CATALOGUE
DE FORMATIONS

TRAINING
CATALOGUE

2025

NORMALISATION
STANDARDIZATION

ILNAS
ANEC

Le mot du Directeur / A word from the Director

L'ILNAS, Organisme luxembourgeois de normalisation, avec le soutien de l'ANEC GIE (Agence pour la Normalisation et l'Économie de la Connaissance), a le plaisir de vous présenter son catalogue de formation continue en normalisation technique pour l'année 2025.

La stratégie de l'Union Européenne en matière de normalisation* démontre que ce domaine est crucial pour assurer la compétitivité des entreprises à l'international tout en soutenant leur transition écologique et numérique. Cependant, de nombreuses organisations manquent encore de compétences en normalisation technique, les empêchant de tirer pleinement parti de ses avantages.

Conscient de cette situation, l'ILNAS pilote la stratégie normative luxembourgeoise 2024-2030, qui positionne la normalisation technique comme un outil de performance et d'excellence au service de l'économie. Cette stratégie vise à encourager l'utilisation des normes par les acteurs économiques, à favoriser la participation des experts nationaux au processus de normalisation et à développer l'éducation à la normalisation.

Notre offre de formation contribue à atteindre ces objectifs en répondant aux besoins des acteurs nationaux pour s'approprier la matière normative. Elle vise également à satisfaire leurs attentes en matière de connaissances normatives spécifiques, aussi bien dans les secteurs identifiés comme porteurs par la stratégie normative nationale - Technologies de l'Information et de la Communication (TIC), construction et aérospatial - que dans des domaines transversaux tels que l'évaluation de la conformité et le développement durable.

Notre équipe est à votre disposition pour vous accompagner dans le développement de vos compétences et projets en matière de normalisation.

ILNAS, as Luxembourg's national standards body, with the support of ANEC EIG (Agency for standardization and the knowledge-based economy), is pleased to present its training catalogue in technical standardization for the year 2025.

The European Union strategy on standardization* demonstrates that this field is crucial to ensuring the international competitiveness of companies, while supporting their green and digital transition. However, many organizations still lack expertise in technical standardization, preventing them from taking full advantage of its benefits.

Aware of this situation, ILNAS is piloting the national standardization strategy 2024-2030, which positions technical standardization as a tool for performance and excellence at the service of the economy. This strategy aims to encourage the use of standards by economic players, promote the participation of national experts in the standardization process, and develop standardization education.

Our training offer contributes to achieving these objectives by addressing the needs of national actors in the field of standards. It also aims to meet their expectations in terms of specific standardization knowledge, both in sectors identified as growth sectors by the national standardization strategy - Information and Communication Technologies (ICT), construction and aerospace - and in cross-functional areas such as conformity assessment and sustainable development.

Our team remains at your disposal to assist you in the development of your standardization skills and projects.

Jean-Marie Reiff
Directeur / Director - ILNAS

*COM(2022) 31 final « Une stratégie de l'UE en matière de normalisation - Définir des normes mondiales à l'appui d'un marché unique européen résilient, vert et numérique » / *COM(2022) 31 final « An EU Strategy on Standardisation - Setting global standards in support of a resilient, green and digital EU single market »

Nos entités / Our entities

ILNAS
Institut luxembourgeois de la normalisation, de l'accréditation, de la sécurité et qualité des produits et services

L'ILNAS est l'Institut Luxembourgeois de la Normalisation, de l'Accréditation, de la Sécurité et qualité des produits et services. Créé en 2008 en tant qu'administration publique sous la tutelle du Ministre de l'Économie, des PME, de l'Énergie et du Tourisme, l'ILNAS constitue aujourd'hui un réseau de compétences en matière de qualité et de sécurité des produits et services, dont les missions soutiennent la compétitivité nationale.

L'ILNAS, en tant qu'Organisme luxembourgeois de normalisation et membre des organismes européens et internationaux de normalisation (CEN, CENELEC, ETSI, ISO, IEC, ITU), promeut l'usage des normes et encourage les entreprises à s'engager dans la normalisation.

ILNAS is the Luxembourg institute for standardization, accreditation, safety and quality of goods and services. Created in 2008 as a public administration under the authority of the Minister of the Economy, SME, Energy and Tourism, ILNAS currently represents a network of competencies relating to quality and safety of products and services, whose missions support national competitiveness.

ILNAS, as the Luxembourg's standards body and member of the European and international standardization organizations (CEN, CENELEC, ETSI, ISO, IEC, ITU), promotes the use of standards and encourages companies to benefit from the participation in standardization.

ANEC
AGENCE POUR LA NORMALISATION ET L'ÉCONOMIE DE LA CONNAISSANCE

Créée en 2010, l'Agence pour la normalisation et l'économie de la connaissance (ANEC) est un groupement d'intérêt économique (GIE) qui a pour objet de supporter l'ILNAS dans l'exécution de ses stratégies dans les domaines de la normalisation et de la métrologie, ainsi que la recherche appliquée dans le but de soutenir la compétitivité des entreprises au Grand-Duché de Luxembourg ou d'approfondir la connaissance socio-économique du pays.

Created in 2010, the «Agence pour la normalisation et l'économie de la connaissance» (ANEC) is an economic interest grouping (EIG) whose goal is to support ILNAS in the execution of its strategies in the fields of standardization and metrology, as well as applied research with the aim of supporting the competitiveness of companies in the Grand Duchy of Luxembourg or deepening the socio-economic knowledge of the country.

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Approche pédagogique

Toutes nos formations peuvent être dispensées dans nos locaux (Esch-Belval) ou au sein de votre organisation. Pour répondre au mieux à vos besoins et vous offrir une formation de qualité, nous utilisons l'approche suivante :

01

PENDANT LA FORMATION : OUTILS ET MÉTHODE PÉDAGOGIQUE

Pendant le cours, le formateur utilise différents outils, tels que :

- Interaction et collaboration
- Aspects théoriques et pratiques
- Exercices et études de cas dans votre secteur

02

APRÈS LE COURS : ÉVALUATION ET ACCOMPAGNEMENT

Après le cours, vous serez contacté pour échanger sur :

- Votre évaluation
- Vos questions
- Vos suggestions
- Vos besoins en formation ou accompagnement

Pedagogical approach

All our trainings may be provided at our offices (Esch-Belval) or within your organization. In order to answer your needs and to deliver a quality training, we use the following approach:

01

DURING THE COURSE: PEDAGOGICAL TOOLS AND METHOD

During the course, the trainer will use different tools, such as:

- Interaction and collaboration
- Theoretical and practical aspects
- Exercises and study cases in your sector

02

AFTER THE COURSE: ASSESSMENT AND COACHING

After the course, you will be contacted to discuss on:

- Your evaluation
- Your questions
- Your suggestions
- Your training and coaching needs

Training

National delegate in standardization in Luxembourg

Description
This training is dedicated to the new national delegates in standardization registered in ISO, IEC, CEN or CENELEC technical committees through ILNAS. It will provide all the required information to understand the role of the delegates and the tools at their disposal to participate in technical standardization.

Learning outcomes and objectives
- Review the standardization process and its stakes
- Understand the roles and the missions of the national delegates
- Master the electronic tools and services available to national delegate

Program
- Overview of standardization
  - Definitions
  - Standardization ecosystem
  - Process of developing a standard

- Participate in standardization
  - Technical committees
  - Roles and missions
  - Rights and duties
  - Tools and services

- Use of the electronic tools

- Exercises

Targeted audience
National delegates in standardization

Training language
English

Details
- Duration: 3 hours
  Place: ILNAS' premises
- Price: Free-of-charge training
- Date: March 6, 2025
- Training language: English
- **Registration**

Formation

Délégué(e) national(e) en normalisation au Luxembourg

Description
Cette formation est dédiée aux nouvelles/nouveaux délégué(e)s nationales/nationaux en normalisation inscrits dans les comités techniques ISO, IEC, CEN ou CENELEC via l'ILNAS. Elle fournira toutes les informations nécessaires pour comprendre le rôle de délégué(e) et les outils mis à disposition pour participer à la normalisation technique.

Résultats d'apprentissage et objectifs
- Découvrir le système de normalisation et ses enjeux
- Comprendre le rôle et les missions des délégué(e)s en normalisation
- Maîtriser les outils électroniques et les services à disposition des délégué(e)s en normalisation

Programme
- Panorama de la normalisation
  - Définitions
  - L'écosystème de la normalisation
  - Processus d'élaboration d'une norme

- Participer à la normalisation
  - Comités techniques
  - Rôles et missions
  - Droits et devoirs
  - Outils et services

- Utilisation des outils électroniques

- Exercices

Public cible
Délégué(e) national(e) en normalisation au Luxembourg

Langue de la formation
Français

Détails
- Durée : 3 heures
  Lieu : Locaux de l'ILNAS
- Prix : Formation gratuite
- Date : 19 mars 2025
- Langue de la formation : français
- **Inscription**

Training

Standardization and legislation

Description
European legislation* defines standards and their application as voluntary, allowing each organization the freedom to use them for developing new services, skills, procedures, or products. While this concept is fundamental to the European single market, there are instances where the technical requirements in standards support legal mandates set by European or national legislation, making their application recommended or even mandatory. Compliance with standards may also be required in contractual contexts. This course will equip participants with the knowledge to understand the role of standards in these specific situations.

Learning outcomes and objectives
- Apprehend the legislative framework of technical standardization
- Understand the specific cases in which standards can become mandatory
- Understand the role of standards in the European and national legislation
- Be aware of the principle of presumption of conformity and harmonized standards

Program
- European legislative framework on technical standardization
  - Definitions
  - Concepts
  - Recognized organizations

- Standards in national and European legislation
  - National standards and European standards
  - Technical standards referenced in legislation

- Presumption of conformity
  - The various European regulations/directives
  - Harmonized standards
  - Notification bodies

- Contractual context
  - Standards for organizational requirements
  - Standards as technical requirements
  - Standards in the context of public procurement

Targeted audience
Industrials, regulators, distributors and researchers

* REGULATION (EU) No 1025/2012 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on European Standardization

Details
- Duration: 3 hours
  Place: ILNAS' premises
- Price: Free-of-charge training
- Date: September 17, 2025
- Training language: English
- **Registration**

Training

Overview of the legal framework and standards to support the placing of products and services on the European single market

Description
Technical standardization plays an essential role for products and services: by defining the state of the art, standards help organisations to focus their design and production activities on tasks that bring real added value to the end product, but they also facilitate the uptake of new goods by the market, especially through the quality they conveyed by their founding principles, such as openness and transparency.
Furthermore, in the European context, standards play an even more direct role by helping to remove barriers to market entry. Particularly, standards can be an efficient instrument to demonstrate the product or service's conformity to legal requirements when they support the in-force legislation. In this context, the goal of this training is to introduce participants to the fundamentals of technical standardization, present the legislative framework for placing products or services on the European single market and provide organizations tools to limit the risks associated with product and services marketing.

Learning outcomes and objectives
- Understand the European safety regulation and legislative framework shaping the single market
- Support your business with standards
- Provide tools to identify the harmonized standards applicable to your products

Program
- Standardization
  - Definitions
  - Development process of standards
  - Usage and benefits of standards
  - How to find standards to support your innovation
  - National standardization effort

- Product safety and product compliance
  - Regulation on general product safety
  - New Legislative Framework
  - Regulation on market surveillance and compliance of products
  - Sectoral legislation according to the product
  - Essentials requirements
  - Role of harmonized standards
  - Concept of presumption of conformity

- Conformity assessment
  - Concept
  - Different types of assessment (activities and modules)
  - Notification bodies

Targeted audience
Industrials, SMEs, start-ups and researchers

Details
- Duration: 3 hours
  Place: ILNAS' premises
- Price: Free-of-charge training
- Date: December 10, 2025
- Training language: English
- **Registration**

Technical training

Quantum technologies and technical standardization

Description
"Quantum technologies" (QT) is a rapidly growing field that is opening the way to great transformations in all the economic sectors. QT are advancing toward technological maturity and wider adoption. At the same time, technical standardization is recognized as one of the most effective and powerful tool to rapidly capitalize on knowledge and disseminate it throughout industries. Thus, technical standardization could play an important role in developing a roadmap for a widespread adoption of QT. To this end, multiple standardization initiatives are arising on the European and international scene. Current training aims to highlight the existing challenges of QT and provide insights into standardization activities related to them.

Learning outcomes and objectives
- Describe the fundamentals and gain an overview of the state-of-the-art in Quantum technologies
- Identify current challenges of Quantum technologies and gain insights from a practical use case
- Be aware of the ongoing standardization activities in order to address quantum technologies challenges and their developments at the national, European, and international levels
- Identify relevant standards in quantum technologies

Program
- Quantum technologies overview
  - Introduction to quantum technologies
  - Main subfields of quantum technologies

- Economic overview of quantum technologies
  - Global investments in quantum technologies development
  - Focus on European investments in quantum technologies

- Practical aspects of quantum technologies
  - Overview of current challenges in quantum technologies
  - Practical use case scenario
  - Solutions through technical standardization

- National standardization efforts
  - Introduction to technical standardization
  - Technical committees working on quantum technologies
  - Standards and ongoing projects related to quantum technologies
  - National standardization efforts

Targeted audience
Professionals and researchers

Details
- Duration: 4 hours
  Place: ILNAS' premises
- Price: 200 € (excluding VAT)
- Date: April 23, 2025
- Training language: English
- **Registration**

Technical Training

Technical standards on hydrogen technologies – Production and safety

Description
Hydrogen is gaining global recognition for its versatility as a fuel, feedstock, energy carrier, and storage solution, with applications spanning industries such as mobility, energy, and manufacturing. Its standout advantage lies in its near-zero emissions of CO_2 and other air pollutants, making it a key solution for sectors striving to achieve significant carbon reductions. However, the safe production, handling, and storage of hydrogen remain critical aspects to address as adoption accelerates. This training is tailored to provide a well-rounded understanding of hydrogen technologies, focusing on the intricacies of hydrogen production, safety considerations, key challenges in adoption, market developments, future trends, and the evolving landscape of technical standards.

Learning outcomes and objectives
- Be familiar with the concept of hydrogen technologies
- Identify current challenges of hydrogen technologies and gain insights into real use cases of hydrogen technologies
- Gain knowledge about current standardization activities development related to hydrogen technologies answering the related challenges at national, European, and international levels
- Identify relevant standards in hydrogen technologies

Program
- Overview of hydrogen technologies
  - Fundamentals of hydrogen as an energy carrier
  - Hydrogen production, storage, and distribution scenarios

- Ongoing market and associated challenges for adoption of hydrogen technologies
  - Current market trends, key stakeholders, and emerging hydrogen economies
  - European investments and fundings in hydrogen infrastructure and production capacity
  - Future trends

- Real-world of hydrogen technologies
  - Examples of real-world scenarios
  - Associated safety concerns

- Standardization in the field of hydrogen technologies
  - Introduction to technical standardization
  - Technical committees working on hydrogen technologies
  - Relevant standardization developments and standards supporting the challenges and concerns of hydrogen technologies

- National standardization efforts
  - How to become a national delegate
  - How to contribute to the standards development process

Targeted audience
Professionals, auditors, distributors and researchers

Details
- Duration: 4 hours
  Place: ILNAS' premises
- Price: 400 € (excluding VAT)
- Date: November 25, 2025
- Training language: English
- **Registration**

Technical training

Conformity assessment and standardization

Description

Conformity assessment is crucial for the economy, as it builds trust in products and services and promotes both national and international trade. The training aims to present the different concepts related to conformity, such as the presumption of conformity, the conformity assessment and the accreditation, and will explain the importance of technical standardization in this context. After this introduction part, a particular attention is given to specific application domains. The participants will gain knowledge of related standardization activities supporting the compliance with the legislation (such as AI Act and Cybersecurity Act) and domain-specific certification for organizations (energy management system).

Learning outcomes and objectives

- To identify the different elements contributing to the chain of building trust
- To know the different conformity assessment methods and the main related standards
- To understand the concept of presumption of conformity and the role of standards
- To familiarize with the legal framework for harmonized standards
- To gain insights on the usage of standards for conformity in a selection of use cases

Program Day 1

Morning session - Common part: Introduction to the conformity assessment (part 1) (2h)

- Chain of building trust
  - Definitions
  - The main actors
  - The elements of the chain
  - Presumption of conformity

- Overview of standardization
  - Definitions
  - Usage and benefits of standards
  - Development process of standards
  - Standardization organizations

Afternoon session - Common part: Introduction to the conformity assessment (part 2) (3h)

- Conformity assessment methods
  - Inspection
  - Certification
  - Testing and calibration (also biological testing)
  - Validation and verification

- Conformity assessment standards
  - Technical committees
  - ISO CASCO Toolbox standards
  - Other standards supporting accreditation
  - Applicative standards

- General requirements for the conformity assessment bodies as specified by ISO/CASCO standards

- Accreditation
  - National accreditation body's role
  - The different organizations (EA/ILAC/IAF)
  - Peer evaluation and mutual recognition
  - National accreditation activities

Program Day 2

Morning – Workshops (in parallel) (2h)

Workshop 1: AI Act and standardization

- Overview of AI standardization landscape
  - Overview of AI standards development organizations
  - Overview of topics covered by AI standards
  - Focus on ILNAS/NSC 04 Artificial Intelligence

- Introduction to the AI Act and Standardization Request
  - Overview of legal requirements from the AI Act
  - Need for AI related standards identified in Standardization Request
  - Mapping from standardization requirements to the existing standards and standardization projects

- Conformity assessment and AI standards: a few examples
  - ISO/IEC 22989:2023 Information technology - Artificial intelligence - Artificial intelligence concepts and terminology
  - CEN/CLC/TR 17894:2024 Artificial Intelligence Conformity Assessment
  - ISO/IEC 42001:2023 Information Technology - Artificial intelligence - Management system
  - Other relevant published standard and ongoing developments

Workshop 2: Cybersecurity Act, certification schemes and standardization

- Overview of Cybersecurity standardization landscape
  - Overview of Cybersecurity standards development organizations
  - Overview of topics covered by cybersecurity standards
  - Focus on ILNAS/NSC 01 Cybersecurity

- Introduction to the Cybersecurity Act, current certification schemes and related standardization developments
  - Overview of legal requirements from the Cybersecurity Act
  - Example of the EUCC scheme
  - Other ongoing related standardization developments

- Conformity assessment and Cybersecurity standards: a few examples
  - ISO/IEC 15408 series Evaluation criteria for IT security
  - ISO/IEC 27017:2015 Information technology - Security techniques - Code of practice for information security controls based on ISO/IEC 27002 for cloud services
  - ISO/IEC 21827:2008 Systems Security Engineering - Capability Maturity Model

Worskhop 3: Certification activities and the energy management system standard

- Energy efficiency objectives according to EU legal framework
  - Overview of the EU Green Deal
  - Overview of Directive 2012/27/EU and Directive (EU) 2018/2002 on energy efficiency, and revised Directive (EU) 2023/1791
  - Plan national intégré en matière d'énergie et de climat, PNEC

- Overview of management system standards
  - What is a management system standard?
  - Areas covered by management system standards
  - Main principles of management system standards

- Conformity assessment and energy management system standard: overview
  - Introduction to ISO/TC 301 Energy management and energy savings
  - Introduction to CEN/CLC/JTC 14 Energy management and energy efficiency in the framework of energy transition
  - Overview of ISO 50001:2018 Energy management systems - Requirements with guidance for use and the amendment on climate action changes
  - Overview of ISO 50003:2021 Energy management systems - Requirements for bodies providing audit and certification of energy management systems

Targeted audience

Professionals, conformity assessment bodies, auditors, distributors and researchers.

Details

- Duration: 7 hours (1.5 days)
  Place: ILNAS' premises
- Price: 600 € (excluding VAT)
  Lunch included (first day)
- Date: November 20-21, 2025
- Training language: English
- **Registration**

Awareness session

Introduction to standardization in the field of space

Description

Over the last decade, the doors to space have opened wide to private launchers which consequently created opportunities to new stakeholders by developing and implementing innovative services and applications. However, this progress brought also numerous challenges - such as more complex space systems - and risks, like satellite collisions due to highly-occupied orbits. The on-going standardization in this domain aims to provide positive answer to mitigate these dares and, concurrently, to foster innovation within space organizations. This session will allow every participant to understand the process of standardization, the active technical committees, *fora* and *consortia* which are supporting space activities, and to identify the standards which are useful for his/her application.

Objectives

- Be aware of the standardization process
- Know the main organization technical committees related to space activities
- Know how to search standards supporting participants' activities
- Be aware of current standards and also the future developments in the field of space

Program

- Introduction to standardization
  - Definitions
  - Usage and benefits of standards
  - Development process of standard
  - Standardization organizations

- Overview of standardization activities in space sector
  - Overview of relevant technical committees from recognized standardization organizations and fora and consortia
  - Presentation of ongoing standards development
  - Examples of standards in several sub-domains (manufacturing, development, space communication protocol, etc.)

- National Standardization efforts
  - How to become a national delegate
  - How to contribute to the standards development process

Targeted audience

Professionals, researchers and students

Details

- Duration: 3 hours
  Place: ILNAS' premises
- Price: Free-of-charge session
- Date: April 29, 2025
- Session language: English
- **Registration**

Awareness session

Environmental Management and technical standardization

Description
Sustainable development in general, and environmental protection in particular, has been gaining attention from a variety of stakeholders, including legislators, public authorities, private sector and citizens. Addressing the environmental concerns, such as for example climate change and extensive greenhouse gas emissions, has become a priority for the European and international community. Technical standardization is essential to support the organization in their efforts to protect the environment, notably by bringing efficient environmental management systems and tools. In this context, the current awareness session will provide an overview of the environmental legal framework and then will present the relevant technical standardardization activities in support.

Objectives
- Gain awareness about environmental challenges
- Get insights on legal framework for environment concerns in Europe
- Understand the current standardization activities related to Environmental Management, as a solution related to different challenges and concerns

Program
- Introduction to Environmental Management
  - Overview of the environmental challenges and concerns
  - Overview of the legal framework for environmental management in Europe:
    - EU Green deal
    - Regulation (EC) No 1221/2009 on the voluntary participation by organisations in a Community eco-management and audit scheme (EMAS)
    - Decision (EU) 2022/591 on a General Union Environment Action Programme to 2030
    - Regulation (EU) 2021/1119 establishing the framework for achieving climate neutrality ('European Climate Law')
    - Regulation (EU) 2021/783 establishing a Programme for the Environment and Climate Action (LIFE)

- Overview of standardization activities in the area of environmental management
  - Introduction to the international ISO/TC 207 Environmental management and its sub-committees
  - Overview of the standardization activities of ISO/TC 207 and its sub-committees, including
    - Environmental Management System and related auditing activities (such as ISO 14001)
    - Environmental labelling and performance evaluation (such as ISO 14021, ISO 14024 or ISO 14025)
    - Greenhouse gas and climate change management and related activities (such as ISO14064 family or ISO 14068 family)

- National standardization efforts
  - How to become a national delegate
  - How to contribute to the standards development process

Targeted audience
Professionals, researchers and students

Details
- Duration: 3 hours
  Place: ILNAS' premises
- Price: Free-of-charge session
- Date: May 7, 2025
- Session language: English
- **Registration**

Awareness session

Standardization in the ICT sector

Description
The ICT sector has gained more and more importance in society in the last decades, as evidenced for instance by the computerization of equipment in general, the advent of global connectivity, and more recently the emergence of smart paradigms such as the Internet of Things and Artificial Intelligence. We are probably only at the beginning of this transition, wherein ICT domains fully converge. In this context, technical standardization plays a key role, for example to connect all ICT components, to make them interoperable and prevent vendor lock-in, to support the integration of multiple data sources or to provide the security and safety of the next digital world. This session will allow every participant to understand the standardization process, discover the ICT standardization ecosystem, and identify relevant standards in the domain.

Objectives
- Discover the ICT standardization ecosystem
- Understand the standardization process
- Identify and use relevant standards supporting participants' activities
- Be aware of future standard development in the ICT field

Program
- Generalities about standardization
  - Definitions
  - Usage and benefits
  - Development of standards
  - Standardization organizations

- Standardization in the ICT sector
  - Relevant technical committees
  - Ongoing developments
  - Examples of standards

- National standardization efforts
  - How to become a national delegate
  - How to contribute to the standards development process

Targeted audience
Professionals, researchers and students

Details
- Duration: 3 hours
  Place: ILNAS' premises
- Price: Free-of-charge session
- Date: May 15, 2025
- Session language: English
- **Registration**

Awareness session

Technical standards on sustainable mobility

Description
Sustainable mobility enables eco-friendly, accessible, and efficient transportation through low-emission solutions, active transit options, intelligent infrastructure, and supportive policies, all aimed at reducing pollution, enhancing user-friendliness, and improving quality of life. In this frame, technical standardization is essential for ensuring interoperability across diverse systems and technologies within this complex landscape. Thus, the current awareness session will provide an overview of sustainable mobility and the pivotal role of technical standardization in driving its development.

Objectives
- Understand the concept of sustainable mobility and its key components
- Recognize the environmental, societal, and economic impacts of sustainable mobility
- Gain awareness of current standardization activities supporting the sustainable mobility development

Program
- Introduction to sustainable mobility
  - Environmental impact of traditional transportation
  - Overview of sustainable mobility, including its impact on the environment, society, and economy
  - Key components and technologies

- Future trends in sustainable mobility
  - Integration of intelligent transport systems into transportation system
  - Expansion of electric vehicles and growth of multimodal transportation
  - Use of alternative energy in transport, especially for heavy-duty and long-range transport

- Technical committees working on sustainable mobility and relevant standardization developments
  - Overview of international and European committees and standards related to:
    - Sustainable mobility concepts (e.g. ISO/TC 268/SC 2)
    - Technologies such as intelligent transport systems (e.g. ISO/TC 204, ETSI TC ITS, CEN/TC 278)
    - Alternative energy vehicles (e.g. ISO/TC 22/SC 37)
  - Examples of application specific standards

- National standardization efforts
  - How to become a national delegate
  - How to contribute to the standards development process

Targeted audience
Professionals, researchers and students

Details
- Duration: 2 hours
  Place: ILNAS' premises
- Price: Free-of-charge session
- Date: May 22, 2025
- Session language: English
- **Registration**

Awareness session

Technical standards on hydrogen technologies

Description
Hydrogen is rapidly growing attention around the world as it can be used as a fuel, a feedstock, an energy carrier, and energy storage as well as many other possible applications across sectors such as industry, transport, power, and buildings. Most significantly, it does not emit CO2 and almost zero air pollution when used, and offers a concrete solution to decarbonize the sectors where the reduction of carbon emission is urgent and hard to realize nowadays. In this context, this information session is intended to give an overview about technical standardization supporting the development of hydrogen technology including its usage, and its relation with European and national strategies.

Objectives
- Outline the concept of hydrogen technologies and understand the related challenges
- Get insights on European and Luxembourgish Hydrogen Strategies
- Be aware of the current and ongoing standardization activities supporting the Hydrogen technologies challenges

Program
- Background
  - Source of production (e.g. steam-methane reforming, electrolysis) and storage
  - Types of hydrogen (e.g. grey, blue, green)
  - Use of hydrogen
    - Transportation
    - Industries
    - Future-proof integrated energy system
  - The European Hydrogen Strategy (carbon-neutral Europe - a roadmap to 2050)
  - Hydrogen strategy of Luxembourg

- Technical committees working on hydrogen technologies, relevant standards and on-going developments
  - ISO/TC 197 - Hydrogen technologies
  - CEN/CLC/JTC 6 - Hydrogen in energy systems
  - CEN/TC 268 - Cryogenic Vessels
  - CEN/TC 23 - Transportable Gas cylinders
  - CEN/TC 234 - Gas Infrastructure
  - Supporting technical committees for hydrogen production
    - ISO/TC 180 - Solar energy
    - Wind energy-related committees

- National standardization efforts
  - How to become a national delegate
  - How to contribute to the standards development process

Targeted audience
Professionals, researchers and students

Details
- Duration: 2 hours
  Place: ILNAS' premises
- Price: Free-of-charge session
- Date: July 3, 2025
- Session language: English
- **Registration**

Awareness session

Technical Standardization in Data Usage within Cloud Environments

Description
Efficient data usage in cloud environments supports modern business operations, enabling scalability, collaboration, and flexibility. However, the increasing complexity of cloud systems presents challenges in ensuring data integrity, security, and compliance. Technical standardization addresses these challenges by providing unified guidelines, fostering interoperability, and promoting best practices, helping organizations to maximize the value of data in cloud environments. This awareness session will explore data and cloud environments, highlighting the critical role of technical standardization in this rapidly evolving landscape.

Objectives
- Understand the fundamentals of data usage in cloud environments
- Recognize the crucial role of technical standardization in data and cloud environments
- Gain awareness of current standardization activities related to data and cloud environments

Program
- Introduction to data and cloud computing
  - Overview of cloud environments and their role in modern IT ecosystems
  - Importance of data in the digital economy

- Regulatory aspects of data usage in cloud environments
  - European initiatives: overview of the Data Act
  - The role of international and European standards in addressing regulatory requirements

- Technical Standardization in Data Usage within Cloud Environments
  - Technical committees working on data and cloud, and relevant standardization developments
  - Examples of potential standards supporting the Data Act regulation
  - Examples of application of specific standards

- National standardization efforts
  - How to become a national delegate
  - How to contribute to the standards development process

Targeted audience
Professionals, researchers and students

Details
- Duration: 2 hours
  Place: ILNAS' premises
- Price: Free-of-charge session
- Date: September 25, 2025
- Session language: English
- **Registration**

Session de sensibilisation

Introduction à la normalisation technique dans le secteur de la construction

Description
Au cours des dernières années, le Luxembourg a connu de profonds changements socio-économiques et une croissance démographique sans précédent, accompagnés par un secteur de la construction en constante évolution. De plus, l'année 2024 a également apporté quelques changements dans le secteur de la construction tels que des mesures de simplification administrative. Dans ce contexte, la normalisation technique permet au marché de la construction d'optimiser son fonctionnement, de réduire la production de déchets et d'émission de gaz à effet de serre, ainsi que d'harmoniser les règles de l'art. De plus, la normalisation technique offre des opportunités pour les transitions actuelles selon les aspects de durabilité, d'écoconception, de digitalisation, ou encore de circularité, par exemple.
Cette session d'introduction à la normalisation technique dans le domaine de la construction a pour but de transmettre des informations essentielles sur les normes et l'impact que leur mise en œuvre peut avoir sur un développement harmonieux et compétitif du métier de la construction. Parallèlement, les derniers développements à différents niveaux seront communiqués et un échange sur les besoins des parties prenantes nationales pourra être initié.

Objectifs
- Comprendre le lien entre la normalisation et la construction à travers les projets de l'ILNAS
- Connaitre les principaux comités techniques de normalisation
- Découvrir des normes pertinentes du secteur ainsi que des projets de normes en cours d'élaboration
- Découvrir les tendances actuelles dans le domaine de la normalisation technique dans le secteur de la construction
- S'informer sur les possibilités de suivi et de participation
- Discuter les besoins du marché national afin de participer activement à l'élaboration de nouveaux projets avec l'ILNAS

Programme
- La normalisation technique
  - Les informations clés et définitions
  - Les avantages de la normalisation
  - Processus d'élaboration de normes
  - Participer à l'élaboration d'une norme

- Présentation du secteur « construction & normalisation »
  - Politique pour la normalisation technique du secteur de la construction
  - Les comités techniques pertinents
  - Exemples de normes pertinentes publiées
  - Exemples de projets de normes pertinents et développements en cours

- Derniers développements en matière de construction
  - Les projets de l'ILNAS (récapitulatif et prévisions)
  - Les développements dans le secteur de la construction luxembourgeois

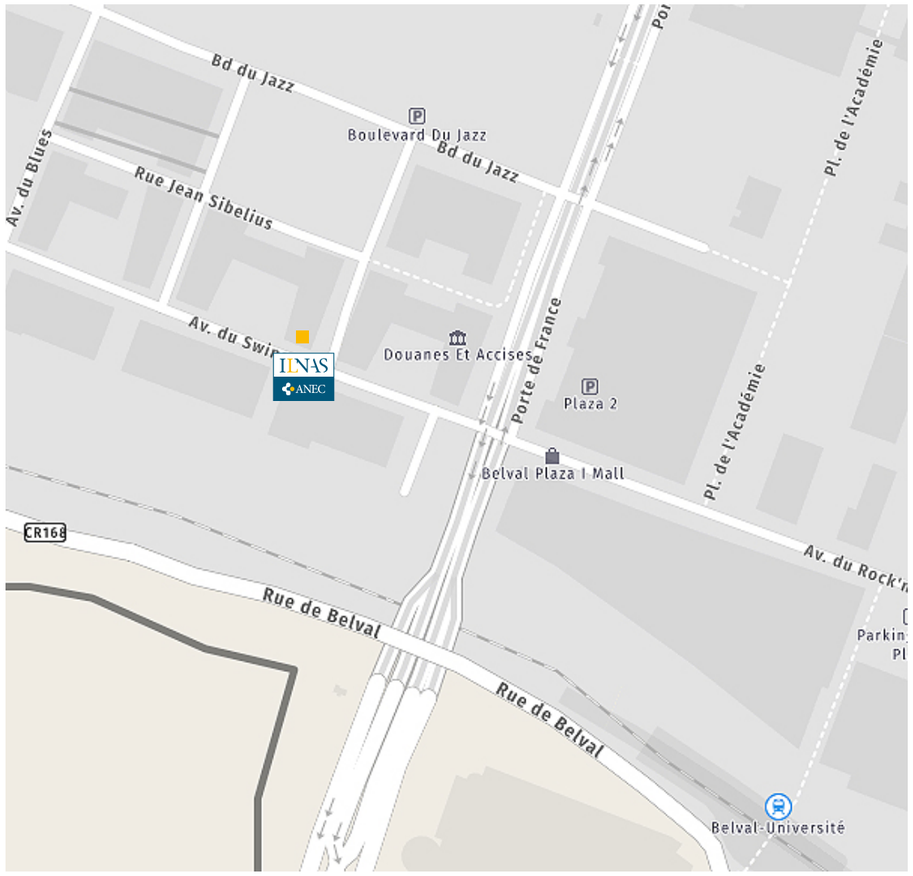
Public cible
Professionnel(le)s, étudiant(e)s, entrepreneurs/entrepreneuses, agent(e)s communaux/communales ou étatiques, chercheurs/chercheuses

Détails
- Durée : 4 heures
  Lieu : Locaux de l'ILNAS
- Prix : Session gratuite
- Date: 4 décembre 2025
- Langue de la session : français
- **Inscription**

Informations / Information

L'ILNAS et l'ANEC GIE sont situés à 20 km de la ville de Luxembourg, à Esch-Belval.

ILNAS and ANEC GIE are located 20 km from Luxembourg City, in Esch-Belval.



Adresse / Address :

ILNAS & ANEC GIE
Southlane Tower I
1, avenue du Swing
L-4367 Belvaux (Esch-Belval)

GPS : 49.501351, 5.943468

Parkings :
- Centre commercial / Shopping center Belval Plaza
- P+R Belval-Université

Train : Belval-Université

Conditions générales

ACCÈS
Seules les personnes actives au sein d'une organisation, entreprise ou association basée au Luxembourg peuvent suivre nos formations/sensibilisations gratuites.

ANNULATION
Si le nombre de participants est insuffisant ou si le formateur est absent, nous nous réservons le droit d'annuler la formation/sensibilisation et de la reporter à une date ultérieure. Tous les participants seront informés individuellement.

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https://portail-qualite.public.lu/fr/support/aspects-legaux.html

CERTIFICATS
A la fin du cours, chaque participant reçoit un certificat de participation.

General terms and conditions

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All our free of charge trainings/awareness sessions are available to people who work for an organization, a company or an association located in Luxembourg.

CANCELLATION
If the number of participants is not sufficient or if the trainer is absent, we reserve the right to cancel a training/awareness session and to postpone it to a later date. All registered participants will be informed personally.

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The documentation which is handed over during or after a training course remains the property of ILNAS.

PROTECTION OF PERSONAL DATA
The personal data collected when you register for our trainings are used by ILNAS and ANEC GIE strictly for trainings organization and management. More information about your rights regarding the protection of your personal data can be found on our website:
https://portail-qualite.public.lu/fr/support/aspects-legaux.html

CERTIFICATES
At the end of every course, each participant receives a certificate of participation.

Inscriptions / Registrations

www.portail-qualite.lu

Inscrivez-vous à notre newsletter pour vous tenir informés de nos activités

Subscribe to our newsletter to stay informed about our activities

Contacts :

Email : formation@ilnas.etat.lu

Tél. : 247 743 - 40

Des formations intra-entreprises peuvent être organisées sur demande.

In-company training can be organized on request.