



**Concept Tech GmbH:**  
**Always a step ahead**

# Where you can find us



**Concept Tech GmbH**  
**Development- and Innovationcentre / Gratkorn**

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# Core Competence



# Company History and Facts

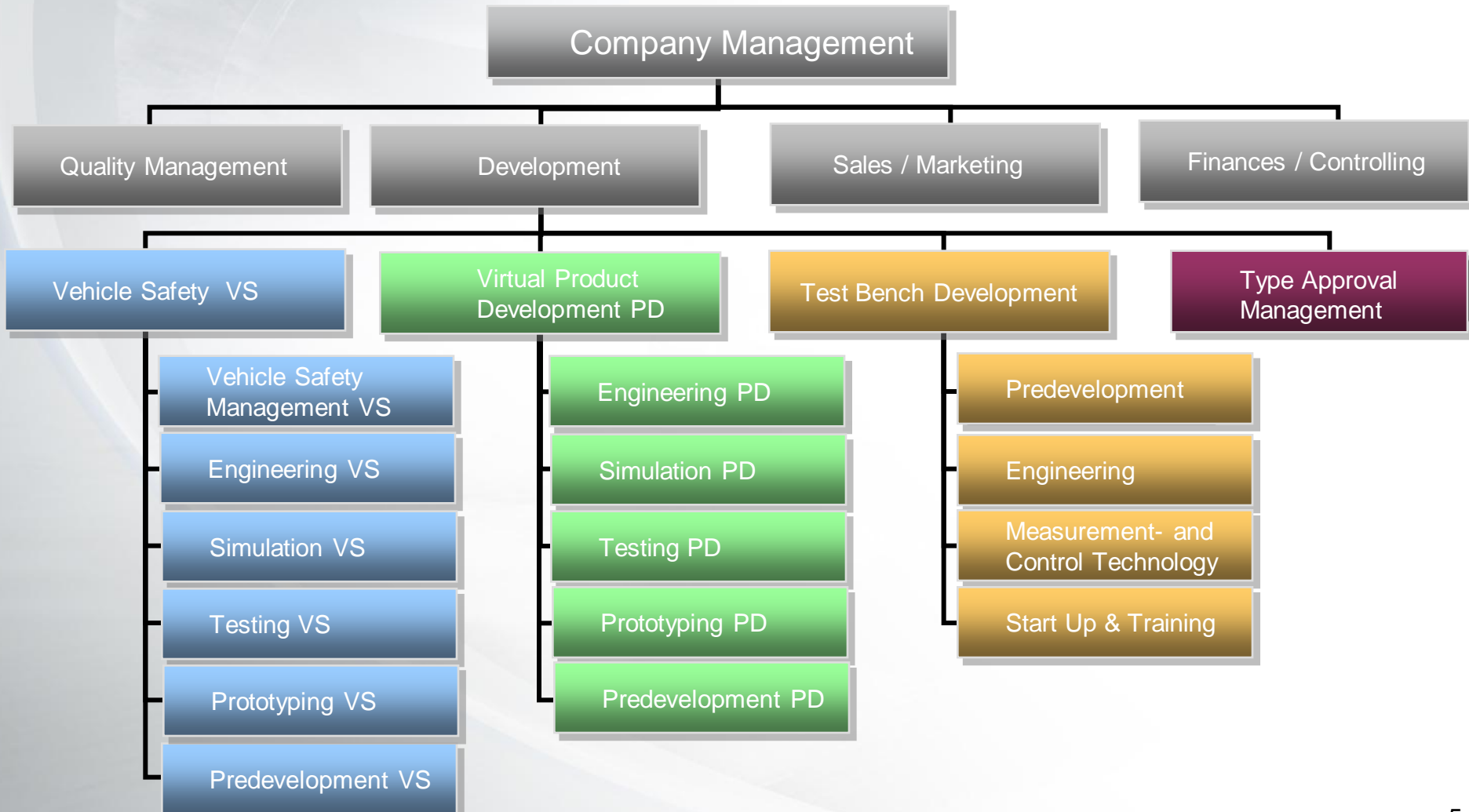
## Highlights of the Company History:

1998	Formation of Concept Technologie GmbH
1999	Specialization in the field of vehicle interior development
2000	Expansion in the field of test bench development
2001	Specialization in the field of pedestrian protection
2004	Opening of the new Development –and Innovation Centre Gratkorn/Graz
2007	Access of two strategic partners
2008	Takeover of the general management by Mr. Christoph Knotz and Mr. Philipp Toelke New product division: Virtual Product Development (virtual development services out of the automotive sector)

## Concept Tech GmbH - Facts:

Share Holders:	Christof International Management GmbH	38 %
	EOS Invest AG	38 %
	Mr. Christoph Knotz	14 %
	Mr. Philipp Toelke	10 %
Export:	95%	
Market:	Germany, Czech Republic, Italy, Spain, Mexico, Russia, China	
Certification:	ISO 9001:2008	

# Corporate Structure

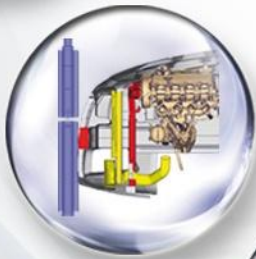


# Development from one source

## From DEVELOPER to DEVELOPER



Engineering



Simulation



Testing



Type Approval



Test Bench  
Development



# Overview - Range of Services:

## Virtual Product Development

- Strength analysis and evaluation
- Robustness analysis
- Durability analysis
- Dynamic loading condition evaluation
- Determination of component stresses
- Component design and –optimisation
- Modelling and material characterisation
- Testing services

## Automotive Safety

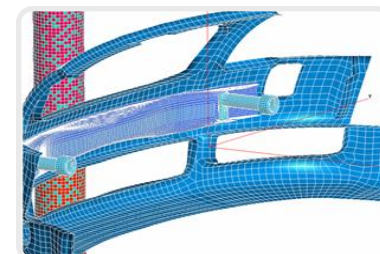
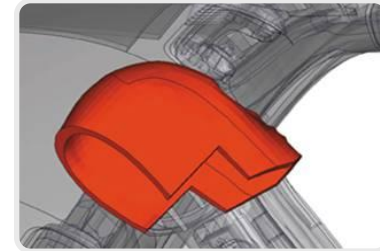
- Development body in white
- Interior development
- Pedestrian protection
- Rollover test equipment
- Sensor tests
- Application/Integration of restraint systems
- „Conformity of Production“ Testing
- Type Approval management
- Testing services

## Test Bench Development

- Component Test Systems
- Full Vehicle Test Systems
- Additional equipment for Test Systems

# Range of Services: Vehicle Safety

- ➔ Development of body in white
- ➔ Interior development
- ➔ Pedestrian protection
- ➔ Rollover test equipment / Sensor tests
- ➔ Application and Integration of restraint systems
- ➔ Testing within the scope of Conformity of Production (CoP)
- ➔ Type Approval management
- ➔ Testing services



# Vehicle Safety: Body Development

## ➔ Structure Development

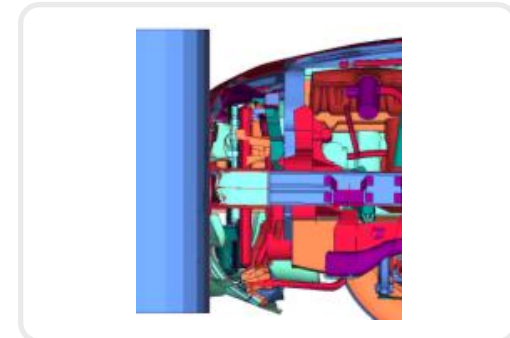
Front crash  
Side crash  
Rear crash



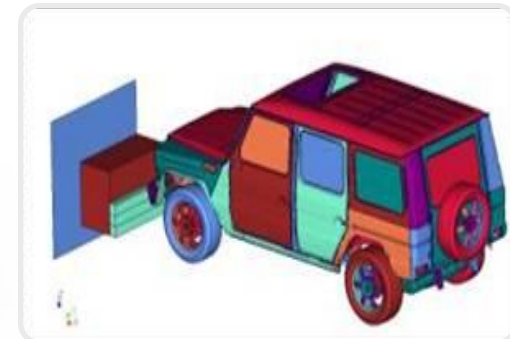
## ➔ Vehicle Front End

## ➔ Crash Management

Low Speed Crash (Typschaden-Crash)

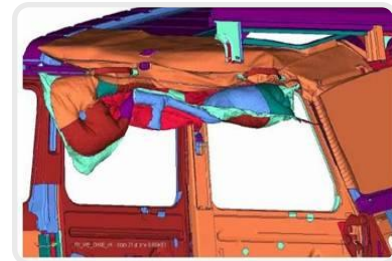
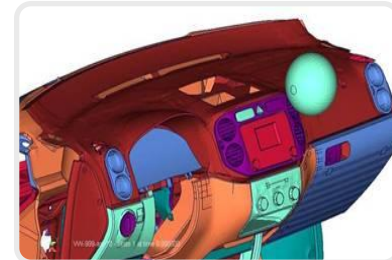


## ➔ Type Approval Management



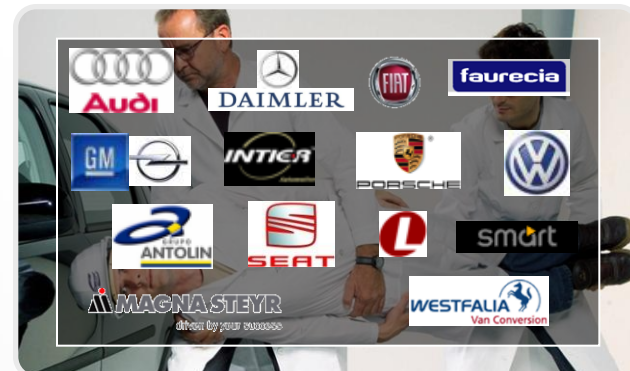
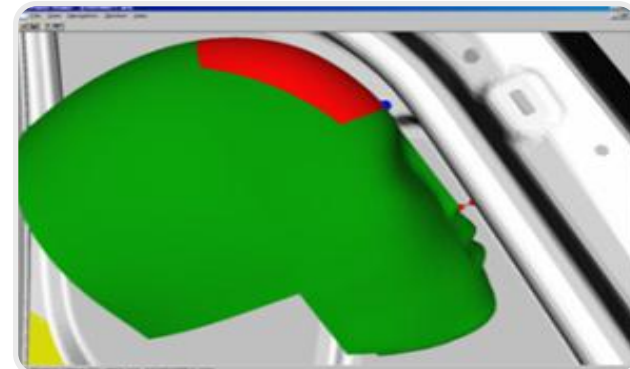
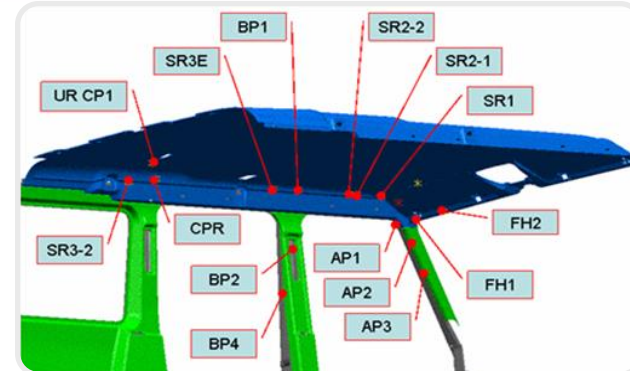
# Vehicle Safety: Interior Development

- Development goes from cockpit to all covering parts
- Strict consideration of legislation
- Via solutions out of CAX-practices
- Comprehensive risk management
- Provision for effects of other vehicle areas



# Interior Development: Core Competence FMVSS 201u

- Laying of the concept for FMVSS 201u-arrangements
- Component engineering from concept up to series-production
- FPT-Software (internal development)
  - Feasibility study
  - Worst-Case-Evaluation of impact configuration
- Simulation
  - Acceptance of the state
  - Development
  - Validation
- Testing
  - Prototype testing
  - Supervision of vehicle series production
  - Self-certification tests
- Supervision of certification USA



# Vehicle Safety: Core Competence Pedestrian Protection



## ➤ Projekt management

- Development for EU and Japan
- Concept up to Low Speed Crash (Typschaden-Crash)
- Passive and active solutions
- Conception and Integration of an adequate sensor system

## ➤ PPA-Software (internal development)

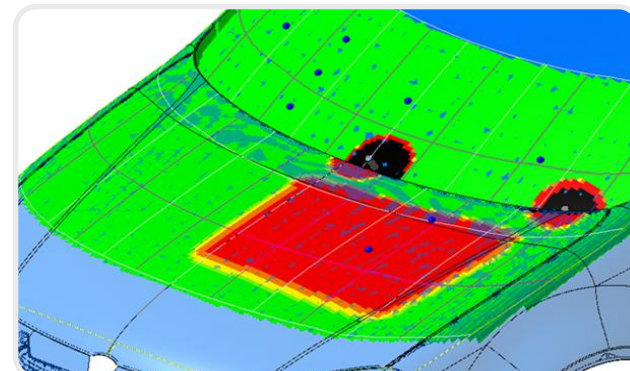
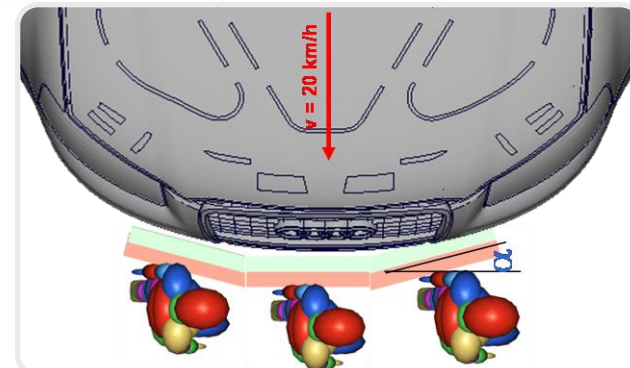
- Definition of the test bay
- Package analyses
- Head positioning

## ➤ Simulation

- Acceptance of the state & development
- Validation
- Co-Simulation via MKS
- Design of impactors and –updating

## ➤ Testing

- Prototype- and Series tests
- Test data base
- Self-Certification tests



# Vehicle Safety:

## Application/Integration of restraint systems

### ➤ Components

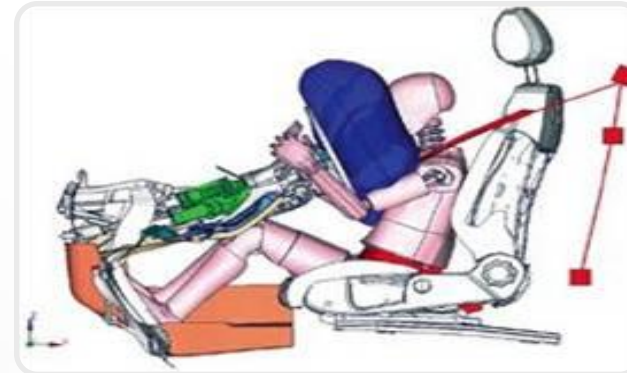
- Airbag
- Belt
- Steering column & Steering wheel
- Dashboard
- Seat and Door covering

### ➤ Integration

- Selection
- Arrangement
- Coordination
- Conception and Integration  
of an adequate sensor system

### ➤ Engineering

- CAX-practices
- Real Crashes for confirmation
- Co-Simulation via MKS
- Design of impactors and –updating



# Vehicle Safety: Type Approval Management



- ➔ Components
  - Targets
  - Definition and implementation of all relevant legislations for components and complete vehicle
  
- ➔ Safety during development process
  - Interpretation of design for relevant safety components according to country specific legislation
  - Interaction of components and system due to the complete vehicle
  
- ➔ Testing
  - Planning of vehicles alternatively components and tests
  - Organisation and accomplishment of all required tests
  
- ➔ Documentation
  - Basic documentation for the basically accomplishment of testing
  - Accurate analyses for a specific estimation
  - Test reports and data sheets for certification alternatively for a national acceptance
  
- ➔ Settlement of the project
  - Complete Projects: from concept aquirement up to the point of finishing tests including all work steps

# Vehicle Safety: Testing Services

## ➤ Component Tests

- FMVSS 201, ECE-R21
- Pedestrian Protection (2009/102/EC, 2003/102/EC, TRIAS 63, EURO-NCAP)

## ➤ Crash Tests

- FMVSS 207, 208, ECE-R17, R44, Isofix - ECE-R 95, FMVSS 214,...
- EG/96/27, ECE-R95, FMVSS 214 and 201 Pole
- FMVSS 301, ECE-R34
- CMVSS 215, Part 581

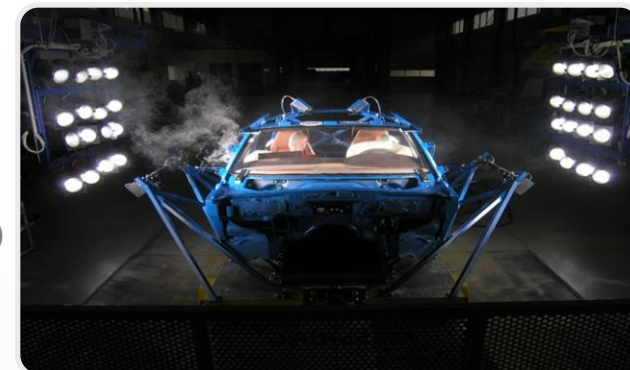
## ➤ Sled Tests

- FMVSS 207, 208, 313 EWG/74/408, ECE-R17, R44, Isofix,...

## ➤ Conformity of production

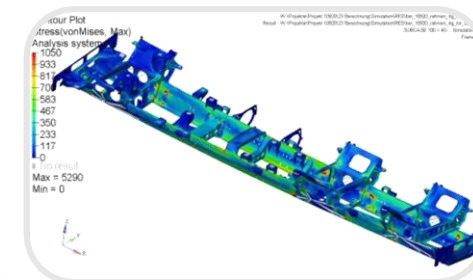
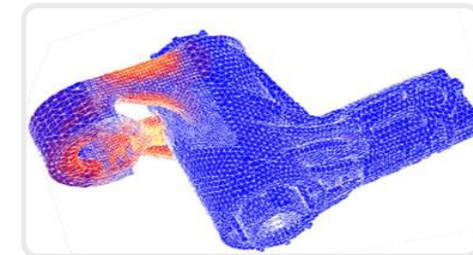
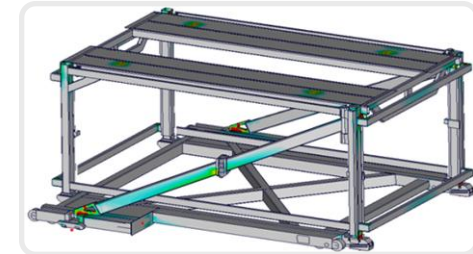
- Crash tests (Front, Side, Rear, Rollover, Bumper)
- Acceptance Tests (IIHS, NCAP, SINCAP, Allianz,...)
- Miscellaneous (Field of View Check, Defrosting and Drying,...)

## ➤ Certification Tests



# Range of Services: Virtual Product Development

- Strength analysis and evaluation
- Robustness analyses (DOE, Stochastic)
- Durability analyses
- Dynamic loading condition evaluation
- Determination of component stresses
- Component design and - optimisation
- Modelling and material characterisation
- Testing services



# Range of Services: Test Bench Development



## ➔ Component Test System:

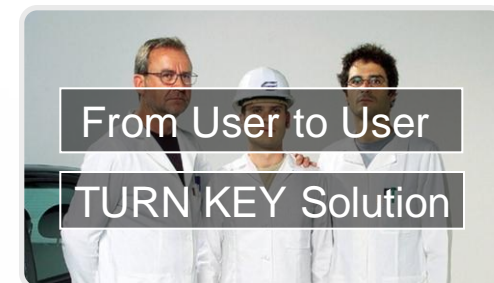
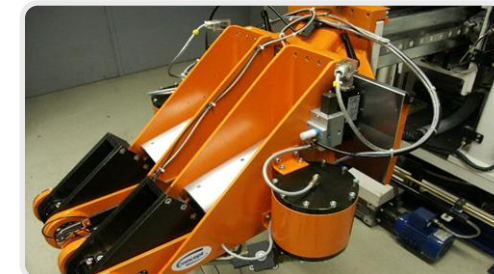
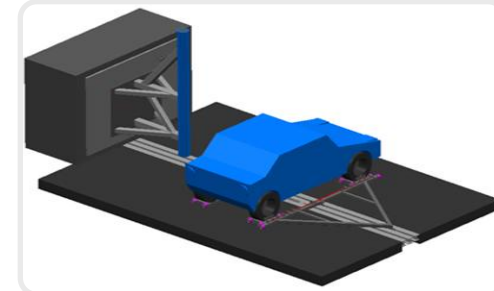
- Universal Test System
- FMH-Test System
- PP-Test System
- ECE-R21 Pendulum
- Bumper Pendulum
- Head & Seat Restraint Test Bench
- Knee Pendulum System

## ➔ Full Vehicle Test System:

- Dynamic Rollover
- Static Rollover
- Pole Test Device
- Low Speed Crash Test System
- Roof Intrusion Test System

## ➔ Additional Equipment for Test Systems:

- Load Cell Wall
- Barrier Trolley
- Calibration Devices
- Protection Mechanism
- Camera-, Light- und Measurement Technique



# Our Excellences

Minor interfaces between the areas engineering, simulation and testing under one roof

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Flexibility when adjusting the project sequence to fulfill the company and project specific requirements of the customer



Excellent understanding of the underlying entire vehicle requirements and knowledge of the legislation

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Goal-oriented application of all software and hardware tools

# Faith in our Competence



DAIMLER



HONDA



PORSCHE



SEAT



上海大众汽车  
SHANGHAI VOLKSWAGEN

BOSCH

DENSO



Kässbohrer  
Driven by professionals



MAHLE

MAGNA STEYR  
driven by your success

NOKIA  
Connecting People



Valeo





**Always a step ahead !**