Validation Webinar 1

Living Lab Essentials & Design Thinking

Validation Webinar 1

Webinar structure

1.1 What is a Living Lab

1.2 Management of the Stakeholders' ecosystem

1.3 Expert interview – Dorien Aerts

1.4 Design Thinking and Living Lab Integrative Process overview

1.5 Empathising and Defining barriers

1.6 Ideation and Co-design with users

1.7 Expert interview - Dimitri Shuurman

1.8 Reflective activity and Q&A – 30'

1.1 What is a Living Lab?

1.1.1 Definition
1.1.2 History of a concept
1.1.3 Elements & Principles
1.1.4 Benefits & Challenges
1.1.5 Types of Living Labs
1.1.6 Three-layer Model
1.1.7 Co-design vs Co-creation

Living Lab definition

A Living Lab is an innovation intermediary which orchestrates an ecosystem of actors in a region.

Its objective is to codesign products and services, on an iterative way, with the key stakeholders.

One of the results of the codesign process is the co-creation of social value (benefits).

Mastelic (2019)

Living Lab >> 4 Predecessors

- **1970s: The cooperative design movement** or the Scandinavian tradition of user involvement in information technology (IT) design processes (Ehn, 1989)
- **1980s: The European "social experiments" with IT** (Oestmann and Dymond, 2001; Qvortrup, 1987);
- **1990s: "Digital City" projects** started to blossom (Paskaleva, 2011).
- **2000s: The creation of "Home-Lab"** by the MIT

Ballon & Schuurman (2015)

Living Lab >> 4 Predecessors

In the end of the 1990s, the Living Lab concept came into use:

First in the USA: Living Labs as **testbeds**

Then in Europe: Living Labs as means to **research the context**

and to **enable co-creation.**

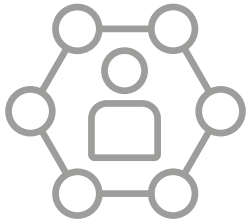
Følstad's, 2008 in Ballon & Schuurman (2015)

Living Lab >> Key elements

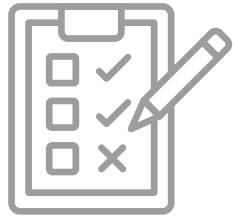
Active User Involvement

Co-creation & Co-design

Real Life Setting



Multi Stakeholder Participation



Multi Methods Approach

Orchestration

Adapted from Schuurman (2013)

Living Lab >> Principles

Value	Influence	Sustainability	Openness	Realism
Public Authorities & Stakeholders in terms of meeting their planning, project or business value. People in terms of improvement of life quality.	Launching of the decision-making process beyond Stakeholders' participation, involvement and engagement.	Meeting the needs goes beyond environment and resources. Creating relationships for the present and the future.	Collaboration between people of different backgrounds, perspectives, knowledge and experience that secure faster and feasible sustainable energy solutions.	Generations of solutions and results that are valid for a particular context and pollinated in other contexts.

Living Lab >> benefits & challenges

Benefits

1. Co-developing solutions with users
2. Mastering the value chain
3. Identifying key Stakeholders' values
4. Providing methods and tools

Challenges

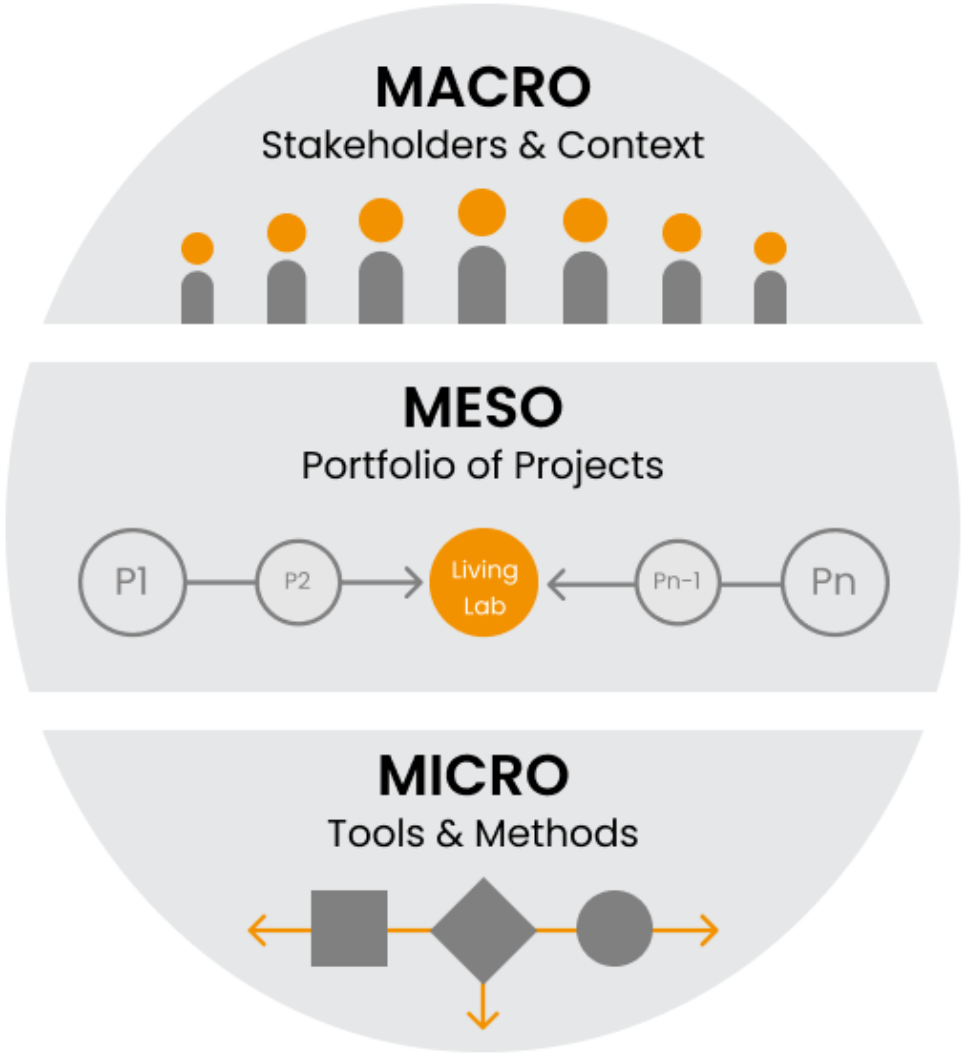
1. Theoretical & Methodological
2. Governance & Process-related
3. Actors' Motivations and Expectations
4. Ethical Challenges

Habibipour, (2018)

Living Lab >> Types

- Urban Development – Urban Living Lab / Mobility Lab
- Energy & Environment – Energy LL / Green Energy LL
- Culture –
- Health –
- Tourism -
- Social facilities -
- Profile groups e.g. for children or the elderly
- . . .

Three-layer model



- Stakeholders' management
- Context analysis
- Governance model for the Living Lab

- Portfolio of projects in synergies
- Deep demonstration, experiments, interventions

- Tools and Methods mobilised
- Participative Workshops & Climathons
- Interviews & Surveys
- Interest-Influence Matrix

Schuurmann (2013)

Co-creation & Co-design

- **Co-creation** is a generic term and refers to value creation.

The value is always created when it is consumed. Energy which is not consumed does not generate value.

Vargo and Lusch (2004), in Mastelic (2019, p.16)

- **Co-design** is a specific instance of co-creation, a sub-category.

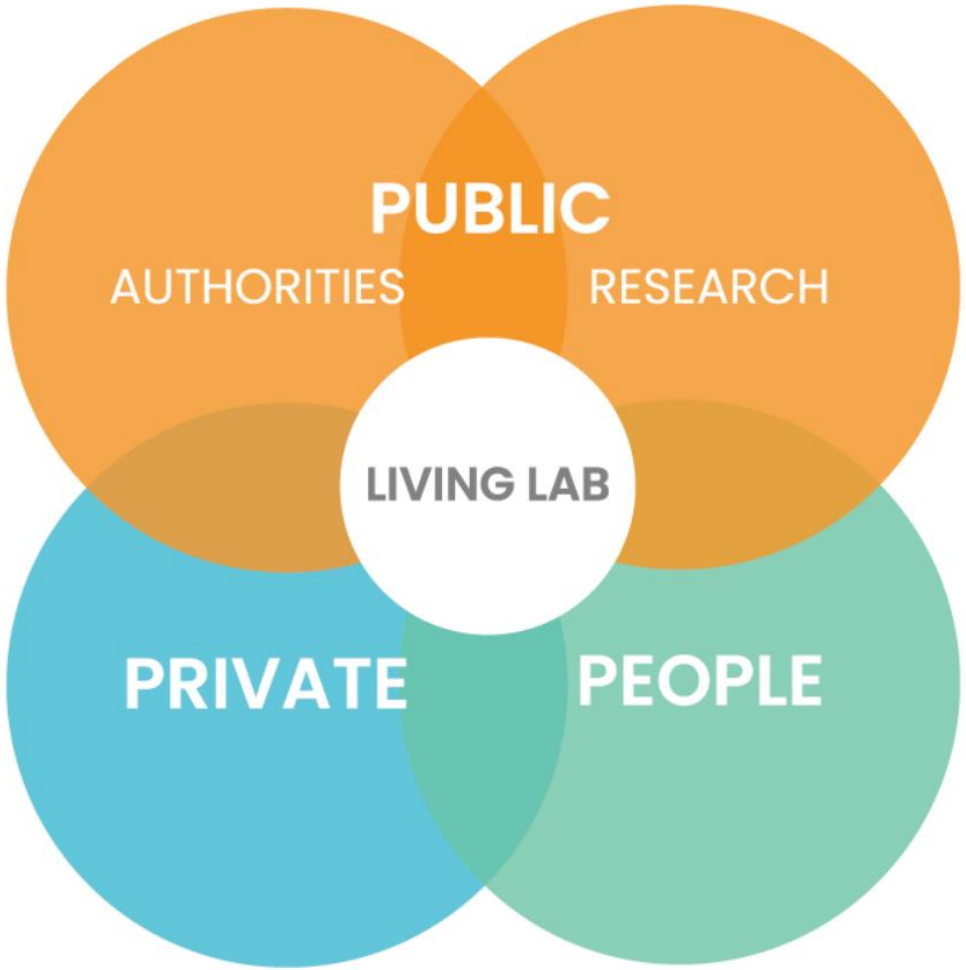
It refers to the creativity of people not trained in design, working together with specialists in the innovation process.

Sanders and Stappers (2008), in Mastelic (2019)

1.2 Management of the Stakeholders' ecosystem

1.2.1 Quadruple Helix model
1.2.2 Roles & Types of stakeholders
1.2.3 Stakeholders’ contribution
1.2.4 Stakeholders’ mapping tools

Quadruple Helix model

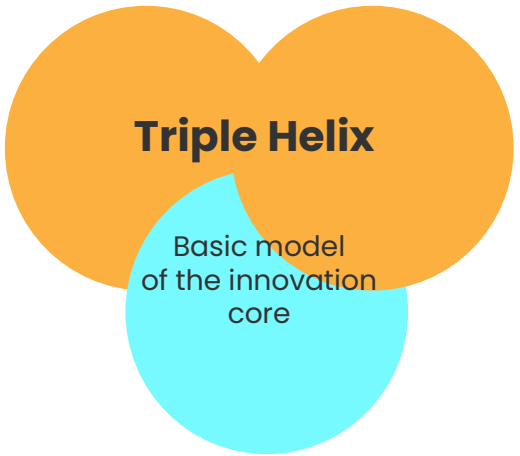


Living Labs orchestrate the collaboration of four types of stakeholders:

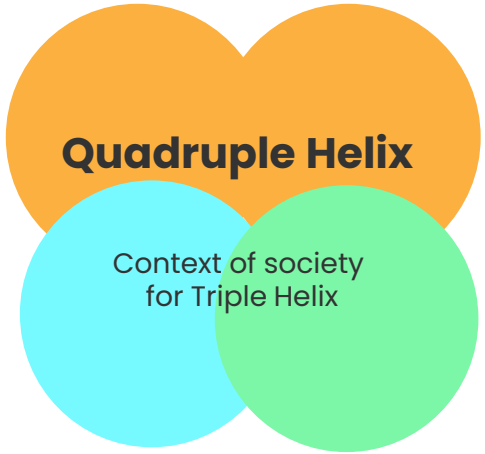
- Public authorities
- Research organizations
- Private companies
- Citizens

Carayannis & Campbell (2012)

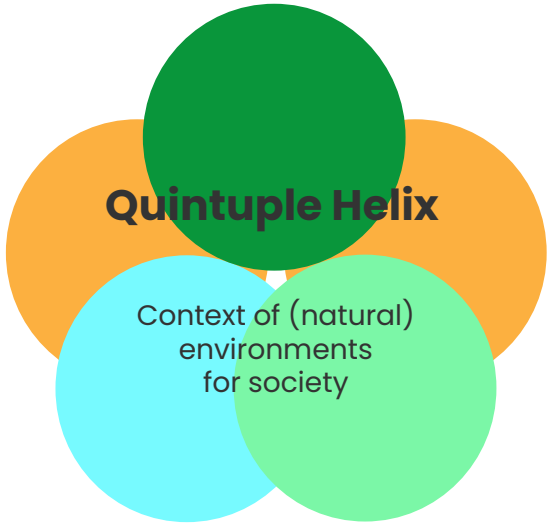
Triple Helix >> Quadruple Helix >> Quintuple Helix



Knowledge economy



Knowledge society
& Knowledge economy

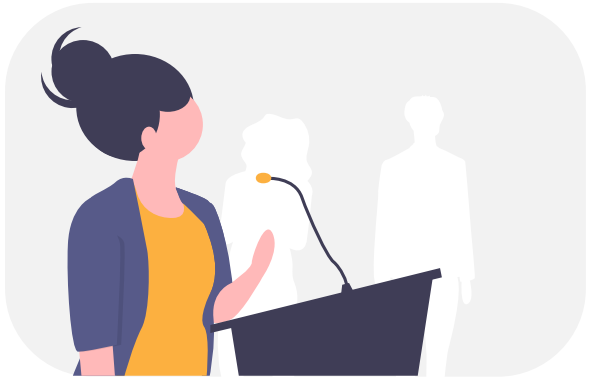


Socio-ecological
transition

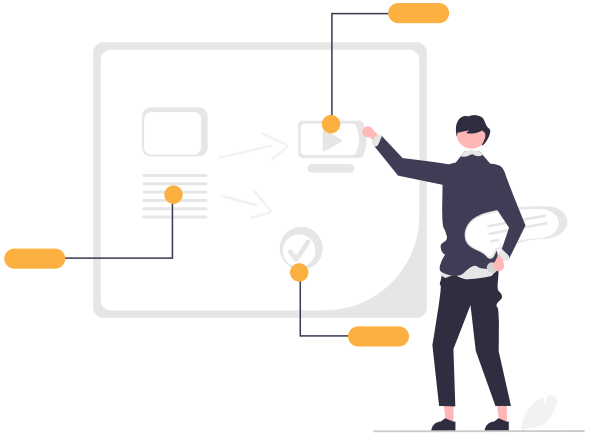
Carayannis, Barth & Campbell (2012)

Analysing Stakeholders' Ecosystem

Public administration

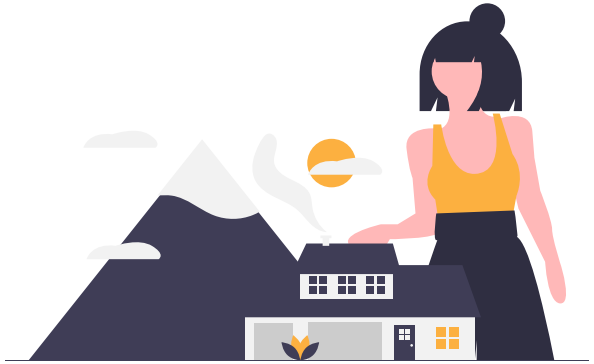


Mayor



City council

Energy & Environment Department



Housing Department

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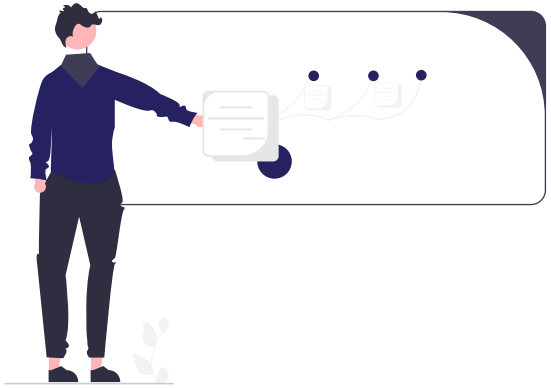
Analysing Stakeholders' Ecosystem

Research organisations

Researcher



Professor

Teacher

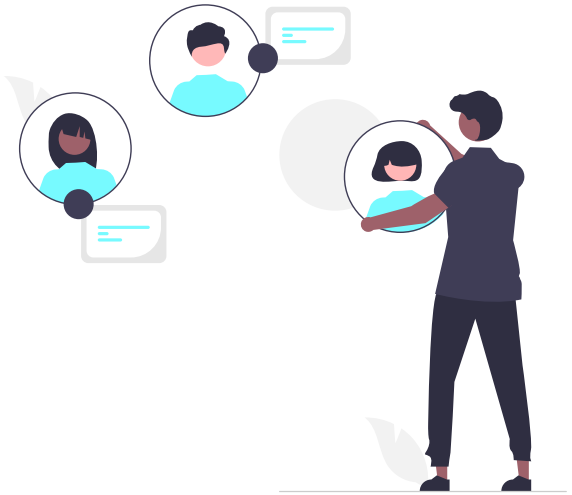
Student

Analysing Stakeholders' Ecosystem

Private sector

Technological provider

Urban planner

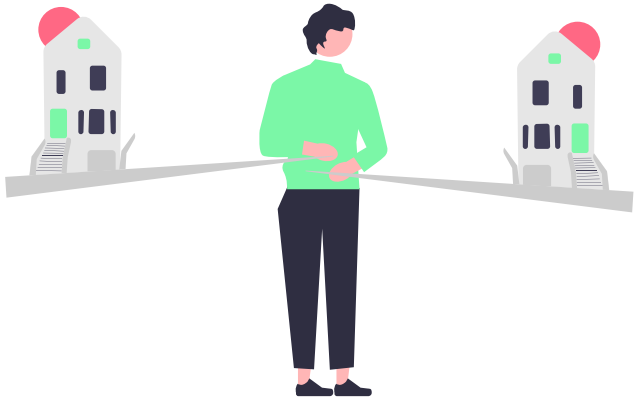


Network operator

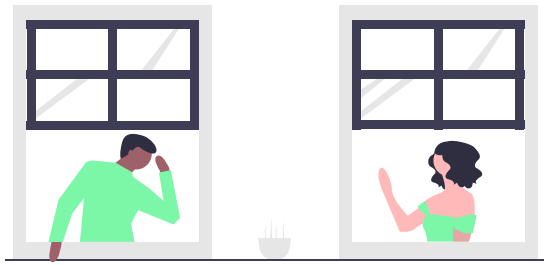
Construction company

Analysing Stakeholders' Ecosystem

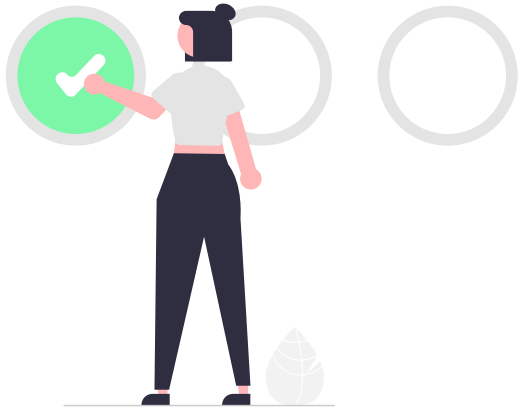
People



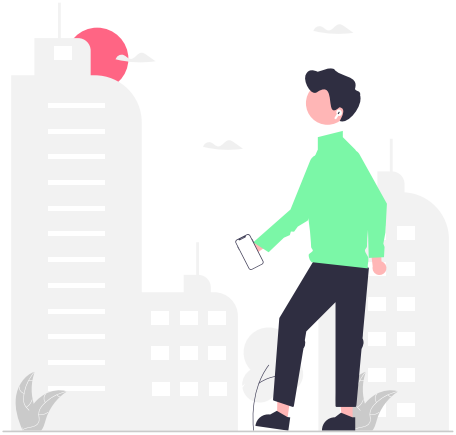
Local association manager



Apartment owner



Ambassador



Tenant

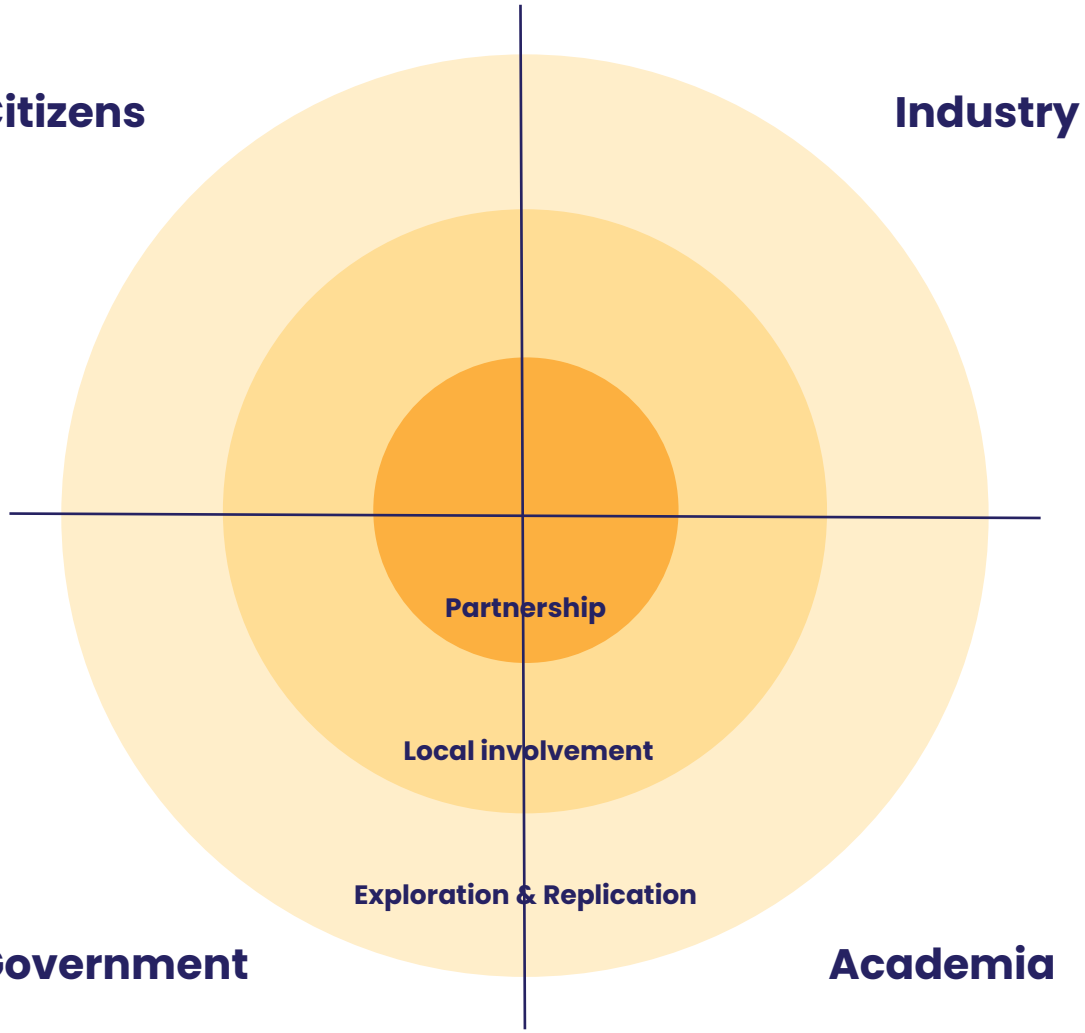
Stakeholders' contribution in a Living Lab

Public authorities	Private organization	Research	People
• Creating the vision and allocating resources • Providing strategic leadership • Promoting networking	• Producing place-based knowledge • Setting small-scale objectives • Creating suitable projects	• Engaging students as innovators • Providing innovative R&D methods • Augmenting knowledge systematically	• Producing place-based user experience • Participating in experiments • Empowering citizens through co-creation

Juujarvi & Pesso (2013)

4-Helix Model

Stakeholders Analysis



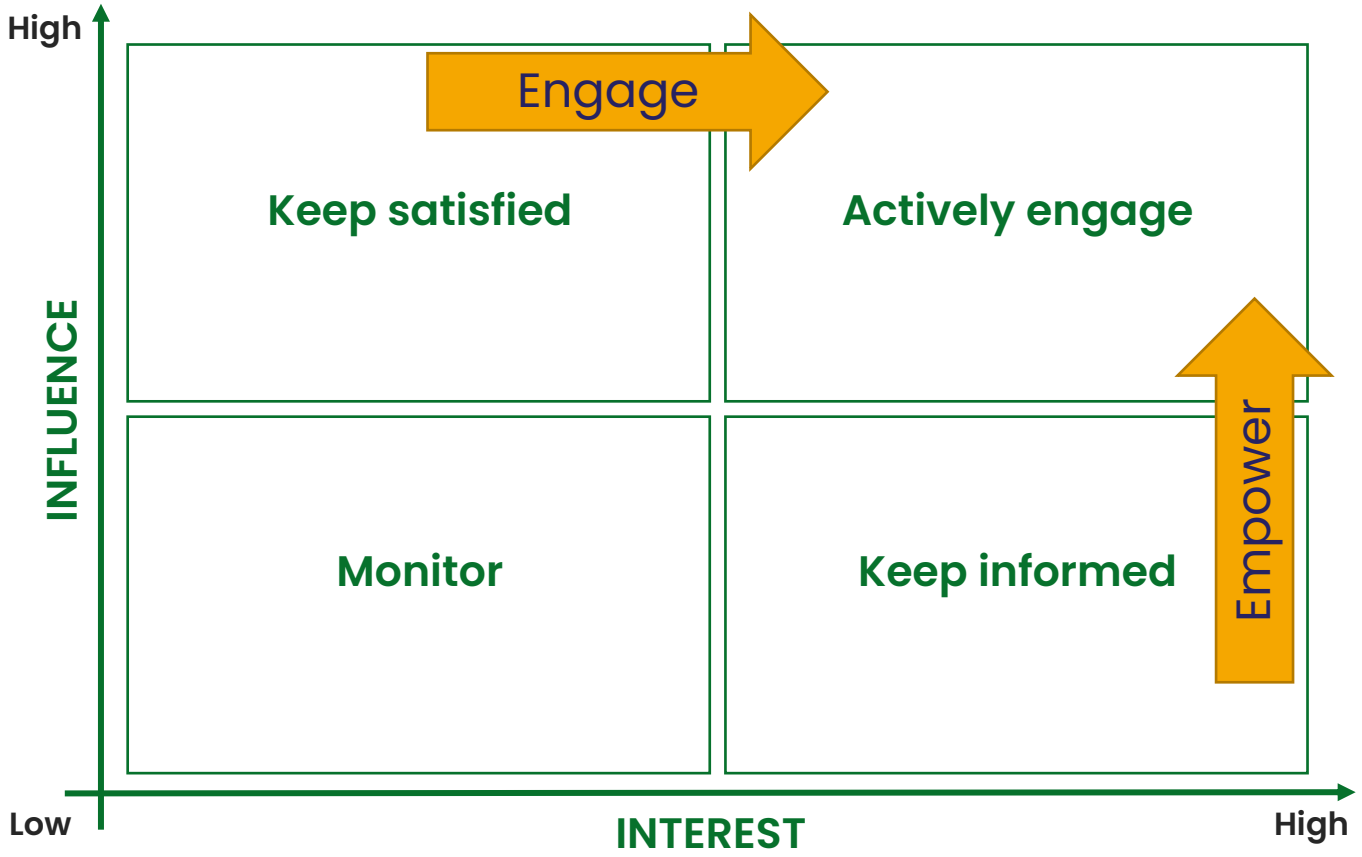
The quadruple helix model
helps to visualise different stakeholders and to separate them according to their level of importance in the project.

Three circles represent different levels of integration & importance of Stakeholders.

1 - the core stakeholders/key partners
2 - the organisations locally involved
3 - future collaborations and replication

Interest-Influence Matrix

Stakeholders Analysis



Stakeholder Interest-Influence Matrix

A method that allows to see the relative position of different stakeholder groups according to their **interests** in a project and the level of **influence**.

It allows to prioritise the actions and to visualize key actors and the way to integrate them.

Source: *Adapted from Eden and Ackermann (1998), in Bryson (2004)*

1.3 Expert interview – Dorien Aerts

Senior Researcher & Project Manager at VITO/EnergyVille

Living Lab Coordinator at

oPEN Lab Genk, Belgium

Link to the video:
https://youtu.be/mOnIRKy6OCU

1.4 Design Thinking and Living Lab Integrative Process overview

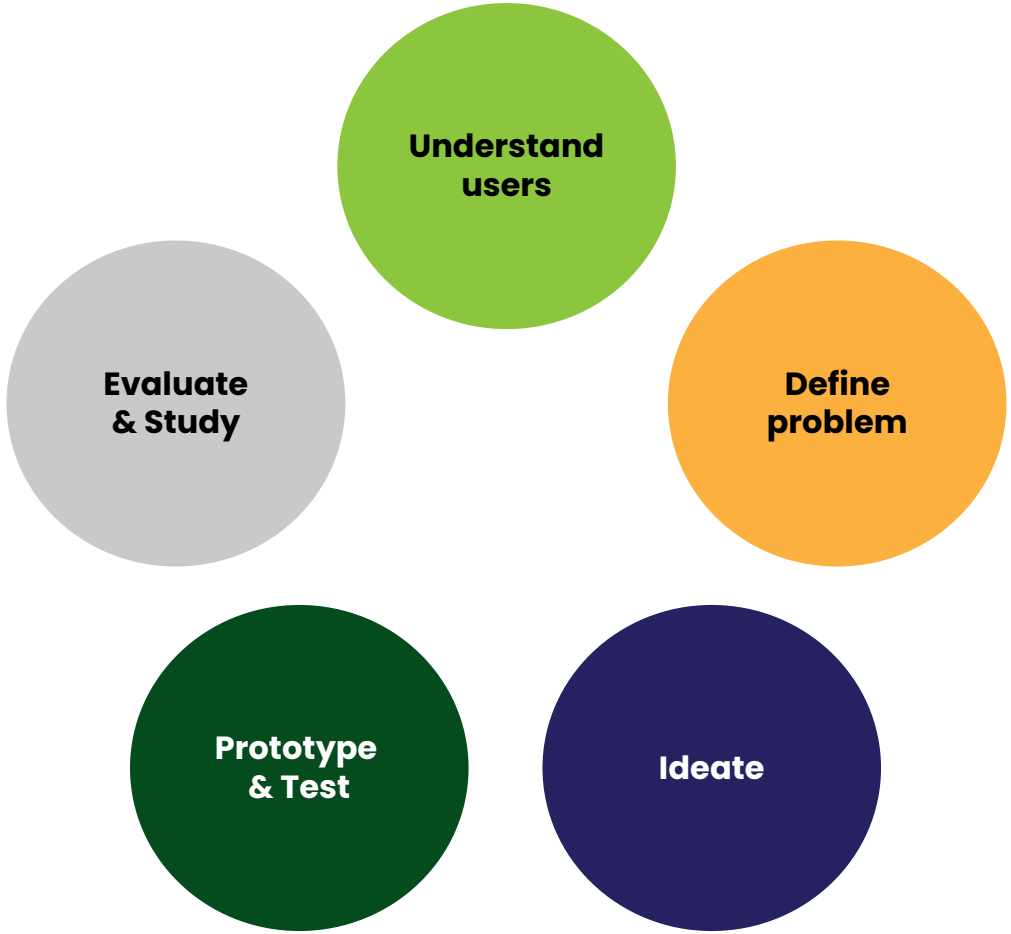
1.4.1 What is Design Thinking?
1.4.2 Why does it matter?
1.4.3 What is the Living Lab Integrative Process?
1.4.4 What does process look like?

Definition

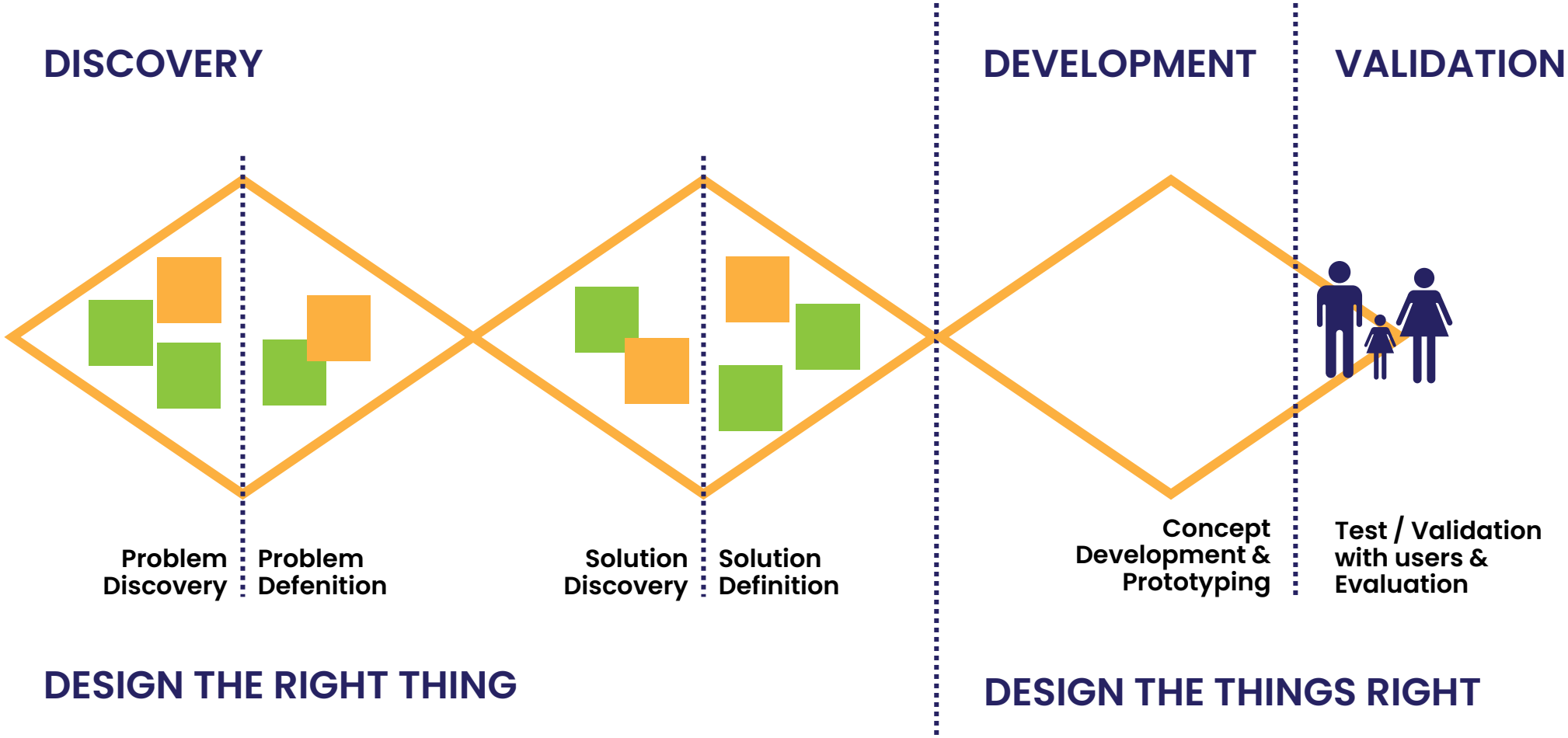
> **Design Thinking is an iterative process in which creators search to understand their users, challenge assumptions, define problems, and create innovative solutions by prototyping and testing.**

Design Thinking process

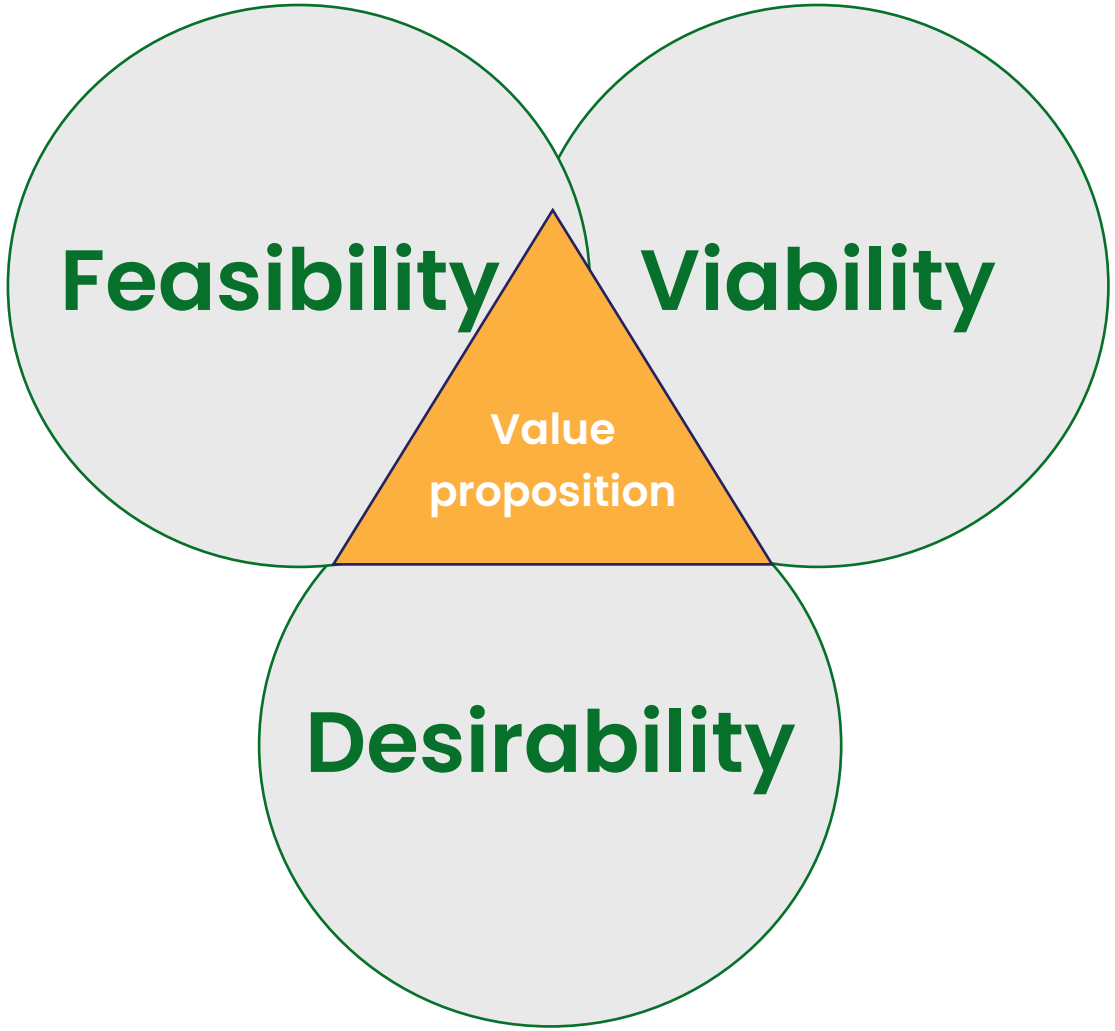
Design Thinking is a continuous process with the participation of users.



Design Thinking process



Design Thinking approach



Design Thinking >> Requirements

- Empathy
- Curiosity
- Critical Thinking
- Multi-sensory Observation
- Trial & Error Mindset

Innovation by failure

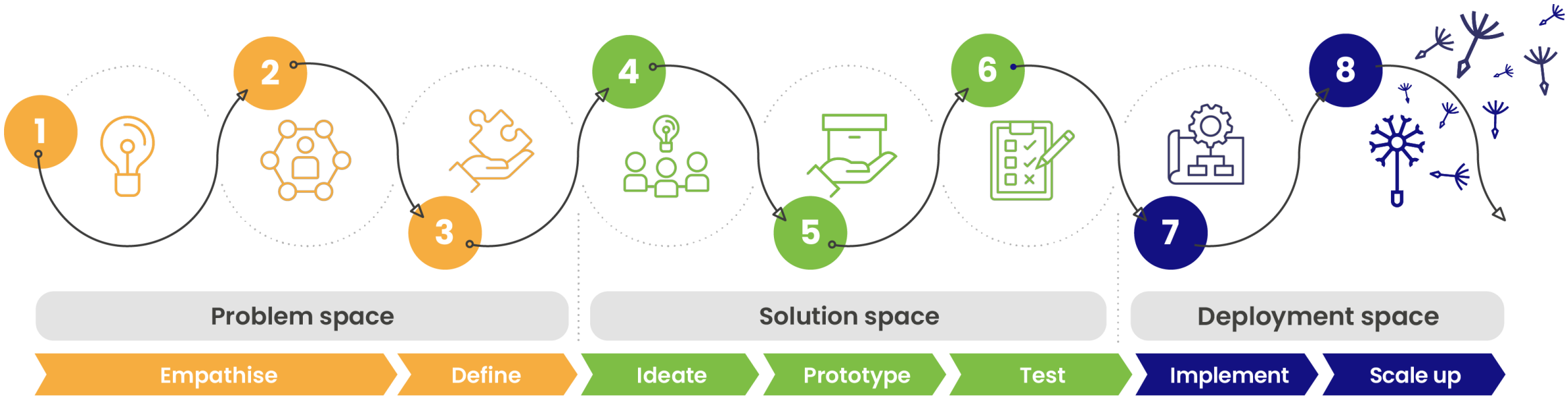
Why does Design Thinking matter?

- Fosters User Driven, Open Innovation
- Embraces Interdisciplinarity and Transdisciplinarity
- Develop with and not for users
- Reduces costs and risks of failure
- Tackles “wicked” problems

Living Lab Methodological approach

1.4.3 What is the Living Lab Integrative Process?

Living Lab Integrative Process & Design Thinking



Adapted from J. Mastelic, 2019

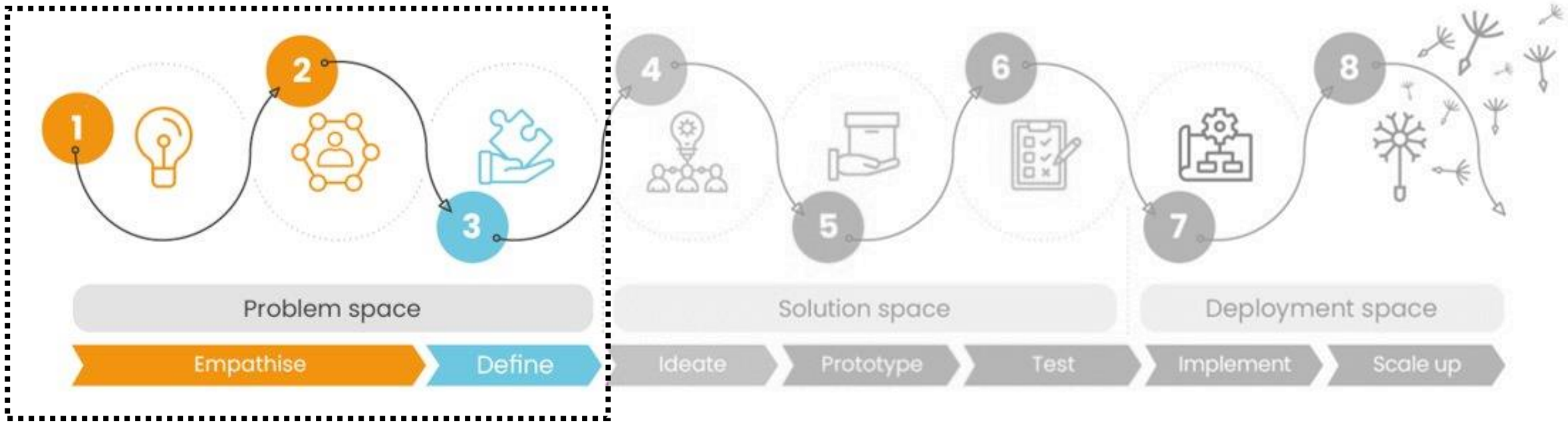
1.4.4 What does the process look like ?

1.5 Empathising and Defining barriers

1.5.1 Living Lab Integrative process - Problem space
1.5.2 Example of a tool

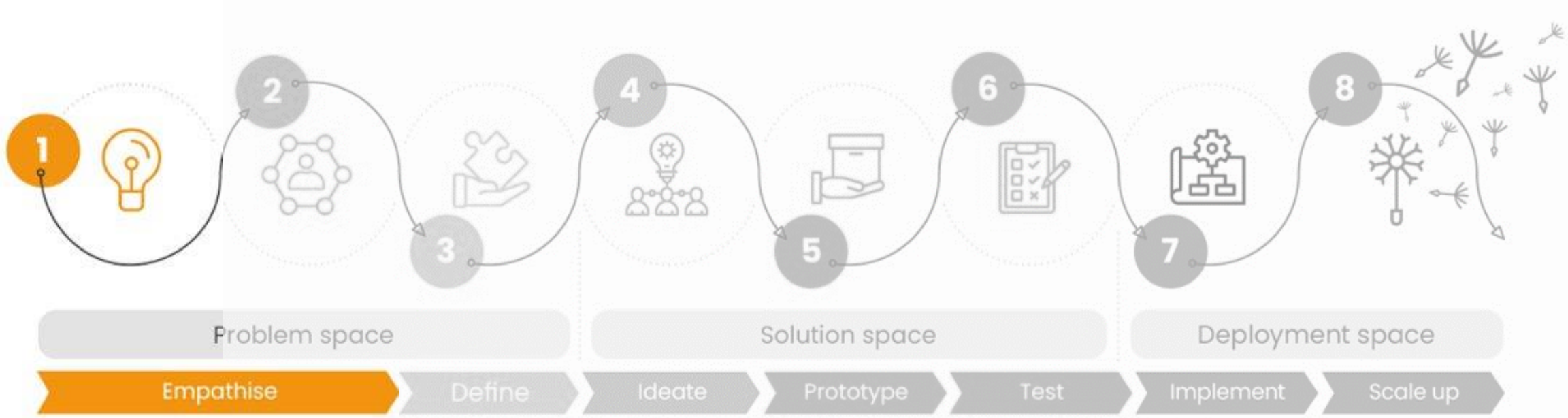
Living Lab Integrative Process Problem space

Living Lab Integrative Process – Problem Space



Adapted from J. Mastelic, 2019

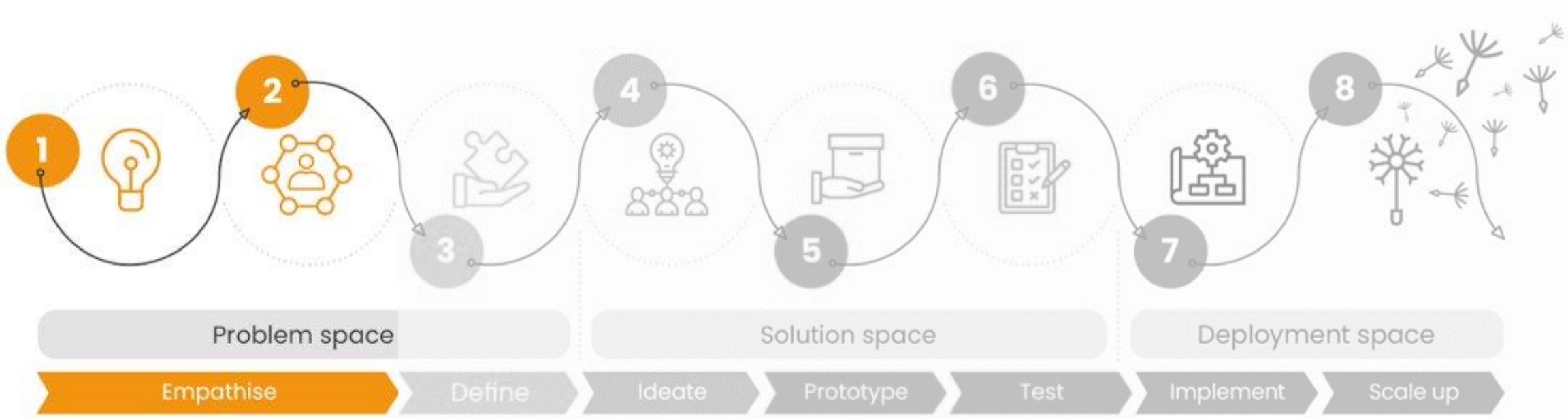
Living Lab Integrative Process – Problem Space



- Understanding the context
- User behaviours
- Analysis of social practices

Adapted from J. Mastelic, 2019

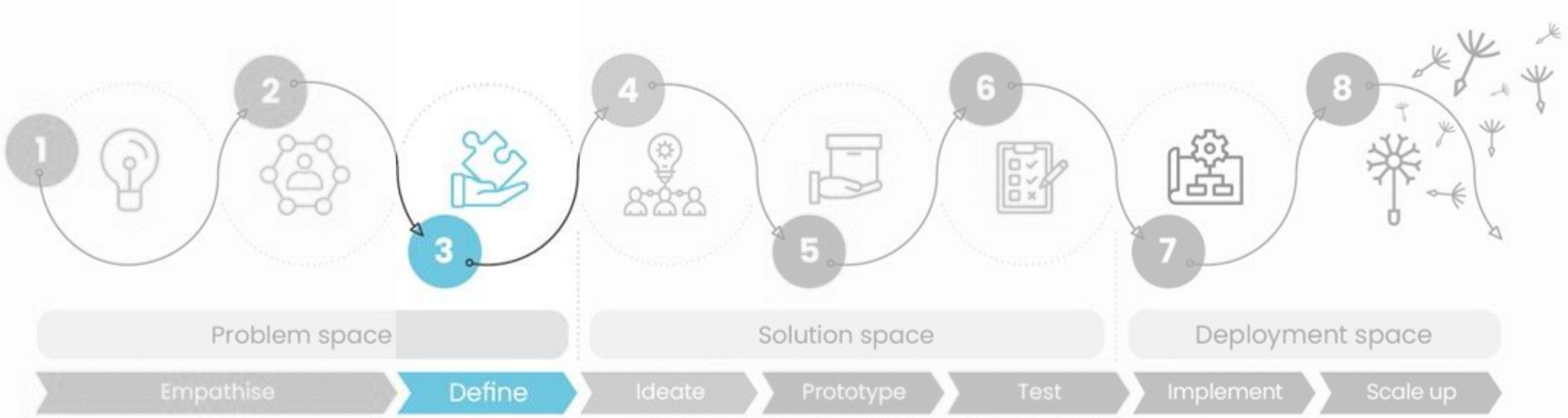
Living Lab Integrative Process – Problem Space



- Users' wants, fears and problems
- Needs and hierarchies
- People-Public-Private Partnership model (PPPP)

Adapted from J. Mastelic, 2019

Living Lab Integrative Process – Problem Space



- Socio-economic (+ spatial) context & Cultural setting
- Uncover barriers
- Reframe the problem
- Define solution criteria

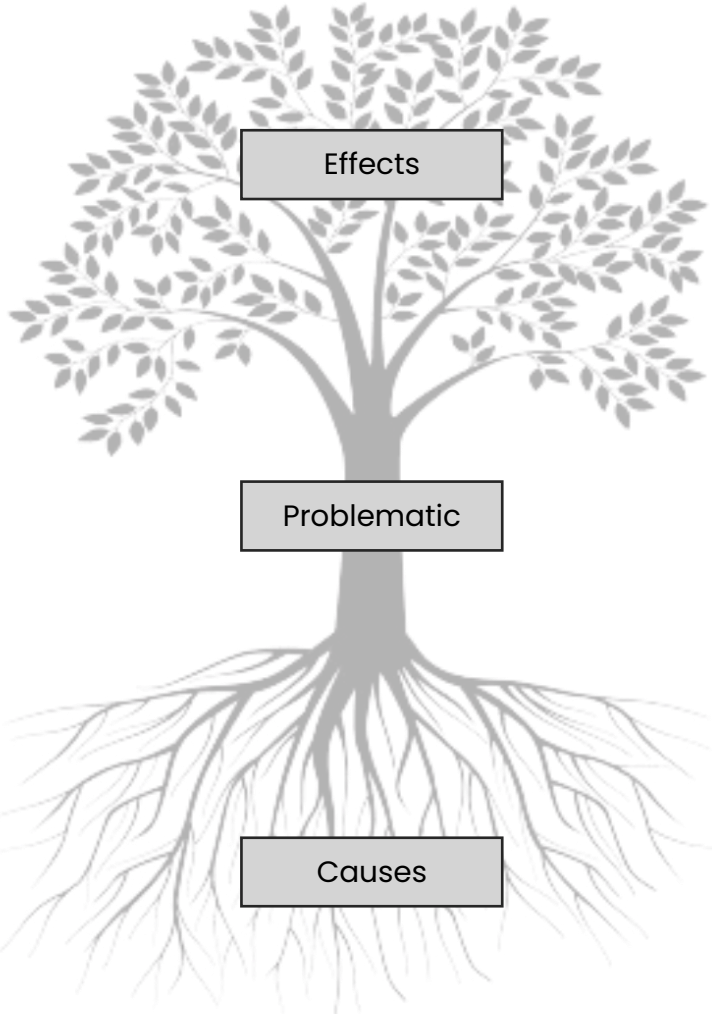
Adapted from J. Mastelic, 2019

Problem phase check list

- ❑ **Recognized** patterns in users' needs
- ❑ **Identified** opportunities where others see problems
- ❑ **Understood** the needs of all levels
- ❑ **Provided** clarity about assumptions and hypothesis
- ❑ **Immersed** into abstract systems and made them tangible
- ❑ **Consolidated** relevant information
- ❑ **Gained** findings and **synthesized** them into conclusions
- ❑ **Defined** Point of View and Solution Criteria

Example of a tool - Problem Tree

Defining Problem



Also known as **the tree method, problem tree technique, situational analysis or problem analysis.** This tool allows to map or diagram the problem.

The structure of a problem tree is:

- At the roots are the **causes** of the problem.
- The trunk represents the **main problem**.
- In the leaves and branches are the **effects** or **consequences**.

Source: *https://urbact.eu/problem-tree*

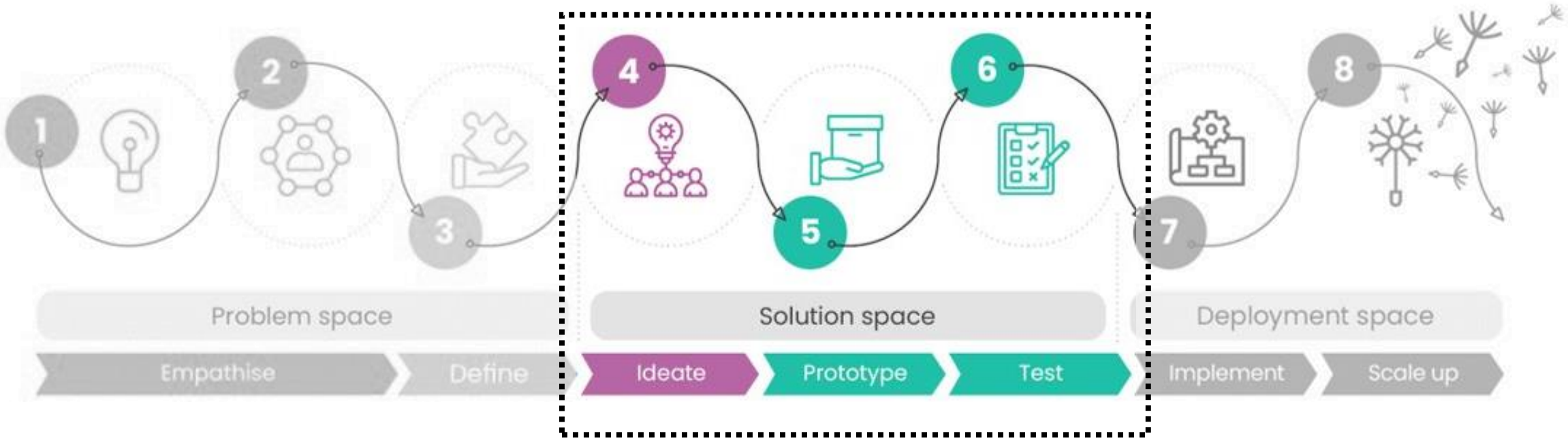
1.6 Ideation and co-design

1.6.1 Living Lab Integrated Process – Solution Space

1.6.2 Co-design with users

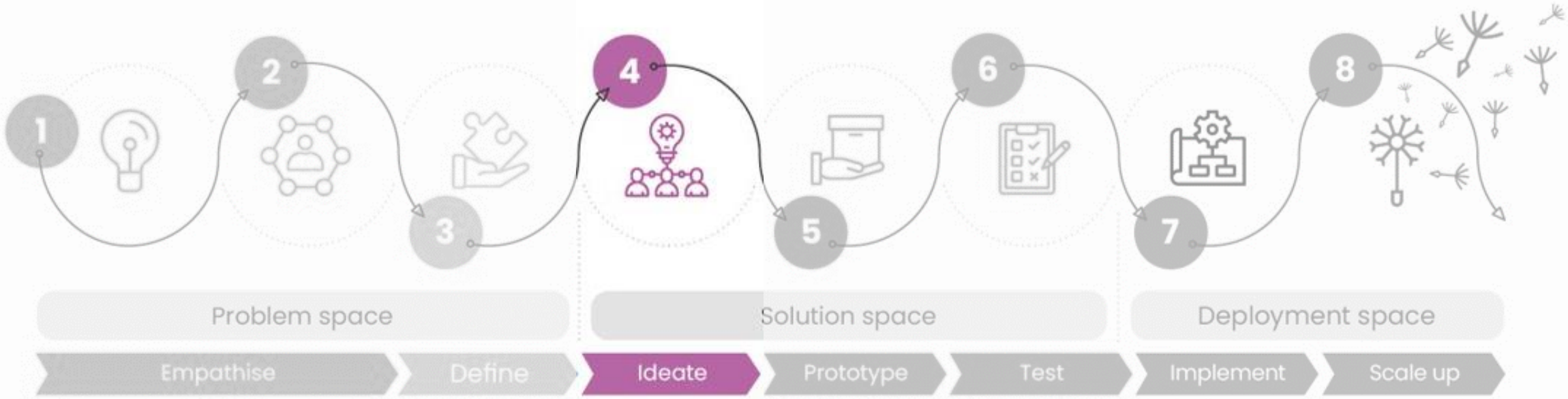
1.6.3 Methods and Tools for co-design

Living Lab Integrative Process
>> Solution Space



Adapted from J. Mastelic, 2019

Living Lab Integrative Process
>> Solution Space >> Ideate

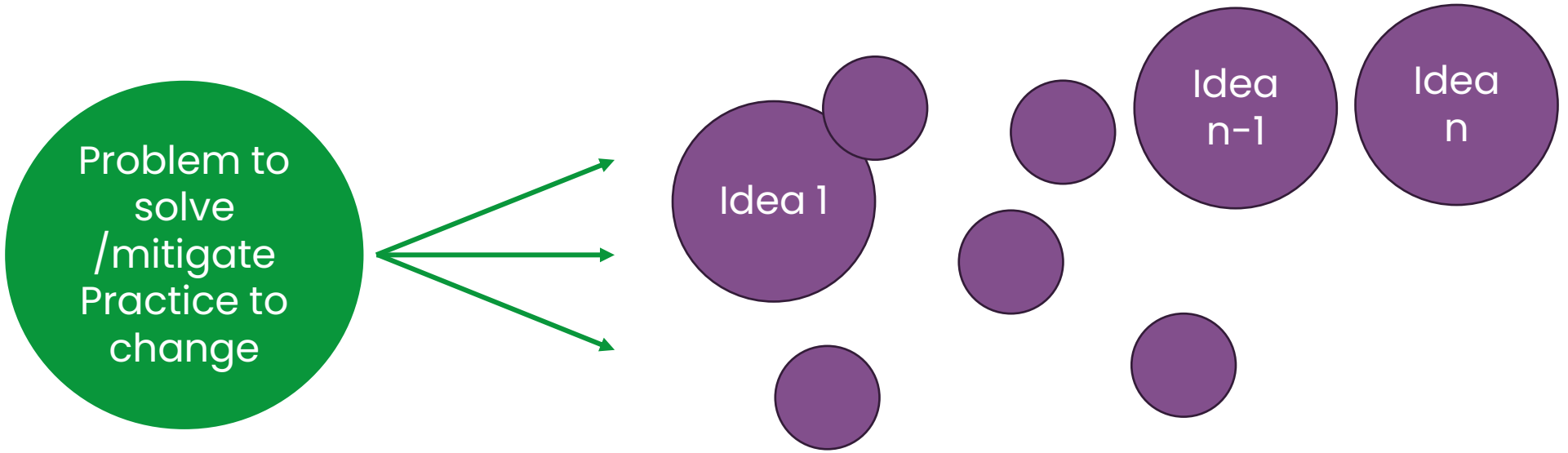


- Generate and select ideas
- Create a common vision
- Co-design
- Propose solutions with users

Adapted from J. Mastelic, 2019

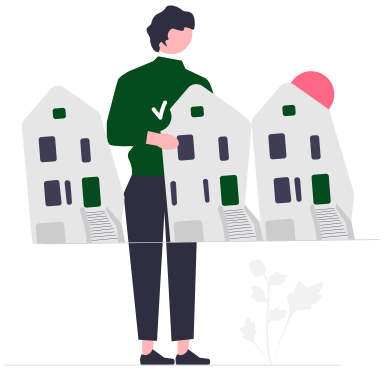
Ideation follows a problem definition

Idea generation begins with a well-defined problem relevant for your project.



Example of a problem statement

The energy transition in the neighborhood is not supported enough…



…Collective and scalable renovations are not facilitated

How to bring innovative and green technologies to the area and raise awareness on why the energy transition is so important?

Co-design >> benefits

- Create an environment of working together to find desirable solutions
- Ensure users' involvement in the projects that need overall engagement
- Empower people to become change agents
- Ensure user awareness from the very beginning of the projects

Methods and Tools for co-design

- **Gamified tools/activities**
- **Available ToolBoxes**

Gamified activities >> example from the Energy Living Lab

E4Citizens Serious Game
Interactive workshops using the E4Citizens to launch discussions around Energy challenges

Open Living Lab Days 2022, Turin, September 2022

Available ToolBoxes

UnaLab Tools for co-creation
https://unalab.enoll.org/

Coco Toolkit of Laurea
https://www.laurea.fi/en/cocotoolkit/

IMEC's User Innovation ToolKik
https://userinnovationtoolkit.ugent.be/#/methods

SCORE Co-create your City ToolKit
https://www.ihs.nl/en/advisory-training-and-research/tools-and-toolkits/co-create-your-city-toolkit

Energy Living Lab Toolbox
https://energylivinglab.com/toolbox/

OPEN Toolkit
https://openlab-project.eu/app/uploads/D1-4_Capacity-Building-Handbook-Mentoring-report-89.pdf

1.7 Expert interview - Dimitri Schuurman

Innovation Expert Strategic Innovation Management & Living Labs at

Imec, Belgium

Link to the video:
https://youtu.be/8xkwktbLmTU

1.8 Reflective activity & Q&A

Reflective activity

Connect to a Mentimeter
for a Reflective activity !

https://www.menti.com/al66oszofo72

Intellectual Property

Contact us for a methodological support for your project!

Energy Living Lab Association

Email : info@energylivinglab.com

Website: https://energylivinglab.com/