PROJECT PARTNERS

The OSCCAR project assembles 21 partners, including 19 from Europe and 2 from China. The project is coordinated by VIRTUAL VEHICLE Research Center in Graz/Austria and will run for 3 years, from June 2018 until May 2021.

PROJECT COORDINATOR: virtual vehicle

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OSCCAR

FUTURE OCCUPANT SAFETY FOR CRASHES IN CARS

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DURATION
June 2018 to May 2021

21 PARTNERS FROM **8** COUNTRIES
4 OEMs
6 Tier suppliers
4 Research organizations
7 Universities

9 Associated partners from Europe, Canada, Japan, South Korea, USA

OSCCAR has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 68947.

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OSCCAR
FUTURE OCCUPANT SAFETY FOR CRASHES IN CARS

Future Accident Scenarios
Integrated Assessment
Automated Driving
Omnidirectional Human Body Models
Advanced Occupant Protection Systems
Relaxed Sitting Positions
Virtual Testing and Homologation

Understanding future accident scenarios involving passenger cars

Demonstration of new advanced occupant protection principles and concepts

Contribution to the development of diverse, omnidirectional, biofidelic and robust HBMs

Contribution to the standardization of virtual testing procedures

Development of an exploitation strategy towards large scale implementation of virtual testing methods

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FUTURE OCCUPANT SAFETY
FOR CRASHES IN CARS

The EU Horizon 2020 research project **"OSCCAR - Future Occupant Safety for Crashes in Cars"** - develops a novel, simulation-based approach to safeguard occupants involved in future vehicle accidents.

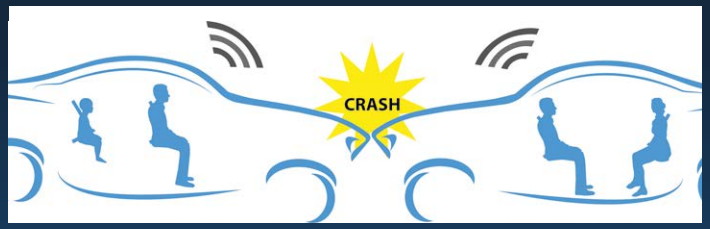
RELEVANCE AND IMPACT

OSCCAR will contribute to the **reduction of**

- the **amount of road fatalities**
- the **severity of injuries**
- the **number of injured persons** for decades to come

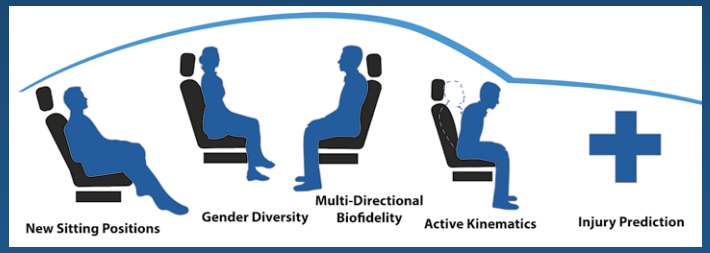
- Provide a future accident & conflict scenario database for public use, in particular for OEMs, Tier suppliers and road operators/ infrastructure providers
- Establish protection principles for future occupant protection
- Lay the base for virtual assessment of advanced protection systems for conventional vehicles and HAVs
- Facilitate the evaluation and therefore the implementation of new and innovative safety solutions and related enabling tools that could boost the R&D of services and industries
- Pave the way for virtual homologation of future sitting positions for HAVs
- Define an accepted procedure for harmonized and more biofidelic HBMs allowing for an improved occupant safety for conventional vehicles and HAVs
- Enable a broad coverage of heterogeneous occupant population (gender, age, height, weight for conventional vehicles and HAVs
- Show the applicability/usefulness of the developed framework for future safety systems by several selected demonstrators
- Secure the required full-scale manufacturing of critical products developed in the project in Europe by key players from European industry
- Boost harmonization and standardization on global level (Europe, US, Canada, South Korea, India, China)

RESEARCH TOPICS



FUTURE ACCIDENT SCENARIOS:

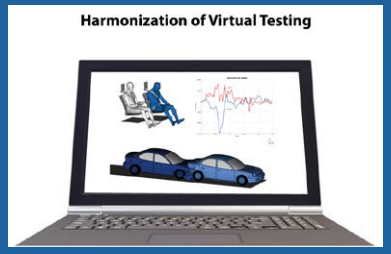
- HAVs
- Mixed traffic
- Traffic simulation
- Driving situation
- Accident / collision parameters
- Future relevant accident matrix



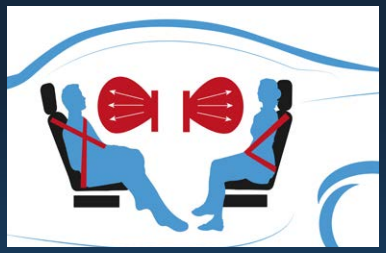
HBM DEVELOPMENT:

- Soft tissue
- Multidirectional biofidelity
- Biofidelic kinematics during pre- and in-crash phase
- Occupant heterogenity
- Safety assessment capability of new sitting positions
- Agreed injury criteria

HARMONIZATION AND RECOMMENDATIONS FOR VIRTUAL TESTING:

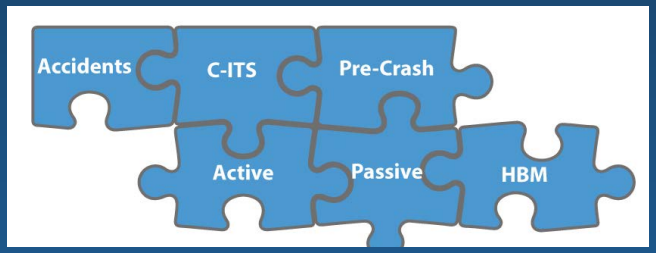


- Simulation comparability and harmonization
- Virtual testing validation requirements
- Injury criteria harmonization
- Volunteer testing for pre-crash kinematics



NEW RESTRAINT PRINCIPLES DEVELOPMENT:

- Vehicle interior uses cases
  - Future sitting positions in HAVs
  - Study on user expectations of future interior concepts
- New restraint principles
- Hardware and virtual testing
- Safety assessment with HBMs



ROBUST AND EFFICIENT CRASH SIMULATION TOOLS FOR INTEGRATED ASSESSMENT & OVERALL IMPACT DEMONSTRATION:

- Simulation quality assessment
- Common boundary conditions
- Fully integrated assessment toolchain
- Common post processing for comparability
- Homologation path demo
- Benefit and impact demo of virtual testing with HBMs

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