Finalization of the normative strategy 2010-2020 and perspectives 2020-2030

Dr. Jean-Philippe Humbert

Adjoint à la Direction - ILNAS

October 2019
I – INTRODUCTION OF ILNAS

II – NATIONAL STANDARDS BODY


IV – NATIONAL STANDARDIZATION STRATEGY 2020-2030
I – INTRODUCTION OF ILNAS

II – NATIONAL STANDARDS BODY


IV – NATIONAL STANDARDIZATION STRATEGY 2020-2030
ILNAS, Institut luxembourgeois de la normalisation, de l’accréditation, de la sécurité et qualité des produits et services

– **Creation:** law dated July 14, 2014 (repealing the amended Law of May 20, 2008) and law dated February 17, 2017

– **Legal form:** Public administration under the authority of the Minister of the Economy

– **Total staff:** 48 (October 2019)

– **Website:** www.portail-qualite.lu
I. INTRODUCTION OF ILNAS

B. ILNAS Quality Systems
Agency for standardization and knowledge-based economy

- Supports ILNAS in the execution of the national standardization strategy

- **Creation**: October 4, 2010
- **Legal form**: Economic Interest Grouping (EIG)
- **Objectives**: Promotion, awareness raising and training, applied research in the field of standardization and metrology in order to support companies’ competitiveness in Luxembourg
- **Total staff**: 9 employees (October 2019)

- **Partners**:
  - Quality system certified against ISO 9001:2015 since July 2018
I – INTRODUCTION OF ILNAS

II – NATIONAL STANDARDS BODY


IV – NATIONAL STANDARDIZATION STRATEGY 2020-2030
II. NATIONAL STANDARDS BODY

A. Overview

- **OLN - Organisme luxembourgeois de normalisation**
  - Composed of 6 persons
  - Close collaboration with the G.I.E. ANEC-N (6 persons)
INTRODUCTION OF ILNAS

NATIONAL STANDARDS BODY


NATIONAL STANDARDIZATION STRATEGY 2020-2030
III. NATIONAL STANDARDIZATION STRATEGY 2010-2020 & POLICY ON ICT TECHNICAL STANDARDIZATION (2015-2020)

A. Overview

LUXEMBOURG STANDARDIZATION STRATEGY 2014-2020

“Technical standardization as a service”

PILLAR 1
Information and communication technologies (ICT)

PILLAR 2
National influence and compliance with legal attributions

PILLAR 3
Products and services

III. NATIONAL STANDARDIZATION STRATEGY 2010-2020 & POLICY ON ICT TECHNICAL STANDARDIZATION (2015-2020)

B. Pillar 1: Information and communication technologies (ICT)

LUXEMBOURG STANDARDIZATION STRATEGY
2014-2020

Pillar 1: Information and communication technologies (ICT)

1. Developing the interest and the involvement of the market
2. Promoting and reinforcing market participation
3. Supporting and strengthening the EaS and related research activities

*Technical standards (standards that only relate to the term TIC)*

III. NATIONAL STANDARDIZATION STRATEGY 2010-2020 & POLICY ON ICT TECHNICAL STANDARDIZATION (2015-2020)

B. Pillar 1: Information and communication technologies (ICT)

- Standards Analysis of the (Smart) (Secure) ICT Sector

8 editions of the Standards Analysis of the ICT Sector

2 editions of the Standards Analysis Smart ICT

1 edition of the Standards Analysis Smart Secure ICT (ed. 2 under development)
### III. NATIONAL STANDARDIZATION STRATEGY 2010-2020 & POLICY ON ICT

#### TECHNICAL STANDARDIZATION (2015-2020)

#### B. Pillar 1: Information and communication technologies (ICT)

<table>
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<th>AG 1 - Communications</th>
<th>AG 9 - Data Usage</th>
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<td>AG 10 - Outreach</td>
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<td>AG 3 - Open Source Software</td>
<td>AG 11 - Digital Twin</td>
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<td>AG 4 - Quantum Computing</td>
<td>AG 12 - Technical Corrigenda</td>
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<td>AG 5 - 3D Printing and scanning</td>
<td>AG 13 - Use Cases for VR and AR based ICT Integration Systems</td>
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<td>AG 6 - Autonomous and Data Rich Vehicles</td>
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<td>AG 7 - Trustworthiness</td>
<td>AG 15 - Standards and Regulations</td>
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<td>AG 8 - Meta RA and RA for Systems Integration</td>
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</tbody>
</table>

**Involvement Levels:**
- Direct involvement
- Luxembourg’s current involvement
- Not involved

**Not involved:**
- Luxembourg’s current involvement

**ILNAS & ANEC Direct involvement:**
- III. NATIONAL STANDARDIZATION STRATEGY 2010-2020 & POLICY ON ICT

**Not involved:**
- Luxembourg’s current involvement

**ILNAS & ANEC Direct involvement:**
- III. NATIONAL STANDARDIZATION STRATEGY 2010-2020 & POLICY ON ICT

**AGs**
- AG 1
- AG 2
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- AG 4
- AG 5
- AG 6
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- AG 14
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**SCs**
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- SC 17
- SC 22
- SC 23
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- SC 31
- SC 32
- SC 34
- SC 35
- SC 36
- SC 37
- SC 38
- SC 39
- SC 40
- SC 41
- SC 42

**WG 11**
- Smart Cities

**WG 12**
- 3D Printing and Scanning
III. NATIONAL STANDARDIZATION STRATEGY 2010-2020 & POLICY ON ICT TECHNICAL STANDARDIZATION (2015-2020)

B. Pillar 1: Information and communication technologies (ICT)

- Management of Smart ICT National Mirror Committees

- **Cloud Computing**
  - Participation in 3 plenary meetings
  - 6 NMC meetings organized

- **Internet of Things**
  - Participation in 4 plenary meetings
  - 6 NMC meetings organized

- **Big Data / Artificial Intelligence**
  - Participation in 4 plenary meetings
  - 9 NMC meetings organized

- **Blockchain and DLT**
  - Participation in 3 plenary meetings
  - 3 NMC meetings organized

Participation in 14 plenary meetings
III. NATIONAL STANDARDIZATION STRATEGY 2010-2020 & POLICY ON ICT TECHNICAL STANDARDIZATION (2015-2020)

B. Pillar 1: Information and communication technologies (ICT)

- Evolution of the number of national standardization delegates in ISO/IEC JTC 1

➢ Top representation in JTC 1:
  
  - 27 delegates in the **IT security** domain
  - 15 delegates in the **Cloud Computing** domain
  - 18 delegates in the **IoT** domain
  - 23 delegates in the **Artificial Intelligence / Big Data** domains
Evolution of the number of national standardization delegates in the ICT sector
III. NATIONAL STANDARDIZATION STRATEGY 2010-2020 & POLICY ON ICT TECHNICAL STANDARDIZATION (2015-2020)

B. Pillar 1: Information and communication technologies (ICT)

- 31 events organized
- More than 1,000 professionals met

WORLD STANDARDS DAY

WORKSHOPS ILNAS-ETSI

BREAKFASTS / WORKSHOPS (SMART) ICT
III. NATIONAL STANDARDIZATION STRATEGY 2010-2020 & POLICY ON ICT TECHNICAL STANDARDIZATION (2015-2020)

B. Pillar 1: Information and communication technologies (ICT)

- Publication of White Papers

8 White Papers published

3 White Papers under development
III. NATIONAL STANDARDIZATION STRATEGY 2010-2020 & POLICY ON ICT TECHNICAL STANDARDIZATION (2015-2020)

B. Pillar 1: Information and communication technologies (ICT)

- Development of a Research Program (2017-2020) in collaboration with the University of Luxembourg

The University of Luxembourg and ILNAS are strengthening their collaboration in the field of Smart ICT and standardization. A ceremony was held on May 17, 2017 at the Ministry of Economy to formally conclude the partnership.

In the rear row, from left to right: Jean-Philippe Humbert, Pascal Bouvry, Paul Heuschling, Yves Elsen, Björn Ottersten; in the front row, from left to right: Ludwig Neyses, Francine Closener, Jean-Marie Reiff

The Smart-ICT Team

Prof. Pascal Bouvry
- Principal Investigator
- Project coordination
- PhD supervision

Saharnaz Dilmaghani
- PhD Candidate
- Since 01.03.2018
- Standardization experience

Chao Liu
- PhD Candidate
- Since 15.10.2017
- Cloud Computing

Matthias Brust
- Postdoc
- Project support

White Paper “DATA PROTECTION AND PRIVACY IN SMART ICT - SCIENTIFIC RESEARCH AND TECHNICAL STANDARDIZATION”

IS Day 2019 - Information Security Awards Security Project of the Year: SnT – ILNAS
III. NATIONAL STANDARDIZATION STRATEGY 2010-2020 & POLICY ON ICT TECHNICAL STANDARDIZATION (2015-2020)

B. Pillar 1: Information and communication technologies (ICT)

- Development of the University Certificate “Smart ICT for Business Innovation” in collaboration with the University of Luxembourg

2 classes organized

29 students registered

20 students graduated
III. NATIONAL STANDARDIZATION STRATEGY 2010-2020 & POLICY ON ICT TECHNICAL STANDARDIZATION (2015-2020)

B. Pillar 1: Information and communication technologies (ICT)

- Development of a Master degree “Technopreneurship: mastering smart ICT, standardization and digital trust for enabling next generation of ICT solutions” in collaboration with the University of Luxembourg

<table>
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<th>Blocks and Modules</th>
<th>ECTS</th>
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<td>STANDARDISATION</td>
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<td>2. Technical Standardisation</td>
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<td>SMART ICT</td>
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<td>3. Smart ICT Technologies I</td>
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<td>4. Smart ICT Technologies II</td>
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<td>DIGITAL TRUST FOR SMART ICT</td>
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<td>5. Security for Smart ICT I</td>
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<td>6. Security for Smart ICT II</td>
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<td>7. Trust Architectures for Smart ICT</td>
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<tr>
<td>TECHNOPRENEURSHIP</td>
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<tr>
<td>8. Management of Business and Technical Innovation</td>
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<td>9. Digital Intelligence</td>
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<tr>
<td>10. Legal Aspects</td>
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<tr>
<td>MASTER THESIS</td>
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<tr>
<td>12. Master Thesis</td>
<td>30</td>
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<tr>
<td>Total</td>
<td>60</td>
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</tbody>
</table>

Objective: Start in September 2020

- 60 ECTS
- 12 Modules
- 2 years lifelong learning
- 20 students
- 327 hours of teaching
- Internship (750 hours)
C. Pillar 2: National influence and compliance with legal attributions
III. NATIONAL STANDARDIZATION STRATEGY 2010-2020 & POLICY ON ICT TECHNICAL STANDARDIZATION (2015-2020)

C. Pillar 2: National influence and compliance with legal attributions

- Representation of Luxembourg in General Assemblies and strategic meetings

Participation in 46 General Assemblies

Participation in more than 50 strategic meetings
III. NATIONAL STANDARDIZATION STRATEGY 2010-2020 & POLICY ON ICT TECHNICAL STANDARDIZATION (2015-2020)

C. Pillar 2: National influence and compliance with legal attributions

- Joint Initiative on Standardization (March 2017 – June 2019)
III. NATIONAL STANDARDIZATION STRATEGY 2010-2020 & POLICY ON ICT TECHNICAL STANDARDIZATION (2015-2020)

D. Pillar 3: Products and services

LUXEMBOURG STANDARDIZATION STRATEGY 2014-2020

"Technical standardization as a service"

Pillar 3: Products and services
D. Pillar 3: Products and services

- Development of trainings on technical standardization

- More than 250 professionals trained

- 55 trainings organized

- Technical trainings on smart ICT standardization

  - Big Data / Artificial Intelligence
  - Cloud Computing
  - Internet of Things
  - Blockchain and DLT
  - Digital Trust for Smart ICT

- General trainings on standardization

  - Standards & standardization in the ICT sector
  - New delegate in standardization

- Catalogue de formation training catalogue
Development of products and services

- Awareness raising in more than 100 organizations
- More than 30 standards watch conducted
- Different diagnostics delivered
D. Pillar 3: Products and services

- **On-demand Standards Analysis**

  2 editions of the Standards Analysis of the Energy Sector

  2 editions of the Standards Analysis of the Biomedical Sector

  2 editions of the Standards Analysis of the Aerospace Sector
E. Other achievements during the period 2010-2020

- Creation of the ILNAS eShop
- Creation of the ILNAS lecture stations
- Certification of the ILNAS QMS against ISO 9001
- Creation of the Portail-qualite.lu
- Creation of national standards
- Certification of the ANEC EIG QMS against ISO 9001

III. NATIONAL STANDARDIZATION STRATEGY 2010-2020 & POLICY ON ICT TECHNICAL STANDARDIZATION (2015-2020)
I – INTRODUCTION OF ILNAS

II – NATIONAL STANDARDS BODY


IV – NATIONAL STANDARDIZATION STRATEGY 2020-2030
Technical standardization
"Inclusive tool for performance and excellence to serve the economy"

2010-2020
- Build strong foundations for technical standardization in Luxembourg
- Develop national expertise in technical standardization

2020-2030
- Enhance the use of standards and the involvement in the standardization process
- Improve the global positioning of Luxembourg in the standardization landscape
IV. NATIONAL STANDARDIZATION STRATEGY 2020-2030

A. Overview

Technical standardization
"Inclusive tool for performance and excellence to serve the economy"

3 growth sectors identified

INFORMATION AND COMMUNICATION TECHNOLOGIES
CONSTRUCTION
AEROSPACE
IV. NATIONAL STANDARDIZATION STRATEGY 2020-2030

B. Pillars

Technical standardization
"Inclusive tool for performance and excellence to serve the economy"

- Pillar 1 – Use of relevant technical standards
- Pillar 2 – Involvement in the standardization process
- Pillar 3 – Active participation of the NSB in the European and international standardization organizations
- Pillar 4 – Development of research and education about standardization
IV. NATIONAL STANDARDIZATION STRATEGY 2020-2030

C. Implementation

Technical standardization
"Inclusive tool for performance and excellence to serve the economy"

- Identification of trans-sectoral standardization interactions
  - Construction
  - Information and Communication Technologies
  - Aerospace

- Creation of products and services to support the normative development of the growth sectors
  - Computer Aided Design (CAD)
  - Building Information Modelling (BIM)
  - 3D printing
  - Space data processing
  - Space traffic management
  - Smart Mobility
  - ...
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