



1 *EMELI expedites machine development*

EMELI: KEY TO STANDARDIZED PRODUCT DEVELOPMENT

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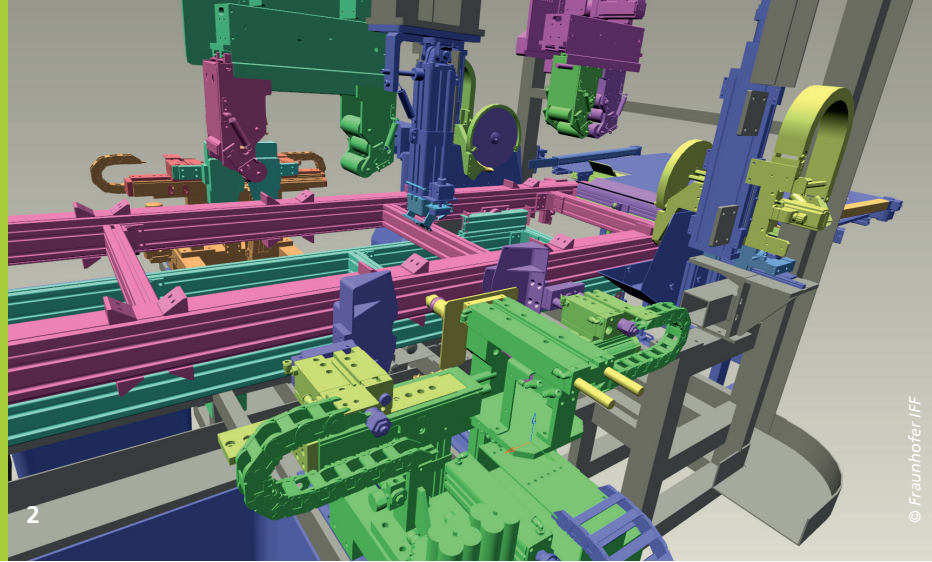
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One classic weakness during the development of ambitious and risky projects is communication among the individual engineering disciplines such as mechanics, electronics, control, etc. They normally work sequentially in isolation and typically exchange unstructured data in office documents. Data sets are inconsistent and work is done on different versions. The challenges and constraints faced by the other disciplines involved are often little understood. The Impacts of design decisions on other domains are not communicated.

EMELI as a Data Hub for Joint Engineering

The software environment EMELI centralizes all of the engineering disciplines' work on a mutual basis, thus enabling the engineers themselves to work hand-in-hand toward the success of a project. This

standardizes your project management and furnishes latitude for continual optimization and sustainable improvement. EMELI is a dynamic and intelligent engineering tool that constitutes a guideline and central data hub for everyone involved in a project. Using EMELI, first, all project documents and information are analyzed. Relevant information is stored in a central database and interrelated. Above all, this assures transparency, which was absent before, and immediate responsiveness from every other entity. Voids or conflicts in chains of functions or stages of development are identified directly. Projects are completed successfully in substantially less time.



Dynamic Functional Relationships Make Complex Correlations Transparent

The global view of a machine is presented by resources in EMELI. Resources are normally all of a system's equipment, components, functional modules or PLC I/Os, which have been defined in different engineering systems, e.g. a pneumatic cylinder. Relevant available data are stored in the database and interrelated using the resources. They are entered manually or automatically.

Resources enable engineers and technicians from different disciplines and departments to navigate and synchronize identical elements engineered in different systems and their properties as well as automatic detection of inconsistencies, e.g. article numbers of a sensor in MCAD and ECAD. What is more, functional relationships are established between resources (e.g. proximity switches and valves for pneumatic cylinders).

Your Benefits from EMELI

- Transparency for everyone involved in a project
- Fast detection and elimination of operational problems
- Effective error analysis and corrective actions during machine operation
- Standardization of project managements with continual optimization
- Reduction of the project and commissioning periods
- Up to 30 % reduction of planning periods

Knowledge about functional dependencies of machine components makes it possible to structure a machine clearly at an early stage and simultaneously to quantify system components almost completely. Moreover, portions of the control program can be generated automatically. EMELI creates transparency for complex correlations.

Efficient Error Analysis Support during Commissioning and Servicing

Searching for the actual cause of an error detected in a control program, e.g. during time monitoring, is normally very involved. First, the mechanical and electrical components concerned have to be identified and, then, their performance has to be tested. EMELI makes this job easier by directly identifying functionally dependent components in a critical situation and presenting them to users for functional testing. The linkage of MCAD and ECAD systems to EMELI expedites the location of documents and information, e.g. digital documentation, operating manuals, mechanical assembly, needed to take corrective actions.

System Information from EMELI

EMELI is an open communications interface with tools for structuring information and interfacing databases and gateways to different engineering systems. It is entirely multi-user capable. Read data can be accessed even without being connected to the database server.

Technology Partner to SMEs

Allow us to use our experience with digital engineering and the software system we have developed to enable you to benefit from integrated and, thus, effective and efficient development of custom machines.

2 Modeled development with EMELI.

Image: 1 Dirk Mahler