

## Printing Industry PRODUCTION DATA ACQUISITION AND MONITORING

In 2009, printing house Helprint chose Prosys to be its production system development partner. Collaboration has produced a solution, which integrates ERP system and machine control, and renews production data acquisition, monitoring and reporting. In 2010, co-operation continues by increasing system functionality and extending use of the system to additional machines.

Helprint is the largest gravure printer in the Nordic countries and part of CirclePrinters group. Its customers include leading magazine publishers, retail chains and advertising agencies. Print runs generally range from 100,000 to several million copies.

The new system acquires and integrates data from different data sources and software systems into a unified entirety, thus streamlining production processes and reducing number of applications in use. Accurate indicators of production are presented in real-time on machine user interfaces, which enables cost efficient control of production quantities. The solution automatically maintains production data of ERP system up to date and supports cost analysis and reporting.

The system is based on Windows 2003 Server, where application software acquires measurement data from Ethernet I/O devices using Modbus TCP protocol and then stores measurement data into MySQL database. Interfaces to other systems are based on ODBC database connections. Machine operators and production management personnel have real-time browser interfaces, based on AJAX technology and implemented using Apache/PHP-server. User interfaces have been configured individually to fit the needs of the users at each production line.



### More efficient production management and cost savings

According to production manager of Helprint **Panu Torniainen**, the definitive advantage of Prosys is experience in printing industry. *"Their team members know these things, having worked in the industry"*, says Torniainen.

The new production data acquisition and monitoring system streamlines processes and reporting of the printing house Helprint. Integration of data from multiple systems enables real-time monitoring of print jobs and reduces manual reporting work, faulty inputs and material waste.

The solution extensively meets the demands of production planning and scheduling. For controlling printing jobs a new tracking display was developed, so that job flow can be supervised in real-time. It allows also quick changes to job scheduling at press room, based on information how different jobs make progress at different machines. Ordered quantity and print over run quantity can be changed even when the job is already at printing press, since dynamic connection to scheduling database allows updating of job parameters. The solution also supports versioning of print jobs: for example different language versions can be scheduled, tracked and reported separately. Comprehensive, precise production data enables improvement of the entire production process.

Tracking of paper consumption and traceability of paper rolls are good tools when cost savings are targeted at material usage. Roll numbers are read at the reel stand into a roll queue, from where each roll is taken into tracking at their turn. Pressmen have a user interface to manage roll numbers and queue. In addition, the system allows connecting other devices such as scales, to track materials.

### The solution supports for example following functions:

- presentation and database storage of measurement values
- indicators based on processing and combining measurement data
- event monitoring and logging
- manual input of additional events using graphic user interface
- free text input for comments related to events
- support for scalable real-time charts
- manually entered data such as extra material waste
- production speed calculation based on different formulas
- Real-time summing of produced copies, when same job is run at several machines
- roll information and roll queue presentation, roll log
- printing and database storage of final production statistics of each job
- machine display optimized for use of production personnel
- factory display offers a unified view on all production machines

### Benefits of Prosys industrial systems

Reduced waste and material cost, Improved fault diagnostics and maintenance, Decreased downtime, Shorter turnaround times, Decreased intermediate stock, Performance indicators for production personnel, Information about impact of using different materials, Tacit knowledge collection, more accurate pricing.

*“ Prosys has proved to be a professional and reliable partner. In my opinion, reliability in challenging software project means open discussion with the customer about the status of the project, and deciding together what the next steps are. Prosys makes clear plans, actively keeps in touch and understands different systems used in production.”*

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