



VIRTUAL COMMISSIONING

FROM PRACTICE – FOR PRACTICE

THE FACTS AT A GLANCE

WHAT IS fe.screen-sim?

fe.screen-sim is a software solution for virtual commissioning and system simulation. You can use it to create a digital model of your systems and machines – a so-called “digital twin” that behaves in exactly the same way as the real-life system/machine.

Its **impressive performance** capabilities will enable you to implement large and complex projects. The multi-user capability for simultaneously editing the model by several users is very advantageous here.

SCOPE OF APPLICATION AND SCENARIOS

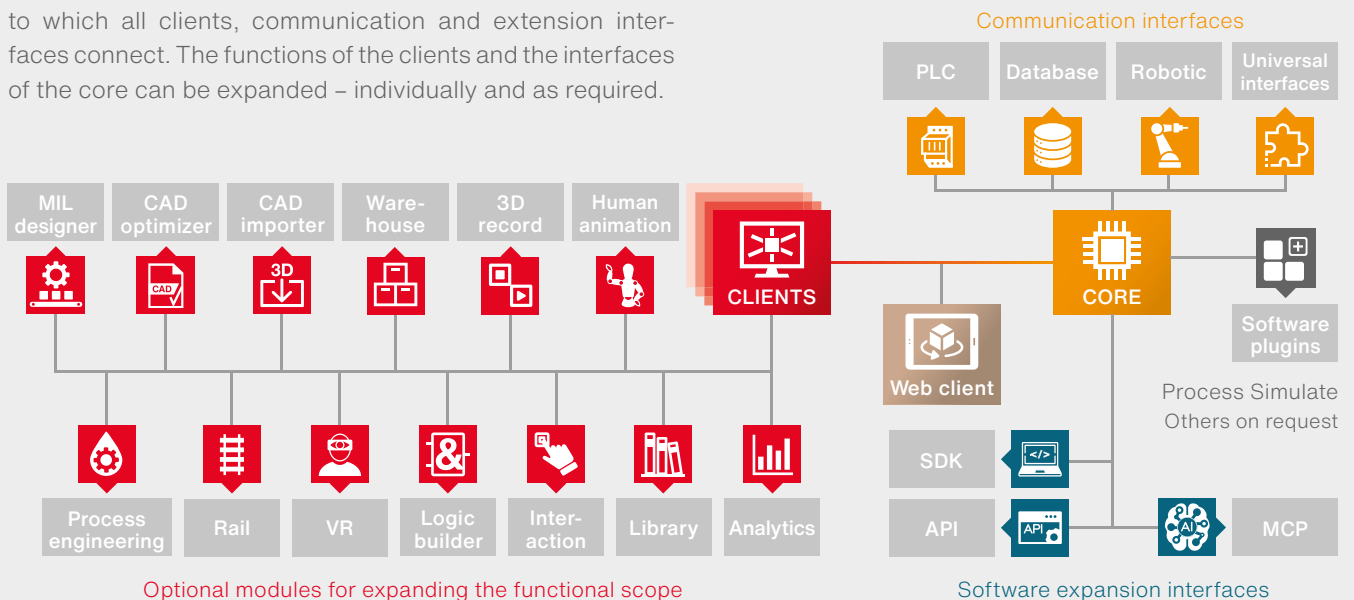
fe.screen-sim can be used in its entirety for applications **in any industry**. Currently the software is used in the plant and mechanical engineering sector, logistics, materials handling technology sector, the automotive industry as well as in automation and robotics sector with great success.

Typical **application scenarios** are:

- Virtual commissioning | Process optimisation |
- Collision checks | Functional inspections |
- Training scenarios | Feasibility analyses |
- HMI operating concept testing.

THE STRUCTURE OF THE SOFTWARE

From the outset, it was deemed very important that fe.screen-sim have a **modular structure** so as to ensure **maximum flexibility**. The beating heart of this is the so-called “Core”, to which all clients, communication and extension interfaces connect. The functions of the clients and the interfaces of the core can be expanded – individually and as required.



SYSTEM REQUIREMENTS

For ideal use of the fe.screen-sim software, the system configuration should be based on the current hardware standards. Of course, the software can also be used in conjunction with other, possibly already existing hardware components, depending on the complexity of the virtual model.

We are happy to advise you in this regard.

THE LICENSED VERSION

The fe.screen-sim licensing concept has a **modular structure** based on **floating licenses**. While communication interfaces are licensed once at the “Core”, clients have the opportunity to acquire optional modules and software extension interfaces. This licensing model creates maximum transparency and means that our customers are not faced with unnecessary costs.

CONNECTION OF EXTERNAL SYSTEMS



Our software solution provides interfaces for virtually all systems and data sources on the market, such as

- **Controllers:** Siemens, Rockwell, B&R, Beckhoff, Bosch, CODESYS Simulation Interface (Add-on, Preview), Fanuc, Mitsubishi and Omron.
- **Robotics:** ABB, Denso, Epson, ESTUN, Fanuc, isel, Kawasaki, KUKA, Mitsubishi, NACHI, RoboDK, Stäubli, Universal Robots und Yaskawa (others on request).
- **Databases and universal interfaces:** E. g. OPC UA, MQTT, Modbus, SQL.



OTHER FUNCTIONS AT A GLANCE







- **Integrated user and group management.**
- **Integrated library functions** of behavioural and CAD models – also for own extension.
- **Ability to create logic** in FUP and C#.
- **Graphic Assign:** Straightforward, automated assignment of connections, e. g. between the variable and simulation element.
- **Innovative editors** that allow you to subsequently edit materials, models and physical properties.
- **Automated signal assignment** of I/Os from the PLC to the model using Expressions Editor.
- **Integrated signal recorder.**
- **CAD import:** Use of over 30 CAD formats including native support of the most common CAD systems – such as SolidWorks, AUTODESK, Siemens, etc.
- **„CAD Optimizer“** for fast preparation and optimization of CAD data.
- **Web client:** Simulation directly in the browser – without local installation.
- **MIL designer:** A tool that can be used to automatically simulate and test processes even without a coupled control system.
- **Analytics:** Effective data and cycle time analysis on the digital twin.
- **Time control** for displaying processes in slow motion or fast motion.
- **Integrated physical calculation** of friction, speed, etc.
- **„emulation.box“** for simple emulation of up to 700 fieldbus devices.

WHAT MAKES fe.screen-sim UNIQUE



- **AI coupling via MCP** for automatic generation, control, analysis and optimization of models using AI systems.
- **Non-stop multi-user simulation** – several users work non-stop and simultaneously on the same digital twin – regardless of location and without switching between editing and simulation.
- **Outstanding performance** and maximum scalability, even for highly complex large-scale systems.
- Over **30 interfaces** – manufacturer-independent compatibility as well as open **API and SDK interfaces.**
- **Integration of a wide range of technologies** such as robot cells, AGVs, EMS, Power&Free or classic conveyor technology.
- Experience the system realistically via **virtual reality** – perfect for perfect for optimizing layout planning and for training purposes.

YOUR BENEFIT FROM USING OUR SOFTWARE

- **Shorter project runtimes:** Develop mechanics, electrics and software in parallel – for a faster, smoother go-live. 
- **Minimized project risks:** Detect and rectify errors on the digital twin – before they become expensive in the real system. 
- **Lower project costs:** Fewer physical tests, less downtime, fewer expensive corrections in the late phase. 
- **Maximum system quality:** Reproduce test scenarios as often as required, repeat errors in a targeted manner and rectify them reliably. 
- **Safe training:** Qualify personnel on the digital twin – without downtime, hardware-independent and risk-free. 
- **Clear project communication:** Simulations as a visual decision-making aid – for all project participants at a glance. 

Comprehensive range of services provided by F.EE and a partner network – e. g. creation of function logics, simulation models, VIBN support, development of customised modules and functions.

ESTABLISHED IN PRACTICE - AN EXCERPT OF THE SATISFIED USERS of fe.screen-sim

BMW
GROUP

LIEBHERR

KNAPP

AUTOMATION
baumann

GROB

GROB-WERKE GmbH & Co. KG

KUKA

Schaeffler Special Machinery



thyssenkrupp

SCIO
AUTOMATION

LTW
INTRALOGISTICS

F.EE GmbH | Business division Software + Systems

Industriestraße 6 | 92431 Neunburg vorm Wald | Germany

+49 9672 506-0 | softwarevertrieb@fee.de

www.fescreen-sim.com

VISIT THE **SIM.ACADEMY!**

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