

## **Sophisticated, Reliable and Scalable**

# **CENTUM CS3000 R3**

The CENTUM CS 3000 R3 integrated production control system has evolved into the world's most scalable control system – supporting small to large - size applications.

As a result of the recent technology evolution, many new features needed for small to medium size plant control systems have been added to the CENTUM CS 3000 R3 – minimizing costs while maximizing performance.

The CENTUM CS 3000 R3 will continue to evolve with technology and remain a scalable control system that maximizes asset productivity.

**Technology evolution enhancements to the CENTUM CS 3000 R3 include:**

Controller evolution

Human Machine Interface evolution

FOUNDATION fieldbus evolution

PROFIBUS evolution

μXL evolution

Bulletin 33Q01A01-02E

[www.centum.jp](http://www.centum.jp)

**vigilantplant®**  
The clear path to operational excellence

**YOKOGAWA** 

# Controller Evolution

A compact, highly reliable yet sophisticated controller (FFCS)

## Compact and Expandable

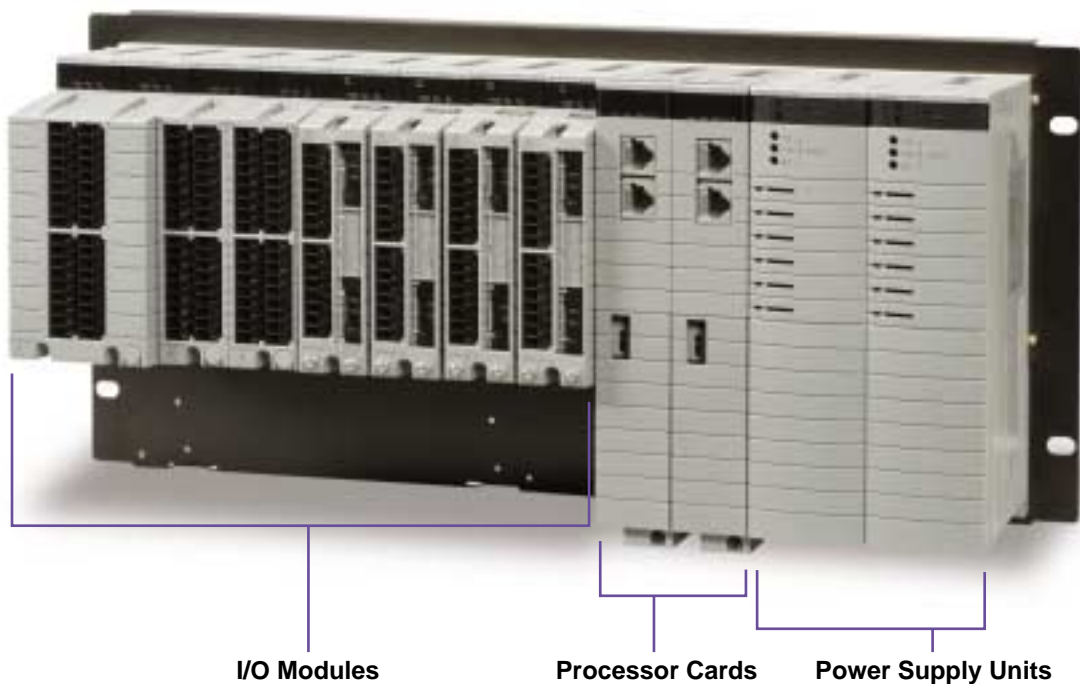
The most suitable controller for small-scale control system, FFCS has been put in CENTUM CS 3000 R3 controller product family. The FFCS is a compact model; its height has been reduced by 60% of earlier models. Moreover, up to three I/O nodes can be added to one FFCS. Thus, the control capability of a system can be enhanced without adding additional controllers.

## Highly Sophisticated

Though the controller is compact, it has all the sophisticated control functions of a larger size controller. The application capacity has been greatly expanded - compared to earlier compact models - delivering more application expansion capacity and asset productivity.

## High Reliability

The processor cards, power supplies, communication buses and input and output modules can all be redundant. The processor cards also utilize the Pair and Spare system, the same technology deployed in large-scale controllers. In case of a malfunction, the control is bumplessly switched from one processor to another eliminating any impact to the control schemes.



New Controller (FFCS)

# $\mu$ XL Evolution

Designed to generate maximum value for minimum cost

## The Necessity to Evolve

Yokogawa is proud of the operability and controllability of the  $\mu$ XL. To upgrading the system to meet 21st century control system demands, we suggest a "Phased Migration" strategy to include important network functions.

## Phased Migration

Phased migration is a way to migrate an existing  $\mu$ XL in two simple steps. First we upgrade the HMI and then the control units. The most important network configuration is realized in the first step. Each migration step is accomplished with a minimum of plant downtime. It is therefore possible to reduce the amount of lost opportunity and to simultaneously enable incremental investment.

## Maximizing Existing Asset Value

Phased migration is not only a simple migration of  $\mu$ XL, but also a way to optimize existing assets such as hardware, software and operational expertise. Therefore, a  $\mu$ XL customer can efficiently migrate the control system to the latest scalable technology - CENTUM CS 3000 R3 - with minimized cost.

## Human Machine Interface Evolution

The elements needed to expand the DCS's operation and monitoring capabilities have been included in this enhanced product.

### Expansion of Operation and Monitoring Capabilities

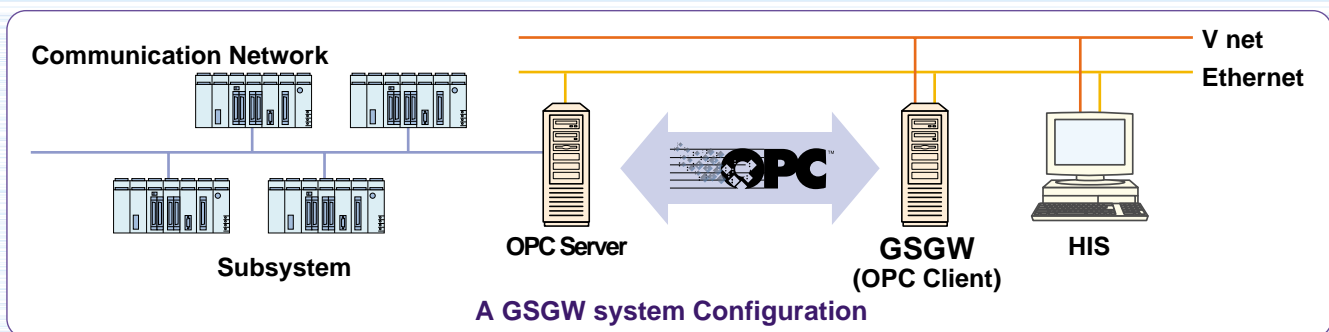
A generic subsystem gateway (GSGW), which uses an industry standard interface for subsystem communications (electrical or mechanical subsystems for example) is now included. GSGW makes it easy to integrate an upstream to down-stream monitoring application.

### Introducing the OPC DA industrial standard interface

An OPC DA interface, now the industrial de facto standard, is used as the communication interface. With the OPC DA interface, CENTUM CS 3000 R3 can be easily connected with a greater number and variety of machines supplied by various manufacturers. Also, this technology makes it easier to support newer models in the future.

### Standardized Operating Environment

GSGW contains various types of operation and monitoring function blocks. Data monitoring, data setting, equipment start/stop and annunciator triggering are all performed in a standard operation and monitoring environment for the controller.



## FOUNDATION fieldbus Evolution

The FOUNDATION fieldbus technology, typically considered for large-scale control systems, now can be applied to small and medium size control systems.

### Integrated Engineering, Operations and Monitoring

The CENTUM CS 3000 R3 integrates FOUNDATION fieldbus (FF) engineering functions and FF operations and monitoring. Thus, FF function blocks can be handled in an identical manner as standard function blocks making engineering, operations and monitoring much more efficient.

### Completely Redundant System

FF interface modules are designed to be completely redundant. As with our other process I/O modules, seamless switching and online - hot swap - exchange capability is provided. A module failure will not affect plant operations. As a result, the reliability of a FF system has been dramatically improved.

### Efficient Maintenance: Plant Resource Manager (PRM)

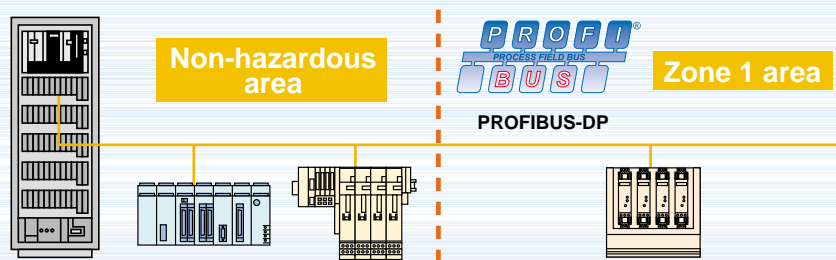
PRM greatly improves maintenance efficiency by integrating the execution and control of maintenance information with the network. PRM integrates the control of the maintenance schedules, maintenance parts, maintenance history and all maintenance information from intelligent field devices. Moreover, monitoring field device operational status, viewing and changing tuning parameters and online diagnosis can all be performed through the network.

## PROFIBUS Evolution

The FFCS fully supports PROFIBUS DP-V1, which is the de facto fieldbus for discrete automation.

### FOUNDATION fieldbus + PROFIBUS

The latest PROFIBUS DP-V1 specification is fully implemented so that various types of explosion proof devices can be easily and safely connected. A redundant configuration can be designed following the PNO's recommendations.



A PROFIBUS System Configuration

# CENTUM CS3000 R3

CENTUM,  $\mu$ XL, vigilance and vigilantplant are registered trademarks of Yokogawa Electric Corporation.  
Other product or company names in this bulletin are trademarks or registered trademarks of their respective holders.

A Yokogawa Commitment to Industry

**vigilance**<sup>®</sup>

quality

innovation

foresight

What does Yokogawa **vigilance** mean to the future of your business? **Quality**. Through products that are built from the ground up and tested to the last hour, you're ensured continuous operation and more uptime. **Innovation**. Your business will benefit from new insights and capabilities, bringing true predictability to your process. **Foresight**. As the market changes, you'll have solutions that give you the continuity and flexibility to plan ahead and grow. Our partners know the difference. With Yokogawa, you can count on a lifetime of plant efficiency, from instrumentation to operation support. Let us be vigilant about your business.

#### YOKOGAWA ELECTRIC CORPORATION

##### World Headquarters

9-32, Nakacho 2-chome, Musashino-shi, Tokyo 180-8750, Japan  
<http://www.yokogawa.com/>

#### YOKOGAWA CORPORATION OF AMERICA

2 Dart Road, Newnan, Georgia 30265, USA  
<http://www.yokogawa.com/us/>

#### YOKOGAWA EUROPE B.V.

Databankweg 20, 3821 AL Amersfoort, The Netherlands  
<http://www.yokogawa.com/eu/>

#### YOKOGAWA ENGINEERING ASIA PTE. LTD.

5 Bedok South Road, Singapore 469270, Singapore  
<http://www.yokogawa.com/sg/>

#### YOKOGAWA CHINA CO., LTD.

K. Wah Centre 28, 29F, 1010 Huai Hai Zhong Rd., Shanghai 200031, China  
<http://www.yokogawa.com/cn/>

#### YOKOGAWA MIDDLE EAST B.S.C.(c)

P.O. Box 10070, Manama  
Building 577, Road 2516, Busaiteen 225, Muharraq, Bahrain  
<http://www.yokogawa.com/bh/>

Represented by :