

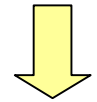
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Transmitted by the expert from Japan

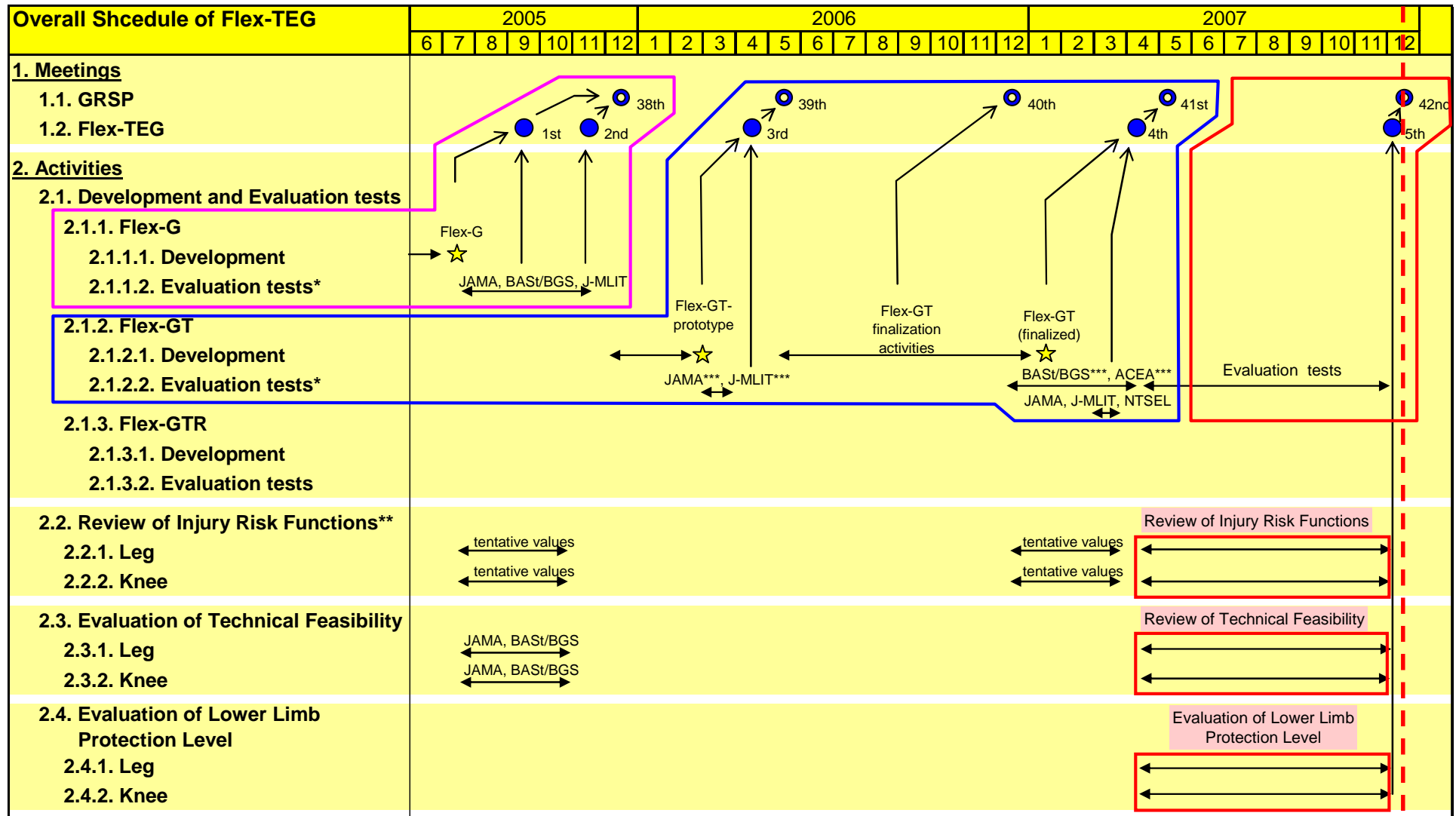


Status Report on Flexible Pedestrian Legform Impactor Technical Evaluation Group (Flex-TEG) Activities

Atsuhiro Konosu
Chairperson of Flex-TEG, Japan



Flex-TEG Overall Schedule



* Usability, Repeatability, Reproducibility, Durability, and Comparison of those issues between the Flex-PLI and the TRL-LFI.

** Review and propose threshold values for Flex-PLI

*** Flex-GT-prototype tests

Latest Flex-TEG Activities (5th Flex-TEG meeting)

Participants of 5th Flex-TEG meeting (7 December 2007, BASt, Germany)

- A. Konosu (Flex-TEG chairperson/J-MLIT/JARI)
- B. Been (Flex-TEG secretariat/FTSS)
- H. Inomata (J-MLIT/JASIC-Geneva)
- O. Zander (BASt)
- J. W. Lee (Korean Gov. (KOTSA)/KATRI)
- T. Kinsky, M. Zeugner, B. Buenger (ACEA/GM-E)
- O. Ries (ACEA/VW)
- R. Fleischhacker (ACEA/Porsche)
- H. Suzuki (JAMA/HONDA R&D)
- D. Gehring (BGS)
- K. Wolff (SRS)
- J. Manning (TRL)
- W. Liebers (TUV)
- P. Becker (ACTS)
- M. Burleigh (FTSS-UK)

Total: 17 persons



Latest Flex-TEG Activities (5th Flex-TEG meeting)

Main part of Agenda of the 5th Flex-TEG meeting (7 December 2007, BASt, Germany)

5. Report of the Flex-GT Technical Evaluation Results and Discussions

- 5.1. ACEA/BASt Joint Project Report on Tests with the Flexible Pedestrian Legform Impactors Flex GT alpha and Flex GT
- 5.2. BASt/ACEA Joint Project Preliminary Report on Evaluation of Flex-GT (Repeatability and Reproducibility Check)
- 5.3. J-MLIT Flex-GT Simplified Car Test Results (Repeatability Check)
- 5.4. ACEA Comments on the current development stage of Flex-PLI
- 5.5. JAMA-JARI Answer for the ACEA Comments on the current development stage of Flex-PLI
- 5.6. Flex-GT Full Calibration Test Procedures
- 5.7. FTSS Report on Flex-GT Technical Review and Design Concept of Flex-GTR

6. Direction of the Flex-GTR based on the Flex-GT Technical Evaluation Results

- 6.1. Specifications (Mass, Length, Bending characteristics)
- 6.2. Usability
- 6.3. Durability
- 6.4. Repeatability
- 6.5. Reproducibility
- 6.6. Measurements

7. Discussion for the Injury threshold values for the Flex-PLI

- 7.1. Review of Injury Criteria and Injury Thresholds for Flex-PLI

8. Evaluation of Pedestrian Lower Extremity Protection Level provided by the Flex-PLI

- 8.1. Evaluation of Pedestrian Lower Extremity Protection Level provided by the Flex-PLI (for discussion)

9. Future action plans

Latest Flex-TEG Activities (5th Flex-TEG meeting)

5. Report of the Flex-GT Technical Evaluation Results and Discussions

- 5.1. ACEA/BASt Joint Project Report on Tests with the Flexible Pedestrian Legform Impactors Flex GT alpha and Flex GT
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- 5.4. ACEA Comments on the current development stage of Flex-PLI
- 5.5. JAMA-JARI Answer for the ACEA Comments on the current development stage of Flex-PLI
- 5.6. Flex-GT Full Calibration Test Procedures
- 5.7. FTSS Report on Flex-GT Technical Review and Design Concept of Flex-GTR



- Flex-GT tends to have a good repeatability and reproducibility especially for Femur, Tibia and Knee-MCL outputs.
- The assessment of the reproducibility was based on dynamic certification tests, inverse tests and tests on a test rig. Real car test results are needed.
- Further assessment of reproducibility is needed with more impactors and results of round robin tests.
- Human-like asymmetric knee joint construction has a chance to generate some degrees of deviation on the Knee-ACL, and Knee-PCL outputs.
- Main specifications (Mass, Length, Bending characteristics) shall not change from that of the Flex-GT ones, however, better measurement cable wiring system and/or inside DAS system is/are recommended.
- Improvements on the calibration methods are also preferable.

Latest Flex-TEG Activities (5th Flex-TEG meeting)

6. Direction of the Flex-GTR based on the Flex-GT Technical Evaluation Results

- 6.1. Specifications (Mass, Length, Bending characteristics)**
- 6.2. Usability**
- 6.3. Durability**
- 6.4. Repeatability**
- 6.5. Reproducibility**
- 6.6. Measurements**



- Main specifications (Mass, Length, Bending characteristics) shall not be changed from that of the Flex-GT ones in the Flex-GTR developments.**
- Better measurement cable wiring system and/or inside DAS system shall be addressed in the Flex-GTR developments.**
- Improvements on the calibration methods are recommended.**



- December 2007 – March 2008: Conducts additional Flex-GT evaluation tests and will fix the Flex-GTR Design.**
- April 2008 – October 2008: Manufacturing and Technical Evaluations on Flex-GTR by Developer.**
- November 2008 – April 2009: Flex-GTR Initial Technical Evaluation by Main Flex-TEG members.**
- After May 2009: Final Technical Evaluation by Main Flex-TEG members.**

*Flex-GTR Technical Evaluation phase will be separated as follows,
Phase 1: Main Flex-TEG members, Phase 2: All of the interests GTR member countries*

Latest Flex-TEG Activities (5th Flex-TEG meeting)

7. Discussion for the Injury threshold values for the Flex-PLI

7.1. Review of Injury Criteria and Injury Thresholds for Flex-PLI



- JAMA-JARI explained their using Injury Criteria (Tibia Bending Moment, Knee-MCL Elongation) and Tentative Threshold Values.
- Flex-TEG will discuss and finalize this issues by the end of Flex-TEG activities.

Latest Flex-TEG Activities (5th Flex-TEG meeting)

8. Evaluation of Pedestrian Lower Extremity Protection Level provided by the Flex-PLI

8.1. Evaluation of Pedestrian Lower Extremity Protection Level provided by the Flex-PLI (for discussion)



- JAMA-JARI explained their calculation method (base method: NHTSA one) for the evaluation of pedestrian lower extremity protection level provided by the Flex-PLI.
- Flex-TEG will discuss and finalize this issues by the end of Flex-TEG activities.

Latest Flex-TEG Activities (5th Flex-TEG meeting)

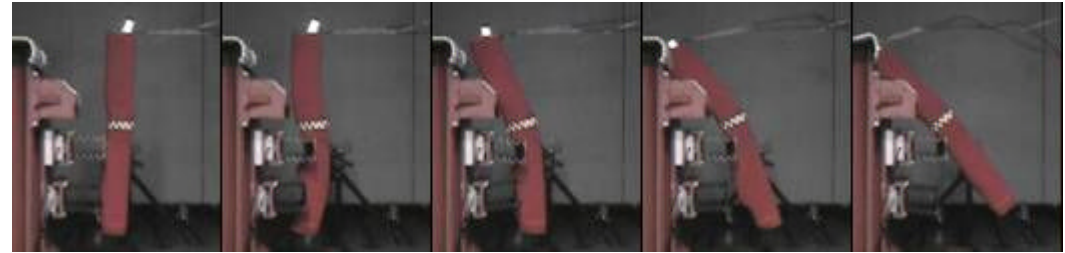
9. Future action plans



- Flex-TEG proposed following activity schedules;



- December 2007 – March 2008: Conducts additional Flex-GT evaluation tests and will fix the Flex-GTR Design.
- April 2008 April – October 2008 : Manufacturing and Technical Evaluation of Flex-GTR by Developer.
- November 2008 – April 2009: Conducts Flex-GTR Initial Evaluation Tests by Main Flex-TEG members.
- After May 2009: Final Technical Evaluation by Main Flex-TEG members.
- Injury Criteria and Threshold values will be discussed and finalized by the end of Flex-TEG activities.
- Evaluation of Pedestrian Lower Extremity Protection Level provided by the Flex-PLI will be discussed and finalized by the end of Flex-TEG activities.
- Documentation Activities (Preamble and Test Method making) will be addressed as an New Work Item of the Flex-TEG.



Thank you for your attentions!

