

REFERENCE CONSUMER PRODUCTS

Developing smart products globally

Strategic solution for mechatronic product development



For the past 75 years, the name Sennheiser has been synonymous with top-class products and tailor-made, fully-featured solutions for every aspect of sound recording, transmission and playback. Today, more than ever, a model company like Sennheiser needs to recognize and play a part in shaping technological change. Examples of this include miniaturization and the increasing volume of electronics and software in mechatronic components. To meet these requirements, Sennheiser has been relying on CIM Database as a global platform for product development since 1997. Today 850 users at 22 locations work with the PLM solution from CONTACT Software.



for class lists of characteristics and document management capabilities. After this, the ME10, SolidDesigner, CATIA V5 and CR5000 authoring systems were integrated. The final step was integration of Oracle's ERP solution EnterpriseOne.

Versatile and scalable: future-proof PLM system for complex development scenarios

Without a data management solution, it would be almost impossible to meet the many requirements in terms of productivity, efficiency and especially error prevention that are involved with the development of complex mechatronic products. It soon became clear to Sennheiser that CIM Database meets the requirements in terms of versatility and scalability – two important criteria for a company such as Sennheiser that is experiencing steady growth. What is more, the solution provides high-performance interfaces to all the key company IT solutions. This applies not only to development tools but, first and foremost, to the issue of ERP integration which permits the transfer of manufacturing information. The basic configuration of CIM Database was also highly rated because it comprehensively covers many requirements, is shipped ready-to-run and therefore quickly secures a range of initial benefits.

Fewer routine activities and less administration

The PLM project at Sennheiser was tackled accordingly – first of all with a drawing management facility, followed by a system

More time for creativity

The user benefits enjoyed today include a reduction in the number of routine activities involved and minimization of administrative tasks. One example is version management, which required a lot of time and discipline from users when performed manually. Design engineers receive information about released documents and the data derived from these documents on the basis of CIM Database. Sennheiser gained further benefits by implementing workflow management. One notable example of this is the automated generation of archive formats for a drawing, which can be visualized at a later point, such as during production. This gives design engineers greater scope for creativity.

ROI after just two years

To calculate its return on investment (ROI), Sennheiser carefully examined a number of aspects including the transfer of information to Oracle's ERP system EnterpriseOne, used to create manufacturing documents. Before the introduction of the PDM system, BOMs for printed circuit boards were transferred manually. When PLM was introduced, this step was automated, meaning that BOMs can now be transferred from electronic development to the ERP system without error. The Zuken CR5000 ECAD system now makes BOMs available in CIM Database and can access

“For us, CIM Database is the central module in our PLM strategy as it allows us to map the entire process chain.”

Jürgen Kelle, Project Manager IT, Sennheiser electronic GmbH & Co. KG

class lists of characteristics and the necessary master parts information via the PDM solution.

Parallelization of activities now possible

One characteristic of product development when competing in the global marketplace with ever-shorter product development cycles is, among other things, the need to run certain activities in parallel – which can also mean that you occasionally come to a “dead end” and have to go into reverse. In such cases, Sennheiser can at any time return to special development statuses which are available thanks to CIM Database’s version and variant management functionality. It is difficult to place a monetary value on such benefits, but it is assumed that CIM Database has amortized itself after a mere two years.

Material compliance and engineering change management

Sennheiser implemented a materials database for compliance management and end-to-end engineering change management (ECM) in a later phase of expansion. ECM made avoiding dead ends and parallelization possible. In practice, greater consistency with regard to the objects and processes to be changed and a better level of information regarding all engineering changes were achieved – providing benefits to the international locations in particular. Components and documents are available directly in the EC context. Comprehensive evaluation capabilities provide information about which articles are affected by an EC at the click of a button.

Standard-specific materials management

The solution for ensuring material compliance enables the standard-specific management of materials by means of classification according to compliance with, among others, REACH, RoHS, battery ordinance, packaging ordinance. The solution provided the audio specialists with maximum transparency regarding materials and origin, suppliers and the appropriate compliance status. Comprehensive evaluation capabilities with regard to compliance, suppliers and substances as well as the assurance of data recency by means of daily synchronization of data on the origin of materials with the ERP system make an

important contribution to Sennheiser’s performance when it comes to R&D productivity

The company

New dimensions in listening, impressive sound experiences and moments to give you goosebumps – that is what the audio world from Sennheiser delivers. The company is one of the world’s leading manufacturers of headphones, loudspeakers, microphones and wireless transmission technology. In the 2018 business year, the Sennheiser Group generated revenues of 710.7 million euros and employed an annual average of 2,734 employees.

The solution

- Central information hub for mechatronic product development
- 850 users at 22 locations
- Multi-CAX data management for Catia V5, ME10, Solid Designer and CR500
- Class lists of characteristics
- Document management
- Project management
 - Digital project folders
 - Workflow management
 - Version and variant management
- Material compliance management
- Engineering change management
- ERP Interface to EnterpriseOne from Oracle

Benefits

- Collaboration support through worldwide access to validated development data and documents
- Accelerated lead times thanks to efficient workflow management and digital project folders
- Less time and effort required for routine tasks (e.g. automated version management)
- Reduced error rates thanks to the automated transfer of BOMs to the ERP system
- assurance of materials compliance

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great minds***