

# Rig Simulator Solution

Energy and Resources



As technology transforms the Oil and Gas (O&G) industry, drilling rigs have become more sophisticated, enabling deeper and faster exploration. Crews need to be highly skilled to operate this complex equipment, making hands-on experience a critical need. Digital simulations of actual drilling rigs can be used to create virtual environments and deliver years of practical experience in weeks, and equip the crews to better handle the dangers of field operations.

Tata Consultancy Services' (TCS') Rig Simulator enables O&G companies to impart agile and flexible core engineering skills to meet these challenges. With our cross-domain expertise, we leverage capabilities across diverse technology areas to deliver solutions to complex engineering problems. Our experience in O&G well drilling system equipment, migration and reverse engineering, and electrical engineering of new rigs translates into realistic simulations that help customers quickly discover more innovative rig development solutions.

## Overview

Drilling rigs, an integral part of O&G, are often located in remote and inhospitable environments, which pose several safety hazards. Crews are prone to injuries and equipment is often damaged. Lack of proper training can lead to costly human errors. To overcome these challenges, O&G companies can use state-of-the-art simulations to impart critical skills and minimize risks.

The TCS Rig Simulator solution helps drilling rig operators come up the learning curve quickly and can be used to train offshore platform and refinery operators as well. Our solution speeds up your rig development programs and helps build modular and standardized PLC code and prototypes for rig simulators faster. We bring delivery certainty irrespective of the complexity and scale of projects. Our solution enables O&G companies to develop innovative rigs that can withstand the most rugged conditions and implement intelligent solutions far beyond mere rig automation.

## Our Solution

TCS Rig Simulator leverages our multi-faceted technological expertise and digital learning framework, and spans:

- Study, design, development, testing, commissioning, roll out, and support of well drilling system equipment
- Conversion of rig control systems and related engineering
- Electrical design engineering for rig development and refurbishment projects
- IT product development, support, and enhancement for on site, online, and mobile process monitoring

## Benefits

With TCS' Rig Simulator, oil field services majors can:



Rapidly train field staff on state-of-the-art virtual equipment



Easily monitor drilling rig processes and automate drilling processes with intelligent rig control systems



Build rig simulator prototypes quickly to accelerate system deployment



Achieve faster turnaround times for rig development programs

## The TCS Advantage

TCS has extensive domain experience across drilling operations and technology, backed by expertise in both augmented and virtual reality systems. O&G companies can leverage our capabilities across multiple technologies and benefit from our learning in related industry verticals. We offer the flexibility to ramp our teams up or down, in tune with upstream business needs, allowing companies to address changes as they arise. The world's leading market research firm, IDC, recognizes TCS as an industry leader in the O&G sector. With TCS, O&G companies have a partner whose proven migration and reverse engineering capabilities they can tap into to jointly power their innovation initiatives.



## Awards & Recognition

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### About Tata Consultancy Services Ltd (TCS)

Tata Consultancy Services is an IT services, consulting and business solutions organization that delivers real results to global business, ensuring a level of certainty no other firm can match. TCS offers a consulting-led, integrated portfolio of IT and IT-enabled infrastructure, engineering and assurance services. This is delivered through its unique Global Network Delivery Model™, recognized as the benchmark of excellence in software development. A part of the Tata Group, India's largest industrial conglomerate, TCS has a global footprint and is listed on the National Stock Exchange and Bombay Stock Exchange in India.

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