



PLM FOR INTERNATIONAL ENGINEERING AND MANUFACTURING AT AMMANN

During the introduction of the 3D CAD system, the Ammann Group relied on SAP PLM, its own experience and the skills of its SAP and Autodesk partner CIDEON.

The Company

Ammann, an international specialist in asphalt and road construction work, is a leading supplier of building equipment, machines and road construction systems and services. Driven by an entrepreneurial spirit, the internationally successful family enterprise was founded in 1869. With its 2,700 employees and three business fields, Ammann is active in European and selected Asian and North American markets. The company's product development center is located at its head office in Langenthal, Switzerland. The firm's major products are the main mechanical and electric or electronic parts installed in asphalt processing equipment and complete concrete processing equipment and components. Ammann also designs and builds asphalt mixing equipment using the latest control technology as well as machinery for various applications in soil tamper work from rammers to heavy rolling mills.

The Requirements

At the various Ammann sites more than one hundred design engineers are currently using the 3D CAD system Autodesk Inventor, working with identical structural components. The system components are being designed and manufactured at the various sites.

A large number of old drawings also exist, some of them as CAD models in AutoCAD, also being used at all sites. In addition, the layout planning department and outside partners are also still working with 2D AutoCAD applications with DXF data format being used for internal production of sheet metal and for exchanging data.

With the introduction of the 3D CAD system in the year 2002, all 3D models and 2D drawings in neutral formats (TIF) had to be immediately administered. During the 2D work up to 28 copies of individual DWGs existed among the approx. 168,000 DWG files. A major reason for the selection of the PDM/PLM system was therefore the system's version security, the collaboration between various sites, and the development of subsequent processes.



The transferal to Ammann Service of a delivered and documented facility was meant to be transacted in the SAP system. Ammann Service tasks are administer spare parts lists, drawings, etc. in the SAP system and to automatically generate the spare parts books from the spare parts lists. Upon delivery status the device at a whole will be visible in the SAP system. The future Ammann Service will administer the equipment documentation to allow the current status to be visible at all times.

The Solution

In the summer of 2002 Ammann decided to purchase and gradually introduce the SAP PLM solution. In September of 2002 the first Content Server was added. This was followed by the configuration and test of a pilot installation. Training documents were then developed specifically for Ammann. Bruno Meier, who is responsible for the PDM and CAD systems at Ammann, produced the installation routines for the Rollout of the PLM workstations with Autodesk Inventor, AutoCAD and the SAP Integration.



The solution was launched in March of 2003 at 50 workplaces at the company's headquarter in Langenthal. In 2004 preparations for introducing SAP PLM to the Alfeld and Shanghai sites began. The selected solution was flexibly adapted to suit the requirements of the individual product ranges. In August of 2004 the complete data inventory was successfully migrated to the SAP DVS of Inventor 5.3 in accordance with Inventor 8 and with the support of CIDEON.

The CIDEON Output Management, integrated in SAP PLM at Ammann in August of 2003, created the basis for the company-wide reprography (plotting and printing) and for the provision of documents in the file system. All data is now compiled in the SAP DMS system and either depicted graphically or printed out using predefined output devices. A CIDEON functional module is called up from the SAP system to generate the production papers. These will also transfer the appropriate production order number.

In August of 2003 work began on digitalizing the more than 225,000 microfilm cards and filing these in the SAP DVS system. Quality control included the alignment of the Scans. Drawings with more than one page were compiled as Multipage TIFF files. From April until the end of 2004 approx. 10,000 old original hand copies which had not been microfilmed, were also scanned and made available using the SAP PLM system.

In 2005 an extension of the SAP CAD Integration took place in cooperation of Ammann and CIDEON where the DXF generation of sheet metal blanks and the automatic filing of DXF files at the corresponding document information record system (DIS) was added to the SAP system. Until August of 2005 more than 100 Autodesk Inventor workplaces were completely linked to the SAP system through the CAD-Integration developed by SAP and CIDEON and with the support of colleagues from Alfeld. The integrated model and drawing administration helps to support various versions and release processes. In addition, TIFF files generated through the CIDEON Session Converter are being transferred to SAP. The same process was transferred to the Shanghai site by Bruno Meier in the fall of 2007 with only a few days needed for accomplishment. Three sites are currently using one Content/ Cache Server each.

Conclusion

The decision to gradually introduce the Product Life Cycle (PLM) solution integrated direct in the ERP system has proven itself and has also facilitated the actual introduction process. The experience gained in the individual project stages could thus be used and applied further, for example in the changes to the status net and the administration of the standard parts and item numbers. The investment quickly paid for itself. Last but not least, Ammann avoided having to carry out a complex data migration by introducing 3D-CAD at the main site.

