

Hydrogen Production Catalysts Market Size & Share Analysis - Growth Trends and Forecast (2026 - 2031)

> ****Industry:**** Electronic Chemicals & Catalysts (Chemicals & Materials)
> ****Source:**** <https://www.mordorintelligence.com/industry-reports/hydrogen-production-catalysts-market>
> ****Scraped Date:**** 2026-09-17

Executive Market Summary

Market Metric	Details
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Base Market Size	USD 1.25 billion
Projected Forecast (2031)	USD 1.25 billion
Growth Rate (CAGR)	7.78 %
Largest Market Region	N/A
Fastest-Growing Region	N/A

Market Visualizations & Infographics

![Major players in Hydrogen Production Catalysts industry](images/chart_2.png)

![Hydrogen Production Catalysts Market Size](images/chart_3.png)

![Hydrogen Production Catalysts Market Share by Type, 2025](images/chart_4.png)

![Hydrogen Production Catalysts Market Share by End-Use, 2025](images/chart_5.png)

![Hydrogen Production Catalysts Market Growth Rate by Region](images/chart_6.png)

![Hydrogen Production Catalysts Market Concentration](images/chart_7.png)

![Icon](images/chart_8.png)

![footer background image](images/chart_10.png)

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Comprehensive Research Analysis

Overview Points List Flex 49 Share Feature End

Market Overview

Study Period	2021 - 2031
Market Size (2026)	USD 1.25 Billion
Market Size (2031)	USD 1.82 Billion
Growth Rate (2026 - 2031)	7.78 %
Fastest Growing Market	Asia-Pacific
Largest Market	Asia-Pacific

Market Concentration | Medium |

Major Players*Disclaimer: Major Players sorted in no particular order

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Market Overview

Hydrogen Production Catalysts Market Analysis by Mordor IntelligenceThe Hydrogen Production Catalysts market size was valued at USD 1.16 billion in 2025 and is estimated to grow from USD 1.25 billion in 2026 to reach USD 1.82 billion by 2031, at a CAGR of 7.78% during the forecast period (2026-2031). The hydrogen production catalysts market is supported by investment in electrolytic hydrogen projects and by replacement demand from steam methane reforming assets. Global capital spending on low-emissions hydrogen projects nearly doubled to almost USD 7 billion in 2025 and is set to approach USD 10 billion in 2026, with electrolysis investment overtaking investment in hydrogen using carbon capture for the first time. This allocation expands opportunities in the hydrogen production catalysts market for electrolyzer catalyst suppliers, while steam methane reforming continues to provide a stable source of demand. Suppliers in the hydrogen production catalysts market are competing through catalyst loading, service life at high current density, and proprietary formulations for next-generation electrolyzers. Precious-metal availability and price exposure remain important limits on project economics, which increases the value of recovery and lower-loading catalyst designs.

Key Report Takeaways

- * By type, platinum-based catalysts held 50.12% of the hydrogen production catalysts market share in 2025, while iridium-based catalysts are projected to advance at an 8.23% CAGR through 2031.
- * By production technology, Steam Methane Reforming (SMR) held 52.45% of the hydrogen production catalysts market share in 2025, while Proton Exchange Membrane (PEM) water electrolysis is projected to advance at an 8.78% CAGR through 2031.
- * By end-use, ammonia production held 33.27% of the hydrogen production catalysts market share in 2025, while methanol production is projected to advance at a 9.06% CAGR through 2031.
- * By geography, Asia-Pacific held 37.88% of the hydrogen production catalysts market share in 2025 and is projected to advance at an 8.61% CAGR through 2031.

Key Market Trends

Global Hydrogen Production Catalysts Market Trends and InsightsDrivers Impact Analysis*

Driver | (~) % Impact on CAGR Forecast | Geographic Relevance | Impact Timeline

| Green Hydrogen and Electrolyzer Deployment | +2.8% | Global, led by China, Europe, and North America | Medium term (2–4 years) |

Hydrogen Fuel-Cell Adoption in Mobility and Distributed Power | +1.9% | Asia-Pacific core (China, Japan, South Korea), spillover to North America and Europe | Medium term (2–4 years) |

Catalyst Loading Reduction and Precious-Metal Utilization | +1.4% | Global, with R&D epicentres in Japan, South Korea, Germany, and the United States | Long term (≥ 4 years) |

Advancement in Catalyst Activity, Durability, and Energy Efficiency | +0.9% | Global; early commercialization in Europe and East Asia | Long term (≥ 4 years) |

Catalyst-Coated Membrane and Catalyst Recycling Integration | +0.7% | Europe (EU regulatory alignment), Japan | Long term (≥ 4 years) |

Source: Mordor Intelligence |

Competitive Landscape

Competitive Landscape

The hydrogen production catalysts market is moderately concentrated, with the top five players including Johnson Matthey, Umicore, TANAKA PRECIOUS METAL GROUP Co., Ltd., BASF, and Heraeus Precious Metals. Competition in the hydrogen production catalysts market centers on catalyst loading, durability, process integration, and the ability to qualify materials with equipment manufacturers. Honeywell International Inc. completed its acquisition of Johnson Matthey's Catalyst Technologies business for GBP 1.325 billion (approximately USD 1.76 billion) in July 2026. The transaction combined Honeywell UOP process licensing with reforming, blue hydrogen, and ammonia catalyst portfolios.

Johnson Matthey retained its Hydrogen Technologies business, which includes catalyst-coated membranes for fuel cells and electrolyzers. This separation leaves Honeywell with a broader process catalyst platform and Johnson Matthey with an electrolytic hydrogen specialization. The hydrogen production catalysts market increasingly rewards companies that can reduce precious-metal loading without reducing operating life. Heraeus Precious Metals has demonstrated material intensity reductions through supported iridium systems. Recycling is another area of strategic importance because it can reduce exposure to iridium supply risk. The European Union-funded IRION project is developing closed-loop recovery of iridium and ligands from end-of-life catalyst-coated membranes using green solvents and electrodeposition[2]European Commission, "IRION, Sustainable and Efficient Solutions for Simultaneous and Circular Iridium and Membrane Recycling in PEMWE," CORDIS, cordis.europa.eu.

Smaller specialists and university spin-offs are developing single-atom and high-entropy alloy catalyst architectures. Their commercial path remains constrained by the years required for industrial electrolyzer qualification. JX Advanced Metals Corporation published research with Columbia University in June 2026 on iridium oxide supported on tantalum carbide. The work showed a route to improve iridium utilization and reduce iridium use in proton exchange membrane water electrolysis. Industrie De Nora S.p.A. received final orders for the Moeve Green Hydrogen Project in Spain in July 2026 for a 300-megawatt alkaline electrolysis system. These moves show that material development, recovery programs, and large project supply contracts are shaping competitive positions.

Hydrogen Production Catalysts Industry Leaders* Johnson Matthey

* Umicore

* TANAKA PRECIOUS METAL GROUP Co., Ltd.

* BASF

* Heraeus Precious Metals

* *Disclaimer: Major Players sorted in no particular order

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Component Component 3 Scope Of The Report Bottom

Global Hydrogen Production Catalysts Market Report ScopeHydrogen production catalysts are materials that facilitate chemical reactions involved in hydrogen generation by lowering reaction energy requirements and improving reaction rates and efficiency. They are used in conventional and emerging hydrogen production systems to support reliable operation, productivity, and process performance.

The Hydrogen Production Catalysts Market is segmented by type, production technology, end-use, and geography. By type, the market is segmented into platinum-based

ed catalysts, nickel-based catalysts, iridium-based catalysts, and other catalyst types. By production technology, the market is segmented into steam methane reforming (SMR), alkaline water electrolysis, proton exchange membrane (PEM) water electrolysis, and other production technologies. By end-use, the market is segmented into ammonia production, petroleum refining, methanol production, and other end-uses. The report also covers the market size and forecasts for hydrogen production catalysts in 15 countries across major regions. For each segment, the market sizing and forecasts have been done on the basis of value (USD).

By TypePlatinum-Based Catalysts |
Nickel-Based Catalysts |
Iridium-Based Catalysts |
Other Catalyst Types |

Segmentation Accordion Item

By GeographyAsia-Pacific | China |
| India |
| Japan |
| South Korea |
| Rest of Asia-Pacific |
North America | United States |
| Canada |
| Mexico |
Europe | Germany |
| United Kingdom |
| France |
| Italy |
| Rest of Europe |
South America | Brazil |
| Argentina |
| Rest of South America |
Middle-East and Africa | Saudi Arabia |
| South Africa |
| Rest of Middle-East and Africa |

Frequently Asked Questions

What is the size of the hydrogen production catalysts market?

The hydrogen production catalysts market stands at USD 1.25 billion in 2026 and is projected to reach USD 1.82 billion by 2031.

What is driving demand for hydrogen production catalysts?

Electrolyzer deployment, fuel-cell adoption, lower precious-metal loading, and improved catalyst durability are supporting demand.

Which catalyst type held the largest share in 2025?

Platinum-based catalysts held 50.12% of the market in 2025.

Which production technology is expected to grow fastest through 2031?

Proton Exchange Membrane (PEM) water electrolysis is projected to advance at an 8.78% CAGR through 2031.