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Selective Catalytic Reduction Market Forecasts to 2032 – Global Analysis By Reducing Agent Type (Ammonia, Urea and Diesel Exhaust Fluid), Catalyst Type, Component, Application, End User and By Geography

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Abstracts

According to Stratistics MRC, the Global Selective Catalytic Reduction Market is accounted for $15.4 billion in 2025 and is expected to reach $25.1 billion by 2032 growing at a CAGR of 7.2% during the forecast period. Selective Catalytic Reduction (SCR) is an advanced emission control technology that reduces nitrogen oxides (NOx) from exhaust gases through a chemical reaction with a reductant, typically ammonia or urea, in the presence of a catalyst. This process converts harmful NOx emissions into harmless nitrogen (N?) and water vapor (H?O), significantly lowering air pollution levels. Widely used in power plants, industrial boilers, and diesel engines, SCR enhances compliance with stringent environmental regulations such as Euro 6 and Tier 4 standards.

According to the International Council on Clean Transportation (ICCT), Euro 6d standards require NOx emissions from diesel passenger cars to be below 80 mg/km, while China 6 standards limit NOx emissions to 35 mg/km for light-duty vehicles.

Market Dynamics:

Driver:

Growing industrialization and power generation

The accelerating pace of industrialization and expanding power generation activities

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worldwide are pivotal drivers for the selective catalytic reduction (SCR) market, particularly in emerging economies. Stringent emission norms, such as China's National VI and India's BS-VI standards, mandate NOx reduction in coal-fired plants and heavy industries, propelling SCR adoption. The integration of SCR technology in combined heat and power (CHP) systems further supports compliance with global air quality regulations accelerating market penetration.

Restraint:

Dependency on urea supply (DEF)

Urea, a critical component in SCR systems, is used to produce ammonia for NOx reduction in diesel engines. Fluctuations in urea availability due to supply chain disruptions or geopolitical factors can lead to increased costs and operational inefficiencies. Additionally, reliance on urea imports in certain regions exacerbates vulnerability to market volatility. Thus limited urea supply can hinder the adoption of SCR technology, impacting compliance with stringent emission regulations.

Opportunity:

Expanding use in marine and aviation sectors

Stringent emission regulations, such as IMO Tier III standards, are propelling the adoption of SCR systems to reduce nitrogen oxide (NOx) emissions from ships. Similarly, in aviation, SCR technology is being explored to meet evolving environmental standards for ground support equipment and auxiliary power units. These applications are fostering advancements in SCR catalysts, lightweight designs, and compact systems tailored for space-constrained environments.

Threat:

Competition from alternative emission control technologies

Emerging technologies, such as Exhaust Gas Recirculation (EGR) and Lean NOx Traps (LNT), offer cost-effective and efficient solutions for reducing nitrogen oxide emissions. These alternatives can outperform SCR systems in specific applications, leading to reduced adoption of SCR technology. Additionally, advancements in hybrid and electric vehicle technologies further diminish the demand for SCR systems, as these vehicles produce fewer emissions.

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Covid-19 Impact:

The pandemic initially disrupted SCR supply chains, delaying component manufacturing and installation projects amid lockdowns. Reduced industrial activity and deferred emission compliance timelines temporarily slowed demand in 2020–2021. However, post-pandemic recovery packages, such as the EU's Green Deal and U.S. Infrastructure Bill, prioritized funding for clean air technologies, reviving SCR investments. The market is now rebounding, driven by pent-up demand and accelerated regulatory enforcement.

The vanadium-based catalysts segment is expected to be the largest during the forecast period

The vanadium-based catalysts segment is expected to account for the largest market share during the forecast period due to their high efficiency in reducing nitrogen oxides (NOx) emissions. These catalysts, typically composed of V2O5 supported on TiO2, operate effectively across a wide temperature range, making them suitable for diverse industrial applications. Their ability to achieve high NOx conversion rates, even at low temperatures, enhances their appeal in stringent regulatory environments. However, concerns over vanadium toxicity and disposal challenges may impact market growth.

The power plants segment is expected to have the highest CAGR during the forecast period

Over the forecast period, the power plants segment is predicted to witness the highest growth rate. SCR systems are widely adopted in coal-fired and natural gas-fired power plants to comply with stringent environmental regulations aimed at reducing NOx emissions. The increasing global energy demand and the transition to cleaner energy sources further boost the adoption of SCR technology in power generation. Additionally, the shift towards renewable energy sources may impact the long-term demand for SCR systems in power plants.

Region with largest share:

During the forecast period, the Asia Pacific region is expected to hold the largest market share due to rapid industrialization and increasing energy demand. The presence of major manufacturing hubs, coupled with stringent emission control regulations, has fueled the adoption of SCR technology across industries. China and India, being among

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the largest contributors to industrial emissions, are heavily investing in NOx reduction solutions. The expansion of transportation, power generation, and petrochemical sectors in the region continues to support the market's growth.

Region with highest CAGR:

Over the forecast period, the North America region is anticipated to exhibit the highest CAGR driven by stringent environmental regulations and advancements in emission control technologies. The U.S. and Canada have enforced strict NOx emission standards, compelling industries to adopt SCR systems for compliance. The growing focus on reducing greenhouse gas emissions in power plants, automotive, and marine industries is further accelerating market growth.

Key players in the market

Some of the key players in Selective Catalytic Reduction Market include Tenneco Inc, SCR Solutions Holding Ltd, Rochling Group, Plastic Omnium, Mitsubishi Heavy Industries Ltd, Magneti Marelli, Johnson Matthey, Haldor Topsoe,Faurecia, Durr Systems, Inc., Cummins Inc., Cormetech, CONCORD Thermal Efficiency, Ceram-Ibiden, BOSCH, Bosal, BASF and ANDRITZ Clean Air Technologies

Key Developments:

In Jan 2025, BASF is projected to launch SYNOVA® Flex, a dual-function SCR catalyst compatible with both diesel and hydrogen combustion engines. The product aligns with global shifts toward multi-fuel transitional powertrains in maritime and rail sectors.

In February 2024, ANDRITZ announced it had secured an order from TPC Group to supply a Selective Catalytic Reduction (SCR) system for NOx emissions reduction at a power boiler in Houston, TX, U.S. This system is tailored for industrial use, offering high-efficiency NOx control to meet stringent environmental standards.

Reducing Agent Types Covered:

- Ammonia
- Urea
- Diesel Exhaust Fluid

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Catalyst Types Covered:

- Vanadium-based Catalysts
- Zeolite-based Catalysts
- Titanium Dioxide (TiO2) Catalysts
- Metal Oxide Catalysts

Components Covered:

- Urea Tanks
- Urea Pumps
- Electronic Control Units
- Injectors

Applications Covered:

- Power Plants
- Waste Incineration
- Petroleum Refineries
- Metal & Manufacturing
- Locomotives & Agricultural Machinery
- Other Applications

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End Users Covered:

- Automotives
- Power Generation
- Cement Industry
- Marine Industry
- Other End Users

Regions Covered:

- North America
  - US
  - Canada
  - Mexico
- Europe
  - Germany
  - UK
  - Italy
  - France
  - Spain
  - Rest of Europe
- Asia Pacific

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- Japan
- China
- India
- Australia
- New Zealand
- South Korea
- Rest of Asia Pacific

South America

- Argentina
- Brazil
- Chile
- Rest of South America

Middle East & Africa

- Saudi Arabia
- UAE
- Qatar
- South Africa
- Rest of Middle East & Africa

What our report offers:

- Market share assessments for the regional and country-level segments

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- Strategic recommendations for the new entrants
- Covers Market data for the years 2024, 2025, 2026, 2028, and 2032
- Market Trends (Drivers, Constraints, Opportunities, Threats, Challenges, Investment Opportunities, and recommendations)
- Strategic recommendations in key business segments based on the market estimations
- Competitive landscaping mapping the key common trends
- Company profiling with detailed strategies, financials, and recent developments
- Supply chain trends mapping the latest technological advancements

Free Customization Offerings:

All the customers of this report will be entitled to receive one of the following free customization options:

Company Profiling

Comprehensive profiling of additional market players (up to 3)

SWOT Analysis of key players (up to 3)

Regional Segmentation

Market estimations, Forecasts and CAGR of any prominent country as per the client's interest (Note: Depends on feasibility check)

Competitive Benchmarking

Benchmarking of key players based on product portfolio, geographical presence, and strategic alliances

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Note: Tables for North America, Europe, APAC, South America, and Middle East & Africa Regions are also represented in the same manner as above.

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