
Press Release

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MAN Energy Solutions Establishes New Benchmark with Remote Commissioning

Successful completion of first, fully-remote, supervised commissioning of compressor train for nitric-acid production with Casale S.A.

MAN Energy Solutions has announced the successful, remote commissioning of a compressor train at Uzbekistan's largest chemical company, JSC Navoiyazot. This world-first was brought about when installation work for a new nitric-acid plant for fertilizer production was interrupted by the Covid-19 pandemic, with the MAN Energy Solutions' commissioning team forced to leave the site due to the impending lockdown and associated travel restrictions within the country. In order to avoid any delays and additional costs for the entire project, MAN and the EPC contractor Casale S.A. – the global provider of integrated solutions for the production of fertilizers and chemicals – rapidly put in place an alternative plan to commission the machinery with remote supervision by MAN engineers using the company's digital technology.

Luca Frediani, Senior Machinery Engineer at Casale S.A., said: "There was no blueprint for such an unprecedented situation like this – every party involved in this project was challenged to try new ways of working. Together with the customer, JSC Navoiyazot, we decided to carry out the commissioning of the nitric-acid plant via remote service by engineers working from home. It was a bold decision since a fully-remote commissioning had never previously been performed for a machine of such sophistication and size. In order to perform this critical task, we worked in close collaboration – and with huge commitment from – MAN Energy Solutions and benefitted from their digital expertise and capabilities."

Mathias Scherer André, Head of Sales & Execution Turbomachinery at MAN Energy Solutions, said: "The corona-virus crisis required us to think and act outside the familiar bounds of the business. Thanks to the giant digitisation steps our company has made in recent years, we had the right digital solutions to overcome all difficulties and execute commissioning at Navoiyazot. The first fully-remote commissioning of a turbomachinery train ever executed in the industry marks an important milestone and highlights the innovation and flexibility of our company."

The turbomachinery train at Navoiyazot was connected to MAN headquarters via the internet so that it could be operated and controlled remotely throughout the entire cold- and hot-commissioning procedure. A team of around 30 engineers formed the backbone of support for the project with MAN Energy Solutions making a comprehensive package of digital innovations available to make it possible. One of the main features was the company's remote-support tool, called *PrimeServ EyeTech*, which was launched in 2019. The augmented-reality-assisted application allows mobile collaboration to be set up via data glasses, or other video-capable terminals like smartphones or laptops. In this way, the technical experts at MAN's Remote Operation centres – with some working from their home offices – were able to view the customer's perspective without having to be physically on-site.

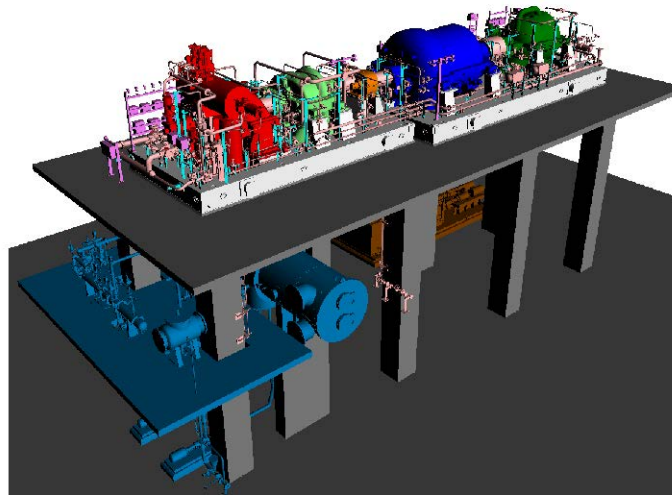
Furthermore, the turbomachinery installed is equipped with digital hardware-components that allow remote access to the machine-control system, and which collect and evaluate operating and sensor data in near-real time. Simultaneously, the hardware also monitors the machine's operation around the clock through the *PrimeServ Assist* application, powered by MAN CEON, MAN's digital service platform.

Jörg Massopust, Head of Digital Sales & Alliances at MAN Energy Solutions, said: "Not only does the newly-developed technology help our customers to remain operative during the quarantine, but it is also environmentally friendly due to the reduced travel emissions. Our next step is to look into how MAN Energy Solutions can transfer the experience garnered here to the day-to-day business in the future. This sits well with our strategic developments in regard to digitally-enabled, unmanned operation, which is already feasible for midstream and upstream applications."

Navoiyazot's nitric-acid plant, with a capacity of 500,000 tons per year, successfully entered production in June 2020. The MAN compressor train at the plant's heart comprises four proven machines: a steam turbine, an axial-type air compressor, a nitrous-gas centrifugal compressor, a tail-gas expander, plus auxiliary equipment including the control system. That the entire machine-train comes from a single supplier allows the train to be flexibly matched to the customer's needs, allowing the demanding process of nitric-acid production to be optimised for maximum efficiency.



Navoiyazot, the largest chemical company in Uzbekistan, operates an MAN compression train for nitric-acid production



MAN compressor train with steam turbine, axial-type air compressor, nitrous gas centrifugal compressor, tail-gas expander and auxiliary systems

MAN Energy Solutions enables its customers to achieve sustainable value creation in the transition towards a carbon neutral future. Addressing tomorrow's challenges within the marine, energy and industrial sectors, we improve efficiency and performance at a systemic level. Leading the way in advanced engineering for more than 250 years, we provide a unique portfolio of technologies. Headquartered in Germany, MAN Energy Solutions employs some 14,000 people at over 120 sites globally. Our after-sales brand, MAN PrimeServ, offers a vast network of service centres to our customers all over the world.

About Casale S.A.:

Casale is a worldwide leading licensor and contractor serving the fertilizer, methanol, syngas and melamine industries. Their complete portfolio of integrated technologies and proven experience encompasses the entire production chains from the raw materials up to the final products. Casale delivers end-to-end solutions with the benefits and efficiency of a single source with a total life cycle approach, from licensing through project realization and up to long-term assistance, for new plants and revamping of existing plants.