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Into the Future with “Connexivity”

Networking through integration is becoming increasingly important in print finishing. With the related high degree of automation, graphic arts businesses can address the pressure on margins.

The [Connex workflow system](#) from Muller Martini offers various modules for greater automation of your machines and thus supports saddle stitchers, softcover and hardcover systems as well as digital printing lines, inserting lines and complete mailrooms. Muller Martini relies exclusively on standards such as JDF, JMF, IFRA Track and Prime in developing workflow solutions. This allows the software to be integrated into an existing customer workflow with minimal effort.

Livonia Print, based in the Latvian capital of Riga, provides the best-practice example of this. Livonia Print has been using Muller Martini's touchless workflow solutions for many years to consistently network its machines. “Our business model won't work without the touchless workflow solution. The removal of all barriers between our conventional and digital production is a top priority. Using individual machines for production without them being connected is outdated. Connex also makes it easier to monitor production and set delivery times. That's why I see no future for our industry without ‘Connexivity’,” says company founder Trond Erik Isaksen.





Trond Erik Isaksen (left/at the presentation of the Finishing 4.0 Award Jacek Kobylinski, Sales Manager Muller Martini Eastern Europe): „Producing with individual machines without them being connecting is outdated.

This is how it works at Livonia

The networking process at [Livonia](#) works as follows: Muller Martini uses Connex LineControl Pro to integrate the Canon Océ digital printing press and perform tasks such as the imposition of PDF files, including job management, on the printing press. In addition, all connected systems from Muller Martini and Hunkeler were integrated into the customer workflow via the Connex LineControl module. Keyline, the Management Information System (MIS) from Crispy Mountain, is the higher-level system.

“We worked with Crispy Mountain to develop our own portal for order taking, which can be used by publishing companies to submit orders,” says Isaksen. “The portal then sends all the data to the MIS, which organizes each production process virtually. This allows us to develop a dynamic calculation for each product in our portfolio in real time.”

The MIS therefore acts as the brain of the entire solution. Preliminary cost and product costing analysis, materials management, production planning for printing and print finishing, and internal and external logistics are controlled flexibly and monitored continuously using the system. All the data is available not only in the workplace but also via tablet and smartphone as well. That enables seamless data integration throughout the process. The job data are sent from MIS Keyline to Connex LineControl, where they are converted into pre-set data for the connected machines. During production, the Connex.Info 4.0 module sends production values back to Keyline in close to real time, enabling seamless monitoring of the production process at all times.

Individualized and variable print products

Muller Martini understands the Industry 4.0 topic – as demonstrated by the example of Livonia Print – to mean the digitalization and connectivity of processes and systems along the complete value-added chain throughout the given life-cycle. Finishing 4.0 is all about producing customized and variable print products cost-effectively and efficiently using means of industrial production. And this is exactly what the versatile Connex workflow system makes possible.



In addition to integration and production planning, management by numbers is also becoming increasingly important for graphic arts companies. Management by numbers requires reliable production figures, which can be accessed promptly via Connex.Info 4.0. This is because the module automatically records and collects the production data of the connected production lines. The data can then be used for technical production evaluation or for commercial (post) calculations via a connected MIS.

Connex assumes the three main functions in the production process:

- ▶ **Integration with higher-level planning or calculation systems:** An order can either be created manually or imported via JDF from a higher-level system (e.g. MIS). In addition to connecting via MIS, integration via a Muller Martini Enfocus Switch is possible. That allows the highest possible level of automation to be easily achieved even without in-depth knowledge of JDF or JMF.
- ▶ **Work preparation and production planning:** Every order entered or imported is first verified by Connex LineControl Pro for producibility. The advantage of deep integration is that data only has to be entered once on the higher-level system, making error-prone entry of the same data several times unnecessary. Good data quality makes production planning possible without manual intervention.
- ▶ **Presetting the line:** Connex translates the data from the higher-level system directly into the required values for the line setup. After downloading the production order, once the machine operator selects it, the setup and production data are simultaneously transferred to all modules of the production line. In addition, the barcode values can be transferred, which increases production reliability since they no longer have to be read in.

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