

Meteksan Digital, Ankara (Turkey)



Pioneers in Education

Meteksan's use of technology shows how an entire country-wide school examination system can be administered with great efficiency and absolute integrity. Founded in 1969, the Ankara-based Meteksan is a pioneer in the field of digital printing with more than 35 years of experience in the domain of educational printing in Turkey.

The company moved from offset printing of examination booklets to become the major supplier of an open and interactive system of teaching and testing 10 million students across the country by collaborating with the government. Each printed examination booklet, identified by a unique id, has a different order of questions and answer choices. The Answer sheet is also personalised and includes information about the students as well as their picture. Every page of every booklet is checked by the Hunkeler Web Inspection and tracking system.

The 40 million examination booklets containing 600 million A4 pages are shrink-wrapped, labelled, checked using barcodes and put into patented boxes for shipment to 100,000 classrooms across the country using GPS secured trucks. To ensure the integrity and security of the entire closed loop network, all the examination classrooms have a wall clock with a built-in camera. Meteksan builds its production of educational materials and secure examinations around digital inkjet printing from Canon and with inspection, tracking and paper finishing technology from

Hunkeler. In its totally secure plant it runs Seven lines of web-fed digital presses alongside two lines of integrated scanning and finishing modules that generally output folded and bound examination booklets. The Canon Océ CS3500 Twin System, the Canon Océ JetStream 2200 and a Canon Océ JetStream 1000 are part of inline configurations that contain Hunkeler infeeds, web inspection and tracking systems, buffers, cutter and drum collators from Hunkeler, folders from Heidelberg. However, the flexibility and dynamism of the workflows comes



Alper Çifçi, Digital Printing Group Manager of Meteksan Digital. There is much to learn from this Turkish company for digital printers looking at the opportunities in the education sector.

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from the Seven Hunkeler Online finishing configurations that can accept printed web from the print engines. All these lines have Hunkeler modules for web drying, cutting, with drum collating and integrated gluing also from Hunkeler and a Heidelberg folder that is used to produce glued examination brochures and booklets.

Altogether Meteksan handles 12 petabytes of data each year. After personalization and formatting, the print operation is driven by Advanced Function Files (AFP) that are compact and fast to RIP. The front end software is able to talk to the Hunkeler W16 Web Inspection System and Tracking System that validates every single page and assigns the appropriate finishing steps for it to the collating, binding and insertion modules. Alper says that for avoiding errors it is essential to have complete inline control systems. He describes Hunkeler's control system and software for tracking as robust. "It's binary, precise, reliable and straightforward. Considering the company's annual output of 600 million A4 pages, we have 6 errors per billion pages thanks to the tracking system," he says.

An Example of Software, automation and collaboration with Teknolist

The key to success in high volume digital printing is to find a communication challenge with a significant personalization and security component and then to creatively address it with a combination of software and inline automation. To take on such a challenge profitably, it helps greatly to collaborate with specialists and one of Meteksan's collaboration is with publisher Teknolist, a leader in the domain of educational printing

and software has been part and parcel of their mutual success.

Both companies take smart publishing to the next level by offering tailored educational material and secure examinations printed for classrooms using software and cloud based solutions. Each printed document is enabled by a software driven workflow that intelligently puts together components contained in a database as well as PDF elements.

The imposition, assembly, finishing and logistics of each personalized educational material or examination booklet is enabled by the machine readable printed marks on each page and the application of security features to the finished product. "Meteksan's challenge in achieving this integration and dynamic flexibility was to find a solution which would handle a wide variety of data and formats automatically, and fit within our business model from ordering to delivery," says Meteksan's Alper Çifçi.

Alper adds that the entire operation has to be reliable and redundant. "It's mission critical – we print within one day of receiving an order and we deliver within three days. Apart from the continuous investment in software and hardware, the company's in-house technicians are trained by Océ and Hunkeler. Our technicians in Ankara, Océ's technicians in Poing and Hunkeler's in Wikon are able to communicate and work together seamlessly as if under one roof," he says.

Thus the production of digitally printed personalised books for educational purposes or to perform safe exams for schools, classrooms or subjects is highly collaborative but completely automated and secure. Furthermore by eliminating communication

errors it becomes efficient. In Teknolist's example both companies continuously invest in intelligent and automated workflows that leverage their expertise in tailored and intuitive educational material as well as the periodic and secure examination system that drives the entire system forward.

Educational assessment and evaluation of student progress are carried out by web-based tools and the plan is to extend these tools to analyse both achievement and deficiencies. These in turn can be used to automatically select and develop customized content for both students and teachers.

Meteksan is ready to provide digital printed solutions for ever more innovative and smart publishing products and secure examination solutions using its print, finishing and logistics on-demand workflow. Alper Çifçi says, "Meteksan, together with partners like Teknolist, Hunkeler and Canon, has the right tools to comfortably enter a new era of our educational market with the confidence that we have the ability to succeed, and deliver a new and exciting service to our own customers in the future."

Naresh Khanna

