



iFIX from GE Digital: Enabling the Smart Operator

Efficient and High Performance HMI/SCADA with mobile solutions



Expect more from your HMI/SCADA

Is your HMI/SCADA more than a passive partner, collecting information, monitoring performance, and generating alarms? Your HMI/SCADA should anticipate your operators' needs, delivering the precise information they need quickly and intuitively to support the best possible decision-making.

That's our vision for fourth-generation iFIX from GE Digital—part of the Proficy family and featuring the latest HMI/SCADA technologies that leverage the power of the Industrial Internet. With just a glance at their iFIX screens, your operators will be able to pinpoint issues that undermine your productivity and determine the optimal action to resolve them.

It's the ability to provide active decision support that distinguishes fourth-generation iFIX from traditional HMI/SCADA, opening new doors to improved efficiency, reduced waste, and significantly higher performance.

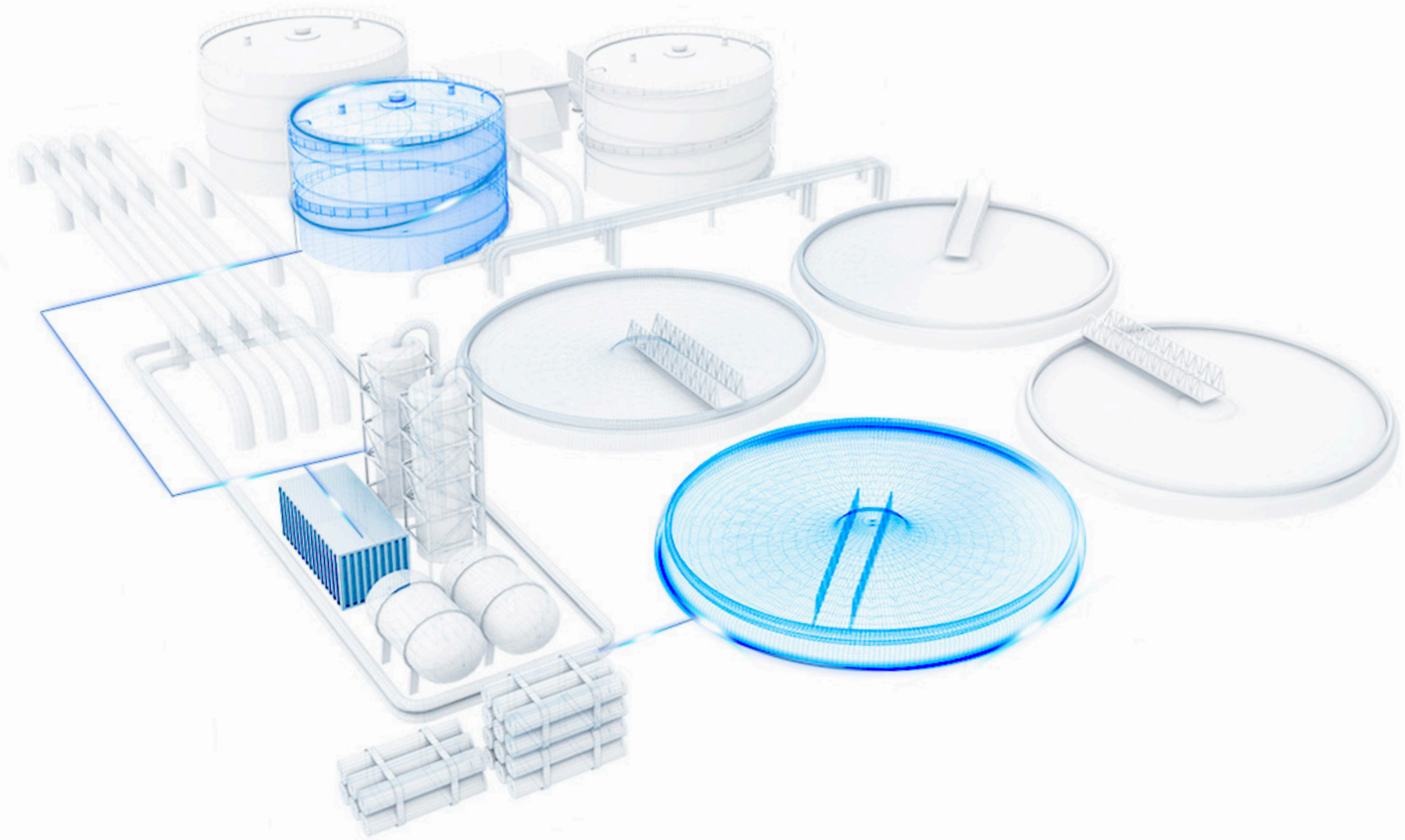


HMI/SCADA built for your operator

Over the last 40 years, HMI/SCADA has gained steadily in power and sophistication. It progressed from the inflexible proprietary systems of the 1980s and the LAN-based, I/O-centric systems of the 1990s to the network-based, equipment-centric systems of the 2000s.

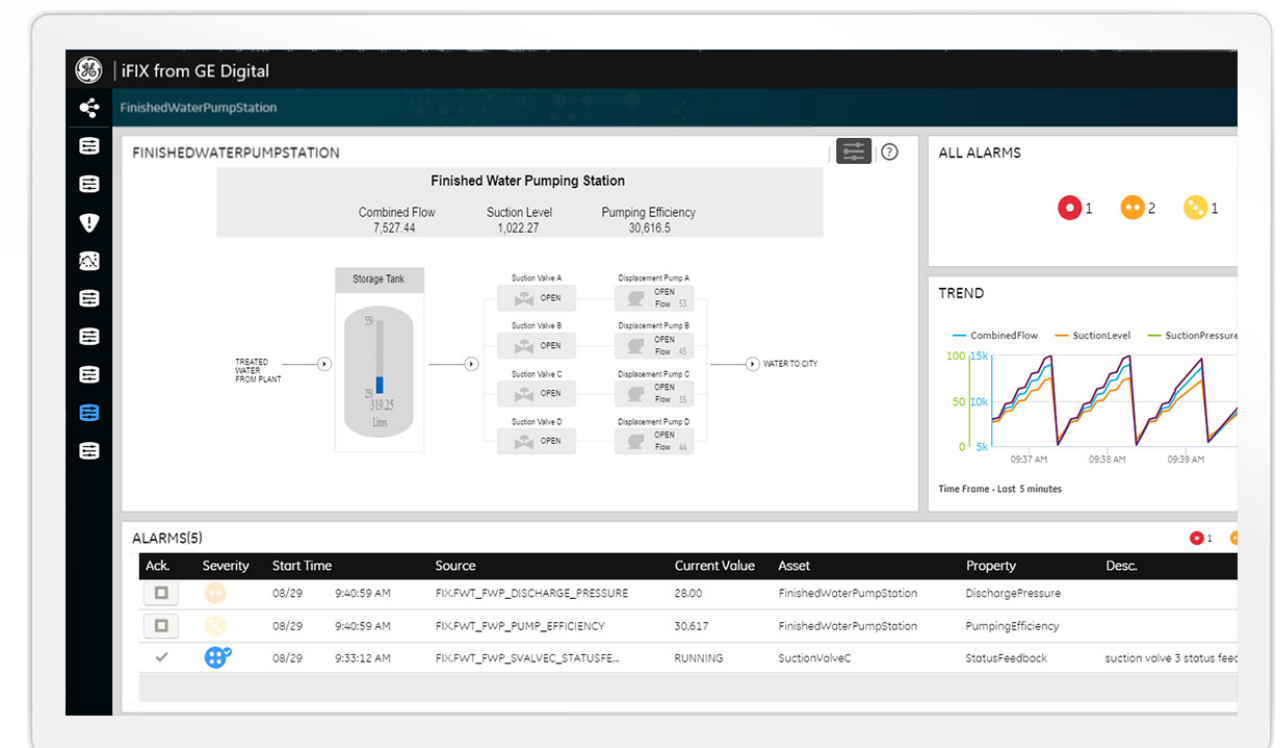
Now with fourth-generation iFIX, GE Digital is combining a series of new approaches, including efficient HMI design, structured asset-based modeling, historical and real-time trending, and latest web standards, to build an HMI/SCADA that acts like an extension of your operator.

Operator-centric HMI/SCADA is an idea whose time has come. Unscheduled downtime and poor quality cost more than \$20 billion a year in the North American process industry alone, according to ARC Advisory Group. Forty percent of that is due to preventable operator error. Reduce these errors and see a significant gain in productivity, reliability, and your bottom line.



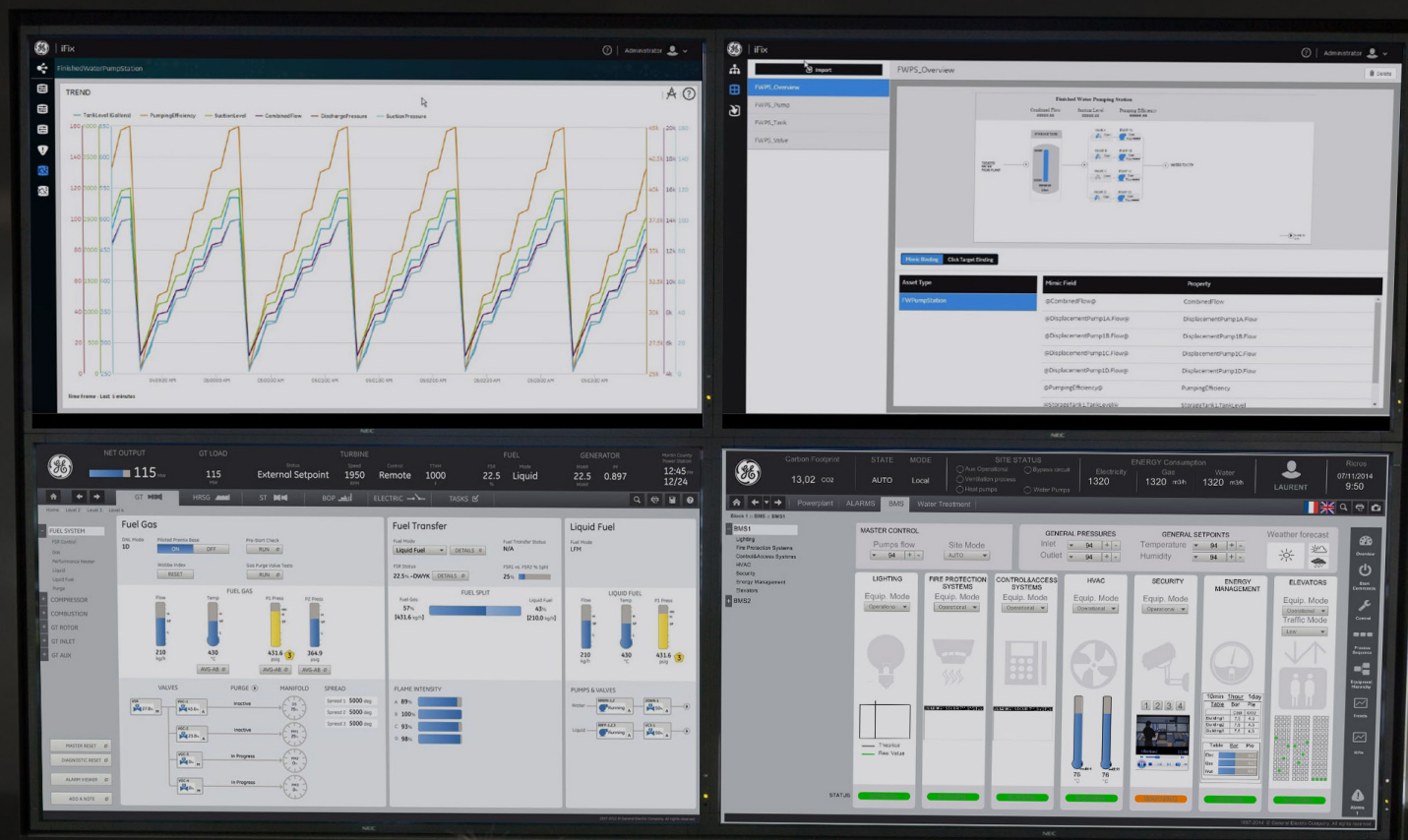
“When new operators come in, they are able to know how the system works – to be able to adjust the treatment process for swings without impacting quality.”

**Fred Haffty, Wastewater Facility Manager,
City of Haverhill Water and Wastewater Division**



Efficient HMI

Smarter visualization makes it easier for operators to identify problems and causes



More is better—that used to be the rule for HMI/SCADA screens. Earlier generations of HMI/SCADA solutions were loaded with three-dimensional renderings and extensive color palettes, encouraging users to build elaborate screens that were impressive in their realism.

The latest findings from cognitive science point in the opposite direction. Complexity slows reaction time, diminishes situational awareness, and increases the likelihood of error.

At GE Digital, we approach this challenge in a number of ways. We simplified the HMI, adopting flatter objects and limiting the color palette to make the HMI/SCADA screen easier to read. We also created predefined templates for processes, trends, and alarms that embody best practices in efficient HMI. These can be combined in a variety of layouts to provide operators with different perspectives.

And because screens are tied to a structured asset model mapped to the SCADA database, the HMI changes as the user moves through the system. With iFIX, operators have the situational awareness that's crucial for reacting quickly and making the best decisions.

“Ever since the introduction of GE Digital's iFIX at Pirelli, the system has been great to work with, which has encouraged us to expand the system further and further to include new machines over time.”

Bernhard Munzert, Automation and Control Systems, Pirelli

Benefits of efficient HMI

According to findings from research GE conducted that tracked eye movements and operator response, efficient HMI improves operator performance in a number of ways:

- Less time spent navigating
- Faster finding critical data
- Improvements in alarm resolution success
- Faster identification of relevant screens for an alarm
- Increases in usability



Enable a mobile workforce

HTML5 implementation gives operators on-demand support wherever they go

Today's operators are more mobile than ever before. Their work often takes them out of the control room, onto the plant floor, and to remote locations. But wherever they go, iFIX has them covered, thanks to a native-web HMI based on the HTML5 standard.

HTML5 is compatible with most common browsers and supports multi-touch applications. Thanks to its responsive design, it can scale to adapt to the form factors, orientations, and capabilities of displays that operators might use, from iPads and iPhones to terminals and HTML-compliant panel boxes.

The advantages of native-web HMI go beyond the operator interface. With iFIX, there is no need for client-side installation. Configuration, development, and deployment are all centralized, and any updates or changes are automatically reflected in the clients.

With iFIX, you also have the system design flexibility to produce your own HTML-based content that can be used to provide additional information to the operator using our model context. This extendable capability allows you to host information from other systems, such as business applications and external web content, in the same client layout, based on the equipment or process on the display to further enable the operator.



Integrated work processes

Step-by-step instructions make it easier for operators to avoid mistakes

Operators—as well as contractors and engineers—need guidance, structured documents and common references, at their fingertips, to ensure consistency, repeatability, conformance to standards, and accountability.

“iFIX has done an excellent job over the years and continues to be one of the most solid and flexible SCADA platforms on the market.”

**Lars Peter Larsen, System Specialist,
Copenhagen Airport**

With integrated work processes and electronic Standard Operating Procedures (eSOPs) delivered in iFIX through the Task Client, you can drive the right actions globally every time. The benefits are substantial, helping you to:

- Reduce troubleshooting time and risk of making errors
- Decrease downtime, maintenance, and costs
- Capture knowledge of your best operators and reduce training time
- Record and track work processes for compliance

Fourth-generation HMI/SCADA also bridges the gap between operations and maintenance. When an out-of-spec event takes place in the SCADA, operators can trigger a work process to interface with the CMMS/EAM system, secure a work order number, send specific instructions including GIS location, and facilitate corrective action to remediate the problem.

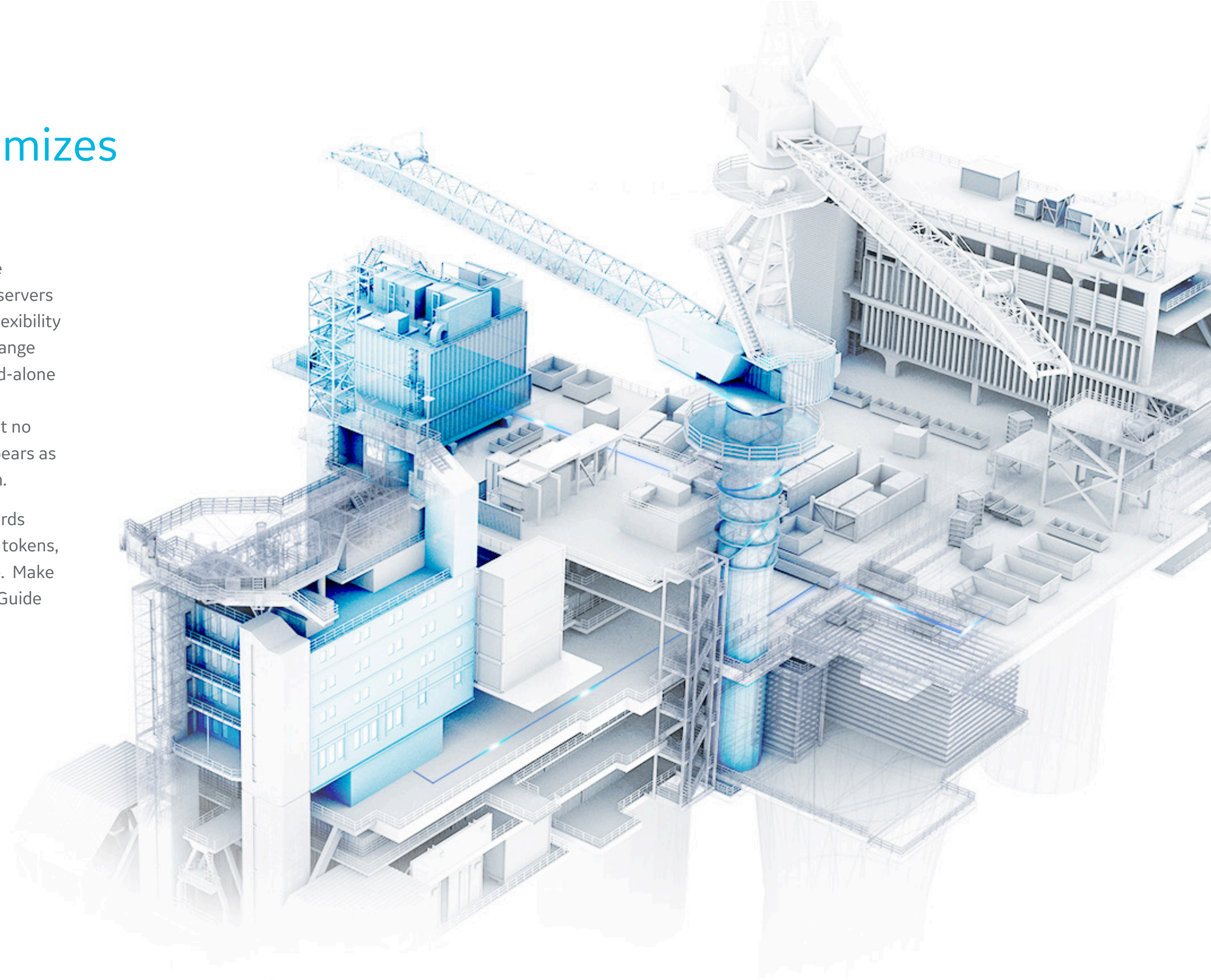
The result: real-time, condition-based management of your operations.



Highly extensible architecture maximizes your options

The iFIX distributed client/server architecture incorporates any combination of distributed servers and distributed clients, providing maximum flexibility for system design. Deployment possibilities range from a single computer running iFIX in a stand-alone HMI application to a large networked system with many distributed clients and servers. But no matter how complex the application, iFIX appears as a single, high-performance integrated system.

iFIX leverages open, secure-by-design standards such as OPC UA, digital certificates, and Web tokens, which means you can deploy with confidence. Make sure to read GE Digital's Secure Deployment Guide for best practice recommendations.





iFIX 6.1

Our latest release - iFIX 6.1 - offers several core enhancements to decrease deployment time, while increasing operational efficiency in a highly secure-by-design method to improve equipment uptime and reduce cost and risk. These enhancements include a new native OPC UA client driver, web-based configuration with automatic tag population in the iFIX database, new High Performance alarm-related Dynamos, and more.

To Learn More

Visit www.ge.com/digital/products/ifix

Award-Winning Support from GE Digital

Let us help by ensuring that your organization continues to operate at its highest efficiency, all while mitigating risks to your investments →