



OIML Pilot Training Center
国际法制计量组织培训中心（示范）

Some Results of Benchmarking Metrology Laws

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Agenda

- **Metrology Legislation – why?**
- **Benchmark of the Laws on Metrology of the ASEAN and SAARC States**
- **Summary of the benchmark**
- **Proposals for follow-up actions**

Metrology is an essential part of the national Quality Infrastructure (QI) of a country.

QI comprises MSTQ:

- **Metrology,**
- **Standardization,**
- **Testing,**
- **Quality management**

additionally:

Accreditation

Certification

Conformity assessment

Metrology must not be seen as a singular activity separated from the holistic development of the national Quality Infrastructure (QI).

Objectives of Metrology Legislation

The law on metrology shall fix the framework for all metrological activities.

This means:

- **The law shall clearly define which activities fall under mandatory regulations, i.e.: which categories of measuring instruments and which measurements are regulated for which field of application (e.g. trade, health, safety, environment, tax, custom etc.)**
- **The law shall identify and show the way how to provide the economy and society with the required metrological institutions and infrastructure**

Our starting phase:

- **Consultancy on metrology infrastructure and legislation in various countries**
(about 30 countries, e.g., Ukraine, Georgia, Serbia, Azerbaijan, UAE, ...;
Middle-Asia, Africa, S-America);
- **Some of these countries requested to assess their existing or newly developed laws on metrology**

Aim of the assessments:

- **not to present a cooking recipe how to write the national law on metrology,
but**
- **to unveil the present status of the metrological legislation of the interested country,
and**
- **to trigger a discussion – internally by responsible persons of that country,
and externally with experts from international organizations – how the legislation
might be improved.**

Regional assessments:

After having performed such examinations for several single countries we have been asked to do the same work in a regional context.

The first survey was done for the 10 ASEAN Member countries (AMS) in 2014.

The 8 states of the SAARC region followed in the beginning of 2016.

The member countries of COOMET expressed their interest to continue the work with their laws on metrology. It has been started and will be finished by the end of 2016.

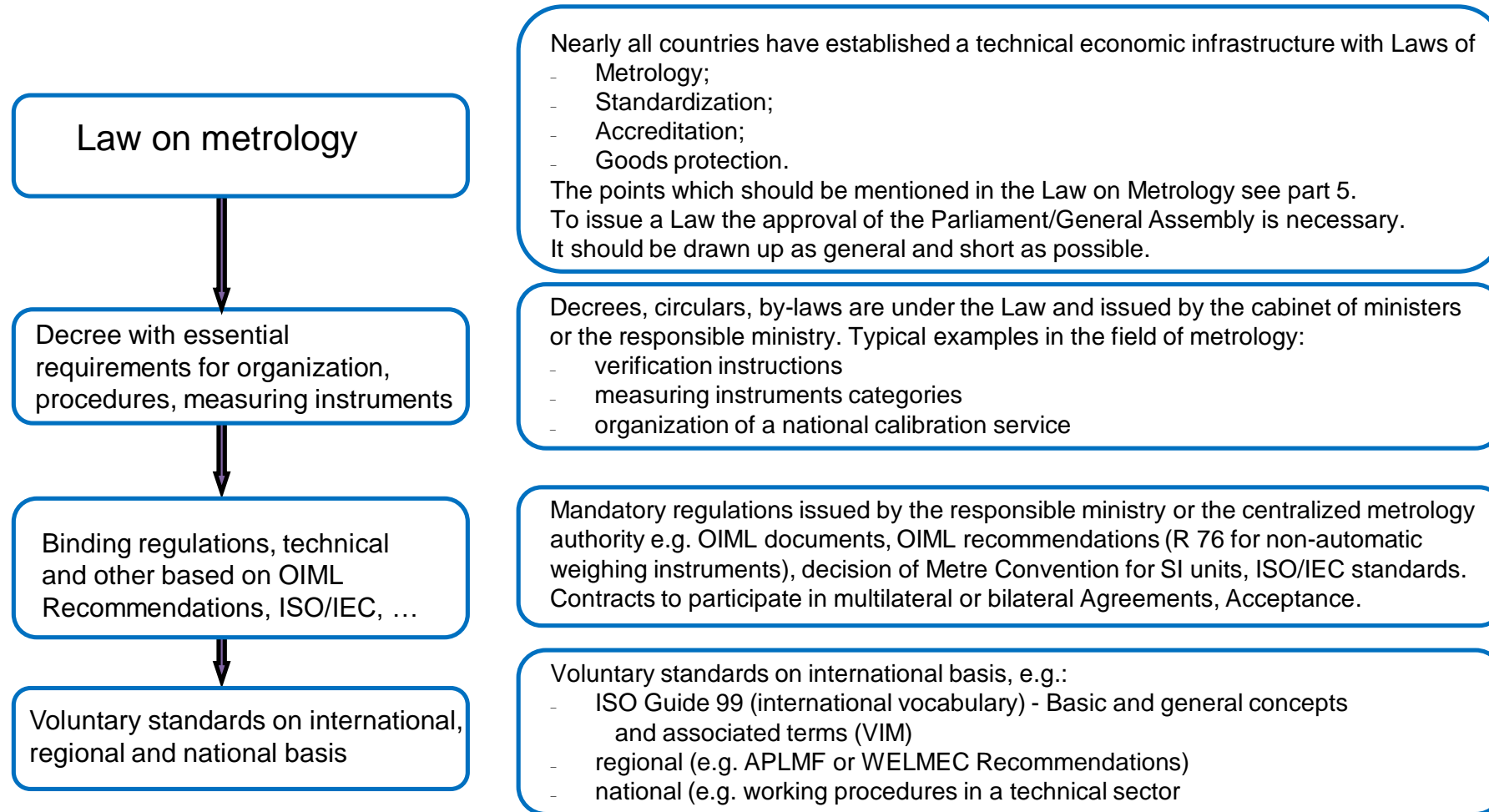
Fundament of this task:

All countries need a metrological legislation which is based on the international best practices, considering

- Document *OIML-D1:2012*
„Considerations for a Law on Metrology“
- Documents of the Metre Convention, OIML, ILAC, ISO/IEC, WTO-TBT Agreement, ...

OIML D1 – Part 4 *Proposal for regulations in metrology*

Proposal to organize a metrological infrastructure by a suitable order of laws, decrees and standards



Generally, our assessment is restricted

- to the uppermost level, i.e., to the law of metrology,**
- and to the legislation of the first two regions mentioned before, i.e., ASEAN and SAARC.**

Some countries of the two regions do not really have a law on metrology. Instead the metrology is dealt with in other laws, e.g. in a law on consumer protection, or in a regulation on the sub-law level.

In such cases the metrology related articles have been evaluated only.

Elements

OIML-D1 (Part 3) provides guidelines for setting up structures in metrology and proposed articles for the law.

The essential issues of each proposed structure or article are summarized as „*Elements*“.

There are 36 elements in the document.

Our method:

We checked each article of the law against the relevant Element of D1 as a benchmark.

According to the degree of fulfillment of each Element by the respective law we assigned a corresponding mark:

0	Not acceptable.
1	Acceptable, but recommended to change.
2	Acceptable, no need to change.
3	Not (or not satisfactorily) regulated in the law; inclusion into legislation (or correction) is recommended.

Results of the Benchmarking of ASEAN and SAARC Laws on Metrology - Comparison

D1-Element no.:	1	2	3	4	5	6	10	11	13	15	16	18	19	20	34
	Country: (ASEAN)														
1	3	3	3	1	3	3	3	3	2	3	3	1	3	3	3
2	3	3	2	0	3	3	3	3	2	3	1	3	1	3	3
3	3	1	1	1	3	3	3	3	2	3	3	1	0	3	3
4	3	1	2	2	2	3	2	3	3	3	1	1	2	2	2
5	3	3	2	2	3	2	1	3	2	3	3	3	3	3	3
6	3	2	2	2	3	3	2	3	2	3	2	2	2	2	2
7	1	1	1	3	1	2	1	1	2	3	3	1	2	3	1
7a	2	1	2	3	2	2	3	3	3	3	3	2	2	3	1
8	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
8a	3	1	2	1	3	3	3	3	1	3	3	2	1	1	3
9	1	0	3	1	3	3	3	3	1	3	3	1	0	0	3
10	2	2	3	2	3	2	2	3	2	3	2	2	2	1	3
Country: (SAARC)															
1	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
2	2	3	3	3	3	3	3	3	3	3	1	3	3	3	2
3	3	3	3	1	1	3	3	3	1	3	3	1	3	3	1
4	3	3	3	3	3	3	3	3	3	3	3	2	2	3	3
5	3	3	3	1	1	3	3	1	1	3	3	2	3	1	3
6	3	3	1	1	0	3	3	3	1	3	3	1	1	3	3
7	3	3	3	3	1	3	3	3	3	3	3	1	3	3	3
8	3	3	2	3	3	3	3	3	2	3	3	2	3	1	3
Legends:	0	Not acceptable in the present shape; will probably acceptable in the forthcoming new law.													
	0	Revision for clarification is urgently recommended.													
	1	Acceptable, but recommended to change.													
	2	Acceptable, no need to change.													
	3	Not (or not satisfactorily) regulated in the law; inclusion into legislation (or correction) is recommended.													
	n	These D1-Elements are of special importance for regional/international acceptance in trade etc.													
Remark: Country numberings 7 and 7a, and 8 and 8a respectively, refer to different versions/status of the laws (ASEAN).															

Some results:

It turned out that there are major differences in the implementation of the various metrology laws.

Comparing the markings of both regions it is obvious that there are less green fields in the SAARC area than in the ASEAN one; it is fact that both regions have to fight with more legislative deficiencies than industrial countries in the western hemisphere.

The most frequent deviations/deficiencies found in the existing laws:

Not, or not satisfactorily treated issues, e.g.

- scope of the law to ensure confidence in measurements and their results;
- ensurance of international comparability of measurements, acceptance/recognition of certificates;
- establishment of institutional/organizational structures (NMI, CMA, LMA, accreditation bodies, calibration service, advisory council, market surveillance, pre-packages regulations), and definition of their tasks, competence, responsibility, power etc.; sources of funding;
- definition of regulated / non-regulated area of metrology;
- conformity assessment (CA): requirements on CA bodies, prove of competence by accreditation;
- traceability to SI for all measurement standards (including and especially for the national standards);
- definition of *accuracy* according to international practice: measurement uncertainty, accuracy classes, maximum permissible error;
- transparent availability of measurement results.

The most frequent deviations/deficiencies found in the existing laws (continued):

Too many details are regulated in the law –

that should be done on the sub-law level, e.g.

- what are the fines/punishments for which offences;
- technical details
(e.g., how to execute specific verification/testing procedures,
how to fix markings, etc.)

Most important consequences:

- **The *mutual recognition of test results* by the countries (conformity declarations, type approval certificates) is required;**
- ***Confidence-building measures* are necessary to resolve this issue whereby the peer review method is one of the best solutions to be considered;**
- ***Type approval* is not carried out in most of the countries of the two regions. It should be developed as a priority issue.**

The following items must be considered in the legislation:

- **Scope/aim/subject of the law; national strategy and policy**
- **Organization of the metrological infrastructure**
- **Central metrology authority (CMA)/National Metrology Institute (NMI), and Local metrology authorities (LMA)**
- **Metrology advisory board**
- **Transparent availability of measurement results**
- **Regulated area (legal metrology) and non-regulated area**
- **Calibration/testing service**
- **Legal Units of measurement**
- **Traceability of measuring results**
- **Conformity assessment of measuring instruments**

The following items must be considered in the legislation (continued):

Regulation on measurements:

- **Categories of instruments under legal metrology:**
 - **utility meter (electricity, gas, water, heat)**
 - **weighing instrument**
 - **flow meter (e.g. petrol pumps)**
 - **taximeter, ...**
- **Regulations on prepackages**
- **International agreements**
- **Enforcements**
- **Fees, financial provisions**
- **Offences/fines/penalties**
- **Transition period**
- **Inspection/supervision/surveillance for placing measuring instruments on the market**

Needed actions:

- **improvement of deficient law provisions;**
- **consideration of conformity assessment procedures, e.g. type approval;**
- **sub-law regulations;**
- **consideration of harmonized technical requirements according to:**
 - **OIML documents and recommendations,**
 - **APLMF documents**

Questions about the present status of metrology laws and their implementation in the assessed countries:

- **What needs to be regulated?**
- **How should the NMI (National Metrology Institute) and the LMO (Legal Metrology Organization) be set up?**
- **Who should be the enforcement body?**
- **Who should be the service provider?**
- **Who is responsible for the legislation – lawmaker?**
- **Who is responsible for the execution – verifier?**
- **Who is responsible for jurisdiction? Who fixes sanctions, fines, ...?**

Answers and results based on the AMS (ASEAN Member States) inputs, and as concluded by the PTB experts:

- There is no regional legislation in ASEAN on LM (similar to that implemented in the EU);**
- For some of the AMS, their national laws are still not fully harmonized or up-to-date;**
- Requirements and implementation procedures, especially for type approval processes differ from one AMS to another;**
- Harmonized regional recognition criteria and procedures within the ASEAN region do not exist.**

Thank you for listening!

The floor is open for discussion, comments, questions ...