



# EC WorldSID-5F Work Programme

Presented by David Hynd  
26 October, 2011



# Status of Evaluation Activities

Summary of original test programme

- Three areas of work proposed:
  - Multi-point chest deflection measurement
    - Also (hopefully) greater measurement range without sensor damage
  - Biofidelity
  - Injury risk

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## New test programme

- Check dummy build *cf.* specification
  - What is the definitive specification? Plan to use latest User Manual (W-5F 9900 Rev C, dated April 2010), but more up-to-date specification would be better...
  - Check IR-Tracc calibration
  
- Biofidelity
  - Some tests will need to be repeated with new impactor face dimensions or sled load cell wall dimensions
  
- Injury risk
  - Impactor and sled tests as agreed by ISO WG6
    - E.g. new impactor / force plate dimensions and test velocities
  - Some overlap with NHTSA/VRTC tests to give reproducibility data
  - May have to scale responses to get some of the injury-level tests
    - VRTC reported ribs are linear
    - TRL will check pelvis response (acceleration and force)

# Status of Evaluation Activities

## New test programme

- Durability
  - Request from NHTSA
    - Nominally certification severity +50%
    - Will increase sled velocity to close to bottoming-out IR-Traccs (likely < +50%)
  
- (Some of these tests will also provide R&R data)
  
- Lower abdomen rib / pelvis flesh interaction

## Status of Evaluation Activities

Lower abdomen rib / pelvis flesh interaction

- Issue raised at last WorldSID-50M Task Group meeting...

## Status of Evaluation Activities

Lower abdomen rib / pelvis flesh interaction



- Typical lower abdomen rib position *cf.* pelvis flesh

# Status of Evaluation Activities

Lower abdomen rib / pelvis flesh interaction



- Lower abdomen rib hooked outside pelvis flesh



## Status of Evaluation Activities

Lower abdomen rib / pelvis flesh interaction

- Issue raised at last WorldSID-50M Task Group meeting...
- Volunteers requested for sled tests
  - To determine whether interaction affects abdomen rib response
- TRL will perform several tests with and without interaction and compare rib compression measurement
  - Would impactor tests be useful as well?
  - E.g. impacts to abdomen rib 2 only...?

# Status of Evaluation Activities

## Schedule

- Aprosys WorldSID-5F available to TRL Jan 2012
- Humanetics will upgrade to current specification
  - (Not concerned if lower leg not upgraded)
- TRL/EC tests 9 Jan to 4 Feb 2012
  
- Assumes all load cell wall and impactor dimensions finalised by ISO WG6 by end Nov 2011



# Do You Have Any Questions?

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# Thank you

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