The road to PLM success with Global Steering Systems

Global automotive manufacturer calls on ITI to migrate Creo CAD files from Pro/INTRALINK to Teamcenter

PLM Migration Summary

- Wildfire 4 to Creo V3 upgrade
- Pro/INTRALINK to Teamcenter
- **250,000 versioned files** including:
  - ProENGINEER parts
  - ProENGINEER assembiles
  - ProENGINEER drawings
- **Total ITI legacy data migration elapsed time - 3.5 hours** including:
  - Export
  - Transform
  - Copy files
  - Metadata import

"ITI is a great business, with solid data migration methodology, They really are world-class leaders in this industry."

- Robert Piwonski, GSS PLM Administrator

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

Global Steering Systems (GSS) is a world class supplier of automotive steering components. Over the past forty years, GSS has evolved from simply a division within a high-precision bearing manufacturer, to an independent, privately-held company. Headquartered in Watertown, CT, with manufacturing operations in Brazil, China, and Poland, GSS is both a Tier 1 and Tier 2 automotive supplier.

Between a rack and column place

When you turn your steering wheel left and right, you take for granted the intermediate components that ensure your vehicle's turning response. This is where GSS safety critical steering solutions connect the rack and pinion to the column in passenger cars, light and heavy-duty trucks, and specialty vehicles such as the U.S. Postal Service mail trucks.

The Watertown engineering team designed the GSS components using the PTC Pro/INTRALINK-ProENGINEER Wildfire 4 CAD system and used the MAPICS system for enterprise resource planning (ERP).

As the business grew and the OEM relationships, technology, and manufacturing methods changed, GSS initiated a program to evaluate the use of Dassault Systemes SOLIDWORKS, either in conjunction with Creo or as a replacement for Creo. GSS changed from MAPICS to PLEX ERP, a SaaS Cloud service, significantly increasing their global user base. The new PLEX ERP system has met all OEM/customer traceability requirements.

GSS realized they needed to transition away from Pro/INTRALINK as their CAD data management solution. Pro/INTRALINK 3.4 reached its end of life. GSS could no longer upgrade the ProENGINEER Wildfire system without a significant upgrade or transition off Pro/INTRALINK. In addition, GSS could not effectively manage their non-CAD documents in Pro/INTRALINK.

Turning Point

The initiative to assess a new CAD/PDM system prompted the PLM selection process. Because of improvements in CAD translation, and GSS' automotive OEMs were no longer demanding native CAD compatibility, the company focused on the right PLM solution.

A methodical process of PLM selection began by developing a requirements evaluation check list across the appropriate functional areas of the business. Several major PLM systems were scored based on the set of functional requirements.

The evaluation process resulted in a tie between two popular PLM systems. The tie was broken when Spatial Integrated Solutions, in conjunction with Siemens PLM, demonstrated how Teamcenter could integrate with the PLEX ERP system.

GSS began by dedicating an internal resource to lead the PLM implementation project. Robert Piwonski, previously a GSS Manufacturing Engineer, was named the PLM Administrator.

"We selected Rob to lead the project based on his success in establishing a previous change management initiative within GSS," stated Jamie Moneta, IT Director for GSS. "Robert did a great job leading the project."

GSS enlisted Mercury PLM Services for the Teamcenter implementation – a two-phased approach which prioritized CAD design data management.

Phase One

- CAD (Creo) Design Data Management
- Derived drawing PDFs
- Derived JTs for parts and assemblies

Phase Two

- Engineering Change Management
- Non-CAD Document Management
- BoM Management

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- Jamie Moneta,
GSS IT Director

Curves in the road

As the GSS team began their PLM implementation, they identified several critical risks. The greatest was the ability to successfully transition from ProENGINEER Wildfire 4 to Creo 3 while preserving the existing CAD data. They also prepared for user adoption issues. Because GSS used ProIntralink for fifteen years, the new PLM system represented significant change. However, it was necessary to ensure the ultimate desired PLM transformation.

"There are engineers on our team that spent a majority of their working life producing the data stored in ProIntralink," added Moneta. "They relate to it personally; it's their value to the company." Since preserving the legacy CAD data was of greatest concern, GSS selected ITI to handle the data migration. GSS heard from both Spatial Integration Solutions and Mercury PLM Services that ITI had high performance data migration tools and an excellent track record for seamless data migration projects.

The GSS team debated whether to leave all the CAD data behind (starting new CAD designs from scratch) or to migrate the full CAD revision history. After consulting the migration experts at ITI, GSS decided to only migrate the absolute latest version of their CAD data to Teamcenter and then archive the full history of CAD data.

"In the Automotive industry, change can come from multiple directions. We work in a global environment, so it can take a while for a change order to close-out," stated Moneta. "If a change was in process, we considered it a risk during the migration. For instance, we had a few cases where we migrated the latest version of a CAD model, only to find out that the change was rejected. In these cases, we had to go back to the ITI data archive and download the latest released revision of the CAD model, and then save it to Teamcenter. This was the ITI recommended approach and it worked well."

The key to PLM success

ProENGINEER data from GSS's ProIntralink system was exported using ITI's proprietary

PDM/PLM export tools. Approximately 80,000 files were transformed and imported into Teamcenter. The ITI production migration process was complete in 3.5 hours. ITI then created the archive for the full set of 170,000 ProIntralink files.

Using ITI's Teamcenter integration for Creo (IPEM), the GSS team can now take advantage of new Creo 3 capabilities and easily manage their Creo files in Teamcenter. "We couldn't have done this without ITI. The data migration went flawlessly," stated Moneta.

The PLM phase-two project will involve rolling Teamcenter out to all applicable geographic locations and deploying engineering change management, document management and BoM management. "The biggest benefit to GSS will be a single, global, engineering change management process. It will be a huge benefit for us to truly have a global change control system," added Moneta.

In addition, as part of the phase two project, GSS will evaluate whether they maintain all CAD design using Creo, or whether they choose a multi-CAD strategy using Creo, NX and SOLIDWORKS. Either way, GSS can continue to manage their CAD data within Teamcenter, using the ITI developed Teamcenter integrations for Creo (IPEM) and SOLIDWORKS (SWIM).

Moneta concluded, "If I could do it again, I wouldn't do anything differently. The ITI team worked closely with us and helped realize 100% of the expected value in our initial PLM investment."

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