



SMART CONTROL OVER ALL PRINTING PROCESSES

KONTRON'S INDUSTRIAL COMPUTER PLATFORM IS THE HEART OF
HEIDELBERG'S NEW PRESS CONTROL STATION

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STATE-OF-THE-ART TECHNOLOGY, SMART AUTOMATION AND EXCELLENT DATA MANAGEMENT ENSURE EFFICIENT PRODUCTION AND PROVIDE THE LONG-TERM INVESTMENT SECURITY THAT PRINT COMPANIES NEED. WITH KONTRON'S KBOX COMPUTING PLATFORM AS A CENTRAL NODE HEIDELBERG DEVELOPED A HIGH-PERFORMANCE PRINTING PRESS CONTROL STATION SETTING NEW STANDARDS IN TERMS OF PERFORMANCE, RELIABLE PRODUCTION AND USER-FRIENDLY OPERATION.



// PRINECT PRESS CENTER XL 2 WITH ULTRA-HD WALLSCREEN

Heidelberger Druckmaschinen AG has maintained a leading position as a major provider and partner to the global printing industry for many years. With an extensive portfolio that explicitly focuses on the needs of customers from the printing industry, the company facilitates reliable and efficient production processes. The portfolio is based on equipment, service and consumables.

The printing press company provides its customers all over the world with products, services and consumables through its own sales offices or through partners.

The range extends from state-of-the-art digital technologies to preconfigured standard offset presses, through to individually configured special presses for maximum productivity and every conceivable print application.

In total around 11,500 people worldwide work for Heidelberg, around a third of them in their global sales and service network. In Germany, highly automated and versatile high-tech machinery in all format classes are produced according to customer requirements. In Qingpu, near Shanghai, China, Heidelberg produces high-quality preconfigured edition models.

CREATIVE IDEAS REALIZED WITH 4D DIGITAL PRINTING TECHNOLOGIES

„Max loves cereal“, is written in fine letters on a colorful cylindrical box of cereal in a shop in the historic center of Heidelberg. The box with its personalized message on the back is a unique piece by the highly successful startup German „mymuesli“. In its flagship store in the heart of the city, home to Germany's oldest university, the company offers its customers the chance to have a personal box printed on site. Each pack is then individually rendered by a man-sized printing press in the middle of the showroom.

The high-tech printing press, an Omnifire 250, is built by Heidelberger Druckmaschinen AG (Heidelberg). In no time it prints recipes, pictures, and many a word of wisdom on the packaging of individually compiled cereal mixtures mymuesli is famous for. Customers opting for a personal box watch in awe as the design they have just created on a touch screen is printed on the packaging within a few seconds. Much to the delight of Heidelberg engineers who know very well, that otherwise only a selected few would ever see their products in the flesh. Usually Heidelberg's creations are destined for the hidden halls of professional printing houses.

OVER 160 YEARS OF SUCCESS

Heidelberg has been a major provider and reliable partner to the global printing industry for many years. It offers its customers all the components tailored to their requirements for successful business operations; it advances the digitalization of the industry, providing integrated and reliable production processes, financially sound investments, and smooth access to all necessary materials. The business model is based on the three pillars equipment, service, and consumables. „End customers are confronted with products from our printing presses on a daily basis, like cereal boxes or fashion magazines,“ says Frank Reitter, Electronic Components Development Engineer at Heidelberg. „However, only few people have actually seen the machines themselves.“

SPEED AND EFFICIENCY ARE ESSENTIAL

Speed and efficiency are much more important in printing houses than in cereal shops, of course. Time is money. Every minute saved means additional capacity and, consequently, a higher turnover. With machines capable of printing up to 18,000 offset sheets per hour, this quickly adds up to considerable sums. This is also why, regardless of their size, the printing machines are controlled via touch screen in industrial application. The printing press control station *Prinect Press Center 2* delivers cutting-edge technology, smart automation, and excellent data management – all prerequisites for efficient production.

ULTRA-HD RESOLUTION: CHALLENGE COMPLETED

The whole printing process is monitored on a huge 65" wallscreen. Its diagonal length of 160 centimeters and impressive 4k ultra-HD resolution are very rarely found in the industrial sector, yet extremely important. They allow operators to register all essential information for complex printing tasks at one glance during production, which noticeably shortens the set-up time.

The development of the press control station began in 2014, and the wallscreen's high resolution presented a tough challenge for the engineers. Ultra-HD requires a high-performing control station computer where all important information for controlling the printing press come together. Hubert Bluem, responsible for electronic automation components purchasing at Heidelberg, explains the background: „Today, ultra-HD technology can be found in every well-sorted electronics store. But it is really not that common in industrial environments where components are subjected to extremely demanding conditions. This is why 'industrial-ready ultra-HD' is something not everybody can do.“



// KONTRON KBOX C-SERIES

LOW MAINTENANCE IS KEY

Frank Reitter adds that Heidelberg expects the highest reliability from its components. „Our printing presses run around the clock, 24 hours per day, seven days a week. Being capital goods, it is not uncommon for them to remain in use for 15 to 20 years, so it is crucial to have long maintenance intervals.“

In addition to the screen resolution, high computing power is also essential for the sophisticated color and quality measuring systems. Most of all, the automatic inline measuring systems require high-performing computer hardware, enabling them to register color accuracy and other visual features of the printing products within

fractions of a second, and to automatically correct possible inaccuracies – an extremely complex and demanding process.

KONTRON – A RELIABLE PARTNER

High-performing, robust, and durable. These were the requirements formulated by the Heidelberg development department for their new industrial PC as the technological heart of the new press control station. However, only few suppliers were able to meet the company's standards. In the end, it was Kontron from Augsburg, Bavaria, an established Heidelberg partner who won the bid. "We have been working together for many years and trust Kontron as a competent partner in the field of industrial computers", says Mr. Reitter.

EMBEDDED SYSTEMS MADE TO LAST

"Industrial-grade" is probably the most fitting description for the Bavarian embedded computing specialist's core business. Kontron AG offers hardware and software solutions for productive application in especially demanding environments. Kontron supplies customers from many industries, including automation, aviation, medical, transportation and defense. The company's industrial computers, for example, are on duty in hospitals and factories around the globe. But is it also the ideal partner to develop a robust press control station computer?

PARALLEL DEVELOPMENT WORK

Coincidence works for the partners. While Heidelberg engineers are working on a new press control station in 2014, Kontron developers 280 km down south are creating a new product, the KBox C industrial computer family. Aiming to improve the KBox series, the Augsburg high-tech specialists particularly focused on two points: Enabling customers to individually configure the systems according to their needs and offering different performance levels: from fanless, maintenance-free computing systems to highly robust high-performance computers.

KBOX AN IDEAL SOLUTION

This makes Kontron's KBox the ideal computing platform for Heidelberg. Its flexible approach makes it the perfect fit for most of the company's products: from the Speedmaster series sheet offset presses to the Fire-family digital printing machines. The companies thus decide to join forces and develop their products in parallel.

Experts from both companies meet for periodic project reviews and work for ideal solutions. Heidelberg, for example, expects a large number of interfaces without the need for expansion cards which, in turn, influences Kontron's KBox design options.

Mr. Reitter praises the Kontron series' flexibility: "The system's scalability is what convinced us. From the small KBox with its fanless option to the larger ones with very high-performing computers, there are numerous possibilities. This is an enormous advantage, especially in the development process, to be able to adjust systems whenever it becomes necessary."

SCALABLE AND FLEXIBLE

The Kontron solution quickly proves itself – first during in-house tests of the new control station in Heidelberg, later in productive application at test customers as well. The result is positive: In 2016, there is at least one Kontron KBox implemented in every Heidelberg sheetfed press and nearly every digital printing machine. Its tasks are as diverse as they are essential: control center to operate the printing press, color measurement and quality control, as well as analysis of the machine's own predictive maintenance data to indicate need for maintenance as soon as possible and analyze production data to optimize printing processes.

The Kontron KBox functions as the central node for collecting and analyzing all data from the printing presses. The system's high performance allows for visualization on the ultra-HD wall screen. "Thanks to the 4k resolution, we can display much more information in a central position and provide a whole new operation experience. The user enjoys improved support and can act even more productive", explains Frank Reitter.

The cooperation with Kontron gives Heidelberg the opportunity to offer their customers real added value: It is a stated goal of the leading provider for the global printing industry to equip its customers with all components they need for doing business successfully. In this regard the Prinect Center XL 2 with Ultra-HD wallscreen plays a key role to control complex processes around the printing machine as easily and intuitively as possible.

KONTRON INDUSTRIAL COMPUTER PLATFORM - KBOX C-SERIES



// KONTRON KBOX C-SERIES

Kontron's KBox C-series is designed for the industrial control cabinet environment. Based on COM Express® modules the KBox C-series is highly scalable and ensures simple upgrades whenever needed. The availability of different housing options guarantees mounting even when space is limited.

The KBox C-series is based on high-performance processors up to Intel® 6th Gen Core™ or Intel® XEON® E3. With its broad range of interfaces, various storage capabilities and expansion slots, the KBox C-series maximizes flexibility and eases adaptation to the specific application needs. In addition, integrating standard components, such as PCIe and miniPCIe cards, system expansions can be carried out quickly while allowing developers a greater degree of flexibility.

The KBox C-102 series supports Kontron APPROTECT, a security solution which provides full IP and copy/reverse engineering protection and Kontron APPROTECT Licensing which enables new business models such as pay per use, time based trial versions, or enable/disable features.

KBOX C-102

Powerful Industrial Computer Platforms based on COM Express® with 6th Generation Intel® Core™ or Intel® XEON® Processor

Specifications

- ▶ Based on 6th Gen Intel® Core™ or XEON® E3-1500 for demanding control applications
- ▶ Modular approach - Forever Young
- ▶ Maintenance-free (Wartungsfrei)
- ▶ Security Solution Kontron APPROTECT
- ▶ Highest flexibility and expansion capabilities



▶ Learn more: [Infos / KBox C-102](#)

About Kontron

Kontron, a global leader in embedded computing technology and a pioneer in secure IoT platform solutions, provides a combined portfolio of hardware, middleware and services. With its leading-edge standard products and solution ready platforms, Kontron enables new technologies and applications across multiple industries. As a result, customers benefit from accelerated time-to-market, reduced total cost of ownership, product longevity and the best overall application with the highest reliability in embedded technology.

Kontron is a listed company. Its shares are traded in the Prime Standard segment of the Frankfurt Stock Exchange and on other exchanges under the symbol "KBC".

For more information, please visit: www.kontron.com

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