



# Linking Standardization and Certification Plans for the future

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# Cybersecurity

Cybersecurity is an integral part of Europeans' security.

Whether it is  connected devices,  electricity grids, or  banks,  aircraft,  public administrations or  hospitals they use or frequent,

people deserve to do so within the assurance that they will be **shielded from cyber threats.**

# EU's Cybersecurity Strategy for the Digital Decade

Based on the strategy, three areas of EU action have been identified

- (1) resilience, technological sovereignty and leadership,
- (2) building operational capacity to prevent, deter and respond, and
- (3) advancing a global and open cyberspace.

Furthermore, Cybersecurity must be integrated into all digital investments, particularly key technologies like Artificial Intelligence (AI), encryption and quantum computing, using incentives, obligations and benchmarks.

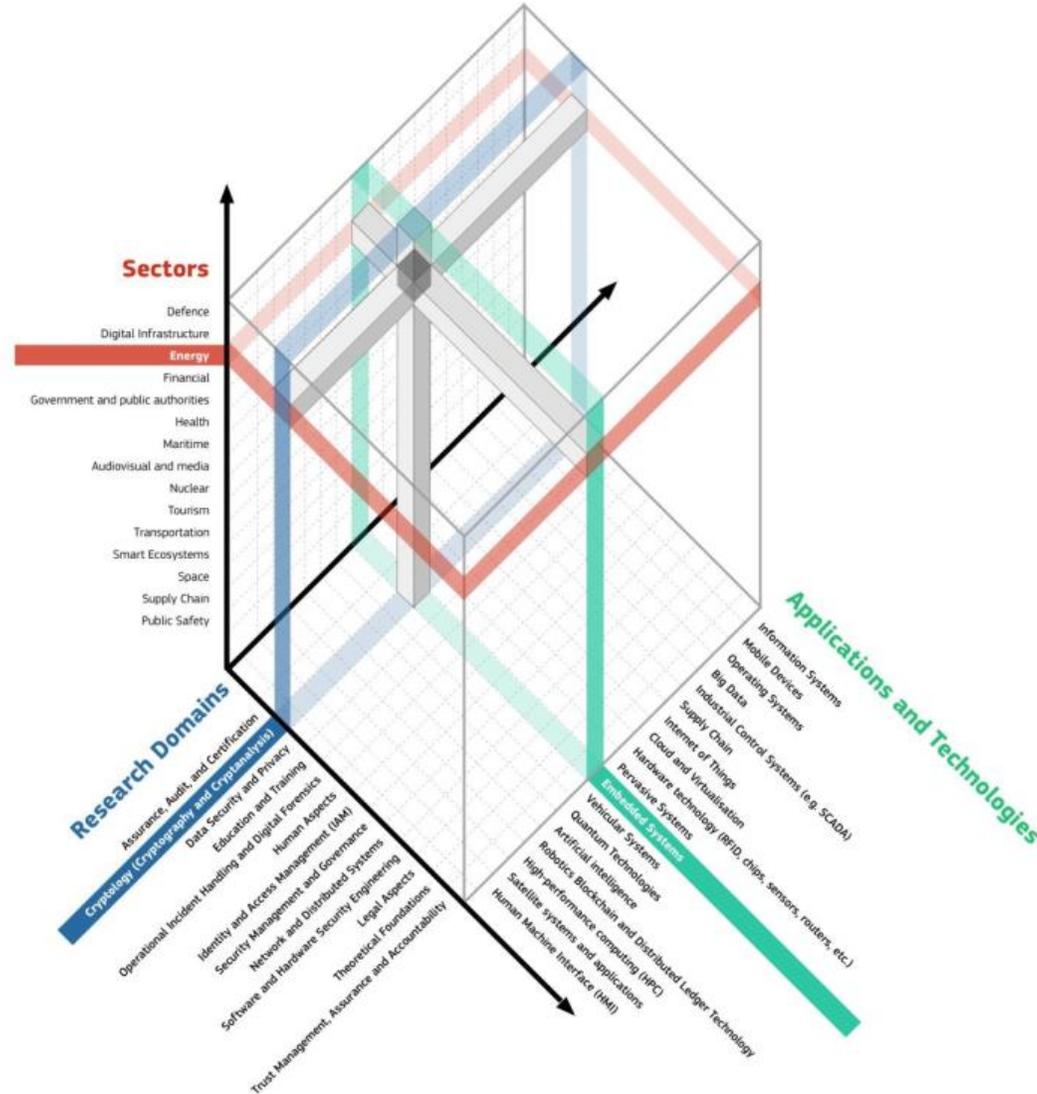
# Standardization is required

To achieve the above, standards need to be

- Created
- Aligned
- Acknowledged

# The Cybersecurity domain complexity

- Standards for products
- Standards for services
- Standards for Information assets
- Standards addressing the human element
  
- Organizational standards
- Technical standards
  
- Standards for secure development
- Standards for secure destruction



- Standards for better preparedness
- Standards for effective response
  
- Standards for information exchange
  
- Standards for the assessment of security
  
- ... and so many others

# Cybersecurity Standards

- **CENELEC** (European Committee for electrotechnical standardization) has published 27 standards under the topic of IT Security (14 of which in 2020 and 4 already in 2021)
- **CEN** (European Committee for Standardization) has published 45 standards under the topic of IT Security (14 of which in 2020 and 2 already in 2021)
- **ETSI** (European Telecommunications Standards Institute) has published 57 standards under the topic of Cybersecurity (10 of which in 2020 and 6 already in 2021)
- **IEC** (International Electrotechnical Commission) has published 203 standards under the topic of Cybersecurity (20 of which in 2020 and 9 already in 2021)
- OASIS has published 16 documents under the topic of Cybersecurity (2 of which in 2020 and 4 in 2021)
- **ISO/IEC – JTC 1**, currently there are 3249 published ISO/IEC standards developed by committees in JTC 1 comprised of some 4500 registered technical experts from around the world.
- **ITU-T**, has published 339 recommendations on the topic of cybersecurity (74 in 2020 and 32 already in 2021).
- **W3C**, has published 24 specifications on the subject of Security (9 of them published or updated in 2021)
- **IEEE**, has published 9 documents on the subject of Cyber security (3 of them published or updated in 2021)
- **NIST, IETF, 3GPP, ECMA, OI DF, Cyber Security PPP, ISA, GSMA, EMVo, PCI SSC, OWASP, ANSSI, BSI, CSA, SANS, CREST, NECRC, SAE, BIMCO, NCSC, AEI....**

... a lot of effort already, much more is needed

# Rolling Plan (2021) for ICT Standardisation

The Rolling Plan 2021 identifies around **180** actions grouped into **37** technological or application domains under four thematic areas: key enablers and security, societal challenges, innovation for the single market and sustainable growth.



# EU Policy Areas Supported By ICT Standardisation

## KEY ENABLERS AND SECURITY

- 5G
- CLOUD AND EDGE COMPUTING
- BIG DATA, OPEN DATA AND PUBLIC SECTOR INFORMATION
- INTERNET OF THINGS
- CYBERSECURITY / NETWORK AND INFORMATION SECURITY
- ELECTRONIC IDENTIFICATION AND TRUST SERVICES
- E-PRIVACY
- E-INFRASTRUCTURES FOR RESEARCH DATA AND COMPUTING INTENSIVE SCIENCE
- BROADBAND INFRASTRUCTURE MAPPING
- ACCESSIBILITY OF ICT PRODUCTS AND SERVICES
- ARTIFICIAL INTELLIGENCE
- EUROPEAN GLOBAL NAVIGATION SATELLITE SYSTEM (EGNSS)

## SOCIETAL CHALLENGES

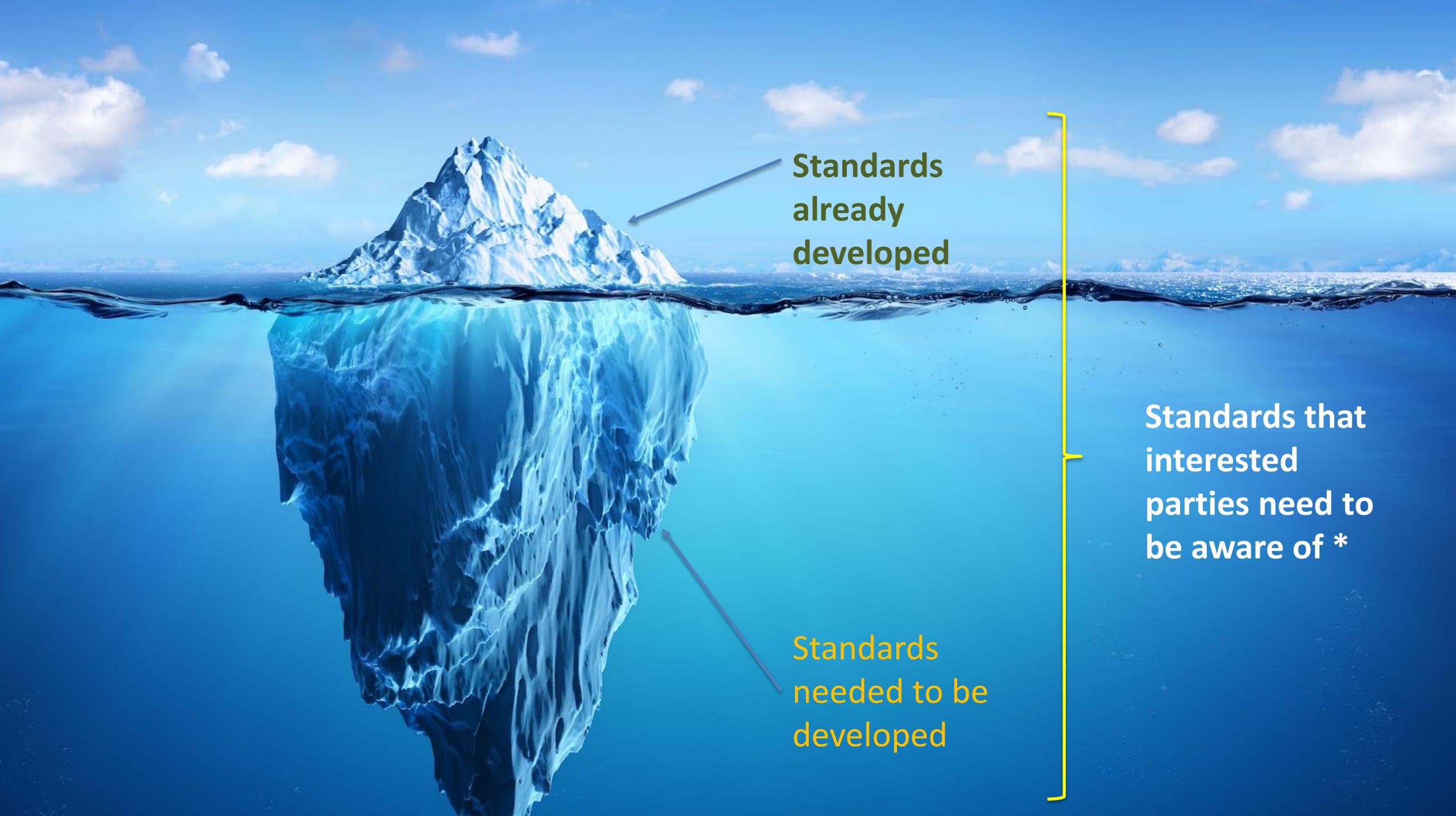
- E-HEALTH, HEALTHY LIVING AND AGEING
- EDUCATION, DIGITAL SKILLS AND DIGITAL LEARNING
- EMERGENCY COMMUNICATIONS
- E-GOVERNMENT
- E-CALL
- COVID-19
- SAFETY, TRANSPARENCY AND DUE PROCESS ONLINE

## INNOVATION FOR THE DIGITAL SINGLE MARKET

- E-PROCUREMENT, PRE- AND POST-AWARD
- E-INVOICING
- RETAIL PAYMENTS
- PRESERVATION OF DIGITAL CINEMA
- FINTECH AND REGTECH STANDARDISATION
- BLOCKCHAIN AND DISTRIBUTED LEDGER TECHNOLOGIES

## SUSTAINABLE GROWTH

- SMART GRIDS AND SMART METERING
- SMART CITIES AND COMMUNITIES/ TECHNOLOGIES AND SERVICES FOR SMART AND EFFICIENT ENERGY USE
- ICT ENVIRONMENTAL IMPACT
- EUROPEAN ELECTRONIC TOLL SERVICE (EETS)
- INTELLIGENT TRANSPORT SYSTEMS- COOPERATIVE, CONNECTED AND AUTOMATED MOBILITY (ITS-CCAM) AND ELECTRO-MOBILITY
- DIGITISATION OF EUROPEAN INDUSTRY ROBOTICS AND AUTONOMOUS SYSTEMS
- CONSTRUCTION-BUILDING INFORMATION MODELLING
- COMMON INFORMATION SHARING ENVIRONMENT (CISE) FOR THE EU MARITIME DOMAIN
- WATER MANAGEMENT DIGITALISATION
- SINGLE EUROPEAN SKY
- U-SPACE
- CIRCULAR ECONOMY



**Standards  
already  
developed**

**Standards  
needed to be  
developed**

**Standards that  
interested  
parties need to  
be aware of \***



# Certification

Certification is the third-party attestation related to products, processes, systems or persons.

Which means that it is an issue of a statement, based on a decision following review, that fulfilment of specified requirements has been demonstrated.

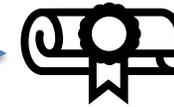
Certification can apply to a product, process, system, person or body.

# Certification and Standardization



Standard  
*Should be:*

- Powered by electricity
- Accept keyboard and mouse as input devices and
- Conduct simple tasks (e.g. calculator)



Certified

# Certification and Standardization



Certificate - Cybersecurity



Certificate - Cybersecurity

# Current status

## Crossing a bridge: the first EU cybersecurity certification scheme is availed to the Commission

The European Union Agency for Cybersecurity formally transmits to the European Commission the first candidate cybersecurity certification scheme on Common Criteria.

Published on May 26, 2021

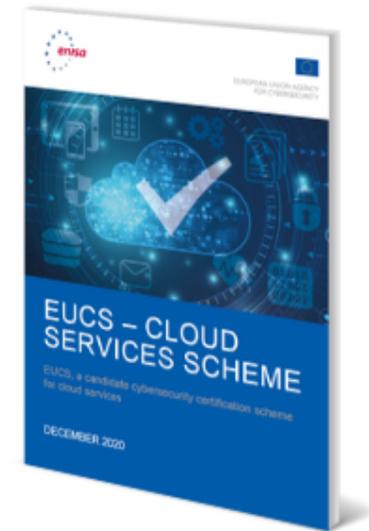


It covers the certification of ICT products, using the Common Criteria ISO/IEC 15408 and is the foundation of a European Cybersecurity certification framework. The latter will consist of several schemes that it is expected to gradually increase trust in ICT products, services and processes certified under these schemes and reduce the costs within the Digital Single Market.

[Crossing a bridge: the first EU cybersecurity certification scheme is availed to the Commission — ENISA \(europa.eu\)](#)

## EUCS – Cloud Services Scheme

This publication is a draft version of the EUCS candidate scheme (European Cybersecurity Certification Scheme for Cloud Services), which looks into the certification of the cybersecurity of cloud services. In accordance with Article 48.2 of the Cybersecurity Act<sup>1</sup> (EUCSA), ENISA has set up an Ad Hoc Working Group (AHWG) to work on the preparation of the candidate scheme on cloud services, as part of the European Cybersecurity Certification Framework. This is a draft version to be used as basis for an external review. The objective of the review is to validate the principles and



[EUCS – Cloud Services Scheme — ENISA \(europa.eu\)](#)

# On the way...

## Securing EU's Vision on 5G: Cybersecurity Certification

The European Union Agency for Cybersecurity welcomes the European Commission request for a candidate cybersecurity certification scheme on 5G networks.

Published on February 03, 2021



[Securing EU's Vision on 5G: Cybersecurity Certification — ENISA \(europa.eu\)](https://europa.eu/enisa/enisa-2021-02-03-securing-eu-vision-on-5g-cybersecurity-certification)

# The CONCORDIA Roadmap



Horizon 2020 Program (2014-2020)

Cybersecurity, Trustworthy ICT Research & Innovation Actions

Security-by-design for end-to-end security

H2020-SU-ICT-03-2018



Cyber security cOmpeteNCe fOr Research anD InnovAtion <sup>†</sup>

## **Work Package 4: Policy and the European Dimension Preliminary Version of Deliverable D 4.4: Cybersecurity Roadmap for Europe by CONCORDIA**

**Abstract:** This document describes the preliminary version of the deliverable D4.4 and with this the current status of CONCORDIA's work on the Cybersecurity Roadmap for Europe.

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<sup>†</sup> This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 830927.

# Cybersecurity Standardization



**Challenge 1: Terminology and language**

**Challenge 2: Low awareness and utilization of Cybersecurity Standards**

**Challenge 3: A lot of work to be done**

**Challenge 4: Keeping up with evolution**

# Cybersecurity Standardization



In order for Cybersecurity standards to reach their goals of usefulness and adoption, the Cybersecurity standardization processes should be:

- included in research activities as early as possible
- realized in a ‘leaner’ way, allowing for at least initial versions of the standards to be available to larger audience at an earlier time
- coordinated and aligned every year. A Cybersecurity standardization plan should be established that will be regularly updated allowing for the changes in technology or situation to be adopted.
- more inclusive and allow for the contribution of all related stakeholders and actors
- where possible fit for purpose with minimum intervention (e.g. standards for SMEs)

# Cybersecurity Certification



By having agreed, acknowledged, quality standards that cover the current needs of the market in terms of technology, management and assessment then, we take the first step to valuable, internationally acknowledged certifications.

Questions



Thank You

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