

MEILLER Replaces Legacy PLM and Accelerates Performance to Drive Innovation

Founded in 1850, the F.X. MEILLER Company is a global provider of heavy duty trucking systems for the construction, waste management and commercial vehicle industries. MEILLER product lines include three-way, two-way, roll-off and rear tippers; tipping and tipping semi-trailers; heavy-duty dumpers; skip handlers; and trailers for the transport of containers and moving-floor semi-trailers as well as hydraulic systems and lift doors that have proven their worth around the world. The company also provides a complete line of replacement parts, after sales parts and mobile after sales services available worldwide.

The family-owned, German-based company has a 160 year tradition of quality and innovation. The company develops its products as a system solution in parallel to optimize the matching of vehicle chassis and body. MEILLER works closely with all the major vehicle manufacturers, leveraging the latest techniques for transferring engineering and logistics data. This enables short response times and distinguishes MEILLER as a leading system supplier. MEILLER's 1,500 employees design and manufacture the company's premium products in four plants in Europe using cutting-edge production methods. MEILLER understands that first class quality and product reliability under the most extreme conditions are the basis for its customers' satisfaction. In order to meet customer demands and ensure long term success, MEILLER continually optimizes its product development and supply chain processes. As part of MEILLER's commitment to 21st century leadership and continuous improvement, MEILLER recognized the need to modernize its global PLM environment.

For several years the company had been running a leading large scale PLM system. The UNIX-based system spanned 3 servers with 14 CPUs and 50 gigabytes of memory, making it challenging and expensive to maintain. Although the system managed MEILLER's extensive library of CATIA V5 CAD data, its high resource demands and operational complexity caused significant performance issues and the system offered little additional product or process automation capabilities for an increasingly global product development environment. MEILLER executives knew it was time to modernize to maintain and extend competitive industry leadership. MEILLER wanted to improve performance, reduce costs and migrate away from the legacy Unix-based PLM system onto a PLM platform with a modern Web architecture on Microsoft. MEILLER also wanted to add new functionality to further streamline and improve the global product development processes.

Working with T-Systems, a division of Deutsche Telekom and a leading global IT systems integrator, MEILLER began a detailed review of today's PLM solution options. With T-Systems assistance MEILLER conducted an extensive review of currently available PLM solutions and performed benchmark prototypes. Aras was chosen because of the modern Web-based platform and superior performance during benchmark scalability testing. Aras also offered greater functionality with a much smaller footprint resulting in better cost efficiencies. Under the guidance of T-Systems, the company began an aggressive 6 month implementation, migration and integration PLM project. The implementation was laid out in modular steps, each with clearly defined and communicated goals. Outdated engineering systems were replaced first and then additional functionality was rolled out.

MEILLER Implementation Plan for Aras: Basic PLM Platform, Engineering PDM, Document Management, Project Management, Change Management, ERP Integration, Production Operations, Quality Compliance and Project Management

In the Basic PLM Platform phase, Aras was installed, rights and roles were defined, and lifecycle and workflow capabilities were enabled. By installing Aras and moving to an all Windows Server-based Web environment, MEILLER reduced its server load from 3 servers to 1 and went from 14 CPUs down to 4 with greater scalability, performance and manageability. The Engineering PDM phase included CAD integration to CATIA V5. During this phase, 2.8 million records were migrated from the legacy PLM system to Aras. This included 350,000 CATIA V5 CAD documents representing 650 GB of 3D and 2D structured CAD data. Once complete, MEILLER's database was decreased in size from 32 GB to 7 GB and the amount of memory required by the system went from 50 GB to down to 20 GB while performance improved.

With extensive knowledge of Aras and the legacy PLM environments, as well as, in-depth expertise in complex CAD file management, T-Systems took the lead on CAD integration and data migration, system configuration and the implementation of key backend processes.

Due to Aras's advanced Web architecture and ease of use, MEILLER was able to handle a large portion of the project work themselves which significantly reduced the overall project cost. The MEILLER team developed the methodologies for engineering and support, drove the SAP integration, updated naming & numbering conventions, defined key processes, conducted the migration of standard parts and performed full system testing to validate results.

Legacy PLM	Aras Innovator	
# of Servers:	3 (database / application / file)	1
Operating System:	UNIX (AIX)	Windows Server 2008
Memory:	32 / 16 / 2 (db/app/file)	20 GB
# of CPU's:	8 / 4 / 2 (db/app/file)	4
Database Size: (with identical data)	32 GB	7 GB

Performance was one of MEILLER's major key performance indicators (KPIs) for the project. Numerous performance scenarios were identified and tested. The most significant scenario focused on the loading procedure of a large assembly structure (with over 1000 CAD objects) into the design mode of the CAD System. Six different real world assembly structures were identified, analyzed and used as reference cases. The file size of the CAD data varied between 50 and 450 MB – depending on the volume and complexity of the CAD structure. Each structure's load time was measured at least twice – to avoid local memory effects on the client machines. All measurements were conducted with the same client and CAD environment. Throughout the test the amount of data in the database was identical and had been completely migrated with all files and Meta information from the previous PLM system.

Aras Innovator outperformed the legacy system in every scenario. Aras's speed ranged from 41% to 81% faster, performing better on larger assemblies. The legacy system failed to load the two largest assemblies even after several attempts. With the help of T-Systems, MEILLER eliminated the UNIX / AIX infrastructure and consolidated the global PLM environment onto a single, modern platform running in a pure Windows and SQL Server Web environment. MEILLER has a more PLM functionality with faster performance for global product development and quality. MEILLER has reduced the PLM infrastructure maintenance costs and complexity while gaining the ability to make changes and customize Aras themselves to grow and extend PLM processes for greater agility in the marketplace.