

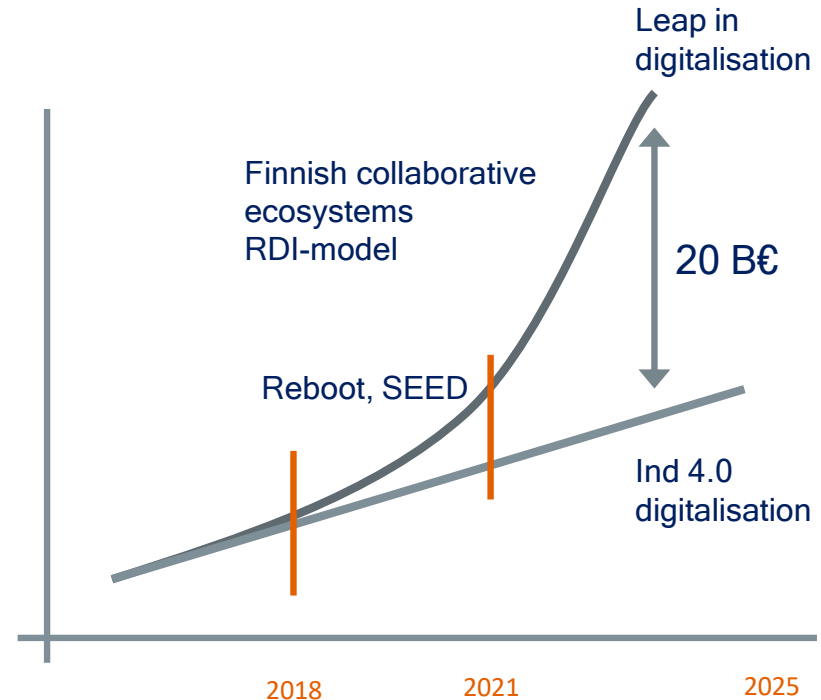
SEED

Innovation marketplace for forest industry digitalization

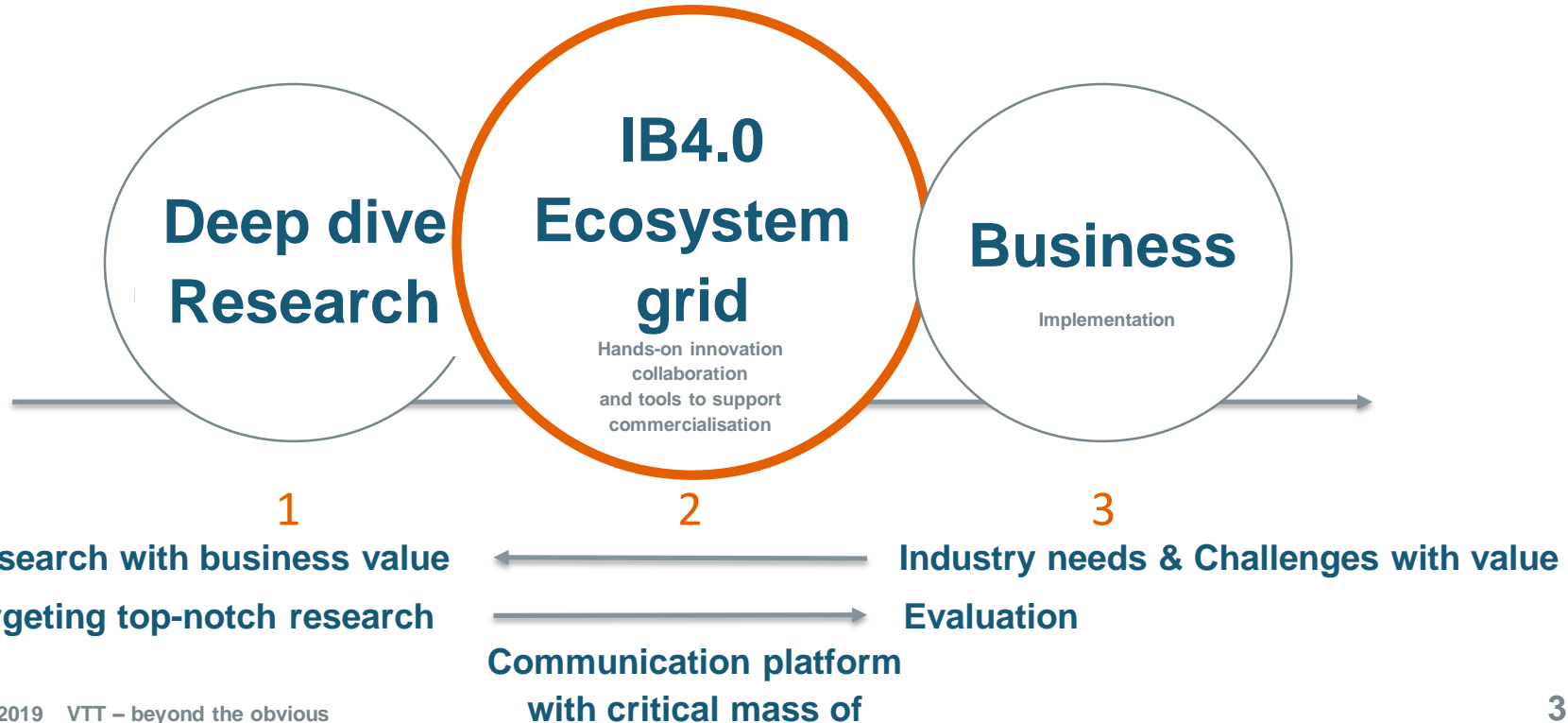
THTH Autumn Seminar 29.10.2019
Eemeli Hytönen, VTT

DIGITALISATION LEAP AHEAD

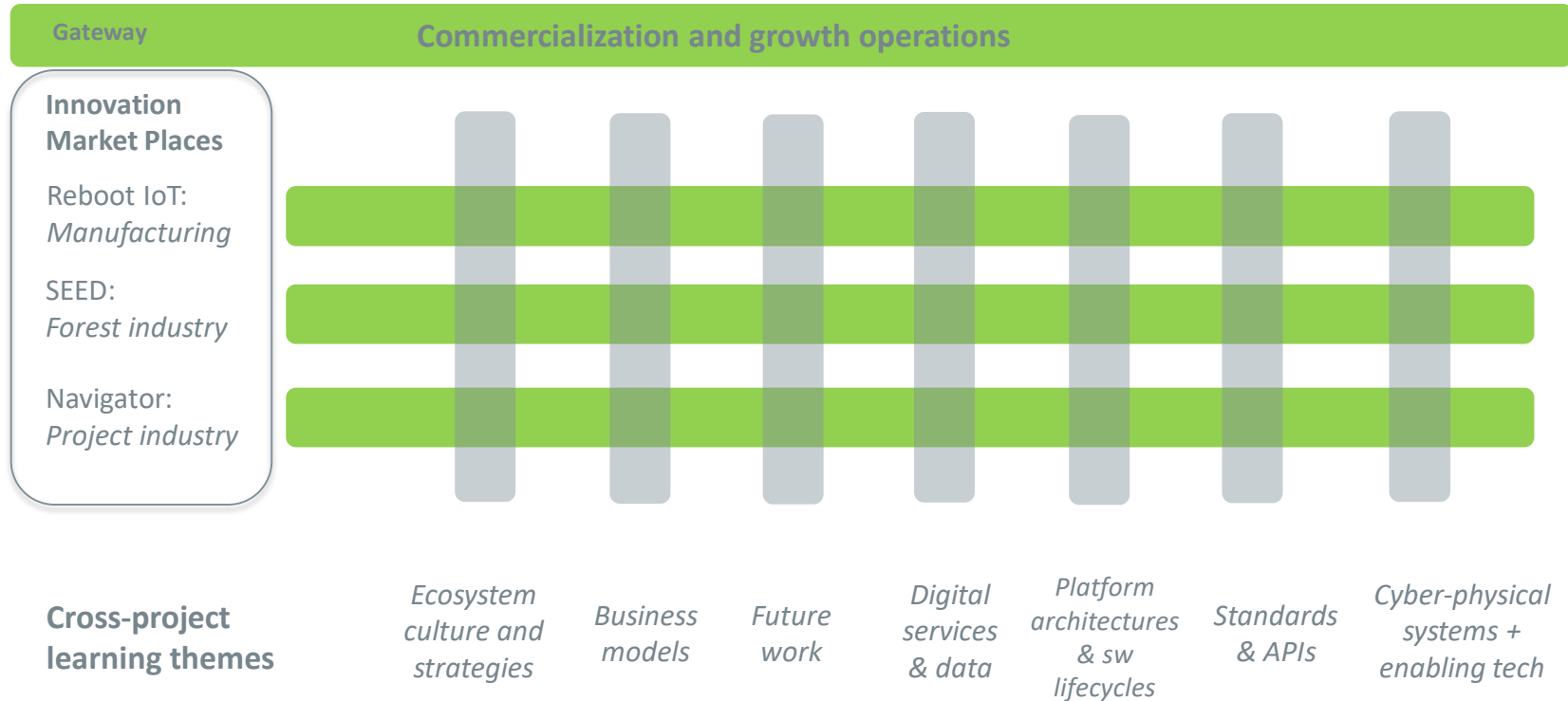
- Global pressure in digitalisation: Ind 4.0, Made in China 2025, Manufacturing USA,..
- Leap ahead requires radical rethinking of national RDI processes
- In Finland, this culminates to industry ecosystems with critical mass and proven way of operating
- Reboot and SEED develop and implement ecosystem co-innovation model reusable in variety of industry ecosystems leveraging the overall Finnish impact



MARRIAGE OF TOP-NOTCH RESEARCH AND BUSINESS: FAST TRACK FOR RESULTS INTO BUSINESS SCENE THROUGH INDUSTRY BEYOND 4.0 (IB4.0) ECOSYSTEM GRID



SEE THE BIG PICTURE AND ACT HANDS-ON

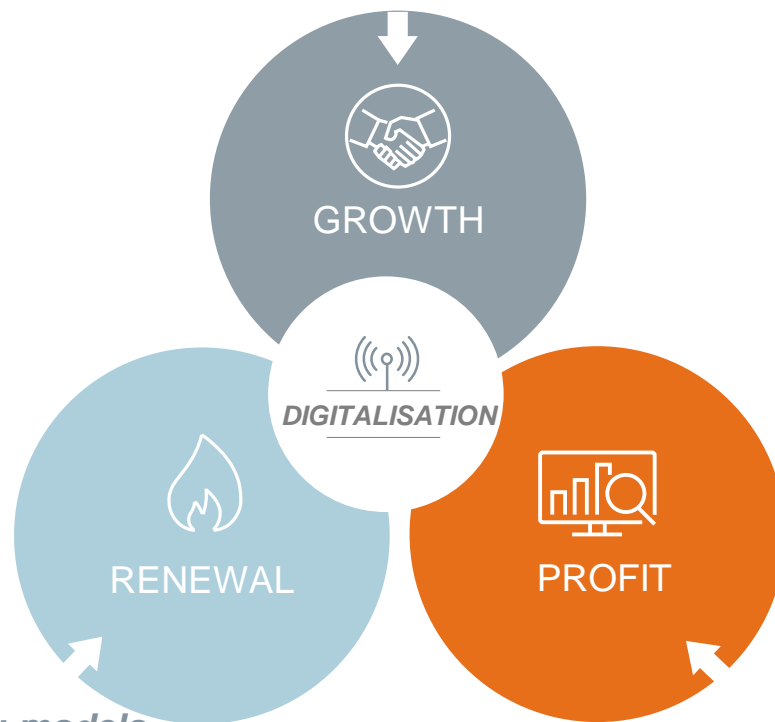


SEED - transforming the forest industry into the digital era

SEED Vision

Competitiveness is more and more dependent on the capability to exploit data. Combining the top-class IT competences in Finland with world-class forest industry knowhow generates substantial potential for export in both sectors and for improving forest industry's competitiveness.

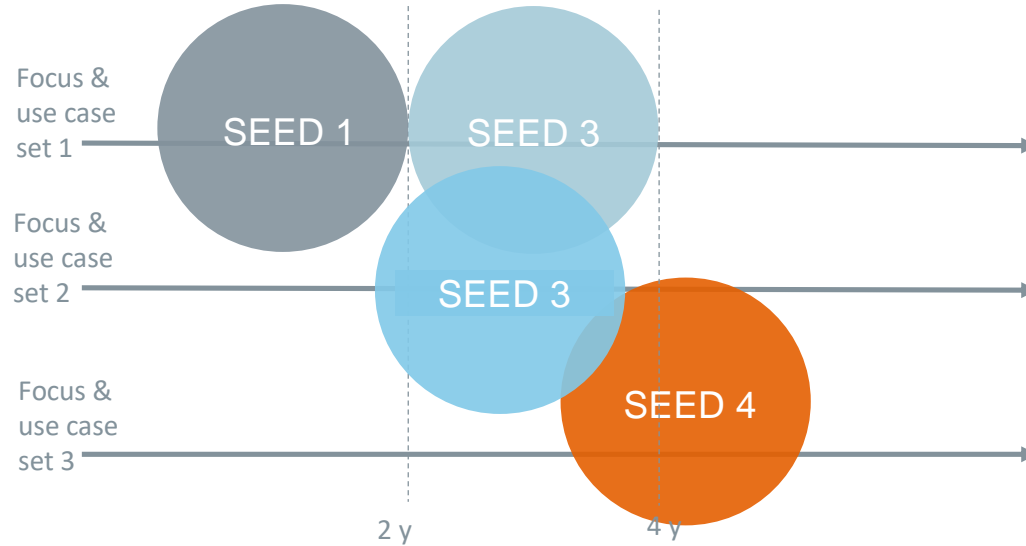
Platform economy and new business models & products



*New operating models
and technological
solutions
Cultural change*

*Productivity, profitability
and efficiency
improvement*

SEED ECOSYSTEM ROADMAP

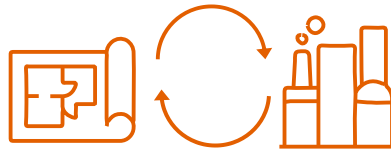


Projects are built around business oriented needs identified in the ecosystem

SEED GOALS



1. *Alliance between forest industry and IT sector*
2. *Fostering digital transformation of forest industry through **ecosystemic collaboration***
3. *Improving **productivity and competitiveness** of forest industry and strengthening its market position through digitalisation*
4. *New international **business** for IT*
5. ***NOVEL innovation market place** which attracts talents to joint learning and common innovation and business development, and which is supported by research*



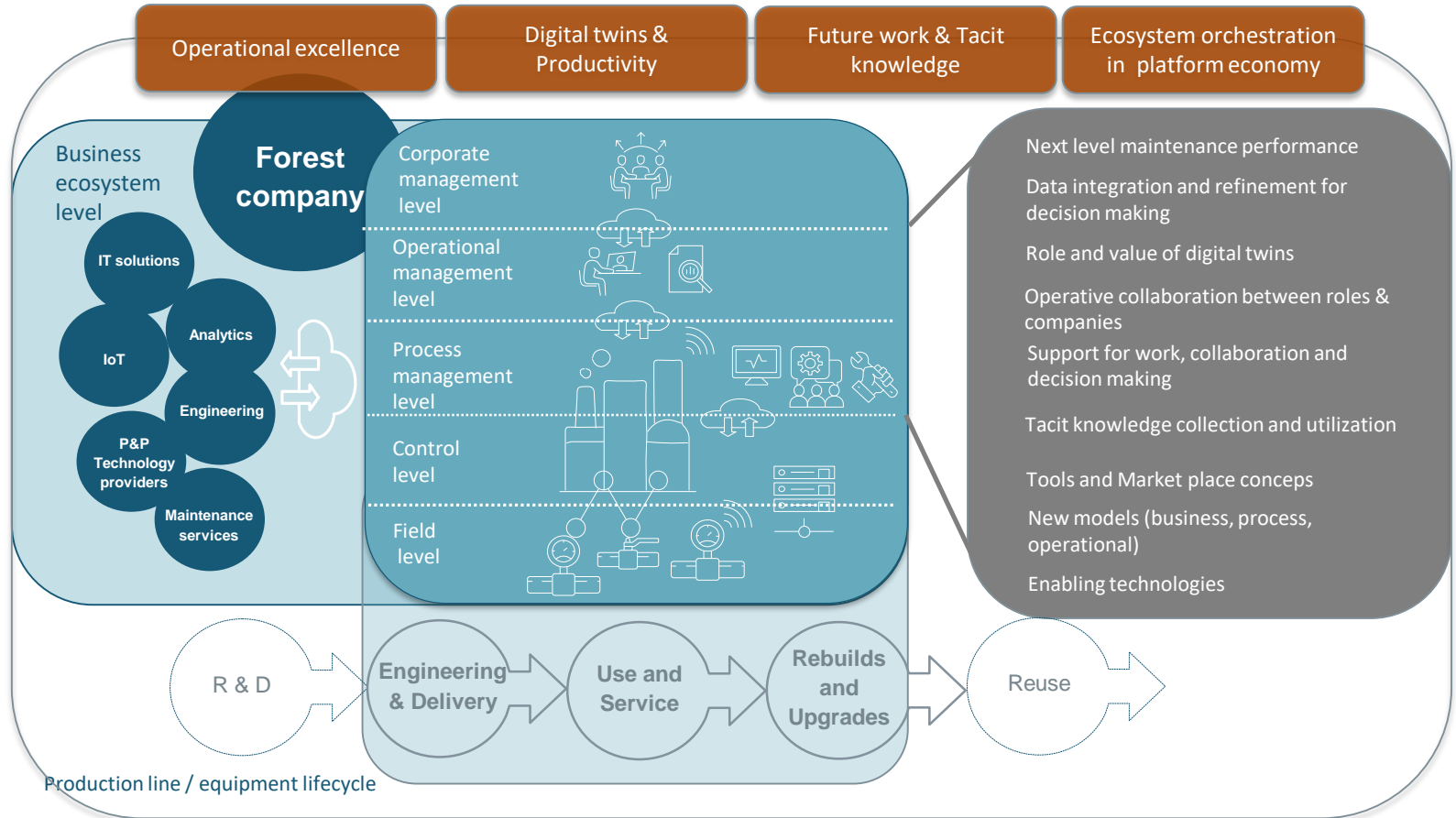
DIGITALISATION

SEED – new level in productivity and competitiveness

We build new concepts for:

- Operations and work process models
- Product and service solutions
- Business and network models

AND we do research on enabling technologies and their application in these concepts



SEED

Innovation market place

Customers

Industry having challenges to be solved

Forest industry
(Use case companies)

Developers

Developers

Develop solutions and services as their projects

We will create together a common understanding of the challenges relevant for business, solve them, and approach future customer needs through innovation

Research organisations
Universities

Catalysers

Design, IT, SW and technology experts demonstrate their capabilities to solve challenges

Catalysers



Grand Challenges

OPERATIONAL EXCELLENCE

Next-gen asset
management service
models enabled by
data and tacit
knowledge utilisation

OPTIMAL USE OF DIGITAL TWINS

Significantly
expedited digital twin
development **AND**
their life-time
extension in
manageable manner

FUTURE WORK ENVIRONMENT

Next-gen operator
diary
Tools for maintenance
crew integrating all
relevant knowledge

ECOSYSTEM ORCHESTRATION

Open market place
for forest industry
maintenance
spareparts
Tools for cross-plant
and cross-company
collaboration

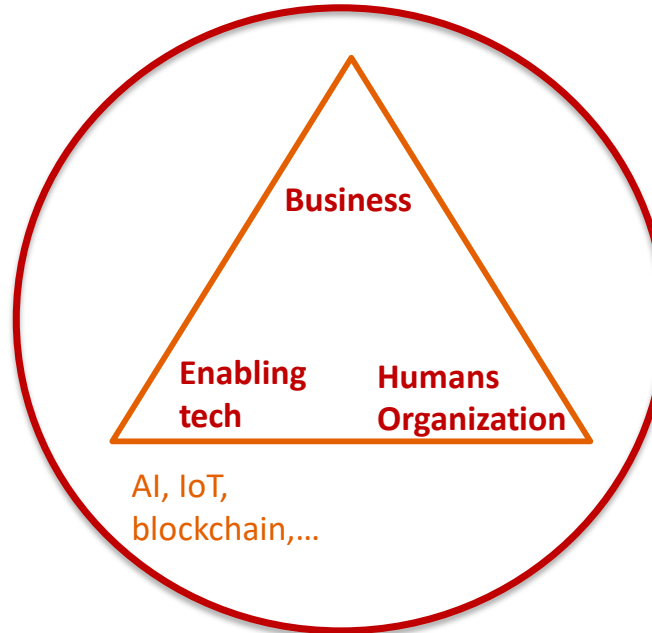
SEED

Approach →

”Humans and machines will dance together”*

* 5th Element Group: A Fifth industrial revolution / World Economic Forum, Davos 2019

*Collaboration
based on
design thinking*



*Thinking through
the 3 angles ensures
impactful results*

A unique, agile and evolving operating model

Case mills as real-life innovation platform

Studies and interviews

Rapid research experiments

Rapid concepting and POCs by all parties



Sprint meetings



"Seeds for growth"
pitch bazaar (Research,
PoC, concept and
consultation results)



"It's a match" bazaar for
Catalyzers, Project and
Use case owners, and
researchers



On-line news



Innovation and
candidate
scouting



SG meetings



Round table
meetings and
Innovation
workshops



SEED visits
(companies,
mills, research
institutes)

*Challenging themes to be
discussed with the whole value
network*

THIS GAME IS WON BY A TEAM

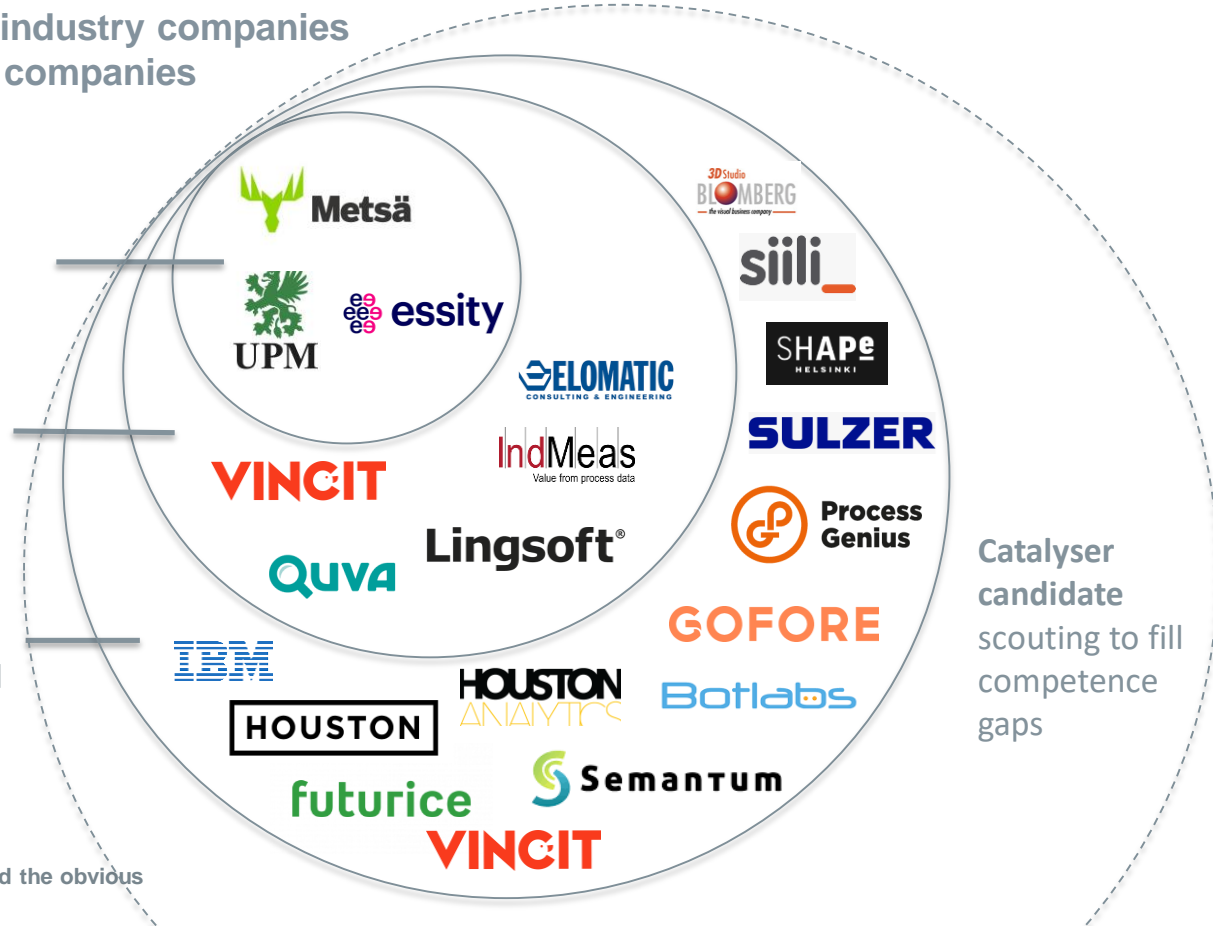
World-class forest industry companies
Leading Finnish IT companies

Use-case
companies

Developers
with own
projects

Catalysers
With in-kind
work OR in-kind
work and fee

Catalyser
candidate
scouting to fill
competence
gaps



SEED jointly-funded research

Company challenges & needs over the life-cycle of production lines



Concrete, business-oriented use-cases

OPERATIONAL
EXCELLENCE

OPTIMAL USE OF
DIGITAL TWINS

FUTURE WORK
ENVIRONMENT

ECOSYSTEM
ORCHESTRATION



Research and development

1.
Innovation
activating
high-class
research

WP1
ASSET
MANAGEMENT IN
DIGITAL ERA

WP2
ENGINEERING
MEETS
OPERATIONS

WP3
BENEFITING
FROM PLATFORM
ECONOMY

WP4
TECHNOLOGY
ENABLERS

WP5
MANAGEMENT &
ECOSYSTEM
DEVELOPMENT

2.
Development of
successful next-
gen innovation
ecosystem
operation



Validation in business (novel models & solutions and ecosystem operation)

Thank You!

**Let's venture
beyond the obvious**



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