

Intelligence Report:



Business Shifts in the Global Catalytic Process Industries 2017-2023

*** 17TH BIENNIAL EDITION ***

Changing Energy/Fuel Usage (Including Storage), Along with Shifts in Feedstock Selections, to Hasten the Transformation of Catalyst Markets and Participants...

- The faster adoption of EV's and hybrids heralded by the automotive industry will have long-term implications on the reduction in demand for petroleum-based transportation fuels and emission catalysts...
- Substitution of petroleum-based intermediates by bio- and even CO₂-derived sources offering attractive cost/performance profiles will change the make-up and level of demand across petrochemical markets, to be offset to a degree by growth from increasingly competitive sources such as shale gas and refinery streams...

The transition, or rather transformation, currently underway is having its intended effects towards reducing the industry's CO₂/GHG emission profile (as one measure), but there are other implications on R&D, commercial drivers and the competitive landscape. **The way that catalyst developers and suppliers react, and which producers and value-chain participants progress into leadership roles in the future, are critical considerations for the 17th edition of The Intelligence Report.**



INDUSTRY "GOLD STANDARD"

- Beyond statistics and benchmarks; competitive insight and analysis
- Strategic guidance for innovation, growth and investment opportunities
- Covering the refining, petrochemical/chemical, polymer, specialty/fine chemicals and environmental markets
- Including this year's Special Feature – "*Catalyst Centers of Excellence*"

17th edition of the biennial report initiated in 1986!

Special Feature Section



In order to add value/perspective(s) beyond industry statistics and commentary, the 2018 edition will include a **Special Feature** section (Section VII; see ToFC nearby) addressing the increasingly important contributions of global "Catalyst Centers of Excellence" to catalyst R&D/science. These organizations are often the sources for leading-edge progress addressing challenges of commercial interest and have areas of specific expertise which provide their sponsors with unique, even competitively advantaged, capabilities. TCGR's **Special Feature** will, in effect, be a reference document identifying: 1) The Role of Catalyst Centers of Excellence; 2) Global Catalyst Centers of Excellence, by Region, by Expertise, by Funding Type; 3) Benefits and Challenges Presented by Catalyst Centers of Excellence; and 4) Implications on Industrial Catalysis and the Competitive Landscape.

Back by Popular Demand for the 17th Edition...

Introduced with the 2014 edition and well-received by industry subscribers since then, the "*Intelligence Report 2018 - Exec Deck*" set of PowerPoint slides provides:

- Executive-level coverage of critical statistical data, technical advances, market and competitive/strategic insights
- Actionable study recommendation and findings
- For presentation (via webinar or on-site) by TCGR's team of experts or to generate internal documents for planning and/or strategy
- Subscriber-specific Q&A, yielding additional value-added insights/analyses

The Intelligence Report deliverables, in study and slide formats, will provide new business and technology perspectives.

The "Intelligence Report" has evolved from documenting technological and commercial progress into a tool for identifying strategic business opportunities and providing major investment guidance...



The Intelligence Report: Business Shifts in the Global Catalytic Process Industries, 2017-2023

Preliminary Table of Contents

<p>I. Introduction</p> <p>II. Executive Summary</p> <p>III. Global Catalyst Markets: Size and Growth</p> <p>A. Refining, by Process, Region</p> <ol style="list-style-type: none"> 1. North America 2. South America & Caribbean 3. Western & Eastern Europe 4. Middle East/Africa 5. Asia/Pacific (Japan, China & Pacific Rim/South Asia) <p>B. Petrochemicals/Chemicals, by Process, Products</p> <p>C. Polymerization, by Product</p> <p>D. Environmental, by Application (Mobile & Stationary)</p>	<p>IV. New Product Developments by Process Technology</p> <p>A. Refining</p> <ol style="list-style-type: none"> 1. FCC 2. Reforming 3. Hydrotreating/Hydrorefining 4. Hydrocracking 5. Resid Upgrading 6. Alkylation 7. Biofuels <p>B. Petrochemicals/Chemicals</p> <ol style="list-style-type: none"> 1. Aromatics 2. Organic Synthesis 3. Oxidation 4. Syngas and Derivatives 5. Hydrogenation 6. Dehydrogenation/Olefins 	<p>C. Polymerization</p> <ol style="list-style-type: none"> 1. Polyolefins 2. Other Volume Plastics 3. ETPs 4. Others <p>D. Environmental</p> <ol style="list-style-type: none"> 1. Autocatalysts 2. LD and HD trucks 3. Industrial (NOx, SOx, VOCs) 4. Others <p>V. Commercial Drivers and Impacts, by Industry</p> <p>VI. R&D Drivers and Impacts, by Industry</p>	<p>VII. Special Feature – “Catalyst Centers of Excellence”</p> <p>A. The Role of Catalyst Centers of Excellence</p> <p>B. Global Centers of Excellence – by Region, by Expertise, by Funding Type</p> <p>C. Benefits & Challenges</p> <p>D. Implications on Industrial Catalysis & Competitive Landscape</p> <p>VIII. Strategic Analysis and Business Recommendations</p>
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A Snapshot of Our Past Analysis...

The 16th edition (2016) predicted that the “lower for longer” oil price environment would persist, having implications on fuel refining as well as petrochemicals production, notably the imbalance between growth rates for low(er) value fuels and high(er) value olefins/aromatics increasing the importance of diversified sources. Environmental catalyst producers for mobile emissions reflected increased R&D/patenting in energy generation beyond combustion, including fuel cells and battery storage, with long-term implications. Polymerization markets reflected significant commitments of capital to take advantage of the “shale gale” underway in North America (with impacts globally). Overall, the global merchant catalyst market was forecast to grow from \$27.7 BIL/yr in 2015 to reach \$36.1 BIL/yr by 2021. If you were to include licensing and other direct services, the market approaches \$35 BIL/yr. In its “Special Feature” section (Section VII), the report addressed “out-of-the-box” applications in catalysis – including MOFs, ZIFs and COFs; membrane advances for gas separation and storage; consumer goods; and electronic sensors. Coverage of such new applications was designed to help subscribers evaluate new technologies in consideration for portfolio diversification in energy efficiency improvement, competitiveness, and regulatory compliance.

All previous editions of the “Intelligence Report” series are available for purchase; please visit <http://www.catalystgrp.com> for details or contact John J. Murphy at TCGR at +1.215.628.4447

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