

# Kristiina Valtanen

## VTT



VTT

# FINNPASS projektiesittely

08/04/2024 VTT – beyond the obvious

# Tuotepassin taustalla ekosuunnitteludirektiivi

- Ekosuunnitteluasetus tuo muutoksia laajaan tuotevalikoimaan
- Tuotesuunnittelulla tuotteista kestäviä, ympäristöystävällisiä, turvallisia ja kierrätettäviä
- Liiketoimintamallien, tuotantoprosessien ja tuotteiden suunnittelu; tuotteiden kestävyys lisääminen ja käytön optimointi; osallistuminen toimiviin uusioraaka-ainemarkkinoihin
- Digitaalisen tuotepassin avulla tietoa koko arvoketjun toimijoille
- Tuotedatan jäljitettävyys ja läpinäkyvyys
- Delegoituja säädöksiä eri tuoteryhmille; ensimmäisiä ovat akut, tekstiilit ja teräs

ESPR voimaan

Delegoidut säädökset  
(tekstiili, teräs)

DPP standardointi  
valmistuu

Akkupassi käyttöön

DPP tekstiileille ja  
teräkselle käyttöön



# FINNPASS-projektin tavoitteet

Koota yhteen tuotepasseihin liittyvät toimijat ja ratkaisut ekosysteemin toiminnan kehittämiseksi

Luoda yrityskenttään yhteinen ymmärrys ja tavoitetila tuotepassien toteutusvaihtoehdoista ja vaikutuksista

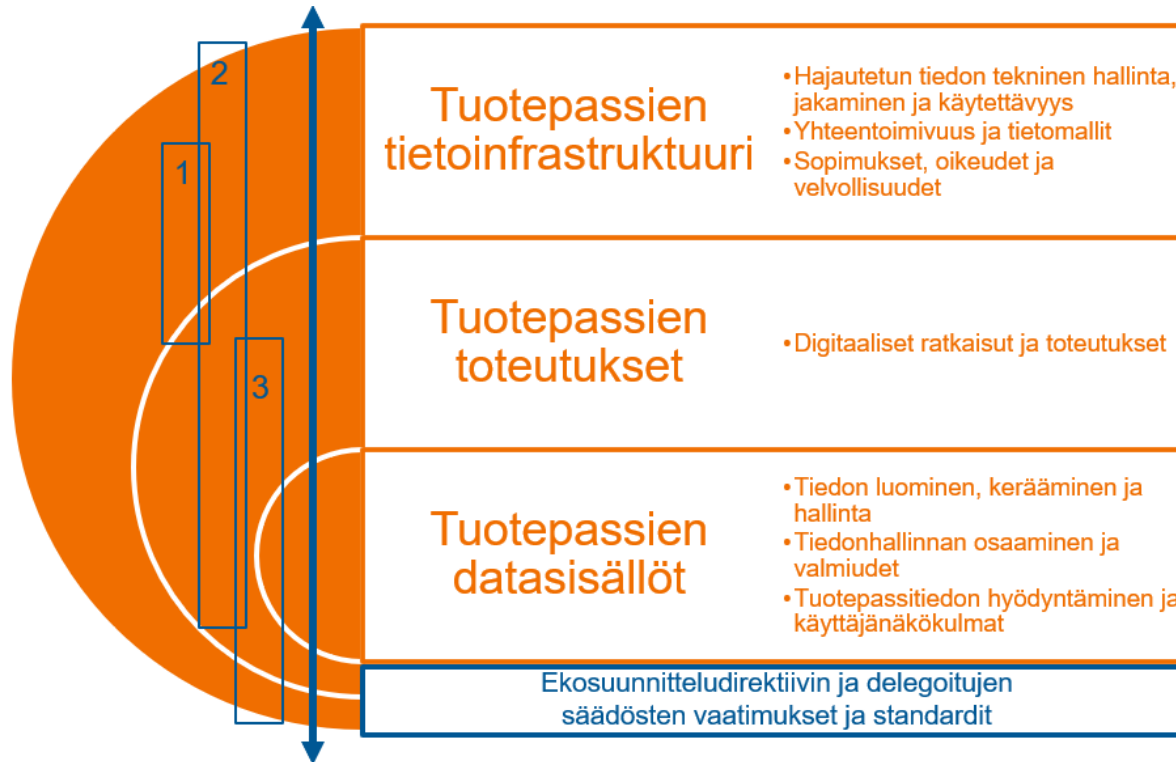
Koota näkemyksiä ja vaikuttaa tuotepasseihin liittyvän sääntelyn implementointiin ja standardointiin

Toimia aktiivisesti tuotepassikehityksen parissa ja koostaa tietoa toimialoille

Synnyttää tuotepassiratkaisuihin kehitysaihoita ja yrityskokeiluja

Ideoida tuotepassien mahdollistamaa tulevaisuuden kiertotaloustoimintaa ja liiketoimintaa

# Yhteistyöverkoston toiminnan tasot



**FINNPASS edistää uuden kestävä liiketoiminnan synnyttämistä suomalaisesta osaamisesta ja tukee yritysten kilpailukykyä tuotepassien ja sen tuomien mahdollisuuksien avulla.**

# Projektin toteutus 2/2024 – 2/2025

Toimijakartoitus ja  
kontaktointi

Selvitys yrityskentän  
tuotepassivalmiuksista  
ja -tuotteista sekä  
tarvittavista  
toimenpiteistä

Hankeyhteistyö ja  
tuotepassikehityksen  
seuranta

Tapahtumat, työpajat  
ja webinaarit

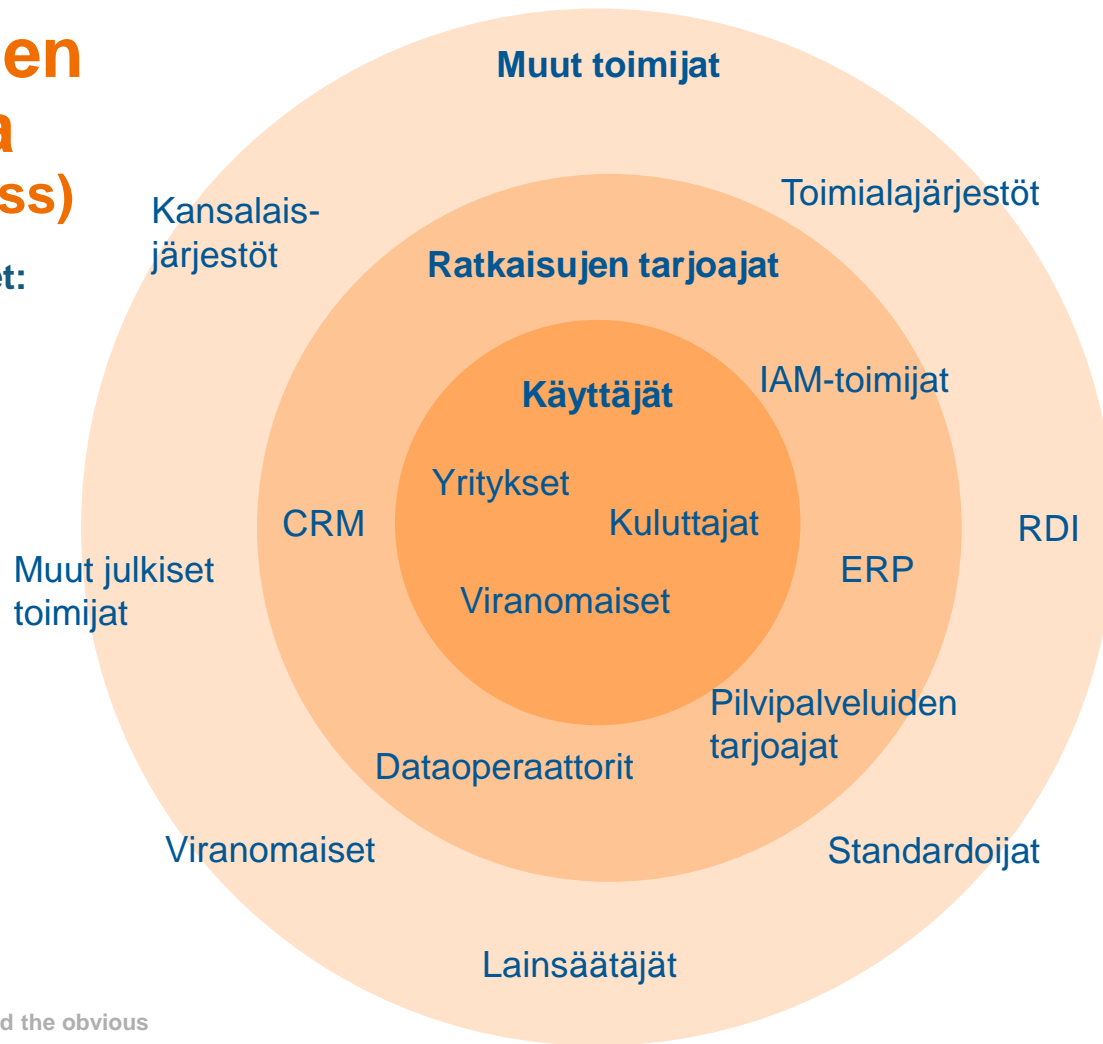
Viestintä ja tiedon  
jakaminen mm.  
LinkedIn sivustolla

Suosituksset ja  
disseminointi

# Tulevaisuuden toimijakartta (work-in-progress)

## Piloteissa mukana olleet:

ABB  
 Voyantic  
 Halti  
 PBI Research Institute Oy Ab  
 IOXIO  
 Junttan  
 Kalmar  
 Marimekko  
 Nokia  
 Orkla  
 Ponsse  
 Reima  
 Sandvik  
 SSAB  
 STJM  
 Struggle Creative  
 Valmet Automotive  
 Valtra  
 Lisäyksiä?



# Liity mukaan LinkedIn ryhmään!

<https://www.linkedin.com/groups/8170127/>



## FINNPASS – The Digital Product Passport (DPP) group for Finland

 Public group



# Lisää tietoa FINNPASS-projektista

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[kristiina.valtanen@vtt.fi](mailto:kristiina.valtanen@vtt.fi)

# bey<sup>0</sup>nd

## the obvious

First Name Surname  
firstname.surname@vtt.fi  
+358 1234 5678

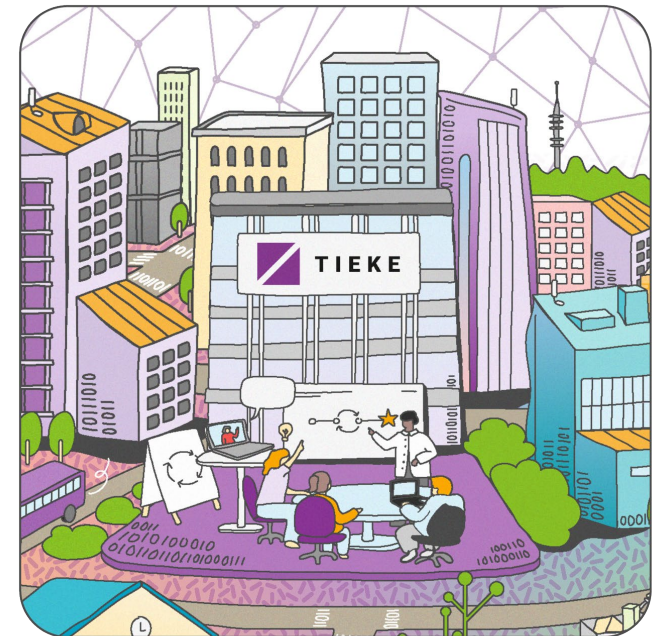
@VTTFinland  
@your\_account

[www.vtt.fi](http://www.vtt.fi)

# Timo Simell

## Tieke

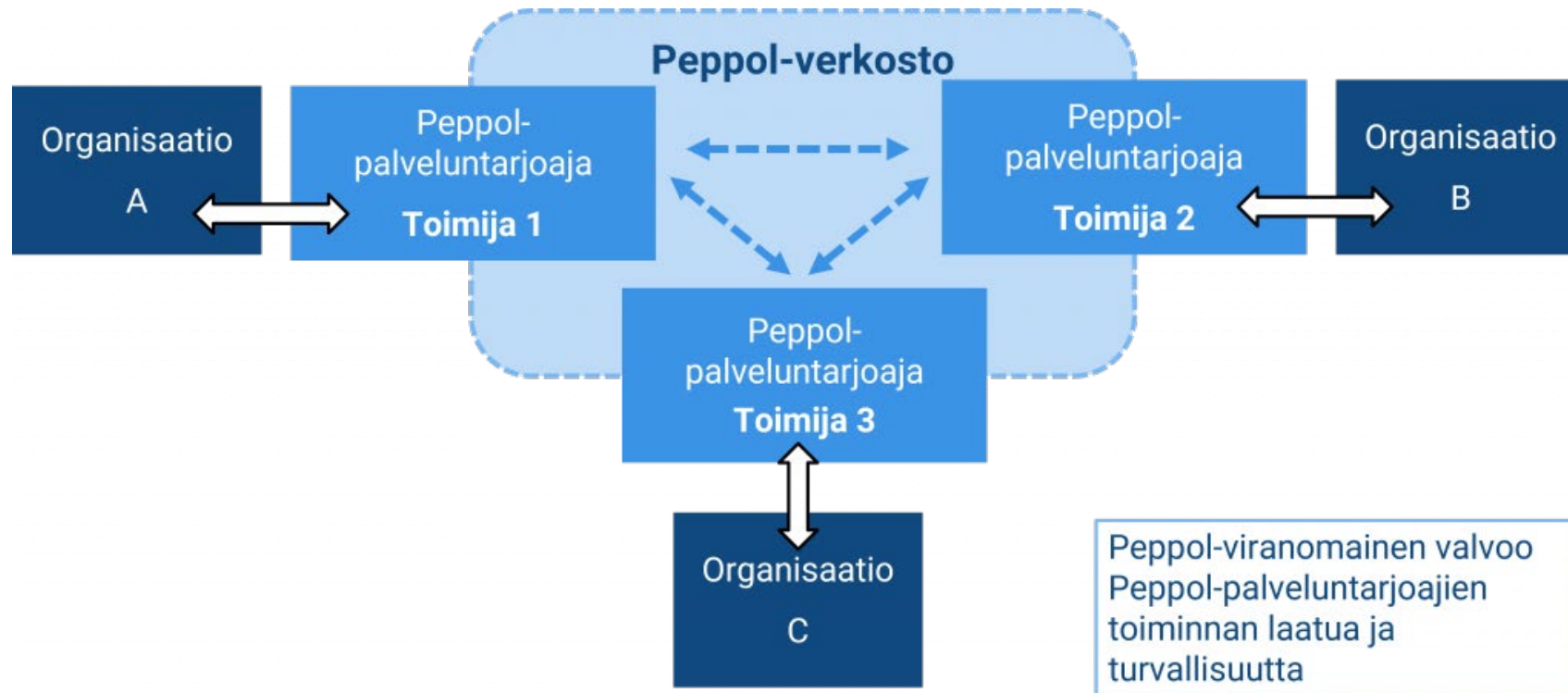
# Kiertotalouden data ja Peppol



# Peppol

- ▼ Verkosto
- ▼ Standardeja
- ▼ EU:ssa, toiminut 2008 lähtien
- ▼ Perusidea sama kuin verkkolaskutuksessa eli ”nelikulmamalli”
- ▼ Joka maassa yksi Peppol Authority, Valtiokonttori Suomessa
- ▼ Valtiokonttori 1.4.2024 asteittain hankinnat Peppol-sanomina
- ▼ Vuodesta 2026 lähtien lähes kaikki tilaukset tehdään vain Peppol-sanomina
- ▼ Eroaa EDIstä siinä, että tarvitaan vain yksi kytkentä ulos

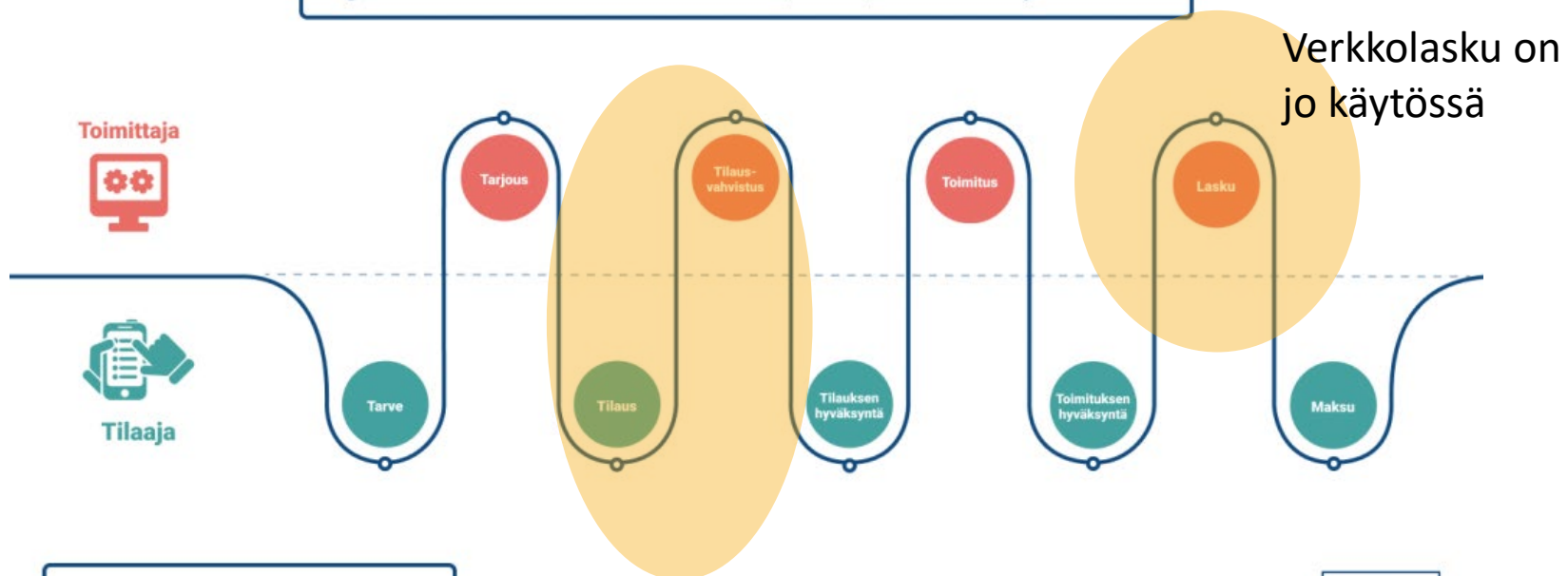
## Nelikulmamalli



# Peppol-sanomat

## Hankintasanomat

Hankintasanomat ovat rakenteellisessa ja koneellisesti käsiteltävässä muodossa olevia kaupankäyntiin liittyviä sanomia. Hankintasanomia käytetään tilaus- ja toimitusprosesseissa organisaatioiden tiedonvaihtoon koskien tuoteluetteloita, tilauksia, tilausvahvistuksia ja toimituksia.



Kuvan prosessit ja sanomat perustuvat PEPPOL-standardiin.

Valtiokonttori  
ottaa  
käyttöön

Valtiokonttori  
Statskontoret  
State Treasury

Valtiokonttori

# Kiertotalouden data

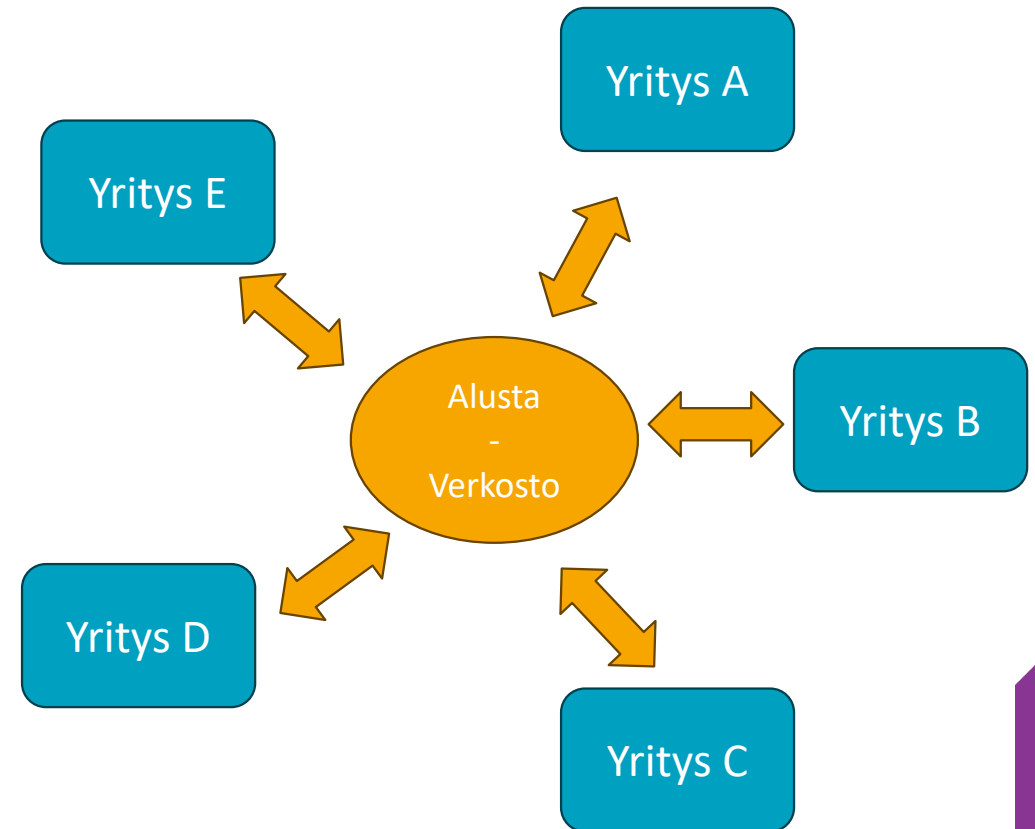
## Digitaalinen tuotepassi

- Tehtävä Tehokas käyttö edellyttää yrityksiltä kykyä kerätä, hallita ja jakaa tietoa **teollisesti ja standardoidusti**. Tämä mahdollistaa läpinäkyvyyden ja datan luotettavan käytön.

## Data samalla kertaa

- Raportointiin
- Kuluttajille nähtäville
- Rahoittajille, vakuutusyhtiöille, verottajalle

## Miksei dataa voisi kuljettaa taloushallinnon sanomissa?





# Voisiko olla?

## ▼ Nyt

- ▼ joudutaan tekemään paljon manuaalista työtä
- ▼ datan luotettavuus heikko
- ▼ siirrettävyyttä ei käytännössä ole

## ▼ Voisiko olla parempi

- ▼ Data siirtyy tilaus-, toimitus-, kuljetus-, lasku- ja kuittidatan mukana?
- ▼ Data tuotetaan vain kerran
- ▼ Vähemmän virheitä
- ▼ Siirrettävyys
- ▼ Automatisointi
- ▼ Yhdistäminen ja käyttö yrityksen muihin järjestelmiin
- ▼ Tiedetään ainakin se mikä data on luotettavaa ja tiedetään missä on epäluotettavaa dataa

# Pekka Niskasaari

## Forum Virium

# CIRCULAR



## FVH-HELSINKI

2024

Procurers



Supported by



This project has received funding from the European Union's Horizon Europe under Grant Agreement n° 101092208.

# CircularPSP Common Challenge

Common challenges of cities to transition to  
Circular Economy

Welcome and Introduction

**CircularPSP Common Challenge**

PCP Process and terms

Reading remarks

Background on PCP and PPI Instruments





# Project

Leading Circular Cities are tackling a common challenge together

# CIRCULAR



Istanbul, Turkey

Guimarães, Portugal

CircularBerlin, Germany

City Network Sweden

Helsinki, Finland

City Network Slovenia

Sandyford, Ireland

ReLondon, UK<sup>1</sup>

8 Procurers – 8 Countries  
45 million citizens

Representing Europe’s leading circular cities and regions

Common challenge: accelerate transition  
towards a Circular Economy (CE)

€5.64 million investment in R&D

Budget spent in a 3-phase competition

A wide-reaching Follower Network  
which will continue to grow



<sup>1</sup> Associated Partner involved in all activities

# Consortium

## Procurers



## Supported by



# Followers\*

## Individual Cities & Regions

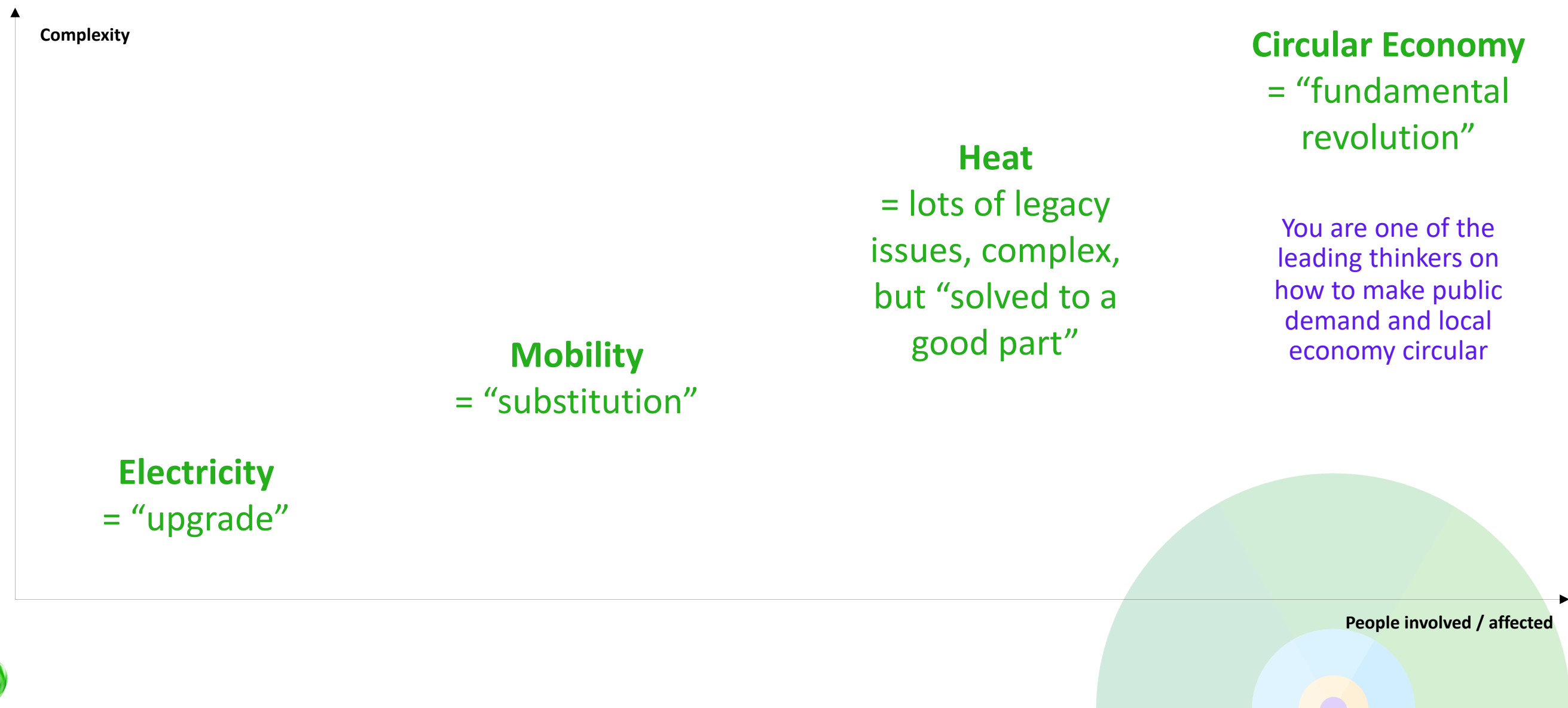


## City Collectives & other CE-initiatives



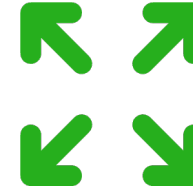
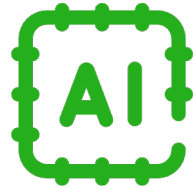
# Sustainability transitions mapped

## CE is the most challenging transition



# The problems and needs to transition to CE

Cities face a complex problem across four interlinked areas, each with its own needs



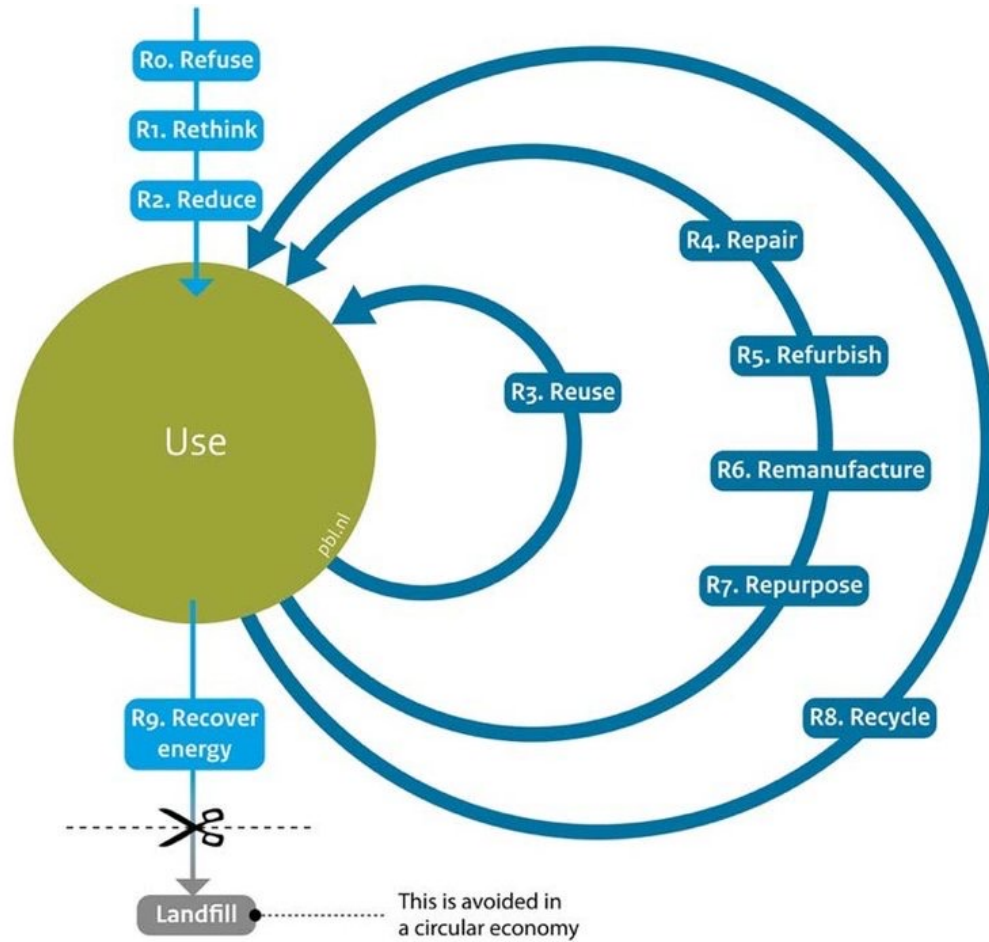
<b>Problem</b>	No access to CE knowledge	No routine in acting circular	No capacity for a CE transition	Linear mindset
<b>Area</b>	Information	Operation	Organisation	Change & Upskilling
<b>Needs</b>	Access to and understanding of CE knowledge	Making circular workable on city-level and day-to-day	One location for information, people and tracking	Customised capacity-building and training
<b>CE-solution</b>	A dedicated solution to enable cities, business and their staff to deploy circular economy action			



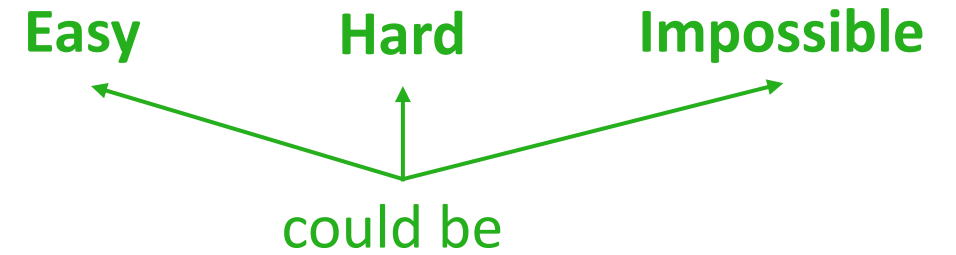
# Circular Economy (2/2) – Dimension of Loops

... to stay within a loop or “fall” as few loops as possible

THE SMALLER THE LOOP THE BETTER = CLOSER TO ORIGINAL PURPOSE



HOWEVER...IT IS COMPLICATED



this depends on

Value chain / Case

City strategy

User commitment

City data

User expertise

Local companies

**MINDSHIFT** I need to consider more. Who helps me?



## Who are the users?

Immediate users are both CE-experts as well as regular staff/workers of any level; all are to be empowered

### CITY

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**The development first focuses on cities...**

**Intermediaries** are individuals with systemic expertise and responsibility for circular economy across the organisation and who build capacity within departments.

**Any municipal staff** who would advance circular economy in the own department or across the entire city.

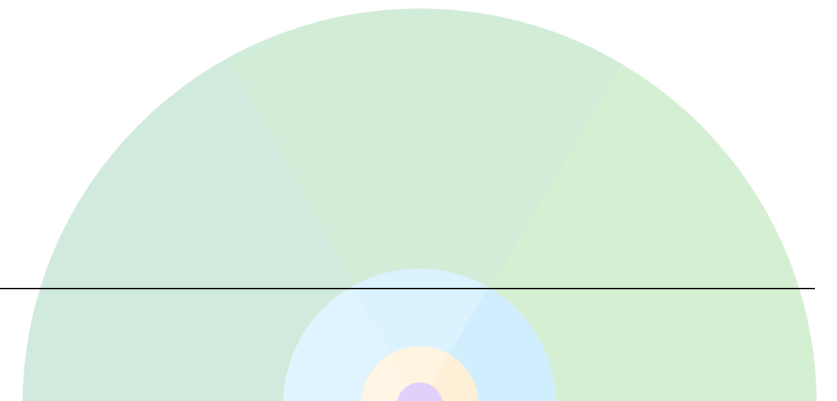
**Decision makers** during implementation / cycles.

### BUSINESS (LOCAL ECONOMY)

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**...with most results transferable to businesses 1:1 or through use of AI**

**Any local business** to deploy and supply or become part of the local circular economy. Users of the market platform, bidders to local procurements.



# FOLLOWER-SEURAAJA-JÄSENEKSI ?

## CIRCULAR Facilitating CE-transition in cities and local economy

### PROBLEM

Cities, staff and businesses struggle with circular economy (CE) transition due to:

- limited capacity,
- information overload,
- operational complexity and
- linear culture.

### SOLUTION

The innovation procurement **CircularPSP** develops and tests systemic CE-solutions enabling cities to apply circular practice more quickly, widely and effectively. **Specialised & curated AI, personalized Workflows, Upskilling and Networking** empowers users with/out prior experience to find, use and assess case studies, circular wisdom and drive measurable impact. Features run on a **Platform** adopted for each city.



# Services to be provided over time

## Solutions are making circular action possible through planning and day-to-day support

Exemplary list

### A PRIORI DESIGN CIRCULAR MISSION



**CE EXPERTS**

Solution setup in each city

Analyse local strategies

Analyse local data

#### Design a CE MISSION

Set milestones for departments

### DAILY WORK (preparing anything maybe procurement)



**All users**

Understand outset

Research case studies + Learn / Train

Picking the best R-strategy given a,b,c

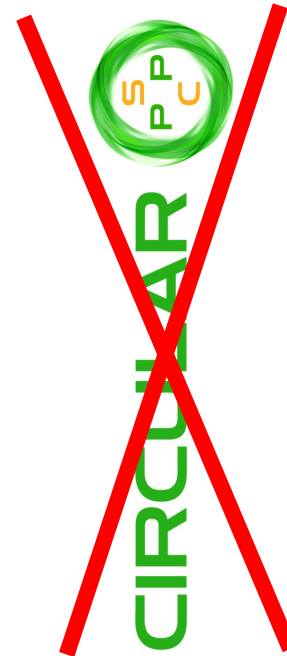
#### Conduct necessary steps for R strategy

Identify evaluation criteria

Pass on procurement info (if necessary)

APIs etc welcome

### PROCUREMENT



Actual procurement conducted in specialised software

### USE & MONITOR

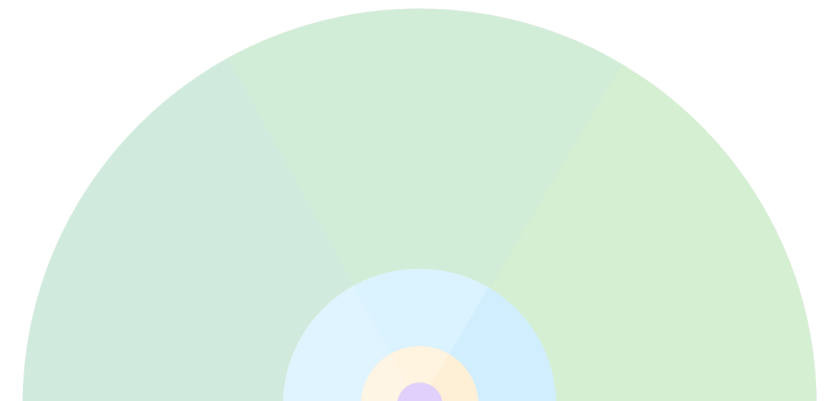


Record knowledge

Keep track of stuff

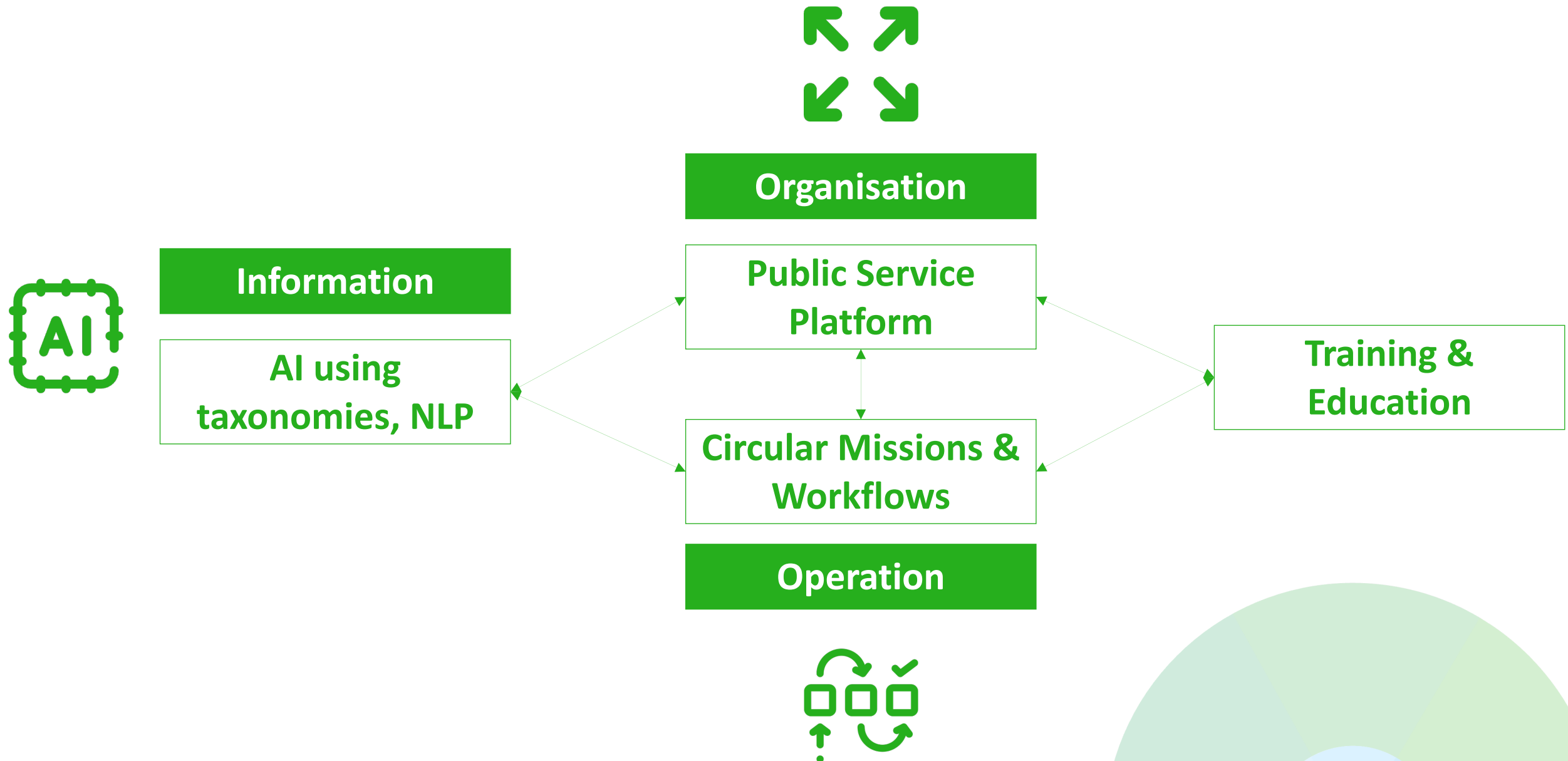
Measure impact

Inform followers



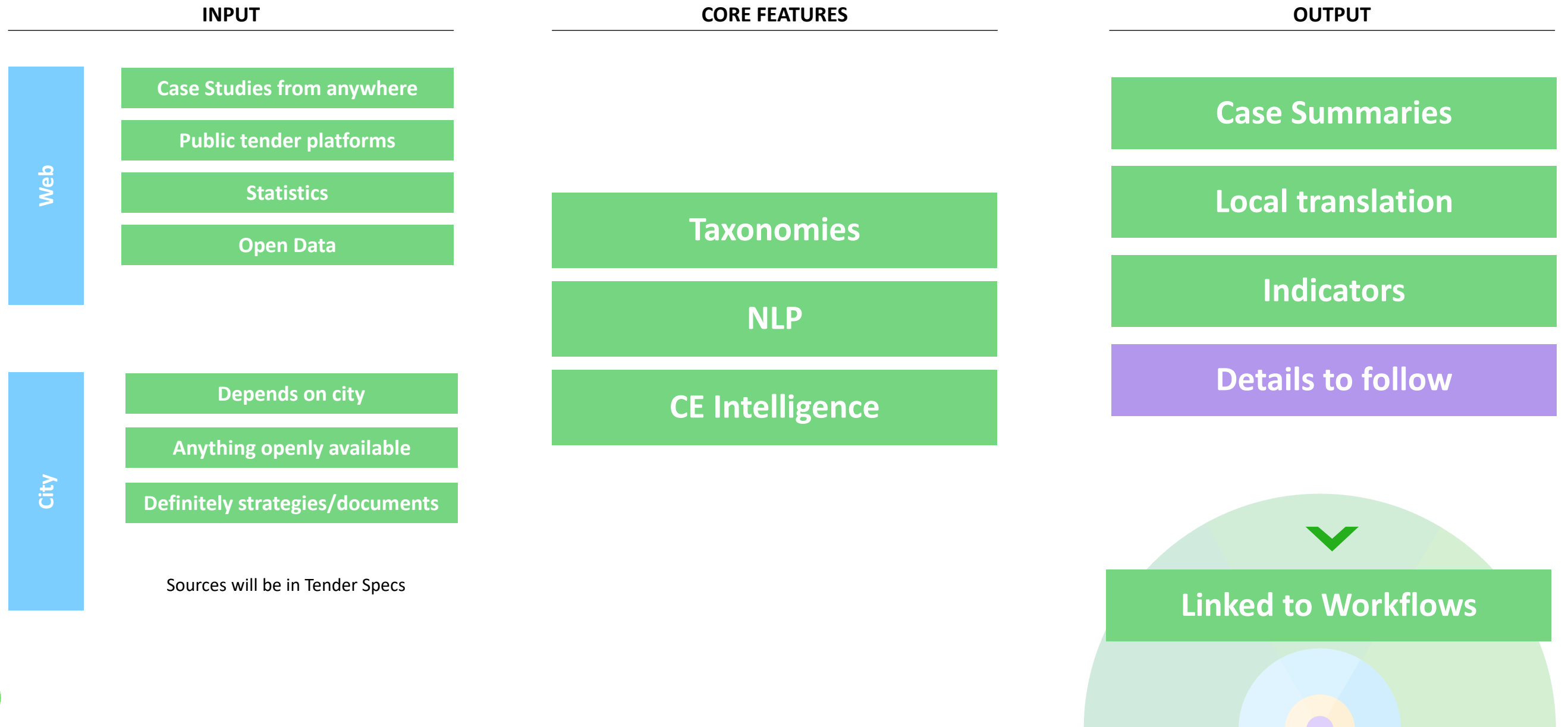
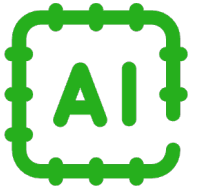
## Desired Innovations

Each problem area requires digital innovation and CE expertise



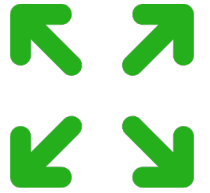
# Information: Data Analytics

Data Analytics is to make sense of existing data and make it highly accessible to all users

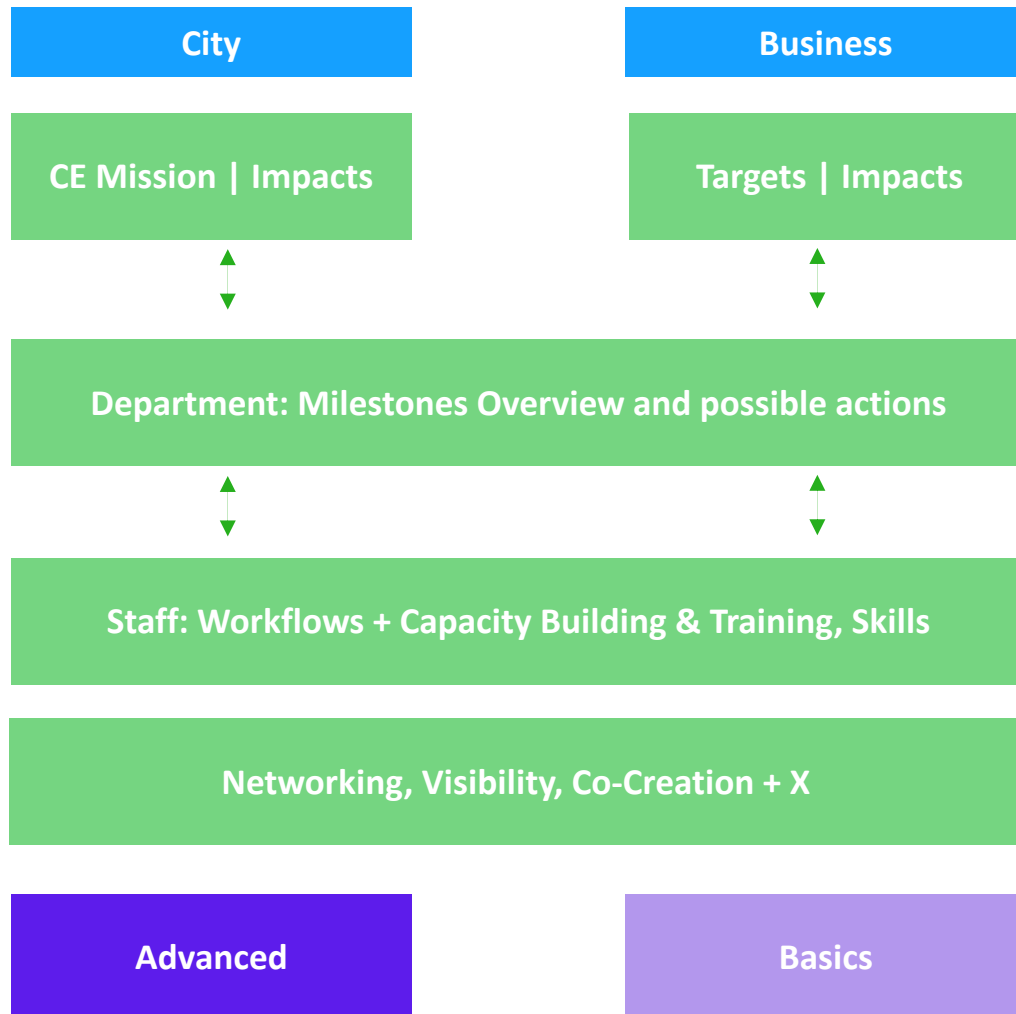


# Organisation: Public Service Platform

A platform is to provide access to data, insights on CE missions and the workflows



## STRUCTURE / FUNCTIONALITY



## TECHNICAL REQUIREMENTS

► Details to follow

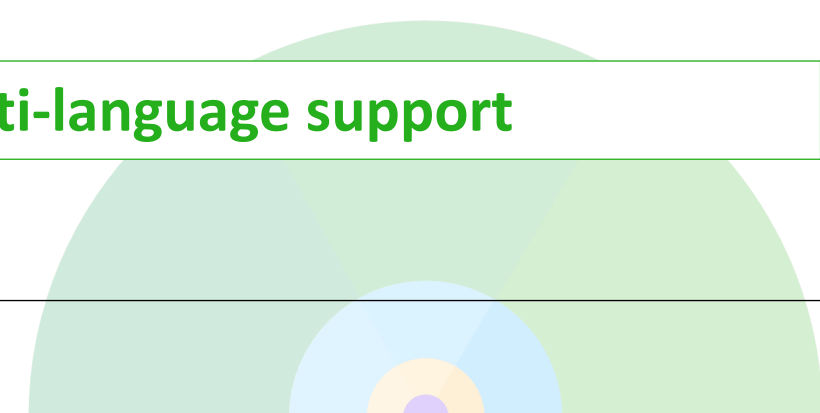
**Scalable**

**Run in cloud or on city server (TBD)**

**Modular (i.e. payable plugins possible)**

**Interoperability**

**Multi-language support**



## Operation: Workflow (and CE Mission)

The CE Mission gives focus and Workflows enable all users to act circular



### WORKFLOW - FLOW



### WORKFLOW - REQUIREMENTS

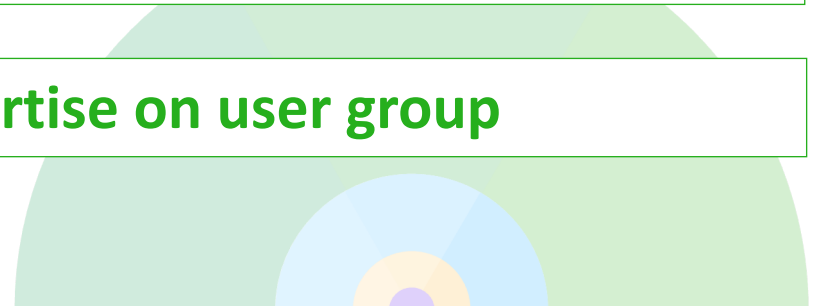
**Clear structure**

**Status must be clear**

**Solve barriers**

**Approach: up to you (e.g. flow, chat, lists)**

**Users are regular municipal staff ... best have some expertise on user group**





## CircularPSP is technology neutral

**Our focus is to describe the actual problem – you need to come up with technical and practical solutions**

**Buyers Group defined a  
(very complex) problem  
+ pathway + criteria**

Critical remark: we do not know what data  
sets are best to train AI on CE = a challenge.  
(See also [CE Taxonomy](#))

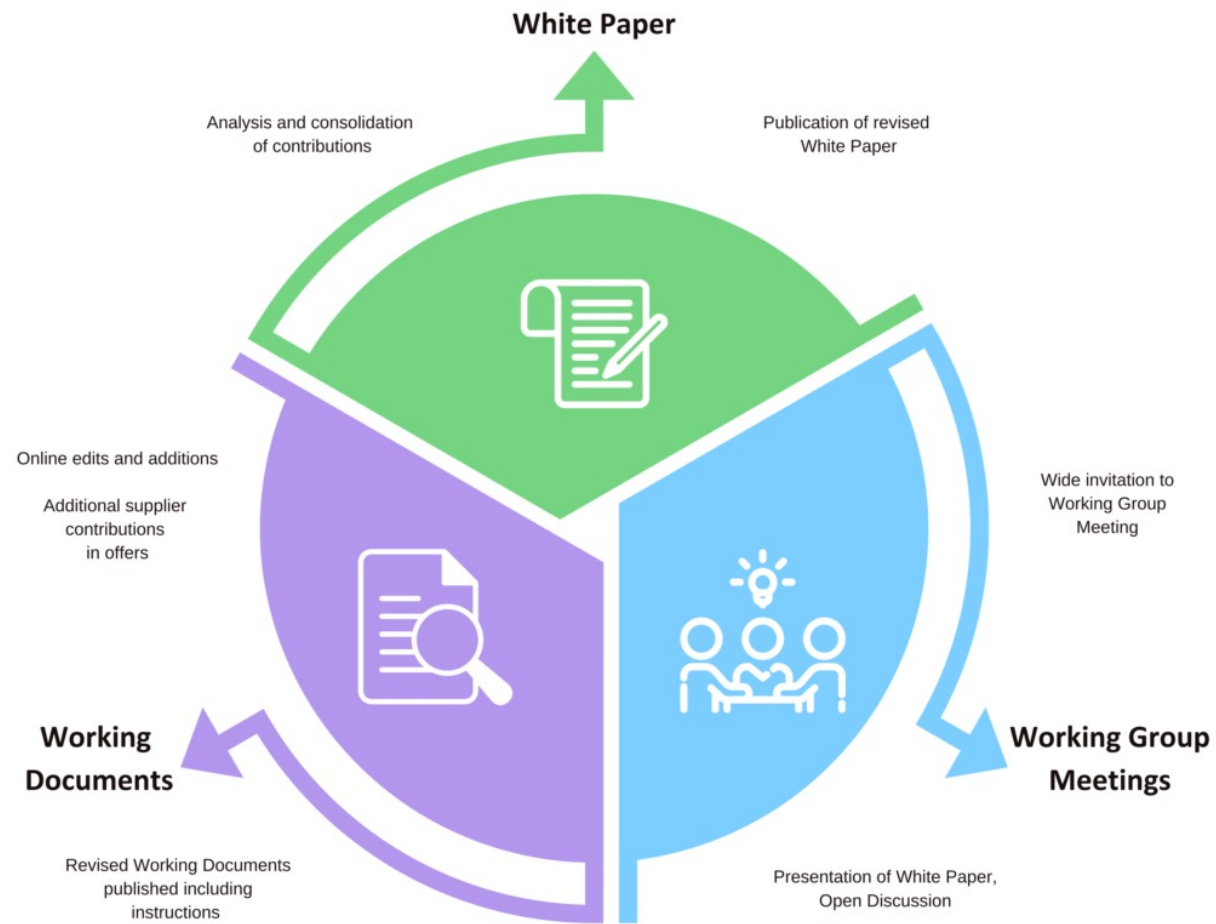
**Suppliers are  
to define the  
solution**

...any constellation of technologies is thinkable if it fulfils  
design principles and requirements etc. ...

# CE Taxonomy, a shared effort

It would be impossible to compare solutions if anyone could use any terms + inefficient; hence, intel on what is public is shared

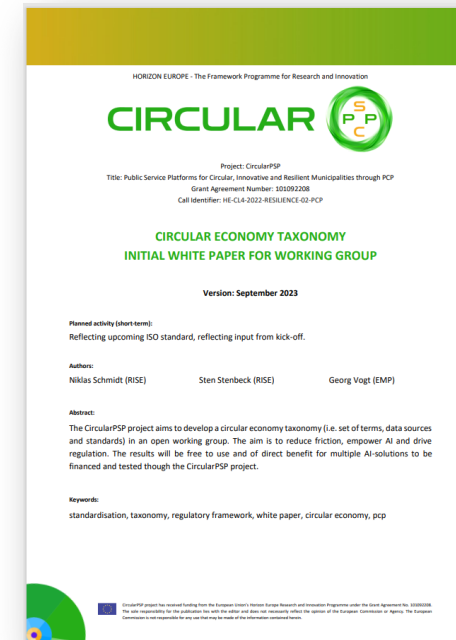
## ELEMENTS AND PROCESS



## PURPOSE

### ► Mission | Supplier relevance

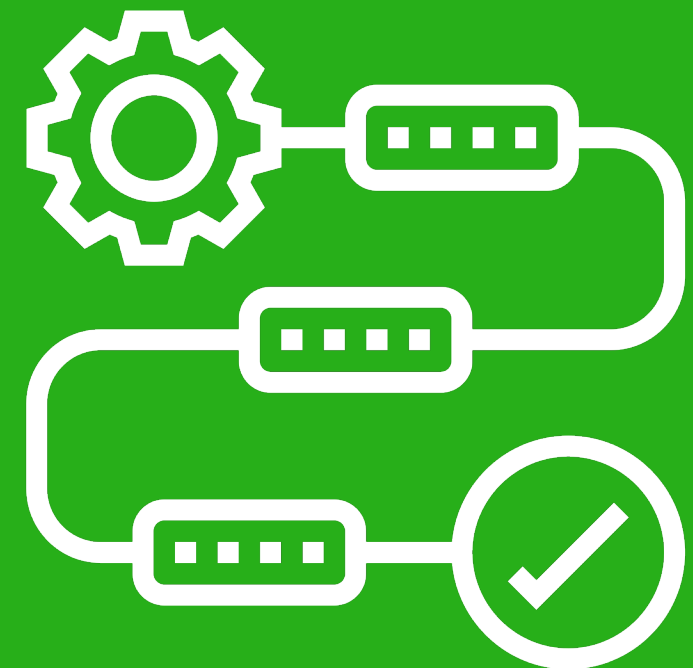
- **A Must: Define core terminology** (i.e. Taxonomy) to ensure different artificial intelligences (AIs) do not increase confusion about circular economy but lead to more clarity.
- **A Help: Identify a set of core data sources** for AIs to ensure that the learning does cover all relevant circularity areas in a city instead of being dominated by the most advanced value chain or region etc.
- **A Guidance: Document a core set of data standards and protocols** to ensure the intended scalable solutions are fit for purpose to operate in a field with diverse IT ecosystems.



**IPR-protected data sets are allowed and do not have to be made public!**

# PCP Process and core terms

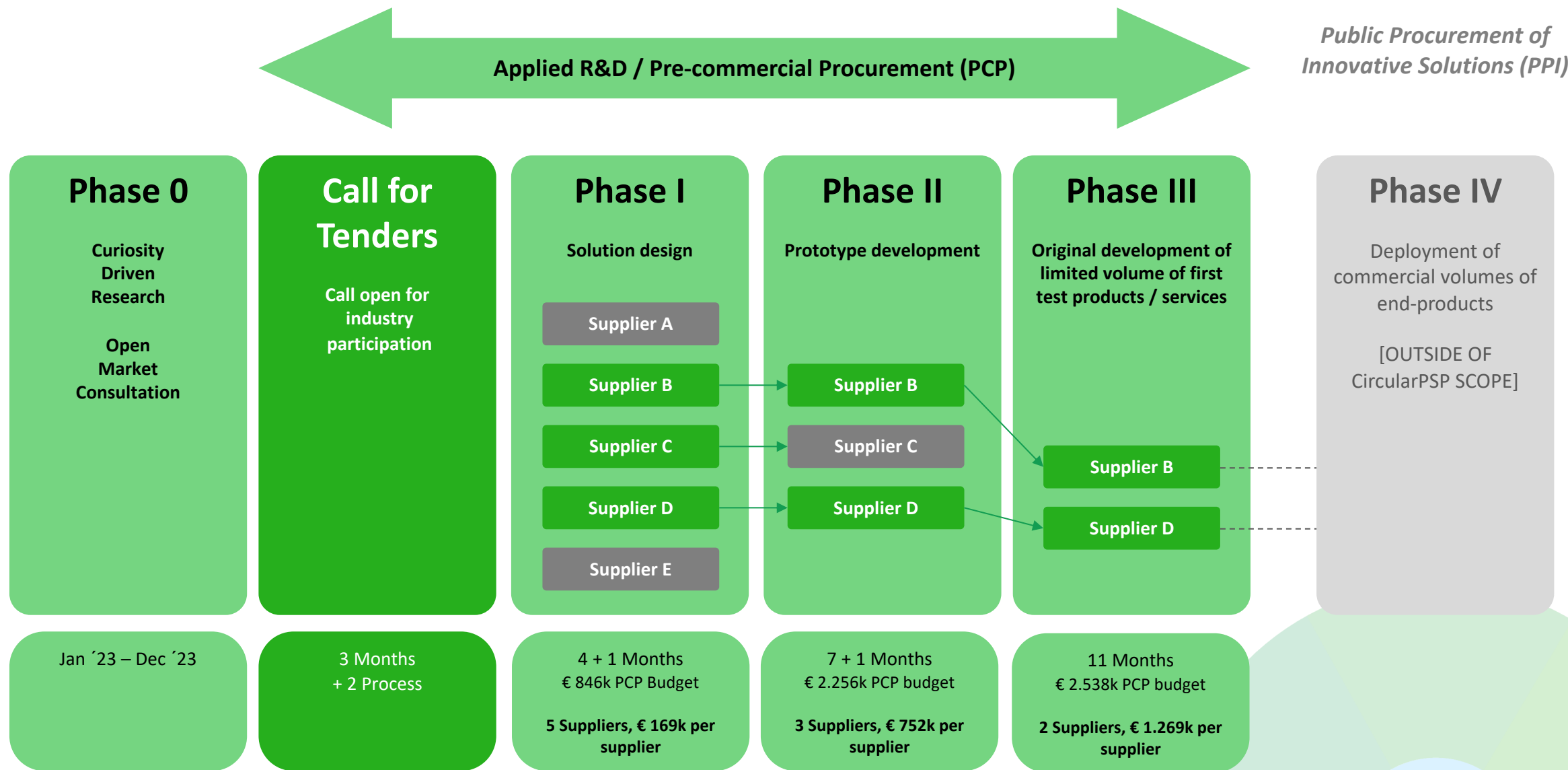
PCPs create incentives in domains where mature solutions are missing and reduce risks for both procurers and suppliers to innovate





# PCP Structure

PCPs follow a multi-staged process to select the most suitable and promising innovation; R&D services are funded at all stages





## Funding principles

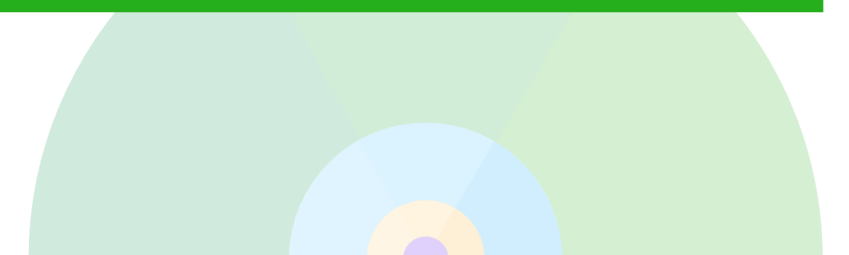
### **A PCP is a tender, not a grant**

**Financial offers are requested for each phase (up to the ceiling) – Note: no VAT applies**

**The offer has to include all costs (including taxes if applicable)**

**The payment is made based on the offered price ...**

**... after receipt of invoice and approval of work**



## Core features of Pre-Commercial Procurement (PCPs)

**PCPs create opportunities to solve horizontal problems which otherwise nobody would approach**

### WHAT IS A PRE-COMMERCIAL PROCUREMENT (PCP)?

### WHAT ARE THE BENEFITS FOR SUPPLIERS

**Instrument for public procurement  
of R&D services**



**Create opportunities for companies  
to gain leadership in new markets**

**Public procurers act as demanding customers**



**Provides a large enough demand to incentivise  
industry to invest in wide commercialisation**

**Tool for innovation**



**Development in stages and testing of innovative ideas  
under real world conditions**

**Risk-benefit sharing under market conditions**

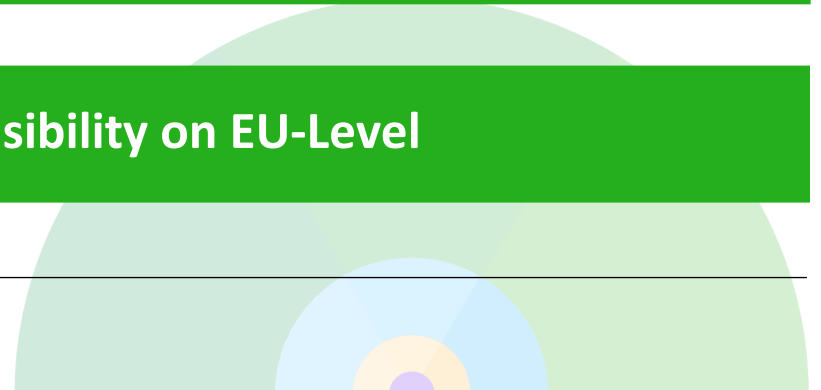


**Suppliers retain IPR ownership,  
procurers gains access under limited conditions**

**Interact closely with eight procurers  
operating eight countries**



**Visibility on EU-Level**



## PCP Tendering | Core requirements for Suppliers

All core requirements are derived from the EU directive on competition

### ELIGIBILITY CRITERIA

- ▶ **Tender is restricted to entities established in EU Member States and Horizon Europe Associated Countries\***
  - A minimum of 50% of the project R&D activities/budget must take place in the EU or Horizon Europe Associated Countries\*
- ▶ Tender is open to all **types of operators** (companies or other type of legal entities), regardless of their size or governance structure
- ▶ Both **single entity** or **joint tender offers** and subcontracting (consortia) are possible
- ▶ On-off award criteria can be considered as extension of selection criteria, if you are not able, you need a partner
- ▶ Participation in the open market consultation or this event is not a condition for submitting a tender

### GENERAL REQUIREMENTS

Electronic Submission via e-mail

Submission deadline: 1 April 2024 – Istanbul Time(!)

Official language is English

IPR sharing, if suppliers do not exploit results

\*List of HE Associated Countries: [https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/common/guidance/list-3rd-country-participation\\_horizon-euratom\\_en.pdf](https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/common/guidance/list-3rd-country-participation_horizon-euratom_en.pdf)

## Contract award | Project

For each of the three phases the same rules on contract, monitoring, payments and IPR apply

### One Lead Procurer

All contracts, invoices and payments go through the lead procurer who acts on behalf of all procurers

### Contracting

**Framework agreement** with specific contracts in each phase

### Monitoring

During each phase, contract implementation is **monitored periodically** and reviewed **against the expected outcomes**

### Completion criteria

**Satisfactory completion** of milestones and deliverables: requirement for payment --- **Successful completion** permits entering next Phase

### Intellectual property rights (IPRs)

Suppliers **keep ownership of the IPRs** attached to the results generated during the PCP implementation, but must exploit



# Framework Agreement (TD8) includes AI Clauses

**We/you are one of the first users of AI Act compliant clauses**

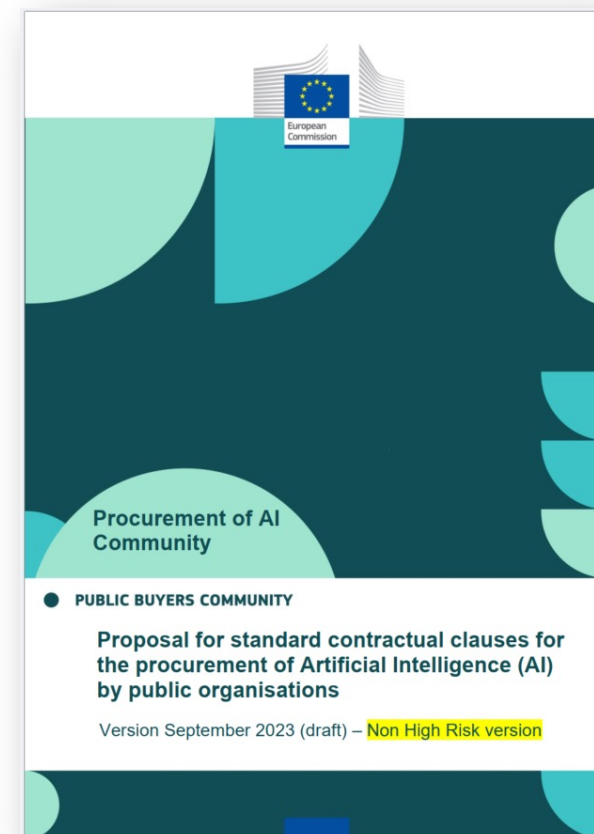
## PUBLIC BUYERS COMMUNITY

- ▶ CircularPSP has joined two communities on the Public Buyers Platform (DG GROW):
  - Procurement of AI
  - Circular and Fair ICT Pact (CFIT)



## CONTRACTUAL AI CLAUSES

- ▶ Drafted for public organisations wishing to procure an AI System
- ▶ Largely based on the AI Act\*
- ▶ The Non-High Risk version applies to CircularPSP, incorporated in Framework Agreement



\* Proposal for a Regulation of the European Parliament and of the Council laying down harmonised rules on artificial intelligence and amending certain union legislative acts, COM(2021)206 final.

# Reading remarks

There is a structure across the documents

Welcome and Introduction

CircularPSP Common Challenge

PCP Process and terms

[Reading remarks](#)

Background on PCP and PPI Instruments



## Everything is (linked) on tender website

<https://circularpsp.eu/tender/>



CircularPSP invites suppliers to develop an innovative CE-solution that enables municipalities and their staff as well as businesses in the local economy to apply circular practice more quickly, frequently, widely and effectively.

### Tender documents and forms

Complete Tender Document package

Download

Technical Challenge Brief (part of package)

Download

### Resources

- [Contract Notice](#) and [PIN](#) on TED
- Events
  - 11 January: [Tender Launch](#)
  - 18 January: [Technical Application Training](#)
  - 25 January: [Administrative & Financial Application Training](#)
- [Matchmaking Platform](#)
- [Call for Tender Flyer](#)
- [FAQ](#): Ask questions by 8 March 2024 to [supplier@circularpsp.eu](mailto:supplier@circularpsp.eu).

## Tender documents overview

We did our best to make it transparent and avoid duplication, however, it is a large contract and will be some effort

Phase	Description	Documents	
<b>Tender</b>	Central documents on conditions, content and challenge	<b>TD1 Call for Tender (current document)</b> TD2 Challenge Brief (includes Annexes)	Depending on your role you read one or the other first
<b>Proposal to be submitted</b>	Administrative Forms to be filled by tenderers	TD3a Declaration of Honour - Exclusion Criteria TD3b Declaration of Honour – On/off Award Criteria TD4 Power of Attorney	It should be extensively streamlined but if you have questions or ideas, please let us know
	Application Templates to be filled by tenderers	TD5 Tender Application Template – Administrative TD6 Tender Application Template – Technical TD7 Tender Application Template – Financial	
	Application Submission	TZ1 Tender submission zip-archive	
<b>Project</b>	Contract Templates to be signed by successful contractors	TD8 PCP Framework Agreement TD9 PCP Specific contract for Phase I-II-III	Though TD1 contains key terms, there is more detail here

## Reading recommendations

Please keep the following things in mind when you tackle the documents

**Read the preface / foreword / pink instructions – it explains what is to follow**

**TD1 CfT: Mostly formal, except section 2.1 which explains expected project progress**

**TD2 Challenge Brief: Only technical, read main section top to bottom**

**Cross-links work, search works, ask questions in doubt**

# The Challenge = tender: TD2

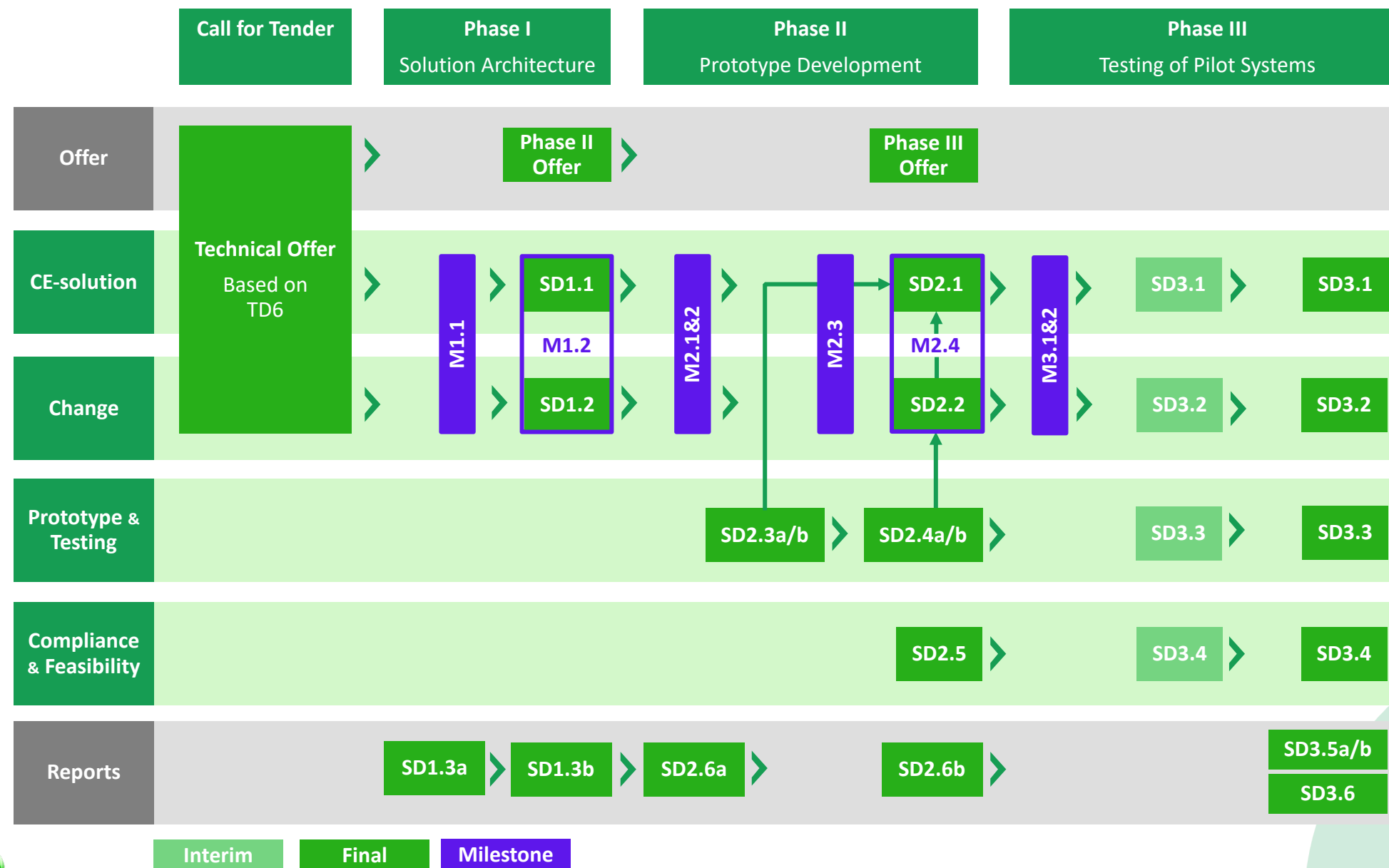
The Challenge is structured along the Award Criteria as is the tender/proposal you are going to write

<u>(Weighted) Award Criteria</u>	Call for tender TD1	<u>Challenge Brief</u>	Challenge brief TD2	<u>Tender Application Template</u>	Tender Application Template TD6
<b>1 Technical criterion</b>		<b>1 Technical criterion</b>		<b>1 Technical criterion</b>	
T1 – Overall approach to CE-solution		T1 – Overall approach to CE-solution		T1 – Overall approach to CE-solution	
T2 – Information		T2 – Information		T2 – Information	
...		...		...	
Section 3.4 and 3.5 include: <ul style="list-style-type: none"><li>➤ Maximum points</li><li>➤ Thresholds &amp; weights</li><li>➤ Assessment scheme</li><li>➤ Formulas</li></ul>		Challenge Brief includes: <ul style="list-style-type: none"><li>➤ Challenge description for each criterion</li><li>➤ Minimum requirements as Must or in bold (in bullet lists)</li><li>➤ Aspects relevant for assessment</li><li>➤ Annexes</li></ul>		Tender Application Template includes: <ul style="list-style-type: none"><li>➤ Pre-defined sections, sub-headings and some standardised tables</li><li>➤ Notes on content expected</li></ul>	



# The project: TD1 Section 2.1

Table 1 (of TD1) describes the progress on R&D documented in the deliverables depicted below



Graphic represents evolution of key documents to be delivered

TD1 Table 1 describes the progress on CE-solution (i.e. AI, Workflows, Platform, Change)



# Background on PCP and PPI Instruments

Welcome and Introduction

CircularPSP Common Challenge

PCP Process and terms

Reading remarks

[Background on PCP and PPI Instruments](#)







## Pre-Commercial Procurement vs. Traditional Public Procurement

**Pre-Commercial-Procurements (PCP) create a new, competitive market for Research and Development (R&D) services and development**

### PRE-COMMERCIAL PROCUREMENT

**Joint Procurement (Buyers Group)**

**High degree of innovation / R&D effort required**

**Prototype development: medium-/long-term**

**Competitive development: several suppliers**

**New IPR – Risk/Benefit-sharing**

**Special legal framework in H2020/WTO**

**Development in multiple phases**

### TRADITIONAL PROCUREMENT

**Individual Procurement (single department)**

**Low degree of solutions' innovation**

**Mature product/service: immediate/short-term**

**Single contract: one supplier**

**Often based on existing IPR**

**National public procurement rules apply**

**Development in one phase**





# What is a Pre-Commercial Procurement (PCP)?

## Core features

### WHAT IS A PRE-COMMERCIAL PROCUREMENT (PCP)?

### WHAT ARE THE BENEFITS FOR SUPPLIERS

**Instrument for public procurement of R&D services**



**Create opportunities for companies to gain leadership in new markets**

**Public procurers act as demanding customers**



**Provides a large enough demand to incentivise industry to invest in wide commercialisation**

**Tool for innovation**  
(EC sees the need but no offer on market)



**Development in stages and testing of innovative ideas under real world conditions**

**Risk-benefit sharing under market conditions**

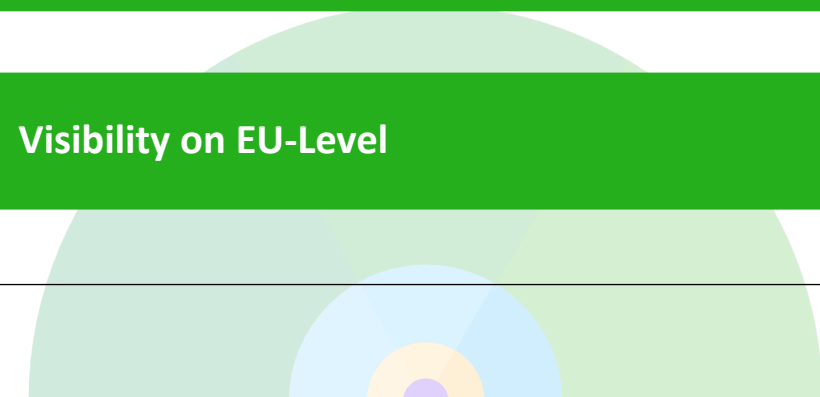


**Suppliers retain IPR ownership, procurers gains access under limited conditions**

**Interact closely with eight procurers operating 21,000 buildings**



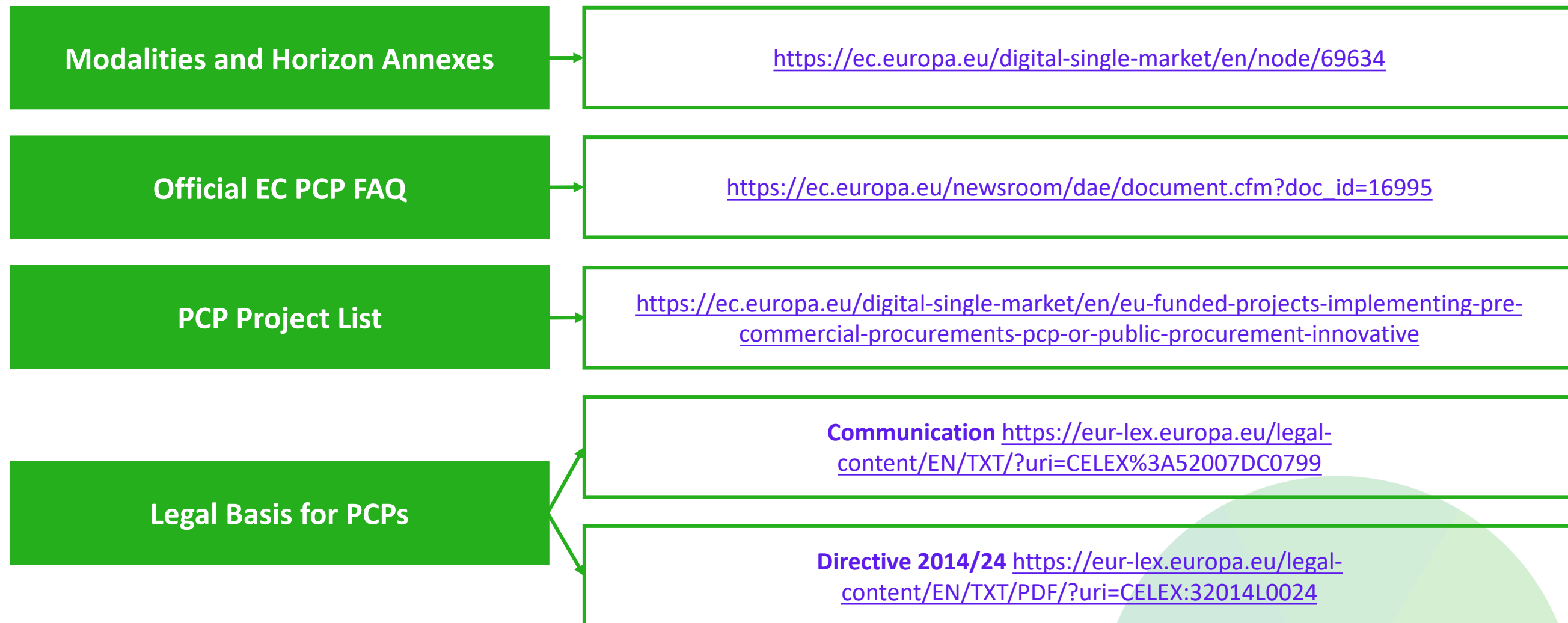
**Visibility on EU-Level**



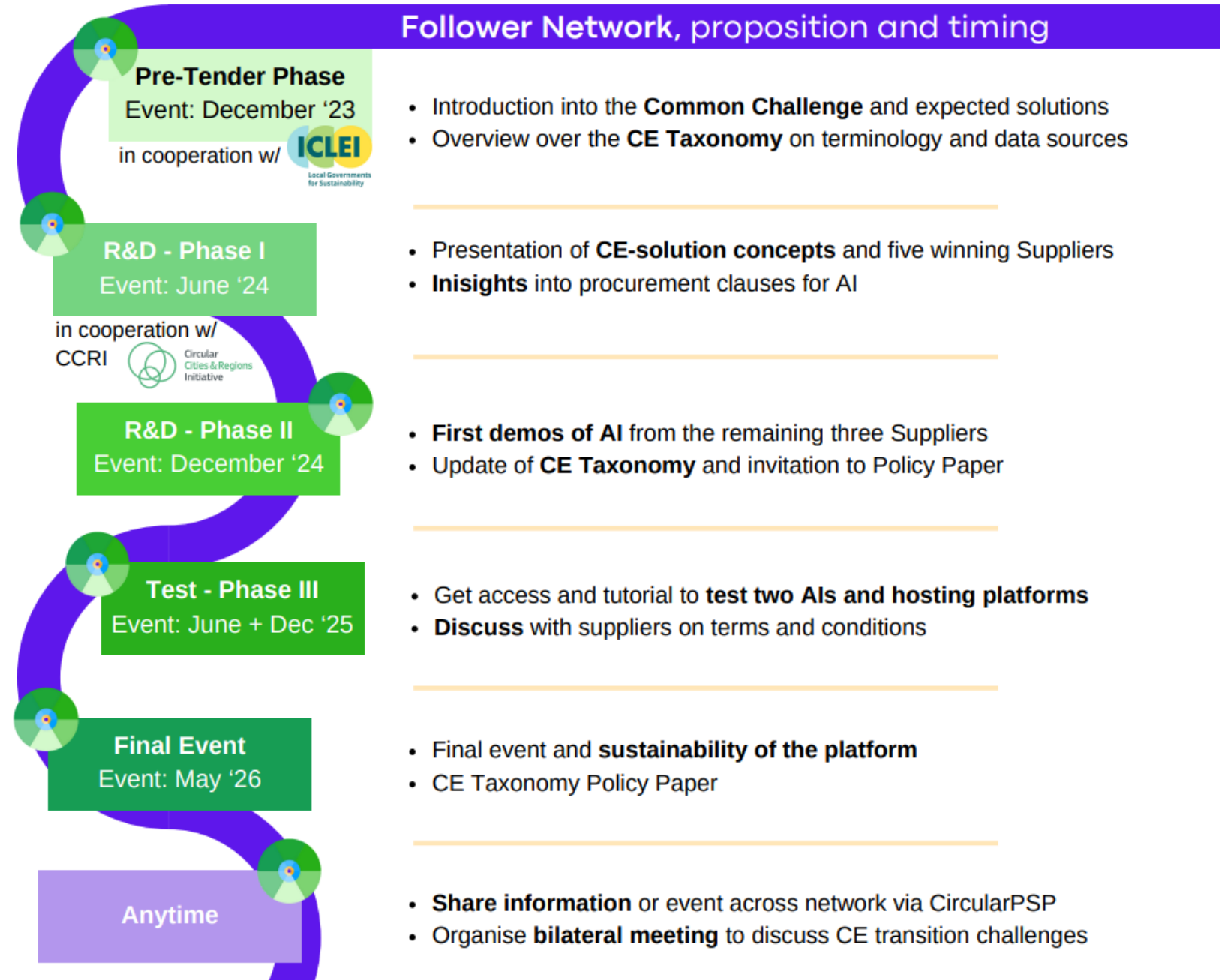


## Further information on PCPs

### PCP references (selection)



# FOLLOWERS-IMPORTANT TIMES



# The Request for Tender is expected for November 2023

## CircularPSP Timeline

### PREPARATION AND TENDER



Research & OMC (Jan. – Oct. '23)

OMC Events (May-June '23)

Matchmaking Platform + Networking

Procurer Survey

Preferred Partner Interaction



Tender Open (Nov. '23 – Jan. '24 )

Tender Launch + Training Events (est. November)

Q&A anytime (FAQ already online)

### SELECTION AND PCP PROJECTS



Tender evaluation

Feb. '24 – Mar. '24



Phase I

Apr. '24 – Aug. '24



Phase II

Sep. '24 – Apr. '25

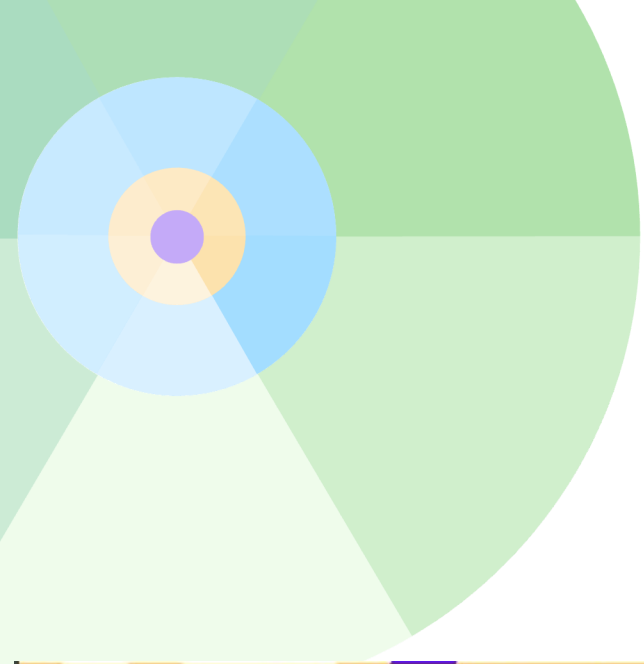


Phase III

May. '25 – Mar. '26

<sup>1</sup> Two months for evaluation





[circularpsp.eu](https://circularpsp.eu)



[@CircularPSP](https://twitter.com/CircularPSP)



[CircularPSP](https://www.linkedin.com/company/CircularPSP)



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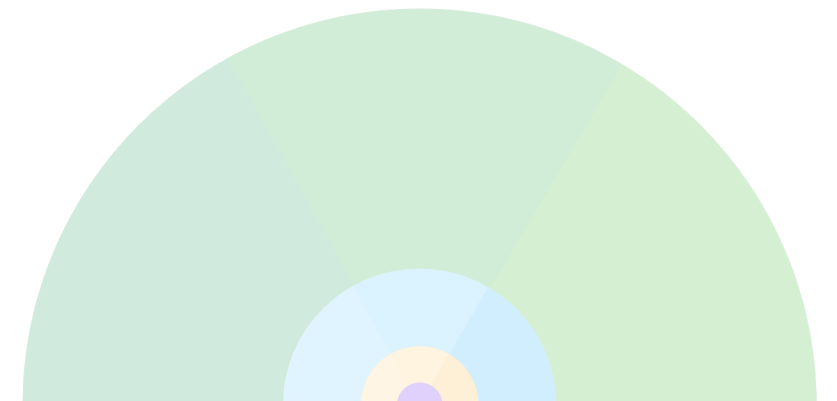
**PROJEKTISIVU SUOMEKSI**

► **[FVH.IO/CIRCULARPSP](https://fvh.io/circularpsp)**



This project has received funding from the European Union's Horizon Europe Pre-Commercial Procurement Programme, under Grant Agreement n° 101092208.

The sole responsibility for the publication lies with the editor and does not necessarily reflect the opinion of the European Commission. The European Commission is also not responsible for any use that may be made of the information contained herein.



# Tiia Katajamäki

## Adesso Finland



# adesso introduction – Data Driven Sustainability

09.04.2024





a) adesso at a glance

**64**  
Locations  
37 in DACH

**> 9.200**  
Employees

**2000**  
New hires  
in 2022

**+ 25%**  
Group turnover  
growth 2022

**FOUNDED IN  
GERMANY**

**1997**  
adesso  
GmbH

**2019**  
adesso SE

**> 400**  
Data analysts  
**> 2.000**  
Software  
Developer

**900**  
million euros  
Group turnover  
2022

**AWARDS**



**2016/18/20/22/23**  
Best Employer



SmartShore  
Center in  
**6**  
Countries











**TOP PARTNER:**



a)

# adesso overview | Company structure

## Industries

-  Automotive
-  Banking
-  Health & Life Sciences
-  Insurance
-  Lottery
-  **Manufacturing**
-  Public
-  Retail
-  Transport & Logistics
-  Utilities

## E2E Services











- Business Consulting**
- Digital Transformation**
- Software Engineering**

**adesso Solutions**

...

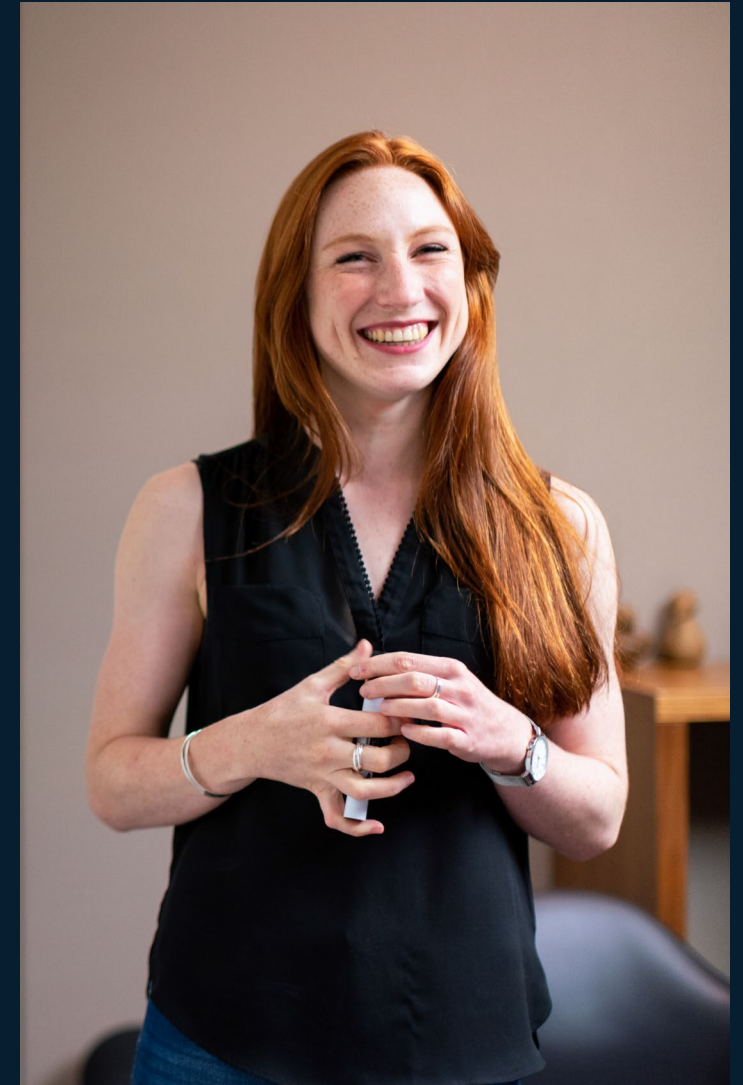
## Technologies

- AI 
- Cloud 
- Data & Analytics 
- IoT 
- AR/VR 
- Java 
- Microsoft 
- Salesforce 
- SAP 
- Blockchain 

# Data Driven Sustainability

adesso is a holistic and technology independent European player and a **partner for sustainability data and circular economy** who can complement and provide expertise in following areas:

- Converting Sustainability data into a **strategic asset** for Business
- Experience in creating **ESG data and digital product passport roadmaps** and collecting data from various systems both internal and external data sources
- **Data and Analytics:** AI, advanced analytics & reporting, data governance & platforms
- **Technology** choice, implementation and reporting development
- Give **practical guidance** for building a data ecosystems based on multiple real life data ecosystem creation exercises



# adesso Sustainability Solutions & Partners



ESG DATA STRATEGY



ESG REPORTING



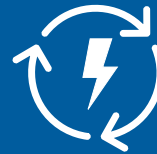
OPERATIONAL MODEL



CIRCULAR DESIGN



CO2-EMISSIONS



ENERGY & WASTE



SUPPLY-CHAIN

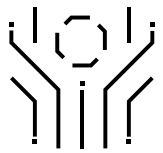


PRODUCT PASSPORT



DATA ECOSYSTEMS





# Data Sharing

10  
01 LAKES

adesso  
Lakes

1001 Lakes Oy is focused on enabling **data ecosystems** and building **data spaces**.

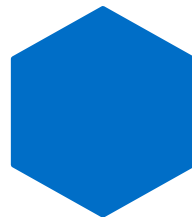


1001 Lakes is a trusted enabler of data ecosystems across industries



We believe in data-driven acceleration beyond organizational borders

Most companies today



Individual company

Data Network

Data Ecosystem

# DIGITAL PRODUCT PASSPORT

REFERENCE: FINNISH TEXTILE AND FASHION PILOT PROJECT



## CHALLENGES

- > Upcoming EU's Ecodesign for Sustainable Products Regulation (ESRP) sets new product information and performance data requirements
- > Product data is required to be in a digital form and available as digital product passport (DPP)
- > Existing reporting capabilities do not support product specific data collection
- > Complex value chain, manual processes and limited data availability
- > Data quality not at the desired level



## IMPLEMENTATION WITH ADESSO

- > Pre-study of DPP reporting and capabilities
  - > Documentation of existing reporting systems, processes and capabilities
  - > Provided initial list of DPP data points
  - > Data availability documentation
  - > Identified possibilities and gaps
  - > Identified possible use cases
- > DPP roadmap and use cases
  - > Targets, actions and future focus areas
  - > Identified development projects
  - > Use case definition and data collection



## ADVANTAGES FOR CLIENT

- > Understand requirement framework, implications and timeline
- > Define scope, targets and actions for DPP implementation
- > Roadmap: Clear next steps on how to move forward and increase DPP reporting capabilities incrementally
- > DPP use case concept: define and compile data with specified use cases

FINNISH  
TEXTILE &  
FASHION

adesso

Thank you!

Tiia Katajamäki

adesso Finland

[tiia.katajamaki@adesso-finland.fi](mailto:tiia.katajamaki@adesso-finland.fi)

[LinkedIn](#)

[www.adesso-finland.fi](http://www.adesso-finland.fi)



# Riina Kärki

## MTK





# KiertoaSuomesta.fi

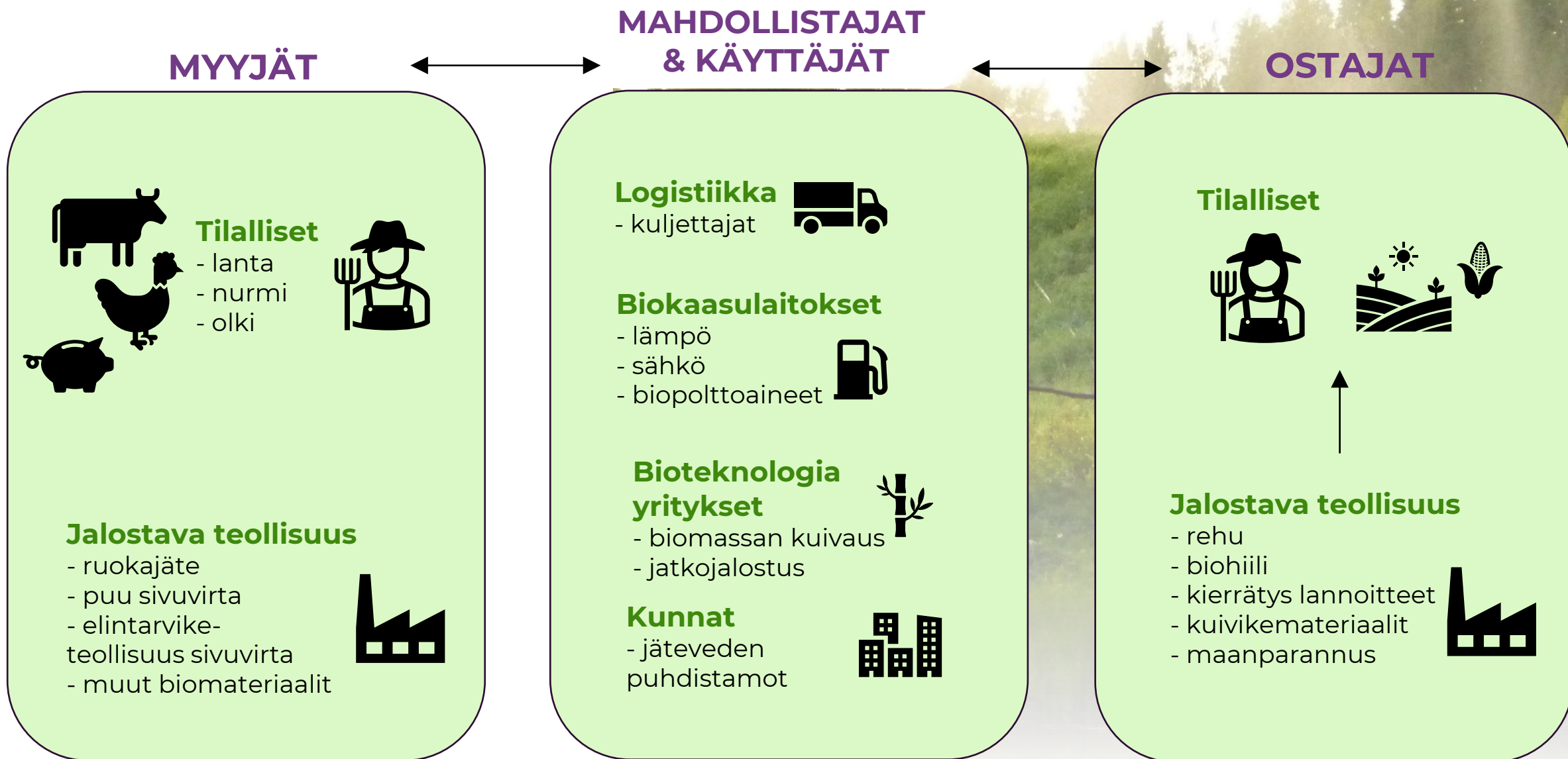
Kiertotalouden markkinapaikkasi  
biopohjaisille aarteille – Löydä  
kumppanisi materiaalien kiertoon



info@kiertoasuomesta.fi  
kiertoasuomesta.fi  



# KiertoaSuomesta.fi



Hae ilmoituksia

Hae ilmoituksia



Kaikki

Myydään

## Lanta / Kuiv...

12 m<sup>3</sup>/Kerran  
12 € / m<sup>3</sup>Helsinki  
10-11-2023

Myydään

## Muut sivuvi...

45 tn/Toistuva  
10 € / tnMänttä  
29-12-2023

Myydään

## Mädätteet

500 tn/Toistuva  
123456789 € / tn

Pori

Myydään

## Puu / Metsä...

60 m<sup>3</sup>/Kerran  
15 € / m<sup>3</sup>

Paimio

## Haemme yhteistyökumppaneita kehitystyöhön, ota yhteyttä!

- [riina.karki@mtk.fi](mailto:riina.karki@mtk.fi)
- [nora.berglund@mtk.fi](mailto:nora.berglund@mtk.fi)
- [sini.valmari@mtk.fi](mailto:sini.valmari@mtk.fi)
- [info@kiertoasuomesta.fi](mailto:info@kiertoasuomesta.fi)

## Linkkejä:

- [KiertoaSuomesta.fi](https://kiertoasuomesta.fi)
  - Postituslistalle:  
<https://forms.office.com/e/KWt1EfDY4g>
- [mtk.fi/treasure](https://mtk.fi/treasure)
- [treasure.eu](https://treasure.eu)

# Manu Setälä Solita

# Kiertotalouden datan siirtäminen ekosysteemeissä

Manu Setälä  
Solita Oy



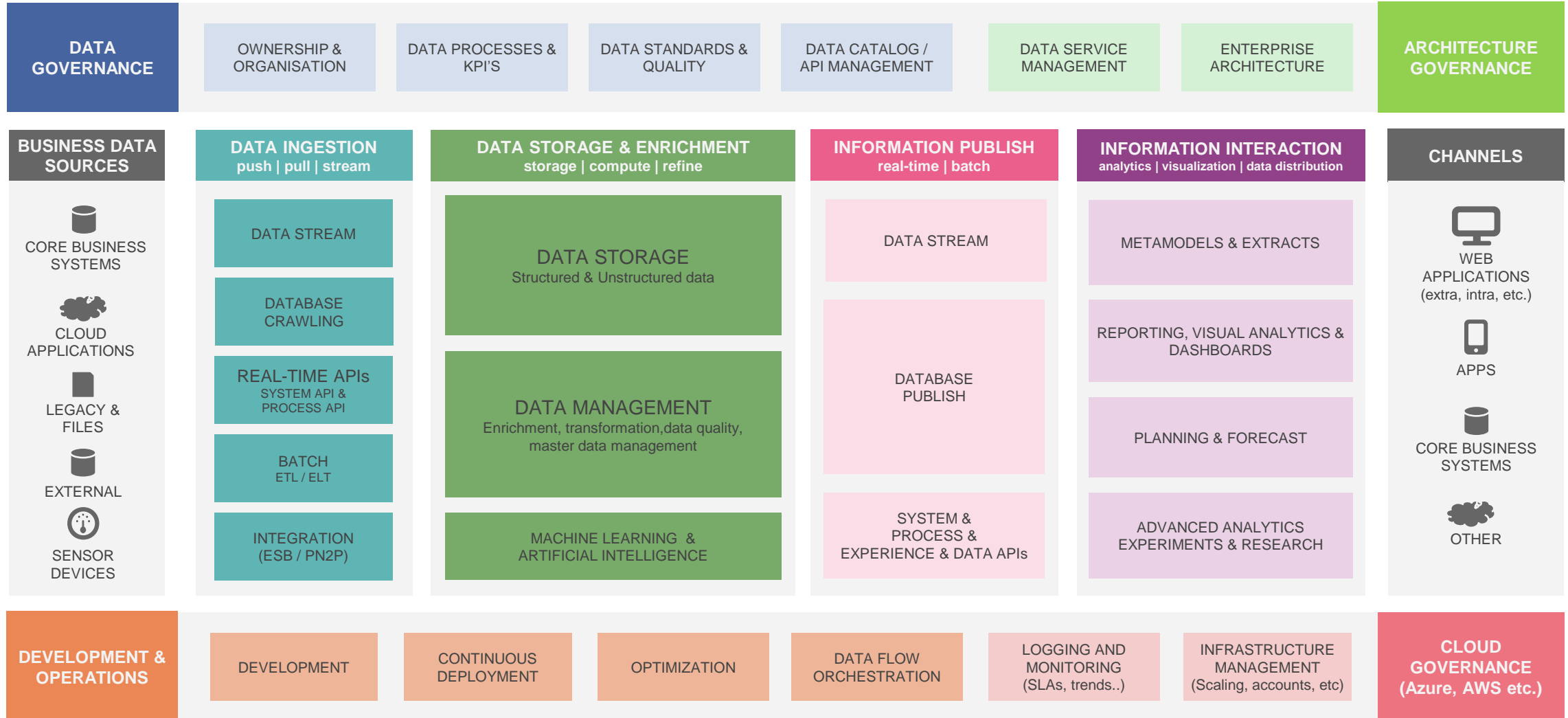


# Need = Background & Topic

- Various EU regulations now require companies to provide data related to material flow and sustainability. For instance:
    - CSRD (Corporate Sustainability Reporting Directive) ) – about 1100 data points
    - DPP (Digital Product Passport)
    - Generally, ESG related directives and act's

→ The circular economy necessitates **extensive data about product ingredients**
  - Industrial value chain or network can be quite lengthy, involving hundreds or even thousands of companies. For example, calculating the CO2 emissions for a single product may require data from numerous companies.
  - **AFAIK there is no standardized way to share even this CO2 emission information**
    - The reports will be estimates, not real information
  - Much of this relevant information resides within companies' ERPs (Enterprise Resource Planning systems), but there are no existing examples of how to effectively share it within the value/subcontracting chain
- Traceability in Ecosystem with Non-distributed Ledger Technology (TENDLT)**

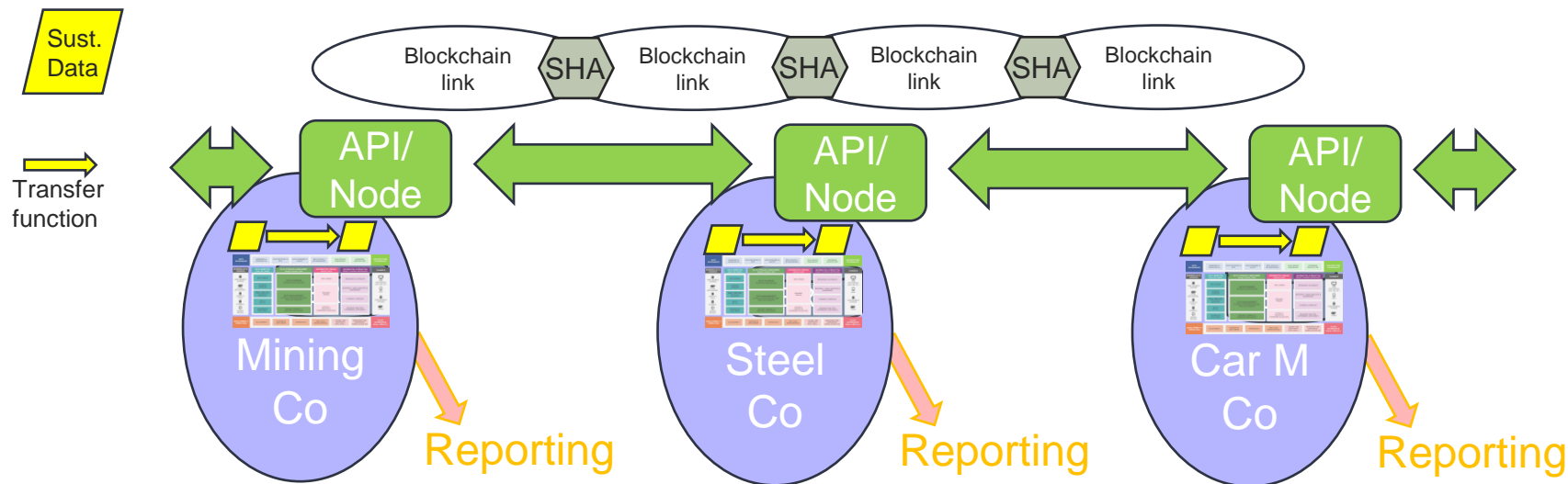
# Modern Data & Analytics platform





# TENDLT Traceability in Ecosystem with Non-distributed Ledger Technology, IDEA

- If every company has a "node" that can answer about their products and those nodes can connect other and create a "blockchain" of data
- Subcontractor / material provider has data of own product
- Next user of material verify with SHA fingerprint the data and creates new block





# Approach



There are numerous examples on the internet where data transfer is straightforward (e.g. email or web=http). Let's extend this ease to sustainability data as well:

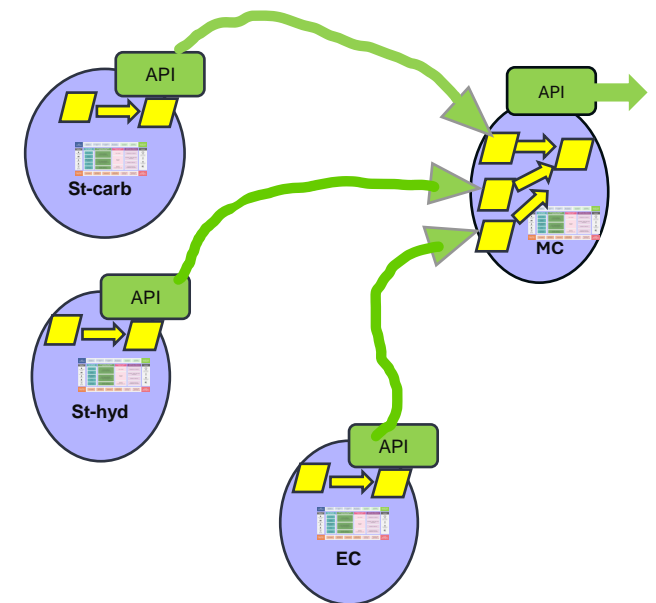
1. Virtual Server on the Internet: Set up a virtual server, such as <https://sustainabilitydata.company.com>. This server will host the sustainability data and serve as a central hub for information.
2. Service Discovery via Internet Name Service: Utilize an internet name service to make the sustainability data service discoverable. Users can easily find and access the service using its designated internet address. Investigate open data practices.
  - REST API (or an even more suitable solution) with JSON and XML-based data formats.
3. These formats facilitate efficient data exchange and interoperability with dual approaches:
  - a. Fully Open Dataset - allows unrestricted access to company product information and their sustainability details.
  - b. Restricted Access - requires validation (e.g., by a valid purchaser with a waybill number) to access real-time data.

By establishing this framework, companies can effectively share sustainability information, promote transparency, and contribute to a more environmentally conscious future.



# Example

- Manuf-Company (MC) has 3 subcontractors, 2 different steel manufacturers (St-Hyd & St-Carb) and an electricity company (EC). MC utilizes 95% of steel for its products, leaving 5% as leftover. Steel Hyd is hydrogen-based and steel Carb is carbon-based.
- Purchases: **20 units of environment friendly** hydrogen-steel (expensive) and **80 units of C-steel (cheaper)** along with 100 MWh electricity
  - + MC retrieves CSRD information of purchases through API-calls from Manuf-client-software to sustainabilitydata.st-hyd.com AND same for .st-carb.com.
- Each product uses 0,95 unit of steel and 1MWh electricity.
  - The product CSRD can be directly calculated from that information
- If the Manuf-Co **attempts to deceive** by selling **50 greener** products + **50 “darker”** ones the auditor can promptly identify the discrepancy. The “transfer function” does not function correctly, **emphasizing the necessity for a balance between input and output.**





# Benefits

- All companies can use the same information system, they can have their sustainability node by themselves, or they can subcontract the service (especially if they are very small companies)
- The access to the data can be easily controlled, e.g. only questions from valid purchaser with valid waybill number can get the real data and the waybill numbers can have secret in them
- **No single data owner nor single point of failure, totally distributed**
- **Should be OK to every country & company?**
  - **As there is no country to control this, only common standards & data models**
- The SHA sums create an **auditable trail**. When an auditor checks the “inputs”, “transfer function” and “outputs” then one company is audited. If **all subcontractors are audited, then the chain is strong.**



# Eeva Ylinen Satafood

Ilmoituskanava tuotannossa muodostuville tai hyödynnettäville biopohjaisille sivuvirroille

Digitaalinen alusta, joka

- kohtauttaa biopohjaisia sivuvirtoja tarjoavat ja niitä tarvitsevat toimijat
- jakaa tietoa tarjottavien ja etsittävien biopohjaisten sivuvirtojen ominaisuuksista ja sijainnista
- tarjoaa tietoa biopohjaisten sivuvirtojen kysynnästä ja saatavuudesta
- on ilmoituskanava, ei markkinapaikka.

Sivuvirtapörssissä on ilmoituksia Satakunnassa ja lähialueilla tarjolla olevista sivuvirroista sekä etsittävistä sivuvirroista.

Karttanäkymässä ilmoittajien sijainnit

Ilmoituksia voi selata kirjautumatta

Ilmoituksen laatiminen vaatii rekisteröitymisen palveluun (käyttäjän tiedot, organisaation/yrityksen tiedot, sähköpostiosoite)

# Anne-Mari Järvenpää

## HAMK



# Kiertotalouden digitalisaatio HAMKissa

Anne-Mari  
Järvenpää

HAMK Smart -  
tutkimusyksikkö





# Tutkimus yritysten kanssa

2023-2025 käynnissä

- Kiertotalouden materiaalivirtojen logistiikan optimointi – OPTIMA [www.hamk.fi/optima](http://www.hamk.fi/optima)
- Kuluttajien osallistaminen jätteiden syntypaikkalajittelun edistämiseen – KOTILO [www.hamk.fi/kotilo](http://www.hamk.fi/kotilo)

**Euroopan unionin  
osarahoittama**





# Kiertotalouden ja digitalisaation insinöörikoulutus

- Tieto- ja viestintäteknikka, kiertotalous
  - <https://www.hamk.fi/tutkinnot/tieto-ja-viestintateknikka-kiertotalous/>
- Information and Communication Technology, Circular Economy
  - <https://www.hamk.fi/en/degree/ict-circular-economy/>
- Data-analytiikka, IoT, anturi, pilvipalvelut, 3D mallinnus, käyttäjälähtöinen tuotekehitys
- Jatkuva yhteistyö yritysten kanssa



# Datavetoisen kiertotalouden demonstraatioymp äristö

Käynnissä 2024-2026

- Tutkittua tietoa digitalisaation käyttöön ottoon liittyvistä tekijöistä
- Konkreettisia demonstraatioita toteutettavuuden ja hyötyjen arviointiin
- Vuorovaikutusta ICT- ja kiertotalousosaajien välillä

# Anne-Mari Järvenpää

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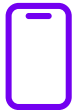
Tutkijayliopettaja, HAMK Smart

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[anne-mari.jarvenpaa@hamk.fi](mailto:anne-mari.jarvenpaa@hamk.fi)

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+358 400 534 131



# Meri Valtiala SFS (puolesta Paula Eskola)

# Standardeilla rakennetaan kestäväää kehitystä

SFS Standardointiryhmä 229  
Hajautetut tieto- ja järjestelmäteknologiat

- pj Arto Laikari, sihteeri Meri Valtiala
- seuraavat kokoukset
  - SFS DPP-keskustelu: 10.4.
  - SFS SR 229: 20.5.

<https://www.iso.org/sdgs.html>

Lisätietoa: Meri Valtialalta:  
[meri.valtiala@sfs.fi](mailto:meri.valtiala@sfs.fi)



# JTC 24 DPP työryhmät

## **WG1: Strategic Advisory Group**

- JTC 24 Business plan, liaison recommendations, coordination

## **WG2: Unique Identifier and data carriers**

- links between physical product and digital representation

## **WG3: Security**

- Access Rights Management, information, system security, business confidentiality
- Data Authentication, reliability, integrity

## **WG4: Interoperability framework**

- Interoperability (technical, semantic, organisation)
- data processing, data exchange protocols, data formats
- data storage, archiving, data persistence
- APIs for DPP lifecycle management and searchability