Proficiency makes automated feature-based CAD translation possible

Proficiency

In order to save time and money while preserving intellectual property, manufacturers must re-use CAD data, especially as they migrate to a new CAD system or acquire businesses with product lines designed in a different CAD system.

Proficiency is a feature-based software that enables the transfer of complete design intelligence between major CAD systems with up to 100% automation and enhanced efficiency. By providing fully functional models in the target CAD systems that retain the original product knowledge, Proficiency maximizes CAD data re-use and offers a reliable basis for further development. Geometry, features, history, sketch relations, manufacturing information, metadata, assembly information and drawings seamlessly transfer between CAD systems.

Design teams can easily understand issues related to modeling practices. Proficiency also offers source data auditing and automated conversion reporting, including feature validation and transaction records. Proficiency converts high-quality CAD models without losing workability or manufacturing data.

Paper chain: CAD data migration

manroland AG is one of the leading printing systems manufacturers and the world's market leader in web offset. Web-fed and sheet-fed offset presses provide tailor-made solutions for publishing, commercial and packaging printing – from company brochures to newspapers with circulations running into the millions. A worldwide network of about 100 sales and service centers market manroland's own products and inkjet-based digital printing solutions from Océ as well as process compliant system components and pressroom products.

manroland also has a distinguished history, having first entered the printing market in 1845. The secret of this longevity is a combination of a commitment to customer service – as evidenced by its operational presence in so many global markets– and a continuous focus on developing its products and services to reflect changing technology and market conditions. Its service-focused PRINTVALUE is a perfect example of manroland adapting its business model to respond to changing global demands for printed matter.

Installed base

The company's long and rich heritage means it naturally has an impressive installed base. Printing presses represent significant investments and are expected to be used for many years. This inevitably places a service and repair burden on those – including manroland itself – responsible for keeping the presses rolling.

Print giant manroland needed to migrate 100,000 active 3D models and 60,000 engineering drawings

Without Proficiency, ITI's feature-based translation tool, the migration from CATIA V4 into a new CAD system, NX, would not have been possible.

"We couldn't have embarked on a new system without our data. I suppose we could have migrated the 3D data and not the drawings, but we simply wouldn't have had the time to recreate 60,000 drawings. Proficiency has made the move possible."

- Marc Gottmann, CAD Engineer
manroland AG

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Proficiency

For more information visit:
www.proficiency.com

About ITI

ITI is the global leader providing reliable interoperability, validation and migration solutions for product data and related systems. Our customers recognize the value in having a trusted solution partner that provides more than just software. ITI solves complex product data interoperability problems so that the world's leading manufacturers can focus on making great products. You need to keep your engineering initiatives moving forward.

Create Momentum 〉

The CAD landscape

manroland's Offenbach-based sheet-fed printing manufacturing centre has been operating a CAD-based design strategy since it became a viable option in the 1980s. In that time over 60,000 drawings and 100,000 3D models have been generated. Given that many of manroland's presses are still in operation 20 years after being commissioned, this is effectively the scale of the active design database. "The CAD data must last as long as the machines," explains Marc Gottmann, CAD Engineer at the Offenbach facility. "And we have to be able to modify the data, too. When we develop new products we never start from scratch. Rather than create a completely new machine we modify existing parts and assemblies to create new models."

Until recently, manroland's core design system was CATIA V4. With V4 nearing the end of its shelf life, however, and with no clear upgrade path that would preserve the integrity of the manroland design archive, manroland looked elsewhere for a new CAD solution. They were satisfied that Siemens NX 5 offered the capabilities they needed, but a wholesale change of CAD system obviously meant finding a migration path that would yield accurate and editable NX versions of the active V4 data.

Enter Proficiency

It wasn't just a case of migrating the data," says Gottmann. "We wanted to maintain the associative link between 3D models and engineering drawings,

and also the 'intelligence' of the 3D features the models were made up of. We wanted useful, modifiable data. And we knew we couldn't do this via a STEP-based translation, for instance. So we looked on the market and found several systems that offered migration in one form or another," he adds. "But only Proficiency could also migrate associative 2D drawings, including intelligent dimensions, text and so on. It seemed like a good fit."

Gottmann developed an automated remastering strategy based on Proficiency, a process-focused automation tool specifically designed to support such mass data transfer projects. Ultimately, the whole of manroland's active database, some 100,000 drawings and models, will be transferred into the new CAD system, a process set to last about two-and-a-half years.

On track

About halfway through the project, things are going well. "Overall it has been very satisfactory," says Gottmann. "We're processing lots of big assemblies – several hundred components in many cases – and successfully preserving both feature intelligence and drawing associativity. Where there have been problems, it's usually been down to inconsistencies in our original data," he adds. "We can't expect Proficiency to fix a drawing that's been incorrectly dimensioned in the first place. But I'd rather be remastering than recreating: it would take far longer to create new drawings than repair old ones."

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