

Specialty Chemical Solutions

Yokogawa's Vigilant Plant solutions deliver visibility, predictability and agility for your chemical business



Specialty & Fine Chemicals

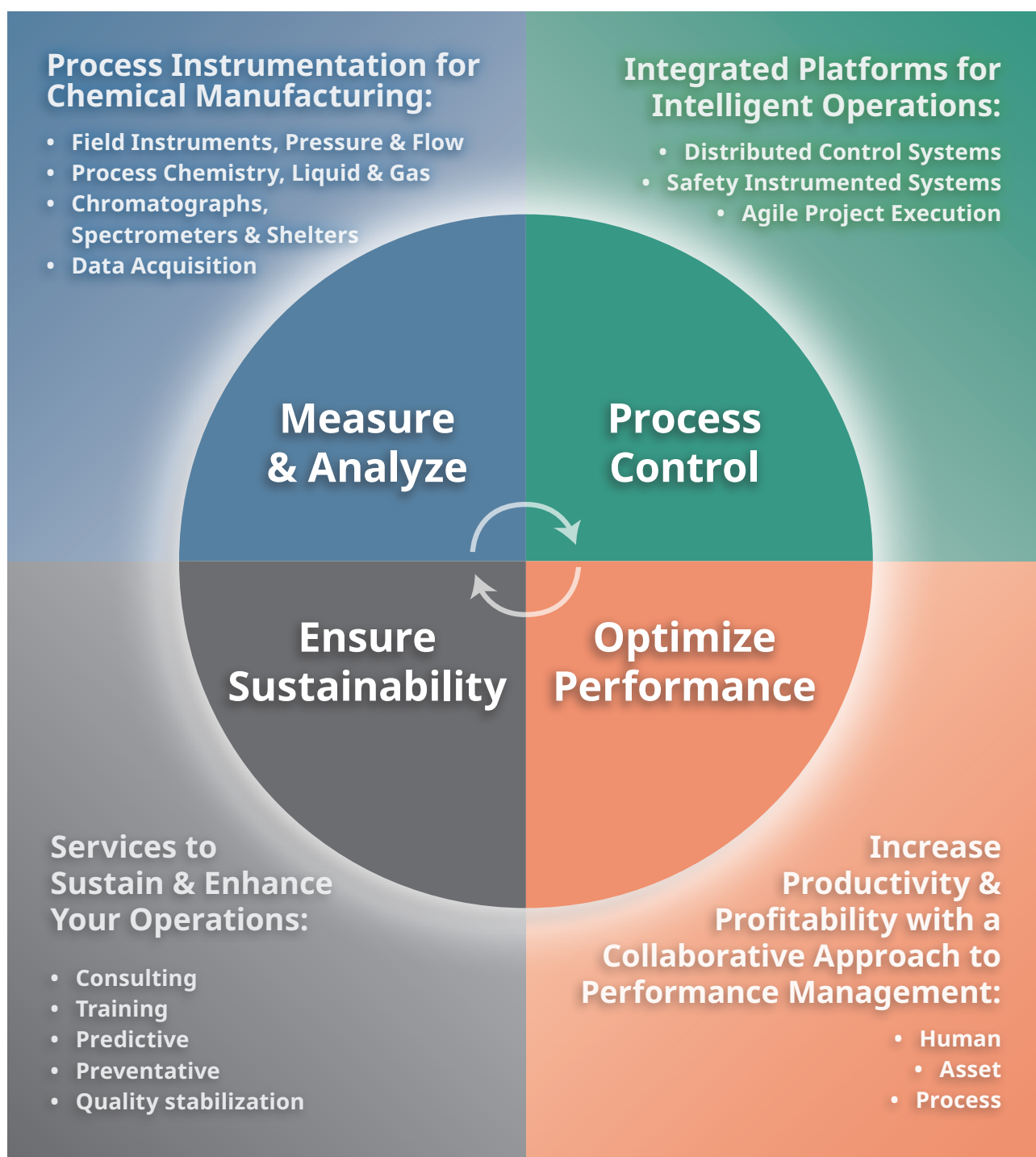
Producers in the specialty and fine chemical market face many challenges. Research driven innovation and the rapid introduction to market of products to meet your customer's needs is the key to profitability. Additionally, you must also be looking into the future to meet the requirements for products and solutions for your customers tomorrow.

Yokogawa has long served customers in the specialty and fine chemicals market. With a market leading batch solution that offers the best in class reliability and flexibility as well as industry experts who understand the complex requirements in designing a batch solution, you can be assured that in your partnership with Yokogawa you will have a system that will enable you to produce products that meet your customers' needs in the future while maintaining safety and regulatory compliance.



Co-innovation with Yokogawa for success

At Yokogawa, Co-innovation is a concept emphasizing co-creation of new value for you and your customers. With our industry and technology solution experts. Learn how to leverage Yokogawa's platform and solution portfolio for process control, measurement and analysis, optimizing performance, and ensuring sustainability across your manufacturing operations.



Flexible and reliable batch process control —

a critical capability for specialty chemical manufacturing

For over 20 years Yokogawa has utilized the industry standard for batch control ISA-88(IEC 61512-1) which provides a consistent set of models and terminology for batch control and defines the physical model, procedures, and recipes.

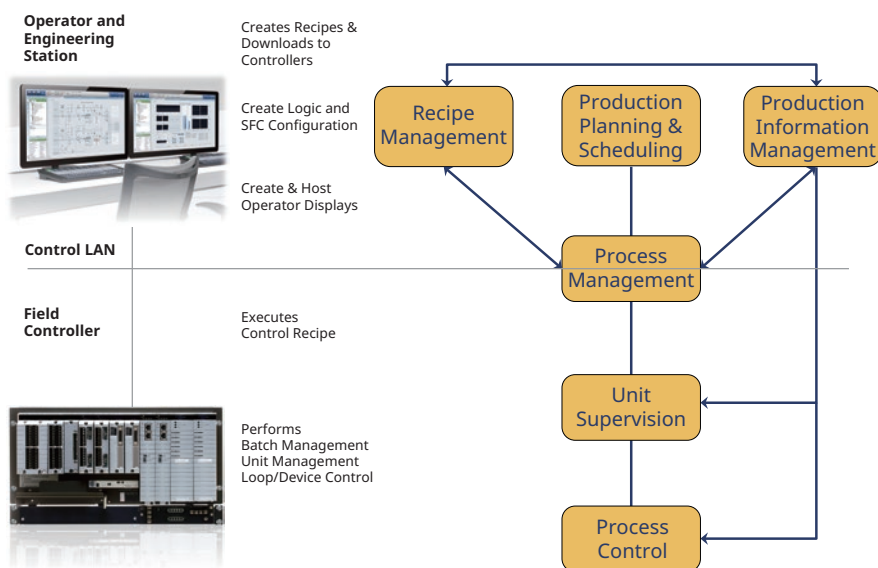
Specialty chemical manufacturers following the ISA-88 standard have greatly benefited by automating their process and maintaining their production flexibility so they can rapidly produce new products to the market while meeting high quality standards. Yokogawa's CENTUM batch system was designed with

ISA-88 in mind and has built in capabilities based on the standard for instance:

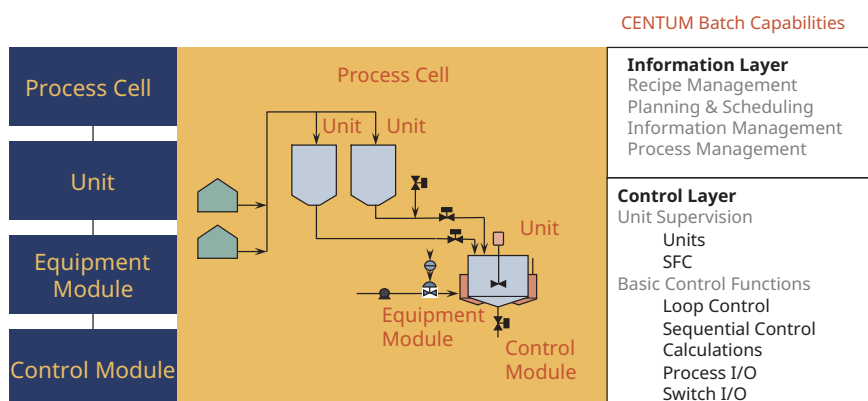
- The physical model is where you map activities to plant hierarchy. CENTUM VP Batch has a builder that maps the physical equipment in your plant. This is used in the batch logic as well as security and alarming.
- The procedural model where by control of a batch is described through procedure and implemented as an SFC in our highly flexible procedural builder. In CENTUM VP batch unit procedures, operations, and phases are run in the controller which allow the system to achieve fast execution and the most reliable batch system on the market.

- Recipe management is composed of functions to categorize recipes into groups and allow you to generate, edit, save, and load master recipes. CENTUM VP Batch has an intuitive recipe editor that enables your Chemists or Formulators to easily make formulation or procedural changes to recipes to meet your customers' requirements.

CENTUM VP Batch Relationship to the ISA-88 (IEC/61512-1) Activity Model



CENTUM VP Batch Fits the ISA-88 (IEC/61512) Physical Model



Success Story

High Reliability and System Flexibility Assured through Yokogawa's CENTUM DCS Production Control System Batch Package

With 19 manufacturing sites and four technology centers in 13 countries, Reichhold is one of the world's largest suppliers of unsaturated polyester resins for composites and a leading supplier of coating resins for a wide variety of markets and applications. Reichhold is committed to being the preferred and responsible supplier of both conventional and specialty products to an increasingly diverse group of global customers. One of their main plants is in Morris, Illinois USA and has been using Yokogawa control system for over 20 years.

Production excellence with CENTUM Batch

More than 200 main recipes and 50 blending recipes are used in eight reactors and blending tanks at the Morris plant, and reaction times vary from eight to 28 hours. In addition to preventing contamination, it is important to maintain efficient production operations by optimizing the utilization of resource cycle times and minimizing downtime. Yokogawa's CENTUM Batch package supports the complex batch operations at this plant. The CENTUM Batch package includes flexible and scalable batch management software for centralized recipe/process management and distributed unit supervision. CENTUM Batch is used to automate a wide range of Reichhold's batch processes and multi-product/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.

A large amount of operational data that is vital for making business decisions on productivity, quality, and safety was transferred from the CENTUM DCS system to an existing data historian system via an OPC interface. Reichhold analyzes this data to identify improvements that can be made to operations.

Integration of CENTUM DCS with all subsystems

Subsystems such as the raw material weighing system, safety shutdown system, and product shipping system at the plant locations including the truck loading station and drumming area are all integrated with the CENTUM DCS production control system, allowing operators to clearly see at a glance on graphical displays what is happening throughout the plant and take immediate corrective action when necessary. All process data and production related data is transferred to the plant historian system. The information collected by the plant historian is utilized to improve quality, safety, and production efficiency.

Customer Satisfaction

Roja Challa, Process Control System Support Adviser, stated, "We are very happy using the Yokogawa system and products. We are manufacturing various kinds of resin products with different formulas and are doing this on time and on specification." He went on to say, "Reichhold has now standardized all of its process control systems in the US 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."



Locations

Worldwide Business Operations



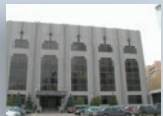
Yokogawa Corporation of America Headquarters
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Yokogawa Corporation of America
(Newnan, GA USA)



Yokogawa Europe
(Netherlands)



Yokogawa Russia
(Moscow)



Yokogawa Canada
(Calgary)



Yokogawa de Mexico
(Mexico City)

Engineering Centers for Chemical Industry

United States

Newnan, GA

VigilantPlant Solutions

Batch Chemical Center of Excellence

Analytical Instruments

Sugar Land, TX

Analyzer Systems

VigilantPlant Solutions

Clear Lake, TX

Advanced Analytical Systems

Dallas, TX

Solution and software R&D

United Kingdom

Plant Information

Solutions

Netherlands

Vigilant Plant Solutions

Analytical Instruments

Brazil

Vigilant Plant Solutions

Measuring Instruments

Germany

VigilantPlant Solutions

Batch Chemical Center of Excellence



Yokogawa Middle East
(Bahrain)



Yokogawa
Engineering Asia
(Singapore)



Yokogawa China
(China)

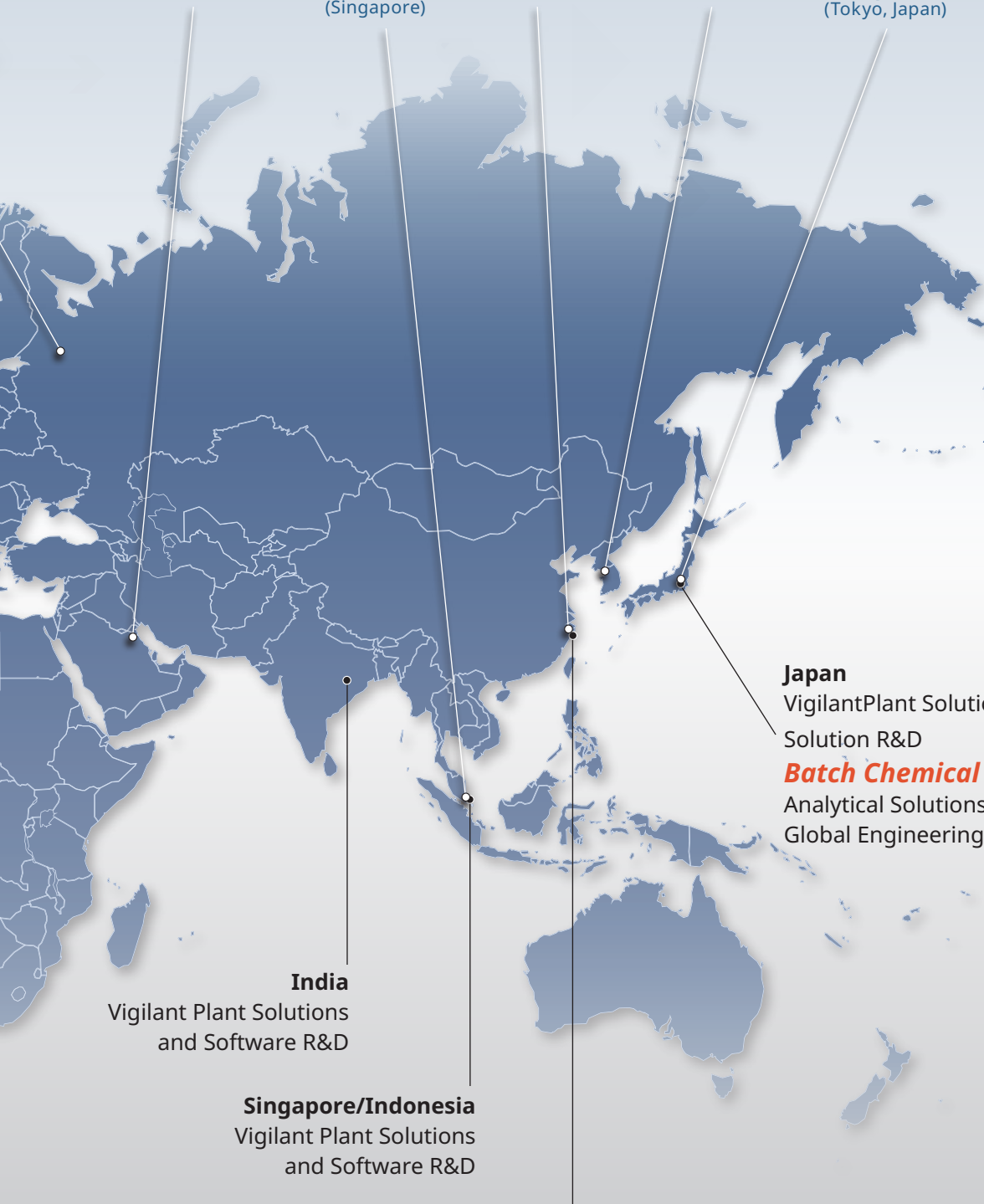


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(Tokyo, Japan)

Global Network
Supporting
Business
Growth



Japan

VigilantPlant Solutions

Solution R&D

Batch Chemical Center of Excellence

Analytical Solutions

Global Engineering Center

India

Vigilant Plant Solutions
and Software R&D

Singapore/Indonesia

Vigilant Plant Solutions
and Software R&D

China (Shanghai)

Vigilant Plant Solutions



Yokogawa's global commitment to the Chemical Industry

Yokogawa is the world leader in automation solutions to the chemical industry. As a global player, we have strong local support in any region that you run your business. With global centers of excellence, automation and process engineers, consultants, and automation project managers, you can count on us to help you with any application in the chemical industry.

vigilantplant.®

The clear path to operational excellence

VigilantPlant is Yokogawa's automation concept for safe, reliable, and profitable plant operations. VigilantPlant aims to enable an ongoing state of Operational Excellence where plant personnel are watchful and attentive, well-informed, and ready to take actions that optimize plant and business performance.

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