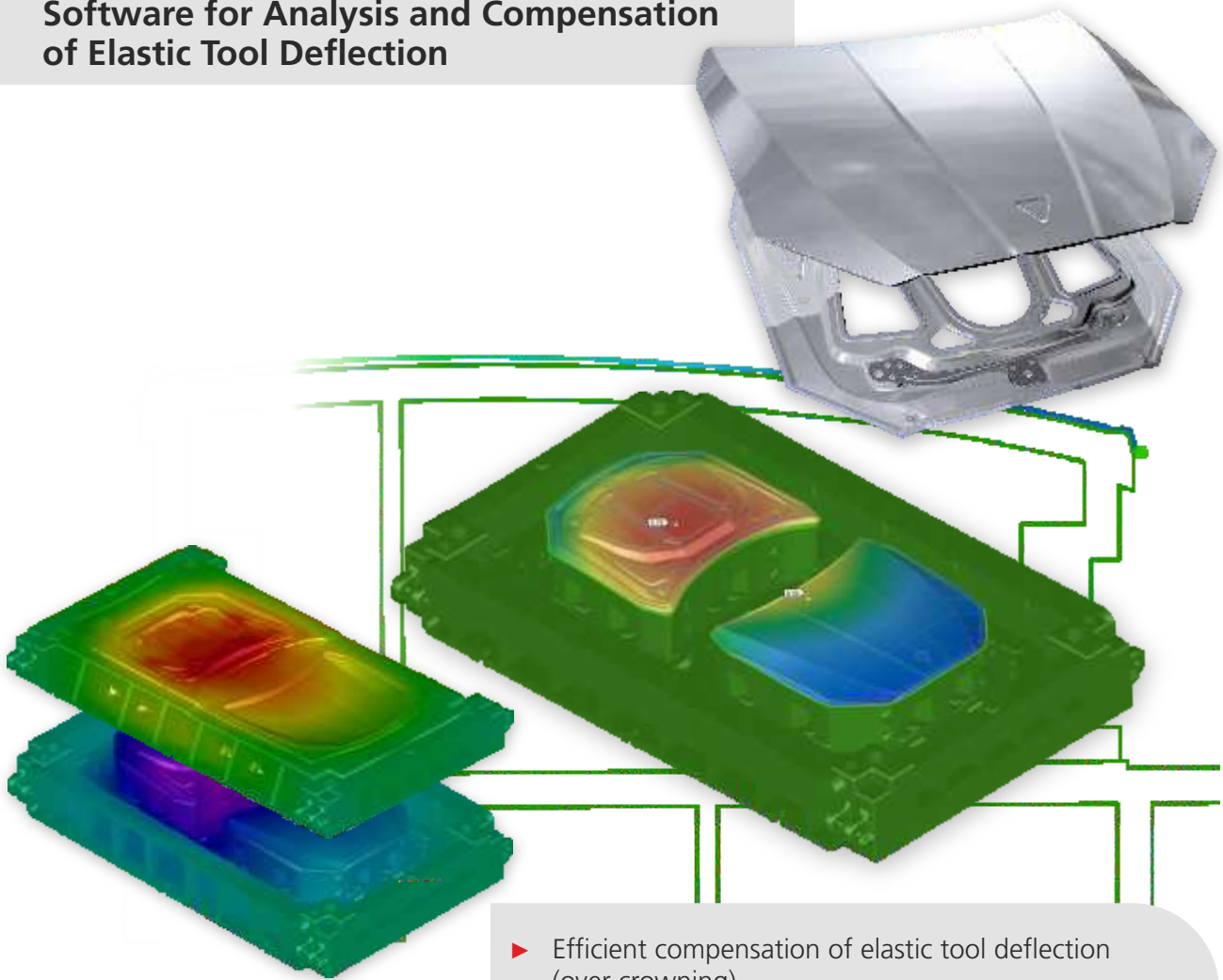# AutoForm-ToolDeflect

Software for Analysis and Compensation of Elastic Tool Deflection

- ► Efficient compensation of elastic tool deflection (over-crowning)
- ► Effective application in the early process design phase as well as in the final validation phase
- ► Tool substructure generator for creation of 3D solid tool concepts
- ► Press elasticity model generator to represent individual press conditions
- ► Reduced number of tryout loops, rejects and press downtime in production
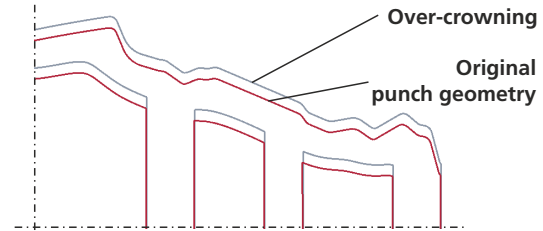
AUTOFORM

Forming Reality

AutoForm-ToolDeflect

Efficient Elastic Tool Deflection Calculation and Compensation – Over-Crowning

AutoForm-ToolDeflect allows for efficient compensation of elastic tool deflection, a process known as over-crowning. The software can be easily applied in the early process design phase as well as in the final validation phase, enabling users to avoid unnecessary tryout loops and thereby improve production efficiency.

Tool deflection is an important issue in the manufacturing of parts as it leads to an increased number of tryout loops, rejects and press downtime in production. In order to ensure efficient production, deflection has to be compensated. AutoForm-ToolDeflect enables users to compensate elastic tool deflection by over-crowning tool surfaces automatically.

AutoForm-ToolDeflect can be applied in the early process design phase when the final tool geometry is not yet available in CAD. The newly developed substructure generator enables users to create a draft tool substructure, so that initial tool design concepts can be quickly created based on part geometry only. By analyzing various alternative concept designs, users can select the most effective design with minimal elastic tool deflection.

Efficient compensation of elastic tool deflection (over-crowning)

The software can also be applied in the final validation phase by using already existing final tool geometry data in CAD. When the tool deflection has been calculated, users can carry out an over-crowning. The software supports different over-crowning strategies, such as applying the compensation on both die surfaces or on one of them only. The over-crowning results can then be used for the milling preparation. In this way, AutoForm-ToolDeflect enables users to avoid unnecessary tryout loops and thus improve production efficiency.

Contact forces

Forming simulation

Calculation of elastic tool deflection

Over-crowning
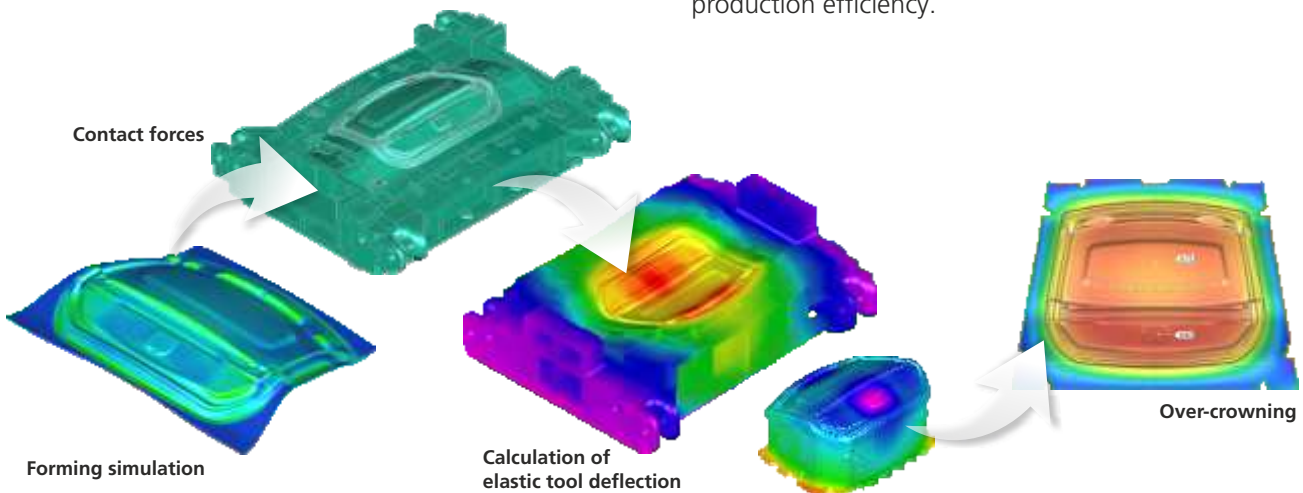
AutoForm Engineering – Company Offices

Switzerland	Pfäffikon SZ	+41 43 444 61 61
Germany	Dortmund	+49 231 9742 320
The Netherlands	Rotterdam	+31 180 668 255
France	Aix-en-Provence	+33 4 42 90 42 60
Spain	Barcelona	+34 93 320 84 22
Italy	Turin	+39 011 620 41 11
Czech Republic	Praha	+420 221 228 481
Sweden	Stockholm	+31 180 668 255
United States	Troy, MI	+1 888 428 8636
Mexico	Querétaro, Qro.	+52 442 208 8242
Brazil	São Bernardo do Campo	+55 11 4122 6777
India	Hyderabad	+91 40 4600 9598
China	Shanghai	+86 21 5386 1153
Japan	Tokyo	+81 3 6459 0881
Korea	Seoul	+82 2 6332 1150

AUTOFORM
Forming Reality