



Journée Mondiale de la Normalisation World Standards Day

10.10
2023



INTERVENANTS



Dr. Jean-Philippe HUMBERT
Adjoint à la Direction
ILNAS



Pr. Dr. Pascal BOUVRY
Chargé de Mission auprès du Recteur
Université de Luxembourg



M. Jérôme PETRY
Chef de projet
DG Industrie, Nouvelles Technologies
et Recherche
Ministère de l'Économie



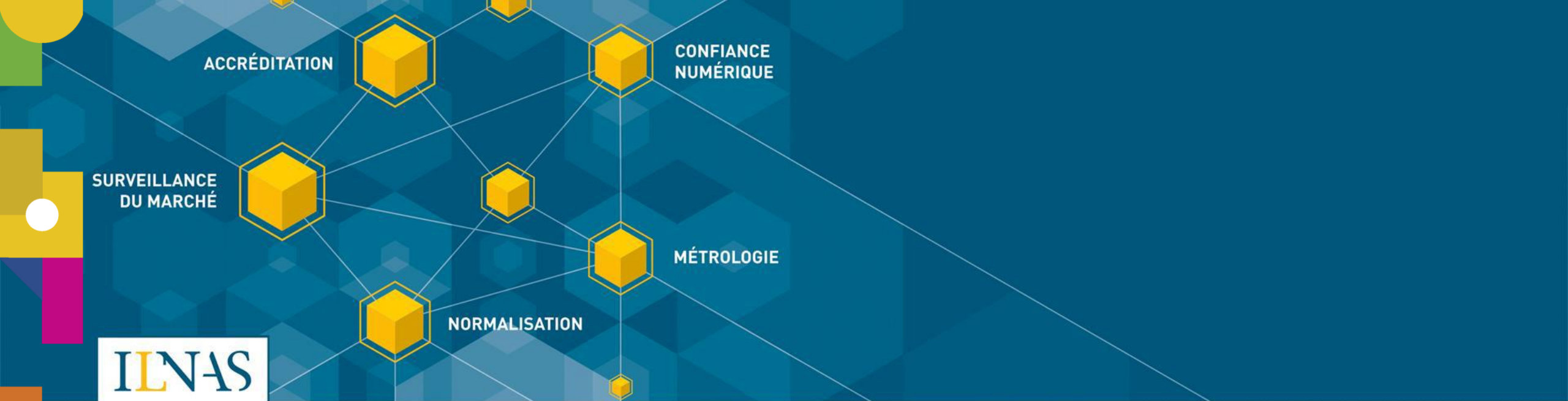
M. Jérôme DIERICKX
Directeur
Terra Matters GIE

Campagne 2023 – ISO – IEC – ITU | Objectifs de développement durable (ODD)



Source : <https://www.worldstandardsday.org/home.html>





National standardization strategy 2020-2030, policies for “growth” sectors, recent developments and new field of investigation

10th October 2023

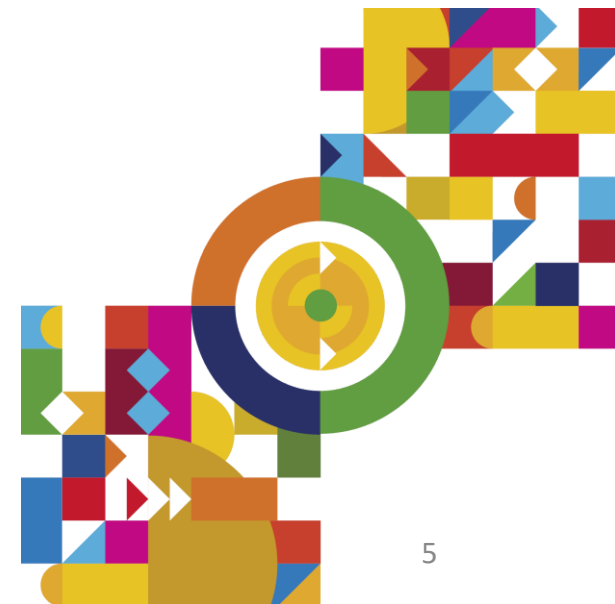
Dr. Jean-Philippe Humbert
Adjoint à la Direction - ILNAS



I - INTRODUCTION OF ILNAS AND ANEC EIG

**II - NATIONAL STANDARDIZATION STRATEGY 2020-2030 &
STANDARDIZATION POLICIES OF THE “GROWTH” SECTORS**

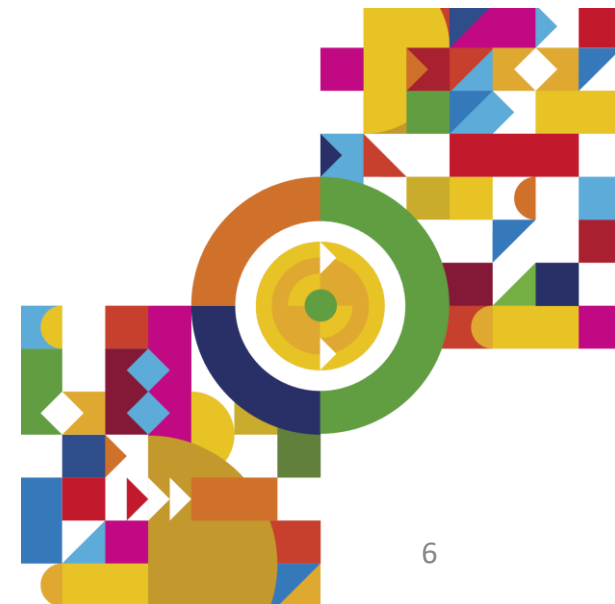
III - RECENT DEVELOPMENTS AND NEW FIELD OF INVESTIGATION



I - INTRODUCTION OF ILNAS AND ANEC EIG

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III - RECENT DEVELOPMENTS AND NEW FIELD OF INVESTIGATION



- ILNAS

- Public administration under the authority of the Minister of the Economy
- Creation: Law of May 20, 2008
- Legislation in force: amended Law of July 4, 2014 reorganizing ILNAS
- Total staff: 62 (October 2023)
- ISO 9001:2015 certification (Budget and administration department, OLN, Digital Trust department, Market surveillance department, BLM, OEC)



- National Standards Body (OLN)

- Composed of 8 persons
- Close collaboration with the E.I.G. ANEC-N





- **Creation:** October 4, 2010
- **Status:** Economic Interest Group (EIG)
- **Objectives:** Promotion, awareness raising and training, applied research in the field of standardization and metrology in order to support companies' competitiveness in Luxembourg
- **Human resources:** 9 persons, including 4 employees in the standardization department (October 2023)
- **Partners:**



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

ILNAS



CHAMBRE
DES METIERS
Luxembourg

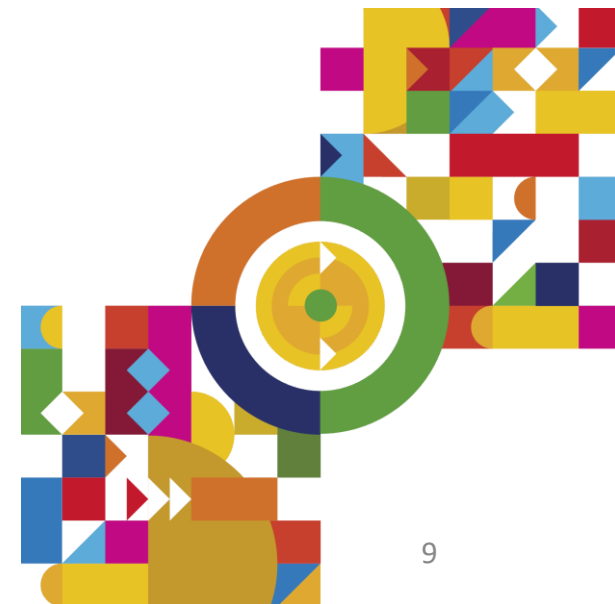


➔ Support for the implementation of the Luxembourg standardization strategy

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→ Strategy signed by the Minister of the Economy of Luxembourg

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

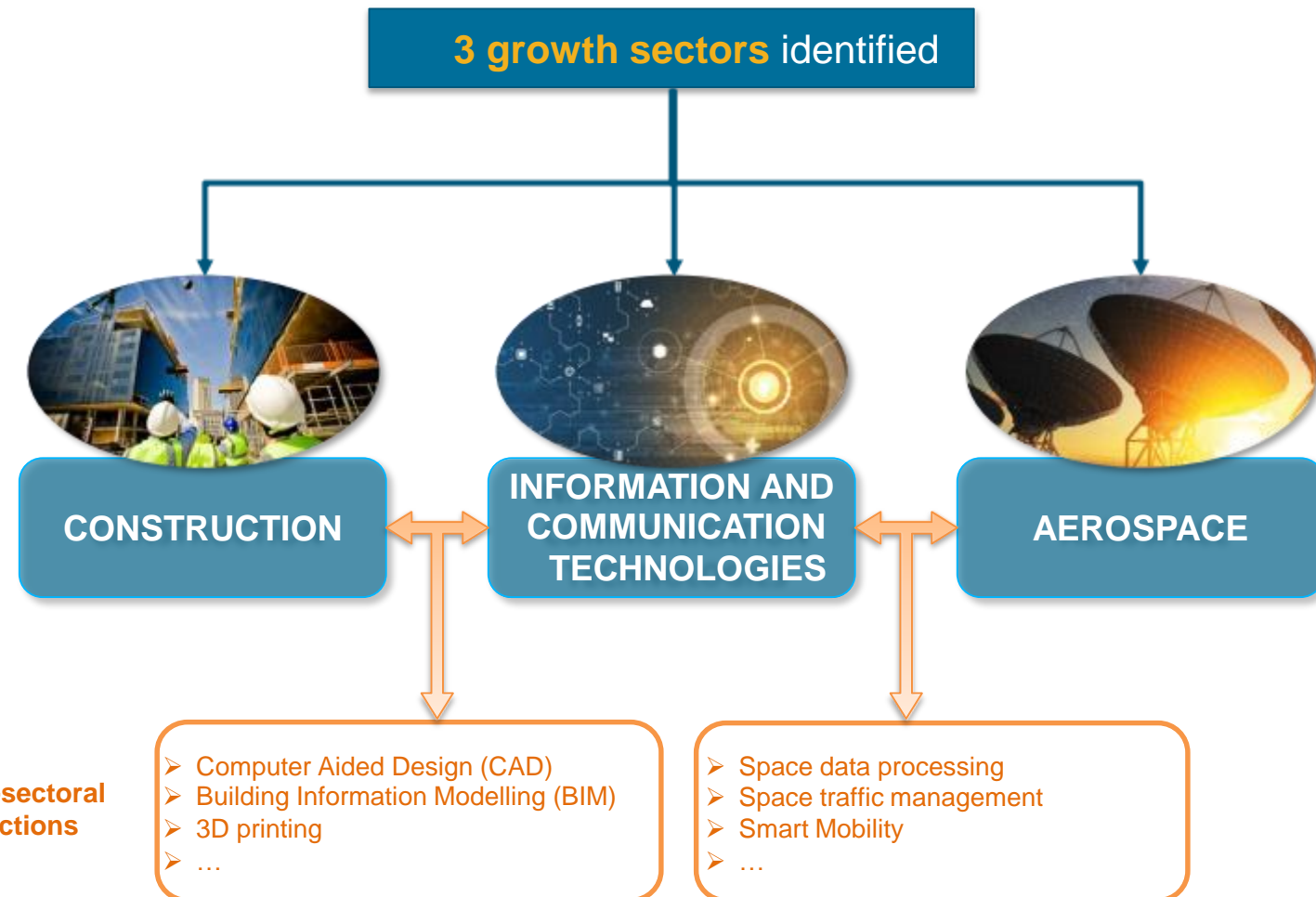


- Pillar 3 – Active participation of the NSB in the European and international standardization organizations
- Pillar 4 – Development of research and education about standardization

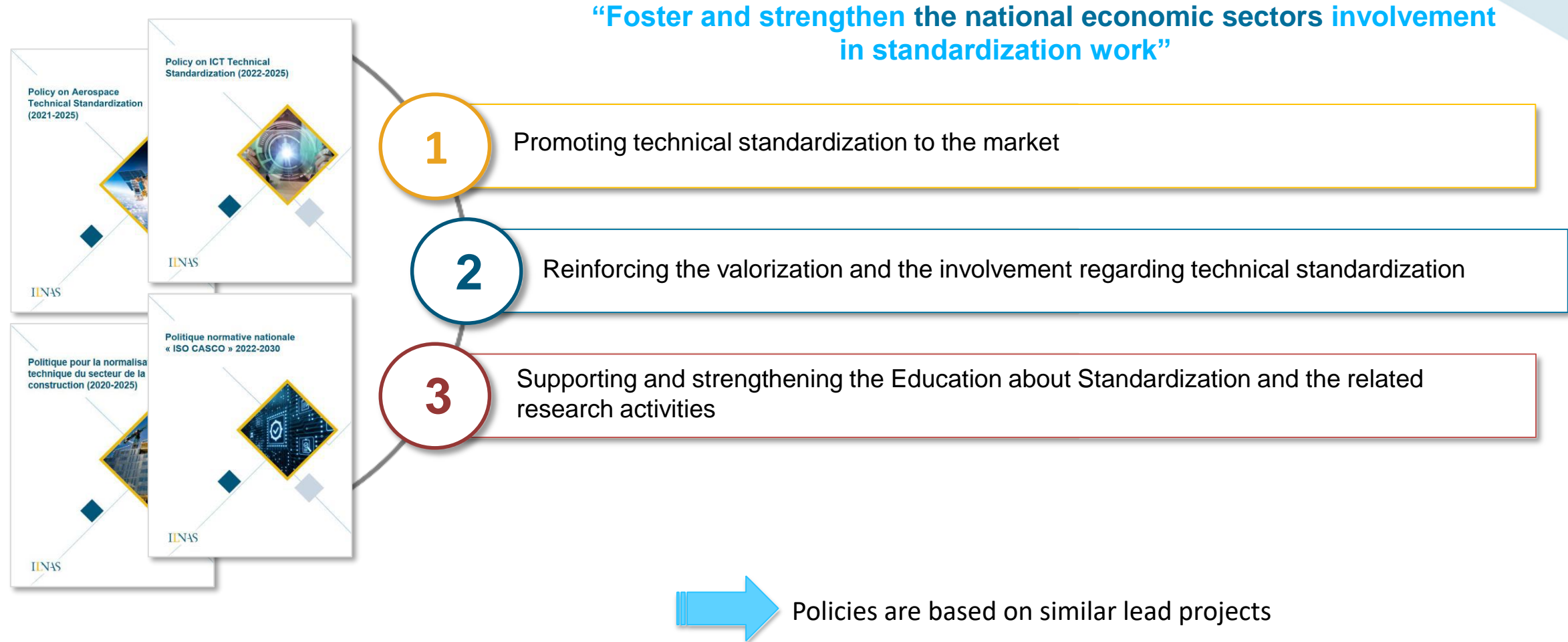
II - NATIONAL STANDARDIZATION STRATEGY 2020-2030 & STANDARDIZATION POLICIES OF THE "GROWTH" SECTORS



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



II - NATIONAL STANDARDIZATION STRATEGY 2020-2030 & STANDARDIZATION POLICIES OF THE “GROWTH” SECTORS



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Pillar 1 – Use of relevant technical standards – Main achievements 2022-2023



07/12/2023
Workshop: Artificial intelligence and technical standardization



Technical Standardization data sheets

- 8 for the ICT sector
- 5 for the construction sector



Standards Analyses

- ICT sector (June 2023)
- Construction sector (March 2023)
- Aerospace sector (July 2023)

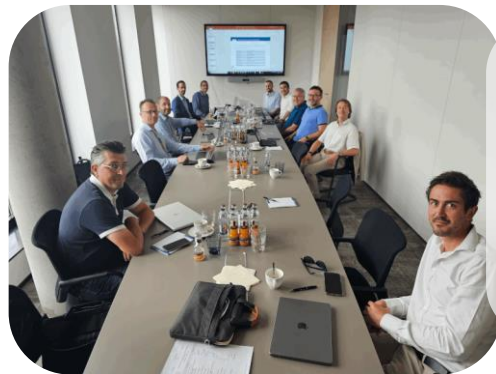


2020-2022 → +7% of licenses sold
2022-2023 → already +36% of licenses sold



2023

- 288 national delegates in standardization
- 1.051 registrations in technical committees in total



National Committee ILNAS/TC 108

Telecommunications – Vertical cabling techniques in residential and mixed-use buildings



INFORMATION AND COMMUNICATION TECHNOLOGIES



81 national delegates



CONSTRUCTION



140 national delegates



National Committee ILNAS/TC 109

National standard in the field of geotechnics



AEROSPACE



2 national delegates



CONFORMITY



3 national delegates

II - NATIONAL STANDARDIZATION STRATEGY 2020-2030 & STANDARDIZATION POLICIES OF THE “GROWTH” SECTORS

Pillar 3 – Active participation of the NSB in the European and international standardization organizations – **Main achievements 2022-2023**



Participation in SDOs **General Assemblies** to represent Luxembourg's interests

- ✓ CEN-CENELEC
- ✓ ETSI
- ✓ ISO
- ✓ IEC



Luxembourg will host the **CEN-CENELEC General Assembly 2025**



Active participation in **strategic technical committees**

- ✓ National Presidency ISO/IEC JTC 1
- ✓ National Presidency ILNAS/NSC 02 “Conformity”
- ✓ Secretariat ISO/TC 323/WG 5 “Product circularity data sheet”
- ✓ Participation in multiple Technical Committees

Research program “**Technical Standardisation for Trustworthy ICT, Aerospace, and Construction**” (2021-2024) in collaboration with the University of Luxembourg



II - NATIONAL STANDARDIZATION STRATEGY 2020-2030 & STANDARDIZATION POLICIES OF THE “GROWTH” SECTORS

ILNAS

Pillar 4 – Development of research and education about standardization – **Main achievements 2022-2023**



<https://youtu.be/kmMHJ-lj4FY>



ILNAS



CORAL - cybersecurity Certification based On Risk evALuation and treatment



Co-financed by the Connecting Europe Facility of the European Union

Overview

CORAL is a European Union-funded project under CEF Telecom Call, that **aims to elaborate a toolkit and methodology to speed up the certification process in line with the EU Cybersecurity Act** or CSA (Regulation EU 2019/881). The project aims to address challenges concerning self-certification and the basic level of assurance, as well as to enhance the exchange of good practices, collaboration and information sharing related to performing evaluations in line with the CSA.

The CORAL project is being developed in a Luxembourgish context, but it aims to become known and used beyond the Luxembourg market and borders. Its target audience is primarily small and medium enterprises who have a product or service for which, they wish to assess the basic cybersecurity requirements.

2022-2023 - ILNAS Research activities



21/11/2023

Technical Standardization
Report on Quantum
Technologies



09/11/2023

Technical Standardization
Report on Sustainable
Construction

II - NATIONAL STANDARDIZATION STRATEGY 2020-2030 & STANDARDIZATION POLICIES OF THE "GROWTH" SECTORS



Pillar 4 – Development of research and education about standardization – **Main achievements 2022-2023**

Master MTECH – ILNAS in collaboration with the University of Luxembourg and the Chamber of Employees

PROGRAMME

STANDARDISATION	ECTS
Smart Secure ICT and Innovation	1
Technical Standardisation	3
TOTAL	4

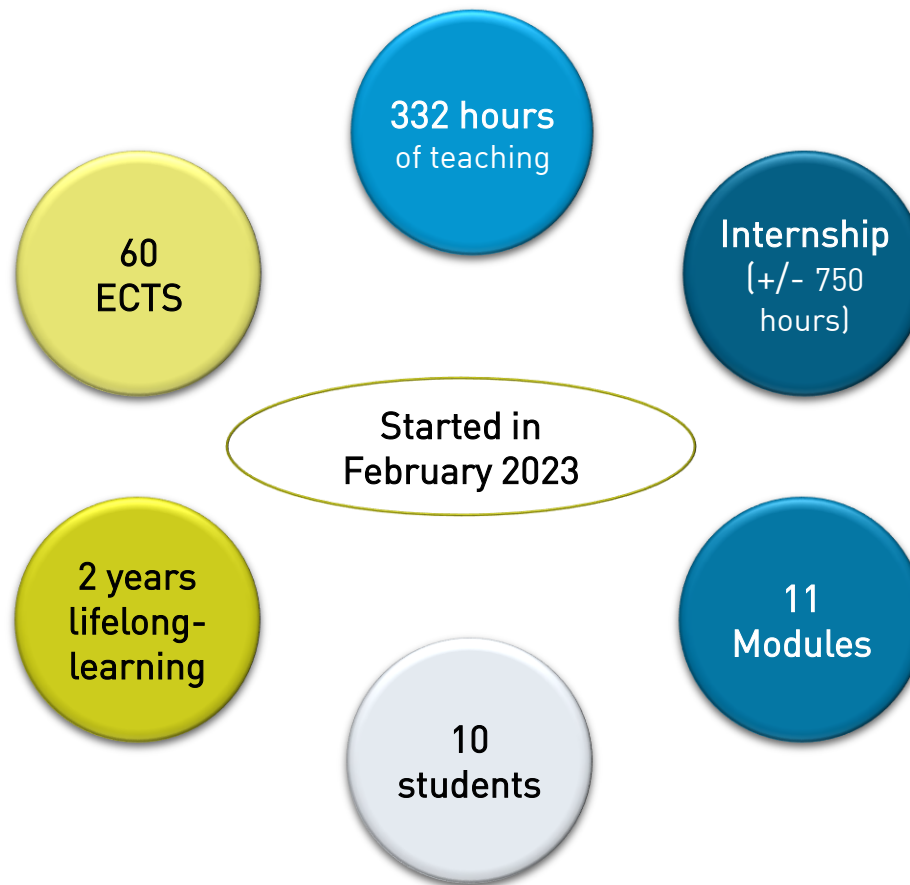
SMART ICT	ECTS
Smart ICT Technologies I	5
Smart ICT Technologies II	5
TOTAL	10

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	30

mtech.uni.lu



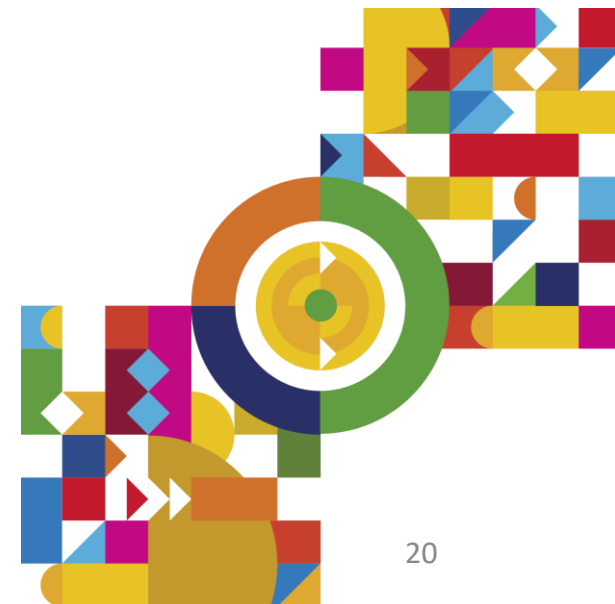
With the support of:

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

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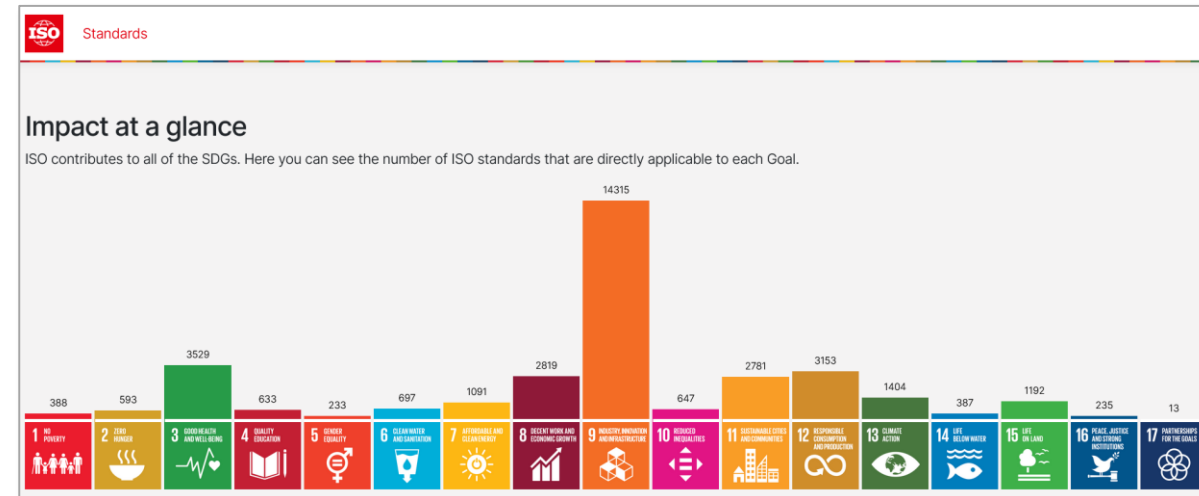
SUSTAINABILITY

Sustainable development has become a crucial issue for the entire international community in order to meet the challenges of climate change and environmental degradation

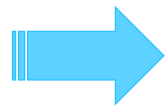
“Standards provide a solid base on which innovation can thrive and are essential tools to help governments, industry and consumers contribute to the achievement of every one of the SDGs” (ISO)



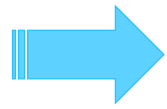
CEN and CENELEC Journey towards the UN Sustainable Development Goals (SDGs)



SUSTAINABILITY



An analysis “*Sustainability and Technical Standardization*” has been produced by ILNAS and validated by the ministry of the Economy in order to define strategic sectors where standardization could support a sustainable development



Two main fields of work have been considered in the analysis: “Environment” and “ICT”

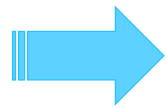
Champ « Environnement »						
Energie		Urbanisme et mobilité	Ressources naturelles et climat		Consommation et production responsables	Finance durable
Aspect global	Energie renouvelable – Solaire	Villes et communautés durables	Luttes contre les changements climatiques	Biodiversité - état de l'habitat et espèces	Aspect global	Aspect global
Efficacité énergétique	Energie renouvelable – Biomasse	Construction et rénovation	Air	Utilisation du sol	Agriculture et système alimentaire	
Energie renouvelable – Hydrogène	Energie renouvelable – Autres	Transport et mobilité	Forêts	Vie terrestre	Déchets et recyclage	
Energie renouvelable – Eolien		Bruit	Eau	protection et restauration de la nature	Ecoconception et production	
			Terre		Economie circulaire et de partage	

Champ « ICT »				
SOUS-AXES				
TIC plus durables	TIC pour le développement durable		Domaines d'application TIC	
Accessibility of ICT Products and Services	Artificial Intelligence	Digital Trust	Circular economy	Smart Cities
Ecoconception	Data Economy / Big Data	Digital Twin	e-Banking	Smart Farming
Energy efficiency	Blockchain	High Performance Computing	e-Health	Smart Grids
E-Waste	Cloud Computing / Edge Computing	Intelligent Transport Systems	e-Learning	Smart Manufacturing
Green ICT	Communication Networks	Internet of Things	Earth Observation	Smart Meters
	Quantum Computing	Virtual Reality / Augmented Reality	Smart Buildings	Smart Mobility
			Smart Water Management	

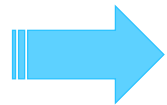
Legend:

- Sub-axes for which activities are in progress and will be continued
- Sub-axes addressed as a priority in connection with the new sustainability orientation

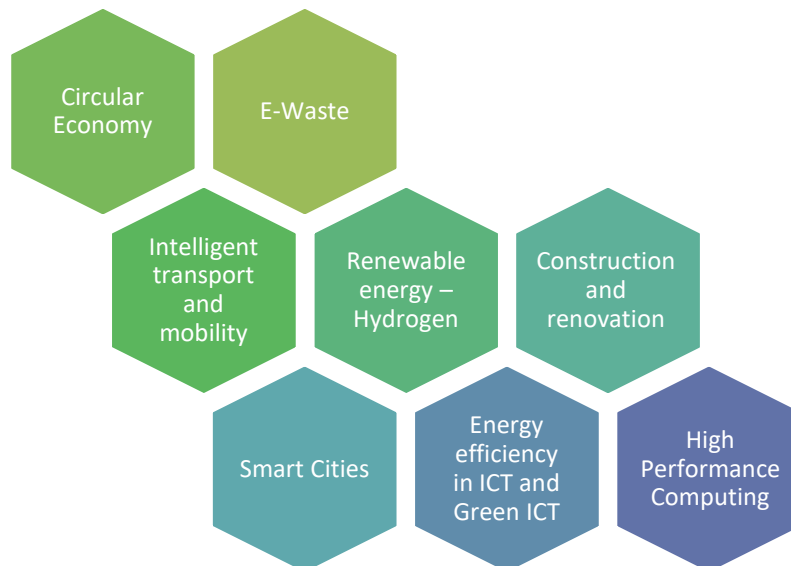
SUSTAINABILITY



New activities will be developed in the “*Sustainability*” area, in collaboration with the EIG ANEC (standardization department)



Some domains and related Technical Committees are already monitored in order to define the relevant services to be proposed to the national market



45 Technical Committees, Subcommittees or Working Groups monitored in a first step

- ✓ CEN-CENELEC
- ✓ ETSI
- ✓ ISO
- ✓ IEC
- ✓ ITU-T



ILNAS

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www.portail-qualite.lu



Enjeu pour l'économie nationale & présentation de la norme ISO 59040 « *Product Circularity Data Sheet* »

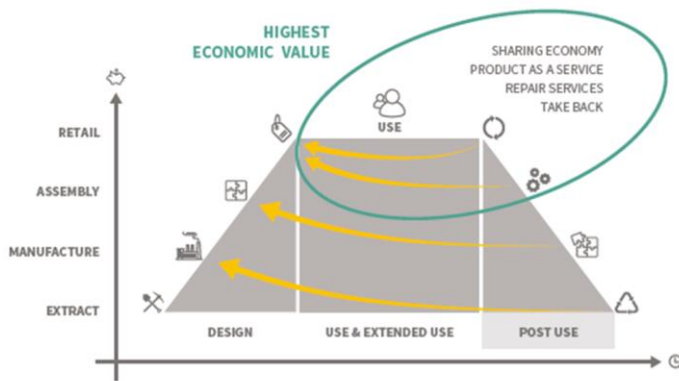
Jérôme Petry – Ministère de l'Économie



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

Opportunités à travers toute la chaîne de valeur

Efficiences énergétiques - transition durable et digitale - neutralité climatique au plus tard en 2050



©+Impakt 2021: Circular goals maintaining the highest value on the Value Hill



Design circulaire et business modèles circulaires
Économie du partage

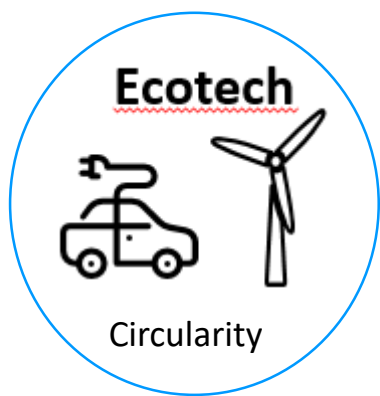
Initiatives Smart city et eco-districts
Incubateurs pour des solutions durables
Systèmes et communautés intelligents et d'énergies propres

Décarbonisation de l'industrie

- Efficience énergétique
- Récupération de chaleur
- Électrification par énergies renouvelables
- Chaîne de valeurs circulaires

Stratégie hydrogène





❖ “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



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Neobuild GIE (www.neobuild.lu)

Pôle d'innovation technologique du secteur de la construction durable

- Construction 4.0
- Construction circulaire



neobuild



LEKO LABS (www.lekolabs.com)

Système de construction en bois laminé breveté

- Méthode automatisée de préfabrication sur demande
- Transformation rapide de plans en composants de construction
- Software propriétaire pour optimiser le design, les charges et les matériaux utilisés
- 6 à 9 mois pour finaliser un projet complet

APATEQ (www.apateq.com)

Purification d'eau

- Industry de l'énergie (pétrochimie)
- Effluents de décharge
- Scrubber marins (NOx/SOx)
- Eau industrielle
- Complètement automatisé avec contrôle et gestion à distance





Title – ISO 59040

Circular Economy – Product Circularity Data Sheet

Status

DIS registration

Scope

This document provides a general methodology for information exchange assuring the interoperability of circular economy related information, based on the use of a product circularity data sheet (PCDS).

This document specifies requirements for completing a PCDS by an organization, regardless of its type, size and nature, when acquiring or supplying products in order to permit the exchange of circular economy related information about those products, without enclosing confidential business information.

This document also specifies requirements for the reporting format to be used when creating a PCDS template, based on the selection and use of various product circularity statements, according to the characteristics of the product.

In addition, this document provides guidance about managing and sharing a PCDS, as well as guidance about creating a PCDS template.

Convenor WG5 & Editor

Jérôme Petry

Secretariat

Anika Ley (ILNAS)

TECHNICAL COMMITTEES

ISO/TC 323

Circular economy



Impact sur les ODD

Le TC323 a un fort lien avec l'ODD 12 qui reprend l'économie circulaire.

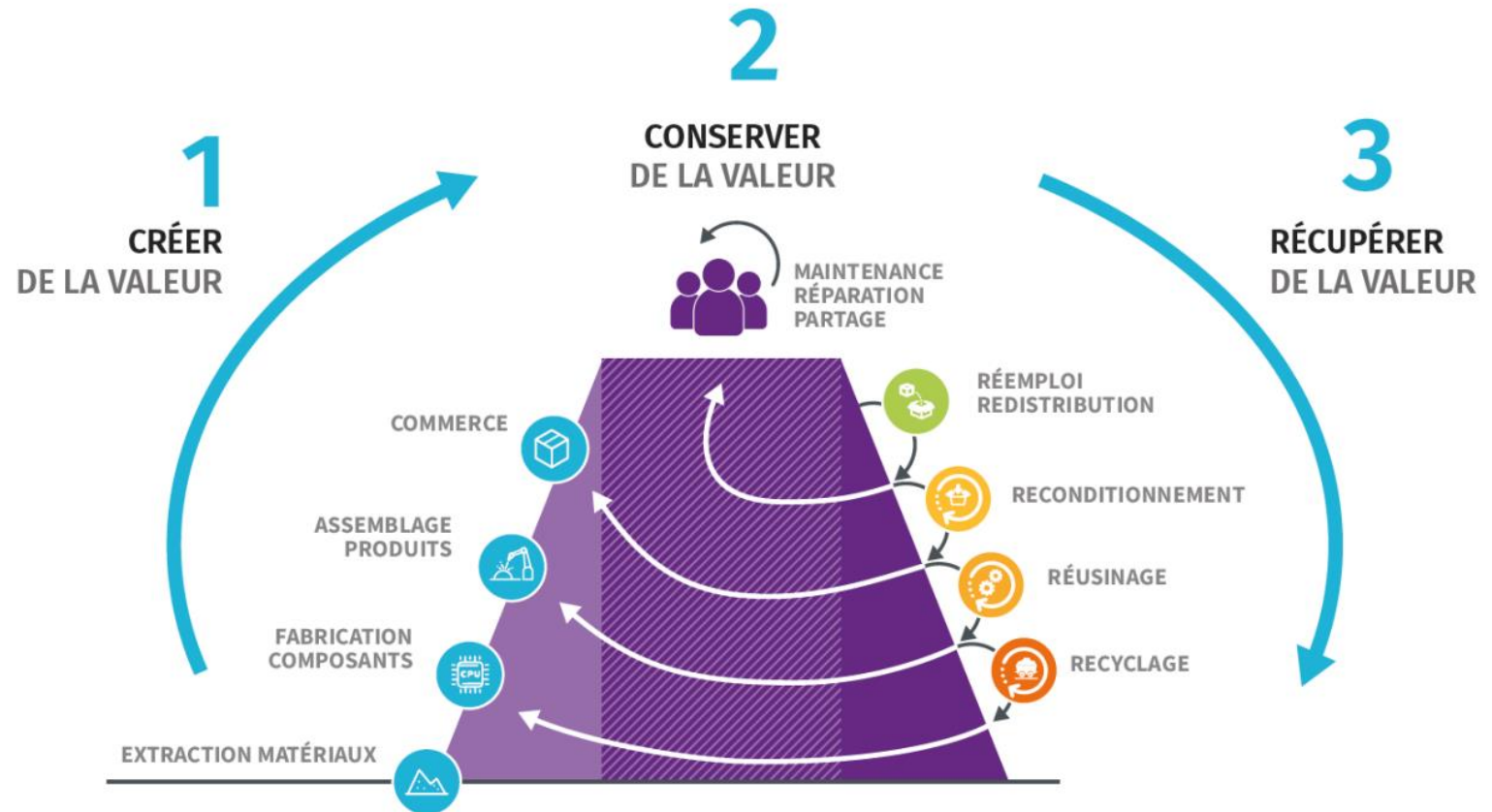
Les modèles d'affaires circulaires ont un effet vertueux sur le développement durable, qui répond aux besoins du présent sans compromettre la capacité des générations futures



La colline de la valeur

La norme ISO 59040 “Product Circularity Data Sheet” se base sur des informations / propriétés facilitant :

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



Communication dans la chaîne de valeur

La norme a pour but:

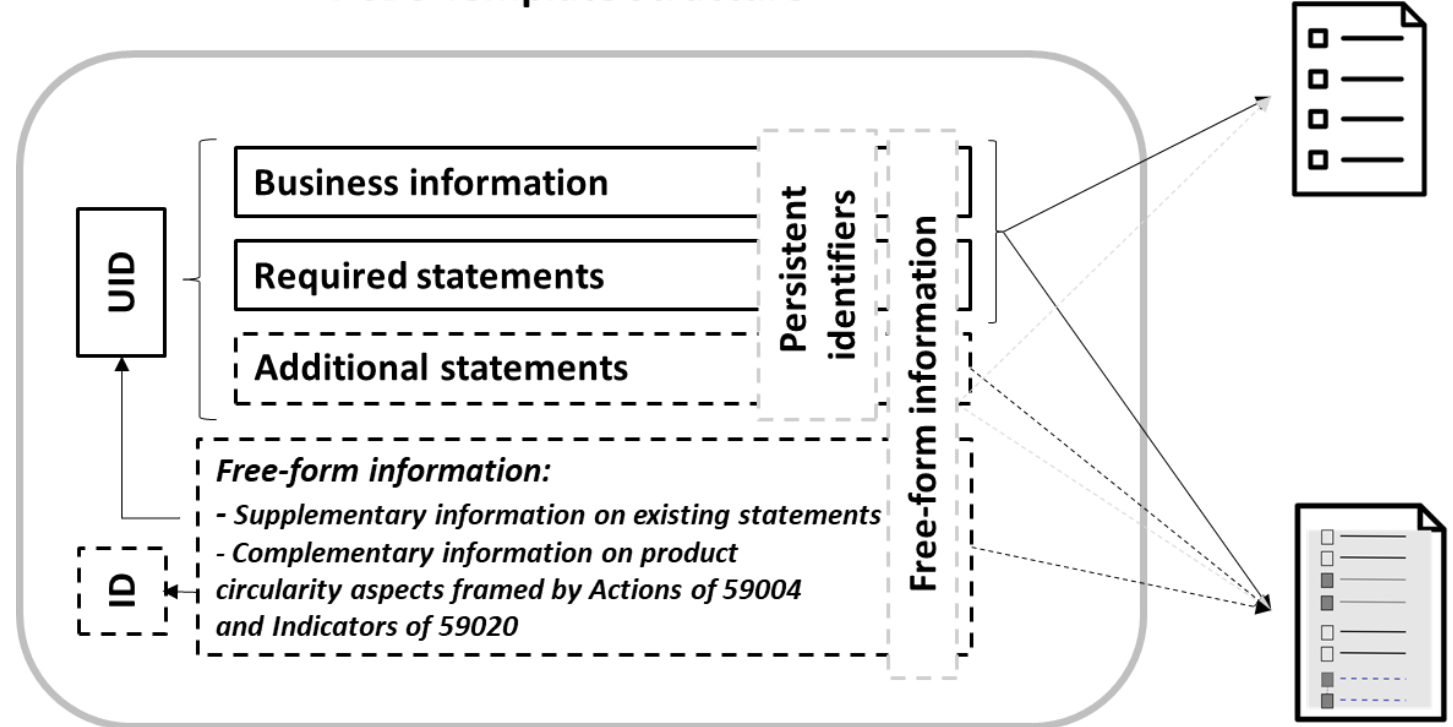
- De clarifier la relation fournisseur – client en vue de l’obtention d’un PCDS par produit et en maintenir sa gestion
- Favoriser l’échange de données de manière indirecte en utilisant des “statements” binaires (vrai/faux)
- Guider la création de templates (données génériques pour tout secteur et détail sectoriel)
- Expliquer le devoir des preuves
- Définir une terminologie claire autour de divers concepts circulaires (se basant sur ISO 59004)



L'approche statement

- Chaque statement a un unique ID
- Business information
- Statements basés sur une structure binaire (vrai/faux)
- Statements obligatoires et additionnels
- Lié à un identifiant persistant
- « Free form information » complète un UID avec de l'information additionnelle
- « Free form information » pour fournir de l'information complémentaire basée sur les « actions » selon ISO 59004 et les « indicateurs » selon ISO 59020

PCDS Template Structure



Legend:

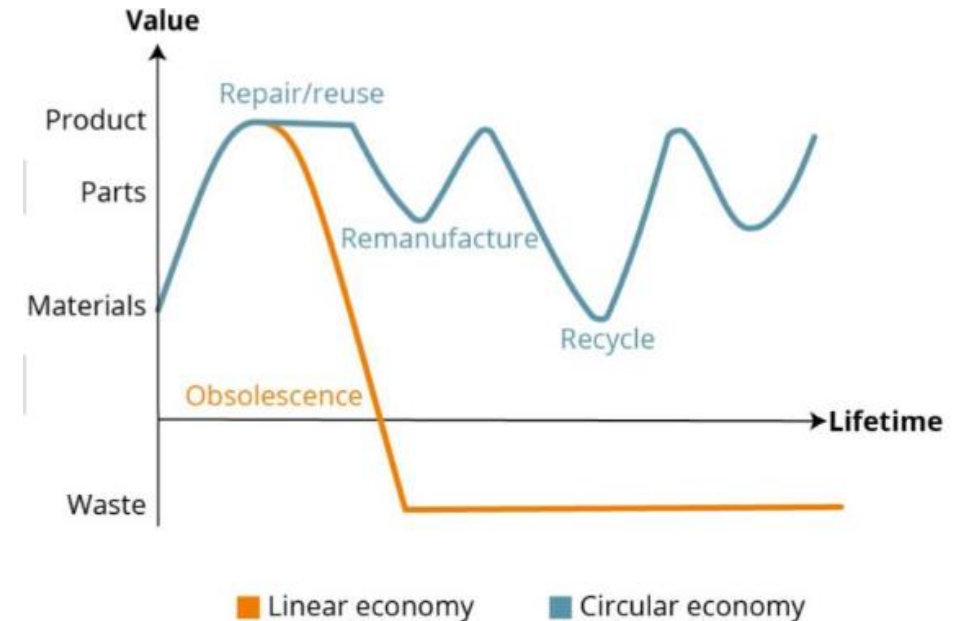
- Required ———
- Optional - - - - -
- Support - - - - -

Audit et confiance

La confiance dans un tel système réside sur la validation et la vérification de la forme et du contenu des PCDS par des parties tierces

- **Audit premier rang:** self-audits seront admissibles, d'où le besoin de définir la relation fournisseur-client
- **Audit second rang:** la guidance du document permet un audit client-fournisseur plus approfondi et clairement lié à son secteur
- **Audit troisième rang:** les exigences du standard sont claires pour faciliter un audit suite à la publication de la norme

Prérequis pour faciliter le maintien d'un produit dans de nouveaux cycles de vie.



Ligne de temps



Appel à experts: rejoignez le TC323 / WG5 !





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Product Circularity Data Sheet (PCDS)

Journée Mondiale de la Normalisation

10/10/2023



Terra Matters G.I.E.



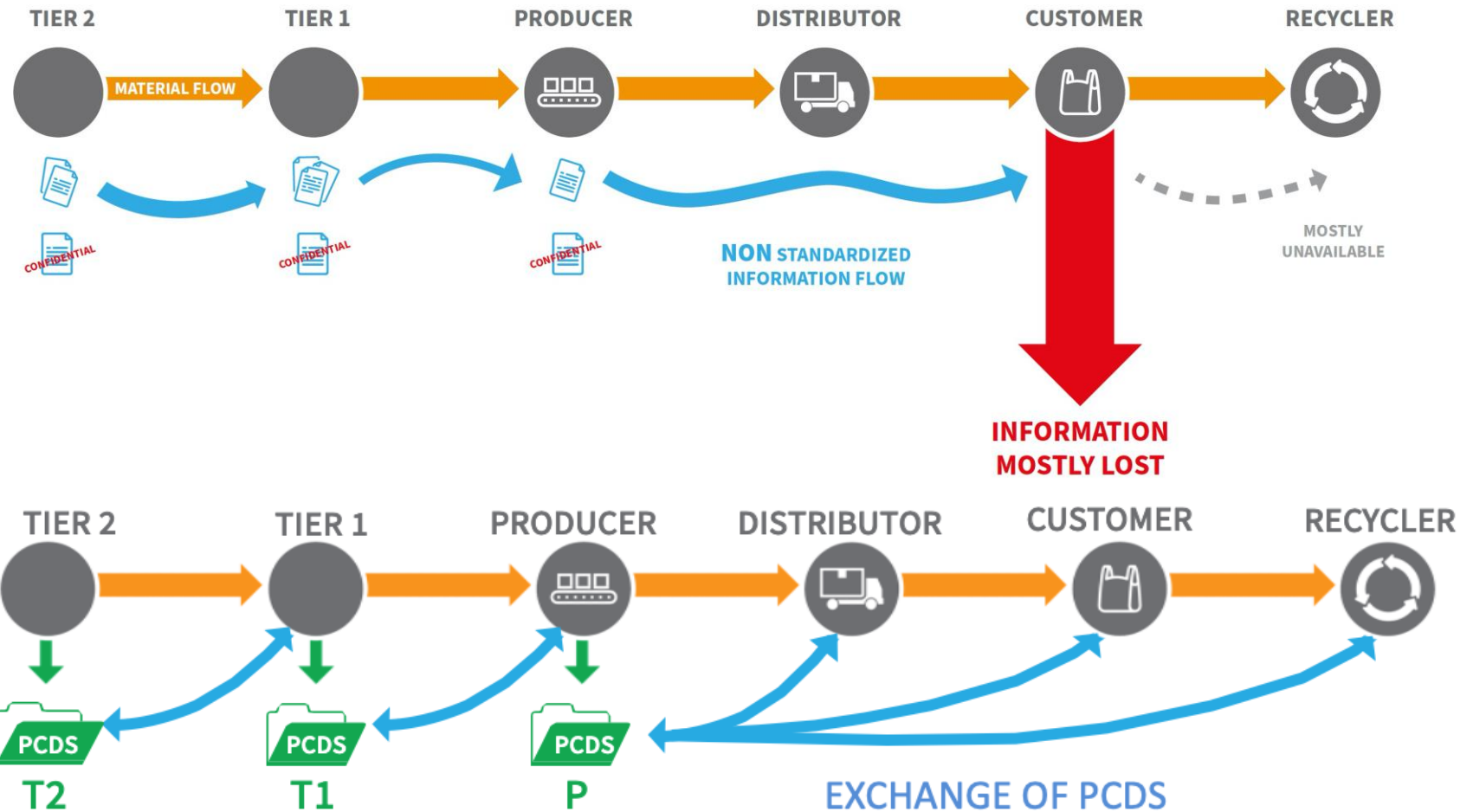
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- Created Dec 12 2022
- Economic Interest Group (G.I.E.)
- Ministry of the Economy & Chamber of Commerce of Luxembourg
- Missions:
 - Promoting Circular Economy to Companies
 - Developing the PCDS & its ecosystem
 - Developing industry norms on Circular Economy



Product Circularity Data Sheet (PCDS)

www.pcds.lu



PCDS Video



TerraMatters








The solution

Standardized way to share circularity data at each step of the value chain



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SECTION			STATEMENTS (Example)
1		GENERAL INFORMATION	<ul style="list-style-type: none">• Company details• Difference made between two production sites
2		COMPOSITION	<ul style="list-style-type: none">• The product contains >75-95 % post-consumer recycled content by weight.• The product does not contain Substances of Very High Concern from the REACH Candidate list in concentration above 0.1% by weight.
3		DESIGNED FOR BETTER USE	<ul style="list-style-type: none">• The product can be maintained & repaired by untrained personnel at the location of the product use.
4		DESIGNED FOR DISSASSEMBLY	<ul style="list-style-type: none">• The product is designed to be installed and demounted using reversible connectors.
5		DESIGNED FOR REUSE	<ul style="list-style-type: none">• The product is designed for re-use as-is or with minimal modification.• The product is designed for composting in a home composter.

PCDS: 3 pillars



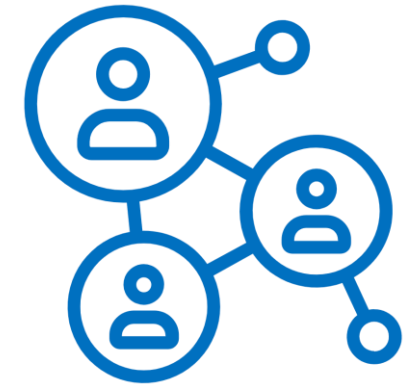
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A data template
with standardized product
information on the circularity
properties without infringing
Intellectual Property

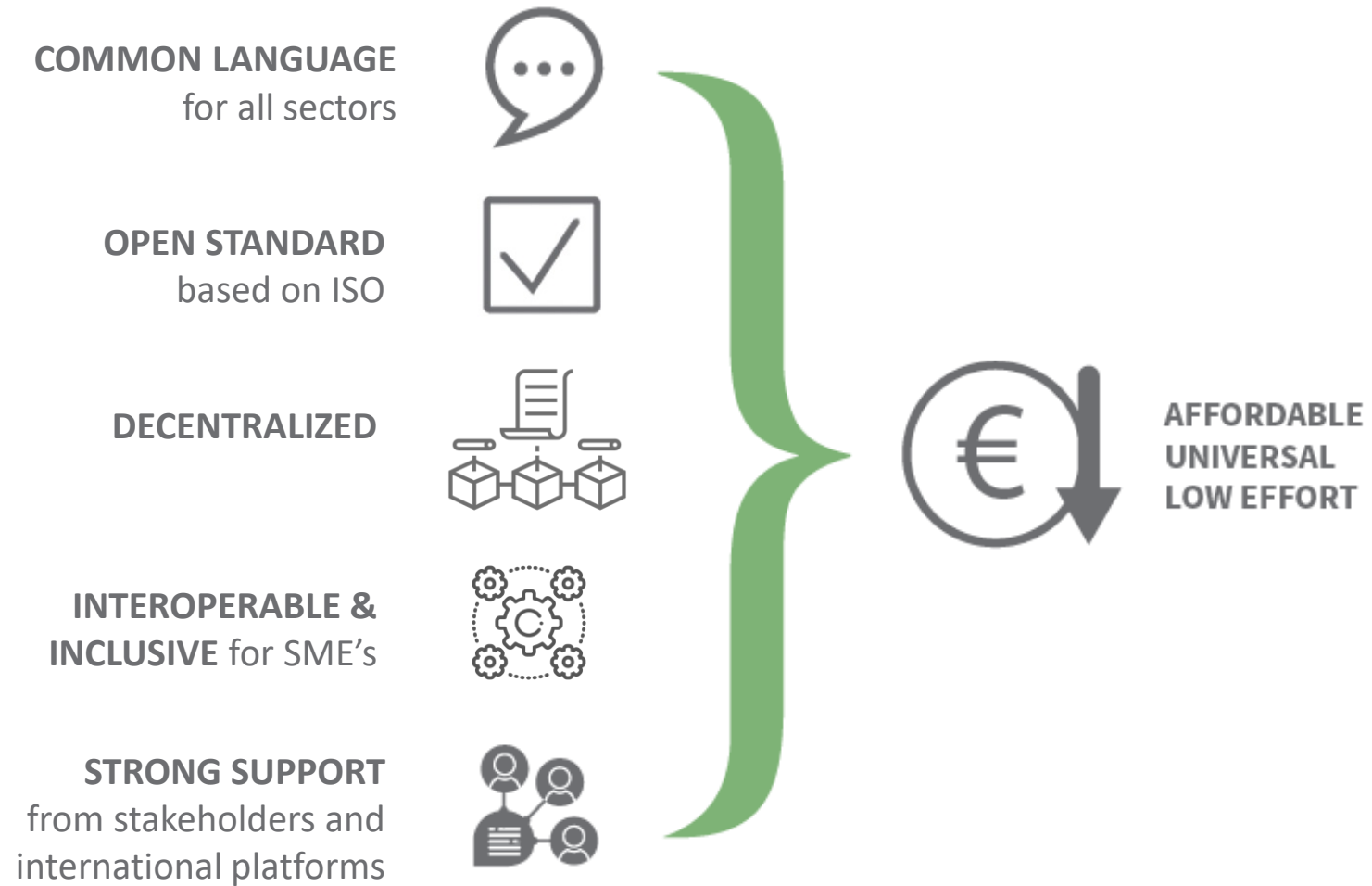


A third-party verification process
to validate the content of the PCDS



**A standardized IT exchange
protocol & format**
to share efficiently trusted
data without relying on a
centralized database

PCDS: added value



Who contributed to the development of the PCDS ?

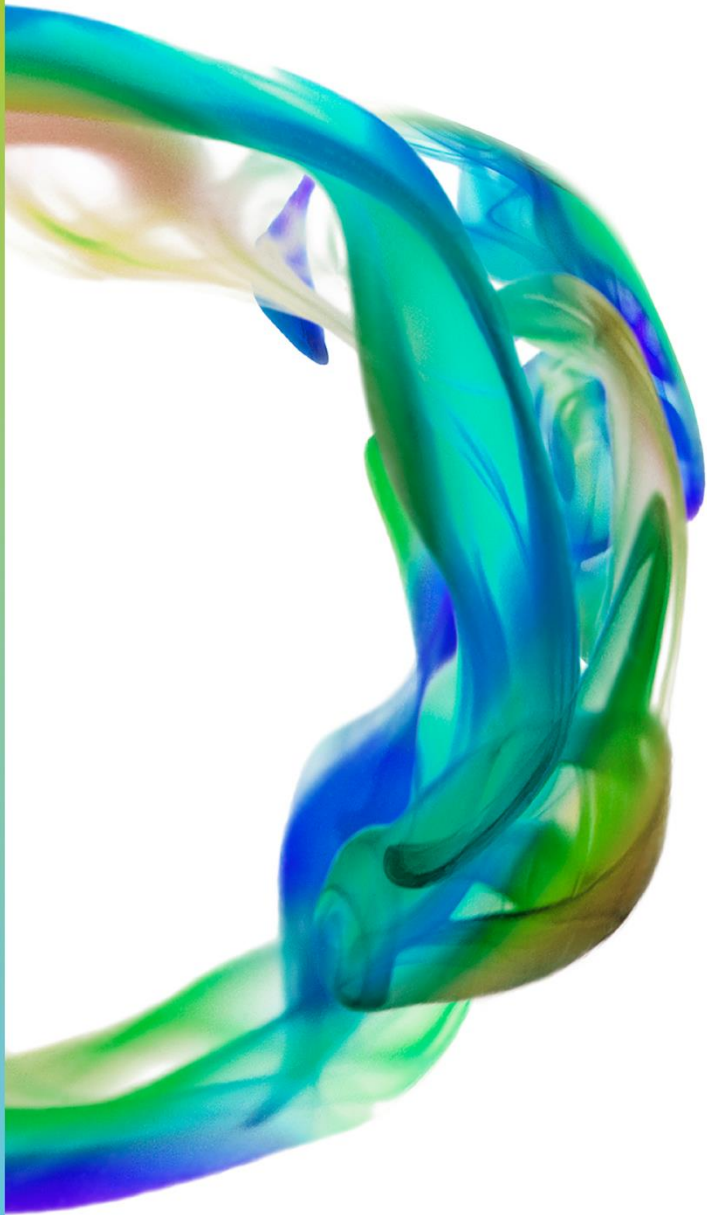
50+ companies & organizations from 12 European countries & USA

Non-exhaustive list of the initiative stakeholders



TerraMatters





TerraMatters

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COFFEE BREAK

