



# PROCESSES4PLANET

Transformando la industria de procesos  
para un planeta sostenible y una sociedad próspera

## JORNADA ECONOMÍA CIRCULAR

Oportunidades para la I+D+i en el nuevo contexto europeo

13 Mayo 2021

**Àngels Orduña Cao**  
Directora Ejecutiva  
A.SPIRE

## A vibrant community ...

### A.SPIRE – European Cross-Sectoral association



DG R&I  
DG Grow



COMMISSION EUROPÉENNE

Industrial Associations & Clusters  
Industries, incl SME's, New Sectors ...

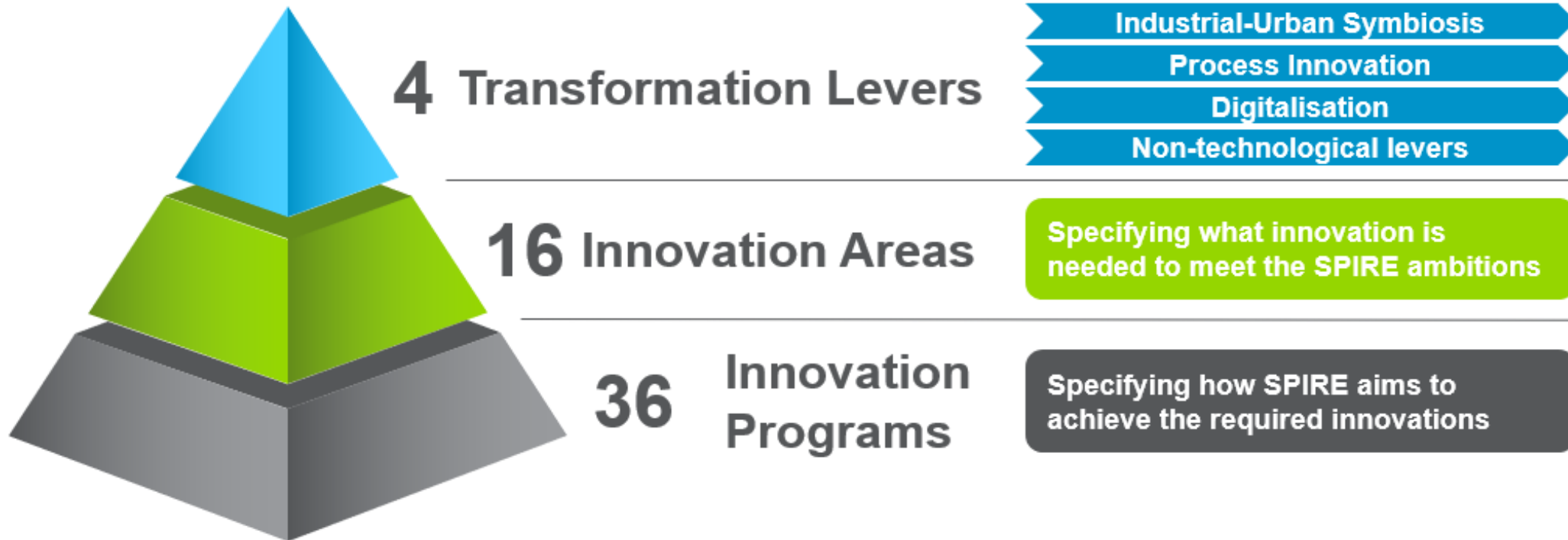
RTO's & Higher Education Institutions

Consultancies, NGO's,  
KIC's, Innovation Agencies, ...

MS & Regional Representatives  
Financial Partners

**OPEN APPROACH: inclusive of different stakeholders and welcoming Newcomers**

Transformation levers and tools to enable P4Planet to achieve its ambitions



## The power of Process Industry Innovation in our SRIA



Unique cross-sectoral community

Innovation area	Progress up until milestone year <sup>1</sup>			
	2024	2030	2040	2050
Renewable energy integration	●	●	●	●
Heat reuse	○	○	●	●
Electrification of thermal processes	○	○	●	●
Electrically-driven processes	○	○	●	●
Hydrogen integration	○	○	●	●
CO <sub>2</sub> capture for utilisation	○	○	●	●
CO <sub>2</sub> utilisation in minerals	○	○	●	●
CO <sub>2</sub> & CO utilisation in chemicals and fuels	○	○	●	●
Energy and resource efficiency	○	○	●	●
Circularity of materials	○	○	●	●
Industrial-Urban symbiosis	○	○	●	●
Circular regions	○	○	●	●
Digitalisation	○	○	●	●
Non-technological aspects	○	○	●	●

<sup>1</sup> Progress is depicted here as % of total TRL9 projects programmed in each area, and for circular regions, digitalisation, and non-technological aspects % of total investment needs until 2050

36 innovation programmes to FILL the GAP

+ Skills, Jobs, Competitive gap analysis, Framework/Standards



First-of-a-kind plants

Hubs for Circularity



Ambitions to enable Prosperity for all



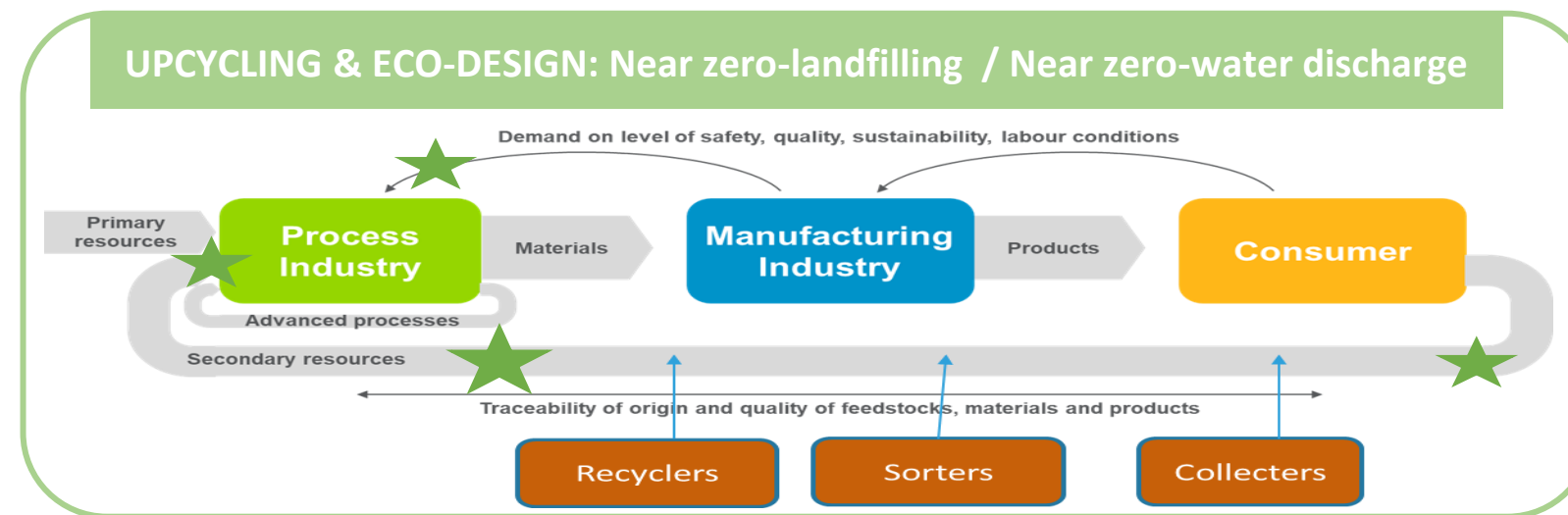
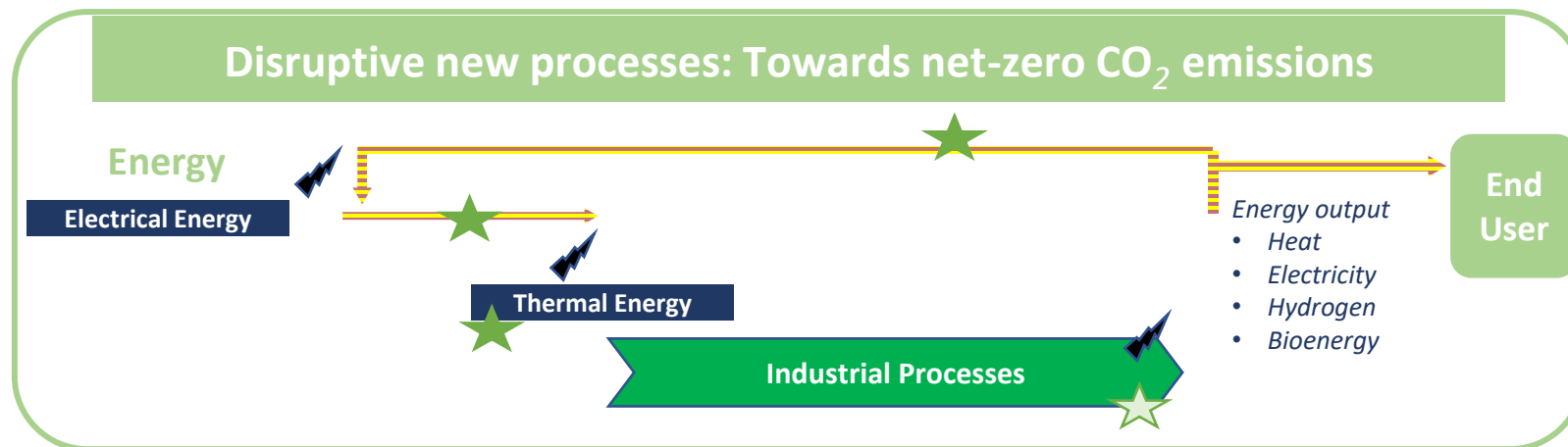
Climate neutrality  
Net-zero emissions



Circularity:  
Near zero landfilling  
and near zero water discharge



Globally Competitive  
EU process industry



36 innovation programmes



## UNLOCKING PRIVATE INVESTMENTS & BARRIERS TO MARKET FOR CLIMATE NEUTRAL & CIRCULAR SOLUTIONS

- ★ De-risk investments
- Financial Flow up to TRL9
- Define framework conditions for market uptake
- Available & affordable green energy as enabler
- Holistic digital process innovation 4.0 as accelerator
- Hubs for Circularity to accelerate innovation

★ P4PLANET



### ★ Competitive Process Industry

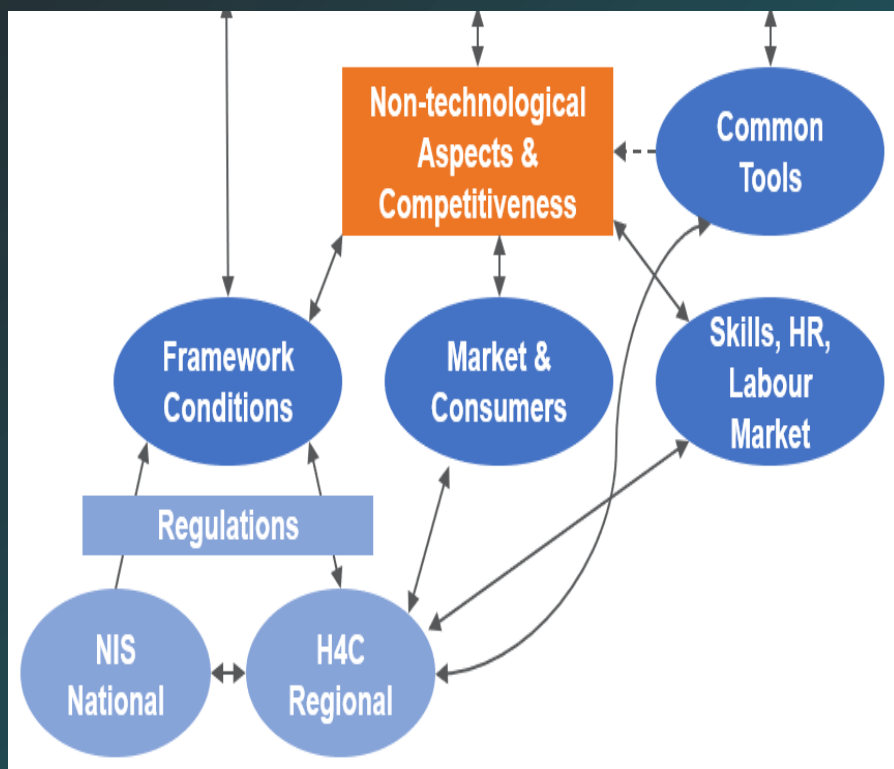
- ★ Jobs
- Skilled workforce
- Sustainable Processes
- Sustainable Materials
- Shift to a real circular economy
- Circular Regions
- Export innovations worldwide (CO2 has no borders)

36 innovation programmes



# NON-TECH & SOCIAL INNOVATION

Delivering more societal, economic and market impact.



- EU, national & regional framework conditions
- Management of market & consumer demands & changes
- Effective common tools: LCA, business models, digital methodologies...
- Gender balance
- Human Resources, skills and labour market

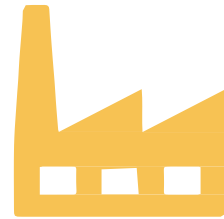


“European Energy Intensive Industry Skills Agenda and Strategy”  
Erasmus+ Project



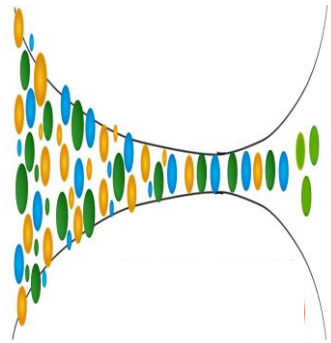
**A.SPIRE 10 sectors and innovation eco-system working together for the skills of the future**  
on Industrial-Urban Symbiosis and the Process Industry 4.0

## MARBLES: a showcase of the Process Industry transformation

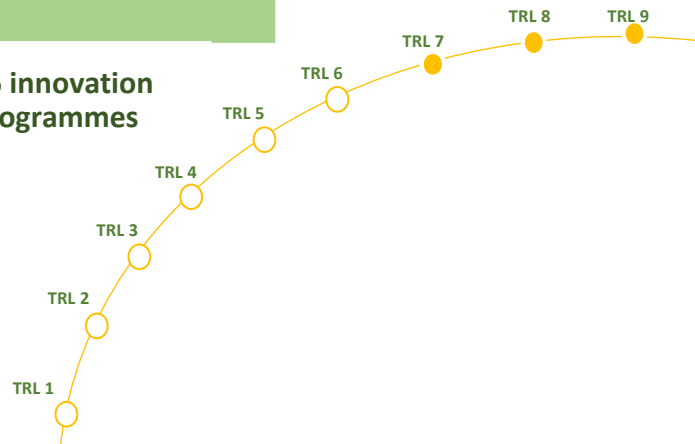


### FIRST OF A KIND

- FOAK Plants
- FOAK Units within a plant



36 innovation programmes



- **First-of-a-kind Large scale plants in operation**
- Combine one or several P4Planet Innovations towards the 2030/2050 ambitions to reach Climate neutrality and circularity
- Acting as Hubs of bulk amounts of resources from industry and the municipalities.
- Several marbles will likely connect to reach together the targets of the partnership's KPIs
- **50+ Marbles** identified of which ca. We aim to **launch 15 in the period 2021 – 2030**, responding to the green-deal plan, and enabled by the P4planet innovation portfolio

### PRIVATE INVESTMENTS

- Industry leader commitment
- Technical and economic feasibility proved at TRL 9
- Public support needed to de-risk and accelerate



# HUBS FOR CIRCULARITY

Objective: impact across Europe

## THE CONCEPT

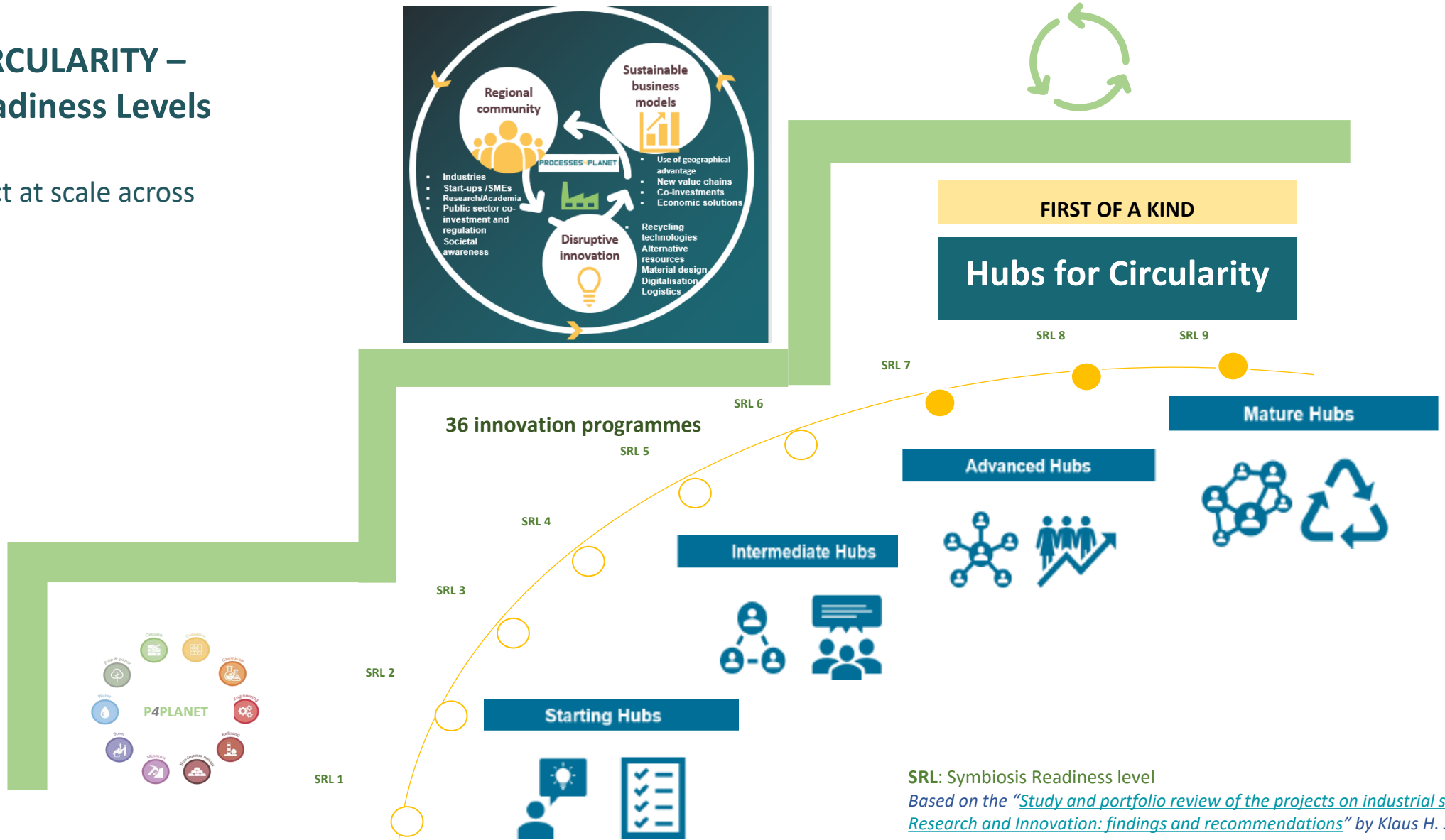
*Self-sustaining economic industrial ecosystems for full-scale Industrial-Urban Symbiosis and Circular Economy, closing energy, resource and data loops and bringing together all relevant stakeholders, technologies, infrastructures, tools and instruments necessary for their incubation, implementation, evolution and management.*

- Territorial systemic solutions with integration of interregional recycling value chains
- **Processes4Planet inside!**
- Facilitation necessary to overcome non-technological barriers to symbiosis



## HUBS FOR CIRCULARITY – Symbiosis Readiness Levels

Generating impact at scale across EU regions



SRL: Symbiosis Readiness level

Based on the *"Study and portfolio review of the projects on industrial symbiosis in DG Research and Innovation: findings and recommendations"* by Klaus H. Sommer




PROCESSES4PLANET

### Contact us:

 Rue Belliard 40 Bte 21B-1040 Brussels

 [info@spire2030.eu](mailto:info@spire2030.eu)

 + 32 (0)2 436 96 14

### Contact A.SPIRE Executive Director:

**Àngels Orduña Cao**

 [aor@spire2030.eu](mailto:aor@spire2030.eu)