



# Ecosystem assessment: Introduction and findings

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## Introduction:

# What is an Innovation Ecosystem?



- The innovation system in which an DIH is operating
- Composed of all actors which are relevant for innovation via
  - *Providing input and supply to innovation*
  - *Articulating demand for innovation*
  - *Setting framework conditions for innovation*
- Characterised by linkages and interactions between actors
- Guided by political, legal, societal, economic, environmental framework conditions

# Why is it important? (1)

- Innovation does not evolve in a vacuum.
- Innovation does not proceed in a linear mode from basic research to applied research, to development, to design, to production until marketing.
- Innovation is not generated by a single “innovator”
  - *Rather, innovation processes are characterised by a broad variety of linkages, interactions and feedbacks between a diverse set of actors and activities.*
  - *Companies are not part of a single industry, but members of an innovation system that is composed of diverse actors which together create and capture new value through both collaboration and competition.*

## Why is it important? (2)



- Digital Innovation Hubs (DIH) are embedded in an Innovation Ecosystem (implicit or explicit).
- It is crucial for DIH to develop and improve their Innovation Ecosystem in order to operate in a most efficient way.
- Ecosystem assessment as important first step.
- Expected added value for DIH:
  - *Identify weak points and gaps within the regional system that hamper operation of DIH in order to create and support innovation.*
  - *Support developing strategies and implementing measures for enhancing the regional Innovation Ecosystem in a systematic way based on a gap analysis.*

# Proposed approach

Five steps towards the assessment:

1. Overview
2. Inventory of functions and actors
3. Cooperation network
4. SWOT
5. Conclusions on action points

Introduced and explained during webinar in December 2016



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What?  
Why?  
**How?**  
Material

# 1. Overview

Provide a short description of ecosystem, include

- Geographic delineation
- Size (population)
- Main economic sectors
  - *Industrial sector in the region*
- Characteristics related to the socio-cultural context, e.g.:
  - *Attitude towards innovation*
  - *Openness*
  - *Traditions*
  - *Lifestyle*
  - *Other relevant considerations*



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What?  
Why?  
How?  
Material

## 2. Inventory of functions and actors



What?  
Why?  
How?  
Material

Based on innovation system framework identify and characterise

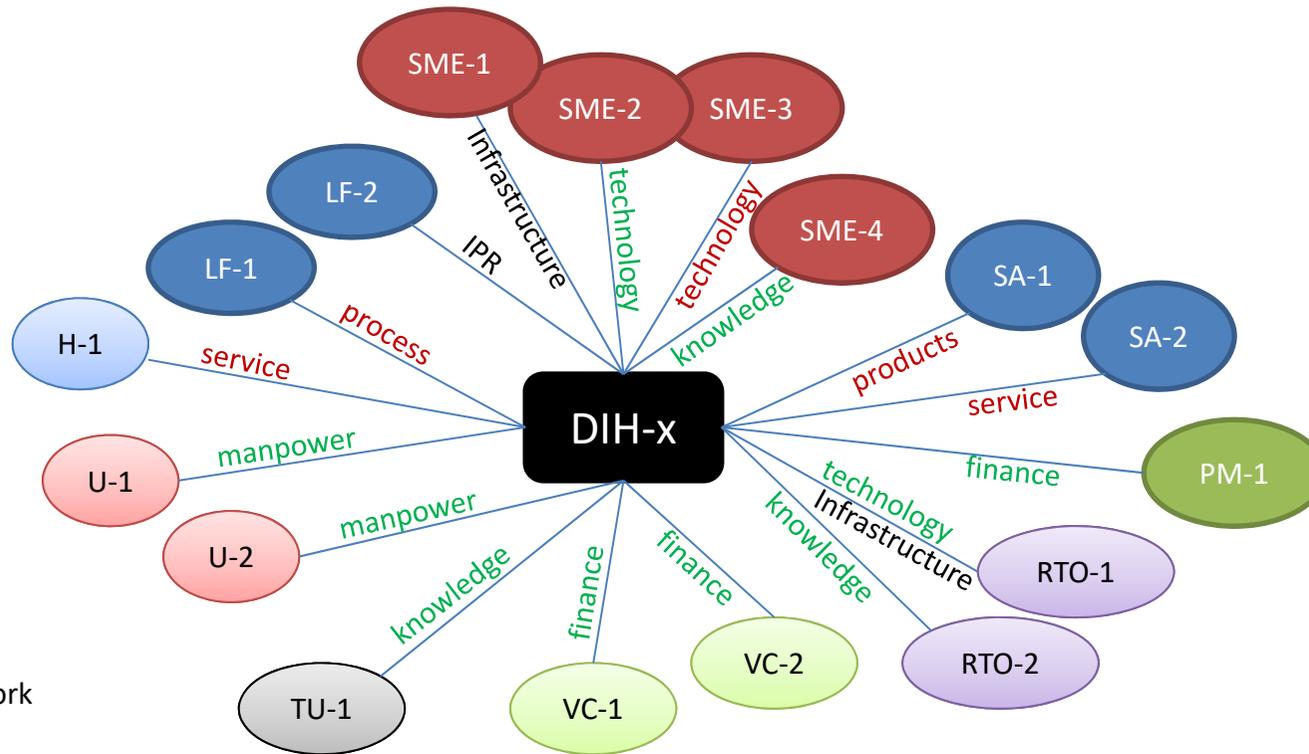
- Key functions and
  - Key actors of the Innovation Ecosystem
- 
- Innovation input and supply (Education and training institutes; research, technology and innovation actors; capital providers; funders; intermediary organisations)
  - Innovation demand (Business actors; societal actors; public sector actors)
  - Innovation framework (Innovation infrastructure; institutions for innovation: policies for innovation)

# 3. Cooperation network



What?  
Why?  
How?  
Material

SA: societal actor  
LF: large firm  
H: hospital  
U: university  
TU: trade union  
PM: policy maker

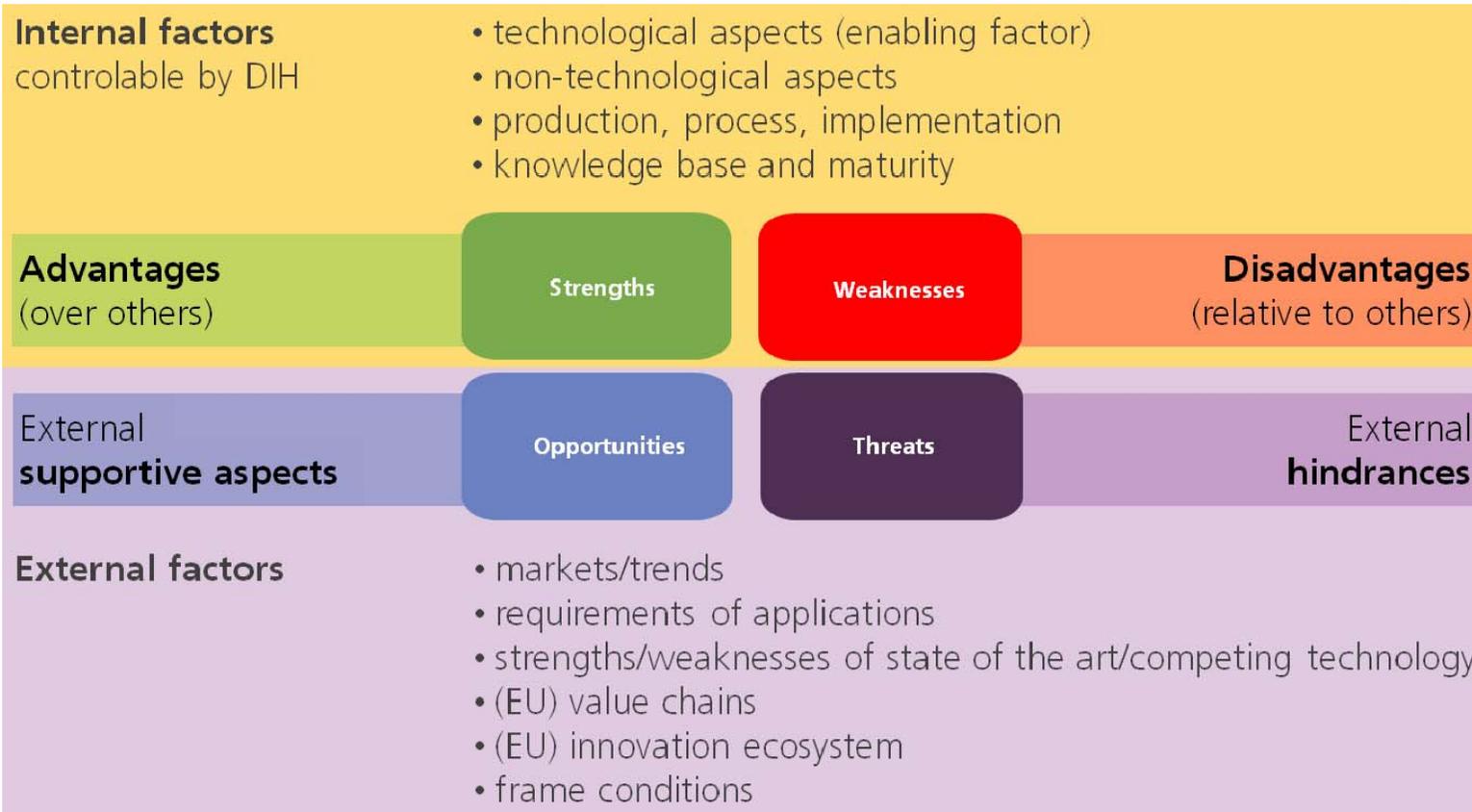


Innovation demand  
Innovation input  
Innovation framework

# 4. SWOT analysis, principles



What?  
Why?  
How?  
Material



## 5. Conclusions and action points

- Based on the SWOT analysis draw conclusions.
- Identify key action points for enhancing the structure and function of the Innovation Ecosystem:
  - *Actions to overcome internal weaknesses and external threats*
  - *Action needed to build an effective DIH network*

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What?  
Why?  
How?  
Material

# Approach followed by DIH



- Most followed proposed approach (also depending on timing)
- Additional methods used, e.g.
  - *I4.0 readiness analysis,*
  - *Different types of stakeholder consultations*
  - *Interviews*
  - *Pestle analysis*

# Summary of main findings (1)



- There is no typical SME
  - *Crucial to be aware of business ecosystem*
  - *Different types need different support*
    - Ranging from basic information on opportunities of digitization
    - To in-depth information on specific CPS technologies
- Large companies are key actors in innovation ecosystem
- Presence of private financiers not sufficient, need to be convinced

# Summary of main findings (2)

- Several DIH face similar problems and challenges:
  - *Lacking connection between academia and industry*
  - *Weak knowledge flow from research to reality*
  - *Lacking perspective for skilled workforce, brain drain*
  - *Underestimation of digitization dynamics leading to lock-in effects (victim of current success)*
  - *Lacking awareness of ICT based innovation among traditional industries and many SME*
  - *SME mainly engaged in day-to-day business, long-term strategic approach lacking*
  - *Unbalanced industrial system: too many large or too many micro firms*
  - *Ambiguous role of large companies:*
    - Use own ICT-competencies, no interest in sharing
    - Reallocate
    - Take driving seat

# Added value for DIH



Systematic ecosystem analysis provides clear added value to DIH:

- Realistic positioning
- Supports defining business case of DIH
- Sharpening profile, avoiding duplication
- Tailoring support activities towards main gaps
  - *Target groups (which companies?)*
  - *Main weaknesses and opportunities*
  - *Key services*
- Identification of key action points thereby facilitating smooth start of action
- Facilitation of focused and efficient approach

# Lessons learned



- For the Commission
  - *Experience of DIH confirms hypothesis of clear need for DIH*
  - *Brain drain as important agenda point*
  - *Large enterprises need to be integrated into DIH concepts and similar schemes*
- For I4MS
  - *Define systematic ecosystem analysis as key requirement for DIH operation*
  - *Use cases from peer SME most convincing to “newcomer” SME*
- For the DIHs
  - *Awareness raising as first key activity of DIH*
  - *Practical experience, best practice from users most important*
  - *Provide support for horizontal innovation “SME2manufacturing”*
  - *Enhance absorptive capacities of traditional industries via DIH or additional activities*
  - *Get large industries on board*
  - *Tailor service to “real” SME needs, step-by-step approach, no fully-fledged “all inclusive” “solutions”*

# Questions for discussion



- Which main challenges did you identify in the innovation ecosystem of “your” DIH?
- How did you respond to these with your DIH strategy?