



TC for Acoustics, Ultrasound and Vibration: Highlights

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8th CCAUV

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Outline

- Overview of the TC-AUV
- Highlights:
 - EMRP IND09 Traceable Dynamic Measurement of Mechanical Quantities
 - EMRP HLT01 EARS: Metrology for a universal ear simulator and the perception of non-audible sound
 - EMRP HLT03 DUTy: Dosimetry for ultrasound therapy
- New EMRP proposals

Overview of the TCAUV

- Sub-Committees: 3
- Members: 25
- Comparisons:
 - 2 CCAUV,
 - 2 EURAMET,
 - 2 COOMET,
 - 3 Bilateral
- Projects: 9
- CMC entries: 511





Highlights:

EMRP Project IND09

Traceable Dynamic Measurement of Mechanical Quantities



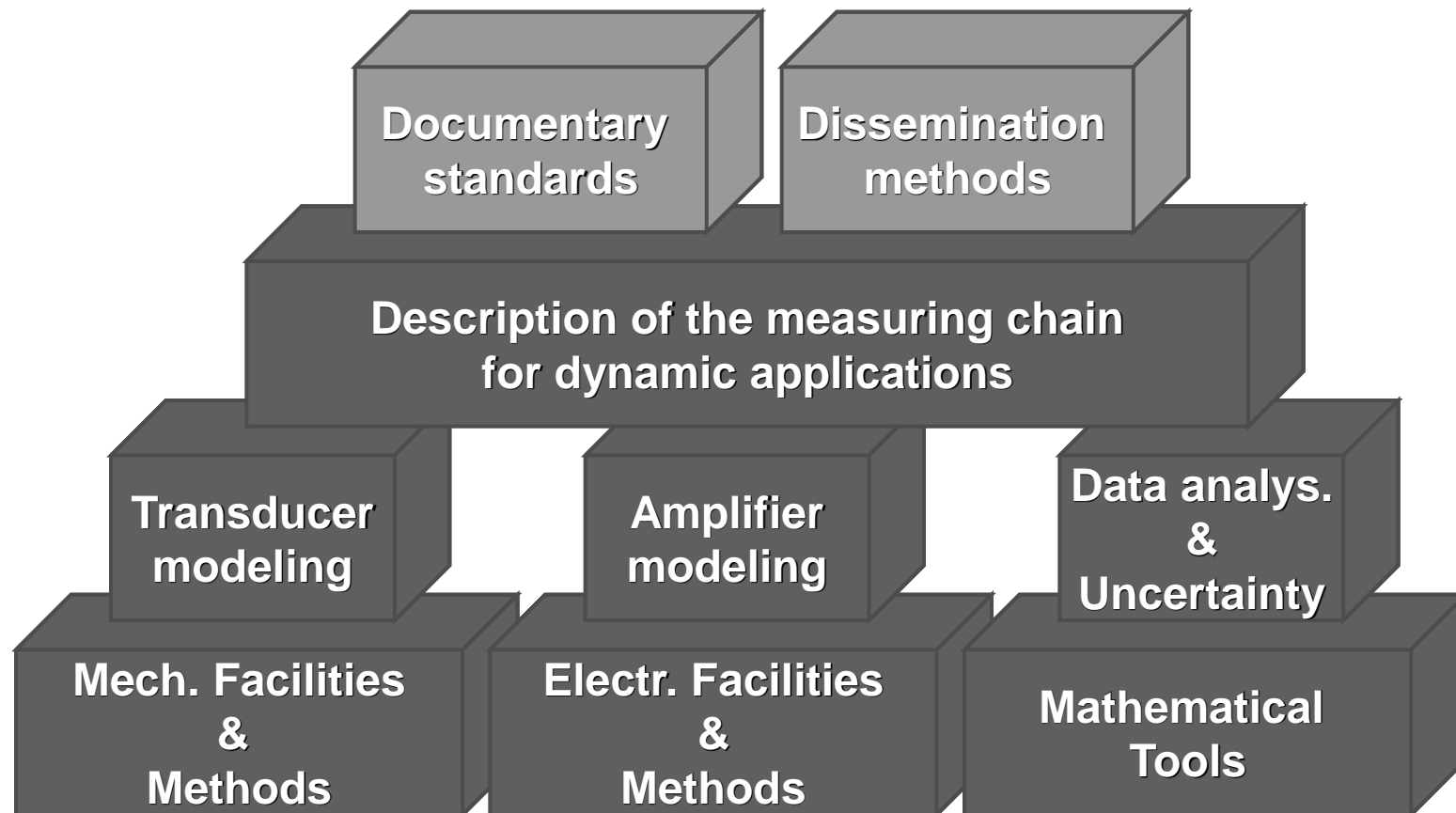
The Objective of EMRP-JRP-IND09 ***“traceable dynamic measurement of mechanical quantities”***

Establish traceability for the dynamic quantities

- Force (periodic and shock)
 - Torque (periodic)
 - Pressure (Shock, gaseous, liquid)
 - Conditioning amplifier sensitivity (charge, bridge, voltage)
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- Set up devices
 - Develop Methods and procedures
 - Modell systems and analyse uncertainties
 - Validate by (pan-european) comparison



The structure of EMRP-JRP-IND09 “traceable dynamic measurement of mechanical quantities”





Highlights:

EMRP Project HLT01 *EARS*

Metrology for a universal ear simulator and perception of non-audible sound



Motivation and need

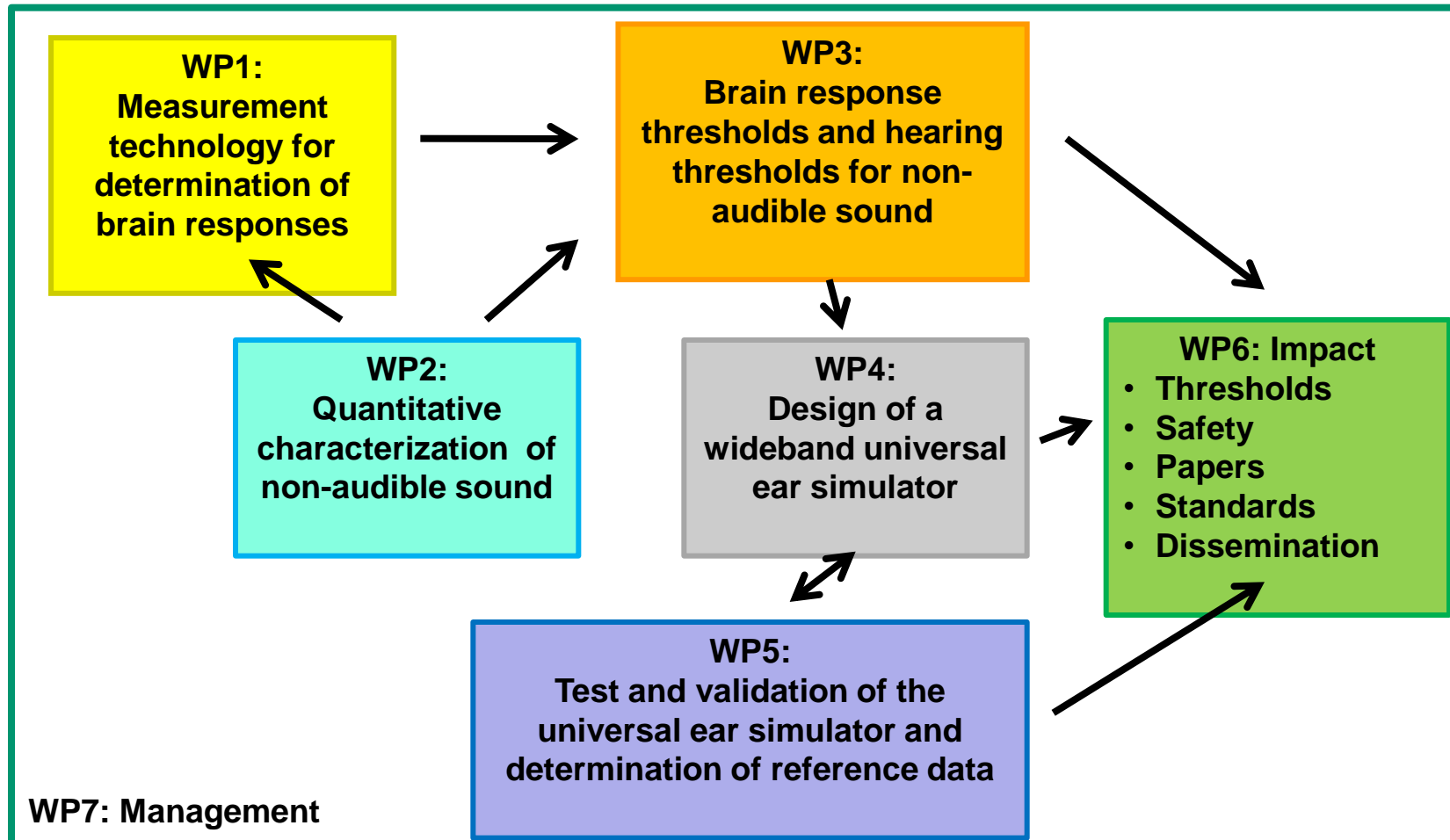
- Limited understanding of perception of non-audible sound: little known about hazard and lack of rationale for exposure limits
- No measurement methods and standard for determination of exposure on humans for >20 kHz
- Ear simulators are developed mainly for pure tones and only for adults: Need for particular devices for children and newborns
- Existing devices and protocols are complex: extension needs new approach for cost reduction and flexible application

Vision of the project

Improvement of preventative strategies for hearing conservation: Better quality of life

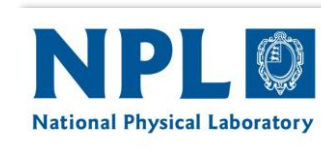


Workpackages



Consortium

- Consortium of 6 NMIs, PTB is working as coordinator
- Accompanied: 10 collaborators



Current status

- Start at 1 May 2012, all contract signing finished
- Kick-off meeting was held at 15 / 16 May in Braunschweig
- First working steps are running with no delay



Impact

- Set exposure limits for rationally based safety requirements for manufacturers, health and safety agencies, patients, workers, and employers
- Reduce unnecessary introduction of requirements for sound protection of products
- Improve reliability and quality of screening results for newborns
- Improve effectiveness, simplicity, remove ambiguity and thus reduce costs of audiometer calibration



EMRP 2012 Proposals

- EMRP SRT-s01: Realisation, dissemination and application of the unit watt in airborne sound.
- EMRP SRT-s02: Optical standards for the traceable characterisation of dynamic pressure fields.