

**DFM****Danmarks Nationale Metrologiinstitut**

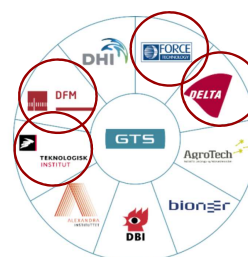
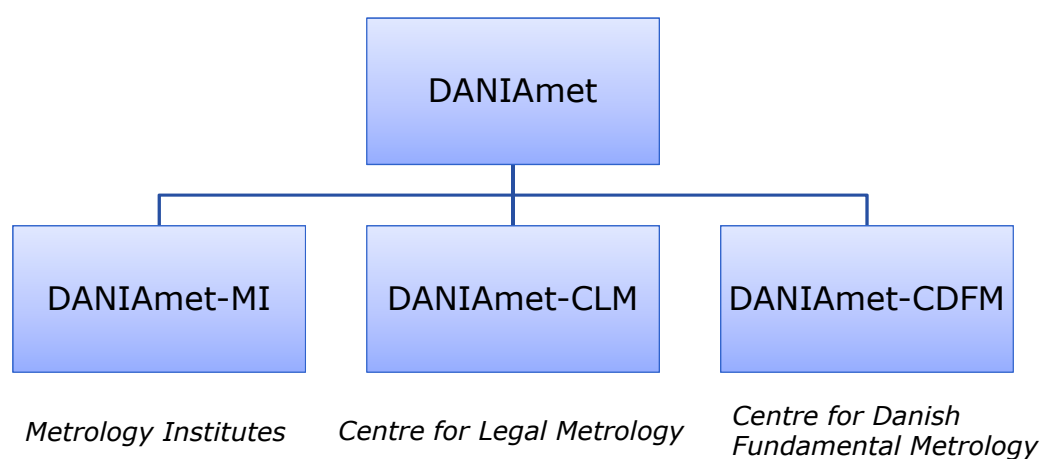
Coordination of metrology in Denmark

EURAMET DI Workshop 2016-02-19

Jan Hald



DANIAmet



DANIAMet-MI

Acronym	Status	Technical fields	Type
DFM	NMI*	AUV, EM, L, M, MC, PR	GTS
DTI	DI*	F, L, T	GTS
DELTA	DI	T	GTS
FORCE	DI*	F, M	GTS
DTU	DI*	IR, T	University
Trescal	DI	EM	Company
BKSV-DPLA	DI	AUV	Company

*) EURAMET TC contact person

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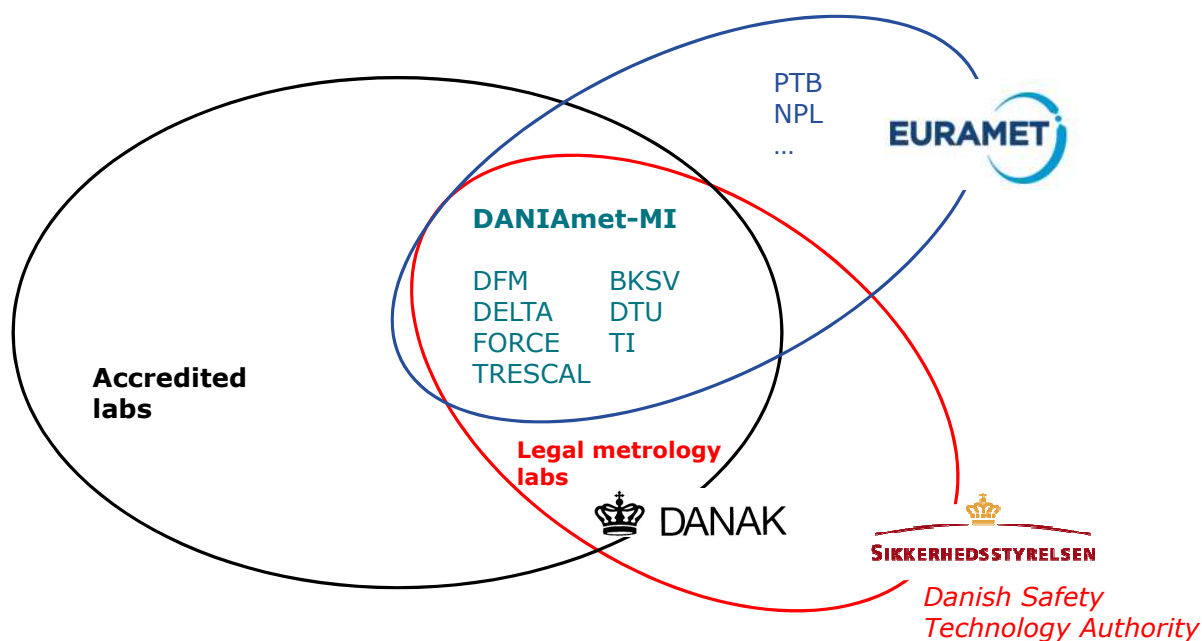
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Several DIs within the same technical fields

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Danish metrology infrastructure



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EURAMET guide No 2

Role of Designated Institutes within the CIPM MRA

- 1.1.5 ...is expected that a DI has succeeded in **publishing CMCs** in the KCDB...
- 2.2.5 ...**The service** can be at primary, secondary (or even lower) metrological level, fit-forpurpose in the national metrological hierarchy. But it **has to be the reference at the national level**...
- 2.2.8 ...The **CMCs** offered by DIs must be complementary (in terms of measurands or ranges) but **not overlapping** to those of other DIs or the NMI in the country ...
- 2.3.2 ...**Traceability** at the national level cannot come from an institute not being **NMI/DI**...

All Danish MIs have CMCs in the KCDB

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**Highest national level of accuracy is explicitly
written in the designation contracts with DSTA**

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**A written procedure from DSTA ensures no overlap.
Coordinated by DFM, major changes approved by DSTA**

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**Designation contracts: Primary standard or traceability
from either BIPM or a *foreign* NMI participating in the CIPM-MRA**

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Role of Designated Institutes within the CIPM MRA

- 3.1.3 ...The scope of the designation must be specified. **A contractual arrangement ... is recommended** ...
- 3.1.5 ...**Potential DIs** should have already broad **experience in accurate measurements** in their field of designation and apply metrological principles...
- 3.2.3 ...**participate in metrological research** such as EMRP, EMPIR...
- 3.2.4 ...It is expected that DIs maintain **regular interactions with their NMIs** about their activities within the scope of designation as well as broader EURAMET and CIPM MRA issues.
- 3.3.4 ...especially in cases where several DIs exist in the country, the **NMI should arrange meetings** with representatives from the NMI and the DIs for discussions on policy, plans, practical problems and solutions

Individual contracts between each MI and DSTA

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Accreditation is a requirement before obtaining NMI/DI status

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All MIs participate in EMRP/EMPIR projects

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Biannual meetings in DANIAMet-MI

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DANIAMet and EMPIR

A major challenge:

- Control the financial commitment overbooking factor with 7 MIs.
- JRP process starts with the Danish summer vacation.

The DANIAMet-MI solution:

- Written procedure for national **coordination**
- DANIAMet-MI GA decides an **initial allocation** of the DK EMPIR commitment for each MI
- DFM coordinates all DANIAMet-MI applications in terms of financial commitment
- If one MI cannot use allocation, DFM redistributes according to formula
- **Sanctions** apply the following year if an MI does not follow DANIAMet rules

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Collaboration

DANAK:

- DANAK participates in bi-annular DANIAmet-MI meetings.
- DANIAmet-MI represented in DANAK's advisory group on calibration.
- DANIAmet-MI input to DANAK guidelines: Accreditation of NMIs,
Assessment of high level calibration labs
- Collaboration with DANAK on initiatives to reduce TC-Q workload
(DANAK-DANIAmet letter from 2007)

Danish Safety Technology Authority:

- Individual contracts, specifying scope and requirements (besides accreditation)
- Individual reporting to DSTA – questionnaire (standards, CMCs, research, ...)
- Coordination of CMC submissions – to avoid overlap and 'meaningless' CMCs