



Panoramic projection

ABB's new System 800xA Extended Operator Workplace
Per Lundmark, Ingemar Lidhamn, Marianne Lindeborg

At the Interkama Trade Fair in Hannover in Spring 2004, many visitors were attracted to ABB's stand for a very particular reason. What they saw generated an element of excitement and awe.

Members of the public were then looking at what is now the most modern and advanced operator workspace available on the market. This

sophisticated freestanding workplace, with its unusual ergonomic design, is comprised of four computer monitors and a large curved screen extending over the entire width of the desk.

Known as "System 800xA Extended Operator Workplace", it is the result of a collaboration between ABB and two Nordic companies, and it's about to make life in many plants a lot easier.

ABB's System 800xA is an IT-based computerized automation system with traditional functionality for operation and control as well as seamlessly integrated functionality for batch management, information management, field-bus and asset optimization. The System 800xA¹⁾ is intended for industrial and energy processes of different kinds. It can be used for both smaller sub-processes like those in water treatment plants as well as in process industries like complete pulp mills.

Using this system, personnel in process industries can, for example, monitor and control the process, undertake maintenance management, check production results and work with engineering.

System 800xA is based on ABB's patented Aspect Object™ technology and is fully compatible with earlier automation systems. In fact, it is an updated version of an earlier Industrial IT automation platform for supervi-

sion and control. This version, complete with new software for managing several computer monitors, was successfully launched in January 2004. The new software is intended to ease the work of the operators in control rooms in order to improve the efficiency and profitability of process industries.

System 800xA offers a unique building block approach to system evolution. Customers can add new functionality and migrate to larger configurations without having to "rip and replace" their existing systems. In the first eleven months since it was launched, ABB took orders for more than 500 of these systems in petrochemicals, chemicals, pharmaceuticals, biotechnology, pulp and paper, power generation, water, metals, mining and food and beverage.

During software development, two companies keen to establish closer ties with process industries contacted ABB. Creative Grafiska Möbler AB (CGM)²⁾, a Swedish firm, designs and manufactures control room furniture, and 3D-Perception AS³⁾, a Norwegian company, supplies advanced projectors for large overviews. ABB seized the opportunity to combine the know-how and products of three companies to create a complete workplace solution. The result is the new System 800xA Extended Operator Workplace **1** consisting of:

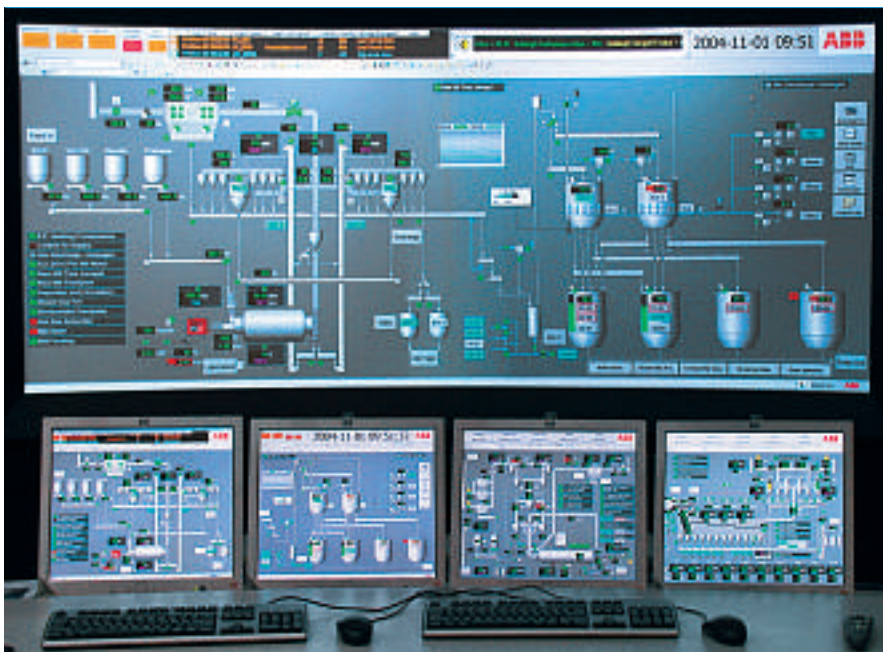
- Industrial IT System 800xA productivity enhancement software – the latest control system generation from ABB.
- A curved operator desk designed for a 24/7 environment. The desks are very stable even when motor-powered alternatives are used. Thanks to the modular system, it is possible to select accessories and functions according to each individual requirement.
- A large (two or three meters) overview screen and between one and six individual LCD monitors **2**. The large screen offers:
 - Ergonomic cylindrical screen
 - Multi-projector front projection
 - Seamless presentation
 - ±85 horizontal viewing angle

1 System 800xA Extended Operator Workplace

Using ABB's software customers can freely choose where information is to be presented on the monitors at the operator workplaces.



2 The way information is presented on the new extended operator workplace's remains unmatched.



Footnote

- 1) <http://www.abb.com/controlsystems>
- 2) <http://www.cgm.se>
- 3) <http://www.3d-perception.com>

- Easy set-up and adjustment software

The *COMPACTVIEW SX25+* projector, used for projection on to the large overview screen, delivers extremely high-resolution images and is compatible with most data and video sources (both analog and digital). Some of its outstanding features include:

- Geometry correction and edge blending functionality.
- Multiple lens options.
- It is Compact and light.
- Low noise.

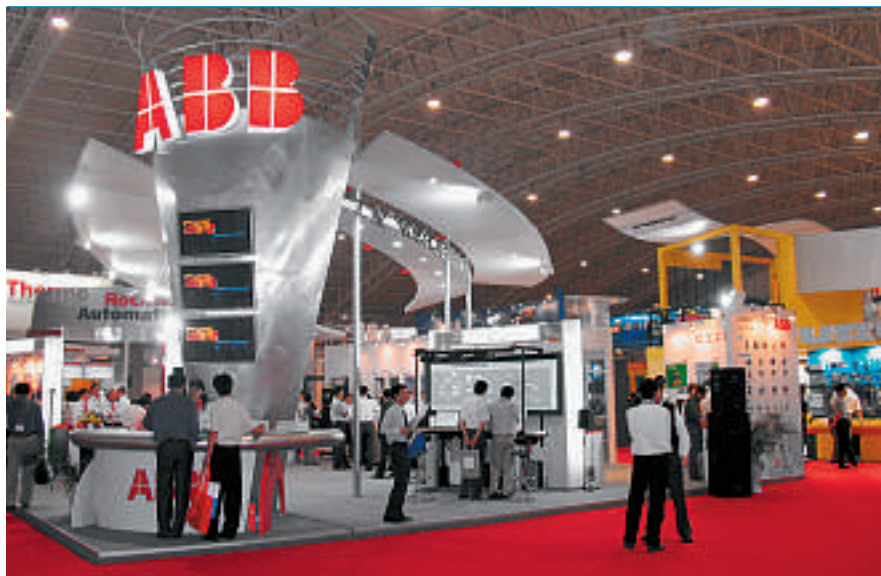
The extended operator workplace is suitable for use in all process industries such as on oil platforms, in power plants, paper mills and cement plants.

The System 800xA productivity enhancement software allows customers to decide how their information should be presented. They can decide where different kinds of information can be shown, on which monitor, where on the monitor and the size of the window. Operators can move displays from one monitor to another to show the current information. At the same time, the large screen can show an active overview display, trend graphs, CAD drawings or other relevant information. In other words, whatever the customer wants in terms of information presentation, he gets.

This is by no means the only advantage of the system. Other advantages of having such an operator workplace in a plant include:

- *Space requirements are minimized.* This is especially important in areas where space is not only expensive but also tight, eg, on an oil platform.
- *Faster decision-making.* The combination of a large screen, multiple monitors and adaptable advanced software provides a superior working environment in new and critical situations.
- *Perfect ergonomics for the human operator.* In addition to a perfect and seamless picture, the workplace adequately fulfils the Industrial standard for an operator environment.

3 ABB at the Miconex trade fair in China.



The new operator workplace makes ABB the market leader for operator environments and the company is certainly at the forefront of information management on several monitors. On top of this, Per Lundmark, one of ABB's System 800xA product managers for operation, says that it opens the door to a host of additional opportunities for existing ABB customers or as a gateway into System 800xA for new customers.

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System 800xA extended operator workplace was exhibited at the Interkama fair in April 2004 to rave reviews. It has also been presented at a similar trade fair, Miconex, in China ³ and at the ONS fair for the offshore industry in Stavanger, Norway to similar reviews. In addition, the workplace was demonstrated in Västerås in November when ABB presented its latest technology developments to the world press.

The future

ABB, CGM and 3D-Perception will continue to cooperate to further develop the operator workplace.

Footnote

4) IFE (<http://www.ife.no>) is an international research centre for nuclear and energy technology.

Currently, a copy of ABB's Extended Operator Workplace is being used in a research project at the Institute for Energy Technology (IFE)⁴ in Norway. As part of its ongoing activities, IFE is investigating suitable operator environments for nuclear power plants. ABB will act on any recommendations issued by IFE to help with the advanced development phase as well as ensuring a high level of quality and reliability.

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