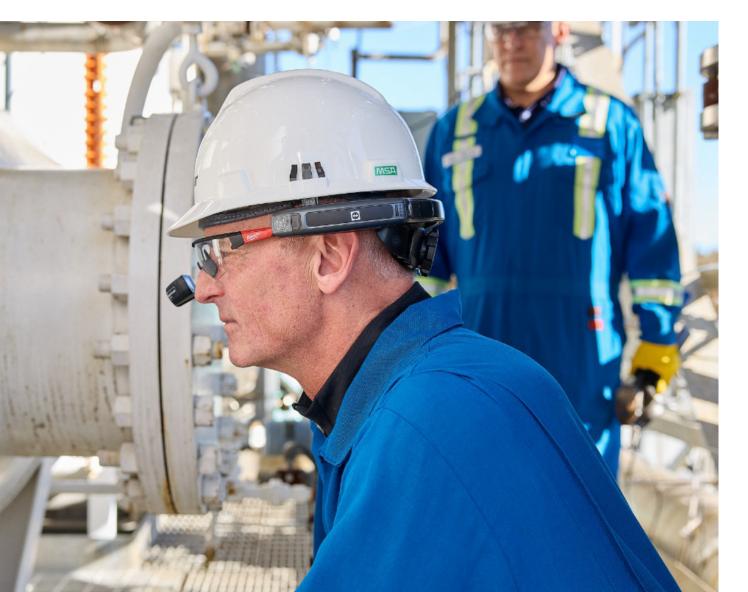**TeamViewer**

Maximize safety and efficiency through guided inspections for oil and gas

Rising complexities in the oil and gas industry, such as adherence to comprehensive safety standards, the demand for non-destructive testing and an influx of data management, make it crucial to stay ahead of maintenance and critical repairs.

Discover how industrial Augmented Reality (AR) technology is accelerating the inspection process in the field.

Inspections in the oil and gas industry take place in remote, challenging environments, requiring numerous documents and manual processes. These outdated, disjointed systems increase the risk of human error, prolong inspection times, and drive up operational costs. As maintenance and compliance demands grow, companies need a smarter, more efficient way to streamline inspections and reduce expenses.

In addition, an aging infrastructure, exposure to harsh chemicals, and extreme weather conditions lead to more widespread corrosion which further complicates maintenance operations.

This equipment and infrastructure damage increases the risk of unexpected downtime and can cost organizations more than $200,000 per hour in lost productivity. When observed at a more macro level, these losses add up to the millions considering the average oil and gas facility experiences close to 32 hours of unplanned downtime per month. [1]

Maintenance operations are performed manually and require both physical and visual inspections to capture the necessary information. TeamViewer Frontline provides AR-driven guidance directly to the inspectors' glasses to streamline procedures and ensure every check is thorough and compliant. The features below demonstrate how TeamViewer Frontline accelerates inspections, enhances efficiency, and delivers real-time expert support in the field.

Frontline key features

Interactive guidance
Real-time, on-screen checklists, instructions, and visual information such as technical drawings.

Live remote support
In case of any error or malfunction in the inspection process, expert help is just one call away.

System integration
Frontline Inspect lets users adapt their AR workflows to the needs of the inspection procedures.

Integrated documentation
Without interrupting the task, technicians can record and verify checks.

[1] https://marketscale.com/industries/engineering-and-construction/whats-the-true-cost-of-machine-downtime/

How TeamViewer Frontline helps

Frontline helps you tackle a wide range of inspection challenges in the oil and gas industry, enabling safer, more efficient, and compliant operations, including:

Asset integrity	Maintenance	Optimization
Pipeline integrity monitoring Superimpose pipeline weak spots based on RAR insights. Predict future leaks with ROMs of pipeline behavior.	**Predictive maintenance** AR-guided repair actions based on RAR insights. ROMs predict maintenance schedules for critical assets.	**Efficiency visualization** AR shows live efficiency metrics overlaid on equipment. ROMs predict performance trends.
Flange leakage prediction Overlay flange wear indicators via AR. Use RNN models to predict seal performance.	**AR-Guided lubrication** Highlight lubrication points on machinery. Use ROMs to optimize lubrication intervals.	**Energy optimization** AR highlights energy-inefficient components. ROMs model optimal configurations.
Coating erosion detection AR highlights erosion-prone areas. ROMs simulate protective coating lifespans.	**Spare part identification** AR identifies required parts in the field. RAR connects to inventory for real-time availability.	**Wear pattern analysis** Use AR to superimpose wear patterns. RNN-based models predict component lifespans.
Weld quality verification Overlay AR visuals of weld defects for immediate inspection. RNN-based simulations predict the longevity of welds.	**Maintenance technician training** AR-guided simulations for hands-on technician learning. ROMs provide predictive equipment responses for training.	**Startup and shutdown optimization** AR guides operators during critical equipment transitions and changes. ROMs provide optimal timing insights.
Corrosion monitoring Visualize real-time corrosion data on assets using AR overlays. Integrate RNN-derived ROMs to predict degradation rates.	**Failure root cause analysis** Overlay AR visuals of probable failure sources. Use RAR insights to streamline diagnostics.	**Motor and pump efficiency** AR overlays degraded motor/pump parts. ROMs predict efficiency restoration after maintenance.

Enhancements for safety in the field

There is a very human cost when errors occur in the oil and gas industry. Injuries due to electric shock can cost over $150,000 each and ones resulting from amputations and crushing can range from $67,000 to $96,000. [2]

The serious matter of accidental deaths occurring on site continues to be a major area of concern. According to the Occupational Health and Safety Administration (OSHA), as of 2022, deaths on the job cost organizations, on average, $1.4 Million each. [3]

TeamViewer Frontline has several safety applications to support oil and gas workers while on site helping reduce emergency incidents. Those include:

AR-enhanced safety inspections
· Use AR to visualize unsafe conditions during inspections.

Emergency shutdown simulations
· Superimpose AR safety drills based on RNN-modeled scenarios.

Confined space monitoring
· AR shows real-time safety data in confined spaces.
· ROMs predict hazard escalation.

Evacuation path mapping
· Display AR overlays of safest evacuation routes.
· RAR identifies historical hazard patterns for improved routes.

TeamViewer Frontline also improves **process validation** with the ability to superimpose Siemens Teamcenter data on physical objects via AR, for example by using AR to display fouling routes and cleaning schedules for **heat exchanger optimization.**

In addition, future Integrations will help in monitoring environmental conditions. This includes features such as supporting **compressor performance monitoring** through the visualization of pressure or temperature via AR, and **chemical reactor monitoring** where in AR displays react to conditions in real time.

[2] https://www.osha.gov/safetypays/estimator-text
[3] https://injuryfacts.nsc.org/work/costs/work-injury-costs/?form=MG0AV3

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Revolutionizing field operations with TeamViewer Frontline

The oil and gas industry operates in a high-stakes, complex environment—facing fluctuating global demand, stringent safety regulations, and the logistical challenges of exploration, extraction, and distribution. Keeping operations efficient, compliant, and connected across global sites is more critical than ever.

While these challenges are significant, they also present opportunities for innovation. By leveraging advanced technologies and strategic partnerships, companies can enhance safety, streamline operations, and gain a competitive edge in the global energy market.

TeamViewer Frontline is an end-to-end enterprise productivity platform with fully integrated industrial AR solutions. It strengthens the oil and gas supply chain by delivering a competitive advantage through customizable processes, intuitive UI design, and multiple interaction and confirmation methods for hands-free execution. With a rapid go-live experience, companies can be up and running in as little as 12 weeks.

Strengthening industry leadership through strategic partnerships

SAP Endorsed App
Premium Certified

SIEMENS

TeamViewer partners with SAP and Siemens to deliver asset and procedural information directly to the frontline workers such as MRO work instructions, safety guidance (including LOTO procedures), measurement validations, audit trails, and real-time feedback. In most cases, workers can execute these tasks hands-free, uninterrupted, and with the flexibility of already approved devices when needed—ensuring both safety and efficiency in the field.

Get started with TeamViewer Frontline

We begin every Frontline project with a collaborative consultation to understand your specific needs and use cases. This allows us to design a high-value, customized solution that addresses your key challenges and maximizes your return. Contact us to learn more.

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TeamViewer

About TeamViewer

TeamViewer provides a Digital Workplace platform that connects people with technology – enabling, improving and automating digital processes to make work work better. In 2005, TeamViewer started with software to connect to computers from anywhere to eliminate travel and enhance productivity. It rapidly became the de facto standard for remote access and support and the preferred solution for hundreds of millions of users across the world to help others with IT issues. Today, more than 640,000 customers across industries rely on TeamViewer to optimize their digital workplaces - from small to medium sized businesses to the world's largest enterprises - empowering both desk-based employees and frontline workers. Organizations use TeamViewer's solutions to prevent and resolve disruptions with digital endpoints of any kind, securely manage complex IT and industrial device landscapes, and enhance processes with augmented reality powered workflows and assistance - leveraging AI and integrating seamlessly with leading tech partners. Against the backdrop of global digital transformation and challenges like shortage of skilled labor, hybrid working, accelerated data analysis and the rise of new technologies, TeamViewer's solutions offer a clear value add by increasing productivity, reducing machine downtime, speeding up talent onboarding, and improving customer and employee satisfaction.

The company is headquartered in Göppingen, Germany, and employs more than 1,800 people globally. In 2024, TeamViewer achieved a revenue of around EUR 671 million. TeamViewer SE (TMV) is listed at Frankfurt Stock Exchange and belongs to the MDAX. Further information can be found at www.teamviewer.com.

www.teamviewer.com/support

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