



# EMIRI General Assembly

Strategic Materials Agenda

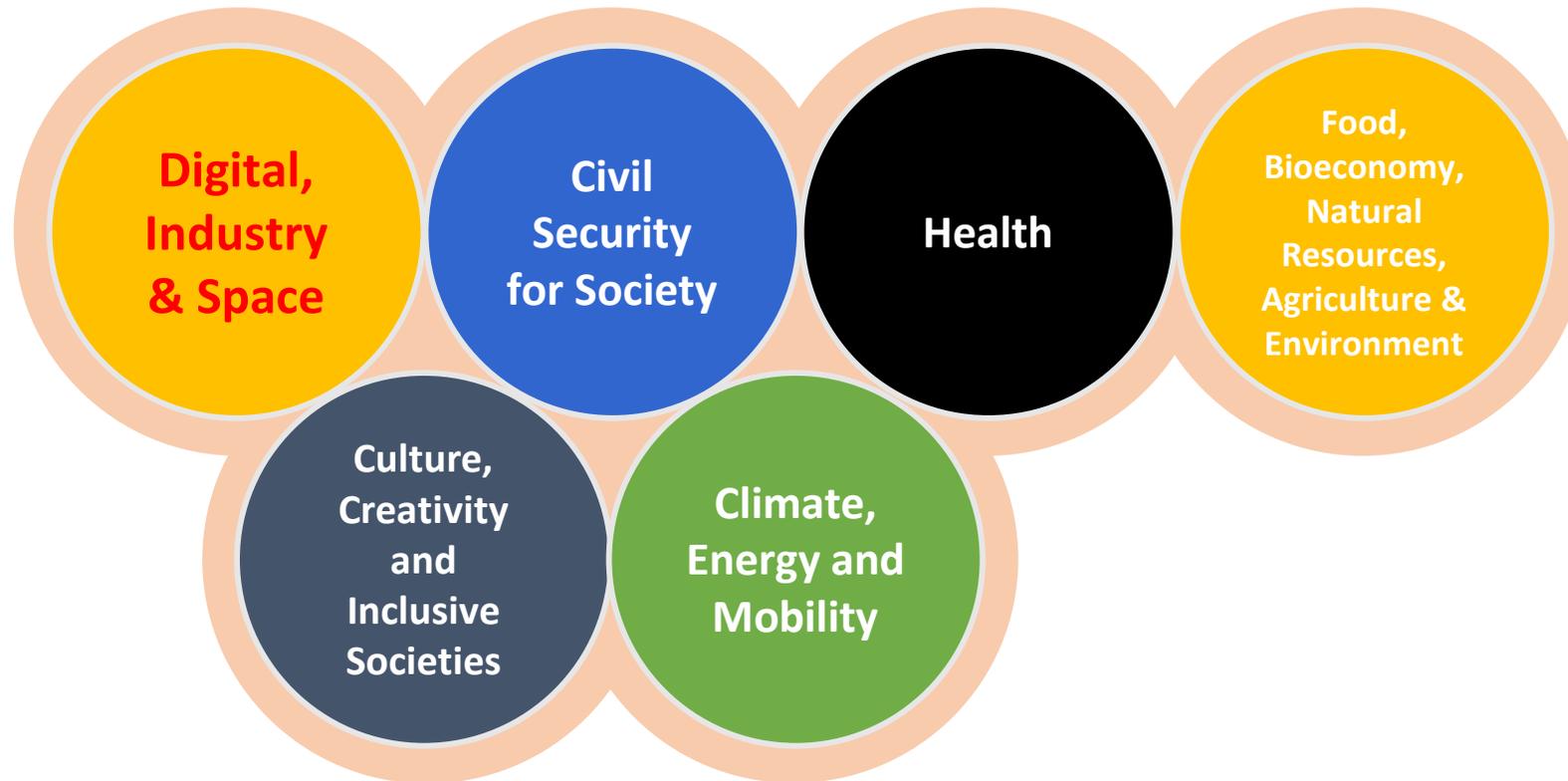
1st Dec. 2022

*Dr. Ulrich SCHMID  
DG Research and Innovation  
Head of Unit E3 Industrial Transformation*

# Overview

- Strengthening the impact of research under Horizon Europe
- Materials 2030 Manifesto and Roadmap – initiative by stakeholders
- Draft work programme 2023/2024 (adoption/publication end of the year)

# Strengthening the impact of research under Horizon Europe



# Strengthening the impact of research under Horizon Europe – Cluster Digital, Industry, Space



**European Green Deal** Energy- and Resource-efficient Industries (Manufacturing, Process, Digital Industries)

**A Europe Fit for the Digital Age** Digital Transformation for Industry and People



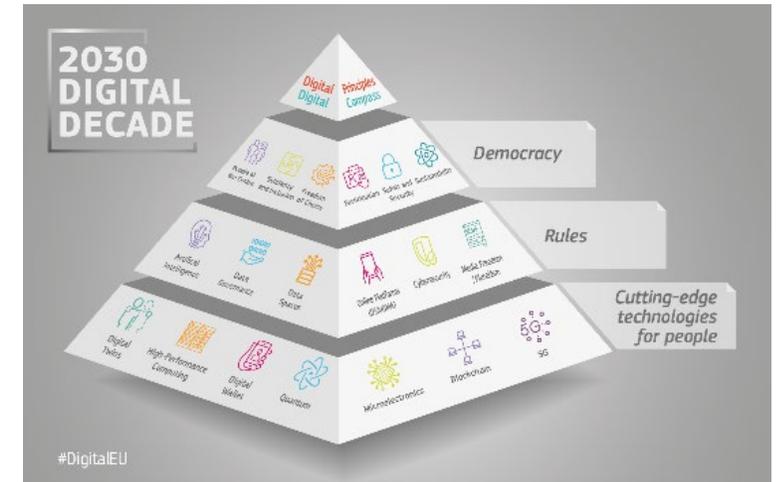
**Recovery Plan for Europe:**  
R&I for fair green and digital transitions,  
1.35 bn € from NextGenerationEU  
in Cluster 4 2021-27

# Cluster 4 'Digital, Industry and Space' – Strategies

**EU Chemicals Strategy:**  
boosting innovation for safe and sustainable chemicals by design



**European Industrial Strategy Update:** more sustainable, digital, resilient and competitive industry



**2030 Digital Decade:** human-centric digital technologies and digital transformation of businesses



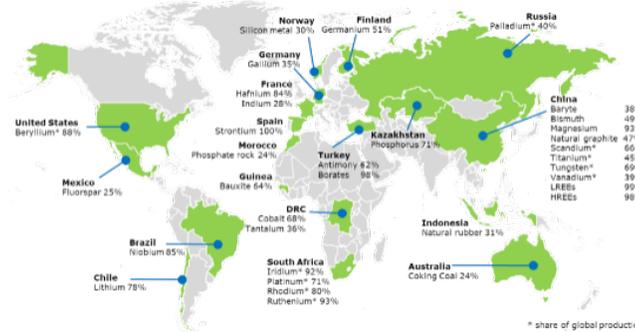
**Space Strategy for Europe:** R&I for Competitive space industry  
New services and infrastructure

# Cluster 4 'Digital, Industry and Space' – Action Plans



## Zero Pollution:

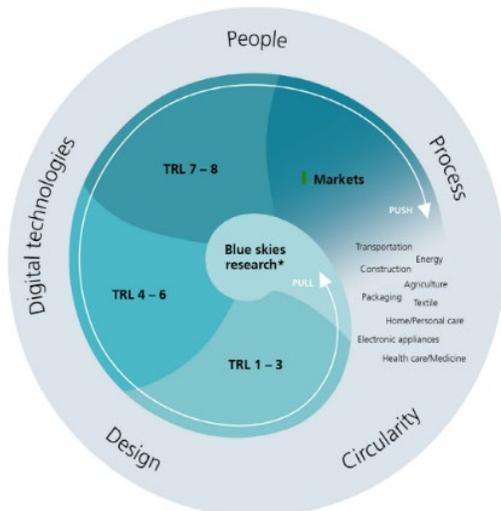
R&I for zero pollution from industry and chemicals for air, water and soil



**Raw Materials Action Plan:**  
R&I for resilient value chains; less dependency on primary critical raw materials



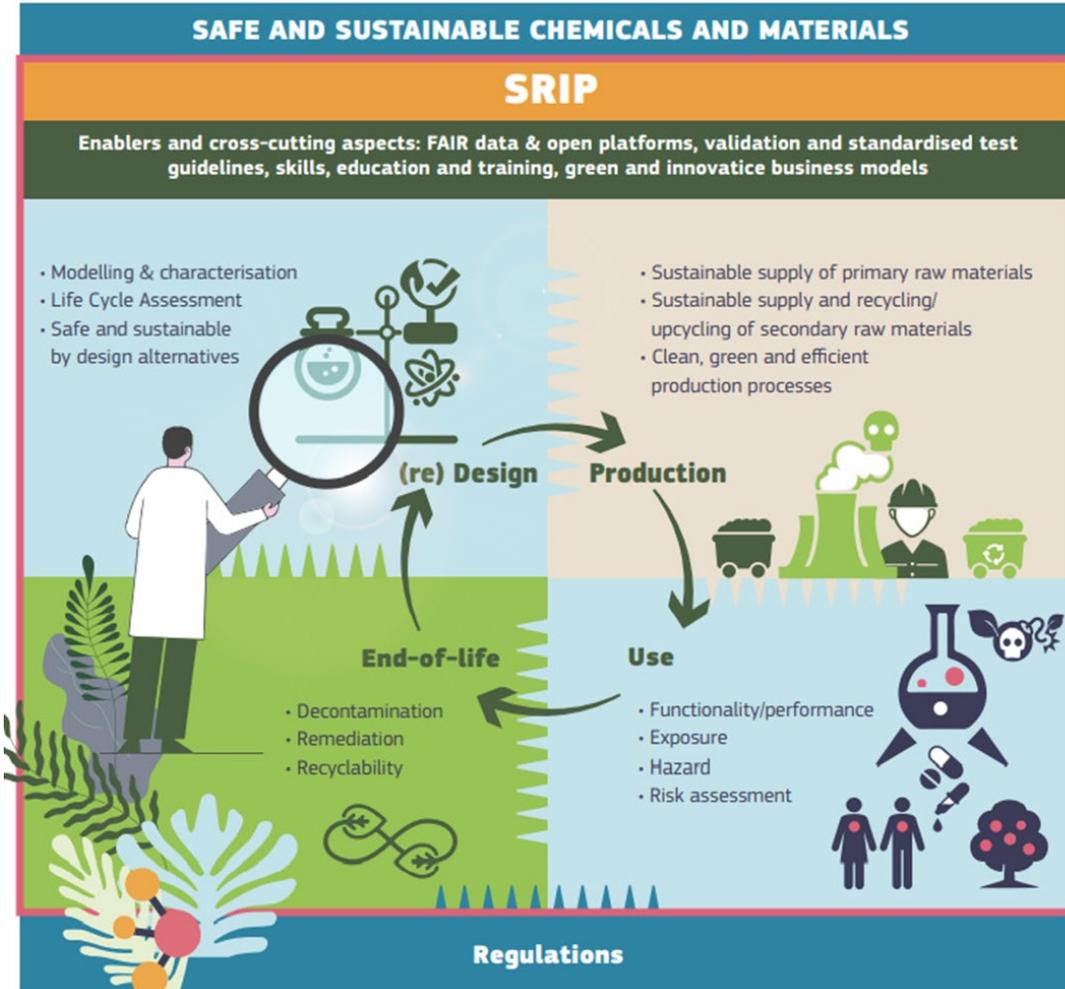
**Circular Economy Action Plan:**  
R&I for circular industries; sustainable products; and no waste



**Materials 2030 Manifesto:**  
new opportunities for advanced materials in 9 strategic markets

\* Research where „real-world“ applications are not immediately apparent

# Strategic R&I Plan for chemicals and materials



- Published in October 22: <https://ec.europa.eu/assets/rtd/srip/2022/>
- Contributes to the transition to climate neutrality and the zero-pollution ambition
- Highlights the R&I areas crucial for making chemicals and materials safe and sustainable
- Input for different funding programmes (EU, national or industrial)
- Based on extensive consultations with different stakeholder groups – thanks for your contribution!

# Cluster 4 - Vision

*Competitive technologies respecting the boundaries of our planet,  
and reflecting human needs*

## Green and digital 'twin' transitions

### Industrial and digital transformation

- mastering technologies
- deploying technologies and technology infrastructures
- securing autonomy in strategic value chains



Climate-neutral, circular and clean industry

### Major contribution to inclusiveness and resilience

- human-centred and ethical developments
- engagement with users, workers, citizens
- social innovation

# Cluster 4 'Digital, Industry and Space' – Strategic Plan

Key Strategic Orientation in the Strategic Plan 2021 - 2024	Destinations for WP 2021/2022 and draft WP 2023/2024	Strategies
<p><b>C- Making Europe the first digitally enabled, circular, climate-neutral and sustainable economy</b></p>	<p>Climate neutral, circular and digitised production TWIN-TRANSITION</p>	<p>Fit for 55 Digital Decade Industrial Strategy REPowerEU: ~new investment for energy-independence</p>
<p><b>A - Promoting an open strategic autonomy by leading the development of key digital, and enabling and emerging technologies, sectors and value chains</b></p>	<p>A digitised, resource efficient, and resilient industry RESILIENCE</p>	<p>Fit for 55 <b>Materials2030Roadmap and EU Chemical Strategy</b> Industrial Strategy</p>
	<p>World-leading data and computing technologies DATA</p>	<p>Digital Decade Industrial Strategy</p>
	<p>Digital and emerging technologies DIGITAL-EMERGING</p>	
	<p>Open Strategic Autonomy in Space infrastructures, services, applications and data SPACE</p>	<p>EU Space Strategy</p>
<p><b>D - Creating a more resilient, inclusive and democratic European society</b></p>	<p>A human-centred and ethical development of digital and industrial technologies HUMAN</p>	<p>Digital Decade Industrial Strategy</p>

# Materials 2030 Manifesto, Roadmap, and AMI

## Feb 2022: Materials 2030 Manifesto

- Safeguarding Europe's technology leadership
- Reducing the environmental footprint
- Securing Europe's strategic autonomy



*Climate neutrality*

## June 2022: Materials 2030 Roadmap

- Published at [IndTech](#) 2022 conference
- Engaging all advanced materials stakeholders



*Zero pollution*

## Feb 2023: draft Strategic Materials Agenda

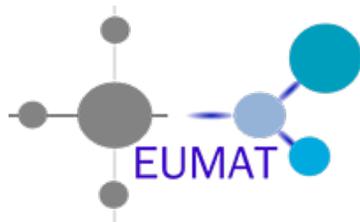
- Translating the Roadmap into an action plan
- Positioning the AMI2030 initiative in the EU landscape



*Circular economy*



Gathering 60 organisations developing innovative advanced materials solutions for clean and sustainable energy and mobility.



EU Materials Platform for academia, industry and other stakeholders. Processing R&D priorities.



Sustainable Chemistry Technology platform: Industry-Academia-Policy makers collaboration driven.



European Manufacturing Industry Platform. More than 100 stakeholders from industry, academia and RTOs.

## The signatories of the Manifesto

**Alessandro CREMONESI**, Executive VP and Chief Innovation Officer STMicroelectronics N.V.

**Nicole GROBERT**, Professor, Associate Head of Department (Research), Department of Materials, University of Oxford, Chair of the Group of Chief Scientific Advisors

**Peter GUMBSCH**, Chairman of the Fraunhofer Group Materials, Fraunhofer-Gesellschaft zur Förderung der angewandten Forschung e.V.

**Laurence PIKETTY**, Deputy CEO, Commissariat à l'énergie atomique et aux énergies alternatives (CEA)

**Lars MONTELIUS**, Director-General of International Iberian Nanotechnology Laboratory (INL)

**Kurt VANDEPUTTE**, SVP Government Affairs Umicore NV / SA

**Isabelle VÉRILHAC**, President, The Bureau of European Design Associations (BEDA) and their respective member organisations



**Contact them:**

[www.ami2030.eu](http://www.ami2030.eu) [info@ami2030.eu](mailto:info@ami2030.eu)



# Materials2030Roadmap – building blocks

## Inclusive Governance - a new form of cooperation

### Materials Digitalization

- New research and development methodologies
- Merging computational and experimental material science with data science

### Materials Scaling Up

- Common manufacturing technologies & conditions for the production and processing of advanced materials

### Materials Priority Areas

- The basis for the development of a novel European strategic materials agenda

**Connecting “Blue Sky” research with market demands**

**Evidence-based policy recommendations**

# Materials2030Roadmap – Priority areas

Health Care



1

Construction



2

New Energies



3

Transport



4

Home & Personal Care



5

Packaging



6

Agriculture



7

Textiles



8

Electronics  
Appliance



9

People



Planet



Prosperity



# The Advanced Materials 2030 Initiative

## *Overarching objectives*



Planet



People



Prosperity

### Green Deal targets



Climate neutral by  
2050



Prevent resource  
scarcity



Reduce environmental  
pollution

Climate  
contribution



Circularity of mat



Zero pollution &  
non-harmful



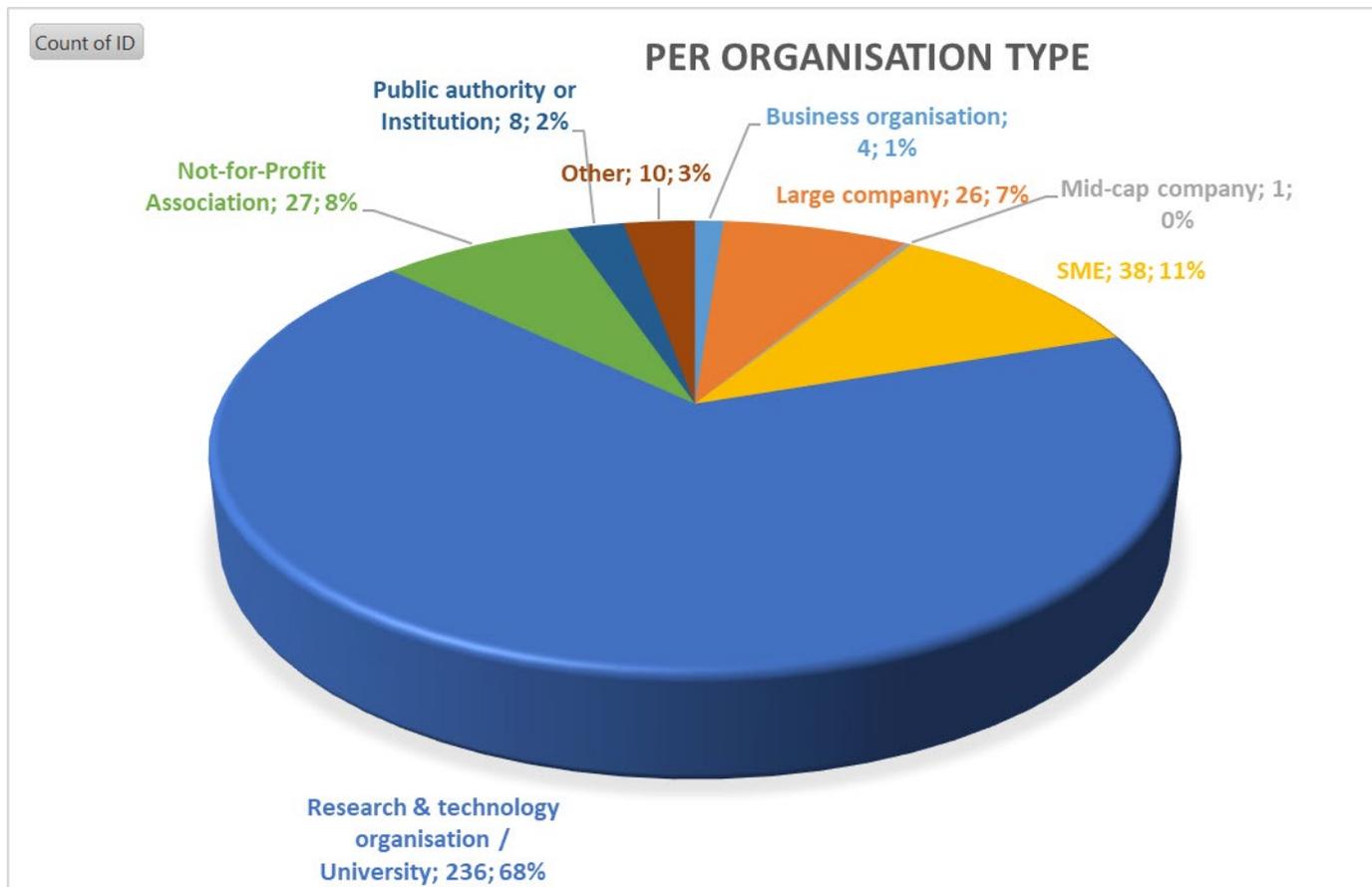
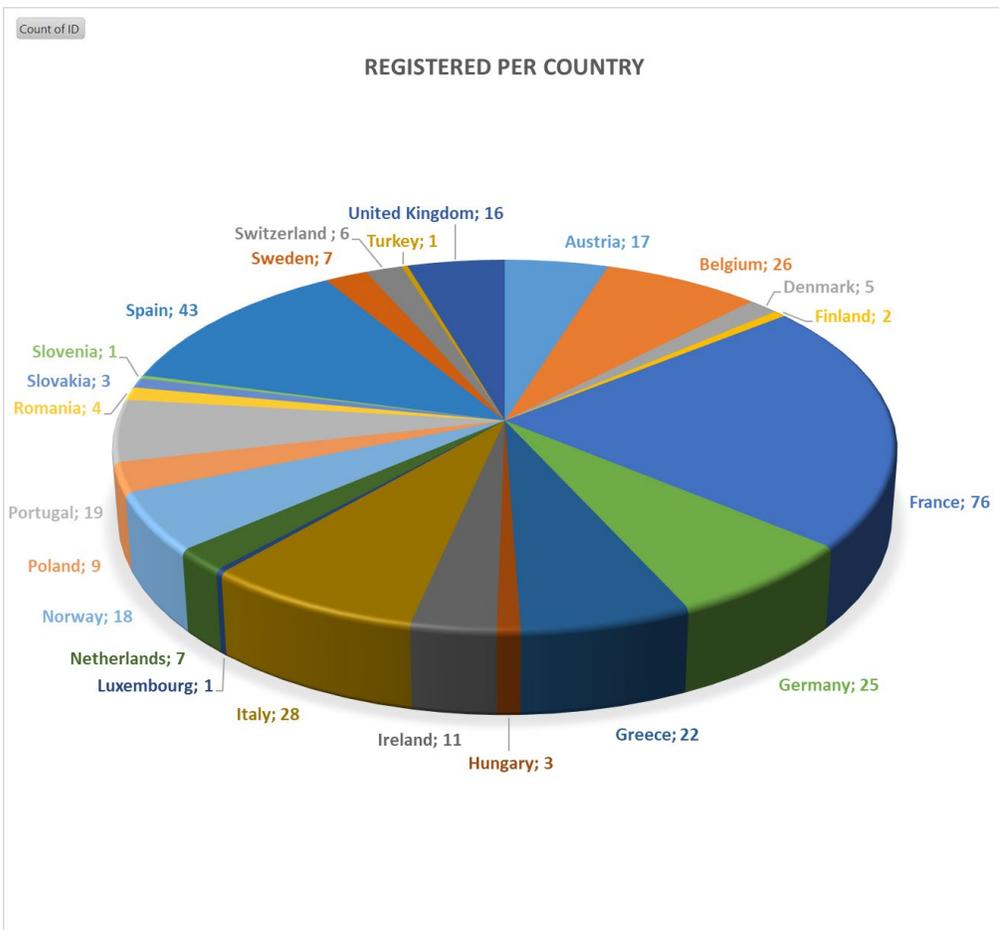
### Other strategic targets

- Safeguarding Europe's technology leadership
- Reinforcing European industry competitiveness
- Securing Europe's strategic autonomy
- Supporting transformation of European society, including digital transition

# Engagement

350 people registered on AMI2030 website (24/11/2022 18:00)

- more engagement from industries would be good – also some countries underrepresented



# Draft work programme 2023/2024

- **Strategic innovation markets driven by advanced materials**
  - Bioinspired and biomimetic materials for sustainable **textiles**
  - Smart sensors for the **Electronic Appliances** market
  - Advanced (nano and bio-based) materials for Sustainable **Agriculture**
  - Biodegradable polymers for sustainable **packaging** materials
  - Advanced **biomaterials for the Health** Care
  - Advanced materials for magnets in New **Energies** Market



Thank you for your attention