



Fuelling progress with precision

NiVARA reforming catalyst technology

Precision where it matters

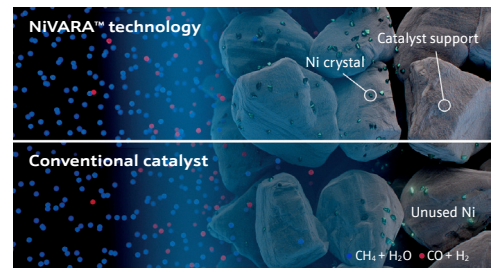
Johnson Matthey's (JM) NiVARA™ technology precision-engineers nickel distribution within JM's reforming catalyst portfolio to maximise catalyst performance. This enables lower nickel consumption while reducing operational costs for syngas plants.



Why use NiVARA technology?

Conventional reforming catalysts distribute nickel throughout the entire pellet, including the inactive core where little reaction occurs. NiVARA technology concentrates active nickel at the outer surface of the pellet, precisely where the reaction occurs. This targeted nickel distribution improves nickel utilisation, increases catalytic efficiency, and maximises performance.

Improved nickel loading	Operating cost	Higher catalytic performance	Lower by-product formation
Enabling a reduction in nickel by more than 50% of conventional catalysts	Lower catalyst fill costs	25% higher catalytic activity in some applications	Up to 40% reduction in by-product formation



Reduce your exposure to nickel price volatility

Nickel is a critical raw material in the catalysts for steam methane reformers and for autothermal reformers and remains highly exposed to global market fluctuations. Recent market conditions have seen significant volatility in nickel prices, and at times has been more than double that of the pre-COVID era.

Do more with less

By significantly reducing nickel loading requirements, NiVARA technology helps lower exposure to raw material price volatility while maintaining high reforming performance. With one of the industry's broadest portfolios of reforming catalysts, JM combines deep process expertise with advanced catalyst engineering to help producers improve plant efficiency, reliability, and sustainability.

Backed by 200+ successful installations across ammonia, methanol and hydrogen plants worldwide.



Scan the QR code to learn more about JM's NiVARA technology

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