PLS

Pacelab Suite

Preliminary design, first time right

Pacelab Suite is an early-design platform which provides product and systems engineers with unique modeling and analysis capabilities to explore and select robust concepts for the development of complex technical systems.

Benefits

Increased productivity
Shorter development cycles and faster time to market

Effective risk mitigation
Reliable data for strategic technology roadmap decisions

More competitive products
High-quality and innovative technological solutions

Investment protection
Easy integration into existing tool and process landscapes

Steady knowledge transfer
Dissemination of proven design solutions and best practices

Up to 80% of the final project costs are committed by the first 20% of engineering activity, making it crucial to develop a clear picture of your options as early as possible. We believe the best way to gain a full understanding of the design space and the trade-offs involved is to have a flexible product model which can be easily manipulated, adapted and analyzed from a variety of perspectives and if required, even turned inside out.

Pacelab Suite provides a fast building-block approach based on reusable parametric components and our unique SmartLinking technology, which enables you to spend less time on the mechanics of model-building and more time on evaluating and optimizing your design ideas. Engineered for third-party extensibility our platform will work seamlessly with your proprietary analysis methods and fully integrates into existing tool chains.

Pacelab Suite allows product and system engineers at aircraft, ship, rail and other vehicle OEMs and their first-tier suppliers to systematically explore and assess the key technical and economic characteristics of a much larger set of design alternatives resulting in better performing products and greater technological innovation.

PACE

a **TXT** company

⚙ Key Features

Building-block approach
Fast setup of product model from re-usable components

SmartLinking technology
Automatic or graphic interactive definition of mathematic relations

Flexible product model
Easy reversal of input and output parameters

Runtime solving
Instant feedback on changes to the product model

Efficient partial updates
Recalculations of equation system for changed sections only

Comprehensive analysis
Fully extensible multi-criteria optimization and trade-offs

Open software architecture
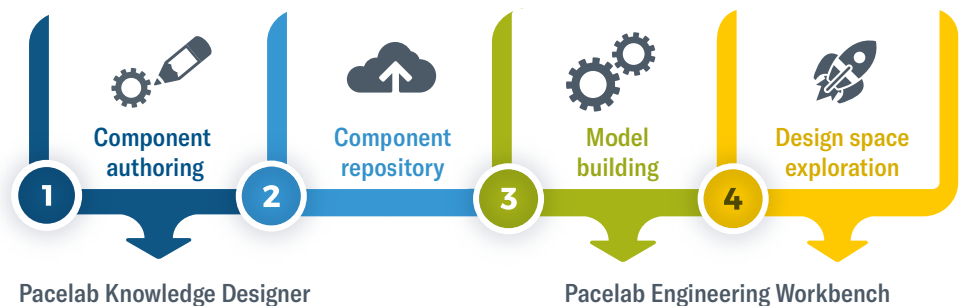Easy integration of commercial analysis methods and tools

The complete tool set for preliminary design

Pacelab Suite consists of an engineering workbench for product and system experts and a full-featured authoring tool. The authoring tool allows the parameterization of all relevant design aspects, from 3D geometry to sizing conditions, and combines them into re-usable knowledge components. Published in a central repository, these components are available for fast modeling, fostering a high degree of reuse, standardization and robustness.

Loaded into the engineering workbench, knowledge components can be connected automatically or through graphical interaction. The resulting parametric product model is solved at runtime taking care of complex numeric cycles. If you need to change the direction of your design investigation, simply swap input and output parameters – the solving engine will only recalculate the affected areas of the equation system saving you time and computation resources.

Our integrated optimizers and trade-offs support a sophisticated, goal-driven exploration of the design space. Pacelab Suite can be easily extended with proprietary or domain-specific analysis methods, as evidenced by our industry solutions for preliminary aircraft and systems architecture design.

To find out more or request a free software demo, please visit our website at www.txtgroup.com/markets/pacelab-products/pacelab-suite/.

1 Component authoring

2 Component repository

3 Model building

4 Design space exploration

Pacelab Knowledge Designer   Pacelab Engineering Workbench