

ABB'S INDUSTRIAL IT

- THE WAY TO TRUE INTEGRATION IN P&P

THE PAPER PROCESS IS MERGING MORE AND MORE FUNCTIONS UNDER THE SAME CONTROL AREAS. THE WALLS AROUND THE TRADITIONAL DISTRIBUTED CONTROL SYSTEMS HAVE COME DOWN. NOW, WITH INCREASING AMOUNT OF DEVICE LEVEL INTELLIGENCE AND CAPABILITIES, THE TRULY INTEGRATED SOLUTION REQUIRES A SUPERIOR FUNCTIONALITY AS AN INHERITANCE FROM DISTRIBUTED CONTROLS.

By Leif Lindberg



Spurred by major developments in computer-to-computer communications technology and interface standards, the automation systems in pulp and paper mills are evolving into networks (strikethrough: where process controls and machinery controls are intertwined) with enhanced information management capability.

ABB's decades of experience and hundreds of projects have honed the automation platform, dedicated controllers and drive design in the right direction towards integration and finally towards Industrial Information Technology (IT) solutions enabling seamless millwide functionality to be achieved.

Industrial IT is the name of the pulp and paper practice that combines ABB's integrated automation solutions, comprehensive services, deep industry knowledge, and common global processes. The Industrial IT practice dramatically improves the quality of information that papermakers acquire and use for more successful decisions.

INTEGRATION RELIES ON DATA COMMUNICATIONS

Open protocols alone are not enough. In paper making, a typical form of integration in the past has been combination of paper machine drive control and process control. From the machine control point of view, the combined drive control and machine control itself is a natural fit.

In ABB's automation concept this first combination has already been successfully implemented since the mid 80s. But – open communication standards were yet to come, meaning that automation was based on proprietary communication.

In the recent complete automation deliveries, where ABB automation platforms and drives have been selected as a truly integrated solution, the paper machine control logic as well has been integrated in the same platform. Visy Paper in Australia and Dagang in China, both ones extensive composite plant solutions, are excellent examples of such integration. It offers the same I/O, the same tools, excellent data communications and CPU utilisation which is optimised for each control area.

In both examples, the I/O is accomplished with ABB's S800 units, machine control is installed in ABB's Advant Controller (450) stations, and the drive controls are located in Advant Controller (80) stations.

BASIC FUNCTIONS OR EVERYTHING INCLUDED?

To create automated system intelligence, experience and in-depth know-how must be extremely solid. The expression seamless integration will take on a new meaning. Uniformity in sim-

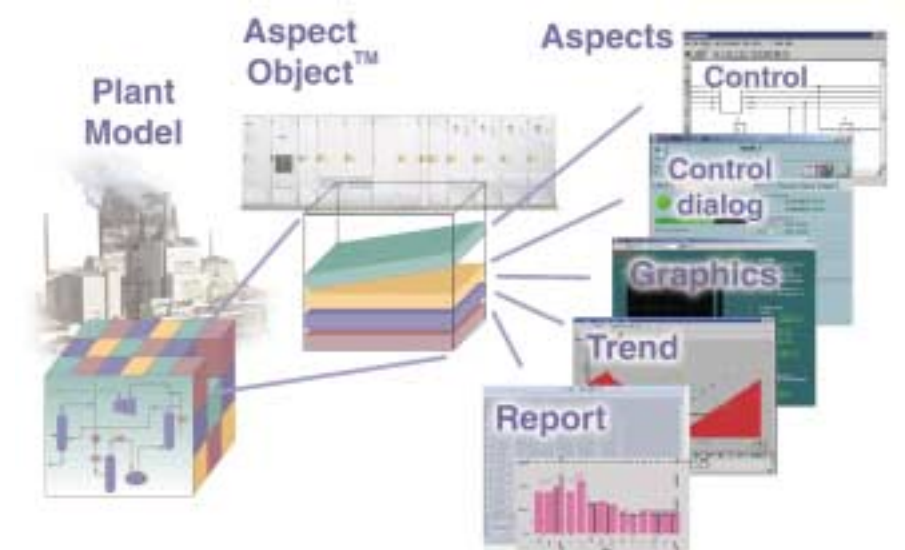
ple terms means the same look&feel of controls, parts, documents, configurations and tools.

The uniformity must include a name-based configuration of drive systems, quality control systems, web inspection systems and process controllers. It should include data collection between systems by uniform interfaces: having the OPC interface brings us only halfway there, since it must be pre-designed with detailed uniformity, too. Different diagnostic, programming and maintenance tools attached to one system platform should work in a uniform manner.

The whole subject in its own right is in-depth product documentation, which ought to be available directly from system servers. It requires a significant development effort even to create a uniform documentation for such a wide range of products as those included in process, drive and machine controls. From the drives point of view it is a great advantage to link HW and application SW using ABB's AspectObject' platform.

INDUSTRIAL IT - THE TRUE INTEGRATION STORY

Integration of process, machine and drive controls must not lead to moving costs pocket-to-pocket, or shift



coats to a later point in the paper machine life cycle.

The True Integration is a giant leap to better paper making processes and customer success. If all the pitfalls are realised and poorly supported solutions can be avoided, the anticipated cost efficiency can be achieved.

Depending on the customer and individual needs Industrial IT could be as simple as an open control system automatically configuring instruments for a new paper machine, or it could integrate thousands of complex sys-

tems across a vast, integrated pulp and paper mill.

Regardless of scale, Industrial IT characterises the intellectual expertise that ABB blends with its automation products to achieve a larger goal. In the field of pulp and paper and papermaking, Industrial IT is defined as the real-time integration of automation and information systems in support of three primary customer objectives: Decision Support, Asset Optimization and Global Processes. •