50th GRSP Session
Status report of
Informal Group on FI

Pierre CASTAING

Chairman

Mandate of the informal group on Frontal Impact

- **Report of the Working Party on Passive Safety on its forty-sixth session (Geneva, 8 - 11 December 2009)**
  - 26. The Chairman of the informal group on frontal collision introduced the status report of this group (GRSP-46-26). He concluded that more time and discussion were needed to reach an agreement on the main issues indicated in the terms of reference of the group (GRSP-43-12). GRSP agreed to inform WP.29 at its March 2010 session in order to rearrange the plans of the group.

- **Report of the Working Party on Passive Safety on its forty-seventh session (Geneva, 17 - 21 May 2010)**
  - 37. The Chair of the informal group on frontal collision introduced the latest status report of the informal group (GRSP-47-14). He explained that the group had difficulties at this stage to deliver a draft new Regulation No. 94 yet, and suggested that the deadline of his group should be extended to May 2011 to clarify the planning of the group. GRSP endorsed the suggestion of the Chair of the informal group and agreed to inform WP.29 at its June 2010 session.

- **Reports of the World Forum for Harmonization of Vehicle Regulations on its one-hundred-and-fifty-first session (Geneva, 22-25 June 2010)**
  - 34. Regarding Regulation No. 94 (Frontal collision), she asked for the extension of the mandate of the informal group until May 2011. The World Forum endorsed the request.

- **Report of the Working Party on Passive Safety on its forty-ninth session (Geneva, 16–20 May 2011)**
  - 30. The Chair of the informal group on Frontal collision introduced GRSP-49-36 to inform GRSP on the work progress of his group. As an outcome of the work carried out so far, he informed GRSP that four possible scenarios to amend Regulation No. 94 were possible. He concluded that the group scheduled two further meeting on 27 June and 7 September 2011 in Paris, at OICA's office, to better define these options. Accordingly, GRSP agreed to seek consent of a six months extension of the mandate of the informal group at the June 2011 session of WP.29. Finally, GRSP invited all its experts to send their comments or proposals on the possible scenarios to amend the Regulation before the deadline for submission of official documents of its December 2011 session.

- **Reports of the World Forum for Harmonization of Vehicle Regulations on its 154th session (Geneva, 21–24 June 2011)**
  - 37. She also reported that regarding UN Regulation No. 94 (Frontal collision), GRSP had agreed to seek the consent of WP.29 for a six months extension (until December 2011) of the mandate of the informal group on frontal collision. The World Forum gave its consent.

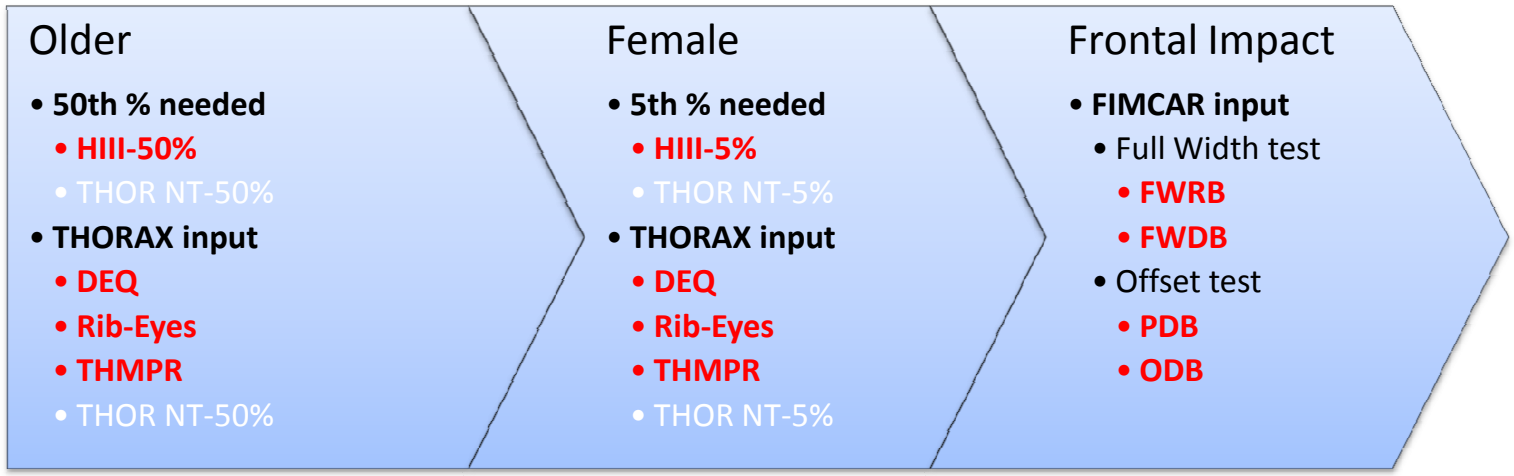
Terms of Reference IWG R94

- The informal group shall consider the updating of the current R94 regulation with particular attention to the protection of older occupants, female occupants and also focus on optimization of vehicles' structural interaction to improve self protection and partner protection.

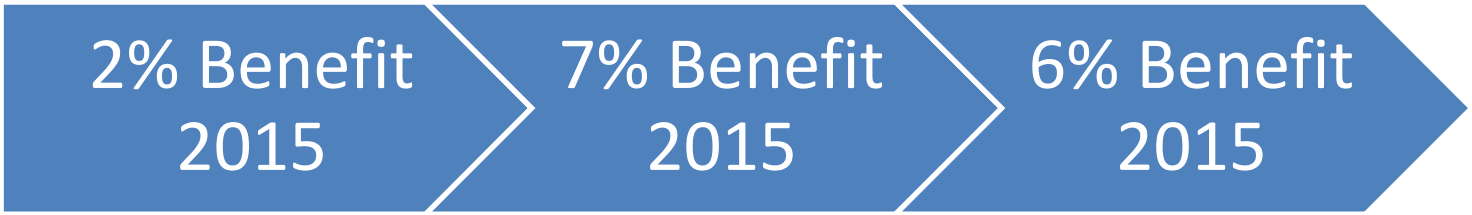
- The informal group will make use of existing tools, considering and developing the results of ongoing research and validation programs.

- In particular the group expects to make use of results from:
  - FIMCAR with regard to set of test procedure (target end of 2012)
  - THORAX with regard to thorax injury prediction tools (target mid 2012)

Possible scenario for amendment of ECE R94



Associated potential benefit



Scenario 2

Expertise needed

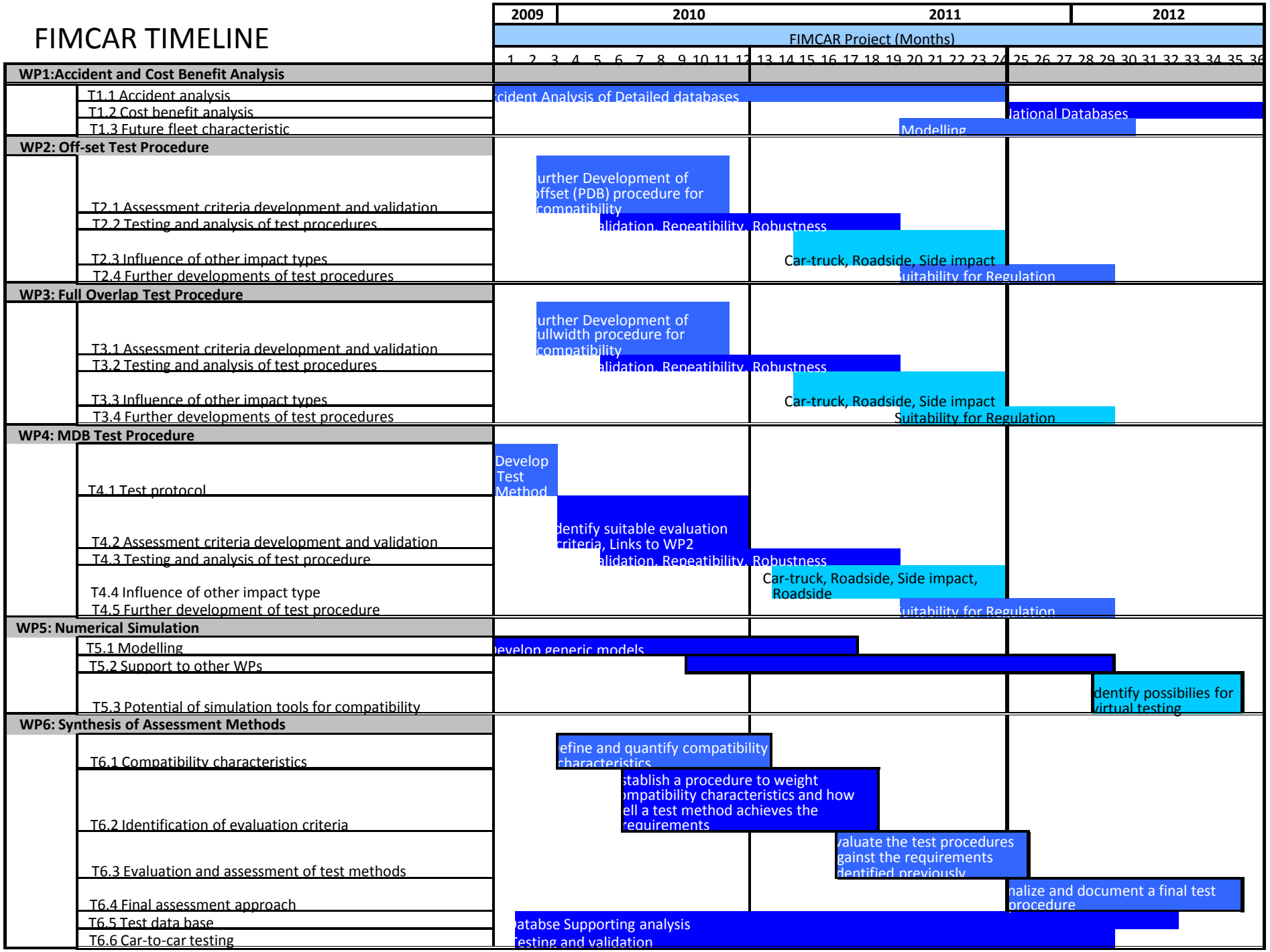
- An expert group to validate the use of thorax injury prediction tools (DEQ, THMPR, Rib Eye) for the H3 (target end of 2012)

- An expert group to conduct an impact assessment until the end of 2013

	Pros	Cons
FWRB	+ direct measurement of force + harmonized	- engine dump not attenuated
FWDB	+ more representative of real world + engine dump attenuated	- instability of deformable element - not harmonized
PDB	+ Test severity harmonization + possibility to assess structural interaction	- need FW test to avoid possible side effect - not harmonized
ODB	+ harmonized	- instability of deformable element - too low stiffness for modern vehicles - severity increases with car mass - self-protection level depends on size and mass - no possibility to assess structural interaction

FIMCAR input

FIMCAR TIMELINE

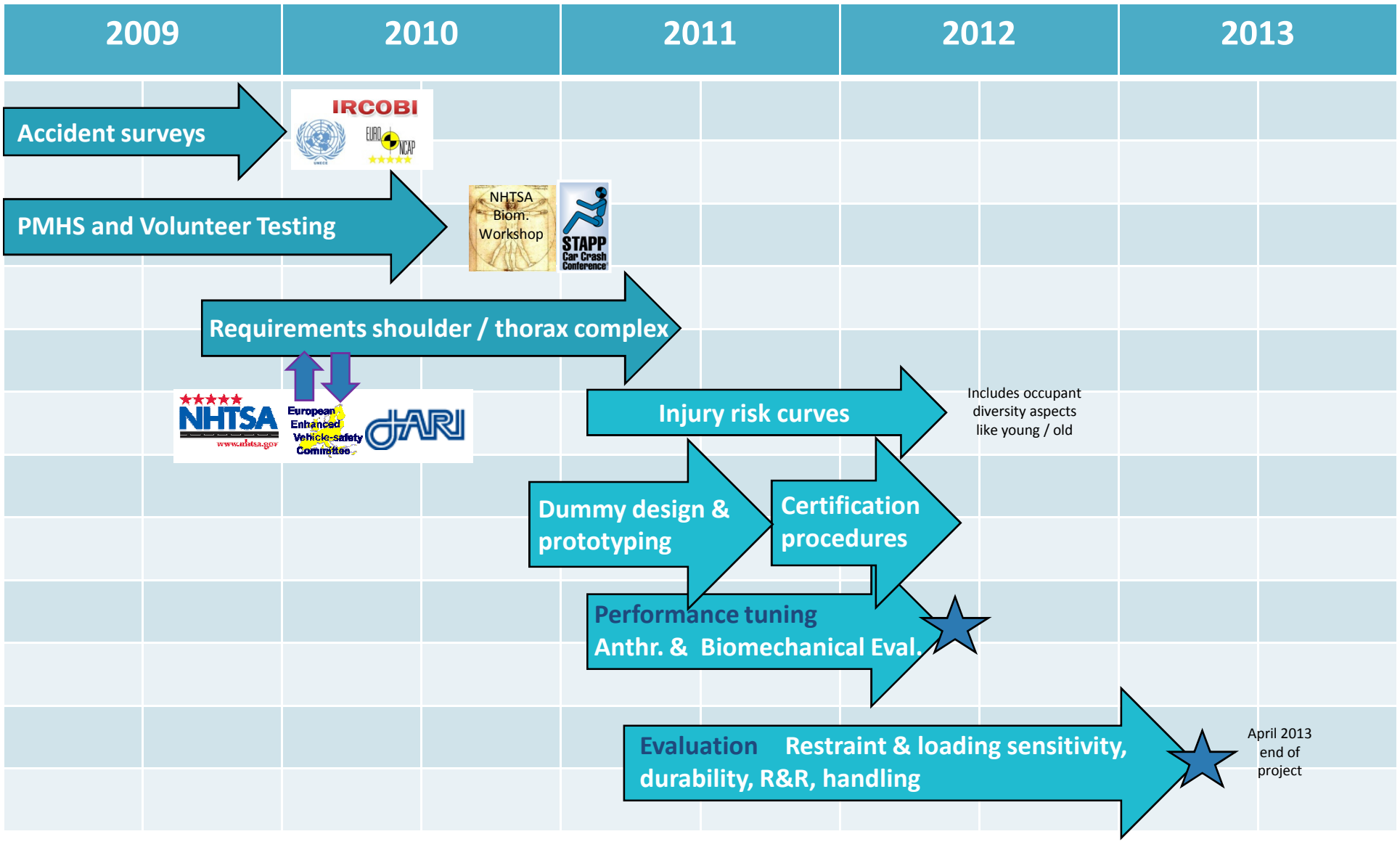


	Expectations	
ROD-POT	No change	
DEQ	Separate contribution of airbag and belt loading in the assessment of thorax injury risk	
RIB-EYE	Multi-points differential deflection measurements (optical measurement)	
THMPR	Multi-points differential deflection measurements (mechanical measurement)	

Expert group to validate the use of thorax injury prediction tools (DEQ, THMPR, Rib Eye) for the H3 (target end of 2012)

THORAX input

THORAX Timeline



Terms of Reference IWG R94

- As a first step with those results the group will propose a final draft for an amended R94 to GRSP by May of 2014.
- A second step to improve frontal impact regulation shall be envisaged preferably by means of a GTR, starting at least mid of 2014, depending on the availability and the progress of the THOR NT with the input of the research project THORAX.
- The group encourages collaboration on the development of a harmonized THOR dummy for that second step.
- A “grandfathering” clause could be used for the second phase so that the new rules may apply only to completely new vehicle designs.
- The group asks GRSP to seek consent of a mandate until the end of 2014.