

## Efficiency boost: thyssenkrupp Uhde successfully completes ammonia converter cartridge and catalyst replacement for İGSAŞ

- **Original capacity restored with significant reduction in energy consumption**
- **Revamp sets new benchmark for reliability and performance**

thyssenkrupp Uhde, in close cooperation with Johnson Matthey, has successfully completed the modernization of the ammonia converter for İGSAŞ – İstanbul Gübre Sanayii A.Ş. – at its Kocaeli production site. A recent performance test confirmed a significant production increase of 13%, fully restoring the original nameplate capacity of 1,200 mtpd of ammonia, while operating at a 7% lower synthesis loop pressure. This results in a meaningful reduction in overall specific energy consumption. In addition, the revamped converter now operates with a 70% lower pressure drop, further improving efficiency and long-term reliability of the whole plant.

Thanks to careful planning and close collaboration with İGSAŞ, the installation proceeded smoothly under the supervision of thyssenkrupp Uhde specialists. Catalyst loading was executed rapidly using uhde® dense-loading technology together with the İGSAŞ team, followed by a coordinated catalyst reduction and commissioning sequence together with Johnson Matthey. These steps ensured a swift and reliable return to full operation.

The upgrade replaces a converter cartridge that had been in operation for an exceptional 36 years – well beyond the industry norm. This longevity reflects the robust engineering and manufacturing quality of thyssenkrupp Uhde's ammonia converter technology and İGSAŞ's continued excellence in operation and maintenance.

Nadja Håkansson, Member of the Executive Board / COO of thyssenkrupp Decarbon Technologies & CEO of thyssenkrupp Uhde: "The successful completion of this project demonstrates the strength of our collaboration with İGSAŞ and Johnson Matthey, and the outstanding capabilities of our uhde® ammonia technology. With this upgrade, İGSAŞ benefits from significantly improved energy efficiency and reliability, while gaining future flexibility for capacity increase or green ammonia production. We are proud to support our customers in advancing sustainable and high-performing fertilizer production."

İlkay Ünal, General Manager İGSAŞ: "With the successful completion of this modernization, İGSAŞ has achieved an important milestone in strengthening the reliability, efficiency and long-term sustainability of its production facilities. This project also reflects the strong technical collaboration between İGSAŞ and Uhde teams throughout the execution phase."

**Combined technologies enable high performance with low emissions**

The combination of the new uhde® converter cartridge with Johnson Matthey's high-performance KATALCO™ 74-1 catalyst forms a strong technological platform for the future, ensuring both operational stability and the potential for further optimization. thyssenkrupp Uhde's scope included full supervision of all field activities – from converter opening and catalyst unloading to assembly, catalyst filling and activation, start-up, and performance testing. Beyond the completed İGSAŞ project, thyssenkrupp Uhde is already executing further revamps with the same approach.

**About İGSAŞ**

Supplying the fertilizers needed by Turkish farmers and industrialists either through production or import, İGSAŞ serves Turkish agriculture and industry, and today it is one of the largest industrial enterprises in Turkey. Reaching every corner of Turkey where agriculture is practiced, İGSAŞ joined Yıldızlar Yatırım Holding in 2004 through privatization.

**About Johnson Matthey**

Johnson Matthey is a world leader in platinum group metals (PGMs). For over 200 years we've used advanced metals chemistry to tackle the world's biggest challenges. Many of the world's leading energy, chemicals and automotive companies depend on our technology and expertise to decarbonise, reduce harmful emissions and improve their sustainability. And now, as the world faces the challenges of climate change, energy supply and resource scarcity, we're actively providing solutions for our customers – metals that matter, for a healthier world. For more information visit [www.matthey.com](http://www.matthey.com)

**About thyssenkrupp Uhde**

thyssenkrupp Uhde combines unique technological expertise and decades of global experience in the engineering, procurement, construction and service of chemical plants. We develop innovative processes and products for a more sustainable future and thus contribute to the long-term success of our customers in almost all areas of the chemical industry. Our portfolio includes leading technologies for the production of base chemicals, fertilizers and polymers as well as complete value-chains for green hydrogen and sustainable chemicals. [www.thyssenkrupp-uhde.com](http://www.thyssenkrupp-uhde.com)

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