



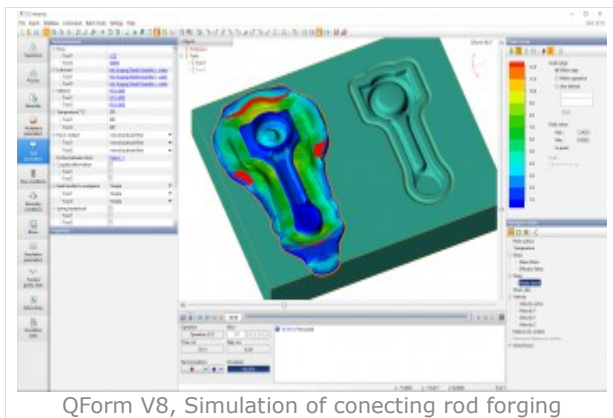
# DIGITAL DESIGN SOLUTIONS

(PRODUCT LIFECYCLE MANAGEMENT SOLUTIONS)

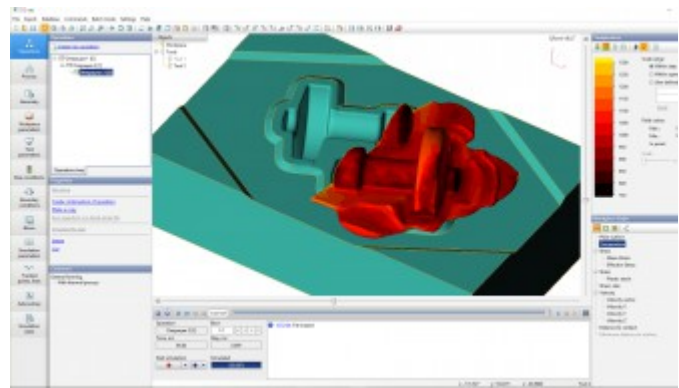
## QForm V8

**QForm V8** is intended for simulation and optimization of cold, warm and hot die forging, open die forging, rolling, profile extrusion and other metal forming processes. A variety of additional special modules such as microstructure prediction, heat treatment simulation, user subroutines assignment and other can be implemented in program.

New **QForm V8** is a software package is the latest development of our simulation software based on the solid background of the QForm 7 platform. The software has the most user-friendly interface in the market, the fastest simulation time thanks to the most modern programming techniques and wide functionality. The very powerful and universal software core makes it possible to simulate any kind of metal forming processes. We have put all of our 25 years' worth of experience in metal forming simulation into the development of the only software in the market that has a fully automatically and highly adaptive mesh generator.



QForm V8, Simulation of connecting rod forging



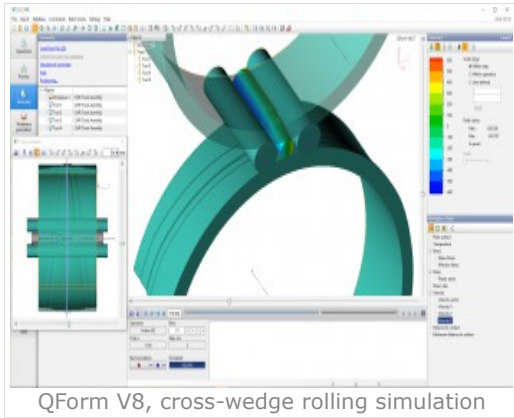
QForm V8, Forging simulation with rotational symmetry plane

New algorithms allow for very effective use of modern multicore processors and all computer resources, resulting in significantly faster simulations. Results can be displayed in real time even while a complicated simulation is running because the solver and user interface are separate but run concurrently.

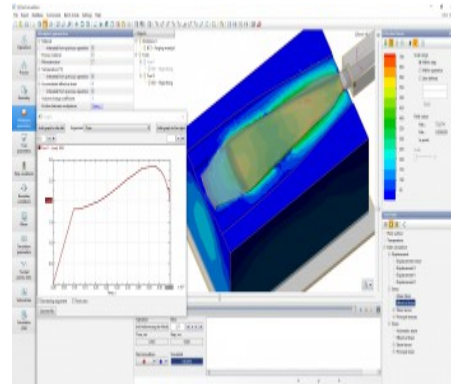
The user assigns initial data, manages the simulation process and views simulation results from a single interface window. Many tools are available to allow the user to quickly define complex technological processes as well as to easily view the wealth of data available from the simulation.

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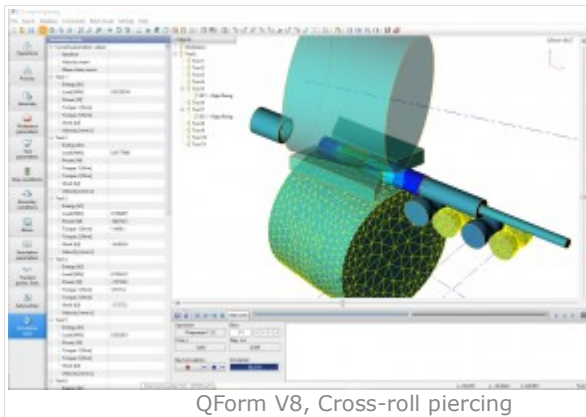
QForm V8, cross-wedge rolling simulation



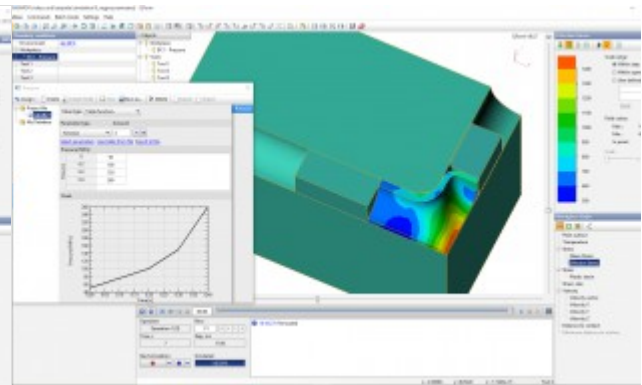
QForm V8, Mechanically coupled simulation. Effective stress in the tool

**QForm V8** can simulate most metal forming processes and the variety of processes that can be simulated in **QForm** is continuously being extended thanks to the following features:

- coupled thermo-mechanical problem in Workpiece-Tool system
- simulation of complex tools
- forming of multiple workpieces of different materials
- simulation of spring loaded tool and load holder
- implicit and explicit integration method
- user defined functions (UDF)



QForm V8, Cross-roll piercing

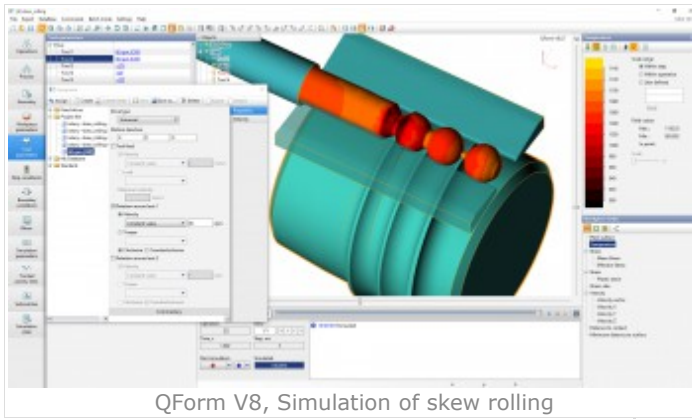


QForm V8, Hydroforming simulation

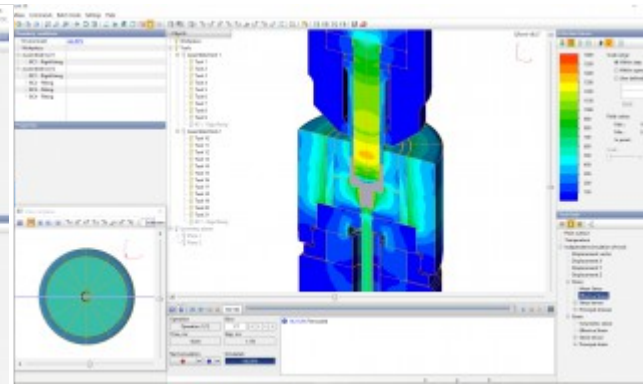
- special boundary conditions for workpiece and tool
- simulation of visco-plastic and elastic-plastic deformation
- simulation of thermo-elastic-plastic problem
- powerful capabilities for modifying simulation parameters and finite element mesh

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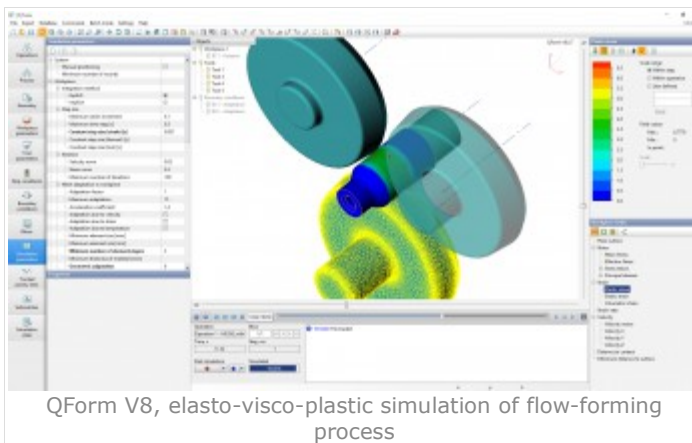


QForm V8, Simulation of skew rolling

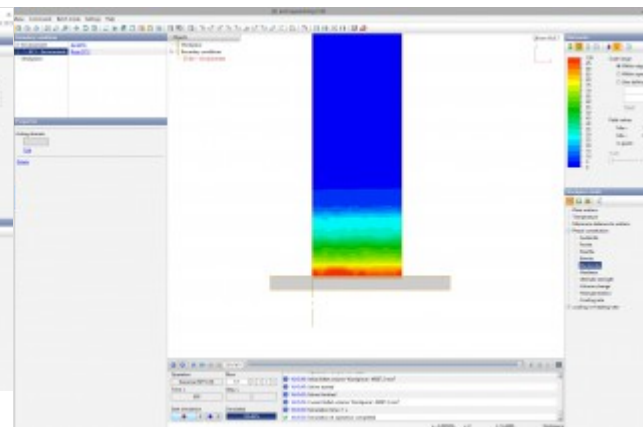


QForm V8, Mechanically coupled simulation of assembly tool

- interfaces with popular casting simulation software (ProCast, MagmaSoft)
- data import from special software for calculation of materials thermophysical properties (jMatPro)
- interfaces with software for microstructure and phase transformations simulation (MatILDa)



QForm V8, elasto-visco-plastic simulation of flow-forming process



QForm V8, End quenching simulation

Finite element mesh generation and remeshing during simulation are carried out automatically and generally don't require the user's intervention.

**QForm V8** comes with a huge database of deformed materials, tool materials, drives and lubricants. There are models of mechanical, hydraulic and screw presses, hammers, rotational equipment and several friction models specified in the program.

The detailed user's manual is translated into five languages and includes descriptions of all features of the program as well as many interesting examples and theoretical basics of metal forming processes simulation in **QForm V8** written in an easy to understand style.

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