EA presentation

for the
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- Masters degree 1983 in Physics from Copenhagen University (Thesis: Bose Einstein Condensation).
- Former Associate Professor at the Engineering College in Copenhagen (-2001)
- Author of several text books on physics in engineering education.
- Presently Manager of section for accreditation of laboratories in DANAK (2003-)
- Member of the EA laboratory committee
- Member of ILAC AIC and convenor of WG2 Calibration issues.

Cooperation on many levels between the NMI community and Accreditation is needed:

1. Scientific reasons (CMCs, traceability and PTs)
2. Infrastructure in metrology (CIPM MRA and ILAC Arrangement/EA MLA)
3. Other topics of common interest

1. Scientific reasons

How low is it possible to go. Establishment of realistic CMC's.

- Nashwille meeting 2006 that lead to the document "CALIBRATION AND MEASUREMENT CAPABILITIES. - A paper by the joint BIPM/ILAC working group." issued 2008.
- Shared definition of the CMC
- Implementation of this document in ILAC P14:2010 Uncertainty in Calibration

ILAC P14:2010 Uncertainty in calibration (EA 4/02)

- Concerns policy on calculation of uncertainty, establishment of a CMC and reporting of uncertainty
- Contribution to the uncertainty in the CMC from the DUT may be omitted.
- Reference to the GUM.

PT's and ILC's

- Some NMIs serve their national needs for PT/ILC
- Cooperation with EA wg ILC Cal on international (European) comparisons for the EA members as mandated by the EA 2/14 (replacement for EAL P7).
- **Need for cooperation for those accredited bodies that need comparisons at the highest scientific levels (seen in temperature and flow). Key Comparisons as a service to outsiders.**

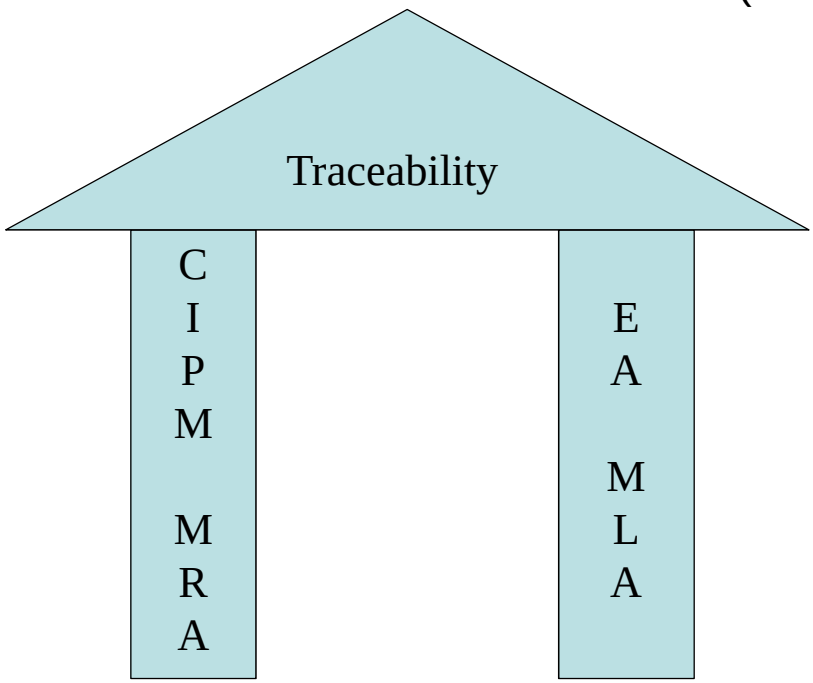
Traceability

1. Joint BIPM, OIML, ILAC and ISO declaration on metrological traceability, September 2011
2. ILAC P10 Policy for traceability is under revision

Challenges for P10:

- Traceability on the world wide market is not bound by national roots to traceability – especially in Europe
- Problems with few entries of data in the KCDB (not just for developing economies)
- Traceability in chemistry is still developing
- "Only" 67 % voted in favour of the document Mainly due to "the third route".

Basic idea for the future ILAC P10 (clause 1&2)



ILAC P10 Clause 3 “the third route”

Clause 3 covers:

- Services from NMIs without entries for the service in the KCDB
- Services from laboratories which are not covered by the EA MLA (or the ILAC Arrangement).

Solution developed Prague March 2012 in the AIC:

- The accreditation body shall establish a policy to ensure that those services meet the relevant criteria for metrological traceability in ISO/IEC 17025:2005.
- **The accreditation body shall ensure that sufficient evidence for claimed traceability is available.**
- **Annex about how this evidence is established.**

2. Accreditation as a service to the NMI

- Some countries have one NMI while others have 5 to 10 NMIs or DIs.
- In some countries NMIs are mandated by Government to be accredited besides being the NMI/DI and a member of the CIPM MRA
- The CIPM MRA relies on the basic principles of ISO/IEC 17025 (EN 45001) which is also the basic standard for accreditation of calibration laboratories.
- ABs perform numerous assessments every day on calibration laboratories (some are NMI's). ABs further use NMI staff as their assessors (not only for NMI's).

Recently the Joint ILAC – CIPM Communication regarding the Accreditation of Calibration and Measurement Services of National Metrology Institutes was signed on 7th March 2012. The focus in the communication is on:

(i) Assessors
(ii) Scope of accreditation
(iii) Inter laboratory comparisons
(iv) Supplementary criteria set by the RMO
(v) Assessment report
(vi) Decision-making and granting accreditation

- It may smoothen the processes of accreditation for those NMIs who are or wish to become accredited.
- It may help ABs who are not experienced with accreditation of NMIs understand the needs of the NMI.
- It may reduce the workload on the RMO (as well as the accredited NMI) if redundant peer reviews and assessments from ABs are avoided.
- It has been agreed by the TC Q to meet with representatives from the EA LC to discuss matters of mutual interest. *EA nominated their delegation at the last meeting of the EA LC in Rome: (LC chair P. Bianco, Accedia, Trevor Thompson, UKAS and E. Oehlenschlaeger, DANAK).*

3. Other topics of common interest

- Euramet and EA participates each others General Assemblies.
- Euramet participates the EA wg ILC Calibration
- EA Laboratory Committee and Euramet TC Q has just decided to meet to discuss topics of common interest
  - Support of the metrological infrastructure by the CIPM MRA and the ILAC Arrangement/EA MLA.
  - How to benefit from the Joint CIPM ILAC Communication on accreditation of NMI's.
  - **Enhance the understanding between the processes in EA and Euramet.**

For the future :

- Emerging market for the NMI community: Discuss how high level non-NMI calibration labs can be supported by/connected to the key comparisons in the NMI community. **This can not be assured on national basis.**
  - Example from the pharmaceutical company Novo Nordisk who needs a CMC of 0,035 % on calibration of flow. The Danish NMI have only a CMC of 0,1 % while PTB is at 0,02 %. (They run a real high end calibration laboratory in their metrology department).
  - Other examples are found in temperature and humidity, length and electricity.