

# Policy on ICT Technical Standardization (2022-2025)



## INTRODUCTION

The 2<sup>nd</sup> December 2019, the Minister of the Economy approved the national standardization strategy for the period of 2020-2030. ILNAS, the National Standards Body is in charge to carry out this strategy. The afore-mentioned document aims at ensuring development of a unified technical standardization (hereinafter referred to under the generic term "standardization") culture, as well as the growth of various economic sectors in Luxembourg. In furtherance of the above objective, the national development of research activity and related awareness raising are the strategy's keystone.

In this frame, the national standardization strategy has notably (amongst the others: "Construction" and "Aerospatial"), targeted the importance of the Information and Communication Technology (ICT) sector as a horizontal support for all economic sectors. In line with the above, the ICT sector is already active at the national standardization level.

The ICT domain will be considered in its entirety and ICT topics to be addressed in priority will be regularly assessed, in connection with the interest of the market and the last developments of the sector.

Finally, the "Luxembourg's policy on ICT technical standardization" has been defined in order to foster and strengthen the national ICT sector involvement in standardization work through three lead projects:

- ◆ **Promoting the ICT technical standardization to the market;**
- ◆ **Reinforcing the valorization and the involvement regarding ICT technical standardization;**
- ◆ **Supporting and strengthening the Education about Standardization and the related research activities.**

## I - PROMOTING THE ICT TECHNICAL STANDARDIZATION TO THE MARKET

### A) Drawing up a yearly national standards analysis for the ICT sector

The national standards analysis for the ICT sector aims to constitute a sector-based "snapshot".

This survey and analysis of European and international standards shall be realized in several steps listed hereafter:

- ◆ Execution of a standards watch of the ICT sector (inventory of standards – both published and under development – at the European and international levels; identification and description of technical standardization committees; mention of the related national representation);
- ◆ Identification of technical committees dealing with ICT as a supporting sector;
- ◆ Preparation of the final report of analysis and opportunities.

## **B) Defining a national implementation plan for ICT technical standardization (in line with the national standards analysis for the ICT sector)**

A national implementation plan for ICT technical standardization, directly related to the national standards analysis for the ICT sector framework shall be developed by ANEC GIE (“*GIE Agence pour la Normalisation et l’Economie de la Connaissance*” – Standardization department), under the supervision of ILNAS. Based on the detailed information provided, the aim is to involve targeted stakeholders of the Grand Duchy of Luxembourg in a global approach to standardization in order to support the sector in terms of competitiveness, visibility and performance, while enhancing the international recognition of the Grand Duchy of Luxembourg at the standards level.

This implementation plan will be drawn up on a yearly basis in order to ensure that it is in line with national standardization priorities, notably the prospective domains of ICT.

## **II - REINFORCING THE VALORIZATION AND THE INVOLVEMENT REGARDING ICT TECHNICAL STANDARDIZATION**

### **A) Promoting the use of relevant ICT standards for the national market**

A focus will be made concerning all the relevant standards of the ICT domain, in order to promote and foster their use by the national market, specifically through its business activities. ANEC GIE is in charge to establish and carry out this action. The connection with the different national technical standardization reading stations has to be driven commonly with OLN.

### **B) Participating in relevant technical committees**

In order to provide the most relevant information for the national ICT standardization community (Lead project II – Part C), ILNAS commissioned ANEC GIE to monitor closely the activities of ICT technical committees, including those listed below (please note that this is a non-exhaustive list and its monitoring depends on available resources):

- ◆ ISO/IEC JTC 1: Information technology;
- ◆ ISO/IEC JTC 1/WG 13: Trustworthiness;
- ◆ ISO/IEC JTC 1/SC 6: Telecommunications and information exchange between systems;
- ◆ ISO/IEC JTC 1/SC 27: Information security, cybersecurity and privacy protection;
- ◆ ISO/IEC JTC 1/SC 31: Automatic identification and data capture techniques;
- ◆ ISO/IEC JTC 1/SC 32: Data management and interchange;
- ◆ ISO/IEC JTC 1/SC 38: Cloud Computing and Distributed Platforms;
- ◆ ISO/IEC JTC 1/SC 41: Internet of Things and related technologies;
- ◆ ISO/IEC JTC 1/SC 42: Artificial Intelligence;
- ◆ ISO/TC 307: Blockchain and distributed ledger technologies;
- ◆ CEN/CLC JTC 13: Cybersecurity and Data Protection;
- ◆ CEN/CLC JTC 19: Blockchain and Distributed Ledger Technologies;
- ◆ CEN/CLC JTC 21: Artificial Intelligence;
- ◆ ETSI/TC ESI: Electronic Signatures and Infrastructures;
- ◆ ETSI/TC Smart M2M: Smart Machine to Machine communications;
- ◆ ETSI/TC CYBER: Cyber Security;
- ◆ ETSI/ISG SAI: Securing Artificial Intelligence.

### **C) Providing information to the national community**

ICT is a prominent supporting sector for the economy in Luxembourg and, in parallel, the area of ICT standardization has also become a major economic field of interest, contributing in particular to improving productivity at work, facilitating trade and developing new markets.

At national level, the ICT sector is already active concerning standardization. In order to share ICT standardization knowledge, with related community in Luxembourg (ISO/IEC JTC 1; ETSI; ICT Fora and Consortia, etc.), ANEC GIE organizes, under the supervision of ILNAS, related workshops at national level.

## **III - SUPPORTING AND STRENGTHENING THE EDUCATION ABOUT STANDARDIZATION AND THE RELATED RESEARCH ACTIVITIES**

### **A) Developing ICT research activities**

ILNAS commissioned ANEC GIE to reinforce the research and innovation activities related to standardization in the field of ICT, notably by defining and carrying out some new research projects:

In this frame, the different developments could be:

- ◆ ICT technical standardization research trends and outlooks;
- ◆ Future PhDs on "ICT and technical standardization", "ICT technical standardization and prospective" and/or "Digital Trust and Technical standardization";
- ◆ White Papers or research publications on "ICT and technical standardization", "ICT technical standardization and prospective" and/or "Digital Trust and Technical standardization".

### **B) Managing the Master "Technopreneurship: mastering smart ICT, standardization and digital trust for enabling next generation of ICT solutions"**

ILNAS, in collaboration with the University of Luxembourg, has developed the Master degree "Technopreneurship: mastering smart ICT, standardization and digital trust for enabling next generation of ICT solutions".

The master program focuses on Smart Secure ICT and provides to the students the Smart ICT concepts and tools at their disposal to develop their sense of technical innovation (or technopreneurship). Digital Trust is central, and it will not only be treated from the point of view of security, but also considering other aspects like reliability, accountability, privacy, transparency, integrity, legitimacy, etc. in order to allow the adoption of Smart ICT technologies and development of innovative services, products, business. The related master is designed for experienced professionals who wish to develop their technological skills in the field of Smart Secure ICT and technopreneurship.

This master program tackles various aspects of Smart ICT and their applications, such as the development of Cloud Computing, Internet of Things, Artificial Intelligence or Blockchain and Distributed Ledger Technologies. International experts address these Smart ICT concepts, also the concepts of information security and Digital Trust, which are essential now more than ever.

The master program provides lectures from three point of views, technical point of view providing the fundamentals of Smart ICT technologies and security techniques and latest scientific development; from technopreneurship point of view in order to highlight major opportunities for technical innovation, both of them well combined with the third point of view, which relates to technical standardization. In this context, technical standardization plays a key role, as an important source of knowledge and good practices, while defining the future ICT. Concretely, the technical standardization remains a main keystone between the Smart ICT technologies, the related Digital Trust needs, and the development of business innovation, as it points the way forward.

In this frame, all the Smart Secure ICT issues are detailed and studied by an international community of researchers and industrialists in international and European standardization committees and, in particular, the different technical committees detailed above (Lead project II – Part B).

ILNAS commissioned ANEC GIE to support the implementation of this Master degree.

## CONCLUSION

The Luxembourg's policy on ICT technical standardization (2022-2025) should enable to:

- ◆ **Strengthen the national ICT standardization community;**
- ◆ **Organize and develop the ICT technical standardization representation at national level;**
- ◆ **Increase the national representation within European and international entities in the field of ICT technical standardization;**
- ◆ **Foster the use of relevant standards in business activities for the benefit of the national market;**
- ◆ **Contribute to raising awareness on ICT standardization according to market-sector needs;**
- ◆ **Develop research activities in relation to ICT standardization, considered as being of national interest.**

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