



FIMCAR Project Description Proposal for Cooperation with GRSP IG FI



frontal impact and compatibility assessment research





FIMCAR Project general

- 2nd Call FP7 (grant agreement no.: 234216)
- Coordinator: TU Berlin (Heiko Johannsen)
- 18 Beneficiaries
- Budget: 6 Mio Euro / Funding: 3.8 Mio Euro
- Main aim: Proposal for frontal impact compatibility assessment approach
 - Frontal Impact Compatibility Assessment is expected to consist of an off-set and a full frontal test (of which one could be an MDB test)





FIMCAR Project



April 27th 2010

Heiko Johannsen





FIMCAR Project What is compatibility?

- Compatibility consists of self and partner protection.
- Improved compatibility will decrease the injury risks for occupants in single and multiple vehicle accidents.
- Compatible vehicles will deform in a stable manner allowing the deformation zones to be exploited even when different vehicle sizes and masses are involved





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What compatibility needs to address

- Structural interaction (self and partner protection)
- Compartment strength (self protection)
- Front end force / deformation characteristics
 - force level (partner protection)
 - deceleration pulse and restraint system (self protection)





FIMCAR Project Structure







FIMCAR Project Schedule

Project month 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36



WP1 Accident and cost benefit analysis (TRL)

1.1 Accident analysis

1.2 Cost benefit analysis

1.3 Future fleet characteristics

WP2 Off-set test procedure (IDIADA)

- 2.1 Assessment criteria development and validation
- 2.2 Testing and analysis of the test procedure
- 2.3 Influence on other impact types

2.4 Further developments of test Procedures

WP3 Full overlap test procedure (BASt)

3.1 Assessment criteria development and validation

3.2 Testing and analysis of the test procedure

3.3 Influence on other impact types

3.4 Further developments of test Procedures

WP4 MDB test procedure (TNO)

4.1 Test protocol

4.2 Assessment criteria development and validation

4.3 Testing and analysis of test procedures

4.4 Influence of other impact types

4.5 Further developments of test procedures

WP5 Numerical simulation (TUB)

5.1 Modelling

5.2 Support to other WPs

5.3 Potential of simulation tools to evaluate compatibility WP6 Synthesis of test procedures (VTI)

6.1 Compatibility characteristics

6.2 identification of evaluation criteria

6.3 evaluation and comparison of test procedures

6.4 Final test approach

6.5 Test data base

6.6 Car-to-car testing

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Most important Deliverables

- Report detailing the analysis of national accident databases (scheduled March 2011 but likely available earlier)
- Test and assessment protocols for off-set, full frontal and MDB (draft scheduled for September 2010, final March 2012)





Common Work Areas

as defined by IG FI

- Test severity off-set test procedure
 - Define and motivate test metric (implicit definition of test severity (delta-v, EES, test speed, ...) (FIMCAR (September 2010))
 - Level of test severity in off-set tests (FIMCAR (September 2010))





Common Work Areas

as defined by IG FI

- Introduction of Full Width test in frontal impact
 - Frontal structure architecture assessment (FIMCAR (September 2010))
 - Define and motivate test metric (implicit definition of test severity (delta-v, EES, test speed, ...)
 (FIMCAR (September 2010))
 - Level of test severity in full width tests (FIMCAR (September 2010))





Common Work Areas

as defined by IG FI

- Geometric requirements
 - Define interaction area (FIMCAR information to make decisions but no final proposal (September 2010))





FIMCAR expectations from cooperation with GRSP IG FI

- Early input from external parties
 - Regulatory bodies
 - Other regions of the world
 - Etc.





Dissemination work shop plans

- Spring/Summer 2011
- Autumn 2012







 Heiko Johannsen TU Berlin +49 30 31 47 29 88 <u>Heiko.Johannsen@TU-Berlin.de</u> www.fimcar.eu (not yet online)