LMS Imagine.Lab SysDM

Collaborative Solution for Model Management in Model-Based Systems Engineering

The exponential increase of 'smartness' in a mechatronic system is driving the fastest adoption of Model-Based Systems Engineering.
This increase in complexity combined with globalization of business is a compelling reason to have a collaborative solution to enable global distributed development of mechatronic systems.

Model-Based Systems Engineering relies on system level models to simulate the overall performance and behavior of new intelligent products made of complex interactions between mechanical, hydraulic, pneumatic, thermal and electric/ electronic phenomena. This enforces collaboration across multiple engineering departments that develop models for components and subsystems, and system level engineering. Additionally these system level models need to be shared as 'plant' models, to accelerate model based controls engineering for embedded software. Such collaboration needs to extend to suppliers that take an increasing responsibility in overall product innovation and development.

The implementation of collaborative Model-Based Systems Engineering relies on the ability to share system data and models between all stakeholders in the product development process.

LMS Imagine.Lab SysDM is a solution to manage system models, libraries and architectures originating from LMS Imagine.Lab AMESim and other tools for system simulation, to support collaborative Model-Based Systems Engineering.
System simulation models and data can be organized with customer defined organization model, facilitating search & retrieval using engineering attributes. 'Version' management enables capturing of complete system model time evolution at various stages of the V cycle. The management of multiple representations of components and subsystems in a system is enabled with 'variant' management, allowing the instantiation of a system model at various stages of development. Role-Based Access Control supports the implementation of various collaborative workflows. Overall, it enables knowledge capitalization to improve productivity in the system simulation process.

➔ **ORGANIZE**
Organize system models through user defined organization model
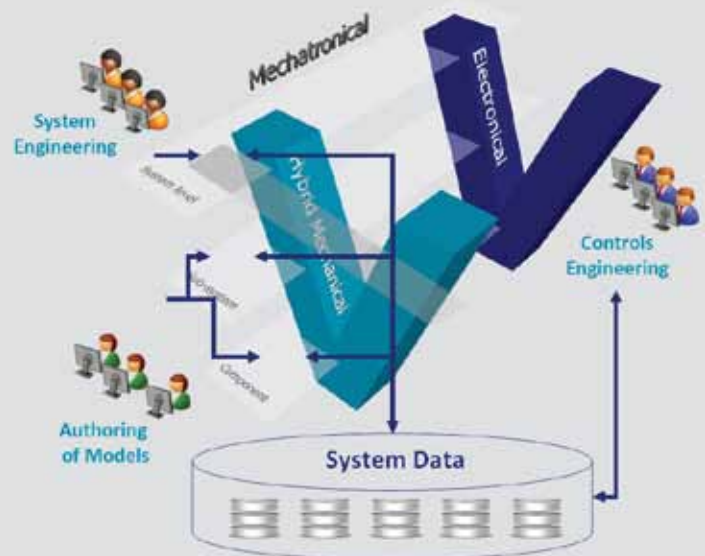
➔ **CONTROL**
Enable multi-user collaborative model development through Role-Based Access Control

➔ **SHARE**
Enable model sharing among controls, plant and system engineering community

➔ **USE & CAPITALIZE**
Put your resources and know-how to work for more effective and efficient system development

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LMS Imagine.Lab SysDM

Support collaboration workflows, and knowledge capitalization for Model-Based Systems Engineering

➜ **ORGANIZE**: Organize system models through user defined organization model

- Object approach for hierarchical handling of system models and related data, such as parameter sets, scripts, experiments as virtual elements and collections in support of Model-Based Engineering.
- Domain or organization-relevant classification and visualization of system models and data.
- Intuitive search and retrieval of system models and data.

➜ **CONTROL**: Enable multi-user collaborative model development through Role-Based Access Control

- Define user access rights to system models and data, based on roles, function, responsibilities.
- Role-based view and access control to the model – according to specific user's profile.
- Implement collaboration workflows, including for check-in and check-out of models, validation and upload of new versions, syndication to updates of models and data, etc…

➜ **SHARE**: Enable model sharing among controls, plant and system engineering community

- Version control features for model lifecycle management.
- Variant management to manage multiple instances of component subsystem and system models, function of stage of product development and purpose of simulation.

➜ **USE & CAPITALIZE**: Put your resources and know-how to work for more effective and efficient system development

- Open environment to manage models from LMS Imagine.Lab AMESim, Simulink and other system simulation tools.
- 'Standalone' configuration for individual desktop System Model Management.
- 'Enterprise' version for collaborative Model-Based Systems Engineering.

LMS Imagine.Lab SysDM

Easily integrates in the existing simulation environment and process

LMS Imagine.Lab SysDM
System Data Management

Model Update

Model Publish

LMS Imagine.Lab AMESim
Physics Simulation Platform
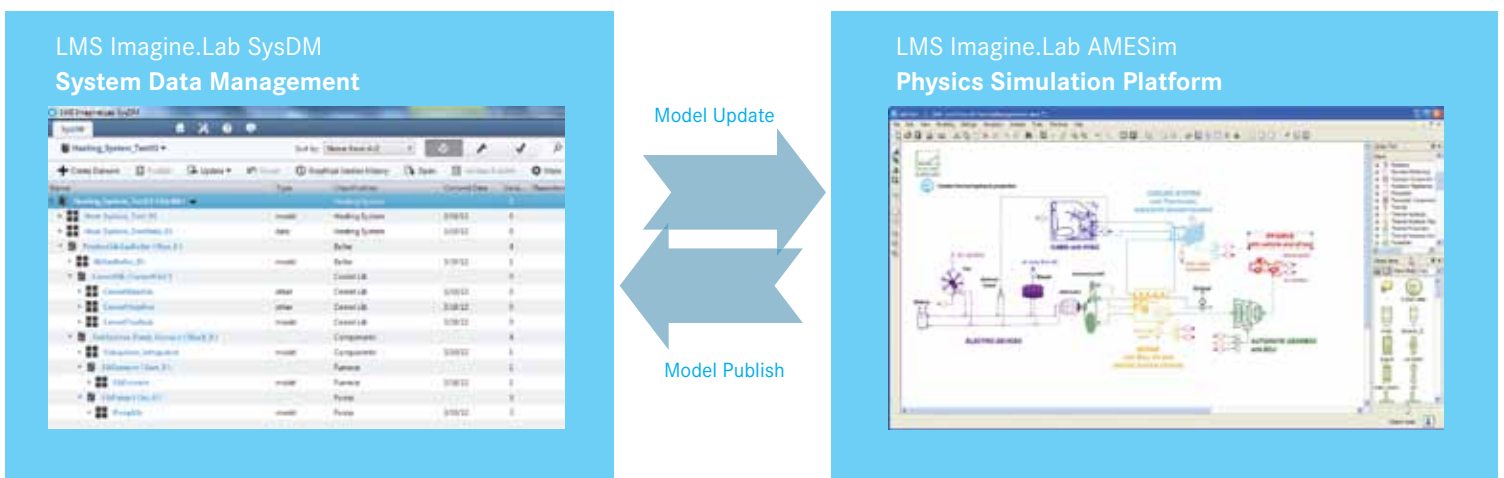
"LMS Imagine.Lab SysDM is a cornerstone to further increase the effectivity of simulation and enhances the collaboration in our diesel systems development. It also facilitates simulation model re-use for system engineering across multiple development projects".
Dr. Sebastien Kanne, Manager Diesel Systems Entwicklung, Bosch

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