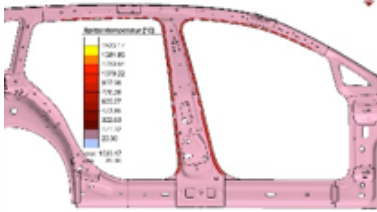# The Top 10 Advantages of Simufact Welding 6

1

Introduction of further simplified calculation methods

- Allows simulation of complex welding assemblies, containing a high number of weld seams, within sufficiently short calculation time
- Improves the multi-layer welding simulation ability
- RSW: Software can now also be used for complex assemblies with hundreds of welding points
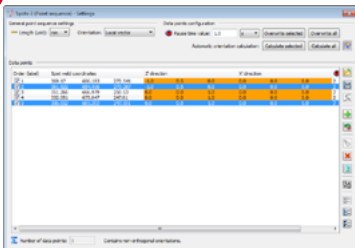
2
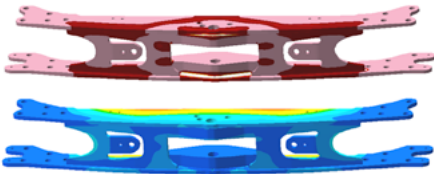
Increased scalability in the software

- The user can now choose from five different calculation methods, which differ in processing speed, the quality of calculated results and the result frequency
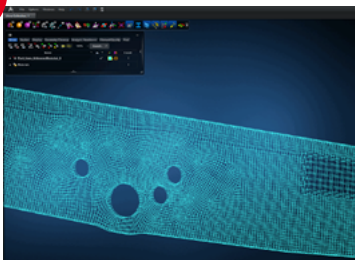
3

Improved software control during the modelling process (pre-processing)

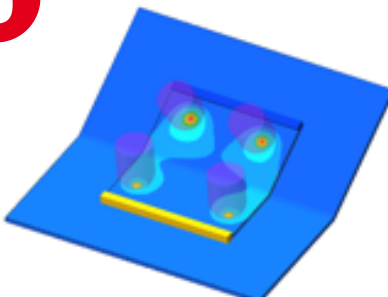- Further automation can increase the software's ease-of-use and saves model setup time

4

Meshing

- A package with APEX Modeler (FOSSA) for an attractive price

5

Resistance Spot Welding:

- Common welding gun kinematics (C- and X-gun with their typical movement) as well as typical electrode geometries are respected within the simulation
- User-defined electrode geometries can also be used
- Material of electrodes is respected during the calculation

simufact
Simulating Manufacturing

The Top 10 Advantages of Simufact Welding 6

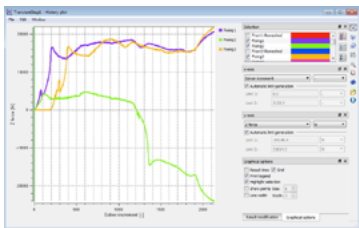## Improvements in the analysis and presentation of results

6
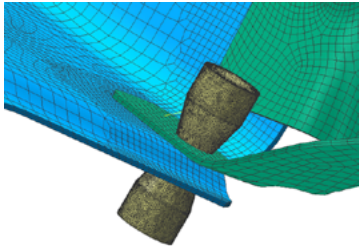
Time History Plots:

- The customer can evaluate the forces acting on clamping tools as well as resulting movement of them. The resulting X-Y-diagrams can be exported into CSV format
- Makes it possible to optimize clamping devices

7

Post particles / Particle tracking

- New, flexible definition of measuring points after simulation
- Advantage: Synchronize the simulation data with the measured data
- Allows representation of simulation results in exportable X-Y diagrams
- To evaluate the structure

Advanced mapping of welding processes

8

New Application Fields: Electron Beam Welding and Laser Beam Welding

- Caused by a division within Beam Welding
- New features in Electron Beam Welding: Vacuum chamber can now be considered when calculating heat loss, pre-and post-welding

9

New application field: Brazing

- Allows the heat input to be limited to the soldering, as found within real-life brazing processes

10

New application field: Stress Relief

- To date only the reduction in the yield strength of the material is simulated during the heating process and resulting temperatures of the component. The stress relaxation due to reduced yield strength is then calculated

Please find a detailed description of the product functionalities on our website:
www.simufact.com

simufact
Simulating Manufacturing
MSC Software Company