



Add value.
Inspire trust.

Digitalisation in oil and gas

Ensure the efficiency of your company's performance, processes and operation with Industry 4.0

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Your challenges

As a legacy industry, the biggest obstacle facing oil and gas is often itself. The industry was once the pioneer of the first digital age, making use of sensors, programming and 3D seismic imaging to collect data – but they have been slow to evolve. In today's Industry 4.0 era, its methods have become traditional and dated. With operations becoming more complex than ever due to functional silos and international standards, it has been challenging for oil and gas companies to realise their digital transformation.

For instance, documentation and data collection is highly manual in nature, with a reliance on non-digital worksheet templates. The data collected is also non-standard, making it difficult for the data to be processed and analysed efficiently.

The workforce is also not set up for digitalisation. The technical requirements of tasks mean that the workforce is highly by the book and therefore not easily adaptable. In addition, with new technologies being deployed, it will

result in gaps in skill sets that have previously not been found in the industry.

These challenges raise concerns for companies that desire to harness the potential of digitalisation, but are unsure of how to take that next step towards Industry 4.0

Why is Industry 4.0 important to your oil and gas business?

Characterised by seamless connectivity and interoperability, decentralisation and flexibility, Industry 4.0 presents new opportunities for the oil and gas industry to reduce costs as well as improve operational excellence and performance. Globally, organisations are planning to deploy Industry 4.0 solutions – starting the journey now will help your business stay competitive in the future.

How can we help you?

At TÜV SÜD, we are backed by unparalleled expertise in Industry 4.0 assessment and best practices, as well as decades of in-depth knowledge of the oil

and gas industry. From the initiation, solutioning to implementation and operation, our experts help companies start, scale and sustain their Industry 4.0 transformation at every stage. As a globally renowned third-party quality and assurance provider with an international team of multidisciplinary experts, we are uniquely capable of offering solutions for all your evolving Industry 4.0 needs.

Our Industry 4.0 services

Our suite of services address each and every step of the transformation journey to Industry 4.0 – initiation, solutioning and operation.

▪ **Initiation Phase: Readiness assessment and gap analysis**

The Initiation phase creates a baseline and benchmarks the organisation against best practice and identifies gaps and focus areas. We will assess the Industry 4.0 readiness of the processes, technology and organisation, as well as identify the key gaps to transit from present to future state.

▪ **Solutioning Phase: Roadmapping, business case evaluation and implementation**

In the Solutioning phase, TÜV SÜD helps companies to define high impact initiatives with phases, targets, costs and timeline, conduct roadmapping based on best practices, as well as determine prioritisation of initiatives. We will then evaluate the direct and indirect economic impact of Industry 4.0 solutions on the organisation, and set up and evaluate a business case with Industry 4.0 KPIs using cost-benefit analysis. At this stage, we will also ensure the safety, security, reliability and interoperability of the company's systems and processes.

▪ **Operation Phase: Control and optimisation**

The Operation phase ensures the smooth operation of

Industry 4.0 technologies through continuous real-time monitoring, validation and certification of their safety, security and reliability, as well as data-driven services to support operation management. We also employ data analytics to enable predictive maintenance, as well as scale and expand Industry 4.0 solutions and concepts to realise future state.

Your business benefits

- **Unlock opportunities** – with a systematic approach that will help your company navigate the uncertainties surrounding Industry 4.0
- **Yield tangible results** – by improving the efficiency of your business' performance, processes and operations

Why choose TÜV SÜD?

TÜV SÜD is universally recognised as an independent and impartial third-party service provider. By partnering with us, you benefit from our acclaimed track record in quality and safety. We provide extensive customer service and technical support, ensuring that our clients always come first.

We have worked with over 200 organisations, including oil and gas companies in Southeast Asia, to assess their Industry 4.0 readiness and developed road maps for digitalisation. We have the unique combination of over 150 years of broad industry expertise and digital capabilities, allowing us to scale the benefits of Industry 4.0 disruptive technologies like IIOT, Smart Sensors, Digital Twins and AI for your company.

Add value. Inspire Trust.

TÜV SÜD is a trusted partner of choice for safety, security and sustainability solutions. It specialises in testing, certification, auditing and advisory services. Through more than 25,000 employees across over 1,000 locations, it adds value to its customers, inspiring trust in a physical and digital world.

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