



Digitalisation of advanced materials

A WAY TO IMPROVE RECYCLABILITY,
CIRCULARITY AND SAFETY □

Driving Sustainability and Quality of Life!

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DigiPass – Know Your Products by Digitalization of Innovative Advanced Materials

- **Environmental Impact**
- **Circularity**
- **Materials & Product Design Optimization**
- **Data re-usability & interoperability**
- **Involving whole Value Chain**
- **Sustainability of Materials and Products**
- **Innovation by Design**



DigiPass – Know Your Products by Digitalization of Innovative Advanced Materials

- **Fostering** digitalization of innovative advanced materials (O1)

- **Strengthening** the digital maturity (O2)

- **Harmonizing** materials data sources and infrastructures (O3)

- **Ensuring Interoperability** and standardization of materials data (O4)

- **Enabling Digital Materials and Product Passport (O5)**
 - **Digital Product Passport:** legislation/ regulation
 - ☐ openly accessible
 - **Digital Material Passport:** finetuned access rights
 - ☐ used in co-innovation processes

PARTNERS

12 PARTNERS:

3 SMES

3 UNIVERSITIES

4 RESEARCH INSTITUTIONS

2 INDUSTRIAL ASSOCIATIONS

7 COUNTRIES:

AT, BE, DE, GR, LU, NO, UK



Demonstrators

CASE 1



ADVANCED
COMPOSITE
MATERIALS

Industrial Association



CASE 2



ADVANCED
MATERIALS FOR
RENEWABLE ENERGY
SOURCES

Industrial Innovation Hub



CASE 3



HEALTH & SAFETY OF
ADVANCED
NANOMATERIALS

Innovation in Research and
Engineering Solutions



CASE 4

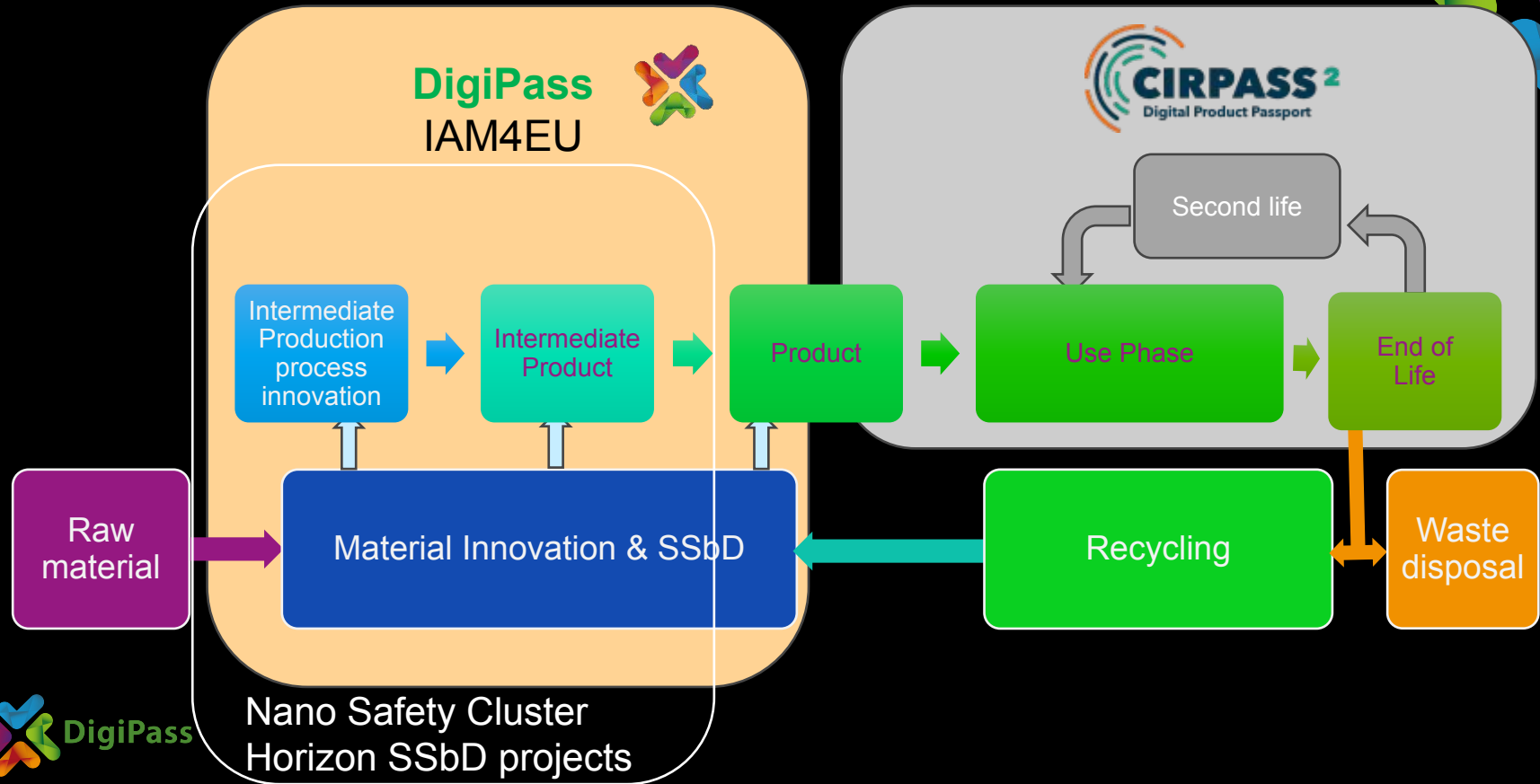


INNOVATIONS IN
PRE-PAINTED METALS
SUPPLY CHAIN

Industrial Association



Innovation process along value chains



Cross-enabling tools and methodologies

Ecodesign for Sustainable Products Regulation (ESPR)

The ESPR introduces a **Digital Product Passport (DPP)** to support products' sustainability, promote circularity and strengthen legal compliance.

Delegated Acts for specific topics announced.



- Preliminary list of **DPP content**:
 - ✓ Product's technical performance
 - ✓ Materials and their origins
 - ✓ Repair activities
 - ✓ Recycling capabilities
 - ✓ Lifecycle environmental impacts

First working plan **priorities**

iron and steel, aluminium, textiles, furniture (including mattresses), tyres, detergents, paints, lubricants, chemicals, energy related products, other electronics

Cross-enabling tools and methodologies

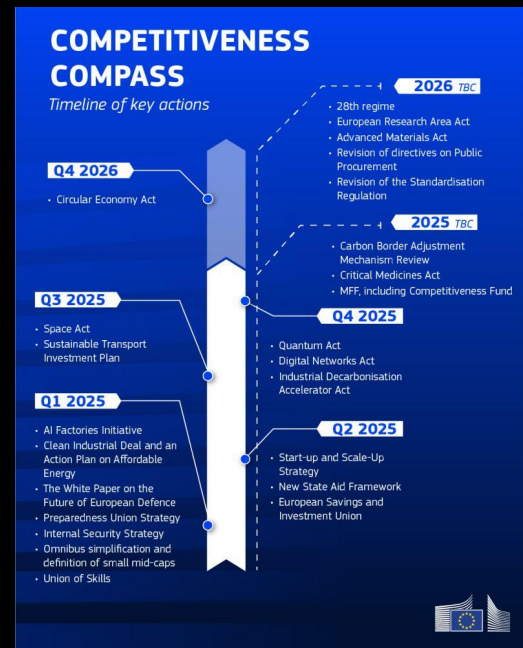
A Competitiveness Compass for the EU



Digital Product Passport (DPP) recognized as a key enabler of digitalization across the EU and beyond.

- ✓ Digitalization
- ✓ Implementing EU legislation
- ✓ Use of digital tools □ enables AI application
- ✓ Full cross-border interoperability
- ✓ Digital formats based on standardised data

Driving Sustainability and Quality of Life



Driving Sustainability and Quality of Life

How could we support industry to forward the **circularity** through **digitalization/ DPP** and increase **social well-being** evolving?

- ☐ **Strengthening the digital maturity**

DigiPass FORUM



- DigiPass-CIRPASS-2 Conference

Digitalization for Circularity and Digital Product
Passports: Coupling Regulations and Innovation

June 16-18, 2025, Brussels / Online streaming

<https://digipassforum.eu>

THANK YOU!



**Know Your
Products!**

<https://ms.hereon.de/digipass/>



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INSTITUTE OF SCIENCE
AND TECHNOLOGY



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