



DigiPass

Know Your Products!

Open Innovation, SSbD and DPPs:
Digitalization and the quest for effective and fair
co-creation and co-sharing of innovative assets

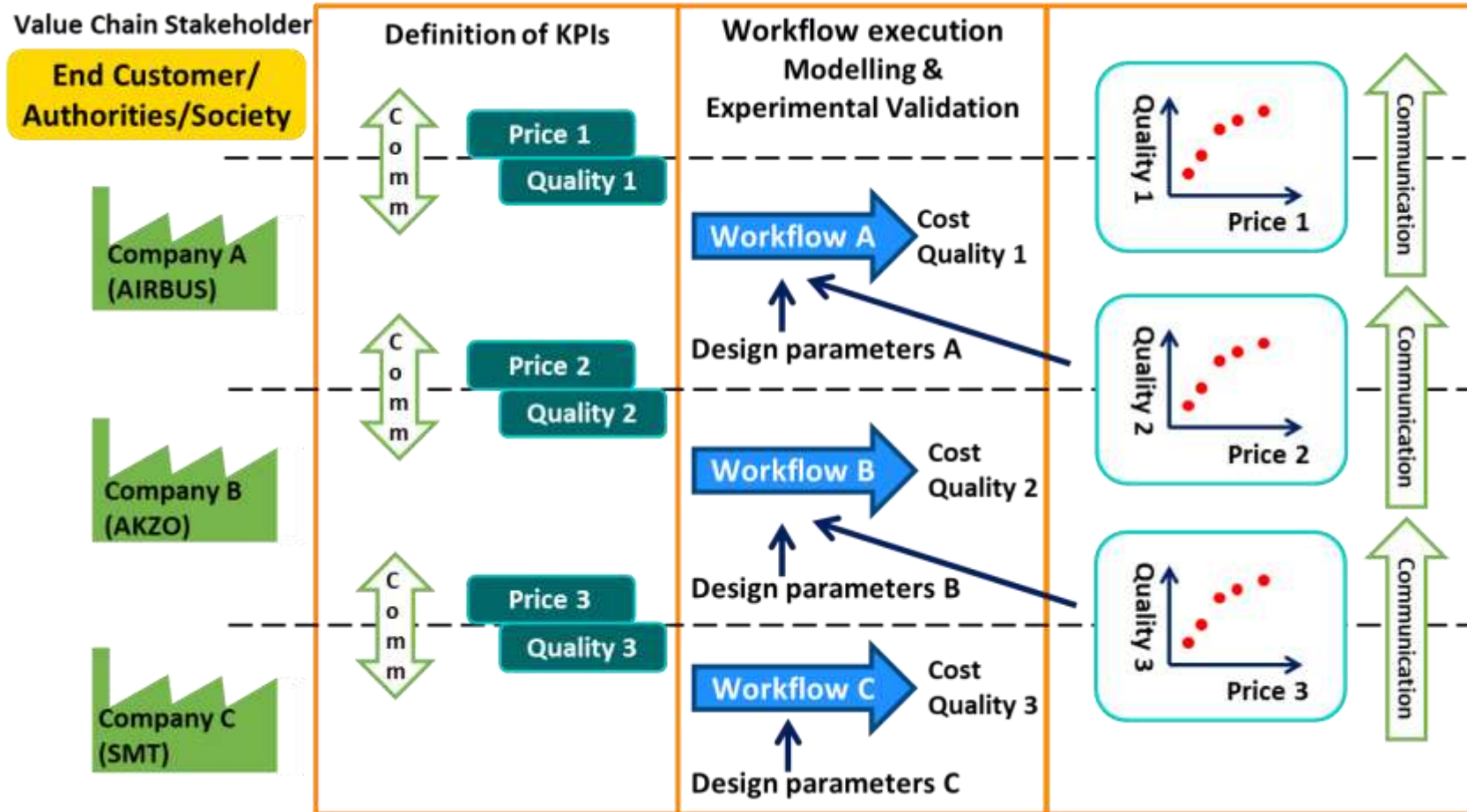
EU-IndTech-2025 Conference
2nd June 2025, Kraków, PL
Dr. Peter Klein, Fraunhofer ITWM

Outline

- ✖ **Open Innovation along value/production chains**
- ✖ **Digital Platforms supporting Open Innovation:**
the role of workflow standards
- ✖ **Innovation and Production in a circular economy:**
SSbD and DPP as two sides of the same coin
- ✖ **Incentives and fair co-sharing of innovative assets:**
win-win-win collaboration
- ✖ **Requirements on digital Infrastructure and standards**
supporting (at least) DPPs



Open Innovation along value/production chains



Specifications/requirements

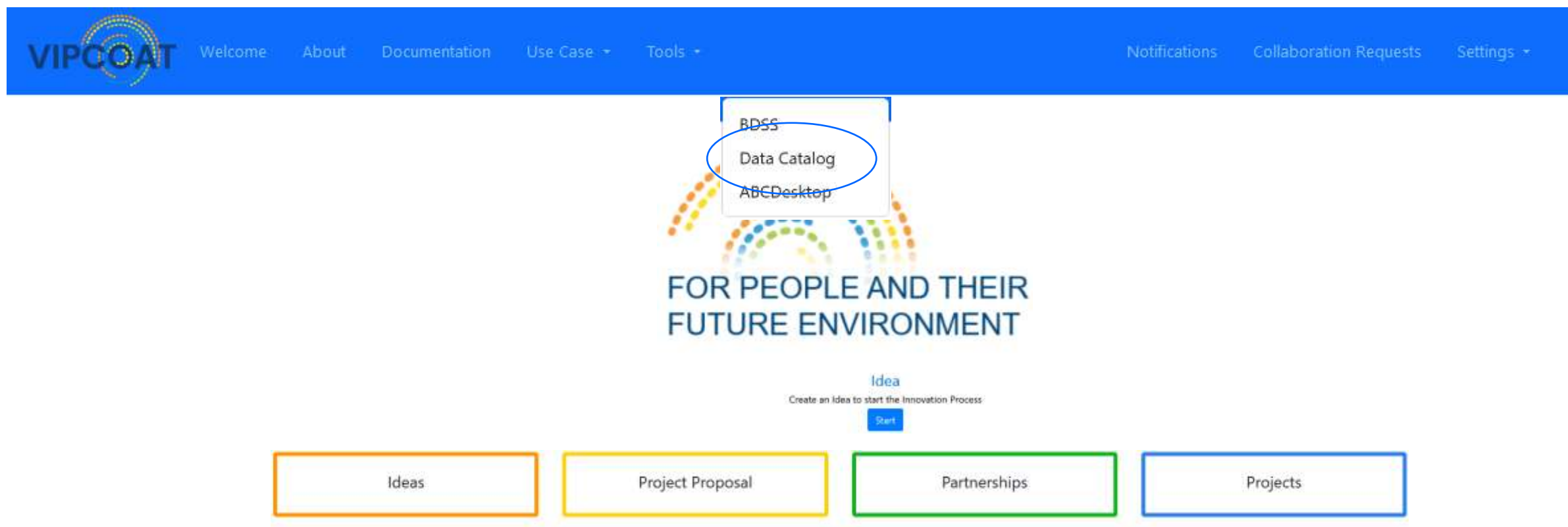
- downstream: technological as quality KPIs
- upstream: technological design options and business KPIs (pricing)

Collaborative Decision Making

Along value/production chains open new “degrees of freedom” -> overall improvements

Digital Platforms supporting Open Innovation

The VIPCOAT OIP

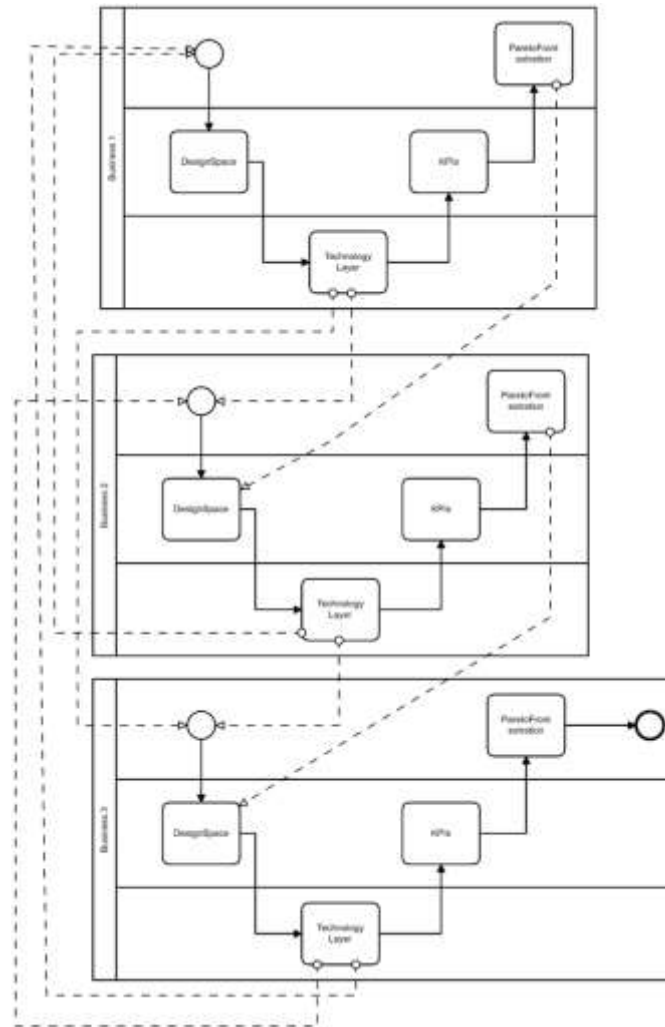
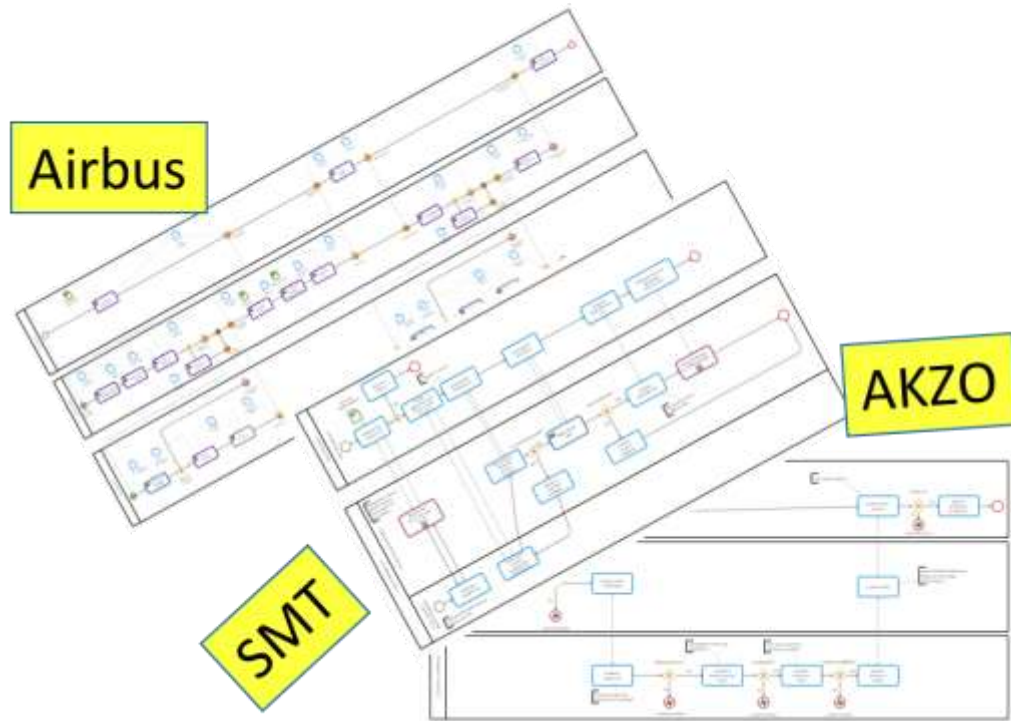


Proper Data Documentation & Management

<https://vipcoat-oip.com/welcome>

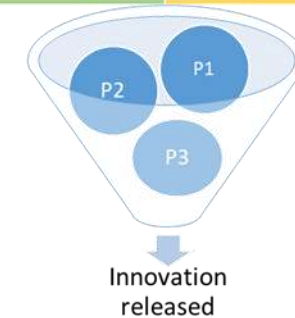
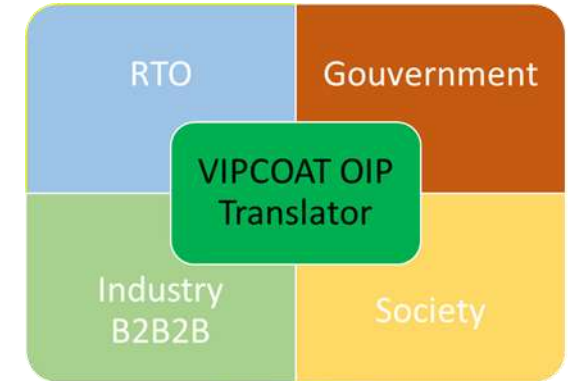
Digital Platforms supporting Open Innovation

Standardized workflows



VIPCOAT OIP: repeatable innovation workflows in a B2B2B environment

New kind of Intermediate



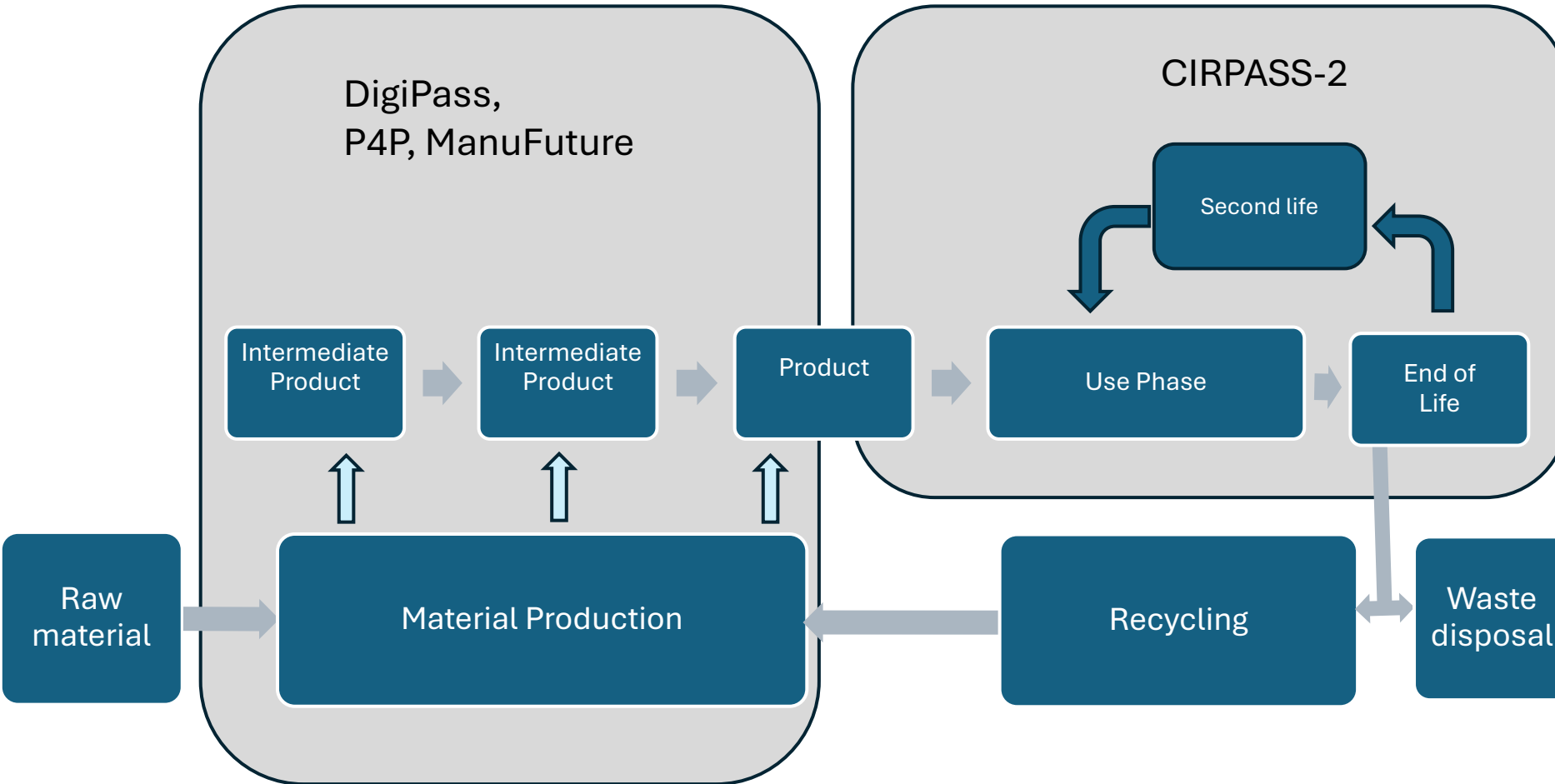
Innovation funnel:
candidates under
development

VIPCOAT result:
New Cr-VI free paint at TRL 6,
Patent strategy of (some)
VIPCOAT partners.



Workflow at each company structured
as standard BPMN processes

Innovation and Production in a circular economy

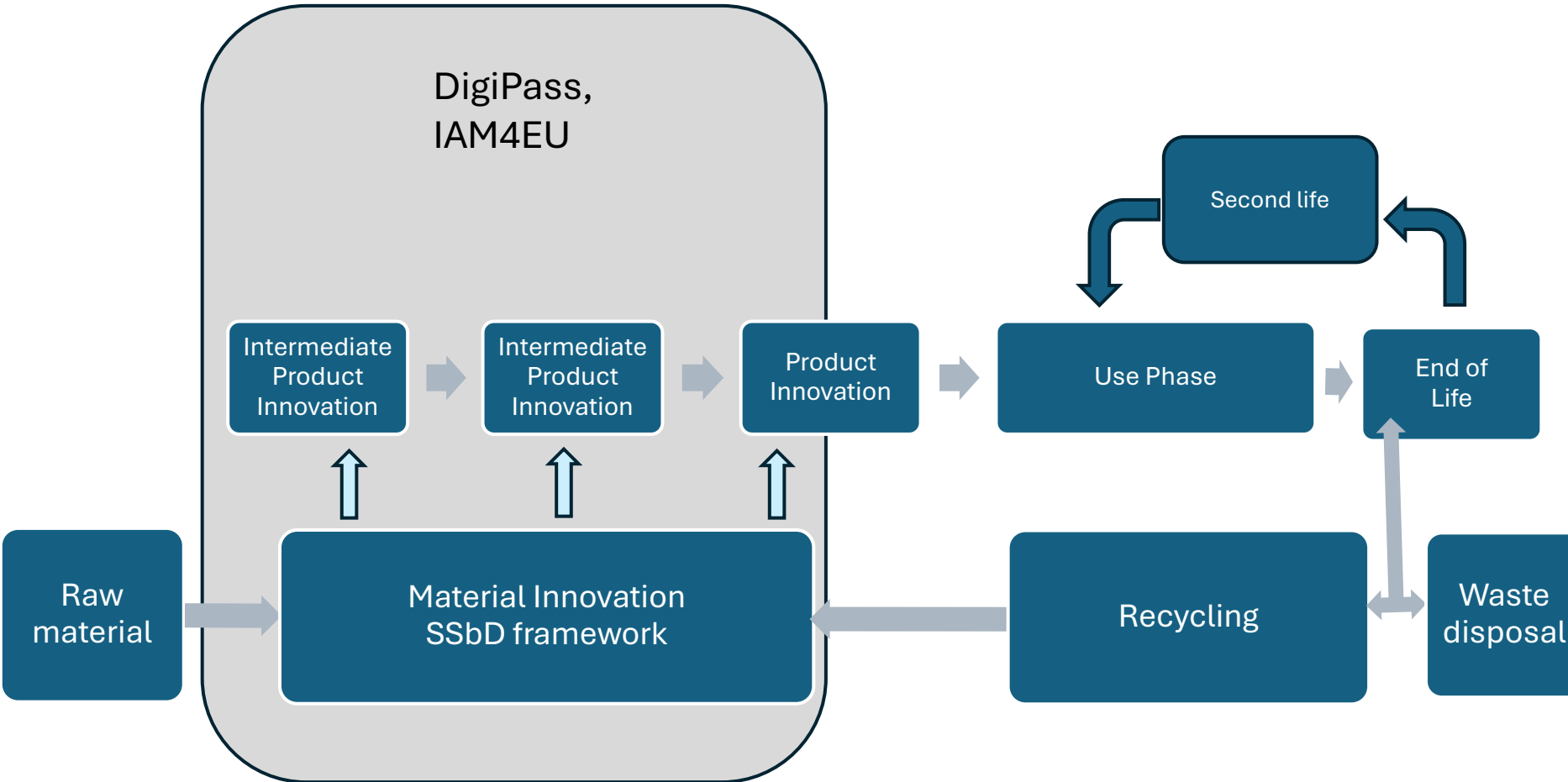


Regulation/Legislation:
DPP as instrument to drive the transition towards a circular economy while maintaining/ensuring European Industrial Leadership.

-> **Digitalized collaboration along value chains a must !**

High requirements on data sustainability and accessibility !!

Innovation and Production in a circular economy

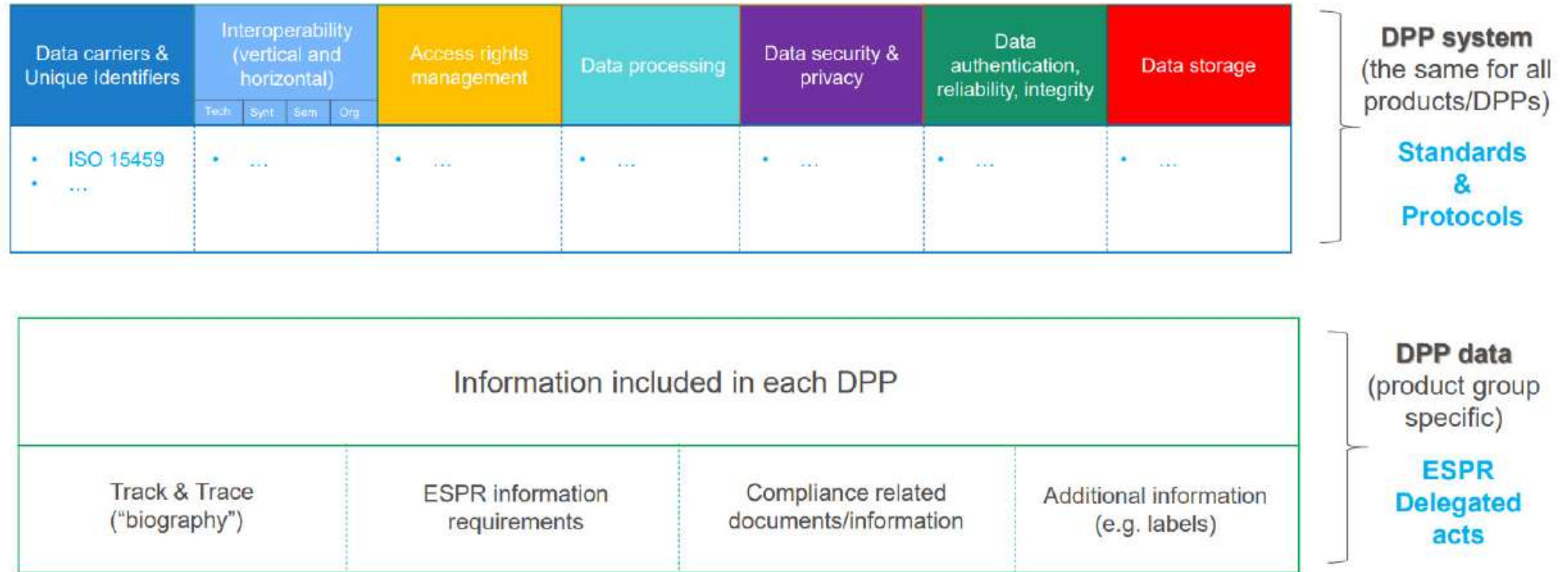


SSbD:
An innovation framework including stage-gate transitions.

Implementation as an innovation process.

Advocate for collaborative decisions on chemicals and materials in stage-gate transitions, regulatory sandboxes.

Relation between SSbD and ESPR



<https://circulareconomy.europa.eu/platform/sites/default/files/michele-galatola-european-commission.pdf>

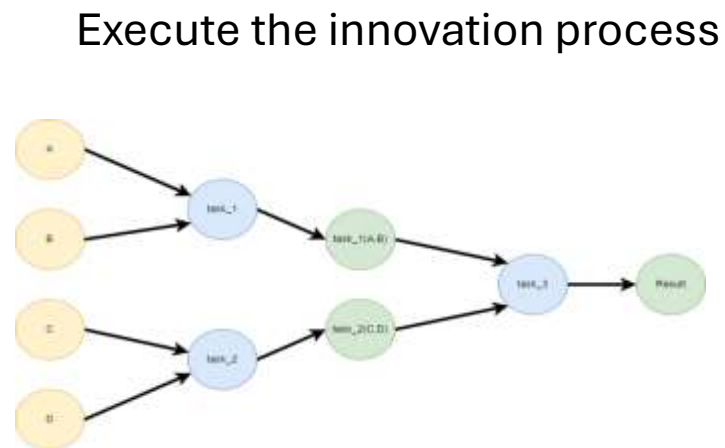
ESPR requirements and compliance **include SSbD concepts** (i.e. toxicity, GWP, LCA data, functionality)

Incentives and fair co-sharing of innovative assets

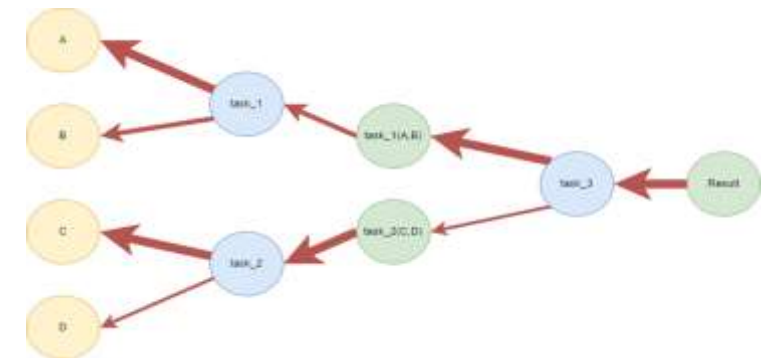
- ✖ **Circularity today is driven by Regulation/Legislation.**
- ✖ **Administration: tax schema for products and public procurement rules.**
- ✖ **Consumer awareness, societal pressure (social responsibility “for a better world”)**
- ✖ **Fostering the uptake of SSbD processes to accelerate the Green Industrial Transition, an Incentive System related to Business Processes/Interests is helpful.**

Incentives and fair co-sharing of innovative assets

- ✖ One Approach, if repeatable standardized Workflows are used along value chains and along innovation partners:
 - ✖ Consider Innovation Processes as a serious collaborative game.
 - ✖ Negotiate among the “players” the roles of the game before an innovation process get started !
 - ✖ Co-share assets according to the **Shapley Value** of each innovation partner
- ✖ **VIPCOAT as a testimonial**
 - ✖ All innovation processes within a partnership represented using **BPMN**
 - ✖ **Fair co-sharing is possible !!**

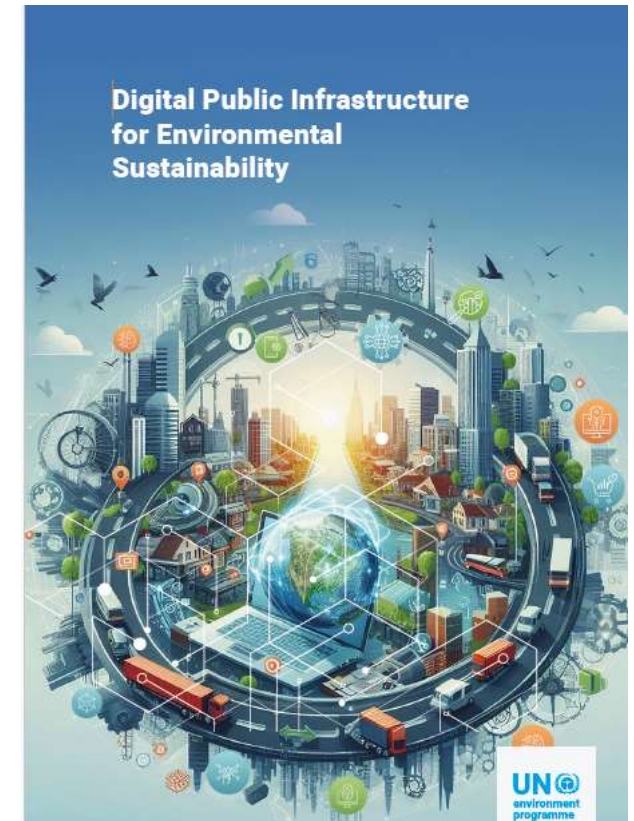


Evaluate and compare impact of all tasks



Requirements on digital Infrastructure and standards

- ✖ Digital collaboration without agreement and adherence to standards is simply impossible.
- ✖ Digitalized regulations and norms should be the basis for digital standards.
- ✖ Uptake of SSbD- and DPP-Frameworks should be Incentive driven.
- ✖ Trust is important: foster transparency and fairness between innovation partners.
- ✖ Regulation/Legislation including DPPs, introduce opportunities for faster innovation cycles.
- ✖ SSbD driven collaborative Innovation cycles on digital platforms support a seamless transition from Research to Innovation to Production, thus speeding up the transformation requested by the Green Industrial Deal.
- ✖ In a circular economy, the lifetime of a DPP is coupled to the lifetime of products, which means DECADES in many cases.
- ✖ A clear business model for a digital Infrastructure necessary to sustainably run data sharing (Innovation, DPP) is still lacking. Given the requirements, the most obvious solution seems to be a public Infrastructure: DIGITAL is CRITICAL !





Know Your Products!



COORDINATION AND KNOWLEDGE SHARING ACROSS MATERIALS DEVELOPMENT COMMUNITIES (CSA):

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