TEKLYNX
Barcode Better

CASE STUDY

DSM Coating Resins Centralized Labeling

Solution: CODESOFT & SENTINEL
Industry: Chemical

Background

DSM Coating Resins, headquartered in the Netherlands, and DSM Composite Resins, headquartered in Switzerland, are part of DSM, a company based in the Netherlands. DSM produces life science products, performance materials, and industrial chemicals. DSM's two business groups, DSM Coating Resins and DSM Composite Resins, make raw materials for the paint industry, as well as resins for use in technology and transportation, e.g. polyester boats. Together, they have 13 plants, including facilities in France, Germany, Italy, Spain, the Netherlands, and the United Kingdom, as well as in Illinois, North Carolina, and Georgia in the United States (US). They also manufacture in Asia.

Many of the materials that DSM Resins produces require Risk & Safety (R&S) information, which means that product-specific labels must be affixed to every container. DSM Resins prints a high volume of labels; for production, shipment, raw materials, and air transport. They also print labels in small quantities to meet specific customer or country requirements.

The company ships products in 200-kg drums, 1,000-liter shipping containers, and tank loads. It also uses special containers for samples and to meet customer requirements. Shipping labels must accurately reflect the contents, as well as the R&S information, in the appropriate language(s) for every country that the container will pass through. DSM Resins prints about 700 print jobs each day that average 30-40 labels per print run and can range up to 200 labels. It drives about 30 printers at its 13 locations and maintains about 40 different label designs.

Challenges

✔ Using multiple applications for printing standardized Risk & Safety information on labels

✔ Meeting regulatory compliance requirements for R&S information printed in local language on labels for each jurisdiction that shipped materials passed through

✔ Managing labeling on a local level with each plant responsible for developing or adapting label wording and ensuring compliant R&S labels

Results

✔ Collect label information through an SAP IDoc and apply the proper instructions in the required languages, then sending the information to the correct label printer

✔ Centralized labeling from 13 plants to one location

✔ Established a well-defined maintenance and update process managed by SAP provider

✔ Streamlined the entire labeling process, eliminated wasted time, and gained centralized control over label designs

Solution

Previously, the labeling was managed on a local level with each plant responsible for developing or adapting label wording and ensuring that R&S labels in the correct languages were affixed to the containers.

Bert Hofsink, DSM Resins Team Leader commented, "What we used to have was 13 production plants that were using all kinds of applications to get safety data maintained locally. It was a messy situation, and we even got penalties from local authorities in some cases because the information was not up to date. Labeling is considered a business-critical application at DSM. Because it takes place at the end of the supply chain, any technical disturbance rapidly causes delays in transport. No labels mean no trucks leaving the plant!"

The company decided to centralize all its labeling and drive it from its SAP Enterprise Resource Planning system located at its central hosting site in the Netherlands. Label design and administration (for driving all the label printing at every manufacturing plant) would be managed by the Central SAP Application Management group. The actual material safety data would be controlled from one place by a Central Data Management department.

Hofsink contacted GraphicALL systems B.V., a Netherlands-based systems integrator, which recommended TEKLYNX print automation software, SENTINEL. The new approach would take advantage of SAP's IDoc standard for electronic document exchange and co-locate SENTINEL print system at the central hosting site.

About half of the overall project involved developing custom-built software for the SAP system. The company started by categorizing all the R&S information so that it could create IDoc text files that would include references that SENTINEL could use to retrieve the correct information. For instance, a Risk phrase may be defined in the SAP IDoc as R1 or R13; Safety information is similarly categorized with an S identifier; the language is defined as EN (English), NL (Dutch), SP (Spanish), etc.; and a local printer code is assigned based on the location of the requester.

The SAP system sends the IDoc information via FTP (File Transfer Protocol) to the central labeling server. The "inbound IDocs" directory is monitored by SENTINEL. SENTINEL processes the data in the target file immediately. Using the shorthand references in the IDoc, SENTINEL looks up the actual text phrases and warning signs that are stored on the SAP system and retrieves the proper phrases in the required languages.

"On the label server, we have a database with all the languages and all the safety information where the actual text is available to be put on the label. Similarly, the safety symbols are stored on the label server. If a symbol code is found in the IDoc, SENTINEL picks up the corresponding graphical image and inserts it on the label," said Hofsink.

SENTINEL print automation solution facilitates automatic label printing from an ERP, WMS, or business system. SENTINEL can print to unlimited printers and integrate with RESTful API, offering ease of use and reliability.

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Results

After implementing SENTINEL, an operator in any DSM Resins plant in Europe or the US simply fills in a standard SAP screen on their local terminal, which is connected to the company's Wide Area Network (WAN). For example, in shipping, the operator selects the list of open deliveries. SAP calculates per-delivery line the needed number of labels. Based on the safety information of the material in the delivery, it also offers the appropriate label type, such as "ADR Class 3," or "non-ADR." All the operators need to do is select the lines and press the "Print" button.

At that moment, an IDoc is created by SAP. All relevant info, such as material code and name, batch number, customer "Ship To" address, number of labels, which label type, which printer, etc., is retrieved from the SAP database. The IDoc is sent to the SENTINEL server. SENTINEL selects the proper R&S phrases, language(s), and customer information, based on the IDoc. SENTINEL then uses CODESOFT barcode label design software to select the appropriate label design and insert the text into the label. The complete, formatted label is then sent over the WAN directly to the designated printer at the local site.

For instance, an operator in Italy who is shipping product to Poland selects the product that is being shipped, the quantity, the container size, the mode of transportation, the destination address, etc. The SAP system creates an IDoc. SENTINEL uses the data in the IDoc to select the languages (Italian, German, and Polish) and sends the appropriate R&S information in all three languages for the single label. The operator is instructed which label stock to use and the fully formatted labels appear on the designated printer – all in a matter of seconds.

"The user thinks he is printing a label. But, instead, the user is starting a complete IDoc process between SAP and SENTINEL. The user only has to deal with SAP, and SENTINEL is the 'black box' in the background. This 'black box' approach is really working well. Instead of asking the operator to learn another application, we focused on a tailor-made, easy-to use SAP front-end solution, letting the technology do the actual work," explained Hofsink.

To make the operator selection process easier and more efficient, the user is presented with a site-specific menu that has customized default selections. The default selections can be overridden by the operator, as necessary. For instance, the default language for the Netherlands plants is Dutch; in the US, it is English. The menu also presents only the products that are manufactured in that plant. A complete mirror of the label server is also installed. This backup server can take over the labeling process within minutes, should the first server fail. Each site also has at least two printers. This ensures availability 24/7.

Part of the development project was to establish a well-defined maintenance and update process managed by the Central SAP Application Management group. A user can issue a request if a new label is required. The new label is developed on a test server that can run simulations with SAP data to check that both the content and design are okay. Then the label is sent to the requestor. Finally, a change control board reviews the new design. Once approved, it is released to production and available to all 13 facilities.

"The TEKLYNX system has been in place for about two years now. It proved reliable, and maintenance is easy. For us, the real benefits are the streamlining of the labeling process on the sites, saving us lots of time there, and the excellent central control over label designs and data content," said Hofsink.

Request a free demo to see SENTINEL print automation in action.

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