

Press Release



Add value.
Inspire trust.

Most sustainable ethane cracker in Europe

28 May 2024

TÜV SÜD supports INEOS in developing a risk-based inspection plan for Project ONE in Antwerp

Munich / Antwerp. Global petrochemicals manufacturer INEOS is building a state-of-the-art ethane cracker in Antwerp. TÜV SÜD is supporting INEOS with the development and implementation of a plan for risk-based inspections (RBI) of the cracker and the associated process equipment. Project ONE is slated to be operational by the end of 2026.

By building the new ethane cracker, INEOS is setting itself ambitious targets. With a budget of over 4 billion euros and a capacity of 1450 kt of ethylene per year, Project ONE represents the single largest investment in the European petrochemical industry in the last 20 years. With cutting-edge technologies and maximum energy efficiency, the cracker's carbon emissions will be three times lower than that of average European crackers and half that of the currently best-performing crackers in Europe.

Project ONE comprises the ethane cracker and other associated process equipment. TÜV SÜD is supporting INEOS with the development and implementation of a risk-based inspection (RBI) concept for all pressure vessels and piping. Instead of only starting risk-based inspection in the cracker's operational phase, in this concept integrated risk-based maintenance is directly implemented right from the planning stage. This approach firstly enables any necessary corrections to be initiated during the engineering phase. Secondly – and this is the main focus – it allows a transparent, traceable and seamless periodic inspection concept to be developed for the following years.

TÜV SÜD at the ACHEMA 2024

From June 10 to 14, 2024, visitors to ACHEMA in Frankfurt am Main can find out more about risk-based inspection and the full range of services offered by the international testing and certification service provider for the chemical and process industries at the TÜV SÜD stand. (Hall 9, Stand D68)

TÜV SÜD's experts draw on long-standing international experience with RBI projects and cracker plant assessments. For almost 25 years, the testing, inspection and certification (TIC) company has also played an active role in the development of international standards governing RBI performance. Based on its extensive experience TÜV SÜD has also developed its own software for the processing of RBI projects called RBI^{Next}.

“RBI offers the opportunity of improving plant and equipment availability, limiting risks and reducing operating and inspection costs by adopting a targeted and predictive approach“, says Dr Robert Kauer, RBI expert at TÜV SÜD. “To this end, critical and uncritical components are identified on the basis of the identified risk. Their damage mechanisms are then determined and the necessary actions planned, taking operational requirements into account.“

Essentially, TÜV SÜD provides the following services for Project ONE:

- Identification of the relevant corrosion mechanisms that are specific to each unit of process equipment;
- Critical examination of the materials proposed for pressure vessels and piping, to ensure their suitability in terms of resistance to chemicals and corrosion behaviour;
- Definition of the integrity operating window (IOW) as the future operating window to control the anticipated corrosion behaviour;
- Determination and visualisation of the potential risk in a risk matrix, based on the initial assessment of probability of failure (PoF) and the possible consequence of failure (CoF) of systems or components; and
- Targeted planning of periodic inspections based on the identified corrosion mechanisms and the risk assessment.

Further information about the RBI services provided by TÜV SÜD can be found at <https://www.tuvsud.com/en/industries/energy/conventional-power/risk-based-inspection-and-maintenance>

About Project ONE

Project ONE is an investment by INEOS in the Antwerp chemical sector for the construction of an ethane cracker. The investment amounts to over four billion euros, making it the largest investment in European chemistry in more than 20 years. The advanced plant will produce ethylene, one of the most widely used basic chemicals worldwide and an essential building block for a variety of products.

According to INEOS, Project ONE will raise the standard for the chemical sector in Europe by deploying best available techniques. In particular, the investment will pioneer energy efficiency and have a carbon footprint less than half that of the 10% best steam crackers in Europe. The end of 2026 is targeted as the start of operation. At the peak of construction work, some 2,500 workers will be employed at the Antwerp site.

More information at <https://project-one.ineos.com>

Media Relations:

TÜV SÜD AG Corporate Communications Westendstraße 199 80686 Munich, Germany	Dr Thomas Oberst Phone +49 89 5791-2372 Email thomas.oberst@tuvsud.com Internet tuvsud.com/newsroom
--	--

Founded in 1866 as a steam boiler inspection association, the TÜV SÜD Group has evolved into a global enterprise. About 28,000 employees work at over 1.000 locations in about 50 countries to continually improve technology, systems and expertise. They contribute significantly to making technical innovations such as Industry 4.0, autonomous driving and renewable energy safe and reliable. tuvsud.com