

TANAKA to Showcase Precious Metal Technologies at Hydrogen Technology World Expo 2026 in Hamburg

First-time participation showcasing technologies that support the hydrogen value chain, from hydrogen production, purification and utilization to precious metal recycling

Tokyo, Japan, September 9, 2026 - TANAKA PRECIOUS METAL TECHNOLOGIES Co., Ltd. (Head Office: Chuo-ku, Tokyo; CEO: Koichiro Tanaka) will exhibit for the first time at **Hydrogen Technology World Expo 2026** from **October 20–22, 2026**, at **Hamburg Messe, Hamburg, Germany**. Visitors can meet TANAKA at **Hall B7, Booth 7J54**. The company will present technologies for hydrogen production, purification, utilization and precious metal circularity.

Hydrogen is gaining a larger role in global decarbonization efforts. Precious metals are central to many related technologies: platinum (Pt), palladium (Pd), iridium (Ir), rhodium (Rh) and ruthenium (Ru) are used in fuel-cell and water-electrolysis electrocatalysts, also in reforming, shift-reaction, PROX and oxidation catalysts while Pd supports selective hydrogen separation. As deployment grows, improved performance must be accompanied by efficient metal use, recovery and reuse.

TANAKA supports the hydrogen value chain by combining materials technology with precious metal recovery and refining. This integrated approach advances hydrogen-system performance while enabling circular use of precious metal resources. Building on over four decades of fuel-cell catalyst development, TANAKA offers not only strong catalyst development capabilities but also large-scale manufacturing capacity and exceptional quality stability. Based on these strengths, TANAKA has expanded into water-electrolysis catalysts, hydrogen-permeable membranes, reforming, shift-reaction, PROX and oxidation catalysts, and precious-metal-plated components.

TANAKA's industrial precious metals business integrates procurement, development, manufacturing, recovery and refining. These capabilities support circular metal use and stable material supply across the product lifecycle.

Commenting on TANAKA's participation, **Shingo Suzuki, Managing Director of TANAKA PRECIOUS METALS Europe GmbH**, said,

"Precious metals are still essential to hydrogen technologies, and their responsible management must advance alongside materials performance. At Hydrogen Technology World Expo 2026, we look forward to discussing with customers and industry partners how catalyst innovation, recovery and refining can support a more sustainable hydrogen industry."

■ Technologies Supporting the Hydrogen Value Chain

At the exhibition, TANAKA will present technologies covering electrocatalysis, hydrogen purification, gas processing, plated components and precious metal circularity. The exhibits below explain their functions and practical benefits.

Electrode Catalyst for Fuel Cells

TANAKA has developed electrocatalysts for polymer electrolyte fuel cells (PEFCs) since 1985 and today has a world-leading supply record in this field. Its highly active, durable catalysts draw on decades of precious metal catalyst design and electrochemistry to improve fuel-cell performance and durability.

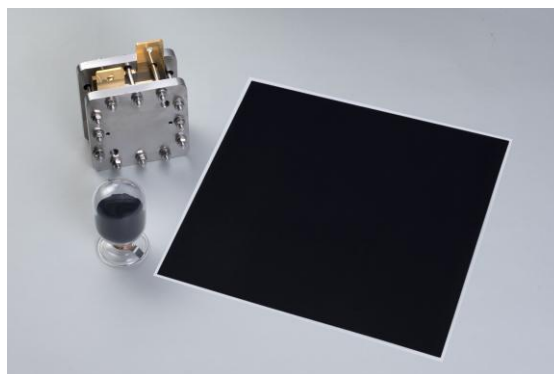


Figure 1: Sample for water electrolysis electrode catalysts

Electrode Catalyst for Water Electrolysis

TANAKA develops electrocatalysts for water-electrolysis cell stacks. Pt-based cathode catalysts support the hydrogen evolution reaction (HER), while Ir-based anode catalysts support the oxygen evolution reaction (OER). High-surface-area designs target high activity while reducing the use of iridium, one of the rarest platinum group metals (PGMs).

Precious Metal-Plated Electrodes

TANAKA provides substrate processing and precious metal plating for components in various shapes, including feeder plates used with solid polymer electrolyte membranes. Precious metal use can be reduced through thinner coatings, partial plating and recoating.

Hydrogen Permeable Membrane

Pd is the only metal that selectively permeates hydrogen, enabling separation from other gases. TANAKA combines ultra-thin membrane processing with advanced cleaning technologies to produce Pd-alloy hydrogen-permeable membranes, including HPM-L111. These membranes provide high hydrogen permeability and enable purification at operating temperatures of approximately 100°C.

Reforming Catalysts

Ru- and Rh-based steam reforming catalysts efficiently produce hydrogen from hydrocarbons (HCs) such as natural gas through reactions with steam. They maintain high reforming activity across a wide temperature range while suppressing carbon deposition, supporting catalyst durability and stable hydrogen production.

Shift-Reaction and Preferential Oxidation (PROX) Catalysts

Shift-reaction catalysts use the water-gas shift reaction to convert carbon monoxide (CO) and steam into carbon dioxide (CO₂) and hydrogen (H₂), increasing hydrogen yield. Preferential oxidation (PROX) catalysts selectively oxidize residual CO to below 10 ppm, producing high-purity hydrogen for PEFCs. TANAKA's precious metal-based catalysts provide high activity at lower temperatures, supporting more compact and efficient hydrogen processing systems.

Oxidation Catalysts

Oxidation catalysts support exhaust gas treatment in fuel-cell systems, particularly SOFCs, by oxidizing combustible components such as CO, H₂, and HCs, while enabling the resulting heat to be utilized for preheating fuel and air to improve overall system efficiency.

Precious Metal Recovery and Refining

TANAKA recovers and refines precious metals used in hydrogen-related applications. The refined metals can be returned to manufacturing, supporting circular resource use and stable material supply.

[Exhibition Overview - [Hydrogen Technology World Expo 2026](#)]

- **Exhibition Name:** Hydrogen Technology World Expo 2026
- **Dates:** October 20–22, 2026 | 9:00 AM – 5:00 PM (local time in Germany)
- **Venue:** Hamburg Messe, Hamburg, Germany
- **Booth Number:** Hall B7, Booth 7J54
- **Main Exhibits:** Fuel Cell Electrocatalysts; Water Electrolysis Electrocatalysts; Precious Metal-Plated Electrodes; Pd alloy-based Hydrogen Permeable Membranes; Reforming Catalysts; Shift-Reaction and PROX Catalysts; Oxidation Catalysts; Precious Metal Recovery and Refining

For more information about TANAKA products and the role of precious metals in carbon neutrality, visit: [The Role of Precious Metals in Contributing to Carbon Neutrality | TANAKA](#)

■ About TANAKA

Since its foundation in 1885, TANAKA has built a portfolio of products to support a diversified range of business uses focused on precious metals. TANAKA is a leader in Japan regarding the volume of precious metals it handles. Over many years, TANAKA has manufactured and sold precious metal products for industry and provided precious metals in such forms as jewelry and assets. As precious metals specialists, all Group companies in Japan and worldwide collaborate on manufacturing, sales, and technology development to offer a full range of products and services.

With 5,778 employees, the group's consolidated net sales for the fiscal year ended December 2025 were 1,097,813 million yen.

■ TANAKA Industrial Precious Metal Materials Portal

<https://tanaka-preciousmetals.com>

■ Product inquiries

TANAKA PRECIOUS METAL TECHNOLOGIES Co., Ltd.

<https://tanaka-preciousmetals.com/en/inquiries-on-industrial-products/>

■ Press inquiries

TANAKA PRECIOUS METAL GROUP Co., Ltd.

<https://tanaka-preciousmetals.com/en/inquiries-for-media/>