

# New OIML D1 implementation into Ukrainian metrology system – current stay and new challenges

Kuzmenko Yurii<sup>1</sup> , Pronenko Serhii<sup>2</sup> , Pototskyi Ihor<sup>3</sup> 

<sup>1,2,3</sup> SE «Ukrmetrteststandart», Ukraine

E-mail: [spronenko@ukr.net](mailto:spronenko@ukr.net)

## Abstract

Ukrainian Parliament had adopted the Law on joining the Convention establishing International Organization of Legal Metrology on the 5-th of November 2020, 998-IX<sup>[1]</sup>. The Convention came into force in Ukraine on April the 3-rd 2021 and for Ukraine it means the transition from Corresponding State status to joining OIML as the Member State.

The adoption of the new edition of the OIML D1 National metrology systems – Developing the institutional and legislative framework<sup>[2]</sup> became the important event of international level. It may be considered as the result of this new document that the Ukrainian Metrological system complies the modern requirements but it is necessary to estimate how reasonable would be some changes to corresponding legislation.

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## 1. Main body

Ukrainian Parliament had adopted the Law on joining the Convention establishing International Organization of Legal Metrology on the 5-th of November 2020. For Ukraine it means the transition from Corresponding State status to joining OIML as the Member State.

Joining the OIML Convention and obtaining the Member State status is the launch platform and gives the opportunity to perform the process of great significance – to implement (on official all-state level) the provisions and procedures of OIML Certification System (OIML CS), requirements of OIML Recommendations and Documents into Ukrainian Legal Metrology System regarding the legal measuring in-

struments. It allows the Ukrainian specialists to take part in Technical Committees and Sub-Committees Meetings and so influence their decisions. The implementation of OIML Certification System (OIML CS), requires the significant expenses and efforts, first of all for scientific metrological centers, but it would allow measurement instruments manufacturers to put their production into international market after relevant testing without additional procedures.

To realize this the Cabinet of Ministers had appointed on February the 2-nd 2022 Yurii Kuzmenko, deputy director general for metrology, measurement instruments conformity assessment and scientific activity of SE «Ukrmetrteststandart», as the representative of Ukraine to the International Committee of Legal Metrology (CIML). Next step was to appoint

the representatives to Technical Committees and Sub-Committees from all Ukrainian scientific metrological centers ([https://www.oiml.org/en/tc-sc-pg/tclist\\_view](https://www.oiml.org/en/tc-sc-pg/tclist_view)) and so to create the National OIML Secretariat. Functions of which are performed in fact by SE «Ukrmetrteststandart».

The publication of the new edition of OIML D1 Document [2] is considered as another significant event of 2021. All the economically developed countries use this document as the basis for metrological legislation creation.

Ukrainian metrological legislation, comprised by Law on metrology and metrological activities [3], which came in force since 2016 and more than 40 sub-law acts, is generally in line with modern provisions for national metrological systems, as well it had been created in accordance with previous edition of OIML D1 [4] but it requires certain changes since now.

National metrology system structure is headed today by governmental body on metrology (for both forms: scientific and legal) – Ministry of Economy (Mineconomy). This body has status of National Metrology Institute in frame of CIPM MRA [5] as soon as it is successor of its original participant – Derzstandart of Ukraine. Metrological structure includes therefore four designated institutions – scientific metrology centers National Scientific Centre «Institute of metrology» (NSC IM), SE «Ukrmetrteststandart» (UMTS), RI «System», SE «Ivano-Frankovskstandart-merologia» (I-F Centre) and 29 legal metrology bodies in regions.

The new edition of OIML D1 [2] in certainly different in comparison with previous edition. It concerns the key, for our opinion, provisions for national metrological systems structures presented in clause 3.2.2:

*«Ideally, a country will establish a single national institute covering all of its needs. However, for a variety of reasons» this may not always be practical, in which case NMI functions may be carried out by more than one organization. These may include standards laboratories which are part of a university or other scientific institute or organiza-*

*tions having a different ownership or legal status. This can occur, for instance when countries have traditionally distributed responsibility for different quantities/units among different institutes or when metrology encompasses activities outside the traditional physics and engineering base and moves into fields such as chemistry, medicine, food, etc. Furthermore, whilst there are considerable advantages in having all of the country's primary capability in a single institute, a distributed organization allows small or developing countries to make use of the existing competencies and capabilities. However, participation in the international recognition system (the CIPM MRA) requires a degree of national coordination. For the purposes of the CIPM MRA one institute is typically appointed as the National Metrology Institute for the country, with the others acting as «Designated Institutes» (DIs) within the meaning of the Arrangement. This does not necessarily indicate any national hierarchy. **In all cases it is 12 See 4.3.2 OIML D 1:2020 (E) 16 important that there are adequate arrangements for coordinating the activities of these institutes, in particular as regards their input into BIPM's work, either by a principal institute or by an agency.** NMIs are nearly always entirely within the public sector, although other models do exist. Recent policies have recognized the benefits of giving NMIs, even in the public sector, a degree of management freedom that is appropriate for the efficient and effective running of a research-based organization with services to the public. The issues which this raises are discussed in 5.3.1. Where the required expertise is wholly within an industrial or commercial organization(s), governments typically set up special contracts with industrial providers of metrology services for the country. In these cases, governments normally provide an official or legal designation of the organization concerned as a provider of the specific national service. The designated status only applies to the role of the organization within the country concerned and does not apply outside that country (care is needed to avoid confusion between the use of the term 'designated' at national level, and the*

very specific meaning within the CIPM MRA). **In such cases, it is important to ensure that the companies concerned do not develop unfair commercial or market positions as a result of their special contractual arrangements and official designation as part of a «distributed» NMI.**

An NMI may thus have various possible structures:

- a public institute owning and running its own laboratories;
- a private institute owning and running its own laboratories under the authority of the government, taking into account unfair competition and national security; or
- **a public agency coordinating public or private institutes.**

*In all cases, the institutes should be impartial. Special attention must also be paid to the sustainability of the NMIs, and appropriate financial resources must be provided for their long term stability. This is best achieved when NMI funding respects the following conditions:*

- missions of general interest are financed by public funding; and
- products or services which are in the marketplace do not cause unfair competition. In practice most governments arrange matters so that the majority of NMI funding comes from public sources».

According to acting Law<sup>[3]</sup> the Ministry of Economy performs today the role of coordinating agency to scientific metrological centers. But for our opinion it would be reasonable step, to create, in the aim of international metrological cooperation development, the Coordination Council for the «distributed» National Metrology Institute, comprised by Mineconomy and four designated institutes activities.

## 2. Conclusions

- The institutional statuses and roles of four designated organizations should be determined in compliance with of 3.2.2 of new OIML D1<sup>[2]</sup> in order to create the distributed system of NMI. This will correspond the historically given reality in Ukrainian scientific metrological centers roles distribution and will allow to communicate efficiently with all parts of international metrological society in the field of scientific and legal metrology.

- The governing of «distributed» shall be performed by newly established Coordination Council comprised by the representatives of Mineconomy and four scientific metrological centers.

- In accordance with new edition of OIML D1 Mineconomy shall provide the periodical detailed monitoring of the metrology system in the aim to give the Cabinet of Ministers the relevant information on metrological system's needs for scientific and technological development.

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