are Tamil Nadu (15%), Maharashtra (14%), Karnataka (10%), West Bengal (8%),and Uttar Pradesh (7%)

Top 10 states account for 78% of the organised retail network (>2,000 stores)

Bridal jewellery accounts for 55% of the total jewellery demand. Daily wear jewellery accounts for 30-35%

Jewellery Innovation Spider Maps

Jewellery Innovation Spider Maps



Sourcing

- -Blockchain-based Gold Trading
- -Gold-Backed Stablecoins
- -AI and Algorithmic Trading
- -Digital Marketplaces and Apps
- -ESG and Sustainable Gold Initiatives
- -AI in diamond grading

Retail & Sales

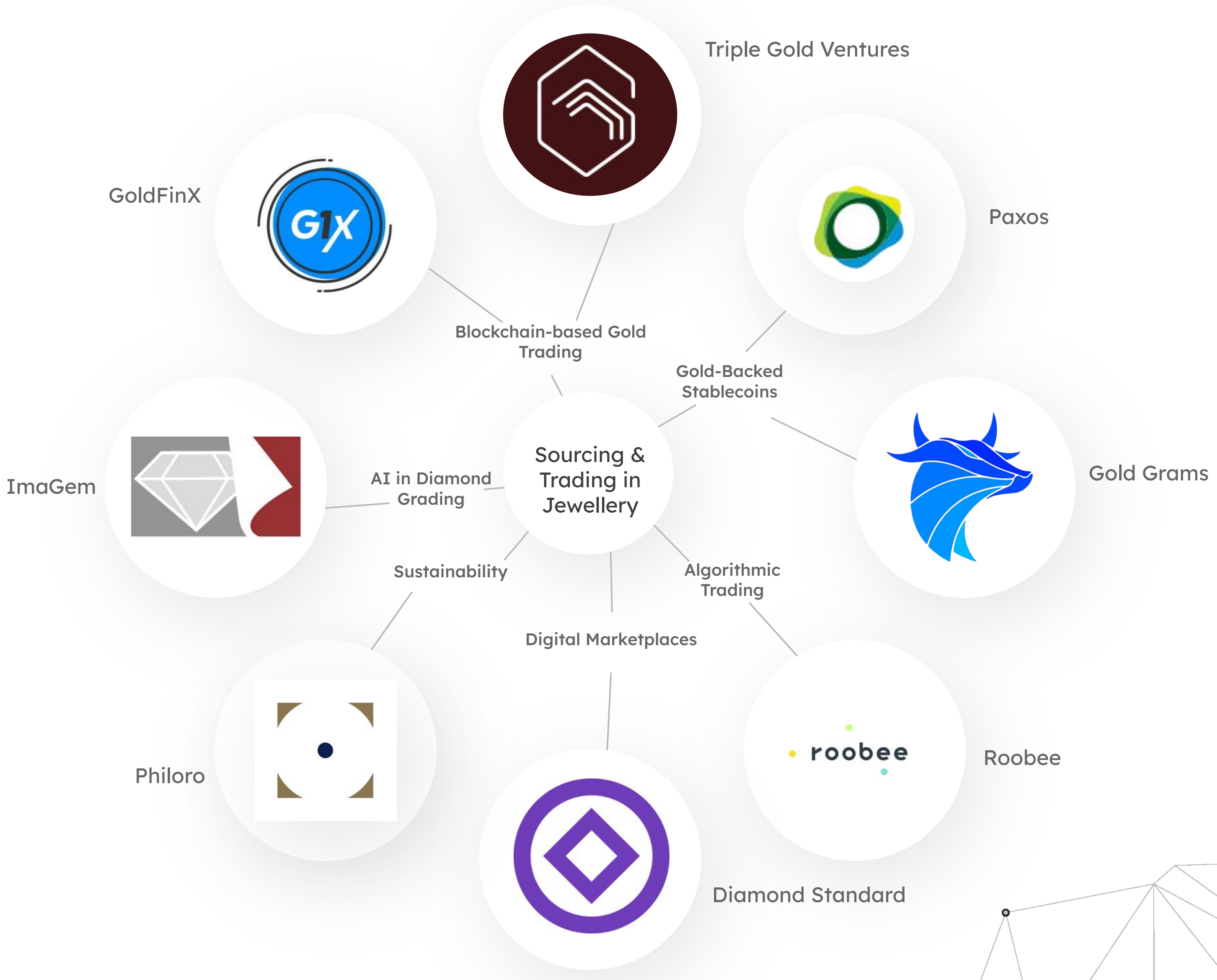
- -Personalised Jewellery
- -Virtual Try-on
- -AR & Digital Store
- -Immersive Showroom
- -In-store Behavioural Analytics
- -Subscription & Rental Models

Manufacturing

- -3D Printing and Additive Manufacturing
- -AI-Driven Design Tools
- -Laser Cutting and Engraving
- -Inscription for Traceability
- -Sustainability
- -Smart and Wearable Jewellery

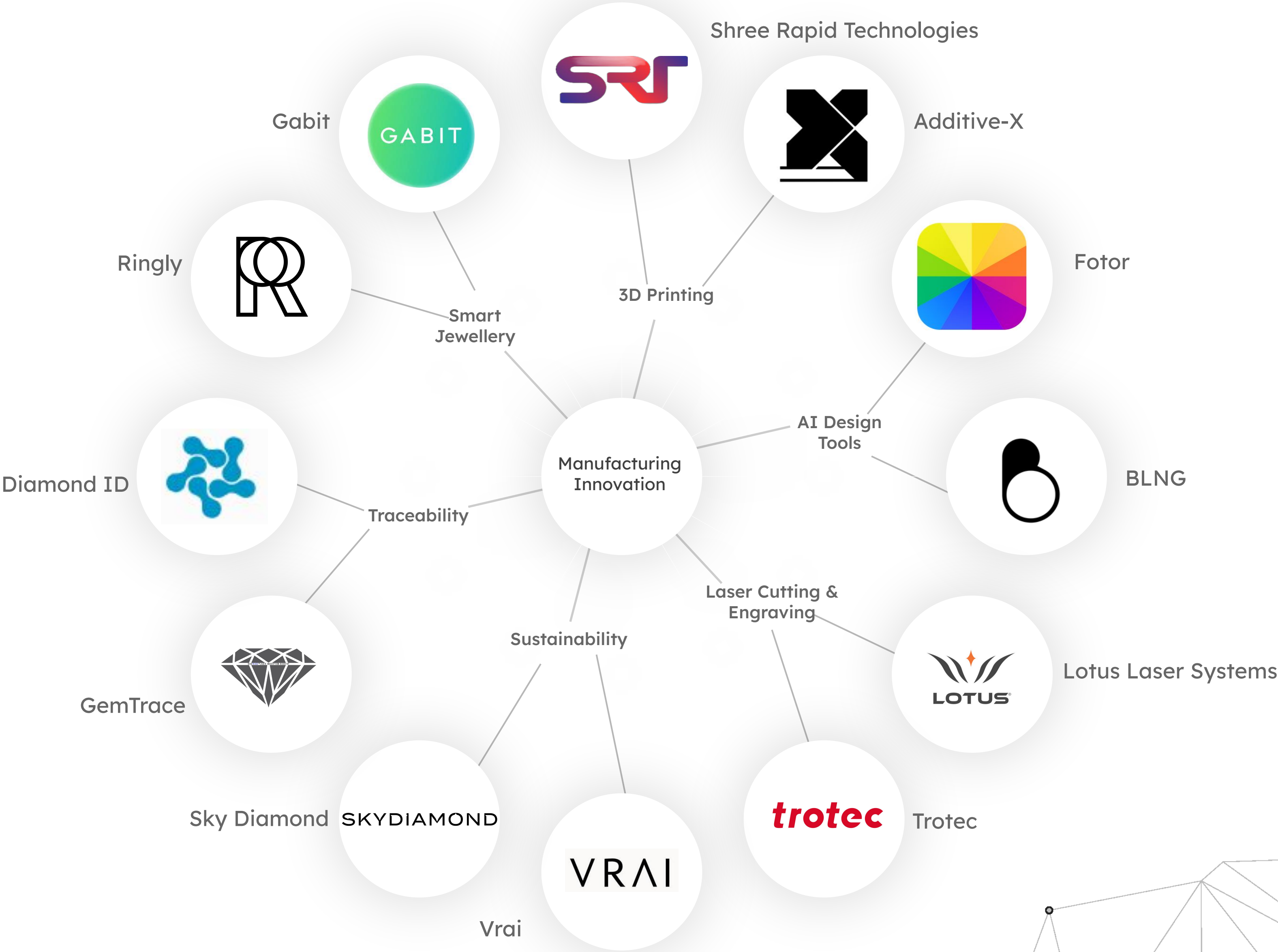
Jewellery Innovation Spider Map

Sourcing & Trading



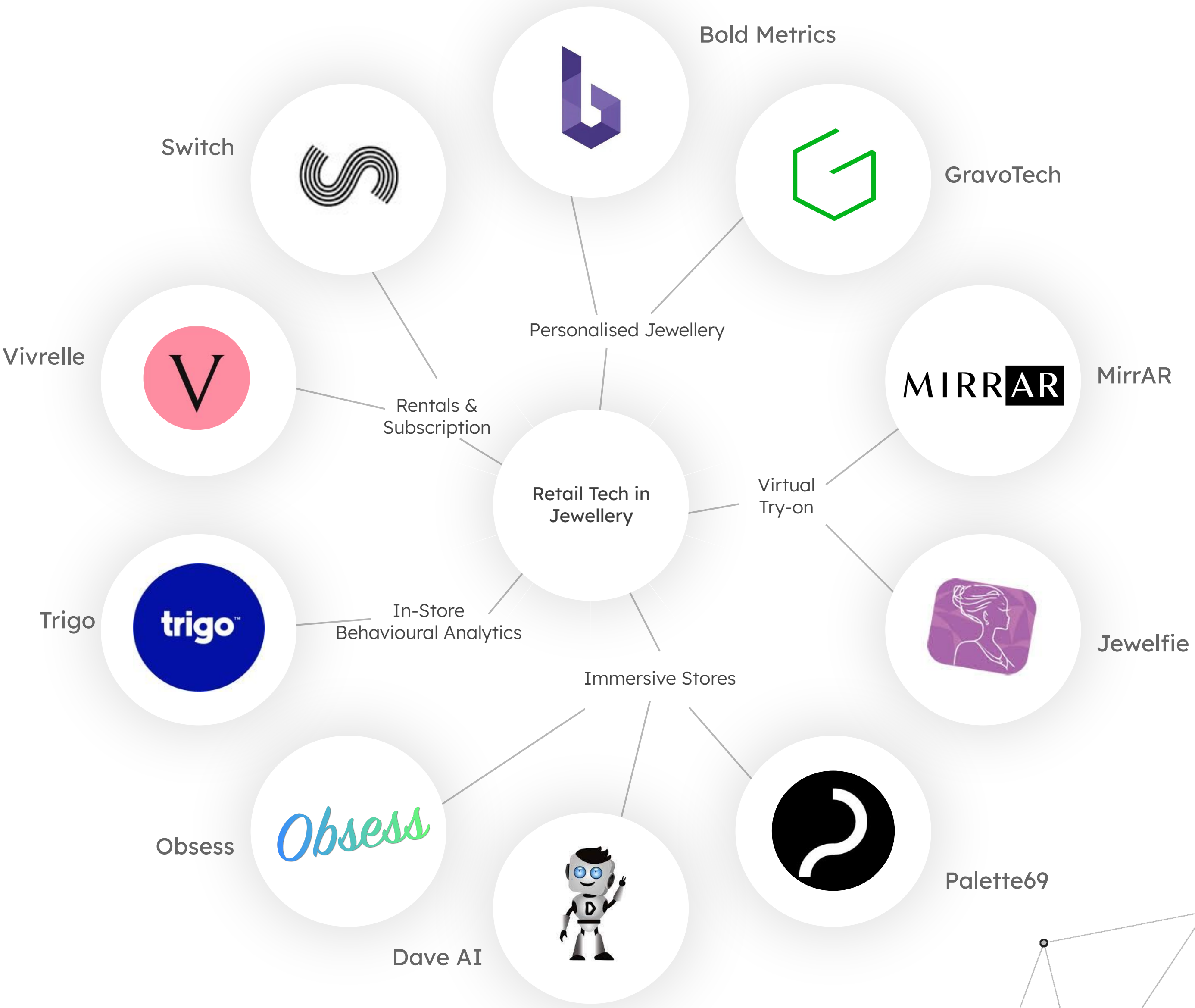
Jewellery Innovation Spider Map

Manufacturing



Jewellery Innovation Spider Map

RetailTech



Case Studies

CASE STUDY

Tech Partners

myndar

Company:
Chow Tai Fook

Website:
chowtaifook.com/en-hk

Location:
Hong Kong

Founded:
1929

No. of Stores:
>7700

Revenue (2024):
$12.5B

Reduction in Inventory Counting Time

Faster Store Operations & Checkouts

Improved Customer Engagement

Chow Tai Fook's Use of RFID to Manage Inventory & Enhance Customer Experience

周大福
CHOW TAI FOOK

Chow Tai Fook is one of the largest jewellery retailers in Hong Kong and China.

To enhance operational efficiency and customer experience, the company has embraced RFID (Radio Frequency Identification) technology across its supply chain and retail operations.

Challenge

Managing a Large Inventory Across Retail Stores

- Chow Tai Fook operates thousands of stores across Asia
- Traditional manual inventory tracking was time-consuming and errors-prone
- Real-time stock visibility was essential to enhance sales and reduce losses

RFID Implementation at Chow Tai Fook

Each jewellery item is embedded with a passive UHF RFID tag (Ultra High Frequency, ~860-960 MHz), containing:

- Unique Item ID linked to SKU, model, price, stock location
- Manufacturing & authentication data for quality assurance
- Security features to prevent unauthorised removal or tampering

Smart Features enabled by RFID

- Smart Mirrors & Displays: Customers place jewellery on a smart mirror, which instantly displays product details, customisation options, and recommendations.
- Frictionless Checkout: Payment is processed instantly through integrated POS systems
- Warehouse-to-store tracking: shipments are automatically logged upon arrival at stores
- Predictive Restocking: Low stock alerts enable proactive inventory replenishment
- Geo-Fencing & Store-Level Monitoring: High-value jewellery is fitted with RFID tags that self-destruct if forcefully removed.

Source: forbes.com, gjepc.org

Case Study

Pandora's Transition to 100% Recycled Silver and Gold Jewellery

Pandora is a Danish jewellery manufacturer and retailer. Pandora has grown into one of the **world's largest jewellery brands** by volume, selling millions of pieces annually.

Founded: 1982
Headquarters: Copenhagen, Denmark
Global Presence: 100+ countries
Retail Network: 6,500+ points of sale, including 2,400+ concept stores

Supply Chain Overhaul
Collaborated closely with 100+ suppliers to ensure all silver and gold met the Responsible Jewellery Council's Chain of Custody standards

Stopped sourcing newly mined silver and gold in 2023

Operational Adjustments
Invested in refining its production facilities to handle recycled materials without compromising on quality or craftsmanship.

Saves 58,000 tons of CO_2 emissions annually

Stakeholder Engagement
Actively engaged with stakeholders, including customers and industry partners, to communicate the benefits of using recycled metals and to promote transparency in its sourcing practices.

Recycled silver's carbon footprint is 1/3rd

Recycled gold produces less than 1% of the emission

Case Study

Signet Jewelers' Data-Driven Transformation

Signet Jewelers Ltd. (NSE: SIG) is one of the world's largest retailer of diamond jewellery. Owns and operates Blue Nile, Zales, Kay Jewelers, Jared, JamesAllen.com, and several others

- Headquarters: Ohio, US
- Founded: 1949
- Website: signetjewelers.com
- Number of Stores: 2,700

SIGNET JEWELERS

Need for Data Strategy

- Enhance customer experiences
- Adapting to customers' digital expectations
- Streamline operations
- Drive Operational efficiencies by obtaining unified insights

Implementing Data Strategy

- Partnership with Alliance Data: Offers private label credit card services across its brands. This provides data analytics solutions to gain deeper customer insights.
- Deployment of Data Analytics & Data Visualisation: Centralised data and elimination of silos empower employees with self-service analytics.
- Enhancing Digital Shopping Experiences: Signet developed virtual consulting capabilities, allowing jewellery consultants to engage with customers remotely. This initiative ensured continuity in customer engagement and sales during periods when physical stores were inaccessible.

Near-Real-Time Access to Stock Inventory and Merchandise

Forecast for Millions of SKUs in Seconds

Lower IT Overhead Costs

More Than 75 Million Point-of-Sale Transactions Analysed

Identifying Opportunity Worth More Than $10 Million

Personalised Marketing, Increasing Customer Engagement and Loyalty

Cartier Resources' AI-Assisted Gold Mining

Tech Partner VRIFY

Cartier Resources Inc. (TSXV: ECR; FSE:6CA)*, a Canadian mining company, launched an AI-Assisted Mineral Discovery Programme on its Cadillac Project in Quebec, integrating VRIFY's AI-powered Mineral Discovery Platform to enhance gold exploration.

How VRIFY's AI Platform Supports Cartier:

1. Data Collection

Platform integrates industry-leading datasets, including prospecting samples, geochemistry, geophysical surveys, and a 25,000-ha drill hole database

2. AI Processing

VRIFY's proprietary algorithms analyse multi-layered datasets and generate a VRIFY Prospectivity Score (VPS) for potential of gold mineralisation

3. Predictive Modeling

AI develops probabilistic models accuracy assessment and reliability of mineralization predictions, aiding in prioritizing exploration targets

4. Target Identification

By recognizing complex data patterns, the platform identifies new exploration targets and potential expansions of existing gold zones

5. Exploration Acceleration

AI-driven approach accelerates the mineral discovery process by efficiently analysing vast datasets and reducing human error

6. Enhanced Accuracy

The platform improves the precision of drill target identification, leading to more effective exploration efforts and resource allocation

**Cartier Resources Inc.*is a different from Cartier - The jewellery company*

Benefits:

Accelerated Discovery — Faster discovery of new gold targets and expansion of existing gold zones

Improved Accuracy — Enhanced targeting minimizes unnecessary drilling and optimises resource allocation

Reduced Risk — Data-driven decision-making decreases exploration uncertainty and Reduces human error

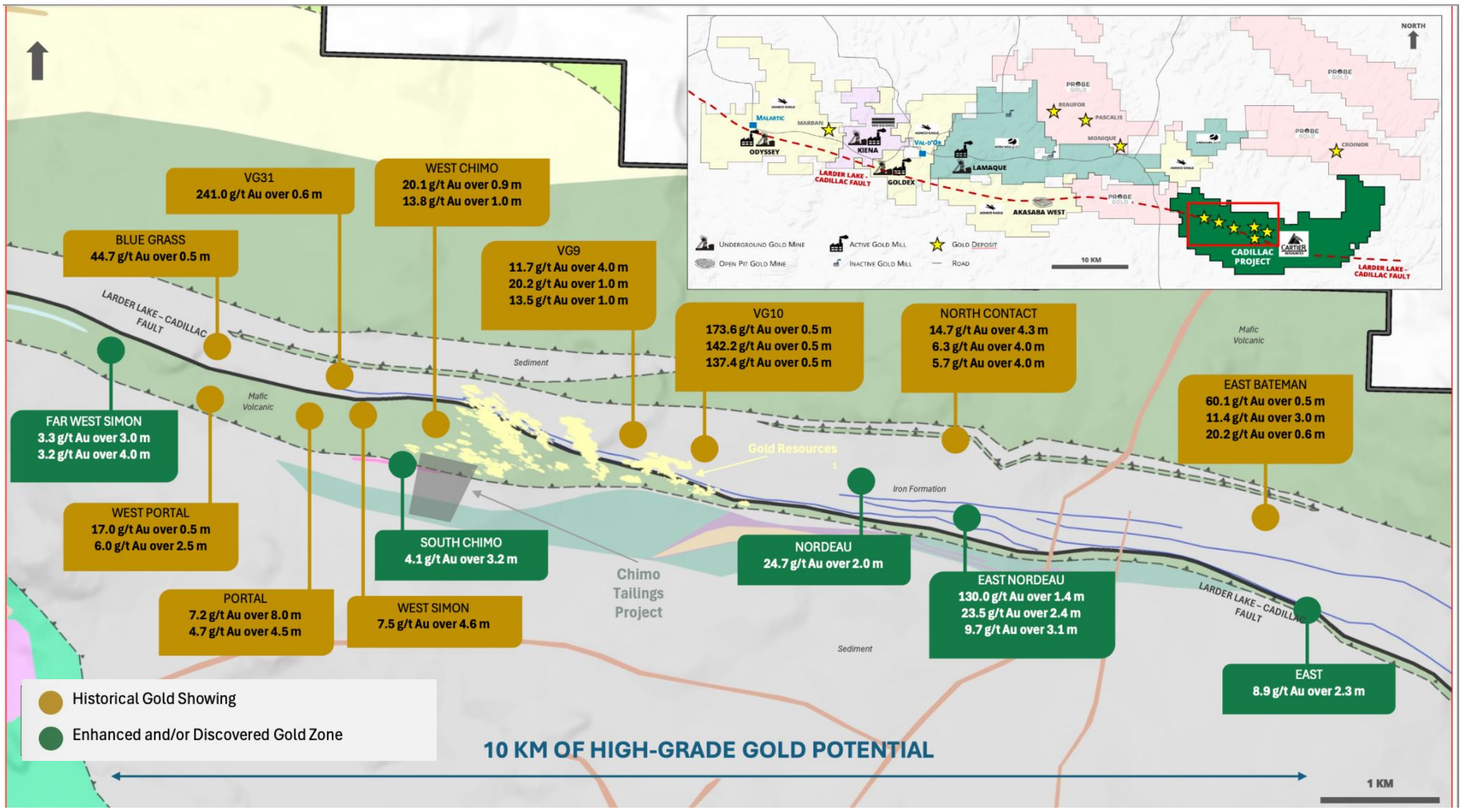


Image: ressourcescartier.com

Key Takeaways

Key Takeaways

Digital and AI-Driven Innovations	Jewellery brands must integrate AI, blockchain, and AR/VR technologies to optimise manufacturing, enhance customer engagement, and improve supply chain transparency. Innovations such as AI-powered design tools and AR-based virtual try-ons are redefining the industry.
Sustainability and Ethical Sourcing	Consumer demand for sustainability is driving a shift toward lab-grown diamonds, recycled metals, and ethically sourced materials. Brands must adopt transparent and responsible sourcing practices to align with evolving market expectations.
Rise of D2C Jewellery Brands	As consumers increasingly favor trust-based, branded jewellery, companies should focus on scaling omnichannel strategies, strengthening digital marketplaces, and enhancing brand loyalty through personalised experiences. A seamless blend of online and offline experiences is key to capturing this demand.

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