

3D simulation for manufacturing
logistics and digital twins

FlexSim

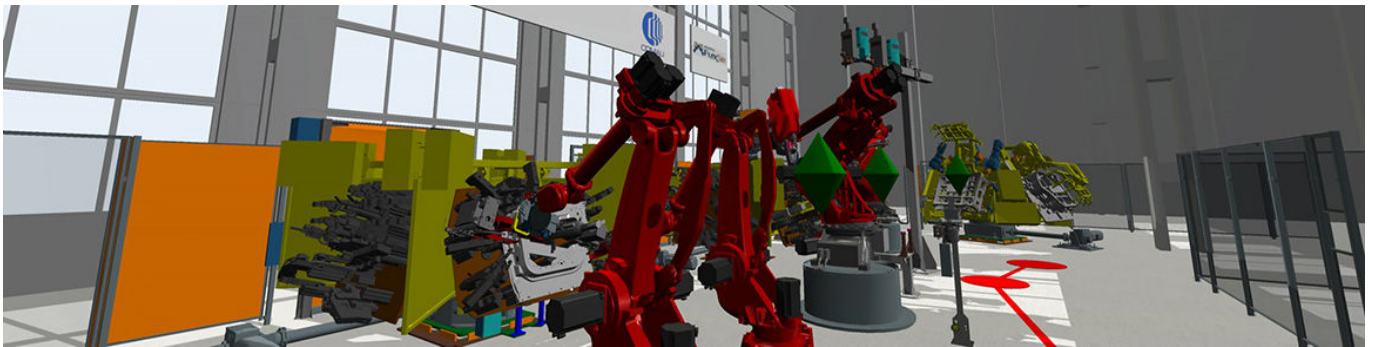


FlexSim: Plan, test and optimise production lines in 3D before a single bolt is tightened.



FlexSim is simulation software for discrete-event simulation. Models are built using drag-and-drop directly in 3D space and replicate the appearance and behaviour of the real-world plant. This allows existing and planned systems in production and logistics to be analysed risk-free before changes are implemented in the real world.

Pre-built object libraries and selection lists deliver quick results without the need for programming knowledge. Complex logic can be modelled using the Process Flow flowchart tool or custom scripts. The software is used worldwide across a wide range of industries.



Areas of application:

- **Manufacturing and factory simulation:** production lines, throughput analyses, bottleneck investigations
- **Warehousing and intralogistics:** material flow, conveyor technology, order picking, warehouse processes
- **Supply chain simulation:** analysis and validation of supply networks
- **Healthcare:** patient flows and processes in hospitals
- **Industry 4.0:** digital twins and PLC emulation for the validation of control logic

Key features:

3D modelling

- Drag-and-drop model creation directly in the 3D view with realistic visualisation
- Standard object library with pre-configured, customisable objects
- Process flow: logic presented as a flowchart using ready-made activity blocks
- CAD import and 3-axis layout for precise spatial relationships and accurate travel times

Analysing and Optimising

- Modelling real-world fluctuations using statistical distributions
- Dashboards, charts and statistical analyses
- Experimenter: calculating, comparing and documenting several scenarios in parallel
- Scenario optimisation with multiple objective functions using the integrated OptQuest engine

Integrate and Expand

- FlexScript (C++-like), full C++ integration and a module SDK for custom components
- Data integration with existing systems, for example via a RESTful HTTPS API
- Direct import of CAD and BIM data from AutoCAD, Inventor and Revit
- Collaboration on the digital twin via NVIDIA Omniverse (OpenUSD) and VR at the click of a button

Digital twins and PLC emulation with FlexSim

FlexSim is a ready-to-use standard software solution for digital twin applications. Robust database interfaces, a RESTful HTTPS API and a web server interface connect the model to real-world data sources, in real time if required. FlexSim also supports AI and machine learning, including a tool for training reinforcement learning algorithms.

FlexSim offers an integrated PLC emulation for verifying control systems. Control logic is first designed and tested in Process Flow, after which the actual PLC logic is validated against the model. Connections to OPC DA/UA tags, Modbus registers or Allen-Bradley tags can be linked to the 3D objects in the model with a single click.



**We'd be delighted to show you the
benefits of FlexSim for your
production and logistics!**

Manufacturer / Source

FlexSim is developed by Autodesk. SimPlan is the distribution partner for Germany and is on hand to assist you, from the initial model right through to the completed simulation project.

Free trial

A free trial version of FlexSim is available via Autodesk. SimPlan will assist you with getting started, installation and commissioning, as well as with your first modelling steps. In addition, we offer training, support and project guidance.

Please feel free to contact us

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