

Redefining Silver's Role: TANAKA at the Core of Industrial & Energy Innovation



TANAKA Precious Metals: Engineering Silver as a High-Performance Material System

Founded in 1885, TANAKA Precious Metals has evolved from a traditional refining enterprise into a globally integrated materials engineering group, redefining the role of silver from a traded commodity to a critical functional material.

This transformation reflects not only the company's longevity, but its strategic alignment with the increasing material complexity of modern industrial systems—where metallurgical precision directly underpins performance, reliability, and efficiency.

From Refining Heritage to Functional Materials Leadership

TANAKA's trajectory mirrors the broader evolution of the precious metals industry. While its origins lie in refining and trading, its long-term strategic focus has been on downstream integration—developing advanced silver-based materials tailored for high-performance applications.

Today, TANAKA operates at the intersection of metallurgy, electronics, and energy systems, where its materials are not merely inputs but performance enablers.

A pivotal milestone in this journey has been its integration with Metalor Technologies, strengthening its refining capabilities, recycling infrastructure, and global supply chain resilience.

This integration has enabled secure access to high-purity silver, enhanced circularity, and improved management of price volatility—critical in silver-intensive applications.

Manufacturing Technologies & Metallurgical Know-How
At the core of TANAKA's competitive positioning lies its deep metallurgical expertise and tightly controlled manufacturing processes. Its production architecture—anchored in Japan and supported by regional hubs across the United States, Europe, and Asia—ensures consistency, scalability, and traceability.

The company's ability to integrate refining, materials engineering, and fabrication creates a closed-loop system where process control translates directly into product performance—particularly in applications where micron-level variations can impact efficiency.

Product Forms & Integration Capability

TANAKA's silver portfolio reflects both breadth and technical sophistication:

- **Silver Powders:** Ultra-fine, nano-scale, flake, and spherical morphologies tailored for electronics and advanced coatings
- **Silver Pastes:** Front- and rear-side photovoltaic pastes, along with thick-film formulations for electronic circuits
- **Electrical Contact Materials:** Silver-based alloys (AgNi, AgSnO₂, and cadmium-free alternatives), engineered for durability, arc resistance, and switching reliability

What distinguishes TANAKA is not merely its product range, but its ability to align material characteristics with application-specific requirements—bridging the gap between material science and system-level performance.

Application Focus & End-Use Strategy

TANAKA's materials are embedded in critical global industries:

- **Photovoltaics:** High-efficiency silver pastes supporting advanced solar cell architectures
- **Electronics & Semiconductors:** Conductive materials for circuits, packaging, and interconnects

- Automotive & Electrification: Contact materials for EV systems and switching applications
- Industrial Systems: High-reliability components for demanding operating environments

This diversified application base reflects a deliberate strategy to position silver as an enabling material across multiple growth sectors.

Customer Engagement & Design-In Strategy

A defining characteristic of TANAKA's business model is its early-stage engagement with customers. Rather than supplying standardised materials, the company collaborates closely with OEMs to co-develop formulations tailored to specific manufacturing processes and performance requirements.

This design-in approach embeds TANAKA's materials into customer systems at the development stage, creating long-term partnerships and enhancing switching barriers.

Sustainability, Compliance & Circular Economy

Sustainability is integral to TANAKA's operating model. The company has established robust systems for:

- Recycling and recovery of silver from industrial scrap and end-of-life products
- Closed-loop material flows with customers
- Compliance with global environmental and regulatory frameworks

This circular approach not only reduces environmental impact but also enhances supply security and mitigates exposure to raw material volatility.

Certifications & Global Standards

TANAKA operates at the highest levels of global accreditation:

- ISO 9001 – Quality management
- IATF 16949 – Automotive-grade manufacturing
- ISO/IEC 17025 – Analytical precision
- ISO 13485 – Medical-grade materials (select divisions)
- LBMA Good Delivery Referee (Gold & Silver)
- LPPM Good Delivery Referee (PGMs)

These certifications reinforce its credibility across high-reliability industries and global bullion markets.

Global Footprint & Supply Chain Resilience

TANAKA's operational model combines technological

centralisation with geographic diversification. Its integrated value chain-spanning refining, recycling, powder production, paste formulation, and component manufacturing-ensures resilience in an increasingly volatile global supply environment.

Competitive Differentiation

TANAKA's differentiation is defined by:

- End-to-end vertical integration
- Deep application-specific material expertise
- High consistency and reliability at scale
- Strong customer integration through design partnerships
- Multi-regional, resilient supply chain infrastructure

In contrast to fragmented competitors, TANAKA operates with a system-level understanding of silver as a functional material.

Strategic Outlook

As industries increasingly demand higher efficiency, electrification, and sustainability, the role of silver as an enabling material will continue to expand. TANAKA's strategic positioning-rooted in metallurgical excellence, vertical integration, and application intimacy-places it at the forefront of this transition.

In this context, the company is not merely participating in the evolution of silver markets-it is actively shaping how silver is engineered, integrated, and valued across the global industrial ecosystem.



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