



OpreX™ Asset Operations and Optimization

Plant Information Management System Exaquantum



Why do you need Exaquantum for your business?

Plant data is the bedrock for all process information solutions. As such it needs to be easy to capture and easy to access. Based on open standards, Exaquantum enables this and also significantly reduces the traditionally massive engineering costs of implementation.

Using Microsoft Windows and thin-client technology means that wherever your staff is located, they can access key data.

The easily customizable Exaquantum user interface provides the information required to support decision-makers across the enterprise. Incorporating the standard Microsoft look and feel, the easy-to-use interface can be made available to your personnel to perform a wide range of job functions. These range from the shop floor to the boardroom, with end user-defined security mechanisms that provide effective management of sensitive information.

Open OPC-based connectivity means a minimum engineering and maintenance environment for interfacing with the Yokogawa Centum DCS family and all major automation platforms. Similar open interfaces, including OPC and S88, enable seamless integration from Exaquantum into the production Management and ERP layers within the enterprise. Exaquantum delivers an interoperable middle-ware software solution which also provides value-added information and applications to support Operational Excellence initiatives.

With Exaquantum, you are buying into Yokogawa's world-renowned reliability and a proven process automation partner that boasts a higher level of R&D investment than any of its competitors. **Yokogawa stands by its promise to customers of "building the future to last".**



Actual development of Exaquantum was preceded by two years of extensive market and technology-based research to define the parameters that would allow us to create a market-leading product.

Simple to set up, simple to maintain, intuitive to use

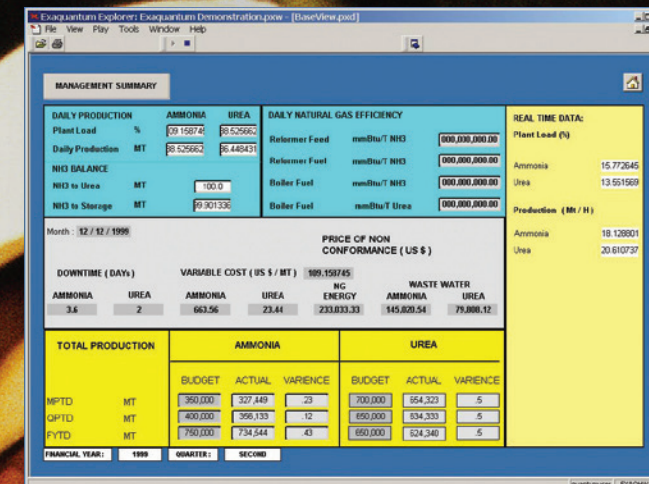
OPC technology has revolutionized process data handling. Instead of generating unnecessary data by constantly polling the process control system (PCS), OPC is event-driven. Data is only recorded when there is a change. This means more efficient data storage, no data loss and better database performance. Charts and information displays are returned faster with more information stored per disk automatically with a universal time stamp and integral quality status indicator.

System configuration is simple and fast, allowing rapid error free database configuration. Modifications can also be easily implemented using Exaquantum's advanced management tools. This achieves substantial initial engineering cost savings, which continues throughout the operational lifetime of the system. For example, when tags on the DCS are created or updated they can be mirrored within the Exaquantum database using OPC Data Browsing to provide a no hassle, no cost, total solution that works immediately.

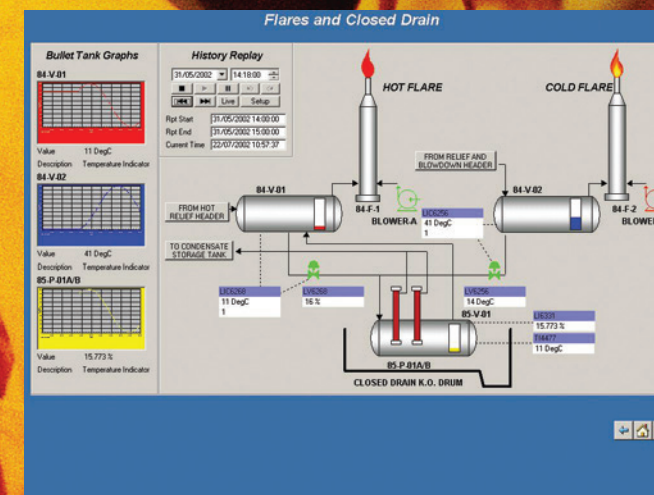
Tag data aggregations are also integral to the tags they are based on. When a tag is displayed on-screen from the Exaquantum Data Selector, not only is tag data shown but time-based averages, minimums, maximums, and other statistical information is instantly available based on a production calendar configured by the Exaquantum Administrator. Everything you need to know about that tag is accessible, from one easy-to-use information source.

With Exaquantum tags are no longer listed in flat, uninformative lists. Now users can view tags grouped logically into operational folders with descriptive names.

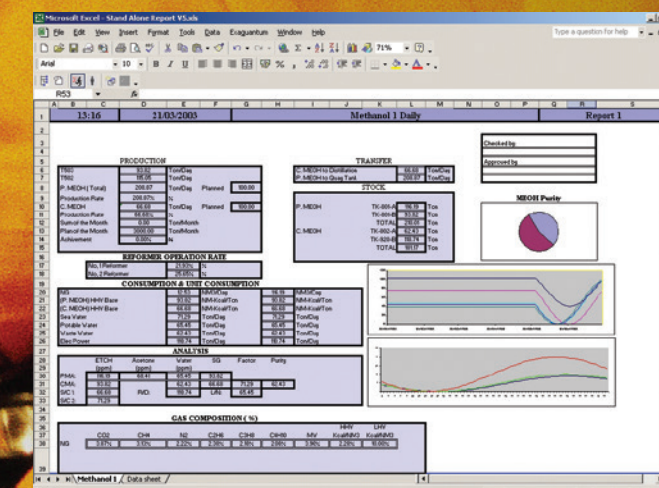
With Yokogawa's powerful Role-Based Name Space (RBNS) technology, **users see those information pertinent to their job function.** For instance, the Utilities Manager sees the typical performance criteria (efficiencies, throughput, etc.), whilst the Operations Manager sees Production related information (Costs of Production, downtime, Production throughput). The right information is available to the right people, in real time, at a glance using a hierarchy and naming system that makes sense to their job function.



Management summary



Process graphic incorporating trend data



Excel report

A base for your operational applications

By using Microsoft's industry-standard **SQL Server database**, it is simple and straight-forward for third party applications to access the Exaquantum database. The interoperability provided by using the ubiquitous SQL database means connectivity is not an issue.

Exaquantum client and server **OPC connectivity** provides robust industrial connectivity for data-intensive applications. ODBC, OLE DB, CSV and API interfaces are also available. This wide range of connectivity is complemented by the powerful Exaquantum Microsoft Excel add-in, incorporating the Exaquantum Data Selector which supports the use of drag & drop functionality, removing the need for re-keying in data. All of this ensures your staff can work efficiently in a software environment they're familiar with.

Exaquantum supports **Excel spreadsheets** by providing live, historical and ad-hoc aggregation process data through to enterprise-wide real time business support systems, available globally via corporate web portals. Whether it's day to day data or long term strategic information, Exaquantum data is easy to access.

Yokogawa clients routinely use Exaquantum interoperability to create **wide-area integrated solutions**, combining their process data with laboratory information, maintenance & asset management systems and financial solutions such as SAP R3.

Highly experienced Yokogawa consultants are always available to advise and assist in creating some of the most advanced and beneficial solutions in the world. Information servers spanning country borders, time-zones and language barriers enable global businesses to view their plants as a single enterprise, ensuring knowledge is real-time and online, making every business decision an informed one.

In addition to the wide range of third party connectivity, Yokogawa offers a range of **Exaquantum application extensions**. The Sequence of Events Recorder is designed to analyze plant trips and shutdowns to improve operational safety. In the batch industries, the Exaquantum/Batch application has been designed for use in 21 CFR Part 11 environments, where Yokogawa applications are helping pharmaceutical companies satisfy the most demanding regulators.

Information your way, not ours

Flexibility is something many IT companies talk about but find difficult to deliver. Exaquantum does!

Information stored in Exaquantum can be viewed in the way you want to see it. Yokogawa understands that different companies work in different ways and require flexible solutions to meet their individual business needs.

Exaquantum enables you to define your own way of working – three eight hour shifts or two twelve hours shifts per day? It doesn't matter. You might work for two weeks on, and then two weeks off, so Exaquantum lets you analyze your data in that way.

Exaquantum makes it possible to **define aggregation periods to analyze your information in line with your operational practices**. Look at your data in a different way every day, combining days, weeks, months and years to view. With Exaquantum there are no limits on how you view your data.



Synaptic Business Automation creates sustainable value by connecting everything in our customers' organization. To realize this, Yokogawa integrates its business and domain knowledge with digital automation technologies, and co-innovates with customers to drive their business process transformation.

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