Standardisation in practice: Roles of NSBs and identifying gaps in the current standards
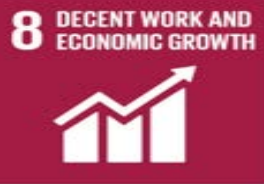
Standards

Manufacturing Standards supporting Business

Consultative Committee

- Supporting Ireland's Industry 4.0 Strategy

- Advising NSAI on CEN BT ballots

- Raise awareness and understanding of the Machinery Regulation

- Assist on prioritising new work areas through the EU High Level Forum for Standardisation

Additive Manufacturing

- ASTM/ISO & CEN

- 24 Standards under development

- EU Commission Annual Union work programme

- Potential to revolutionise the Prosthetic Industry

- Further use of Technology in Construction industry

Robotics

- Shaping Digital Europe, The EU promotes safer robots

- Contributing to Harmonised Standards

- Irish Researchers From Horizon Europe project feeding into standards

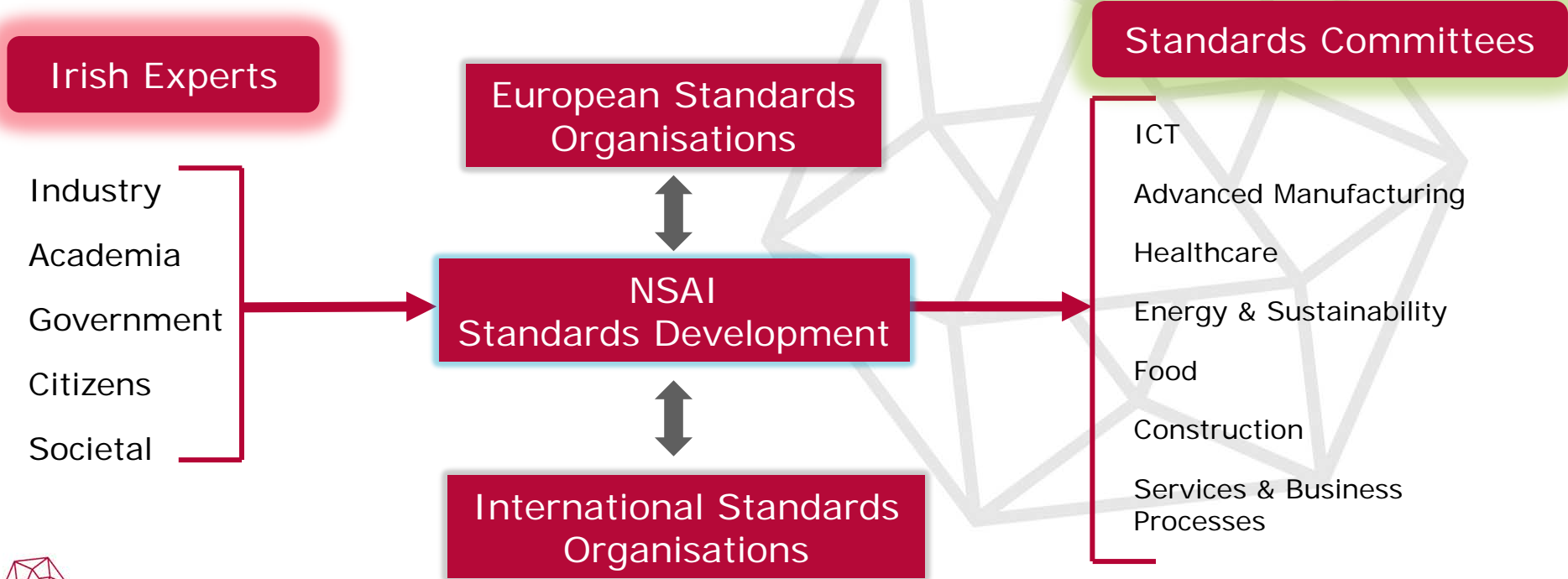- Robots can improve worker safety by doing work that is especially dangerous

Safety of Machinery

- Revision of key Safety Standards used to show presumption of Conformity by SME's

- Irish experts participating at International Level

- Following Changes in Machinery Regulation

Learning Outcomes

- NSAI's Role
- National Development Process

- Standards supporting European Policy

- Horizon Europe Projects
- SDO Liaison
- Resources

- Standards Development Process
- Standards supporting Government Policy

- European Commission Work Programme for Standardisation

- Standardisation as a deliverable
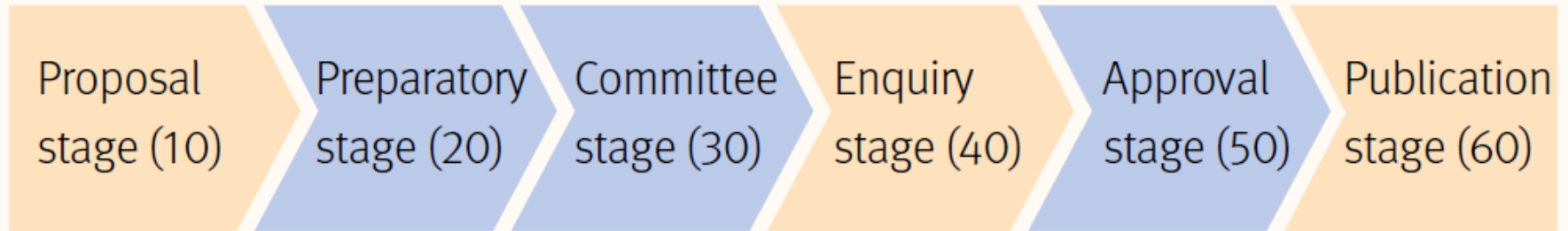- How to kick off Standardisation work
- Irish Research Use Case

NSAI

NSAI role – Connect & Facilitate

Irish Experts

Industry

Academia

Government

Citizens

Societal

European Standards Organisations

NSAI Standards Development

International Standards Organisations

Standards Committees

ICT

Advanced Manufacturing

Healthcare

Energy & Sustainability

Food

Construction

Services & Business Processes

NSAI

Development process:

Stages for developing ISO standards

Proposal stage (10)	Preparatory stage (20)	Committee stage (30)	Enquiry stage (40)	Approval stage (50)	Publication stage (60)

■ obligatory   ■ optional

My ISO Job

NSAI

How are Standards made?

Any relevant stakeholder or an existing standards committee propose a new work item for a voluntary **Standard**.

NSAI assesses the **proposal** and may consult with relevant stakeholders of the industry sector.

If approved, the work will be assigned to an existing **Standards Committee** or a new Committee formed with the interested stakeholders in the sector.

The committee develops a new **Standard** or revises an existing Standard through a consultative and consensus based process.

The draft is submitted for a **public enquiry** open to all for comment on **Your Standards, Your Say**.

The Standards Committee analyses all submitted comments and improves the **draft**.

The draft Standard or draft Revision is validated and published. It is made available on the **Standards Store**.

The Standard is ready to be used by all interested parties. It may be subject to revision every 3 to 5 years.

The New European Innovation Agenda

The New European
Innovation
Agenda

Standards & EU Innovation Agenda

"Supported actions could include market uptake of research, support companies in scaling up their ideas, as well as deploying and demonstrating deep technologies in real world environments and with end users, access to cross border infrastructure and expertise, exchange of staff, training and skills development and developing *Standards and Regulations* through sandboxes and test beds."

EUROPEAN COMMISSION

Brussels, 5.7.2022
COM(2022) 332 final

COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS

A New European Innovation Agenda

{SWD(2022) 187 final}

NSAI

Ireland's Research and Innovation Strategy

- "Regulation and standards, for example, interoperability standards for ICT products or regulations for health products, are critical in many areas of enterprise R&I. The application of standards also has a role in driving enterprise innovation more broadly. The new standards based ISO 56000) 'Innovation Scorecard', developed by global innovation experts and the National Standards Authority of Ireland, will help strengthen innovation management, especially in SMEs, across Ireland"

NSAI

Government Policy

- Research & Innovation
  - Impact 2030 Ireland's Research and Innovation Strategy

The National Standards Authority of Ireland, will help strengthen innovation management, especially in SMEs, across Ireland

Rialtas na hÉireann
Government of Ireland

Impact 2030
Ireland's Research and Innovation Strategy

Prepared by the
Department of Further and Higher Education,
Research, Innovation and Science
www.gov.ie

NSAI

ISO 56000 Series

ISO 56000:2020 -- Innovation management — Fundamentals and vocabulary

ISO 56002:2019 -- Innovation management — Innovation management system — Guidance

ISO 56003:2019 -- Innovation management — Tools and methods for innovation partnership — Guidance

ISO/TR 56004:2019 -- Innovation Management Assessment — Guidance

ISO 56005:2020 -- Innovation management — Tools and methods for intellectual property management — Guidance

ISO 56006:2021 -- Innovation management — Tools and methods for strategic intelligence management — Guidance

ISO 56007:2023 -- Innovation management — Tools and methods for managing opportunities and ideas — Guidance

ISO/TS 56010:2023 -- Innovation management — Illustrative examples of ISO 56000

European Commission Work Programme

- Each year the European Commission publishes an Annual Work Programme for European standardisation. It lays down the Commission's intentions to use standardisation in support of new or existing legislation and policies, and mandate the development of new standardisation deliverables to the European Standardisation Organisations CEN, CENELEC and ETSI.

Annual Union Work Programme 2023

Actions for the development and revision of European standards or European standardisation deliverables supporting the strategic priorities				
Ref	Title	Reference	European standards/European standardisation deliverables	Specific objectives and policies for European standards/European standardisation deliverables
5	Cybersecurity requirements for products with digital elements	COM(2022)454 - Proposal for a Regulation on horizontal cybersecurity requirements for products with digital elements and amending Regulation (EU) 2019/1020 (Cyber resilience Act)	Develop European standards and European standardisation deliverables corresponding to essential cybersecurity specifications as set out by the Cyber Resilience Act and notably concerning: (i) security specifications relating to the properties of products with digital elements and vulnerability handling specifications (ii) methodologies concerning assurance levels relating to products with digital elements as referred to above; (iii) evaluation methodologies for evaluating cybersecurity risks associated with products with digital elements.	The main objective is to create conditions for developing secure products with digital elements by ensuring that hardware and software products are placed on the market with fewer vulnerabilities and ensure that manufacturers take security seriously throughout a product's life cycle.
6	Accessibility requirements for websites and mobile applications	Directive (EU) 2019/882 on the accessibility requirements for products and services, Directive (EU) 2016/2102 on the accessibility of the websites and mobile applications of public sector bodies	Revise standards EN 301 549, EN 17210, EN 17161 and the technical reports CEN/CLC/ETSI TR 101551 and CEN/CLC/ETSI TR 101552. In addition, develop three new harmonised standards in support of M/587 – C(2022)6456. The latest developments in the relevant areas need to be considered.	Increasing accessibility to ICT, including websites and mobile applications, answering to emergency services (112), non-digital information and support services for persons with disabilities.

NSAI

form2.creativetools.se

AMAZE

BUILDING CONFIDENCE IN ADDITIVE MANUFACTURING

This project has received funding from the European Union's Seventh Framework Programme for research, technological development and demonstration under grant agreement no 313781

RESULTS

The project was able to save manufacturing costs by as much as 50 %

Improve dimensional Accuracy 25%

Reduce wastage to less than 5%

AMAZE Results & Standards

- Work in the AMAZE project has formed the basis of new standards development

- The study carried out on the nature of defect in Am parts fed Directly into new standards

  - ISO/ASTM DTR 52905 -- *Additive manufacturing of metals — Nondestructive testing and evaluation — Defect detection in parts*

ISO/ASTM DTR 52905:2023(E)

6   Typical flaws/defects in AM

6.1   Flaw origins/causes

The causes of defects across different types of AM processes can be quite different, but the defects that they generate can be remarkably similar. Detecting the defects also does not depend on the cause, and in general only the size and geometry (and potentially morphology) of the defect matters for detection.

The causes and effects of a number of AM flaws have been reported in the European project AMAZE[21]. Table A.1 and Table A.2 give explanations of the mechanisms by which these flaws are generated and those mechanisms are linked to the process parameters selected and the resulting processing conditions, see ISO 11484.Understanding the conditions under which flaws are generated and simplifying the terminology used to describe these flaws will hopefully aid the drive for quality improvement required for widespread implementation of the technology.

Standardisation as a Deliverable

How to kick off standardisation work

- Does it have to be a Standard, or can it be another deliverable TR or TS?
- Is there a Technical committee in that area?
- Link the new deliverable, to National, European Policy, Annual Union Work Programme & SDG Goals
- Letter of Support
- Is there Funding
- Identified Stakeholders
- Project Plan
- Contact NSB

NSAI

Code Of Practice on Standardisation

Develop a standardization policy

Consider standardization in the career development plans

Provide for education and training on standardisation

Make Technology Transfer Offices fit for standardization

Develop an indicator and evaluation system

NSAI

Code of practice on standardisation in the European Research Area

Resources

Sectoral Study of Standards in Manufacturing

LINK

Introduction to NSAI/TC 49/SC 2 & standardization for Additive Manufacturing

LINK

EU Observatory for ICT Standardisation

Report of TWG AI:
Landscape of AI Standards

Editor: Lindsay Frost
Series Editors: Ray Walshe, Silvana Muscella

Powered by StandICT.eu 2023

DOI Number: 10.5281/zenodo.4775836

LINK

EU Observatory for ICT Standardisation

Report of TWG-IIoT & EDGE:
Landscape of Internet of Things (IoT) Standards

Editor: Georgios Karagiannis
Series Editors: Lindsay Frost, Ray Walshe, Silvana Muscella

Powered by StandICT.eu 2023

DOI: 10.5281/zenodo.7193436

LINK

EU Observatory for ICT Standardisation

Report of TWG Digital Twin:
Landscape of Digital Twin Standards

Editors: Antonio Kung, Claude Baudoin, Karim Tobich
Series Editors: Lindsay Frost, Ray Walshe, Silvana Muscella

Powered by StandICT.eu 2023

DOI Number: 10.5281/zenodo.6556917

LINK

EU Observatory for ICT Standardisation

Report of TWG Digital Product Passport:
Landscape of Digital Product Passport Standards

Editors: Jens Gayko, Benjamin Helfritz
Series Editors: Lindsay Frost, Ray Walshe, Silvana Muscella

Powered by StandICT.eu 2026

DOI Number: 10.5281/zenodo.7728381

LINK

Manufacturing Standards supporting Business

3D scanning of patient limb — point cloud data

Prescription and rectification — CAD data

Additive Manufacture — physical part

ISO /ASTM 52950:2021 — Overview of data processing. This Standard supported identification of best practice for data handling

ISO/ASTM 52902:2019 — Geometric accuracy of a Manufacturing Process. This Standard supported qualification of machines used to build test coupons and product, and provided useful tools for ongoing process control

ISO/ASTM 52901:2017 — General requirements of AM parts. This standard supported risk control activities during design development and process validation

ISO/ASTM 52921:2013 - Standard terminology for additive manufacturing — Coordinate systems and test methodologies. This standard supported communication and documentation of best practice clearly and unambiguously

Standards were identified and leveraged to determine, measurables Critical to Quality design, that enabled this innovation
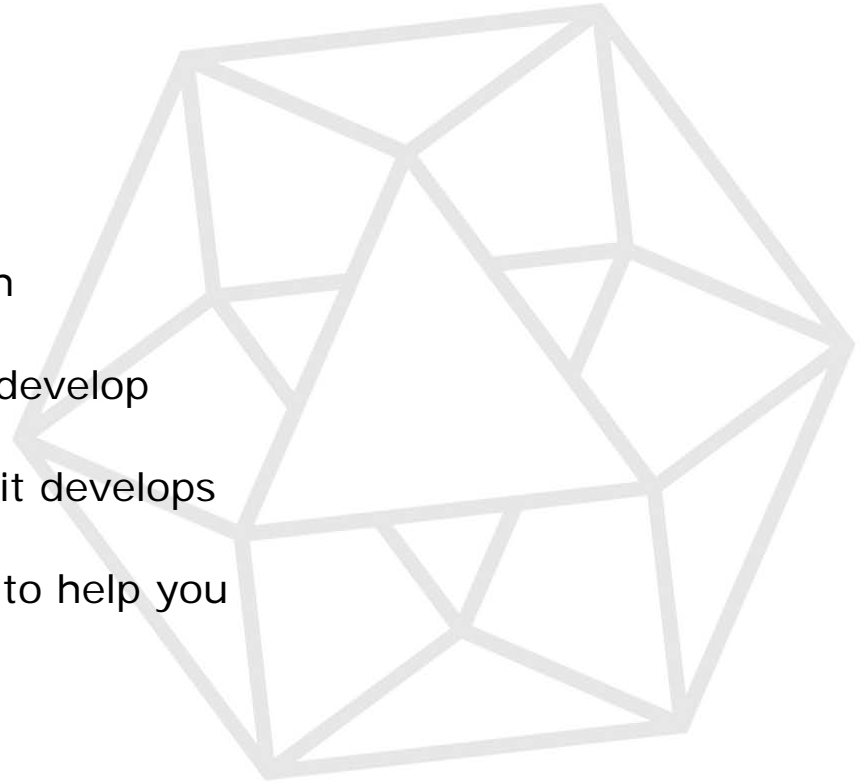
Standards?

Standards are part of your Research

You can see the Standards as they develop

You can be part of the Standard as it develops

National Standard Bodies are here to help you

NSAI

Thank You.

WWW.NSAI.IE

info@nsai.ie

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