3. Software and Lizenses

Moldex3D
- Simulation of extrusion and injection molding processes (flow behavior and resulting properties)

B&R Automation (limited licenses)
- Machine control
- Developing digital twins with simulated parameter settings

ANSYS
- Polyflow - flow behavior during extrusion and injection molding
- Fluent - flow simulation
- Thermal - thermal simulation
- Mechanical - static and dynamic calculation of mechanical load cases
- LS-Dyna inside Workbench - highly dynamic load cases, crash behavior
- ACP - calculation of anisotropic material properties of fiber composites
- OptiSLang - Optimization of parameterized simulation models (across modules)

MATLAB
- Solving mathematical problems

Altair
- EDEM (DEM-software for bulk solids simulation)

MSC One
Structural mechanics
- Apex - CAD direct modeling, generative design
- Dyntran - structure-fluid interactions
- Marc - simulation of large deformations
- Nastran - mechanical load cases
- Patran - Creation of FE-optimized CAD models

Multi-body dynamics
- Adams - Simulation of Mechanical Systems
- Easy 5 - simulation of regulation and control technology

Acoustics and fluid simulation
- Actran - vibrations and acoustics simulation
- Cradle - fluid dynamics

Material simulation
- Digimat - Nonlinear, multiscalar material & structure modeling
- MaterialCenter - material models, data and process analysis

Simulation data and process management
- SimManager - data management along development processes

Lifetime and operational strength
- CAEfatigue - simulation of permanent load, damage modeling

Process simulation
- Simufact - simulation of forming, joining prosess, additive manufacturing

Thermal simulation
- Sinda - Complex Thermal Analysis