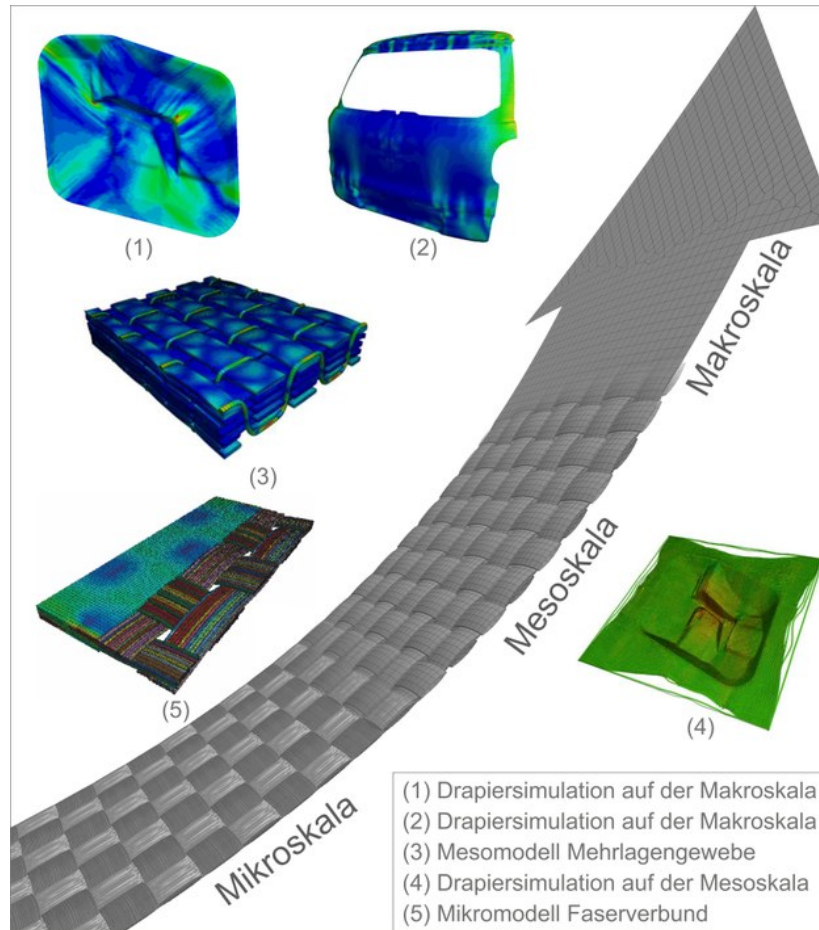
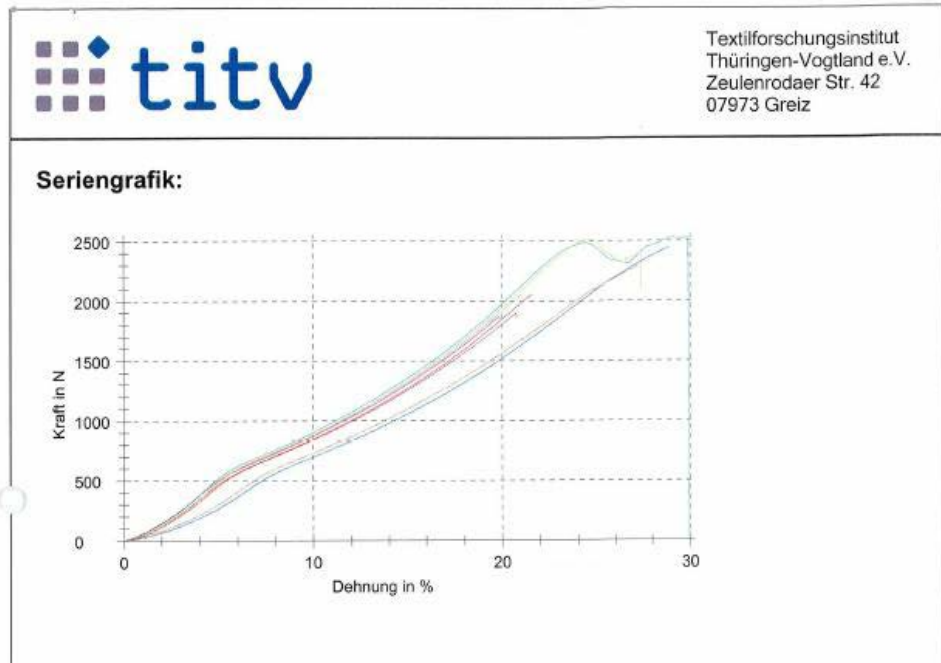


Ablauf einer FEM-Berechnung

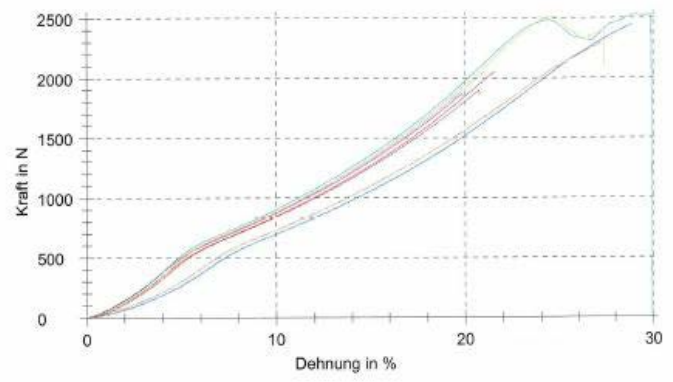


Quelle: <https://tu-dresden.de/ing/maschinenwesen/itm/forschung/forschungsfelder/prozessuebergreifende-bereiche/struktur-und-prozesssimulation>, 22.09.17

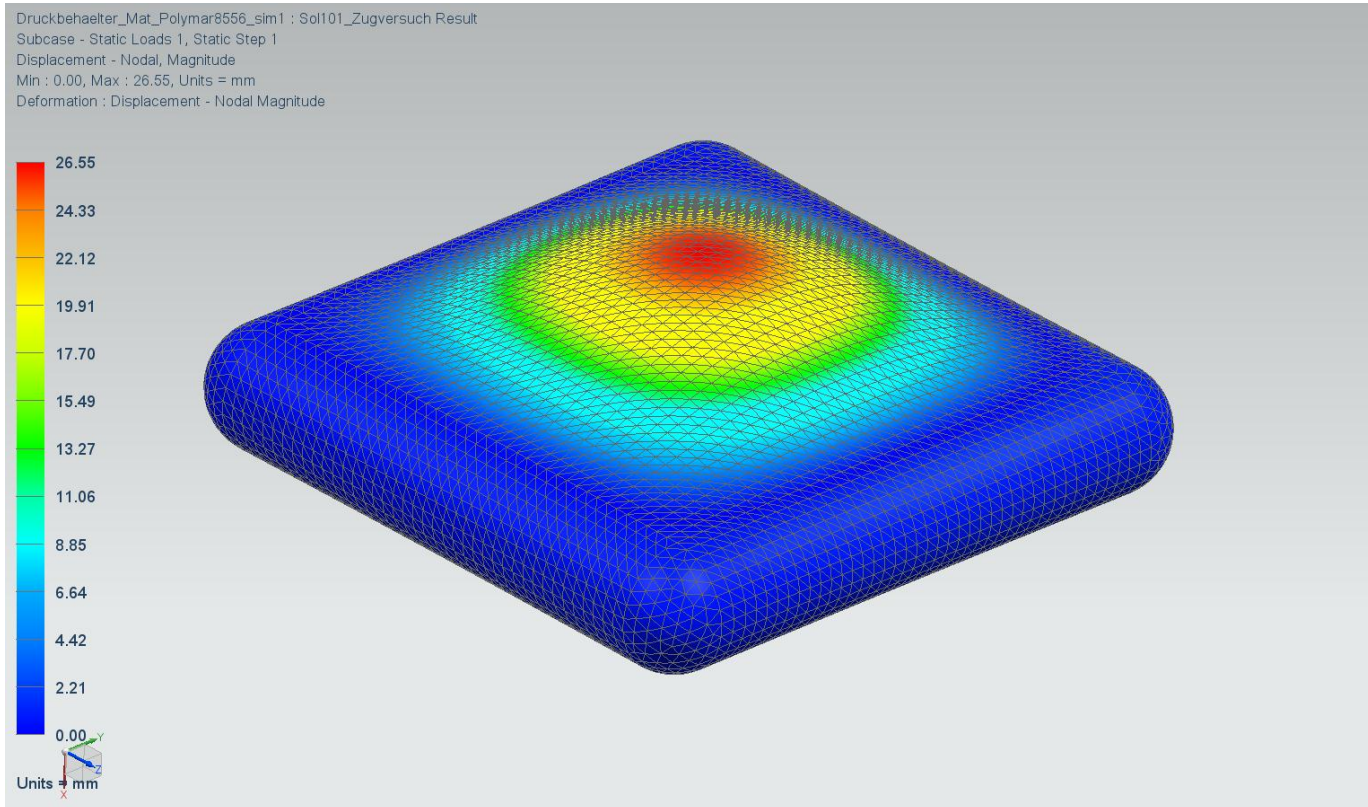
Analysemethoden



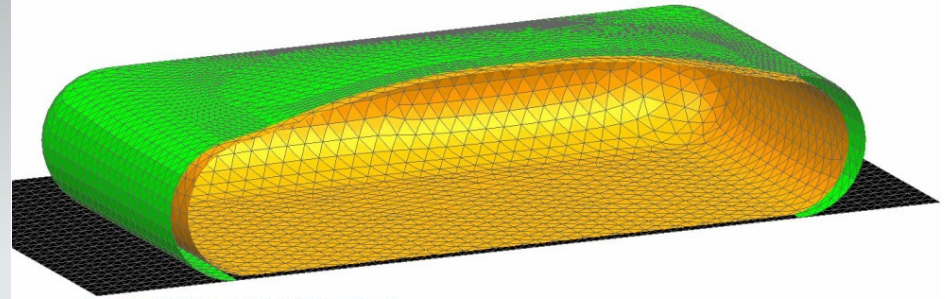
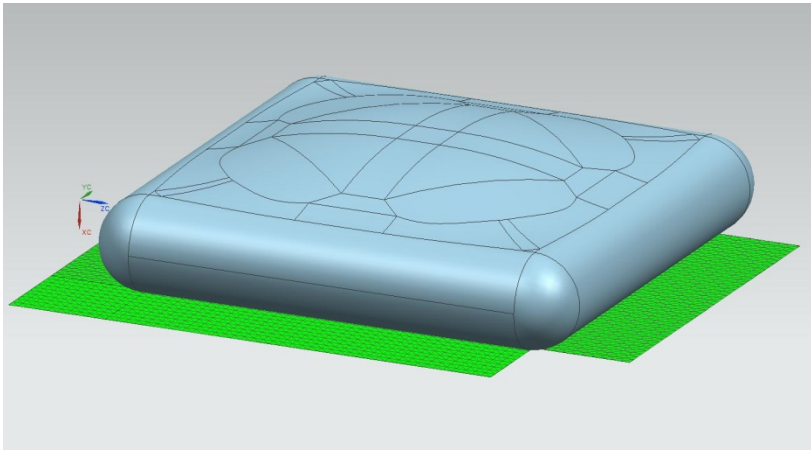
Seriengrafik:



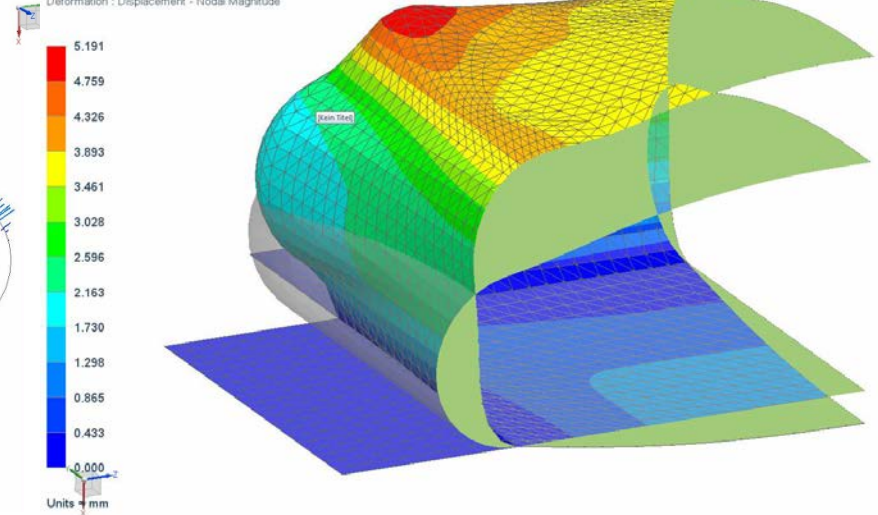
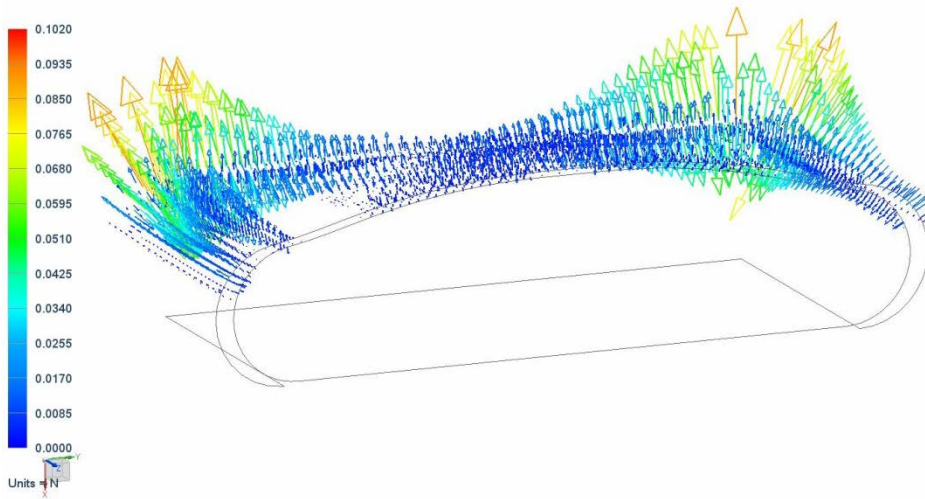
Experimentell ermittelte Materialdaten



Modell Textilkissen 800x800 mm; Verformung unter Innendruck

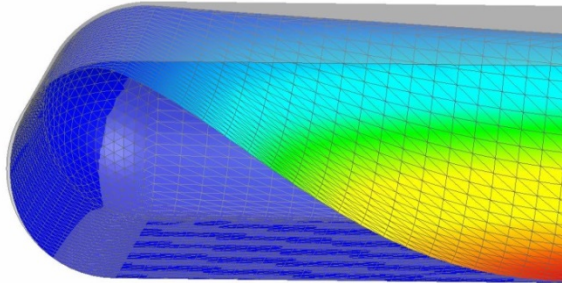
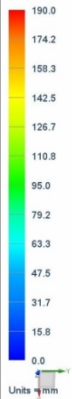


Druckbehälter_Mat_Polymer6556_sim1 : Sol101_Temp Result
Subcase - Static Loads 1, Static Step 1
Displacement - Nodal, Magnitude
Min : 0.00, Max : 29.61, Units = mm
Deformation : Displacement - Nodal Magnitude

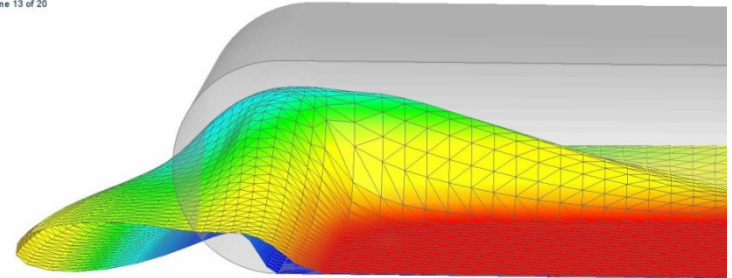
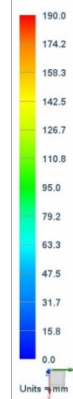


Kontaktkräfte infolge Expansion eines Füllvolumens (lokales Ausbeulen)

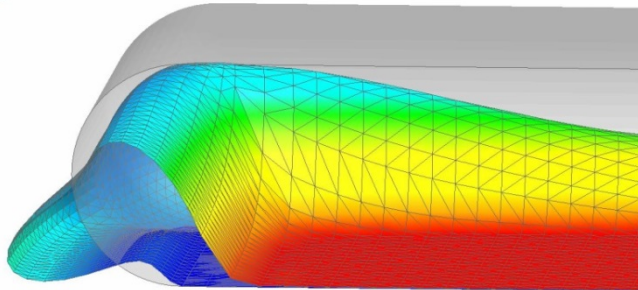
Druckbehälter_Mat_Polymer8556_sim1 : Sol601_Grav Result
LF1_grav, Non-Linear Step 2, 2.000e+000
Displacement - Nodal, Magnitude
Min : 0.0, Max : 189.1, Units = mm
Deformation : Displacement - Nodal Magnitude
Animation Frame 2 of 20



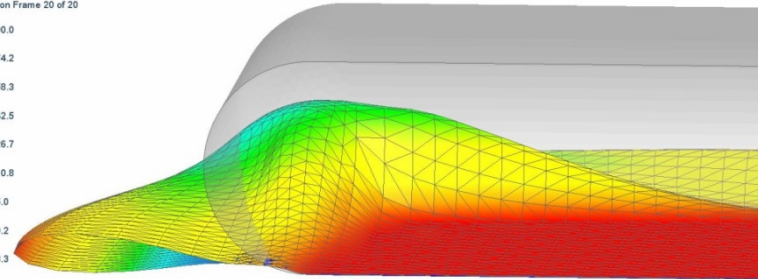
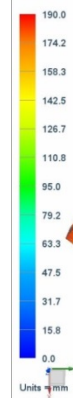
Druckbehälter_Mat_Polymer8556_sim1 : Sol601_Grav Result
LF1_grav, Non-Linear Step 13, 1.300e+001
Displacement - Nodal, Magnitude
Min : 0.0, Max : 233.2, Units = mm
Deformation : Displacement - Nodal Magnitude
Animation Frame 13 of 20



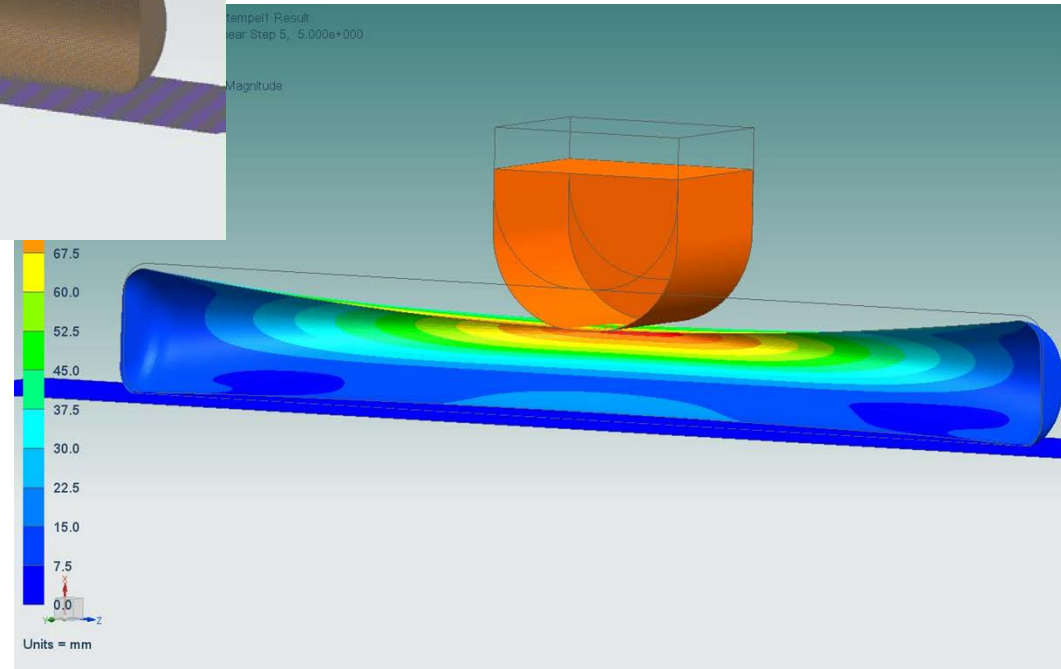
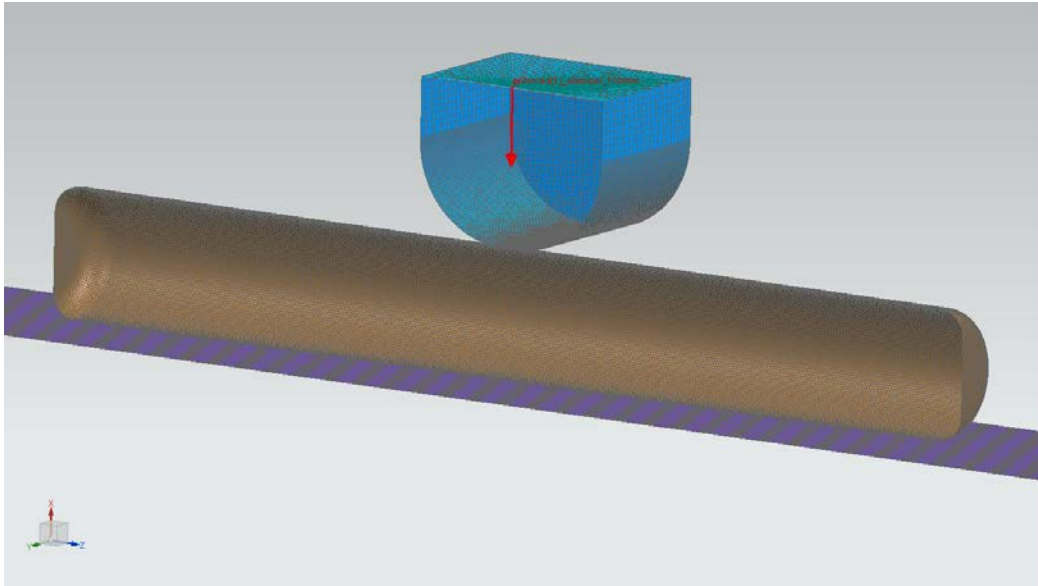
Druckbehälter_Mat_Polymer8556_sim1 : Sol601_Grav Result
LF1_grav, Non-Linear Step 6, 6.000e+000
Displacement - Nodal, Magnitude
Min : 0.0, Max : 217.0, Units = mm
Deformation : Displacement - Nodal Magnitude
Animation Frame 6 of 20



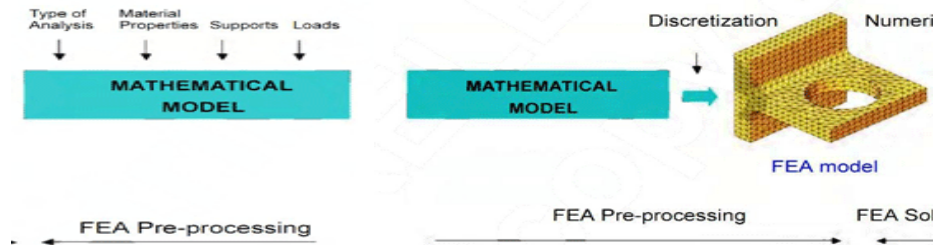
Druckbehälter_Mat_Polymer8556_sim1 : Sol601_Grav Result
LF1_grav, Non-Linear Step 20, 2.000e+001
Displacement - Nodal, Magnitude
Min : 0.0, Max : 235.9, Units = mm
Deformation : Displacement - Nodal Magnitude
Animation Frame 20 of 20



Verformungsdarstellung Faltversuch (Textilkissen)

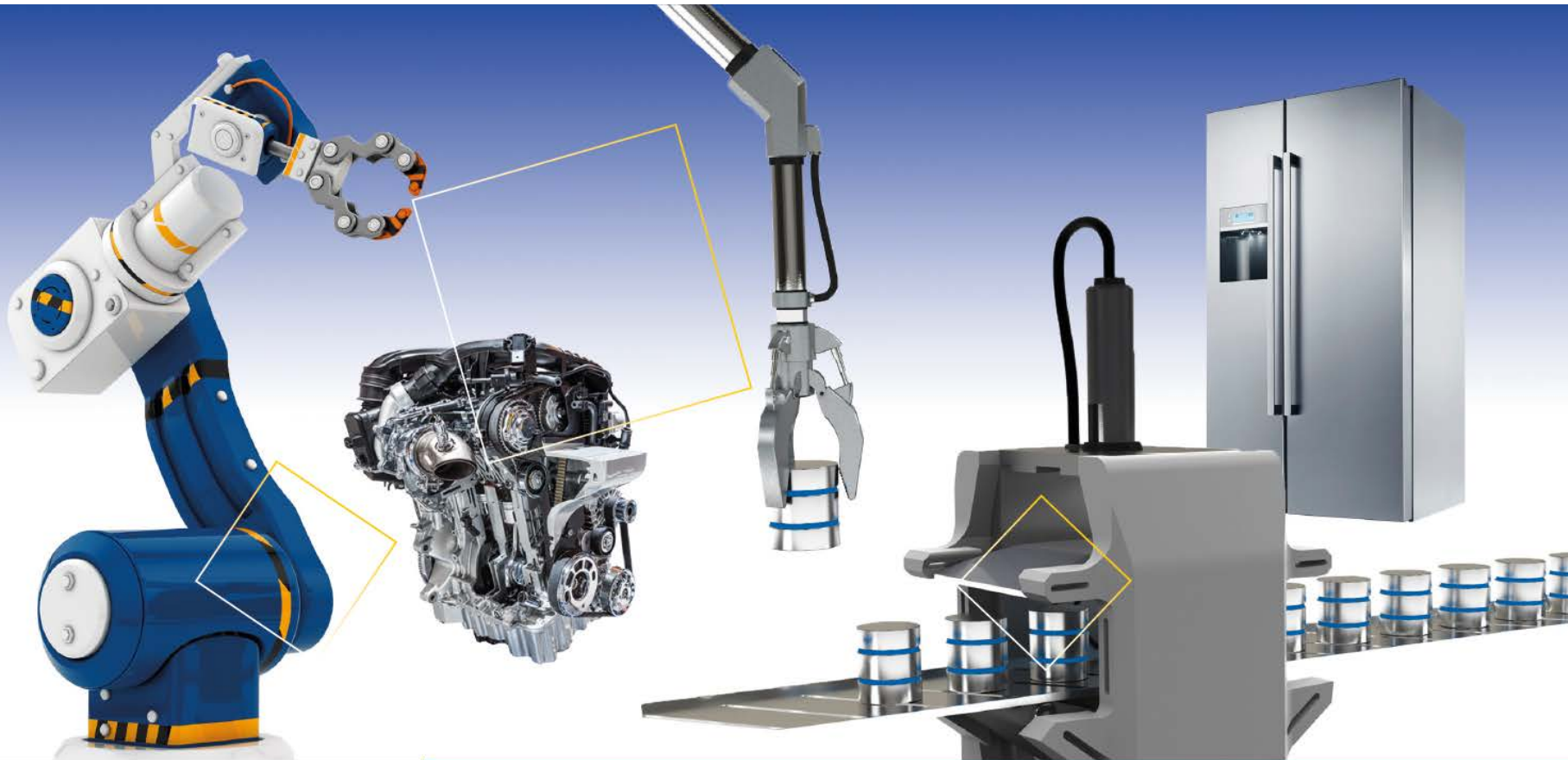


FEM-Modell Prüfkörper mit Verformungsstempel



- Validierung der verwendeten Elemente
- Validierung der Vernetzung
- Validierung der Simulationsparameter
- Parameterstudien
 - E-Modul
 - Querkontraktion

Ausblick – Modellvalidierung auf der Basis des Prüfkörpers



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