



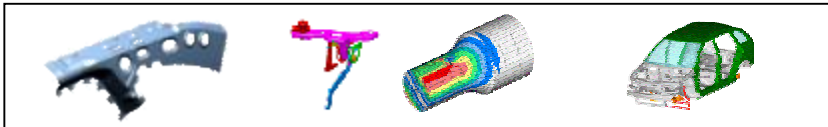
SWELL[®]

Development services in automotive industry

DEVELOPMENT SERVICES



Design and pre-development



CAD/FEM engineering



Testing

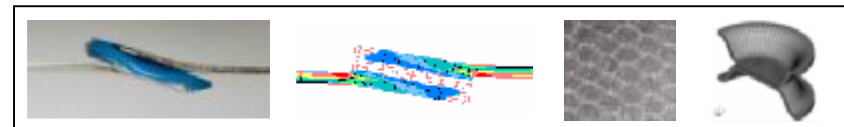
Manufacturing of prototypes



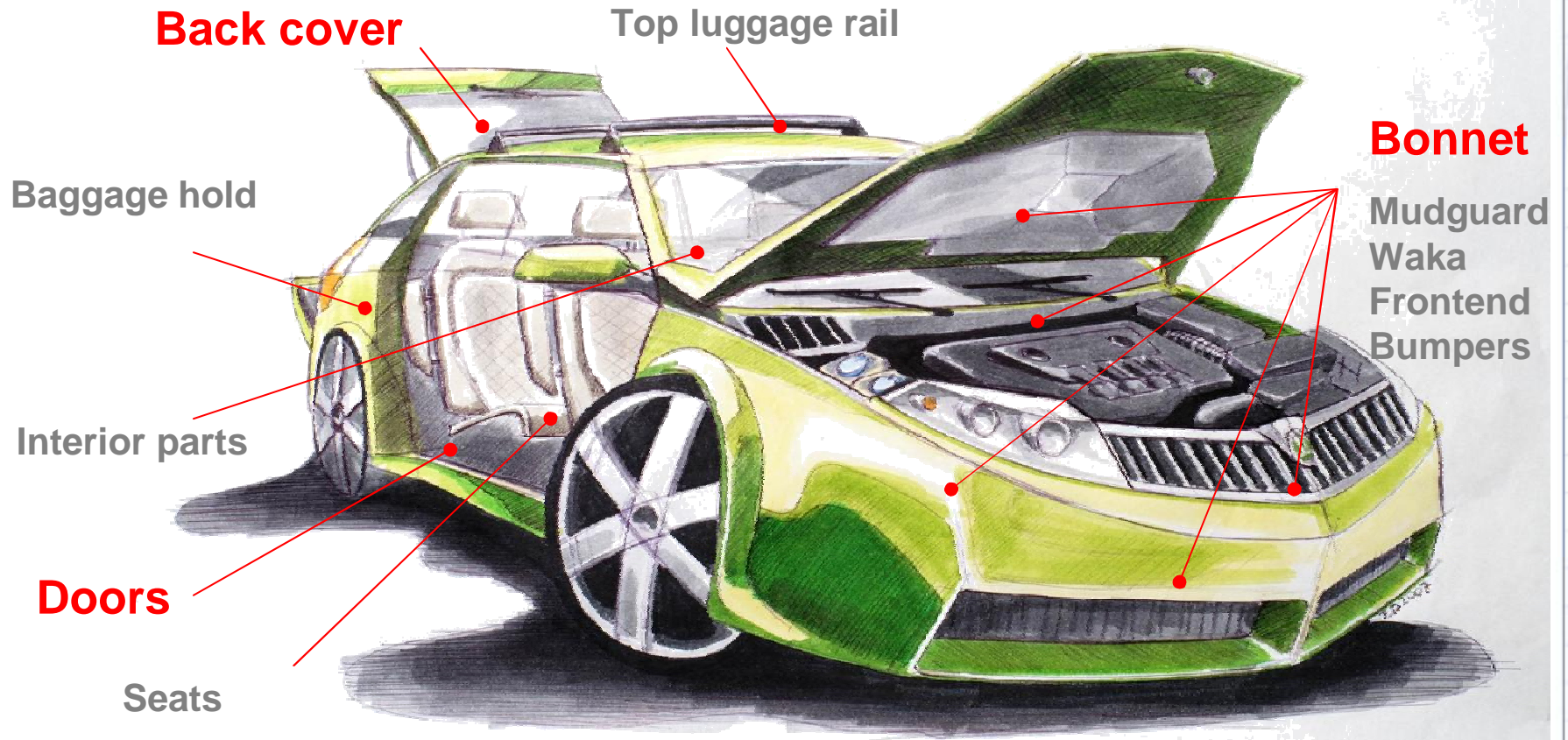
Development of series tools



New technology center

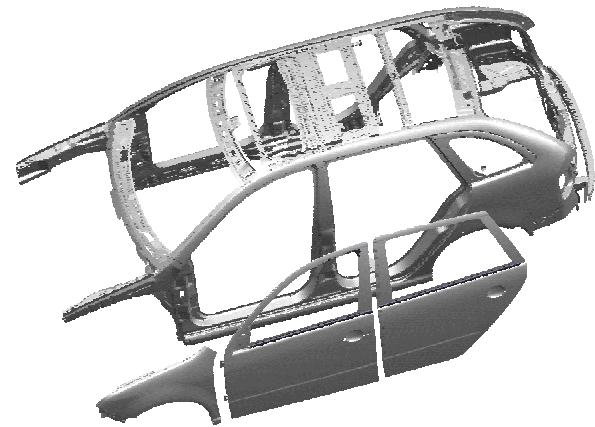


FOCUS



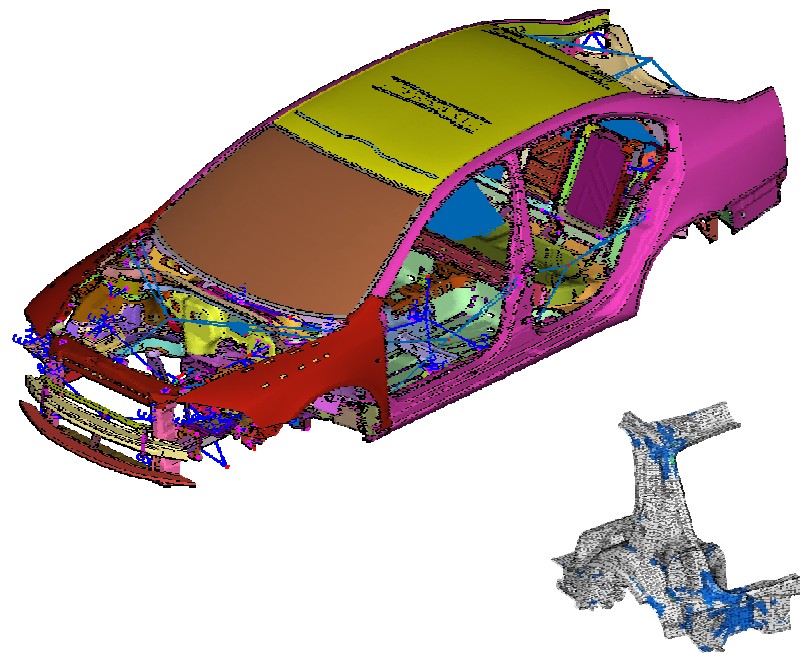
DESIGN, PRE-DEVELOPMENT AND CAD ENGINEERING

- - conceptual works and studies
 - - development of parts and assemblies
 - - visualization and analyses
 - - physical models digitization
 - - smoothing of outer surfaces
 - - tolerance analyses
 - - alternative materials and technologies
 - - kinematic mechanisms
 - - drawing documentation
-
- We use the software CATIA, ICEM SURF, ISODRAW,...



NUMERICAL SIMULATIONS

- - static and dynamic analyses
- - frequency analyses
- - fatigue calculations
- - crash tests simulations
- - pedestrian protection
- - optimization
- - finite element modelling

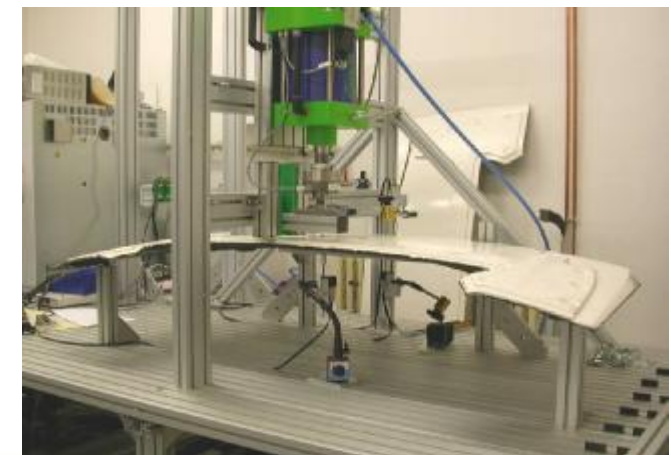
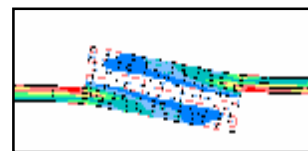
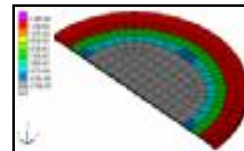
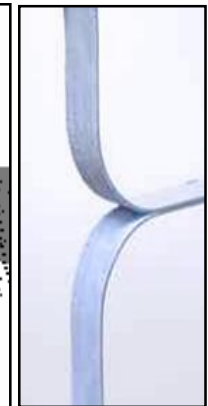
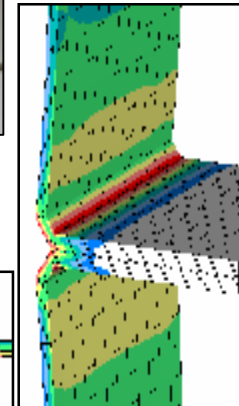
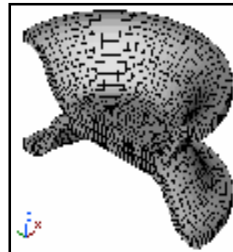


- We use the software ANSA, NASTRAN, PAM-CRASH, ADAMS,...




TESTING

- - material
- - mechanical
- - functional
- - durability
- - climate and corrosion
- - frequency and modal
- - vibration
- - development and customer-specific
- - joints tests
- - validation

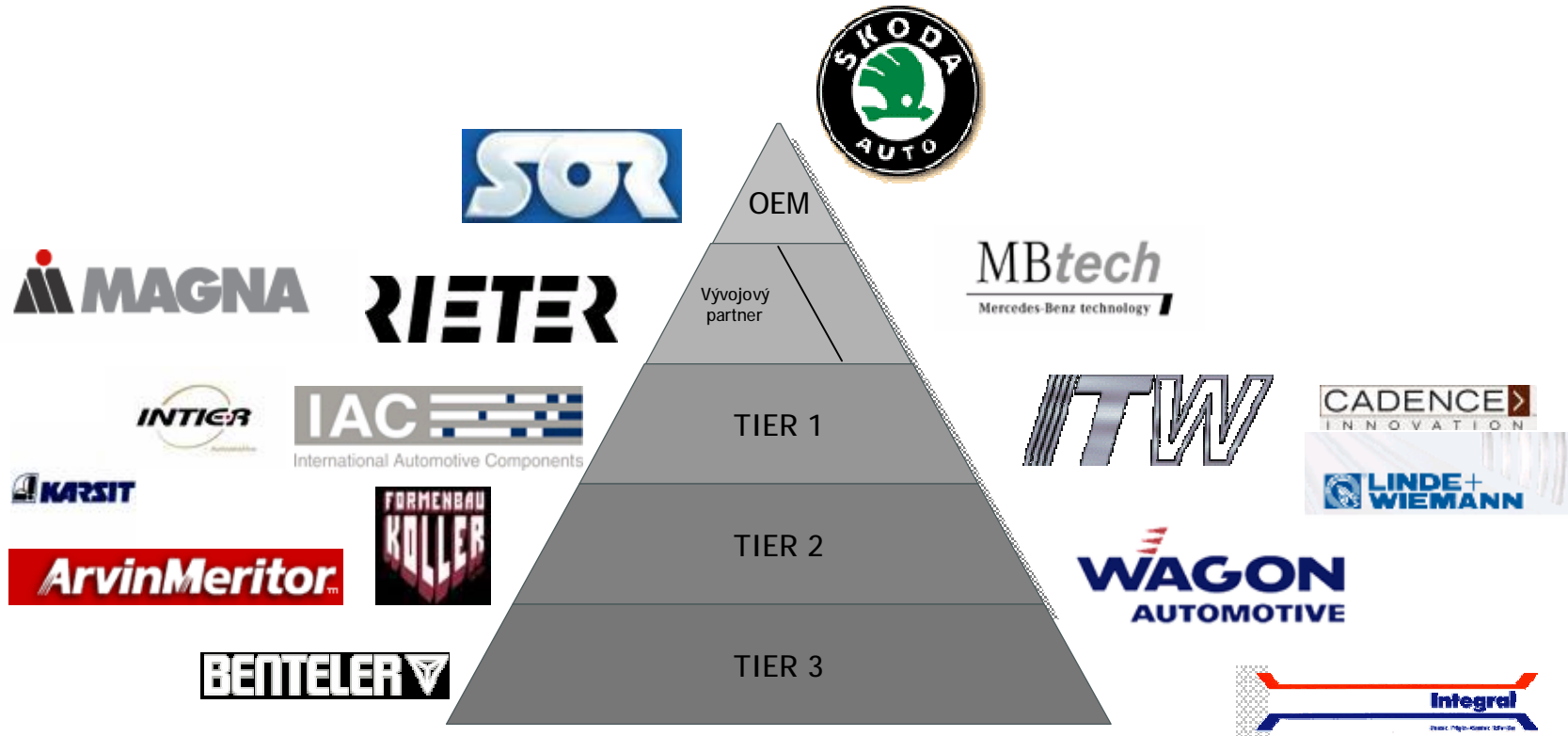


PROTOTYPES AND TOOL DEVELOPMENT

- - prototype tooling
 - - prototype parts and assemblies
 - - visual models
 - - 3D measurements
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- - production tooling development (progressive, modular)
 - - sheet metal deep drawing simulation
 - - inspection-, measurement-, and welding jigs
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- - We use the software CATIA, PAM-STAMP, AUTOFORM



REFERENCES



Audited by Karmann, Daimler Chrysler





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