

Solutions for the Chemical Operations Executive

The rapid expansion of the chemical industry in recent years has created new challenges for chemical plants. In order to adapt to the demand of the growing chemical market, industry executives must utilize new technologies, resources, and solutions to remain competitive. In response to this growth, Yokogawa has identified four key trends transforming the chemical industry and offers solutions for companies to achieve success in this evolving market.



Digital Transformation



Availability & Uptime



Aging Workforce



Cyber Attacks



Rising Trends Transforming the Chemical Industry

The world's leading chemical companies partner with Yokogawa as a full scope automation partner to achieve operational excellence, reliability, and safe operations. Yokogawa is committed to delivering solutions across the entire plant lifecycle that meet the evolving needs of the market.

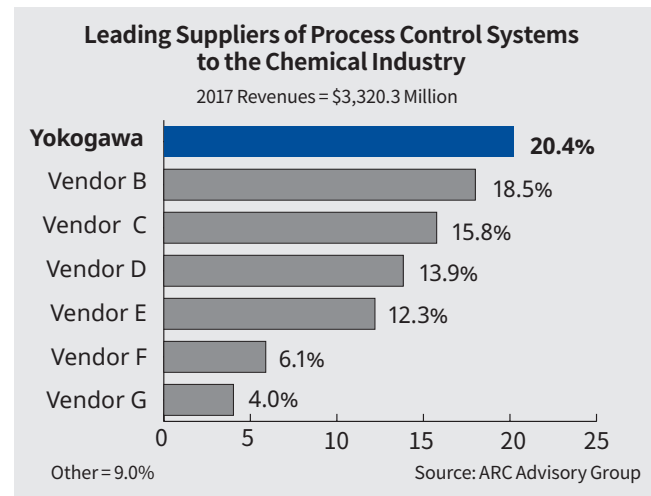
As a part of our dedication to helping executives maneuver the ever-changing chemicals market, Yokogawa has identified the following four trends as the most critical factors transforming the industry.

Digital Transformation Opportunities Await Realization

Industry Challenge: The remarkable pace of technology is creating significant changes and opportunities in the business environment. Yet industry surveys show that less than 5% of chemical companies have successfully executed a digital transformation. Business leaders are eager to unlock the value of digital but are unclear about how to approach and execute.

Solutions: Organizational strategy is built with business improvement objectives and outcomes that are implemented through a combination of people, process, and technology.

Digital transformation is a journey that integrates a wide variety of applications, technologies, and business processes in line with a company's aims.



Yokogawa delivers value to the process industry by focusing on smart manufacturing; optimizing the supply chain; improving the decision-making process; changing the culture, organization, and mindset; creating new business models, and generating further revenue.

Yokogawa co-innovates with customers by:

- Identifying where they are in the digital transformation journey
- Defining potential value creation opportunities
- Assembling a team of professionals with deep chemical domain knowledge
- Deploying solutions that maximize efficiency and increase profits

Availability and Uptime are Linked to Total Cost of Ownership

Industry Challenge: Unplanned shutdowns and outages continue to upset operational performance. The loss of production, waste of energy, and other inefficiencies directly impact the bottom line. Root causes can range from aging equipment to inadequate maintenance workflow, and limited operations personnel expertise.

Chemical companies are seeking to achieve the highest levels of asset integrity and availability, while continuously driving down the total cost of ownership (TCO).

Solutions: Plant safety, availability, cost efficiency, and operational excellence are ingrained in all aspects of Yokogawa. It is in our products, services, mindset, and culture.

Yokogawa's reliability, availability and maintenance consultants combine global best practices with a human performance approach and are enabled by technology applied across the organization. From process controls systems to instruments, analyzers, and plant asset management, Yokogawa works with customers to deploy asset performance management solutions that maximize plant uptime and availability.

An Aging Workforce is Affecting Operations

Industry Challenge: The effects of an aging workforce are beginning to show in plant operations. One major chemical company analyzed their demographics and found that they would soon lose 75% of their operating staff due to retirement.

Solutions: Yokogawa offers Modular Procedural Automation (MPA), Operator Training Simulators (OTS), and other operational support solutions. As experienced operators begin to retire, some procedures with manual intervention are at risk of being lost. Implementing modular automation and providing training solutions to reshape a new workforce is critical to mitigating risks. Yokogawa solutions reproduce actual plant behaviors that provide realistic operations training. Virtual plant training gives customers the knowledge of how to best respond to various emergency situations, which contributes to reductions in time and cost, while improving control strategy, productivity, and efficiency.

Increased Risk of Cyber Attacks

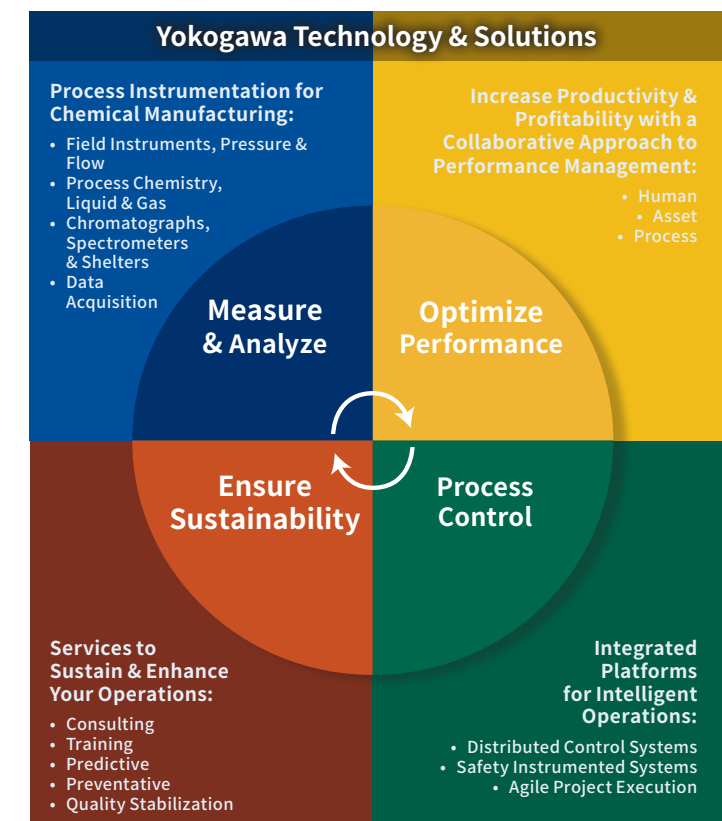
Industry Challenge: Industrial producers around the world face cyber threats in this increasingly connected world, which pose a pervasive threat to safety and system availability. Without a perpetually strong cyber security solution,

15 of the 15 largest chemical companies rely on Yokogawa for control and automation solutions

plants and corporate networks are targets for hackers.

Solutions: Yokogawa, in partnership with Cisco, provides industry leading

SecurePlant™ cyber security services to the chemical industry. These cyber security services help customers implement proper security solutions for their plants to ensure safe operations and reduce risks. This end-to-end cyber security approach provides effective measures that also deliver increased business agility and risk awareness, decreased operational costs, and reduced downtime.



Yokogawa control solutions are deployed at **over 7,300** chemical facilities around the world

Success Stories

“Yokogawa’s CENTUM Batch is used to automate a wide range of Reichhold’s batch processes and multiproduct/multipath processes, thereby demonstrating ease of use, outstanding reliability, and sophisticated functionality. Using the CENTUM Batch package, Reichhold has reduced lifecycle engineering costs, shortened time to market, improved plant performance, and kept unexpected control failures to a minimum. Reichhold has now standardized all of its process control systems in the U.S. with Yokogawa’s CENTUM system because of its high reliability. Yokogawa hardware is very reliable. The availability of more than 99.99% is really amazing.”

Roja Challa, Process Control System Advisor, Reichhold

“The Iowa Fertilizer Company would like to recognize all the hard work and continuous efforts of the Yokogawa team to get an OTS system ready for use at IFCo. We want to especially commend the dedicated time to get the system to a point where our IFCo team can test as it is being engineered. Also, IFCo commends the Yokogawa team for implementing an enormous amount of DCS-ESD (Emergency Shutdown) items that were not in the initial scope of the project, but were made to IFCo’s specifications. This will help IFCo continue making forward progress to fulfill the mission effectively. It has also allowed DCS-ESD designers to review and change all of the findings discovered through the OTS, leading to an important saving of time on the future DCS-ESD SAT tasks to be performed.”

Shawn Rana, President, Iowa Fertilizer Company

“Making use of Yokogawa’s different control platforms having unique specifications but the same well known ‘look and feel’ operator interfaces allows [Safripol] to avoid extensive operator training. This provides both the right control philosophy on the plant floor and makes use of the existing management information software tools. The changeover was virtually bumpless.”

Mike Dukas, Process Control Engineer, Safripol



YOKOGAWA 

Co-innovating tomorrow™