

SOFTWARE TOOLS

(* free or open-source software)

CAD, Preprocessing, Meshing

SolidWorks | ProEngineer | PTC Creo | FreeCAD* | ANSYS und Abaqus Preprocessing & Meshing | Altair Hypermesh | NetGen* | Salome* | OpenCascade* | SnappyHexMesh* | Gmsh* | cfMesh* | blockMesh*

FE, MBS, Particles, System Modeling| Mechanics, Heat Transfer, CFD, Electromagnetics, Multi-Physics

ANSYS: Mechanical | Acoustics | CFD | Maxwell | HFSS | Icepak | Siwave
Abaqus mit Tosca, Isight, FE Safe
Altair Hyperworks
LIMIT
FEMM* | ProFEMAG* | CST
LIGGGTHS* | NGSolve* | OpenFOAM* | Caelus*
OpenModelica* | Dymola | MapleSim

Electronics, Circuit Simulation

LTSpice | Altium

Automation, Virtual Commissioning, Digitalization, Robotics

industrialPhysics | Vires VTD | esmini* | ROS | Gazebo | FIWARE* | LabVIEW

LCM Software Tools

SyMSpace* | HOTINT* | X2C* | TechCalc

Mathematics, Numerics, Visualization and Postprocessing

MATLAB Simulink | SciLab/Xcos* | Mathematica | Maple | Python* | Paraview*

Machine Learning, AI, Data-based Models, Hybrid Models / Combined Physics- and Data-based Simulation

PyTorch* | TensorFlow* | Python* | Keras* | MATLAB

Software development, Programming, Scripting

C/C++ | Python | Java | JavaScript | C# | Visual Studio | GitLab