

Record

National Metrology Infrastructure in EURAMET Member Countries – An Analysis and Recommendations
(Former EURAMET Guide No. 11)
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National metrology infrastructure in EURAMET member countries

An analysis and recommendations

Rationale brief:

Recommendations on the composition of national metrology infrastructure

The objective of the following document is to provide the EURAMET Members and Associates (NMIs and A-DIs) with a comprehensive analysis of its membership. The specific challenge of EURAMET is to bring together many different institutes with their individual strategic priorities and organisational particularities, to collaborate within EURAMET on a common strategic goal and therewith to enable EURAMET to act as a coherent European metrology organisation. In order to achieve this goal, a certain level of resemblance/uniformity among its members and associates would be very beneficial. While at the level of the NMIs a common understanding on what we are doing and how to do it in the best way has been developed during many years of fruitful and continuously convergent cooperation, in the case of DIs a much wider dispersion of understanding and modus operandi can be observed, stemming from a variety of reasons. It is clear, that the designation of DIs is the sole responsibility of national authorities; nevertheless EURAMET can support and facilitate these processes by providing designation criteria, measurable performance and progress indicators based on objective data that have been obtained recently with the participation of all EURAMET members. This document consists of a condensed analysis of these findings, as well as with other relevant information, attached as annexes.

Authorship

This document had been published by EURAMET e.V. as Guide No. 11 'National Metrology Infrastructure in EURAMET Member Countries – An Analysis and Recommendations'.

The Guide has been withdrawn but is still available as a record.
It was replaced by EURAMET Guide No. 2 'Role of Designated Institutes within the CIPM MRA'.

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0) Introduction:

EURAMET Members and Associates have the responsibility of developing and maintaining national measurement standards and of being the source of traceability to the SI for metrology users at the highest metrological level in their country. In many countries the National Metrology Institute (NMI) shares the responsibility of establishing national measurement standards with further Designated Institutes (DI). Together they form a network which in the context of this document will be called the National Metrology System (NMS).

An analysis was carried out on the situation of the National Metrology Systems in EURAMET member countries. The objectives of this analysis were:

- to obtain a better understanding of how the National Metrology System (NMS) has been established in EURAMET member countries
- to understand how the NMS is organised and coordinated in these countries
- to learn from positive experiences, identify critical aspects, etc.
- to serve as a basis for recommendations to EURAMET members on how identification, designation and integration of DI's into the NMS can be done in the most efficient and sustainable way.
- to serve EURAMET as a tool for more efficient management of it's membership in order to be perceived as a major European metrology organisation acting in a well coordinated way.

The input information for this analysis has been obtained from various sources:

- EURAMET database on members and TC and SC contact persons
- Result of the registration process of DIs as EURAMET Associates
- Result of a survey among EURAMET Delegates (questionnaire)
- Survey within the JCRB on role of DIs in the different RMOs
- Other sources of input, in particular the TC-Q (QMS review and annual reports) and discussions with representatives of the BIPM

Note: The provided information refers to the status of EURAMET membership as at 31 March 2011

1) Criteria for the participation of DIs in the Metre Convention and in EURAMET:

- 1.1. The CIPM MRA introduced the concept of the “Designated Institute” (DI) as responsible for certain national standards and associated services that are not covered by the activities of the “traditional” NMI [CIPM 2005-07]. Each signatory to the CIPM MRA is entitled to designate such institutes of his country; BIPM will list them in the Appendix A of KCDB.
- 1.2. In respect of the point (1.1), DIs and NMIs should be considered as being at the same metrological level, consequently having to fulfil the same criteria with respect to activities related to the maintenance of national standards.
- 1.3. The reason for being a DI is the active participation in the CIPM MRA. That means it is expected that a DI has succeeded in publishing CMCs in the KCDB, within a reasonable time after its designation.
- 1.4. EURAMET requests a formal registration of the DI as Associate (category A-DI) and expects them to fulfil the same metrological criteria as NMIs (Byelaws §4 (3c)) before the DI becomes eligible to participate in the activities related to the CIPM MRA:
 - participation in EURAMET KCs and SCs
 - review of the QMS of the DI within the TC-Q
 - review of the CMCs of the DI within the concerned TC (AUV, EM, F, etc.)
- 1.5. EURAMET has established acceptance criteria (see annex) which a DI has to fulfil in order to become an Associate of EURAMET (A-DI). DIs contribute to the EURAMET budget with an annual fee.

2) Analysis of the situation of DIs in EURAMET member countries and as EURAMET Associates:

- 2.1. In approximately half of the EURAMET member countries DIs are established and integrated in the National Metrology System. 68 DIs were registered as EURAMET Associates (A-DI) in March 2011; there is a tendency that this number will increase.
- 2.2. In several countries the National Metrology System (NMS) integrates further institutes which are doing R&D in metrology or maintaining certain measurement standards (either national or reference standards according to VIM 2008, section 5), but which are not designated to the BIPM (and are not registered in the KCDB). Frequently the term “Designated Institute” is used on a national basis for these institutes, but it should not be confused with BIPM and EURAMET’s concept of DI. The relevance of these institutes for the NMS is highly recognised. But as they do not have a direct relationship to EURAMET they should be considered as holders of reference measurement standards at a national level. The analysis presented here is limited to the DIs participating in the CIPM MRA. In the context of this document, the term “Designated Institutes” refers exclusively to those institutes registered on the KCDB.

- 2.3. The highest number of DIs are in Ionising Radiation (IR) and Metrology in Chemistry (MC). The majority of DIs is actively participating in the CIPM MRA and have CMCs published in the KCDB, but there are exceptions to this (see B3).
- 2.4. In the majority of countries with DIs the NMI plays a central role in the designation and coordination of the system.
- 2.5. In most countries strict criteria are established to assure the competent and sustainable operation of national standards and related CMCs by DIs:
- traceability to the International System of Units (SI)
 - successful participation in Inter-Laboratory Comparisons (ILC)
 - stability and competence of staff
 - availability of resources
 - operation of a QMS
- These criteria are applied on a national level for the identification of an institute being designated, independently of the criteria which have to be fulfilled for participation in the CIPM MRA (but these criteria are in accordance with those of the CIPM MRA).
- 2.6. In most countries accreditation or Q-audits by the NMI are a formal requirement for designation and follow-up of the performance of the DI.
- 2.7. DIs have to finance their national standards mainly from their own budget, which might come from various sources. A sufficient central national budget for national standards is generally not available.
- 2.8. Knowledge Transfer from the NMI to the DIs (at national level) on actual developments in EURAMET, the CIPM MRA and in the relevant metrology area seems not to be a routine operation in many countries. A non negligible number of DIs is not directly involved in the meetings of EURAMET TCs and SCs.
- 2.9. The administration of A-DIs in EURAMET (Secretariat, TC-Q) presents a considerable burden, in particular in cases where the communication between EURAMET and the DI, directly or indirectly via the NMI of the country, is not as efficient as it should be.
- 2.10. As the communication of the DI with EURAMET and with the BIPM is not necessarily going via the same “channels” and persons, the information available at BIPM and EURAMET on institutional and metrological aspects (scope of designation) is not congruent in all cases.
- 2.11. Opposing points of view exist concerning the “scope” of the CIPM MRA, that means the question which kind of CMCs should obtain their international recognition via the CIPM MRA, or better via accreditation by an accreditation body being signatory of the ILAC MRA. The fundamental difference between testing and calibration services is not recognised by all parties.
- 2.12. The required profile of the representatives of the EURAMET members or associates (NMIs or A-DIs) to the various committees (Delegates, Alternates, TCs, SCs, etc.) is understood and implemented differently by the members. This sometimes leads to an inhomogeneous composition of the respective EURAMET bodies/committees and thus affects the capacity of the member country interaction with EURAMET and absorbing the benefit from EURAMET as much as possible.

3) **Recommendations:**

- 3.1. With the growing number of DIs in recent years, including the metrology fields not “traditionally” covered by an NMI, the impact of DIs to the National Measurement Systems and to EURAMET has increased. Consequently, DIs should act like NMIs, establishing national standards traceable to the SI and participating in technical activities like key comparisons, technical work and projects of EURAMET TCs. As DIs are performing a public service with the respect to national measurement standards, they should be subject to the same criteria as NMIs, in particular with respect to impartiality.
- 3.2. Clear rules must exist on the designation of an institute, on what is expected of a DI, and the status, rights and duties of a DI in the RMO. In order to assure that these rules are aligned at the international, regional and national level, but also congruent with the EURAMET strategy, EURAMET should work more closely with BIPM and the other RMOs, in the JCRB, but also beyond the standard agenda of the JCRB meetings.
- 3.3. Further institutes participating in the NMS (beyond NMI and DIs) are in several EURAMET member countries of utmost importance and could be recognised by their national authorities as constitutive partners of their NMS and as holders of reference measurement standards (according to VIM 2008, 5.6), despite not fulfilling all EURAMET requirements for NMIs and A-DIs. By these means, there would be no need for them to obtain A-DI status, thus enabling EURAMET to have a clearer membership structure, and giving the members a higher flexibility by enabling further institutes/laboratories to participate in their NMS according to national needs. The term “DI” should not be used for these institutes in order to avoid confusion with the DIs in the sense of the CIPM MRA (and consequently published in the KCDB). However, these institutes might be accredited by a National Accreditation Body (NAB) being an ILAC MRA signatory, hence obtaining full international recognition.
- 3.4. The designating authority should take care that financial stability of the NMI and the DIs and appropriate financial resources (matching the required metrology level) for the maintenance of national measurement standards are assured (see also OIML-D1).
- 3.5. EURAMET should encourage BIPM to support giving clear messages to newly designated DIs on what is expected of them within the CIPM MRA (the only reason to be DI is to register CMCs). Roadmaps on how to achieve CMCs would facilitate monitoring the progress in achieving the objectives of the CIPM MRA.
- 3.6. More systematic exchange of information between EURAMET and BIPM is required, on designation of DIs to the KCDB and registration of a DI to EURAMET as Associate (A-DI), or change of their status and registration information (fields of designation, name, etc.). In particular, the scope of designation and the envisaged CMCs must be clearly identified and in line with the service categories defined by the corresponding CCs.
- 3.7. In terms of coordination a more centralised system without DIs or with a low number of DIs, avoiding at least a fragmentation of the national standards to many small DIs, is in general considered as an advantage at national level (e.g. expressed by Delegates in the landscaping questionnaire). Also for the administration of the CIPM MRA by the BIPM and the RMOs like EURAMET it is clearly desirable not having to deal with too many very small units individually. Nevertheless, EURAMET recognises the importance and need of the distributed systems in terms of integrating available metrological expertise on a national level. Therefore EURAMET should provide information on the “challenges” of managing a distributed system and provide information on how to coordinate at the national level and

how to link it to the regional and international level in an effective form, making use of positive experiences in some member countries.

- 3.8. EURAMET should work with BIPM and the other RMOs on a clearer definition for what kind of quantities and measurements CMCs can be established. The difference between calibration and testing should be worked out clearly. EURAMET TCs and the CCs of the Metre Convention need to be consulted for this discussion.
- 3.9. In order to ensure an effective exchange of information and knowledge, A-DIs must be given the possibilities of adequate participation in all EURAMET bodies, committees and working groups. The existing rules have been reviewed in this respect and need to be implemented accordingly.
- 3.10. EURAMET should complement its guiding documents and rules on A-DI. For example, EURAMET will
 - a. establish measurable performance and progress indicators for A-DIs and criteria for the termination of an associate membership;
 - b. prepare a guideline for A-DIs that includes designation criteria, procedure, rights and duties, among others, in order to help EURAMET members in the designation process;
 - c. identify critical aspects on the designation of A-DIs and propose recommendations to its Members.
- 3.11. It is strongly recommended that national authorities, responsible for metrology, designate the most knowledgeable, committed and experienced metrologists as representatives to EURAMET, coming from the NMI or a DI. The representatives in TCs/SCs should be the experts of the country in the respective metrological field. The representatives for the GA should combine demonstrated metrological competence and international experience (if possible) with the authority and willingness to represent a national metrology system composed of NMI and DIs. For all representatives, stability and continuity of participation is considered a crucial contribution to successful interrelations. This will optimise contributions to EURAMET as well as benefits received from EURAMET.

Annex A: Glossary

A-DI	Associate of EURAMET, category DI
BIPM	International Bureau of Weights and Measures
CC	Consultative Committee (of the CIPM)
CIPM	International Committee of Weights and Measures
CIPM MRA	Mutual Recognition Arrangement of the International Committee of Weights and Measures
CMC	Calibration and Measurement Capability
DI	Designated Institute
NMI	National Metrology Institute
NMS	National Metrology System
ILAC	International Laboratory Accreditation Cooperation
ILAC MRA	ILAC Mutual Recognition Agreement
ILC	Inter-Laboratory Comparison
JCRB	Joint Committee of Regional Metrology Organisations and the BIPM
KCDB	Key Comparison Data Base
KC / SC	Key Comparison / Supplementary Comparison
NAB	National Accreditation Body
QMS	Quality Management System
SC	Sub-Committee
SI	International System of Units
TC	Technical Committee
TC-Q	TC Quality
VIM	International vocabulary of metrology

Annex B: Analysis of the EURAMET database and DI registration process

B1) DIs in EURAMET member countries

At the time of analysis 68 DIs from 19 countries are registered as EURAMET Associates. In Norway and Estonia there is one further DI registered on the KCDB, and currently applying for EURAMET associate status. The total number of member countries is 37 (36 full members, 1 associate) plus the European Commission (EC).

The table below lists these countries with the respective number of DIs.

Country	N° of A- DIs
Austria	2
Croatia	4(+1) ⁽¹⁾
Czech Republic	4
Denmark	6
Estonia	0 (+1) ⁽¹⁾
Finland	6
France	9
Germany	3
Greece	2
Italy	1 ⁽²⁾
Lithuania	3
Norway	2 (+1) ⁽¹⁾

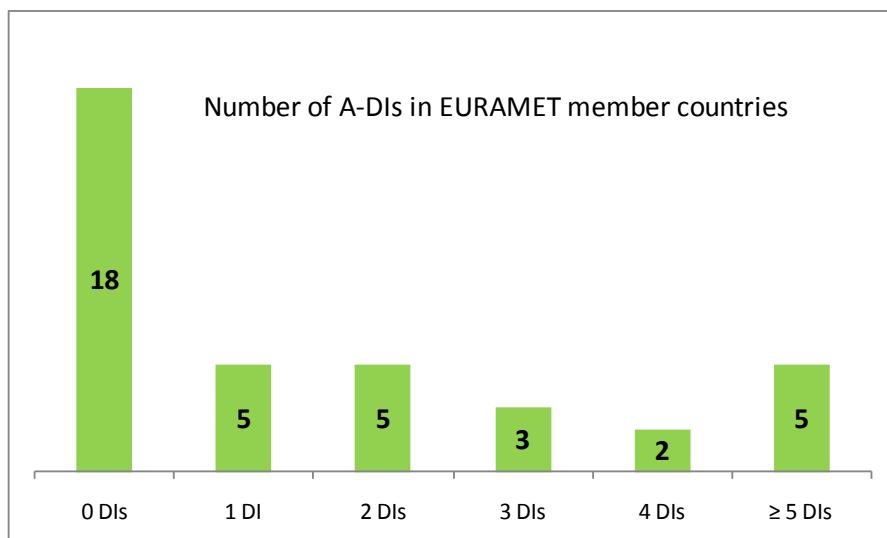
Country	N° of A-DIs
Poland	2
Portugal	1
Romania	1
Slovenia	9
Spain	6
Sweden	1
Switzerland	2
Turkey	1
United Kingdom	3

Notes:

- (1) Further DI is presently applying for A-DI status
- (2) Nationally this DI does have the status of an NMI (but is registered as A-DI in EURAMET)

Chart 1 shows the distribution of the DIs in the EURAMET member countries, including the EC; i.e. 18 countries have 0 DIs, 5 countries have 1 DI, etc., and 5 countries have 5 DIs or more.

Chart 1

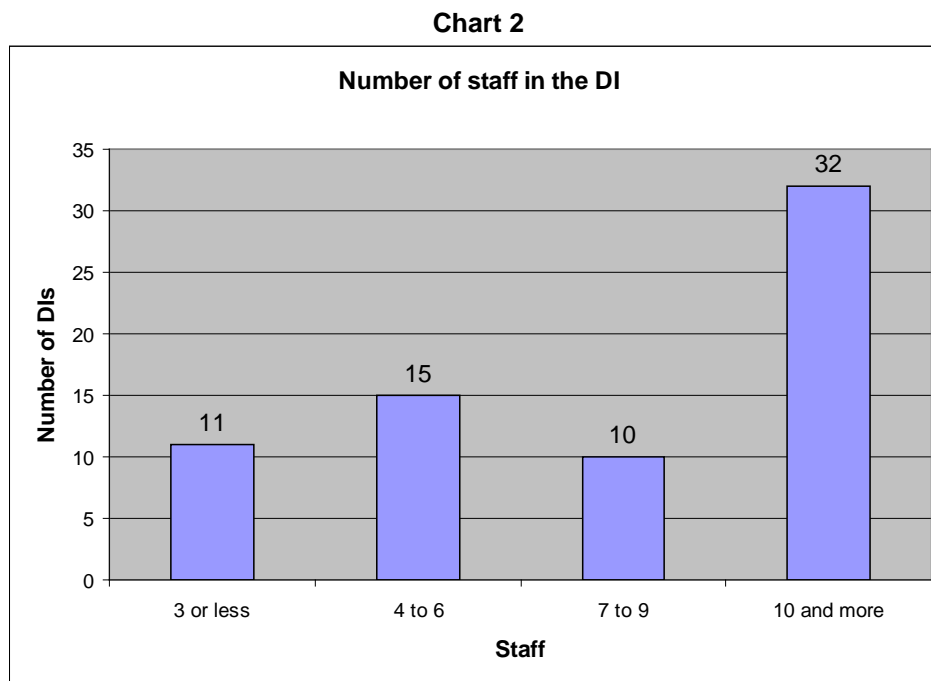


Based on the registration information, an analysis has been made on the number of staff in the DIs, their fields of designation, participation in EURAMET TCs and SCs, and progress in CMC declaration. The complete information is available in the table in the annex of this document.

One should note that a DI which has national standards in several metrological areas (AUV, EM, etc.) is listed in the table in the annex for each area individually (just for matters of easier analysis). Counting each metrological area of a DI individually, one ends up with 89.

B2) Distribution of the DIs according to their “size”

The distribution of the 68 DIs according to their “size”, i.e. number of staff (full-time equivalent) is shown in the chart below. About half of the EURAMET DIs have 10 or more employees, but 11 of them have only 2 or 3 employees.



B3) Distribution of the DIs due to metrology areas:

The table below shows the distribution of the DIs over the different metrology areas. Furthermore, it is indicated how many of the DIs in each metrology field have CMCs in the KCDB and how many have a registered contact person in at least one EURAMET TC or SC

Metrology Area	AUV	EM	F	IR	L	M	MC	PR	T	TF	Total
Number of DIs	2	7	8	16	8	10	18	4	10	6	89
having CMCs	2	7	6	13	6	8	8	4	9	6	69
	100%	100%	75%	81%	75%	80%	44%	100%	90%	100%	
having TC/SC-CP	2	5	6	16	3	5	6	2	6	4	55
	100%	71%	75%	100%	38%	50%	33%	50%	60%	67%	

Note: DIs which are active in several metrology areas are registered for each of these fields (therefore the total number is larger than 68)

Conclusions:

- 1) Almost half of the EURAMET member countries (46%) have no DIs at all, up to now. Some of them are already planning to establish DIs, however.
- 2) Planned DIs are more likely to occur among smaller and/or newer EURAMET members, facing initiation problems like QMS under development, no CMCs, and the need for inter-comparisons.
- 3) In only 13% of the EURAMET member countries, a high number (five or more) of DIs are established, up to now. This figure might also grow in the future, as the designation of DIs is an ongoing process.
- 4) The areas with the highest number of DIs are Metrology in Chemistry (MC) and Ionising Radiation (IR).
- 5) In all areas with exception of MC the majority (more than 75%) of these DIs have CMCs published in the KCDB.
- 6) The reason why the percentage of DIs without CMCs is relatively high (56%) in the field of MC might be that MC is the most “dynamic” area, with many new DIs, recently designated and just starting the CMC process.
- 7) MC is also the area with the highest percentage of DIs which do not have a registered contact person in any Technical Committee or Sub-Committee.

Annex C: Survey among EURAMET Delegates (questionnaire)

The questionnaire was sent to all EURAMET Delegates (38 in total: 36 Members, 1 Corresponding Applicant, and IRMM). It was mainly directed to Delegates from countries with a National Metrology System composed of NMI and DIs. Delegates from countries where the establishment of DIs is planned were invited to reply, too. Feedback was received from 23 Delegates.



Pink – EURAMET members which replied to the questionnaire (23 countries – Austria, Belgium, Bosnia and Herzegovina, Czech Republic, Denmark, Estonia, Finland, France, FYR Macedonia, Germany, Greece, Hungary, Italy, Lithuania, Norway, Poland, Portugal, Slovenia, Spain, Sweden, Switzerland, Turkey, UK)*

Light Blue - EURAMET members which did not reply to the questionnaire (EC + 14 countries - Albania, Bulgaria, Croatia, Cyprus, Iceland, Ireland, Latvia, Luxembourg, Malta, Montenegro, Netherlands, Romania, Serbia, Slovakia) only Croatia and Romania have DIs.

* this DI is still not Associate but the Estonian response was taken into account

The analysis also includes Estonia, having 1 DI (registered in the KCDB) which is currently applying for associate membership of EURAMET, but still not registered within the current 68 A-DIs.

Conclusions:

- The result of the questionnaire can be considered representative, as replies have been received from 90% of the countries having DIs (only 2 of them did not reply), representing more than 90% of all DIs in EURAMET.
- The results are indicative, as accuracy of the replies and strictness in the implementation of the indicated rules cannot be verified.

Structure of this chapter:

This chapter C “Survey among EURAMET Delegates” is structured along the questions of the questionnaire:

- 1) Who has the responsibility for national measurement standards?
- 2) How is the national metrology system (NMS) governed / coordinated in the country?
- 3) Which criteria are relevant for designating a laboratory into the NMS in the country?
- 4) Knowledge transfer – how is the transfer of information from EURAMET to the DIs carried out?
- 5) Which are the mechanisms for supervision and follow-up of NMIs, DIs in the country?
- 6) How is the maintenance and establishment of national measurement standards in a DI financed?
- 7) Where do you (Delegate) see strengths and opportunities for improvement in your NMS?

In each section (question) it will be presented:

- a) Options for the reply of the questionnaire
- b) Statistics on the answers
- c) Additional comments by the participants of the questionnaire
- d) Additional information from other sources
- e) Conclusions and recommendations

C1) Who has the responsibility for national measurement standards?

a) Options for the reply:

Model 1: NMI is authorized by law (Metrology Act) to maintain the national measurement standards and can designate this responsibility for certain quantities to other laboratories (DIs). A formal agreement between NMI and DIs is established.

Model 2: A national authority responsible for the NMS assigns the responsibility for certain national measurement standards to the NMI and further designated laboratories (DIs) by a formal decision.

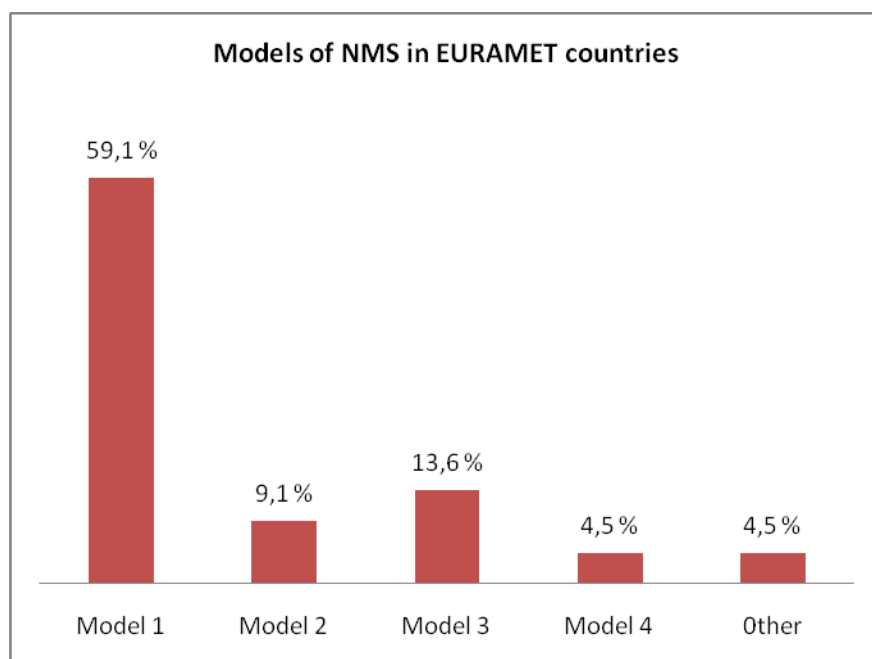
Model 3: Combination of the previous models. Please specify below how the models are combined.

Model 4: There is not legal regulation concerning the designated institutes. Please identify how the responsibilities of NMI and DIs are established.

Other model which is not specified above.

b) Statistics on the received answers:

Chart 3



c) Additional answers or comments to this question:

- 1. VMT Lithuania (no model)** - The national authority (VMT), which at the same time is an umbrella of the NMI, is responsible for the NMS and assigns the responsibility for certain national measurement standards to the DIs by a formal decision of the Government
- 2. SP Sweden (model 3)** - The NMI at SP is assigned responsibility by VINNOVA (Swedish Governmental Agency for Innovation Systems) under the Ministry of Enterprise, Energy and Communications. The DI at SSM (Swedish Radiation Safety Authority) comes instead under the Ministry of the Environment. Both are governed under Swedish Regulation 1989:527 on National Metrology Laboratories in this context. A national metrology programme council, organised by VINNOVA, maintains some links with the DI at SSM. The EURAMET delegate for Sweden also liaises with SSM.
- 3. SMD Belgium (model 3)** - The Royal Decree published in the Official Journal dated August 4th, 2008 fixed clear rules applicable for the creation of a network of DIs, called BELMET, in the fields where SMD has, up to now, no activities (e.g.: a DI must be ISO/IEC 17 025 accredited, interest for the country has to be demonstrated, eventual votes or important decisions must firstly be approved by the NMI, the Minister of FPS Economy keeps always the possibility to cancel the statute of DI if the rules are not respected,...etc).

d) Additional information from other sources:

- There are a few cases where the NMI has just a coordination function and does not maintain national standards at all, or the NMI has very limited metrological capabilities compared to the DIs of the country in terms of national measurement standards, and has historically evolved from the legal metrology area (LT as result of the questionnaire, but it is known from other sources, e.g. TC-Q that there are further cases).

e) Conclusions:

- C1.1 In a large majority of the countries (two thirds) the NMI has the principal responsibility for the maintenance of the National Metrology System, which includes the authority to designate the responsibility for certain quantities to other laboratories.
- C1.2 Formal agreements between NMI and DIs are established in these cases.
- C1.3 It should be noted that of the 37 EURAMET member countries only approximately half of them (namely 20) have DIs at all; in the other ones all national standards are maintained exclusively in the NMI. They represent centralised National Metrology Systems and would increase the percentage of Model 1, if they were taken into account in the statistics.

C2) How is the national metrology system (NMS) governed / coordinated in the country?

a) Options for the reply:

1. by the National Metrology Institute
2. by a Ministry (or other national authority)
3. by a Metrology Council (national body)

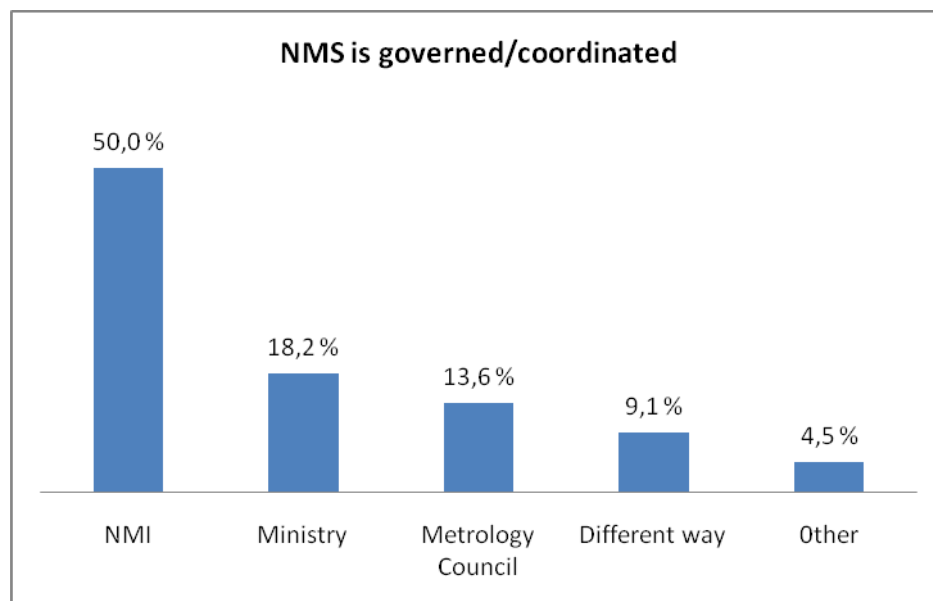
Who is represented in this Metrology Council?

- governmental representatives
- the NMI
- the DIs
- independent experts/scientists
- representatives from industry

4. The NMS is governed in a different way, please specify below

b) Statistics on the received answers:

Chart 4



c) Additional answers or comments to this question:

In 3 countries NMS is governed/coordinated by a Metrology Council or National Authority (France, Spain, Sweden). In all cases this body is composed by governmental and NMI representatives, DIs are represented in Spain and partly in France, but not in Sweden. In France and Sweden the scientist and industry representatives are involved.

VMT Lithuania - a decentralized NMS in Lithuania. For coordination of DIs of our virtual NMI is responsible State Metrology Service (VMT) – **governed by virtual NMI.**

d) Additional information from other sources:

No further input

e) Conclusions:

- C2.1 In roughly half of the EURAMET countries (where the NMS is composed of NMI + DIs) the NMI has the responsibility of coordinating the National Metrology System.
- C2.2 In roughly half of the EURAMET countries (where the NMS is composed by NMI + DIs) there is a coordinating instance governing the NMI as well.
- C2.3 As conclusion from (1) and (2), there is a clear tendency that the NMI should have a leading role in the establishment, coordination and governance of the NMS. Countries with “model 1” (NMI authorised to maintain national standards) plus countries without DIs at all comprise more than 80% of the EURAMET member countries.
- C2.4 One could expect that in cases where the NMI has a leading role for NMS, supervision of DIs is guaranteed, but there might be a lack of evidence on who supervises the NMI as such.

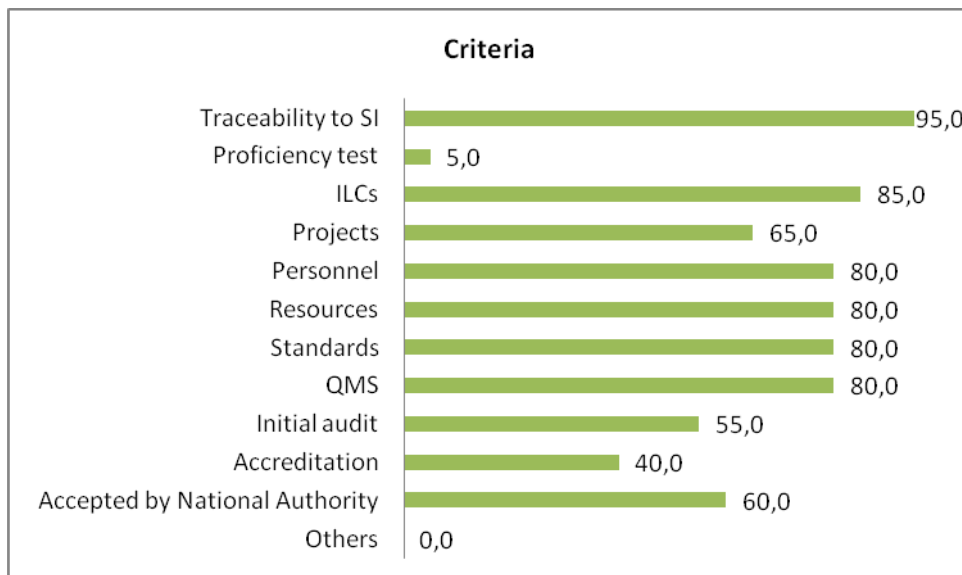
C3) Which criteria are relevant for designating a laboratory into the NMS in the country?

a) Options for the reply (several options could be chosen):

1. the traceability routes to the SI as well as dissemination potential shall be identified and in operation
2. before the designation of the laboratory a proficiency test (PT) has been performed
3. the laboratory is successfully participating in inter-laboratory comparisons (ILC)
4. the laboratory is actively participating in national and international projects at the highest level regarding national capabilities (R&D, metrological roadmapping & foresight and others)
5. competence and stability of personnel must be demonstrated
6. the laboratory has the resources (staff, financial, equipment, premises) to maintain national measurement standards and to participate in ILCs and international experts meetings (CC, TC, SC)
7. the national measurement standards maintained by the laboratory are of relevance for the country and are in accordance with criteria established by the corresponding CC of the CIPM
8. the laboratory has implemented a quality management system according to the EN 17025
9. an initial audit by the NMI is carried out in the laboratory
10. the laboratory must be accredited for calibration
11. the laboratory must be accepted by a national authority
12. others, please specify:

b) Statistics on the received answers:

Chart 5



c) Additional answers or comments to this question:

1. Acceptance of the laboratory by a national authority is based on the recommendation by Metrology Council – EE, Estonia.
2. The laboratory is a national institution with recognized legal identity– CEM, Spain.

3. The laboratory demonstrates impartiality and lack of conflict of interest or influence from third parties– CEM, Spain.
4. The quantity is not covered by CEM or another Designated Institute (DI). The range of the quantity of the proposed National Standard must be large enough to justify the designation as DI, not as a collaborating laboratory– CEM, Spain.
5. Scientific and technical recognition at national and international levels. Publications and communications have been submitted to relevant international conferences, journals, and so on – CEM, Spain.
6. The laboratory operates under a quality management system based on EN ISO/IEC17025 and, if applicable, on ISO Guide 34. The implementation of ISO 14001 is recommended – CEM, Spain.
7. For bodies or laboratories belonging to an organization whose mission is not directly related with metrology, the body or laboratory ensures that the implementation, maintenance and continued development of National Standard are recognized as specific activities and strategic objectives. – CEM, Spain
8. Other criteria, as specified in the national legislation (Rules on national etalons) – MIRS, Slovenia
9. As for being accredited: the laboratory must be accredited either for calibration or for testing – MIRS, Slovenia

d) Additional information from other sources:

- In the case of Slovenia accreditation for testing is considered as a criteria for demonstrating the metrological competence of a DI (see above). It is known from other sources that this is also the case in some other countries.

e) Conclusions:

- C3.1 In the majority of countries (> 80%) strict criteria are established in order to assure the competent and sustainable operation of the national standards and related CMCs (traceability to the SI, successful participation in ILC, stability and competence of staff, availability of resources, operation of a QMS). In general, a wide agreement seems to exist on the establishment of strict criteria for demonstrating the metrological competence of DIs.
- C3.2 In the majority of countries a QMS audit (either by the NMI or the NAB) has been carried out before the designation. In 7 of the 20 countries no such audit is done. (see correlation between options 9 and 10).
- C3.3 As a consequence of (d), EURAMET should emphasise that testing is not the relevant metrological activity related to national standards, and that therefore only the accreditation for calibration should be considered as an appropriate criteria for the metrological competence of the laboratory.
- C3.4 Having the traceability routes to the SI identified and in operation is an evident criteria for the maintenance of national standards (under fundamental metrological aspects, also confirmed by 95% (except UK) of answers to option 1). In the case that testing be accepted for assuring traceability to the SI (in specific cases), an explicit metrological explanation would be required.
- C3.5 Some additional criteria (not listed in the questionnaire) which have been reported are:
- The laboratory demonstrates impartiality
 - The scope of designation is large enough in order to justify designation as a DI.
 - Maintenance of National Standards is recognised as a specific activity and strategic objective of the institute (in particular if this is not a primary activity of the institute).

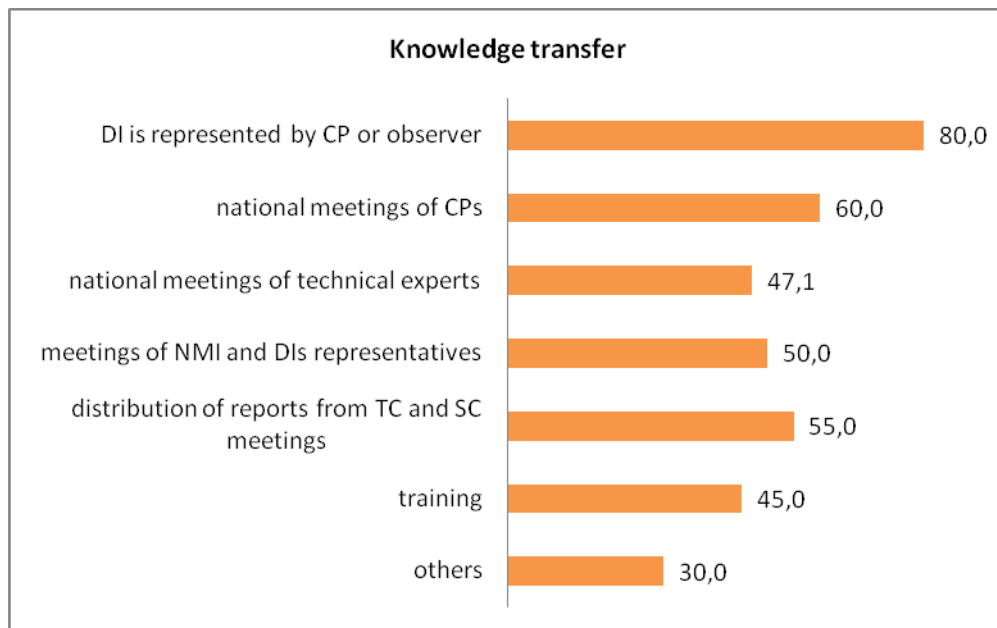
C4) Knowledge transfer: How is the transfer of information from EURAMET to the DIs carried out?

a) Options for the reply (several options could be chosen):

1. each DI is represented in a EURAMET TC or SC by a contact person or observer
2. regular national meetings of TC/SC contact persons from NMI and all DIs
3. regular national meetings of technical experts from NMI and DIs (not only TC/SC contact persons)
4. management meetings of representatives of NMI and DIs (metrology council etc.)
5. distribution of reports from TC and SC meetings by the NMI
6. training courses and workshops
7. others, please specify

b) Statistics on the received answers:

Chart 6



c) Additional answers or comments to this question:

1. regular meetings with technical experts of NMIs and DIs in the frame of the preparation of EMRP calls (LNE, France).
2. Fixed in the Royal Decree. A report must be sent by the DI to the NMI (SMD for Belgium) within ten (10) days. A report of activities has to be sent every six months to SMD. A representative of SMD will attend the meeting with the representative of the DI if necessary.

3. TAEK has a representative in TÜBİTAK UME Advisory Board.
4. Reports from TC and SC are distributed, but in general not by the NMI. It is the responsibility of the contact person (possibly from a DI) to distribute reports to relevant people/organisations. (DFM, Denmark).

d) Additional information from other sources:

- 30 of the 68 DIs are not represented in at least one EURAMET committee (TC or SC) with a registered contact person (see Annex). The landscaping confirms that in almost 20% of the participating countries at least some of the DIs are not directly represented in EURAMET committees (TCs or SCs) by a contact person or observer.
- The most frequent issue in the registration process of DIs as EURAMET Associates was a discrepancy in fundamental data (name, acronym, area of designation) to the KCDB, indicating a lack of awareness in the DIs on the roles of BIPM and EURAMET within the CIPM MRA.

e) Conclusions:

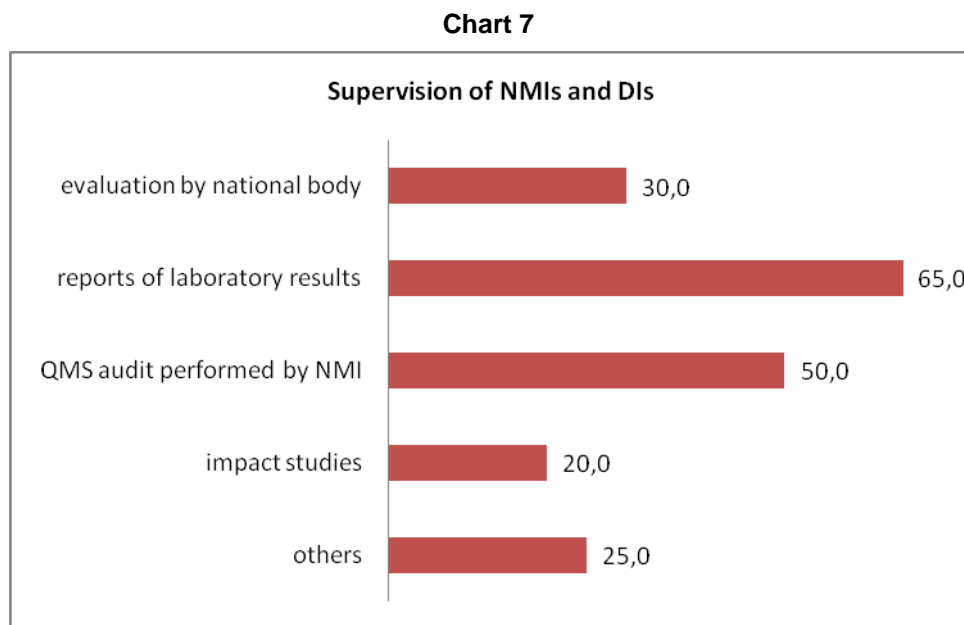
- C4.1 The results indicate that KT at national level is not part of the routine operation of the NMS in many countries:
- The reports of TC and SC meetings are not distributed to the DIs in one third of the countries.
 - National meetings of technical experts and training are carried out in less than half of the countries.
- C4.2 The results indicate that in several cases the DIs might not be closely linked to the EURAMET “metrology community” and that information on actual developments in metrology in general and EURAMET in particular (technical/scientific and organisational matters) are not disseminated to them in an effective way.
- C4.3 Conclusion C4.2 raises the question if the designation process on the national level is really focused on metrological activities with respect to national measurement standards.
- C4.4 EURAMET should therefore emphasise the importance of a proper KT, in particular in the case of DIs not dealing with metrology as a key activity of the institute. EURAMET should furthermore encourage the NMIs to guarantee an effective KT at the national level.
- C4.5 In order to enable and encourage the direct participation of DIs in EURAMET committees (TC or SC) and improve in this way the KT to the DI, EURAMET rules should allow each Member and Associate to participate in a TC or SC of its field of activity, at least with an observer.
- C4.6 In order to raise the awareness at the DIs for the relevant criteria and steps of the CIPM MRA and for the role of the involved organisations, it is recommended to coordinate the designation process with BIPM, including the provision of relevant information to the DIs, and establishing a routine exchange of information on relevant data of DIs (and NMIs) between BIPM and EURAMET (respectively between BIPM and all RMOs).

C5) Which are the mechanisms for supervision and follow-up of NMIs and DIs in the country?

a) Options for the reply (several options could be chosen):

1. periodical evaluation by a metrology council or national authority
2. report of laboratory results (ILCs at the highest metrological level, R&D projects, scientific publications, etc.) which is presented to other experts for evaluation
3. quality management audits in DIs performed by NMI
4. impact studies
5. others, please specify

b) Statistics on the received answers:



c) Additional answers or comments to this question:

1. Each DI must be ISO/IEC 17 025 accredited. Technical experts will come from other NMIs or from a higher level.
2. Annual and intermediate management reviews, annual planning and reporting of all activities of the DI's are presented to the NMI. The DI's have specific obligations regarding EURAMET, MRA, international and national activities according to the legal framework that defines the activities of each DI.
3. Assessments performed by the accreditation body and their competent technical assessors. The Danish Safety Technology Authority is informed about the assessment and may participate if they wish. - in Denmark this is the only supervision they provide.

d) Additional information from other sources:

- No additional information.

e) Conclusions:

- C5.1 In one third of the countries the results of laboratory reports, in particular of ILCs, are not systematically used for the supervision of the metrological competence.
- C5.2 In the majority of countries a QMS audit (either by the NMI or the NAB) is used for the supervision of the DI (once designated). In 6 of the 20 countries this instrument is not used. (see correlation between option 3 and option 10 of question 3).
- C5.3 This means that there is a significant number of countries where a direct follow-up on the development of the technical competence of the DI by national authorities or expert committees doesn't seem to be done. Does this mean that one relies completely on the follow-up measures of EURAMET within the TC-Q and the TC of the relevant metrological area?
- C5.4 In order to fulfil the JCRB rules, onsite visits by peers should be carried out for the acceptance of the QMS of an institute (NMI or DI). According to (3.2) and (5.1) in most of the EURAMET member countries onsite visits at the DIs in the form of QMS audits by the NMI or accreditation visits are carried out for the acceptance and supervision of the DIs already on a national level.
- C5.5 Even if onsite visits are not a direct requirement for the designation of an institute, EURAMET expects that in the absence of onsite visits equivalent measures have been performed in order to ensure proper implementation of the QMS. The corresponding countries could/should be consulted on that issue.

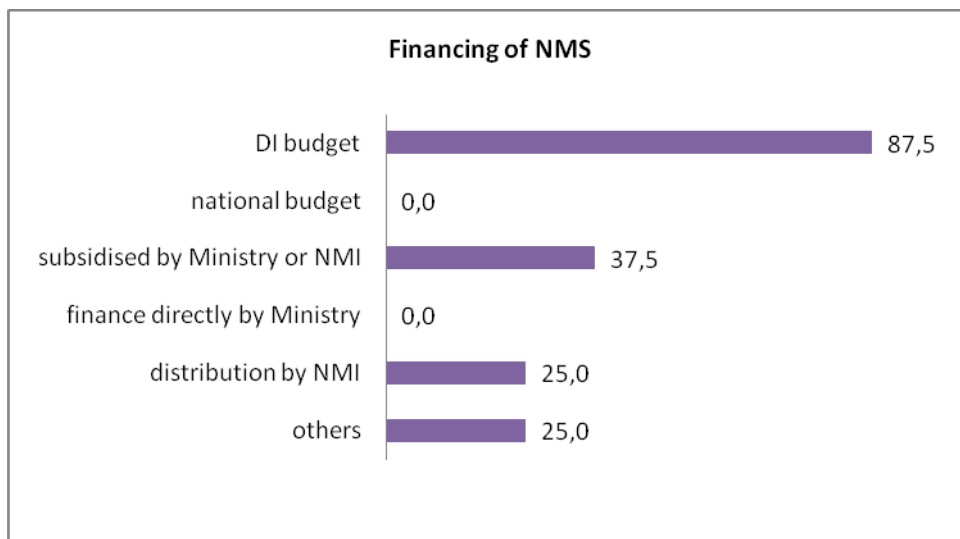
C6) How is the maintenance and establishment of national measurement standards in a DI financed?

a) Options for the reply (several options could be chosen):

1. It has to be financed within the regular budget of the DI.
2. A specific national budget is available; maintenance and establishment of national measurement standards in a DI is fully supported.
3. It is partially subsidised by the ministry or the NMI (e.g. investments, participation in ILC, international experts meetings, other pre-specified activities)
4. Distribution of finances is done directly by the ministry (or national authority responsible for the NMS)
5. Distribution of finances is done by the NMI
6. Others, please specify

b) Statistics on the received answers:

Chart 8



c) Additional answers or comments to this question:

1. SMD is already financing BIPM, Euramet, EMRP, ...etc. DIs are interested in the quality of the work at the international level. A second Royal Decree is now prepared by SMD in particular to facilitate the participation of the country in European programmes in the field of metrology.
2. Some DIs have civil servants, directly paid by the government added to the finances distributed by the NMI (LNE, France)
3. It is subsidised by NMI for activities related to research in metrology (MIRS, Slovenia).

4. The NMI (IPQ-LCM) supports the travel costs for the experts meetings of the DI (ITN-LMRI).

d) Additional information from other sources:

- No additional information.

e) Conclusions:

- C6.1 It seems that in almost all cases the DIs have to finance their activities on national standards mainly within their regular budget, although finances might partially come from other sources, especially in case of public institutions:
- No country has a specific national budget for the complete establishment and full maintenance of national measurement standards.
 - But in more than one third of the countries subsidies for investments and/or maintenance and/or development and/or research and/or T&S are available.
- C6.2 It seems that in two countries (FR and SI) there is a significant centralised budget for national standards available, which is distributed among NMI and DIs and therefore assures stability of operation of DIs as the highest priority for sustainable operations. It is recommended to consult these countries on the mechanisms and rules, and on advantages on the sustainability of the CMC services provided by DIs and on the disadvantages of such a situation.

C7) Where do you see strengths and opportunities for improvement in your NMS?

a) Options for the reply & b) Statistics do not apply

c) Answers and comments to this question:

Strengths:

- a national authority (Metrology council), a NMI officially responsible for the NMS,
- the services developed were turned in to accredited calibration services,
- the staff at the DIs are highly competent,
- public recognition and flexibility of the NMS,
- the number of DIs is relatively low (4 or less) - in other words, national standards are concentrated in just a few bodies, making the system manageable and transparent (acceptable) to the outside world.

Opportunities for improvement:

- The system would benefit if main metrological areas could be kept under one DI rather than split into several DIs. The latter complicates the metrological system.
- To reduce the number of DIs, if possible. Managing a distributed system needs a lot of energy and is time consuming .
- More clearly defined strategies for CMCs (needs, development, uncertainty levels).
- Planning of intercomparisons to support CMCs.
- Scientific record.
- Intensified vertical knowledge transfer within particular subject areas.
- Focus on overall NMS quality system.
- Within the German NMS it is considered to establish on-site visits by peers.
- NMI has no specific budget for subsidising DIs.
- An opportunity for improvement would be financing from one source which is under current circumstances not achievable.
- A sort of an opportunity for improvement crossing our borders is a clarification of criteria for chemical laboratories seeking the status of a DI (are they given by CCQM in a clear way?) otherwise EURAMET will be swamped in a majority of chemical labs (the attraction being the EMRP programme).

d) Additional information from other sources:

- No additional information.

e) Conclusions:

- C7.1 Several replies indicate that a more centralised system with a low number of DIs, or at least avoiding an “atomisation” of the national standards to many small DIs, is in general considered as an advantage.
- C7.2 Some replies consider a specific national budget for national measurement standards as an advantage.
- C7.3 There is an emphasis on the importance for better cooperation among DIs on national level, assuring the critical mass of metrological expertise of individual DIs, considering metrology as the key activity of the DI, assuring the distinction between the level of operations of DIs and calibration laboratories,

C8) Further comments to your NMS, which are not mentioned in this questionnaire.

No comments received.

ANNEX D: DIs of EURAMET per country and metrology area

Country	MRA Appendix A	CMCs in KCDB	A-DI	Acronym (as in the declaration form, in case we received it)	NMI/DI-Name	DI number of employees	Legal entity or part of the legal entity	Metrology areas	CMCs	CPs in EURAMET TC or SC
Austria	Y	Y		BEV/ E+E	BEV/E+E Elektronik	3	PLE	T	Y	---
Austria	Y	Y		EAA	Umweltbundesamt	5	PLE	MC	Y	TC
Croatia	N	Y		PEL	Faculty of Electrical Engineering and Computing - Primary Electromagnetic Laboratory	11	PLE	EM	Y	TC, SC
Croatia	Y	N		LIMS	Faculty of Mechanical Engineering and Naval Architecture - Laboratory for Testing of Mechanical Properties	7	PLE	M	N	SC
Croatia	Y	Y		HMI/LPMD	FSB - Laboratory for Precise Measurements of Length	12	PLE	L	Y	TC
Croatia	Y	Y		HMI/FSB-LPM	FSB - Laboratory for Process Measurements	7	PLE	M	Y	SC
Croatia	Y	N		HMI/FSB-LPM	FSB - Laboratory for Process Measurements	7	PLE	T	N	---
Czech Rep.	Y	Y		CHMI	Czech Hydrometeorological Institute	4	PLE	MC	Y	---
Czech Rep.	Y	Y		ICT	Institute of Chemical Technology Prague	9	PLE	MC	Y	---
Czech Rep.	Y	Y		ÚFE/IPE	Institute of Photonics and Electronics	3	PLE	TF	Y	TC
Czech Rep.	Y	Y		VÚGTK	Research Institute of Geodesy, Topography and Cartography	5	PLE	L	Y	---
Denmark	Y	Y		BKSV-DPLA	Brüel&Kjaer Sound & Vibration Measurement Ltd.- Danish Primary Laboratory for Acoustics	9	PLE	AUV	Y	SC
Denmark	Y	Y		DELTA	DELTA Danish Electronics, Light & Acoustics	3	PLE	T	Y	SC
Denmark	Y	Y		DTI	Danish Technological Institute	20	PLE	F	Y	SC
Denmark	Y	Y		DTI	Danish Technological Institute	20	PLE	L	Y	---
Denmark	Y	Y		DTI	Danish Technological Institute	20	PLE	T	Y	TC
Denmark	Y	Y		DTU	Technical University of Denmark	27	PLE	IR	Y	TC
Denmark	Y	Y		DTU	Technical University of Denmark	27	PLE	L	Y	---
Denmark	Y	Y		DTU	Technical University of Denmark	27	PLE	T	Y	---
Denmark	Y	Y		FORCE	FORCE Technology	900?	LE	M	Y	---
Denmark	Y	Y		FORCE	FORCE Technology	900?	LE	F	Y	TC
Denmark	Y	Y		TRESCAL	Trescal Ltd.	6	LE	EM	Y	TC
Finland	Y	Y		Aalto	Aalto University, Metrology Research Institute	14	PLE	PR	Y	TC
Finland	Y	Y		FGI-GG	Finnish Geodetic Institute, Department of Geodesy and Geodynamics	3	PLE	M	Y	---
Finland	Y	Y		FGI-GG	Finnish Geodetic Institute, Department of Geodesy and Geodynamics	3	PLE	L	N	---
Finland	Y	Y		MIKES-FMI	MIKES-FMI Standard laboratory	5	PLE	MC	Y	---
Finland	Y	Y		MIKES-Lahti Precision	Lahti Precision Force and Mass Laboratory	4	PLE	M	Y	SC
Finland	Y	N		MIKES-SYKE	Finnish Environment Institute, Laboratories	8	PLE	MC	N	---
Finland	Y	Y		STUK	Radiation and Nuclear Safety Authority	10	PLE	IR	Y	TC
France	Y	Y		LNE-CETIAT	Centre Technique des Industries Aéronautiques et Thermiques	30	PLE	T	Y	SC
France	Y	Y		LNE-CETIAT	Centre Technique des Industries Aéronautiques et Thermiques	30	PLE	F	Y	SC
France	Y	Y		LNE-ENSAM	Ecole National Supérieure d'Arts et Métiers de Paris	3	PLE	M	Y	---
France	Y	Y		LNE-INM	Institut National de Métrologie/Conservatoire National des Arts et Métiers	40	PLE	M	Y	SC
France	Y	Y		LNE-INM	Institut National de Métrologie/Conservatoire National des Arts et Métiers	40	PLE	PR	Y	---
France	Y	Y		LNE-INM	Institut National de Métrologie/Conservatoire National des Arts et Métiers	40	PLE	T	Y	TC
France	Y	Y		LNE-INM	Institut National de Métrologie/Conservatoire National des Arts et Métiers	40	PLE	L	N	---
France	Y	Y		LNE-IRSN	Institut de Radioprotection et de Sécurité Nucléaire	16	PLE	IR	Y	SC
France	Y	Y		LNE-LADG	Laboratoire Associé de Débitmètre Gazeuse	10	PLE	F	Y	TC, SC
France	Y	Y		LNE-LNHB	Laboratoire National Henri Becquerel/Commissariat à l'Energie Atomique	53	PLE	IR	Y	TC, SC
France	Y	Y		LNE-LTFB	Laboratoire Temps Fréquence de Besançon	10	PLE	EM	Y	---
France	Y	Y		LNE-LTFB	Laboratoire Temps Fréquence de Besançon	10	PLE	TF	Y	---

Country	MRA Appendix A	CMCs in KCDB	A-DI	Acronym (as in the declaration form, in case we received it)	NMI/DI-Name	DI number of employees	Legal entity or part of the legal entity	Metrology areas	CMCs	CPs in EURAMET TC or SC
France	Y	Y		LNE-SYRTE	Systèmes de Référence Temps - Espace/Observatoire de Paris	50	PLE	TF	Y	TC
France	Y	Y		LNE-SYRTE	Systèmes de Référence Temps - Espace/Observatoire de Paris	50	PLE	M	N	---
France	Y	N		LNE-TRAPIL	LNE-Trapil	6	PLE	F	Y	---
Germany	Y	Y		BAM	Bundesanstalt für Materialforschung und -prüfung			MC	Y	---
Germany	Y	Y		BVL	Bundesamt für Verbraucherschutz und Lebensmittelsicherheit	20	PLE	MC	N	---
Germany	Y	Y		UBA	Umweltbundesamt	9	PLE	MC	Y	---
Greece	N	N		EXHM/GSCL-EIM	National Laboratory of Chemical Metrology/General Chemical State Laboratory - Hellenic Institute of Metrology	3	PLE	MC	N	TC
Greece	Y	Y		IRCL/GAEC-EIM	Ionizing Calibration laboratory/Greek Atomic Commission - Hellenic Institute of Metrology	3	PLE	IR	Y	TC
Italy	Y	Y		ENEA-INMRI	Istituto Nazionale di Metrologia delle Radiazioni Ionizzanti	25	PLE	IR	Y	TC, SC
Lithuania	Y	Y		VMT/FTMC	Centre for Physical Sciences and Technology	21	PLE	EM	Y	TC
Lithuania	Y	N		VMT/FTMC	Centre for Physical Sciences and Technology	21	PLE	IR	N	TC, SC
Lithuania	Y	Y		VMT/FTMC	Centre for Physical Sciences and Technology	21	PLE	TF	Y	TC
Lithuania	Y	N		VMT/FTMC	Centre for Physical Sciences and Technology	21	PLE	MC	N	TC, SC
Lithuania	Y	Y		VMT/FTMC	Centre for Physical Sciences and Technology	21	PLE	T	Y	TC
Lithuania	Y	Y		VMT/LEI	Lithuanian Energy Institute	29	PLE	F	Y	TC
Lithuania	Y	Y		VMT/VMC	Vilnius Metrology Centre	3	PLE	L	Y	TC
Lithuania	Y	Y		VMT/VMC	Vilnius Metrology Centre	3	PLE	M	Y	TC
Lithuania	Y	Y		VMT/VMC	Vilnius Metrology Centre	3	PLE	AUV	Y	TC
Norway	Y	N		NILU	Norsk Institutt for Luftforskning	20	LE	MC	N	---
Norway	Y	Y		NRPA	Norwegian Radiation Protection Authority	2	PLE	IR	Y	TC, SC
Poland	Y	Y		INTiBS	Institute of Low Temperature and Structure Research, Polish Academy of Sciences	6	PLE	T	Y	---
Poland	Y	Y		RC POLATOM	Radio-isotope Centre POLATOM	10	PLE	IR	Y	SC
Portugal	Y	Y		ITN-LMRI	Nuclear and Technology Institute, Metrology Laboratory for Ionising Radiation and Radiocativity	3	PLE	IR	Y	TC
Romania	Y	Y		IFIN-HH	Horia Hulubei National Institute of R&D for Physics and Nuclear Engineering	15	PLE	IR	Y	TC
Slovenia	N	N		MIRS/IJS/F-2,O-2	Metrology Institute of the Republic of Slovenia/Jozef Stefan Institute/Low and Medium Energy Physics F2, Environmental Sciences O2	17	PLE	MC	N	TC
Slovenia	N	N		MIRS/IJS/F-2,O-3	Metrology Institute of the Republic of Slovenia/Jozef Stefan Institute/Low and Medium Energy Physics F2, Environmental Sciences O3	17	PLE	IR	N	TC
Slovenia	Y	N		MIRS/IMT/LMT	Metrology Institute of the Republic of Slovenia/Institute of Metals and Technology/Laboratory of pressure metrology	3	PLE	M	Y	---
Slovenia	N	N		MIRS/KI/L05	Metrology Institute of the Republic of Slovenia/National Institute of Chemistry Slovenia/Laboratory for Environmental Sciences and Engineering	7	PLE	MC	N	SC
Slovenia	N	N		MIRS/NIB/FITO	Metrology Institute of the Republic of Slovenia/National Institute of Biology/Department of Biotechnology and systems biology	7	PLE	MC	N	---
Slovenia	Y	Y		MIRS/SIQ/Metrology	Metrology Institute of the Republic of Slovenia/Slovenian Institute of Quality and Metrology/Metrology	9	PLE	EM	Y	SC
Slovenia	Y	Y		MIRS/SIQ/Metrology	Metrology Institute of the Republic of Slovenia/Slovenian Institute of Quality and Metrology/Metrology	9	PLE	TF	Y	---
Slovenia	Y	Y		MIRS/UL-FE/LMK	Metrology Institute of the Republic of Slovenia/University of Ljubljana-Faculty of Electrical Engineering/Laboratory of Metrology and Quality	9	PLE	T	Y	TC, SC

Country	MRA Appendix A	CMCs in KCDB	A-DI	Acronym (as in the declaration form, in case we received it)	NMI/DI-Name	DI number of employees	Legal entity or part of the legal entity	Metrology areas	CMCs	CPs in EURAMET TC or SC
Slovenia	Y	Y		MIRS/UM-FS/LTM	Metrology Institute of the Republic of Slovenia/University of Maribor-Faculty of Mechanical Engineering/Laboratory for Production Measurement	4	PLE	L	Y	TC
Slovenia	N	N		MIRS/UP-ZRS/LPOO	Metrology Institute of the Republic of Slovenia/University of Primorska, Science and Research Centre of Koper/ Olive oil testing laboratory	6	PLE	MC	N	---
Slovenia	N	N		MIRS/ZAG/SM 480	Metrology Institute of the Republic of Slovenia/Slovenian National Building and Civil Engineering Institute/Laboratory for Cements, Mortars and Ceramics	6	PLE	MC	N	---
Spain	Y	Y		CIEMAT	Centro de Investigaciones Energética, Medioambientales y Tecnológicas	21	PLE	IR	Y	TC
Spain	Y	Y		IFA-CSIC	Instituto de Física Aplicada, Consejo Superior de Investigaciones	14	PLE	PR	Y	TC
Spain	Y	Y		INTA	Instituto Nacional de Técnica Aeroespacial	52	PLE	EM	Y	SC
Spain	Y	Y		ISCIH	Instituto de Salud Carlos III	6	PLE	MC	Y	---
Spain	Y	Y		LCOE	Laboratorio Central Oficial de Electrotecnia	19	PLE	EM	Y	---
Spain	Y	Y		ROA	Real Instituto y Observatorio de la Armada	14	LE	TF	Y	TC
Sweden	Y	Y		SSM	Swedish Radiation Safety Authority	5	PLE	IR	Y	TC, SC
Switzerland	Y	Y		IRA	Institut de radiophysique appliquée	4	PLE	IR	Y	SC
Switzerland	Y	Y		PMOD-WRC	Physikalisch-Meteorologisches Observatorium Davos	5	PLE	PR	Y	---
Turkey	Y	N		TAEK	Türkiye Atom Enerjisi Kurumu	20	PLE	IR	N	TC, SC
UK	Y	Y		LGC	LGC Ltd.	70	LE	MC	Y	SC
UK	Y	Y		NMO	National Metrology Office	70	PLE	F	N	---
UK	Y	Y		TUV NEL	TUV NEL Ltd.	80		F	N	TC, SC

Annex E: EURAMET Acceptance Criteria for Associates

Policy Acceptance Criteria for Associates

Document: G-GNP-POL-002 Version: 1.1
Approved: BoD 2008-12-19



According to the EURAMET Byelaws § 4 (3), "Only one institute per state can obtain EURAMET membership. For those states which have more than one institute responsible for maintaining national measurement standards, these institutes have to decide which of them will be the EURAMET member. Further institutes ... of this state ... can become Associates of EURAMET."

Although not stated as such in the byelaws, a principal reason for these Designated Institutes (DI) to become Associate of EURAMET is their participation in the CIPM-MRA in addition to other important EURAMET activities. Being Associate of EURAMET is a precondition to get their QMS and their CMC entries reviewed by the corresponding EURAMET Technical Committees.

The General Assembly (GA) agrees on the following criteria for an institute to become Associate of EURAMET:

1. It is a legal entity, or forms part of a legal entity.
2. It forms part of the national metrology system and is responsible for the maintenance of national standards and offers associated services which can be included as CMCs in the KCDB.
3. It intends to participate actively in EURAMET activities.
4. It is prepared to pay its dues and accept liabilities associated with participation in EURAMET activities, as stated in the EURAMET Byelaws and Rules of Procedure.
5. It is designated by the responsible national authority for metrology to the BIPM and is listed in the Appendix A of the KCDB.
6. It sends a written application to become Associate to the EURAMET Chairperson via the Delegate of the national EURAMET Member. The application has to be accompanied by the following information:
 - a. Copy of the formal designation by the national authority to the BIPM.
 - b. Short description of its legal status.
 - c. Description how the institute is embedded in the national metrology system.
 - d. Description of the national standards for which the institute is responsible (metrological field, quantity, scope) and the associated services.
 - e. Status of its QMS (in place, in preparation, not existing).

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