

Jet.engines Contribute to Stable Production Environment

Royal Sens is a leading, innovative and reliable partner, in supplying paper and foil labels, cut, punched or continuous on a roll. Daily, 190 employees produce labels and packaging to the highest standards in two production locations: Rotterdam and Enschede. Rapid changes in market developments demand a maximum of flexibility, reliability and attention to identifying customer needs. Royal Sens has installed several jet.engine inkjet printers with On-Board RIP (OBR) from Array Graphics to help them do that.



No Intermixing Labels

The Drop-on-Demand jet.engines are part of Royal Sens' TRENT® track and trace system. An in-house developed system to prevent bundles of labels from being mixed up in one pack or pallet. With TRENT®, Royal Sens has clearly identified an important customer need. Customers do not want to receive mixed labels: label packs with one bundle of labels for product one and other bundles for product two. When using a new bundle on their production line, they want to be sure to pick the right label for the right product. Without any extra handling. If a pack contains different bundles of labels, the customer will distrust the entire batch. Returning pallets full of batches, sorting them out and sending them back costs a fortune. TRENT® has been developed to avoid that risk. The jet.engine plays an indispensable part in the track and trace process.

Track & Trace by Unique 2D codes

When the labels are cut and bundled, the jet.engine inkjet printers are used to code the bundles. Each bundle of labels is clearly identified by its own unique 2D barcode which is printed and counter-signed on a cardboard under-sheet. The individual barcodes are scanned by vision software, checked during intern transportation, and steered directly to the robot supported palettisation system. Fully automated and robotised. The 2D code contains a unique bundle ID that is linked to a database, containing information on packing date, time, variety and bundle numbers. Next to the 2D code, the jet.engine also prints a human readable text with basic information for quick operator monitoring without scanning. The human readable inkjet code also plays a part in customer care, in case of a complaint. It enables Royal Sens to trace down to bundle level. The risk for scrap or rework is thus reduced to the minimum, which strengthens customer confidence in Royal Sens' quality system.

Too Many Components

Jan-Peter Klijjn, IT Manager at Royal Sens: "We used to work with a competitive DoD system, controlled by a separate computer for data retrieval. This meant we had three components to work with: the inkjet printer, the control unit and our robotised cutting, bundling and packing line. This configuration turned out to be quite sensitive to failure, leading to loss of production time and money. When the inkjet printer or computer failed, it took quite some time to figure out which component caused failure. Once that was resolved, it took at least ten to twenty minutes to restart the printer and peripheral equipment. When that happened several times per shift, it simply cost too much time and money."

Reliable, User-Friendly and Integrable Printing System

Royal Sens decided to start searching for another coding solution to suit the job. There were three major requirements the new coding solution had to meet. First, it had to be reputedly reliable. Second, the system should be easy to operate and maintain and third, it had to be fully integrable into the robotised cutting and packing line. Jan-Peter: “We looked at different technologies. Laser or pre-printed and pre-numbered bundles, for example. But they were either expensive, bulky to integrate or lacked our requirement to print real-time codes. The Drop-on-Demand inkjet technology of Array Graphics’ jet.engine turned out to be the right solution for us. We already knew the jet.engine as a very reliable and high-quality inkjet system, easy to use and maintain. In addition, we were very pleased by the printer’s On-Board RIP (OBR), which eliminates the use of an external computer. Finally, the wide range of industrial inks would prove to be an asset to our application.”

OBR, On-Board RIP, Eliminates Use of External Computer

The On-Board RIP, OBR, was one of the main features that was decisive for Royal Sens. OBR integrates control software directly into the printhead, eliminating the use of an external computer. It enables uninterrupted communication between printer and software, which means the printer is controlled more directly and operates more smoothly. Any failure can be solved instantly, which immediately pays back in minimal loss of production time and thus money.

High-Quality Industrial jet.fuel Ink Range

The industrial inks provided by the jet.fuel range were another asset to the application. Jan-Peter explains that they started working with standard inks for coding the bundles of labels. “However, as we mainly use coated paper banding material, we switched towards the industrial ink range of jet.fuel inks, which are perfect for our application. Print quality is excellent, there are no smears or missing dots and the ink has a long decap time. It meets its claim of ‘industrial ink’. And the cartridge prints until empty, as well. We only throw cartridges away because they are empty, not because they are dried up.”

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The first jet.engine was installed on a smaller production line to get used to the system. The second inkjet system was installed some months later on one of the critical robotised bulk lines, where it was integrated together with a vision system. Jan-Peter continues:



“The OBR, combined with a reliable printhead ensures good-quality coding and the elimination of an extra component: the external computer. We have definitely gained time and production profit, since the inkjet systems hardly ever break down. We have improved our production uptime by a daily average of more than one hour. And our operators are happy too, because the line is running smoothly. So, as a final conclusion, I can say the jet.engines have brought us higher reliability and a more stable production environment.”