

Journée Mondiale de la Normalisation World Standards Day

15.10
2025



INTERVENANTS



Pr. Dr. Pascal BOUVRY
Doyen
Faculté des Sciences,
des Technologies et de Médecine
Université du Luxembourg



M. Jérôme PETRY
Responsable de la cellule circularité
et technologies durables
Ministère de l'Économie



Dr. Jean-Philippe HUMBERT
Adjoint à la Direction
ILNAS



Mme Natalia VINOGRADOVA
Responsable de département
Normalisation
ANEC GIE



Mme Anna SANTURBANO
Chargée de mission
Normalisation
ANEC GIE



INTERVENANTS



Ms. Andreea GULACSI
Directrice
Policy & External Affairs
CEN and CENELEC



Dr. Grégoire DANOY
Maître assistant
Université de Luxembourg



M. Nicolas DOMENJOUR
Responsable
« TIC & Normalisation »
ILNAS/OLN



Dr. Lucas CICERO
Responsable
« Space, Conformity,
Education about Standardization »
ILNAS/OLN



AGENDA

13h30 – 14h00 : Accueil des participants

14h00 – 14h10 : Mot de bienvenue (FR)
Prof. Dr. Pascal Bouvry - *Université du Luxembourg*
Dr. Jean-Philippe Humbert - *ILNAS*

14h10 – 14h25 : Développements normatifs luxembourgeois (FR)
Dr. Jean-Philippe Humbert - *ILNAS*

Session 1 – Développement durable

14h25 – 14h45 : Le rôle de la normalisation pour l'économie et le développement durable du Grand-Duché de Luxembourg (FR)
M. Jérôme Petry - *Ministère de l'Économie*

14h45 – 15h05 : Présentation du Rapport sur la normalisation technique dans le domaine du développement durable (EN)
Mme Natalia Vinogradova - *ANEC GIE*
Mme Anna Santurbano - *ANEC GIE*

15h05 – 15h30 : Pause café



AGENDA

Session 2 - Recherche, éducation et normalisation technique

15h30 – 15h50 : Research, innovation, education, and technical standardization (EN)
Ms. Andreea Gulacsi – *CEN and CENELEC*

15:50 – 16:05 : Politique pour l'éducation et la recherche dans le cadre de la normalisation technique (FR)
Dr. Lucas Cicero – *ILNAS/OLN*

16:05 – 16:20 : Présentation des programmes de recherche ILNAS/SnT (FR)
Dr. Grégoire Danoy – *Université du Luxembourg*

16:20 – 16:35 : Education à la normalisation au Luxembourg : l'exemple du Master MTECH (FR)
M. Nicolas Domenjoud – *ILNAS/OLN*

ILNAS Standardization & Innovation Award

16:35 – 16:45 : Remise du prix « ILNAS Standardization & Innovation Award » (FR)
Dr. Jean-Philippe Humbert – *ILNAS*

16:45 – 17:00 : Présentation du projet récompensé
par le « ILNAS Standardization & Innovation Award » 2025

17:00 – 19:00 : Cocktail



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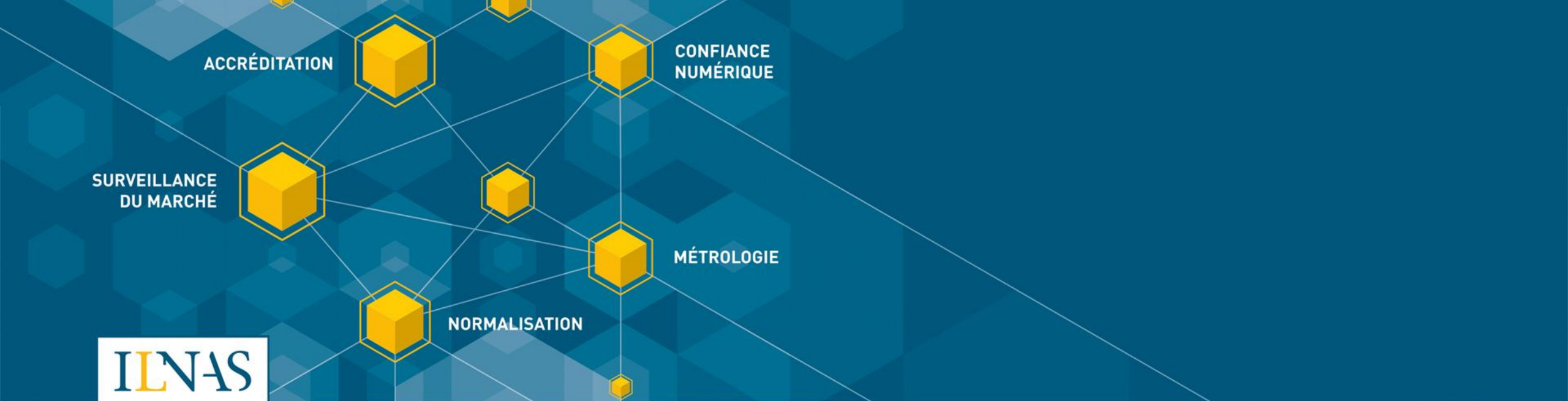


Mot de bienvenue (FR) - Word of welcome (EN)

Dr. Jean-Philippe Humbert – ILNAS

Prof. Dr. Pascal Bouvry – Université du Luxembourg





Standardization developments in Luxembourg

15th October 2025

Dr. Jean-Philippe Humbert
Adjoint à la Direction - ILNAS



I - INTRODUCTION OF ILNAS AND ANEC EIG

ILNAS

Public administration under the authority of the Minister of the Economy, SME, Energy and Tourism

Creation: Law of May 20, 2008

Legislation in force: amended Law of July 4, 2014 reorganizing ILNAS

Total staff: 64 (October 2025)

NATIONAL STANDARDS BODY (OLN)

- Total staff: 8
- Close collaboration with the E.I.G. ANEC-N





Economic Interest Group

Object: Promotion, awareness raising and training, applied research in the field of standardization and metrology in order to support companies' competitiveness in Luxembourg

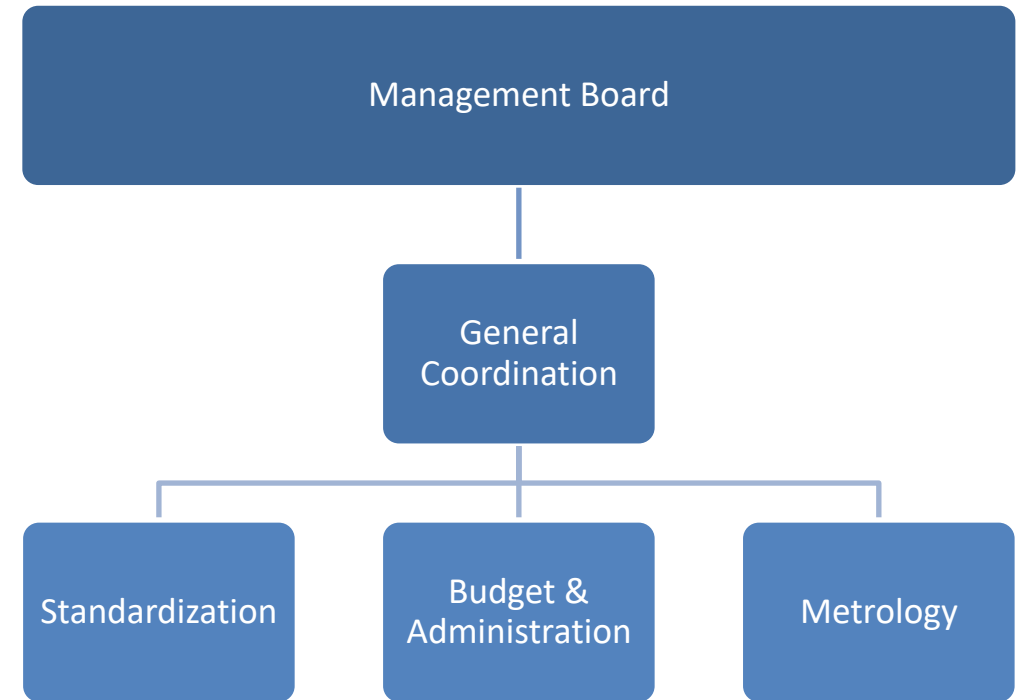
Creation: October 4, 2010

Total staff: 9 (October 2025)

Standardization department

- Total staff: 4

Partners:



→ Support for the implementation of the Luxembourg standardization and metrology strategies



II - NATIONAL STANDARDIZATION STRATEGY 2024-2030



TECHNICAL STANDARDIZATION

"INCLUSIVE TOOL FOR PERFORMANCE AND EXCELLENCE TO SERVE THE ECONOMY"

PERFORMANCE

Pillar 1 – Use of relevant technical standards

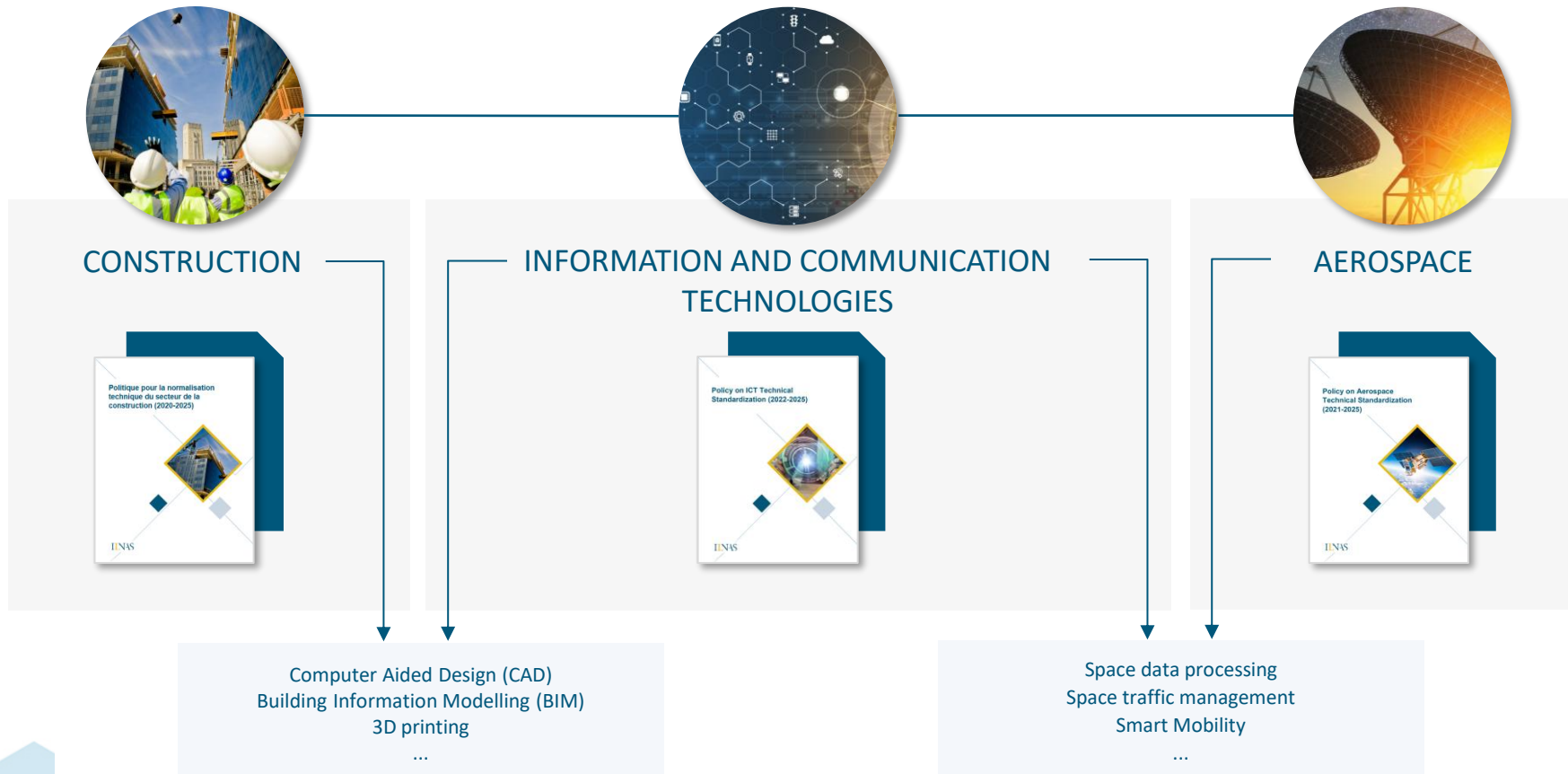
Pillar 2 – Involvement in the standardization process

EXCELLENCE

Pillar 3 – Active participation of the NSB in the European and international standardization organizations

Pillar 4 – Development of research and education about standardization

3 GROWTH SECTORS IDENTIFIED



2 RELEVANT DOMAINS



III - STANDARDIZATION POLICIES – FOCUS ON THE SUSTAINABILITY DOMAIN

Policy on technical standardization in the sustainability sector

“Foster and strengthen the national economic sectors involvement in standardization work”

1

Promoting technical standardization to the market

- Identify national needs in terms of standardization developments
- Carry out an identification of relevant standards
- Disseminate and promote standardization information to stakeholders

2

Reinforcing the valorization and the involvement regarding technical standardization

- Monitoring of relevant technical committees
- Carry out a monitoring of regulatory aspects in relation to standardization
- Promote the participation of the national market in technical committees and the use of appropriate standards identified

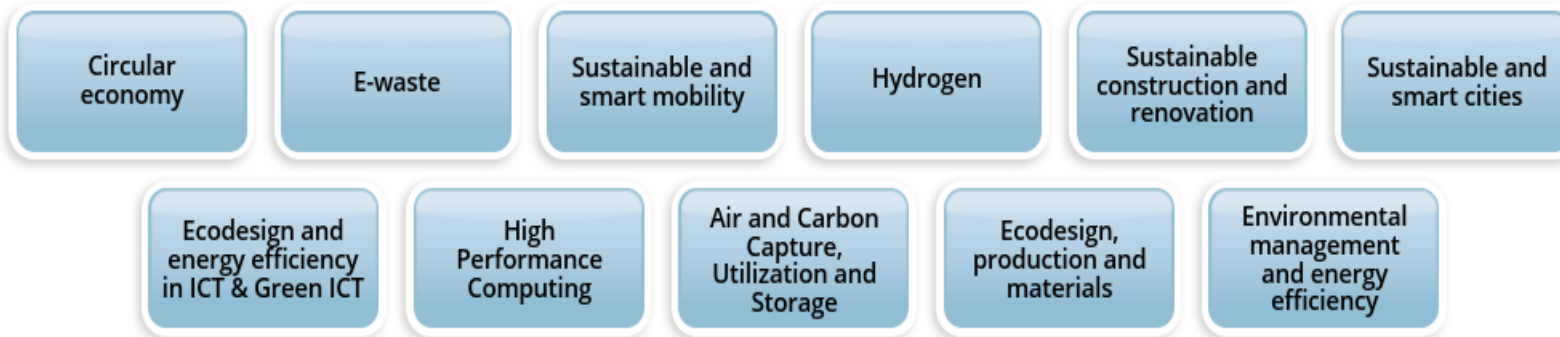
3

Supporting and strengthening the Education about Standardization and the related research activities



➡ All policies are based on similar lead projects – **They will be updated by the end of the year, for the period 2026-2030**

- ✓ 11 sub-domains monitored from a standardization point of view



Monitoring of 78 technical committees

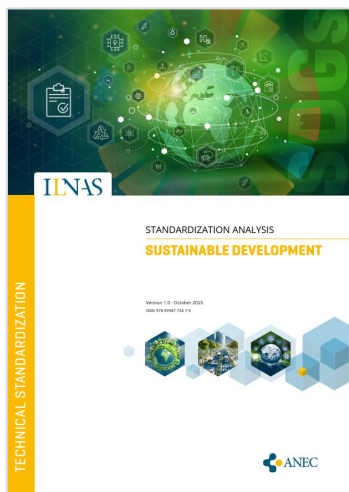


Recent developments



New technical sheets

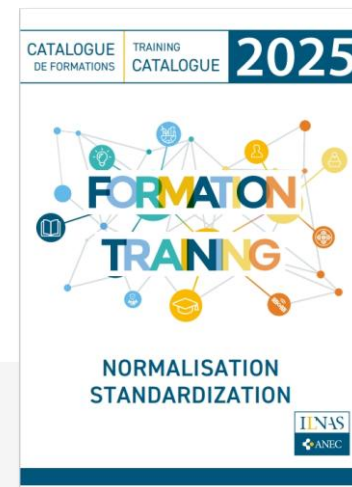
- Environmental Life Cycle Assessment
- Ecodesign
- Environmental Aspects of Plastics
- General Energy Management
- General Greenhouse Gas Management



Standardization Analysis “Sustainable Development” (15/10/2025)

Trainings and Awareness sessions

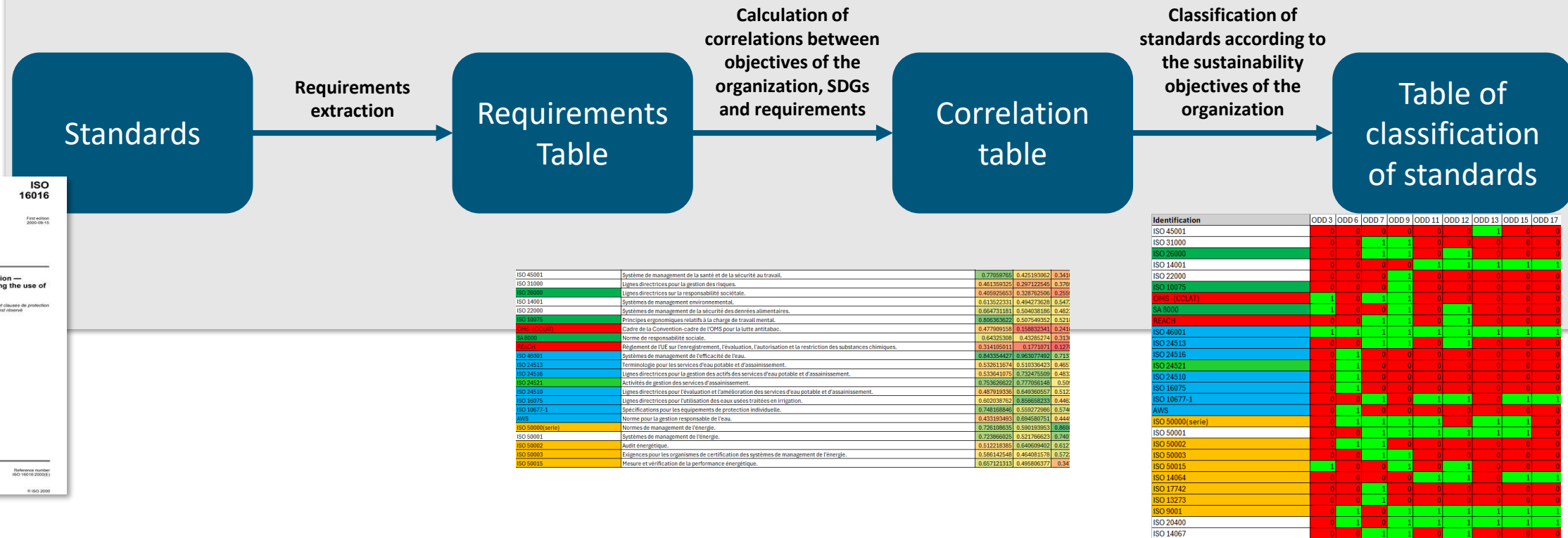
- Environmental Management and technical standardization
- Technical standards on sustainable mobility
- Technical standards on hydrogen technologies



Recent developments

■ Internships results (2025) – Follow-up of the 2024's internship

- **Subject** : Initiate a guidance document to audit organizations based on the methodology developed in 2024. Enhancement of the tool developed in 2024:
- ✓ New feature helping in the identification of relevant standards to improve the environmental performance
 - ✓ Establish correspondences between objectives of the organization, SDGs and standards' requirements



- Research program ILNAS/Uni.lu-SnT (2025-2028)

ICT

Construction

Aerospace

Sustainability



Artificial Intelligence



Sustainable Development



Aerospace



Quantum Technologies



People-centered-design

Resistance to natural disasters

IV – EDUCATION ABOUT STANDARDIZATION AND RESEARCH – OTHER DEVELOPMENTS



The Smart-ICT Team

Nader Samir
- PhD Candidate
- Since 1.10.2017
- Industrial experience in UAV's

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

Swarms of Nano-satellites
Ms. Maria Hartmann

Satellite Images Data Marketplace
Mr. Manuel Combarro Simon

Building Information Modelling (BIM) and its integration with Artificial Intelligence (AI)
Ms. Heideh Housh



Artificial Intelligence



Sustainable Development



Quantum Technologies



People-centered-design
Resistance to natural disasters



Aerospace



2010



First national standardization strategy (2010-2020)

One pillar dedicated to Education about Standardization
"University training curricula in standardization will be specifically produced, in collaboration with the University of Luxembourg"

2015



University Certificate degree
"Smart ICT for Business Innovation"
(2015-2019)

2017



First research program "Technical Standardisation for Trusted Use in the Field of Smart ICT" (2017-2020)

2021



Second research program "Technical Standardisation for Trustworthy ICT, Aerospace, and Construction" (2021-2024)

2021



University Master degree
"Technopreneurship: mastering smart ICT, standardisation and digital trust for enabling next generation of ICT solutions" (2021-...)

2025



Third research program "Technical Standardisation for Trustworthy and Sustainable ICT, Construction and Aerospace" (2025-2028)



PROGRAMME	
STANDARDISATION	ECTS
Smart Secure ICT and Innovation	1
Technical Standardisation	3
TOTAL	4
SMART ICT	ECTS
Smart ICT Technologies I	5
Smart ICT Technologies II	5
TOTAL	10
DIGITAL TRUST FOR SMART ICT	ECTS
Security for Smart ICT I	2
Security for Smart ICT II	3
Trust Architectures for Smart ICT	4
TOTAL	9
TECHNOPRENEURSHIP	ECTS
Management of Business and Technical Innovation	3
Digital Intelligence	2
Legal Aspects	2
TOTAL	7
MASTER THESIS	ECTS
Master Thesis	30
TOTAL	56





ILNAS

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www.portail-qualite.lu



Le rôle de la normalisation pour l'économie et le développement durable du Grand-Duché de Luxembourg

Jérôme Petry – Ministère de l'Économie

15 octobre 2025

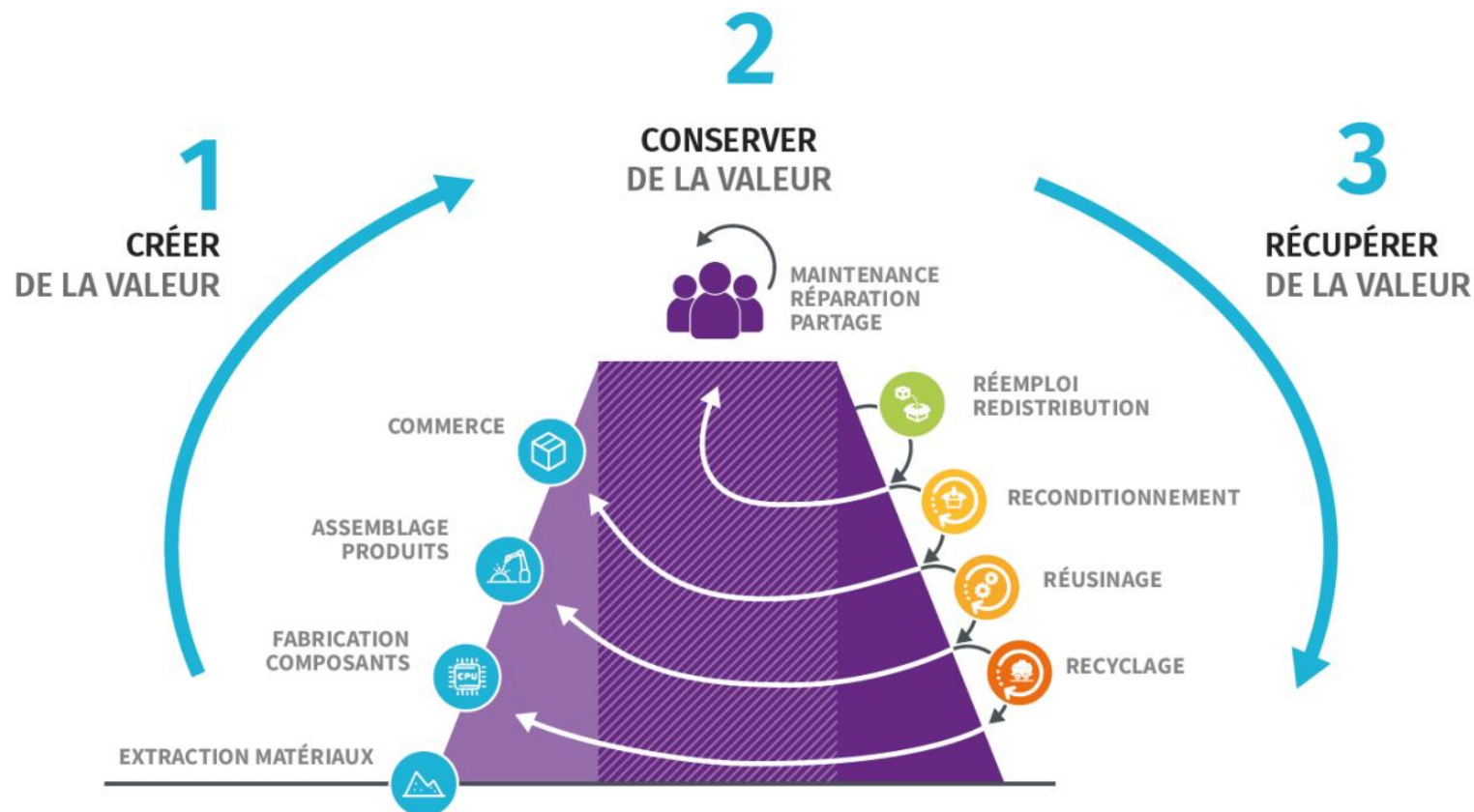


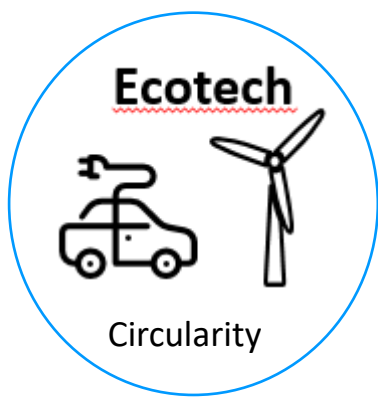
LE GOUVERNEMENT
DU GRAND-DUCHÉ DE LUXEMBOURG
Ministère de l'Économie

Economie circulaire – “Value Hill”

Stratégie nationale économie circulaire (2021):

1. La création de valeur
2. La longévité d'un produit (conservation de valeur)
3. La valorisation des composants (récupération de valeur)





✧ “Data driven sustainability”

- Économie circulaire->[PCDS](#)
- Chaînes de valeurs résilientes et durables

✧ Sous-secteurs:

- Eau
- Construction
- Énergie
- Smart City
- Urban Farming
- Smart Mobility

Terra Matters GIE (www.pcds.com)

Promotion & support de la transition vers une économie circulaire en développant, gérant et promouvant le PCDS:

- Système d'échange de données pour communiquer sur les propriétés circulaires de produits



TerraMatters

Neobuild GIE (www.neobuild.lu)

Pôle d'innovation technologique du secteur de la construction durable

- Construction 4.0
- Construction circulaire



neobuild

Economie circulaire – PCDS – ISO 59040

- Relation fournisseur – client en vue de l’obtention d’un PCDS par produit
- Echange de données de manière indirecte en utilisant des “statements” binaires (vrai/faux)
- Création de templates (données génériques pour tout secteur et détail sectoriel)
- Maintien preuves
- Terminologie claire autour de divers concepts circulaires (se basant sur ISO 59004)

Programme de certification finalisé au niveau national et besoin de demande du marché pour sa mise en oeuvre



Automotive Campus Bissen

Parking Circulaire



Parking démontable et modulable
Mock-up réutilisé dans le produit final
Extension possible

-

Incubateur



Incubateur circulaire
Efficacité énergétique
Mur intérieur en Géobloc de terre crue
Optimisation empreinte carbone

Pavillon Luxembourg Expo Osaka 2025

Doki-Doki



Pavillon circulaire

Réemploi: structure en béton, structure en acier, panneau de bois et toile

Utilisation du PCDS



Economie circulaire – ISO/TC323 initiatives

- Lancement du WG6 en vue d'une norme de management de l'économie circulaire "59001"
- Technical reports: TR59031 (value networks) & TR59032 (case studies)
- Comité miroir national TC323



ISO 59004

Circular economy
**Vocabulary, principles
and guidance for
implementation**

ISO 59010

Circular economy
**Guidance on the
transition of business
models and value
networks**

ISO 59020

Circular economy
**Measuring and
assessing
circularity
performance**

ISO 59040

Circular economy
**Product Circularity
Data Sheet**

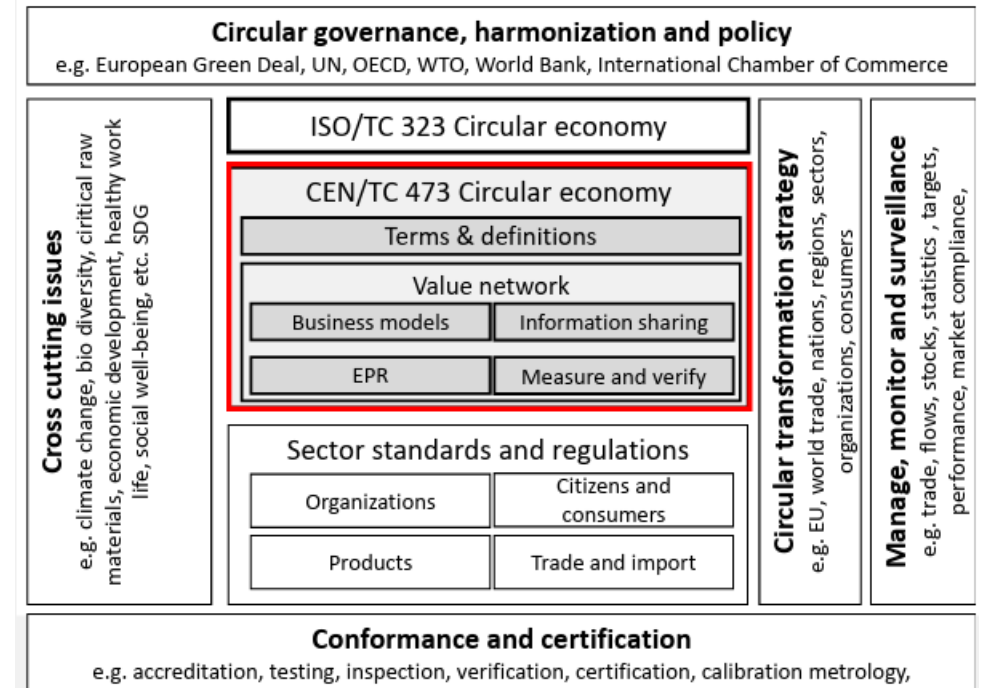
ISO 59014

Environmental
management and
circular economy
**Sustainability
and traceability of
secondary materials
recovery – Principles,
requirements and
guidance**



Economie circulaire – CEN/CENELEC

- JTC 24 – groupe commun entre le CEN et CENELEC pour répondre au “standardization request” de la commission européenne pour définir toutes l’infrastructure du Digital Product Passport (DPP)
- CEN COG Circular Economy (former SABE CE-TG)
- CEN/CLC COG Ecodesign
- CEN TC473 – porte tous les sujets de l’économie circulaire et transpose au niveau européen les norms sous l’ISO TC323
- CEN TC-350 SC1 “circular economy in the construction sector”



COG = Coordination Group

SABE CE-TG = strategic advisory board on environment circular economy task group



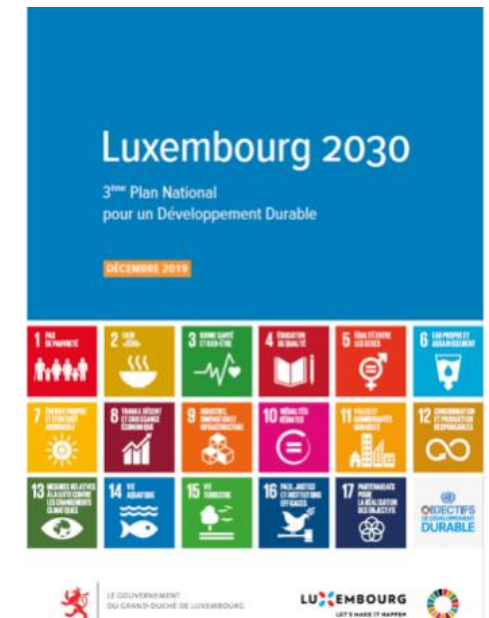
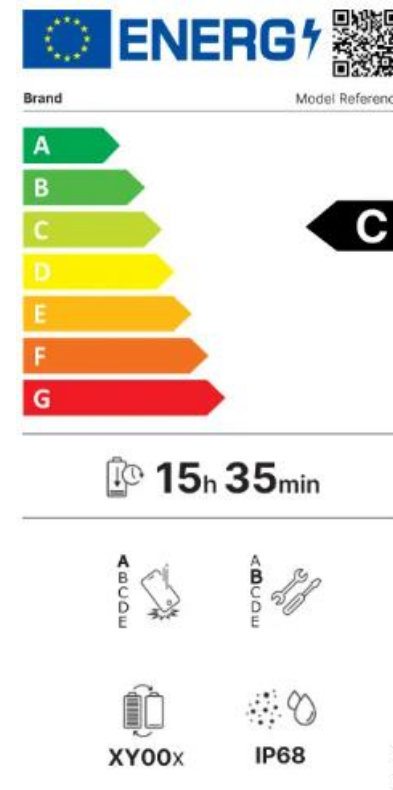
Economie circulaire – Autres initiatives

- UNECE / UNTP 49: Recommandation n° 49 de la CNUCED et au Protocole de Transparence des Nations Unies. Créer un cadre politique qui fournit des orientations pour la mise en œuvre de la traçabilité et de la transparence via l'utilisation de passeports numériques afin d'assurer l'interopérabilité
- Au niveau ISO – possible création d'un JTC ISO/IEC qui met en avant les DPP comme pendant au CEN/CENELEC JTC24
- Le Sujet DPP devient important aussi pour d'autres économie comme p.ex. la Chine

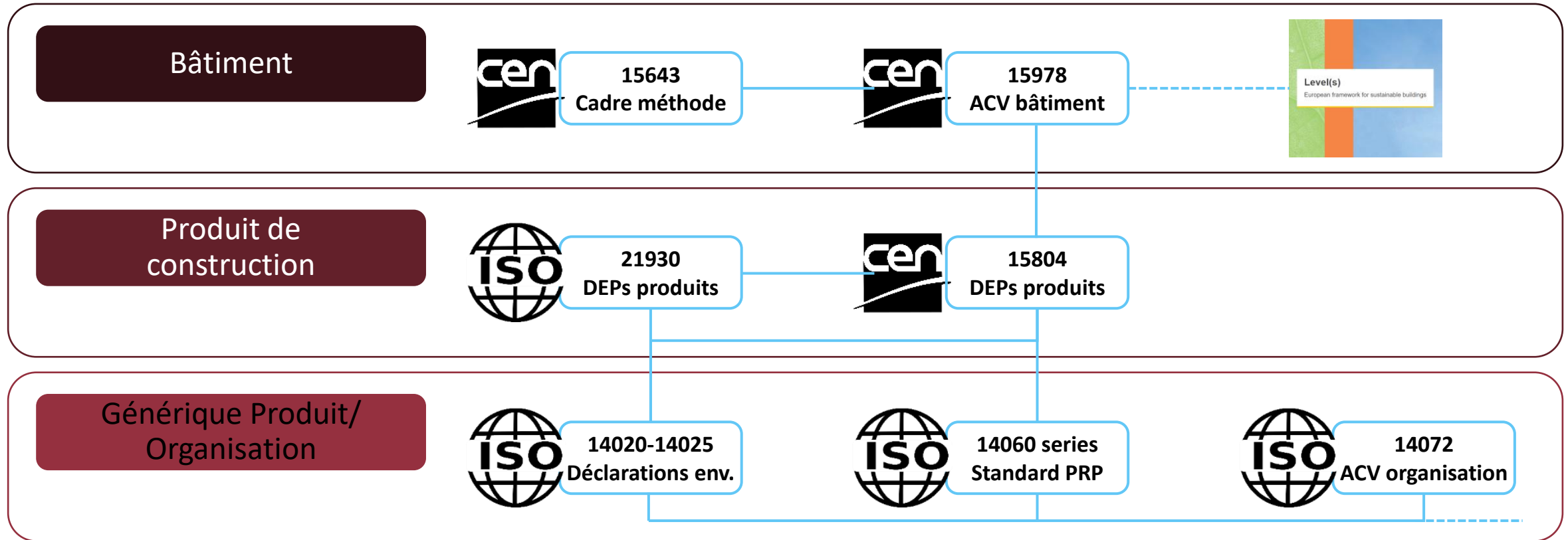


Economie circulaire – Commission Européenne

- ESPR – Eco Design for Sustainable products
- DPP – Digital Product Passports
- European Battery Regulation
- CRMA – Critical Raw Material Acts
- NZIA – Net Zero Industrial Act
- Marchés publics
- Indices de réparabilité
- Critères de durabilité
- Contenu recycle et recyclable
- ODD objectifs de développement durable
-> retranscrit dans le 3e plan national pour un développement durable (PNDD)



Feuille de route construction bas carbone



La feuille de route nécessite **l'application de normes à différents niveaux**, depuis les **produits** de construction jusqu'aux **bâtiments**, en passant par les **organisations**.



Standardization analysis: Sustainable development

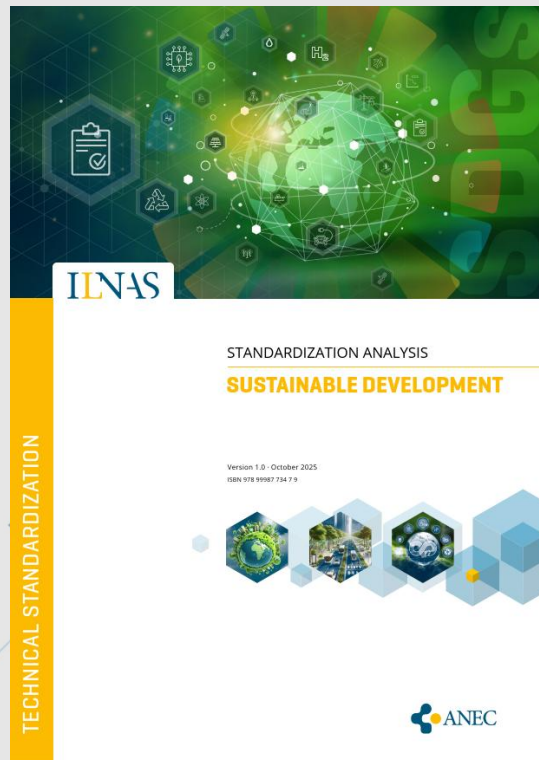
Overview

Natalia Vinogradova / Anna Santurbano

15.10.2025



Politique pour la normalisation technique du domaine du développement durable (2024-2026)



1

Promoting technical standardization

- ✓ Identify relevant technical committees
- ✓ Present key published standards and ongoing projects addressing domain challenges

2

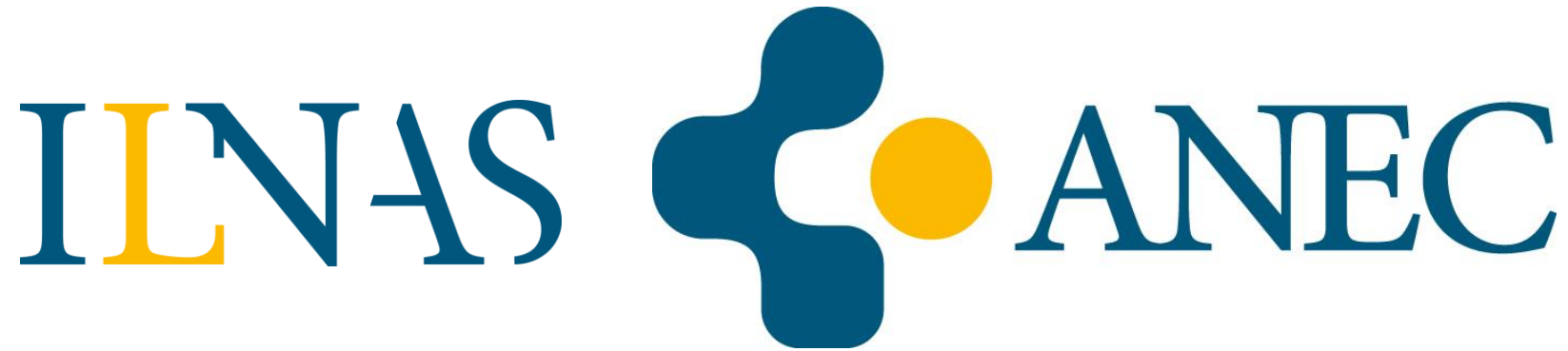
Reinforcing the valorization of standardization and the involvement of stakeholders in order to support sustainable development goals

- ✓ Explore the link between technical standardization and sustainable development
- ✓ Identify key challenges and the supporting standardization activities
- ✓ Analyze regulatory context and make connections with the identified standardization activities

3

Supporting innovation through standardization, research and education

- ✓ Prepare the ground for the follow-up research activities



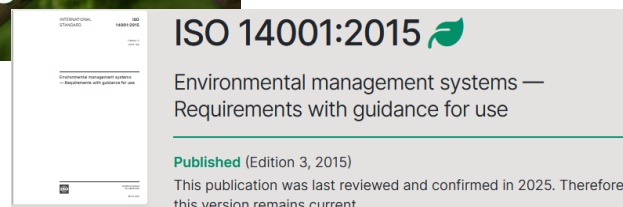
THE GOVERNMENT
OF THE GRAND DUCHY OF LUXEMBOURG
Ministry of the Economy

Importance of sustainable development



Benefits of standards

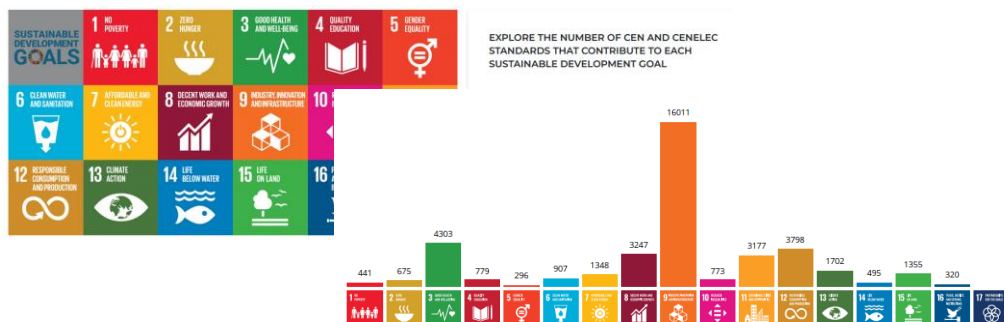




- Strategic shift in standardization organizations to tackle sustainable development

- First dedicated technical committee established in 1993:
ISO/TC 207 – Environmental Management
- First ISO environment-related standard published in 1996:
ISO 14001:1996 – Environmental management systems — Specification with guidance for use

- Tools developed to explore standards per SDG



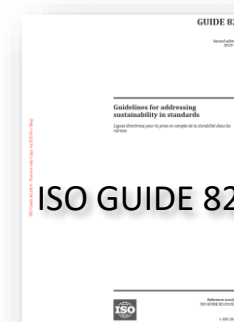
- Sustainability considerations embedded into standardization scope and drafting

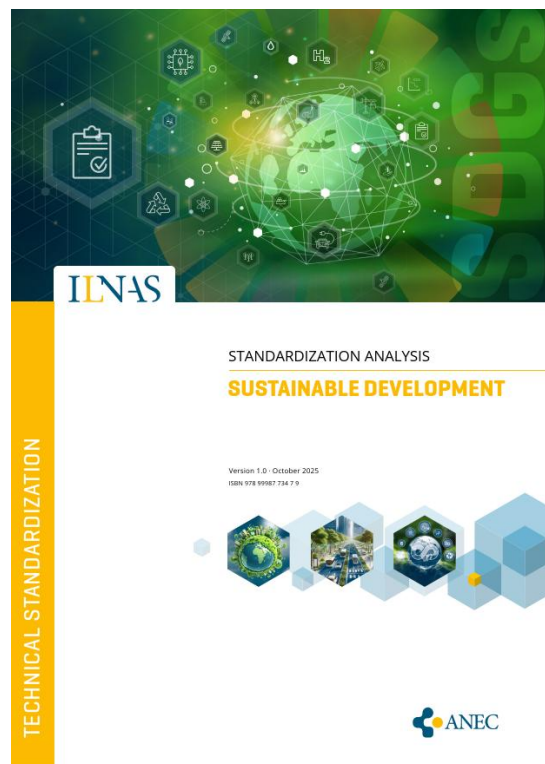
- ISO requires mapping of each new standard to relevant SDGs
- Retroactive mapping applied to existing standards



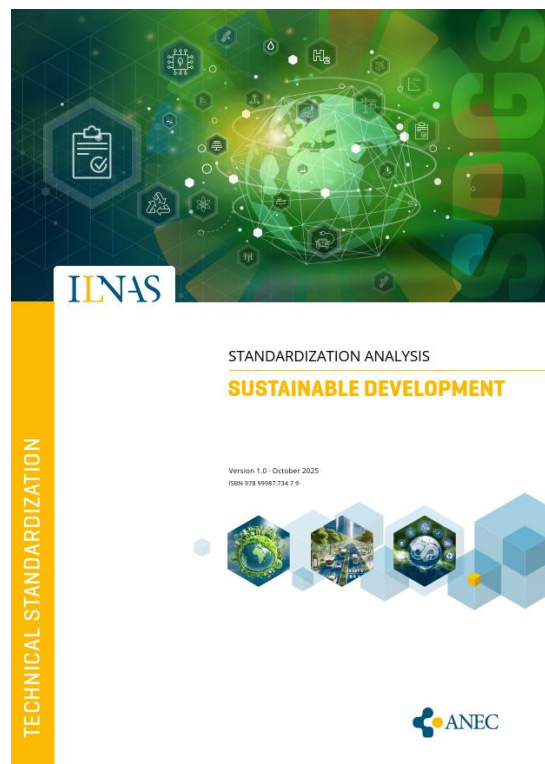
- Advisory groups and strategic committees guide sustainability integration

- CEN/CENELEC/COG Circular Economy
- CEN/CENELEC/COG Environment
- CEN/CENELEC/SAG Action Plan for Climate change
- ISO/TMBG/ESG_CC Coordinating Committee





1. Introduction to sustainable development
2. Technical standardization in support of the SDGs
3. Overview of sustainable development activities at European and national level
 - Environmental management
 - Energy efficiency and management
 - Circular economy
 - Sustainable construction
 - Hydrogen technologies
 - Sustainable mobility
 - Green ICT
 - E-waste
4. How to use and access standards
5. How and why contribute to standardization in sustainable development
6. ILNAS support to national stakeholders



Section 3: Overview of sustainable development activities at European and national level

- Topics
 - Environmental management
 - Energy efficiency and management
 - Circular economy
 - Sustainable construction
 - Hydrogen technologies
 - Sustainable mobility
 - Green ICT
 - E-waste
- Content of each sub-section
 - Background
 - Challenges of the sector
 - Policies and strategies: European and national
 - Legal frameworks: European and national
 - Technical standardization activities: relevant committees and standards, impact on national economy



Background

- Climate change
- Pollution and waste
- Nature and biodiversity loss



Need for mitigation



Challenges

- Skills
- Stakeholder collaboration (e.g. along the supply chain)
- Organizational culture

Technical Standardization

- **Consistent and internationally recognized tools, accessible to all**
- Support to all organizations in implementing **credible and effective environmental management practices**
- Main standards developed by technical committee **ISO/TC 207** and its 6 subcommittees
- Adoptions on European level by **CEN/SS S26**
- Topics covered by standardization:
 - Environmental Management Systems
 - Environmental Auditing
 - Communication on Environmental Aspects
 - Life Cycle Assessment
 - Environmental Performance Evaluation
 - Quantification & Reporting of Greenhouse Gas Emissions
 - Transition to Net Zero
 - Adaptation to Climate Change
 - ...

Environmental Management



Policies and Strategies

- The European Green Deal
- 8th Environment Action Programme
- Plan national pour un développement durable (PNDD)
- ...



Legal Frameworks

- Regulation (EU) 2021/1119 establishing the framework for achieving climate neutrality ("**European Climate Law**")
- Regulation (EC) No 1221/2009 on the voluntary participation by organisations in a Community eco-management and audit scheme (**EMAS**)
- Directive 2010/75/EU on industrial and livestock rearing emissions (**IED**)
- Directive (EU) 2022/2464, as regards corporate sustainability reporting (**CSRD**)
- ...

Energy Efficiency & Management



Topics :

- Energy Management Systems
- Energy Audits
- Energy Performance Measurement
- Valuation of Energy Related Investments (VALERI)
- ...

Sustainable Construction



Topics :

- Environmental Product Declaration & Material Characteristics
- Energy Performance of Buildings
- Performance Indicators & Assessment
- ...

Circular Economy



Topics :

- Product Design
- Recycling Practices
- Transparency & Reporting
- Impact Assessment & Performance
- Supply Chain
- ...

Hydrogen Technologies



Topics :

- Hydrogen Production & Safety
- Storage & Transportation Infrastructure
- Hydrogen End Use
- ...

Sustainable Mobility



Topics :

- Environmental Considerations & Alternative Energy Sources
- Efficient Use of Resources & Infrastructure
- Safety & Security
- ...

Green ICT



Topics :

- ICT Infrastructure Design
- Energy Consumption
- Resource Optimization
- E-Waste & Lifecycle Management
- ...

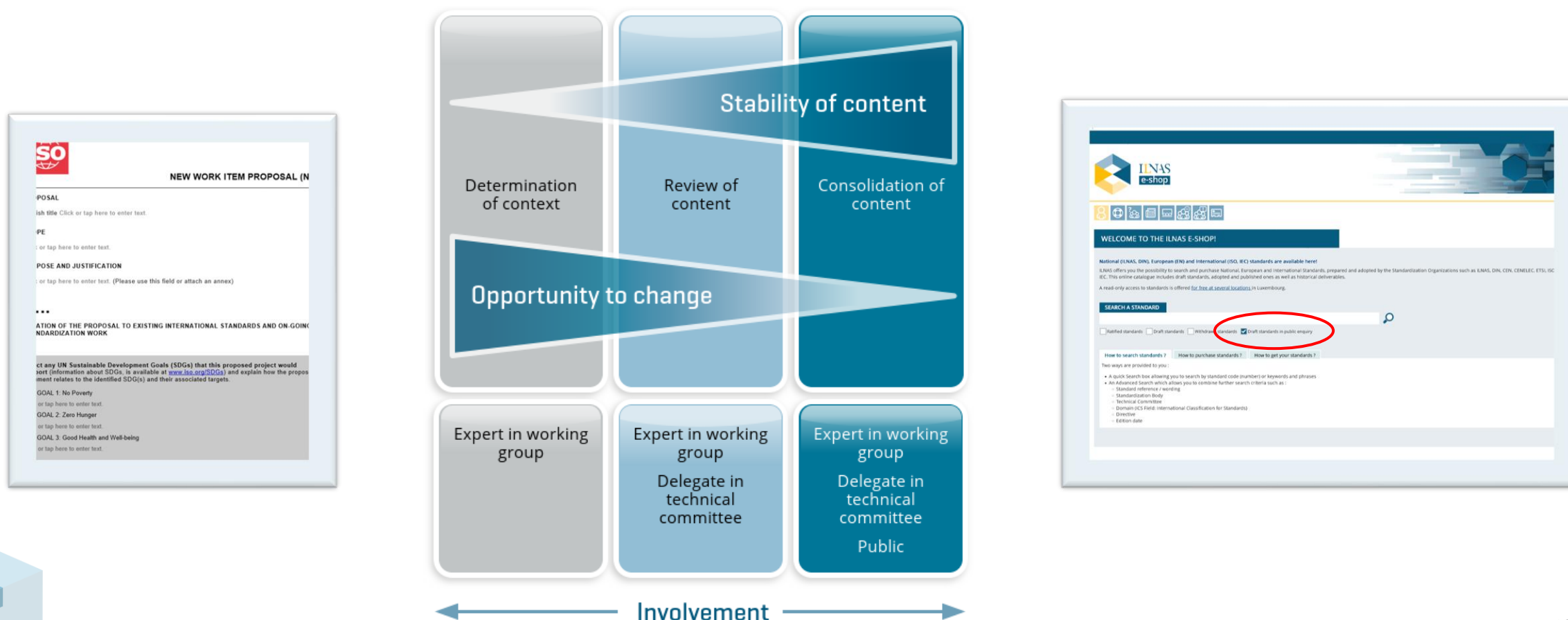
E-Waste



Topics :

- Extraction of Toxic Substances
- Reduction of E-Waste Generation & Ecodesign
- Infrastructure & Processes related to E-Waste Recycling & Resource Recovery
- ...

- The sooner you get involved in the process, the more you can act on the content
- As the draft progresses, modifications will be more and more on form and less on content





- Live monitoring of the development of standardization projects
- Analyze the ongoing projects
- Anticipate future rules and best practices
- Defend the interests of your business
- Spread and promote your innovations
- Value your know-how as best practices which could become a reference in the sector
- Learn about your competitors and their positions during the meetings
- Collaborate in order to defend common interests
- Promote your business and your competencies at national and international level

Key figures (October 2025)

- 327 experts
- 979 subscriptions

Registre national des délégués en normalisation - Octobre 2025

Nombre d'inscriptions aux comités techniques :	
ILNAS/OLN	149
CEN	280
CENELEC	10
CEN/CLC	44
CEN/CLC/ETSI	2
ECISS	0
ISO/IEC	221
ISO	261
IEC	9
Total	979
Nombre de personnes inscrites : 327	

ILNAS

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ACCREDITATION

CONFIANCE
NUMÉRIQUE

SURVEILLANCE
DU MARCHÉ

MÉTROLOGIE

NORMALISATION

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Pause café – Coffee break

