Loftware NiceLabel helps Autoliv standardize labeling and cut label design time in half

Autoliv

Background

Autoliv, Inc. is the worldwide leader in vehicle safety systems, and sells to all major car manufacturers. Through its subsidiaries, Autoliv develops, manufactures and markets protective systems, such as airbags, seatbelts, steering wheels and pedestrian protection systems for 100 car brands worldwide. The company employs more than 65,000 associates in 27 countries and operates 14 technical centers and 20 test tracks. Its products save over 30,000 lives each year.

Loftware NiceLabel has worked with various divisions in Autoliv since 2018. Currently, Autoliv is implementing NiceLabel's label management system for two specific use cases: homologation and prototyping.

Solution: Loftware NiceLabel LMS
Industry: Manufacturing

Challenges
- Manual process creates a high risk of error
- Time-consuming label production process
- Lack of standardization

Solution
- Commonly used objects stored in one location
- Change management process
- PLM is single source of truth for label data
- Centralized label design, management and printing

Results
- Reduced quality issues
- 50% less time spent on label design
- Faster label design and increased efficiency

Use case #1: Homologation

Homologation labeling is a very specific application used for seatbelts. Autoliv must homologate their products for a certain region to be able to ship and sell within that region, whether that be in Europe, the U.S., China or other parts of the world. Each region has its own regulations and requirements regarding specific markings on the product. These specifications could be a logo, a unique identifier, serialization, barcoding, left-right indications, or specific text, to name a few. Homologation labels are produced in a variety of formats, including sewn-on labels, sticky labels and laser-etching information on the seatbelt itself.

Challenges

Manual process creates a high risk of error

Prior to NiceLabel, the Engineering department used CATIA, a 3D CAD software to define the label layouts. They sent these files to the Manufacturing department, who then converted the information into the label design software of their choice. However, the process of converting the files from one software to another, called translation, created inefficiencies and increased the likelihood of errors or misinterpretations. "Errors on homologation labels are a recallable offense," explains David Srugis, Global Director Product Definition & GPM at Autoliv. "While it's not a product safety issue, you're still non-compliant with a federal regulation." Any products with label errors had to be quarantined, a consequence Autoliv clearly wanted to avoid.

Time-consuming label production process

In addition to the risk of errors, using CAD software to design labels was not an ideal solution. For example, the software wasn't designed for defining two-dimensional (2D) barcodes, thus its functionality wasn't optimized for that type of use case. Defining the Homologation label content in the CATIA software was inefficient and created an additional translation of design from one source to another, so that the printers could print it. This doubled the necessary workload needed to create labels.

Lack of standardization

Since there was no global labeling solution, each region and facility approached labeling in a different way, using various software and tools. For example, Autoliv's manufacturing departments had over 1,000 people designing labels when translating the CATIA files.

In 2018, the Engineering group set up a task force to reduce quality issues. One of the areas they identified was the need to introduce a standardized labeling solution. They wanted to implement a labeling solution that would enable engineers to control the design of the label, create PLM connections to connect label content and reduce software translations.

Solution

The Engineering team implemented NiceLabel's Label Management System for their labeling needs. They've trained a specific team of 10-15 users who are
responsible for designing labels in the software. The team has set up libraries so the commonly used objects are stored in one location. They use their PLM system for change management and as the master source of label information.

Benefits

The main benefit David's team has experienced since implementing NiceLabel is a significant reduction in quality issues. They've also seen a 50% reduction in the time needed to create and define a label design. Autoliv also realized the potential of the NiceLabel platform. What started out as a quest to find a label design tool, ended up revealing the potential for a global application that could help other departments improve their labeling processes.

Use case #2: Prototype labeling

This is where Carsten Lemberg, Project Manager Sales & Engineering IT at Autoliv Germany, entered the picture. Carsten joined Autoliv in 2017, just about the time that David's team was kicking off their quality improvement project. "When we learned about NiceLabel, we realized that it could do other things. It's a very open software and you can configure it in various ways to use it in different areas." Carsten's group decided to use NiceLabel to help them address their labeling issues as well.

The global Autoliv prototype team develops prototypes for seatbelts, airbags and other vehicle safety equipment. When a car manufacturer sends Autoliv a request for a specific prototype, they also include details of how Autoliv should label the prototype. In addition to the customer specifications, Autoliv has their own internal specifications such as kitting, warehouse and traveler labels, that they include on the prototypes as well.

Challenges

As was the case with homologation labels, the engineers used CAD software to design the labels and place them in the bill of material. Then, someone from Manufacturing IT needed to create the label in a printer-specific command language. They didn't have a standard label design tool, so the process involved a great deal of trial and error. "We essentially had to design the labels twice," Carsten explains. "The process lacked flexibility, because we needed someone with programming skills to change the labels." Performing quality checks was also a problem, as they had difficulty following the revision process. They also lacked centralized label storage, as the label data that came from different systems was stored in code on local machines.

> *"The process lacked flexibility, because we needed someone with programming skills to change the labels."*
> *Carsten Lemberg, Project Manager Sales & Engineering IT at Autoliv Germany*

Solution

The Autoliv Prototype team uses an application called Global Engineering Order (GEO) to manage the prototype process. GEO is built on the Delmia Apriso platform, offered by Dassault Systems. GEO, in turn, uses NiceLabel to manage, design and print the labels needed for Autoliv's prototype parts. They currently have 200 printers for prototype labels worldwide that print 5,000 labels per month using the NiceLabel solution.

Benefits

Faster label design and increased efficiency

After implementing NiceLabel, the Autoliv Prototype team was able to significantly reduce the amount of time spent on label design. "One of the main problems with using CAD software is that it requires well-trained engineers to use it," Carsten says. "NiceLabel is easy and uses drag-and-drop capabilities, so you can design labels even without training." They were also able to avoid the duplicate work of designing labels twice, once in the system, and again for the specific label printer. "When you use NiceLabel, you use half the time because you save time with programming," says Carsten. This also enabled Autoliv to save money by freeing up CATIA licenses that were previously used for label design.

"When you use NiceLabel, you use half the time because you save time with programming."
Carsten Lemberg, Project Manager Sales & Engineering IT at Autoliv Germany
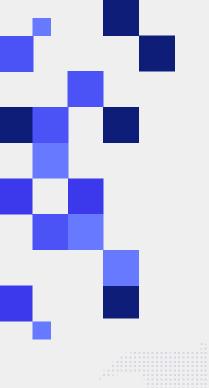
Improved quality assurance

Revisioning was also a big benefit with NiceLabel's built-in Document Management System (DMS). "We can now put our label change process into a workflow, which gives us more control over the label templates, which leads to better quality," Carsten explains. In the past, they had experienced issues where labels were wrong and products were returned. By using the DMS to automate quality checks, they can avoid product reworking in the future, which also saves money.

Next steps: going global

The next steps for Autoliv involve implementing a NiceLabel solution for the third use case, trace-ability, where they will implement a global, standardized serialized labeling solution. This use case will also help alleviate manual processes, as experienced engineers currently spend up to four hours a day creating printer-specific label templates. The NiceLabel solution will introduce centralized label storage in the NiceLabel DMS, with specific locations utilizing a decentralized solution with synchronization to the centralized system. They have completed the proof of concept on this part of the solution and hope to proceed with implementation during 2021.

Autoliv also has long-term plans for NiceLabel. "Our main goal is to come up with one global labeling solution. There will be room for local processes, but at the end it all comes together in the design tool, which is NiceLabel. And for label printing, we will either use the built-in integration system or the .NET API NiceLabel provides," Carsten says.

Loftware™

The world's largest cloud-based Enterprise Labeling and Artwork Management provider