EVERSAFE

Everyday Safety for Electric Vehicles

Electromobility+ Launching Seminar
13- 14 September 2012 in Paris, France

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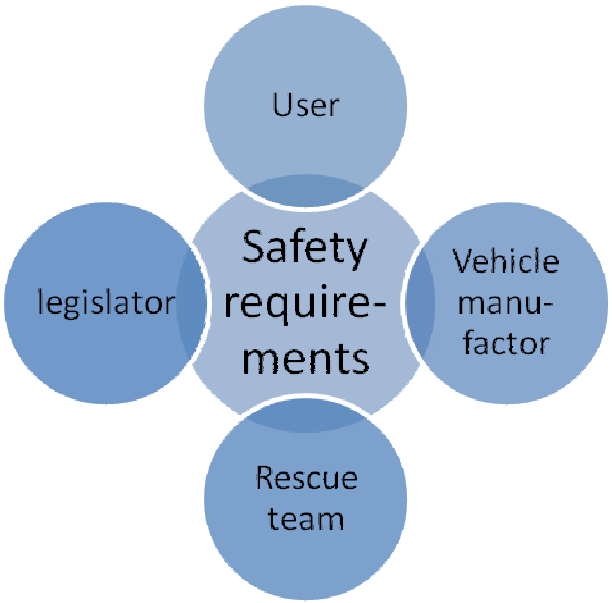
Project overview

- Scope: Safety of electric vehicles
- Aim: Recommendations for new safety requirements

- Project timing: 2012/05 – 2014/04
- Budget: EUR 1.8 mill.
- Funding: EUR 1.6 mill.
- Personal month: 159.5



Project partner

Sweden

vti

VOLVO

KTH VETENSKAP OCH KONST

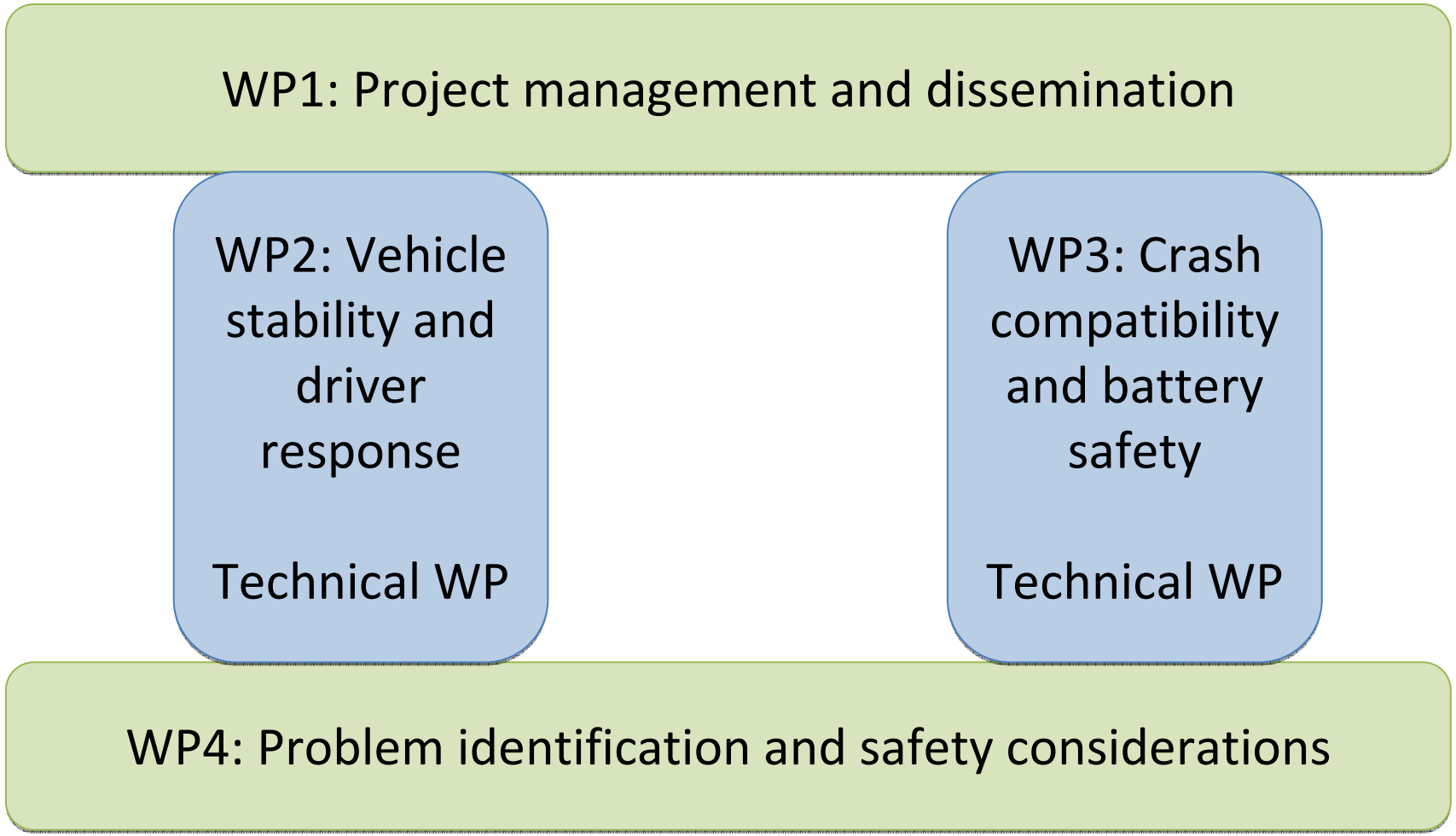
bast

TECHNISCHE UNIVERSITÄT CHEMNITZ

Fraunhofer

Germany

Project structure



Strategic work packages

WP1: Project management and dissemination

- Quality plan & reporting management
- Dissemination program & project communication

WP4: Problem identification and safety considerations

- Safety analysis & user expectation
- Scenario definition
- Recommendations for requirements

WP2: Vehicle stability and driver response

- Investigation: Drivers reaction to a failure mode
- Methods: experiments in driving simulator and on test track
- Two system failures:
  - Motor failure in electric vehicles with electric drives (wheel hub motors)
  - Electric motor/generator failures in the regenerative braking system of electric vehicles

WP2: Vehicle stability and driver response

Field experiments with test vehicle

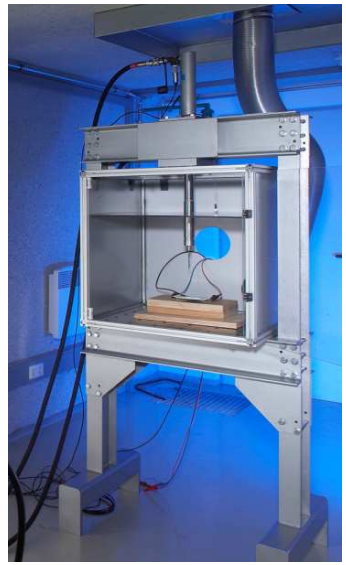
- Close real setting
- EV with error activation
- Test track

Driving simulator

- Extreme and, in real life, dangerous settings
- High repeatability

WP3: Crash compatibility and battery safety

- Crash compatibility between existing vehicle fleet and electric vehicles (2nd generation)
- Analysis of automotive Rechargeable Energy Storage Systems (REESS) and their protective structures under crash loads
- Methods: Crash simulation and experimental tests

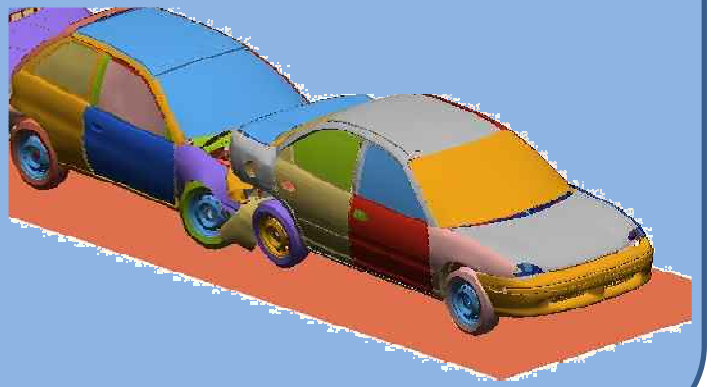


- Compatibility criteria and recommendations for new safety standards
- Guidelines for safe-handling of REESS in post-crash scenarios
- Full-scale test

WP3: Crash compatibility and battery safety

Crash simulation

- Full scale car crash compatibility simulations
- Crash analyses of REESS and protective structure



Crash tests

- Component tests
- Full scale car-to-car crash
- Mechanical, dynamic, chemical and electro-chemical issues

Benefit of the project

- Recommendations for new safety actions, in terms of
  - Research
  - Standardization and
  - Legislation if necessary
- Guidelines and support for safety standards for electric vehicles (active safety)
- Concepts for safety requirements (passive safety)
  - safe handling of REESSs for post-crash
  - Compatibility criteria

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