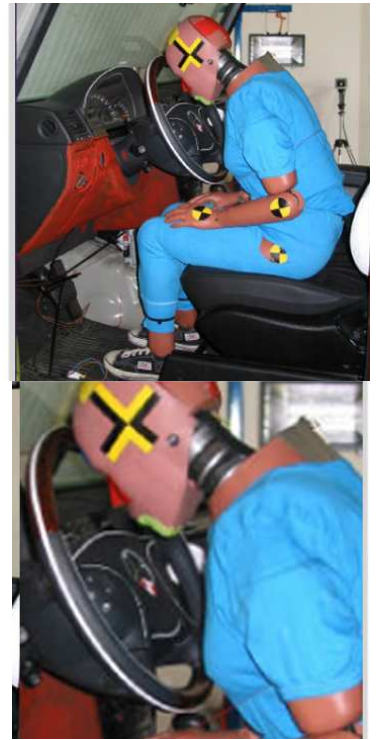


# Concept<sup>®</sup> - Restraint System Development



Integration restraint system: selection, arrangement and coordination of restraint system components.

Restraint system components: airbag and belt steering column and steering wheel, dashboard, seat and door covering.

Coordination of the restraint system should have the effect, to syntonise each self-going component to each other component that all on occupants acting strains and so for this reason the injury risk will be as low as possible. Therefore an optimum can be provided as a whole.

Over the period of development construction, simulation and testing will be used.

Real crashes serve the purpose to control the state of development at significant milestones as e.g. tool release. Therefore sled tests or crash tests will be made.

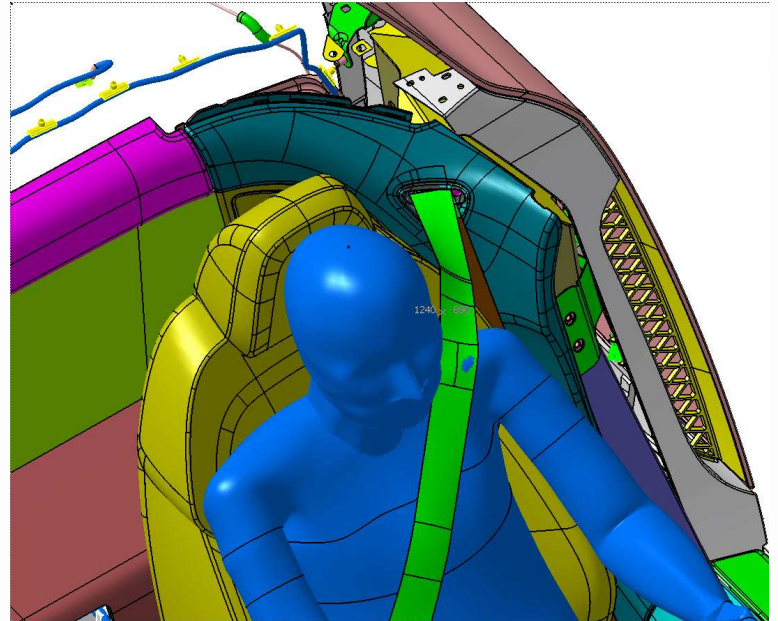
For the appointment of an adequate release the restraint test system will be evaluated in the end of the development onto the observance of guidelines under varying configurations.

## Development centre zones:

- ✓ Airbag Simulation
- ✓ Knee pad Simulation
- ✓ Restraint System Simulation
- ✓ Radius Inspection
- ✓ Airbag Tests
- ✓ Knee pad Tests
- ✓ Restraint System Tests
- ✓ Sled Tests
- ✓ Pendulum Tests
- ✓ Up to Certification Tests

## Development steps:

- ➔ Estimation of the vehicle structure in a crash case
- ➔ Sourcing of adequate restraint-components
- ➔ Development and Integration of the cockpit e.g. front-seat passenger air bag
- ➔ Analyse of the crash-behaviour of the vehicle with recommendation for the essential modification of the components



## For the realisation of your development project we will provide all essential areas in our house:

- ➔ **Construction**
  - Feasibility Study
  - Concept Study
  - Series and detail design
- ➔ **Simulation**
  - Occupants Safety
  - Pedestrian Protection
  - Crash analyses
  - Stability- and Stiffnesscalculation
- ➔ **Prototyping**
  - Installation study / Feasibility study
  - Mock Up
  - Build up of test vehicles
- ➔ **Testing**
  - Component testing (Interior, Frontend)
  - Development crash (front-, side- and rear crash)
  - Conformity of Production
- ➔ **Research & Development**
  - Pedestrian Protection, active hood
  - Knee pads
  - Rollover
  - FE-Simulations methodology