

Public API: The Foundation for a Digital Ecosystem in Liechtenstein

EDIH Academy Course
August 2025

Good Practice: Public API for the Digital Ecosystem in Liechtenstein

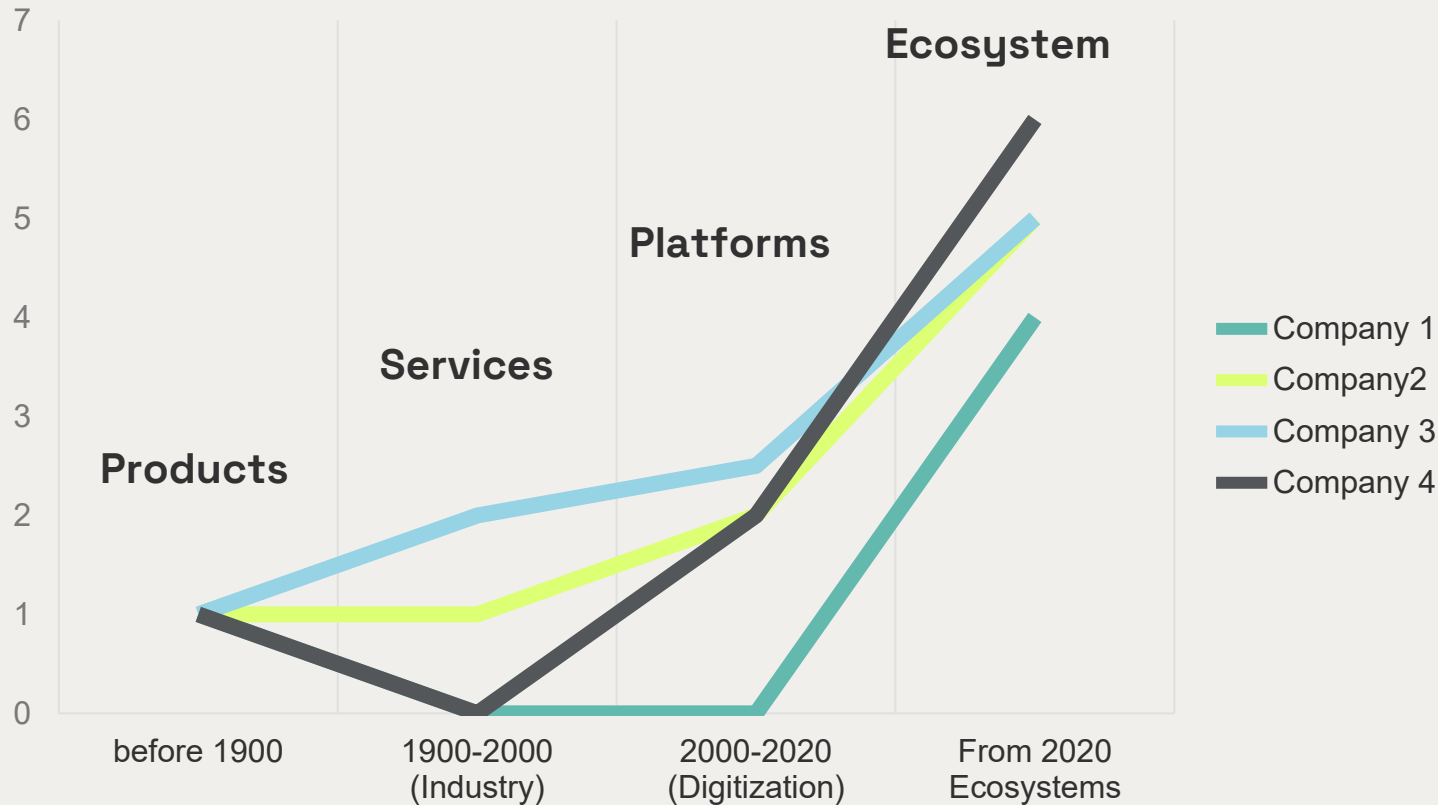


Phase 1
Needs analysis
Private Sector and
Public Sector
by digihub.li



Building a Digital Ecosystem for Liechtenstein

Ecosystem business models



Definition

Ecosystem business models are based on the principle of collaboration between different players within a network. The aim is to create added value through co-creation that goes beyond the capabilities of individual companies. The central idea is that organisations do not see themselves as isolated entities, but as part of a larger system in which products, services and information flow complement each other.

Source: Adapted from Kawohl et al 2022



Needs analysis as a starting point: a brief overview

Qualitative method in the form of stakeholder interviews

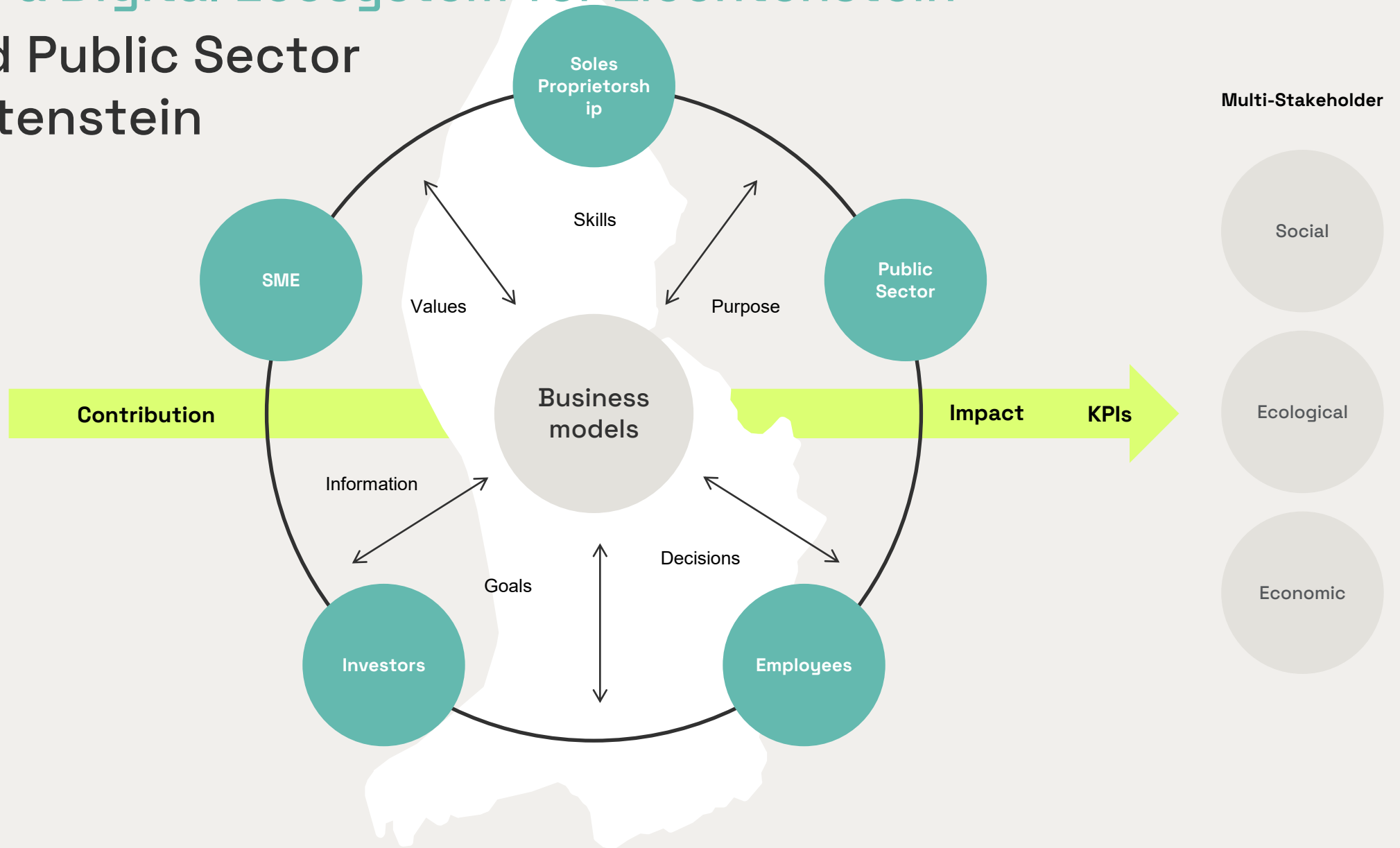
>40 needs analysis meetings of 90 min each from 13.11.23 to 31.01.24

- Invitation to all SME and the Public Sector in Liechtenstein (offer remains valid)
- **3 Questions relating to digitalization, sustainability and meaningfulness; uninfluenced:**
 - What is your current experience with these three topics in Liechtenstein?
 - What are the challenges facing your organisation in relation to these three topics?
 - In which areas do you see potential for cooperation in Liechtenstein?
- **850 statements** documented on moderation cards
- Regular **summaries on LinkedIn** (>35,000 impressions)



Building a Digital Ecosystem for Liechtenstein

SME and Public Sector in Liechtenstein



Phase 2 Evaluation Public API



Needs analysis as a starting point: a brief overview

Qualitative method in the form of stakeholder interviews

>Question 2 and 3 triggers ideas toward a „Digital Ecosystem Liechtenstein“

- 2 Questions:
 - What are the challenges facing your organisation in relation to these three topics?
 - In which areas do you see potential for cooperation in Liechtenstein?
- Results
 - Smallness of the country and direct access to decision makers leads to overall picture

Practical
challenges
SME and
Public
Sector

Missing
link
between
SME and
Public
Sector

Ideas and
solutions
for missing
services

Unlock the digital
potential of
Liechtenstein



Needs analysis as a starting point: a brief overview

Qualitative method in the form of stakeholder interviews

>Quotes from SME „Digital Ecosystem Liechtenstein“

- A state-administered eID would be an effective solution for digital identification to **reduce dependence on paid services of commercial providers**.
- There is a need for **industry-specific templates** and footprints for SME and support for data collection.
- The establishment of a **network beyond Liechtenstein**, especially **in the Rhine Valley**, is a central challenge. In doing so it is also crucial to find the **suitable communication channels** in order to stay in touch.
- **Cooperation between SME and the authorities** - for example for digitalization the Office for Information Technology - is the key to find practicable solutions for Liechtenstein.



Needs analysis as a starting point: a brief overview

Qualitative method in the form of stakeholder interviews

>Quotes from SME „Digital Ecosystem Liechtenstein“

- The question of the origin of solutions is crucial - it is important that **the data and the impact remain in Liechtenstein**.
- Digihub.li has the potential, through the **utilization and processing of data**, to **provide SME with concrete market opportunities**.
- The idea of a **visible IT infrastructure for customers** could bring transparency and increase of efficiency.
- Although the potential for cooperation is immense, **many IT service providers operate in isolated structures**.
- A joint service for small SME and a **comprehensive ticket system for IT questions** could save time and resources.
- The **Public Sector** should take on a **more active role in digitalization**.



Needs analysis as a starting point: a brief overview

Qualitative method in the form of stakeholder interviews

>Quotes from SME „Digital Ecosystem Liechtenstein“

- There is a need for a more **tangible community and modern platform for entrepreneurial exchange and networks**.
- There is a need for a **platform for the Liechtenstein Ecosystem** that better networks the existing players.
- **Lack of standardization** in the accounting presents a challenge, **industry-wide coordination is required**.
- **Cooperation with the state administration in digital projects** holds great potential, such as the introduction of digital dossiers.
- **Blockchain** is seen as forward-looking, but it needs **new lighthouse projects** to breakthrough for the technology.



Needs analysis as a starting point: a brief overview

Qualitative method in the form of stakeholder interviews

>Quotes from SME „Digital Ecosystem Liechtenstein“

- The use of **short distances and the bundling of existing knowledge in Liechtenstein** offer great potential for innovative solutions that could be world-leading. The idea of using the wealth of local knowledge and **pooling it in a targeted manner** creates a strong foundation for groundbreaking developments.
- The creation of clean project structures and transparency is of crucial importance in order to increase the success of ideas. Clear structures and openness not only help to make projects more efficient, but also promote trust and cooperation within the ecosystem. This could help to **reduce the risk of misunderstandings and maximize the synergies between all actors**.
- If Liechtenstein realizes its potential through cooperative efforts and the transfer of know-how, this could **not only strengthen the local economy, but also set global standards**. The combination of local expertise, cooperation and transparent structures could play a pioneering role for innovative solutions in sustainability and different industries.



Needs analysis as a starting point: a brief overview

Qualitative method in the form of stakeholder interviews

>Quotes from SME „Digital Ecosystem Liechtenstein“

- The **politics should setup as broadly as possible** in order to find solutions for the complex topics of today and pro actively overcome visible lethargy. **Broad participation** can be a possible approach.
- What is needed is a **deeper engagement of the government** with the issues at hand in order to raise awareness of opportunities and risks for the country.
- For an initiative like **digihub.li** it could be helpful to get a **clear goal from the top** that everyone works towards so that only the “how” and no longer the “whether” question arises.
- The potential for cooperation in Liechtenstein - the manageable country, where an appreciative and open interaction is our base - is enormous. But there is a **lack of data and figures as well as a framework for a country-specific catalog of goals** that is supported by all stakeholders.





As SME or Public Sector Lead, I want to have a public Application Programming Interface (API) so that I can scale my digital solutions to be easily connected and made available in various company IT environments.

Public API – Extension of the Scope

User Story & Description

As SME or Public Sector Lead, I want to have a public Application Programming Interface (API) so that I can scale my digital solutions to be easily connected and made available in various company IT environments.

- A) Public Application Programming Interface (API)



Lay the foundation for a MPV!

Concept Digital Ecosystem Liechtenstein

- Public API questions are not the priority topics to solve
- In the first step an overall picture is needed
- How to define a „Digital Ecosystem Liechtenstein“
- Influence of ecosystem-approach towards Public API
- How and in which steps could digihub.li help reaching the goal of a „Digital Ecosystem for Liechtenstein“?
- What is a realistic scenario reaching a **MPV** on the existing basis and within the known limits and circumstances?

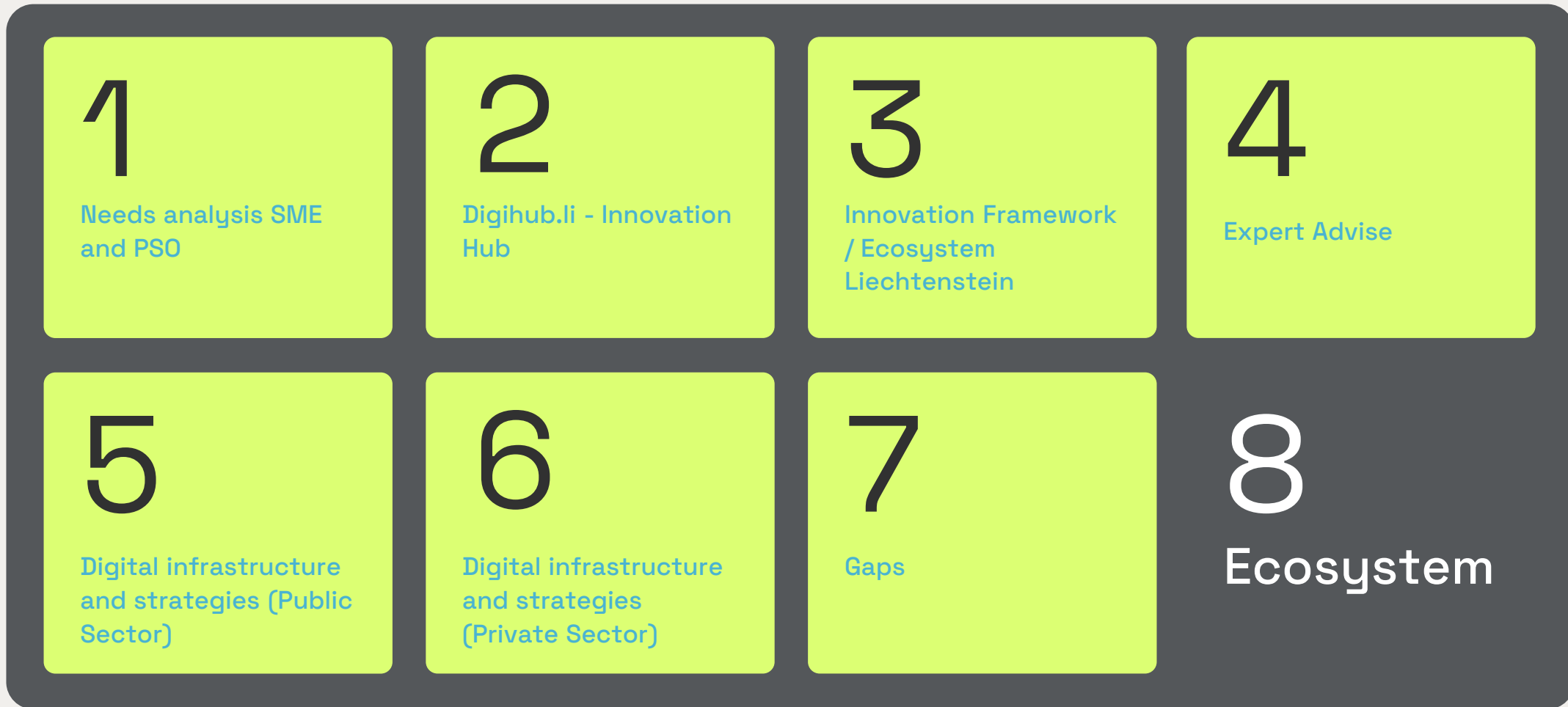


The way could lead via the
courage to trial and error.

Phase 3 Gaps

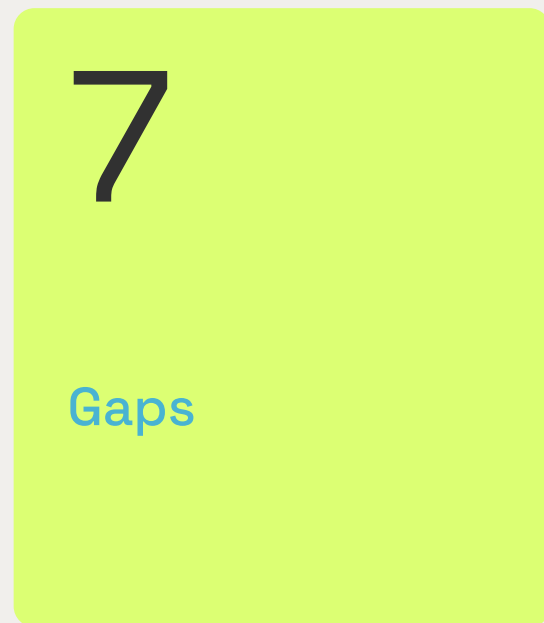


Building a Digital Ecosystem for Liechtenstein

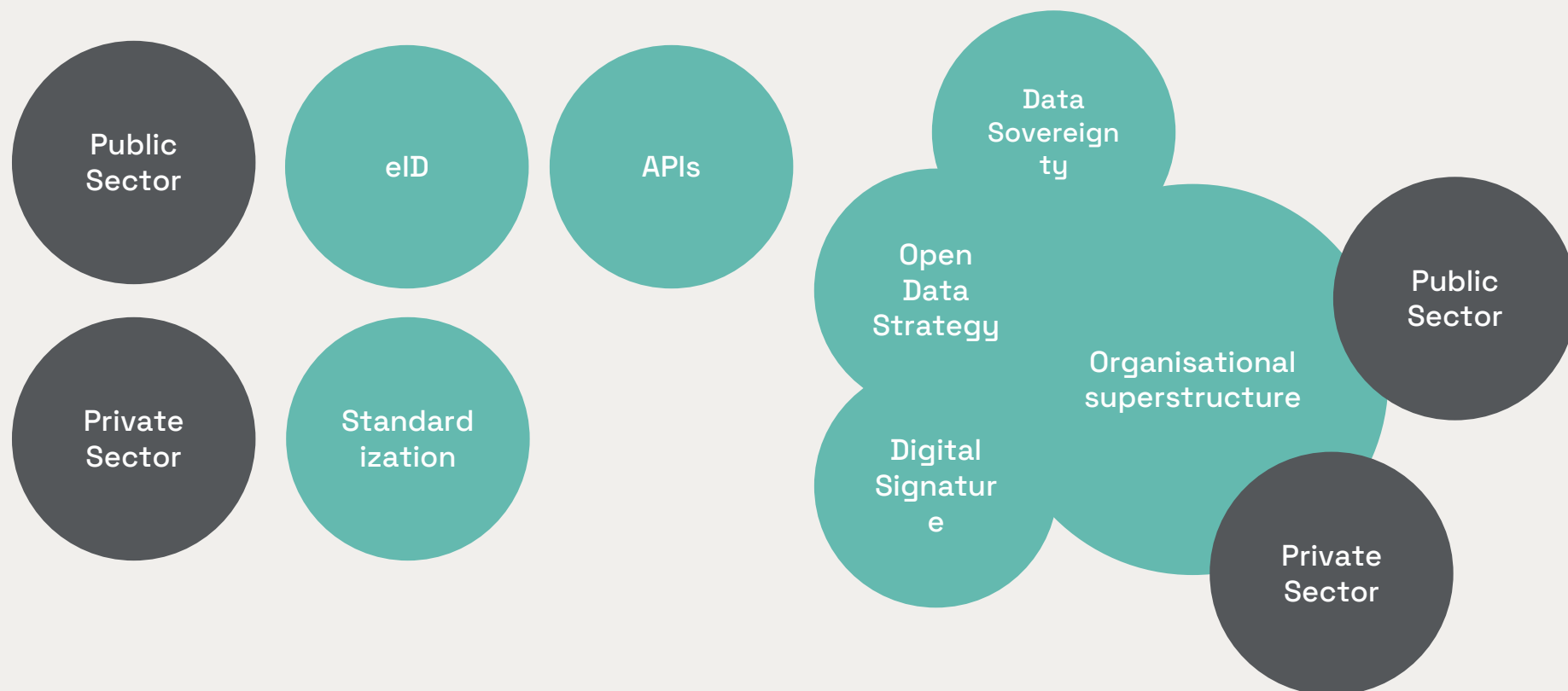


Building a Digital Ecosystem for Liechtenstein

GAPs

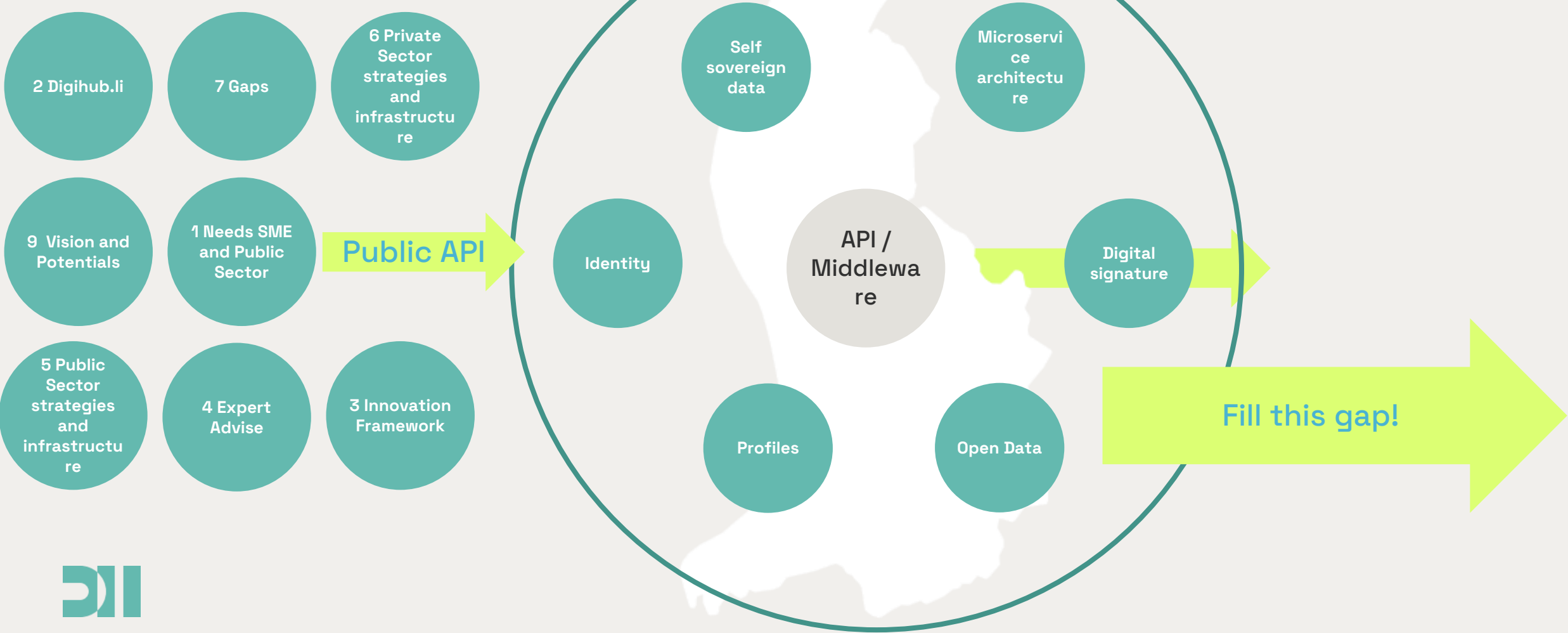


Identified gaps and important topics



Public API

Fill this gap!



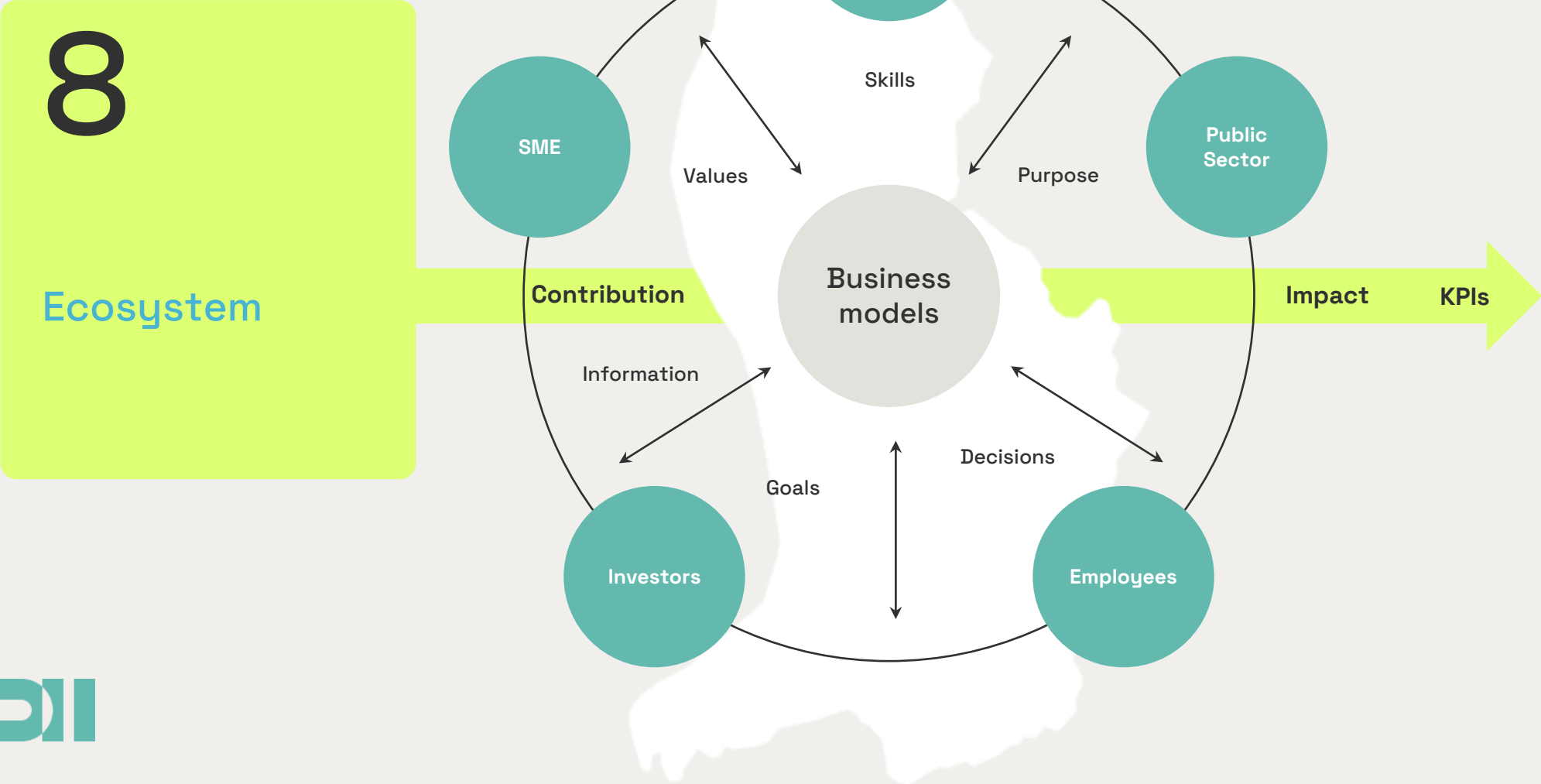
Phase 3

Vision / Potentials



Building a Digital Ecosystem for Liechtenstein Ecosystem

Multi-Stakeholder



Ecosystem Vision and Potentials

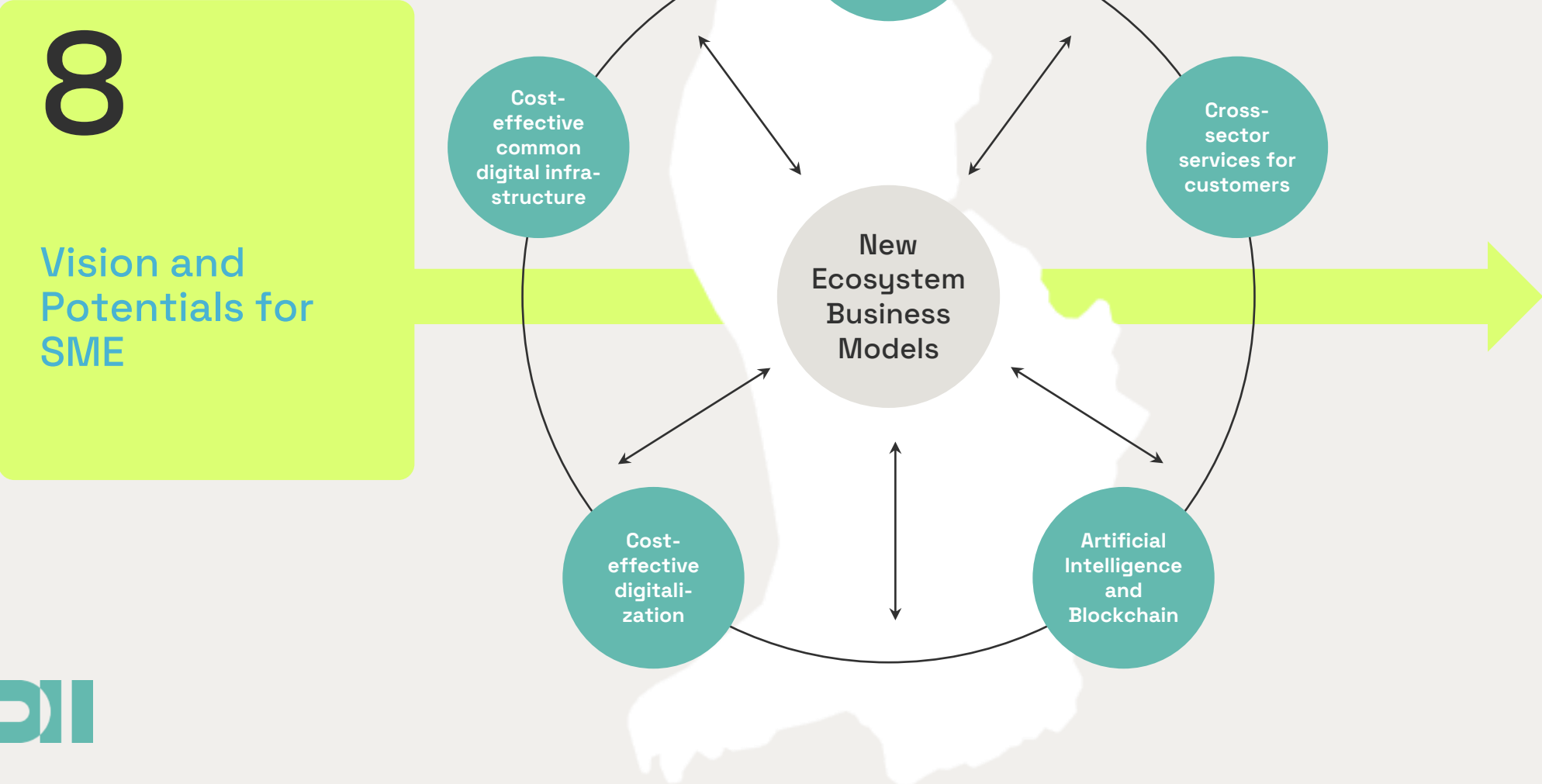
SME

Multi-Stakeholder

Sector-wide
solutions

Scalable
micro-
process
optimization

Data
sovereignty



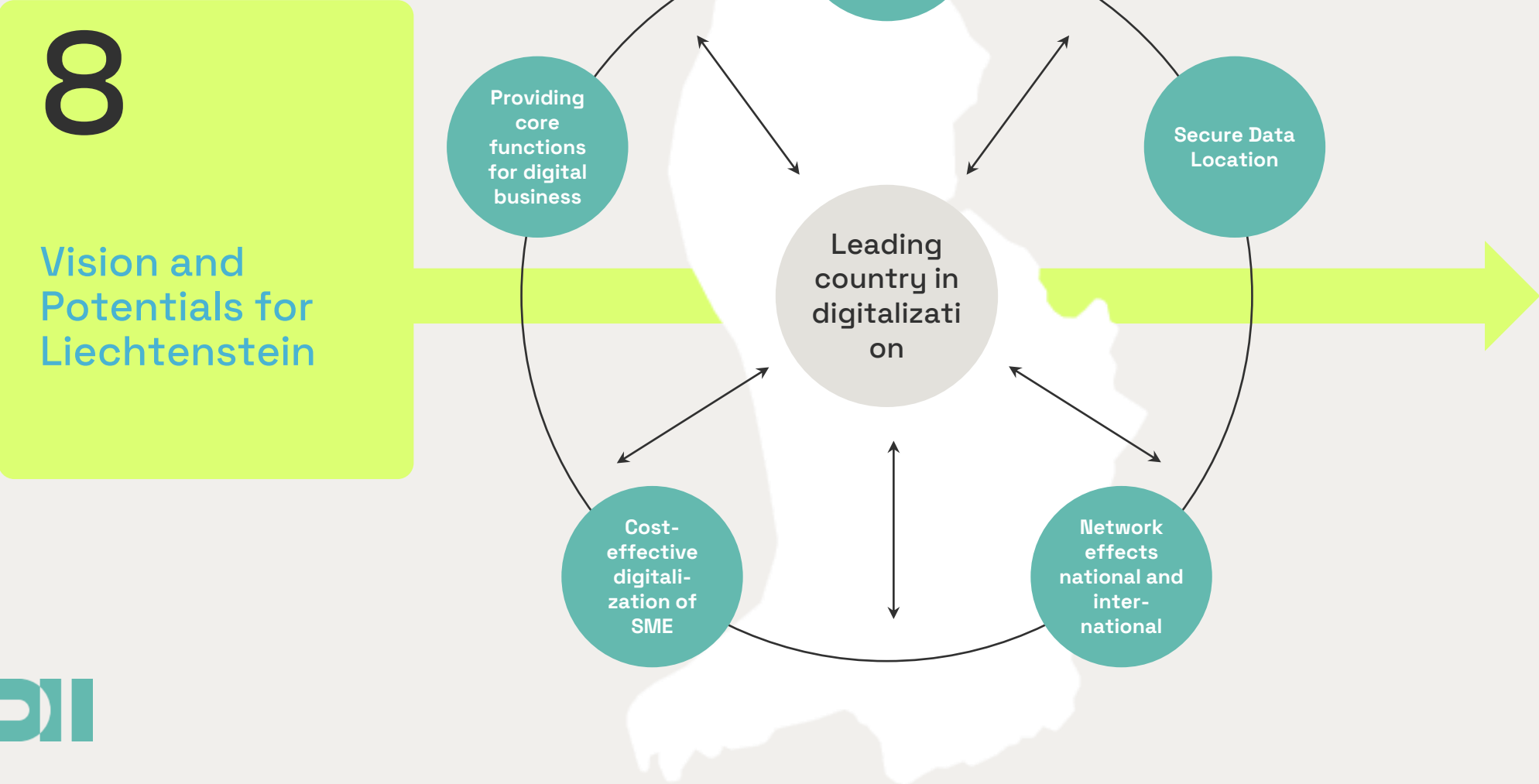
Ecosystem Vision and Potentials Liechtenstein

Multi-Stakeholder

Sector-wide
solutions

Scalable
micro-
process
optimization

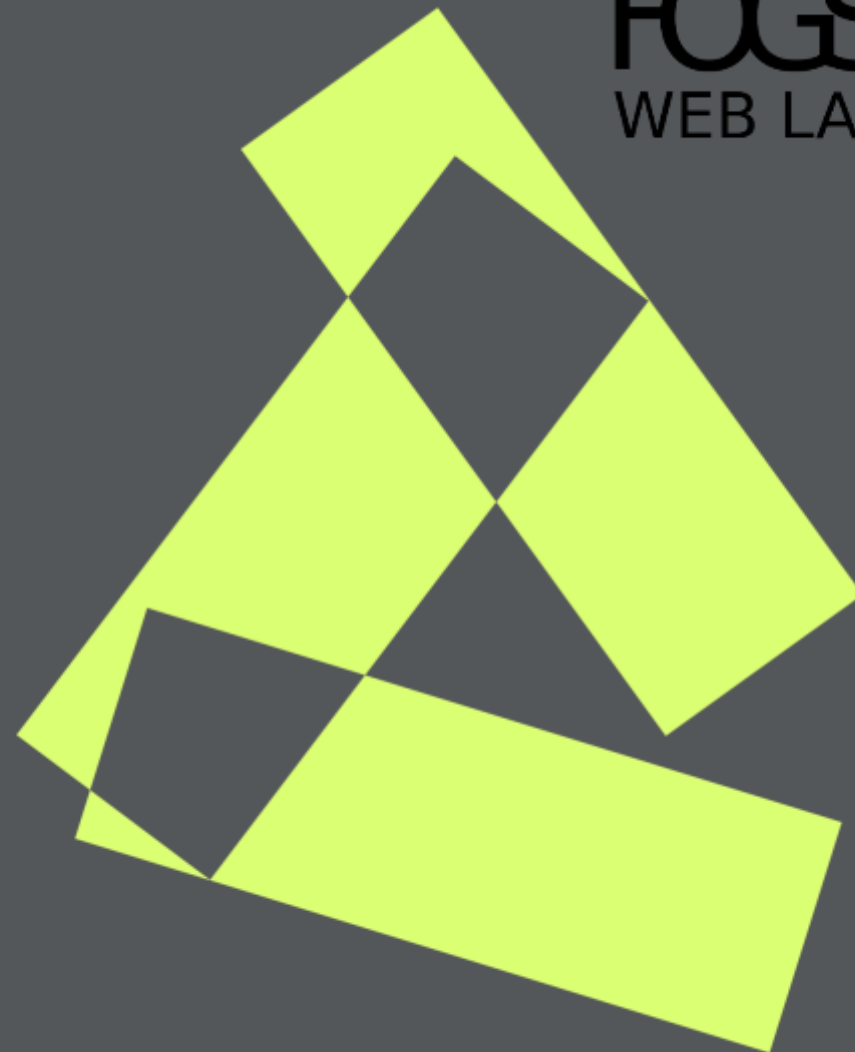
Unlocking
Potential of
BC, AI and
Data



8

Vision and
Potentials for
Liechtenstein

Outlook digital Ecosystem building and next steps – Implementation with two projects



Crowdfunding,
Democratic Tools

Collective
Intelligence &
Crowdfunding

crowd.li



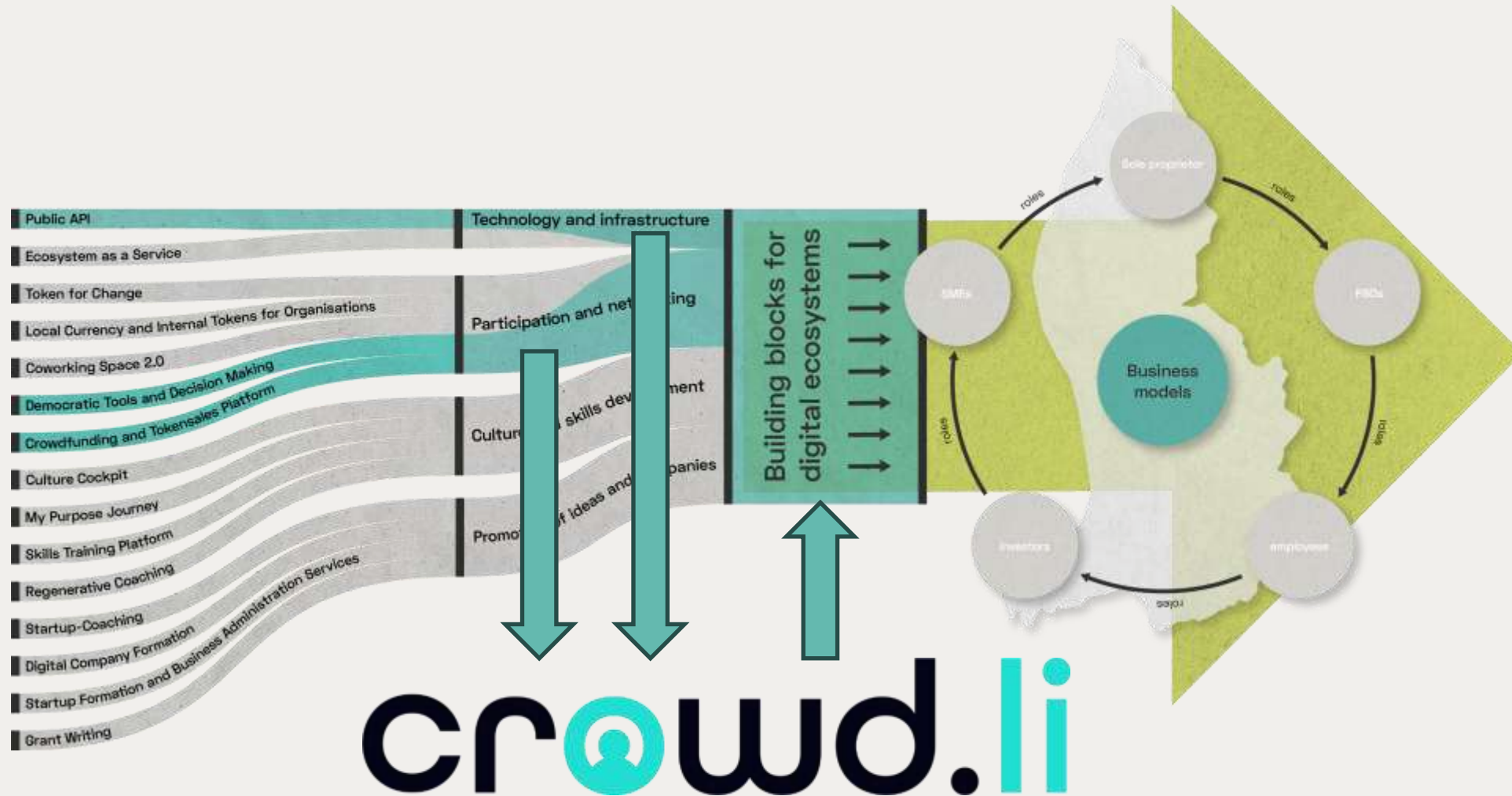
Crowd.li – Collective Intelligence & Crowdfunding Digital Ecosystem 1.0

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Crowd.li – Collective Intelligence & Crowdfunding Digital Ecosystem 1.0



Crowd.li Digital Ecosystem 1.0



Crowd.li – Collective Intelligence & Crowdfunding Digital Ecosystem 1.0

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WEB LAB

crowd.li Digitaler Raum für Innovation

Expert-Hub News Über uns So geht's weiter Newsletter V2

AI Chat Erkunden Buchungen Nachrichten Dashboard Sprachen

Spezialisierte Beratung on Demand

Dein Rundum-Service-Portal mit sofortiger KI-Unterstützung und Expertinnenberatung per Video. 24/7 Support und bequemer Zugang zu geprüften Top-Expertinnen – 100% Geld-zurück-Garantie.

Bitte beschreibe deine Problemstellung

Los geht's

Expert Hub

- Digital expert platform
- Profiles and services from Liechtenstein SMEs
- AI-Chatbot matches digital experts
- Appointment arrangement
- Payment & Invoicing
- Video Consultation

Online-Demo Schwarmintelligenz nutzen - crowd.li Insight-Hub

Stephan Gstöhl
FOGS AG, LI

Servicepaket Kostenlos →

Ich helfe dir gerne beim Onboarding oder bei der Gestaltung deiner Pakete

Sebastian Kaiser-Möhlecker
HalloSophia | Finothek GmbH, AT

Servicepaket € 88,00 →

So nutzt du dein Serviceportal powered by HalloSophia optimal (AI + Interne + Externe Experten)

Markus Waghübinger
Finothek GmbH, AT

Servicepaket € 88,00 →

Workshop Schwarmintelligenz nutzen (2h, online/offline)

Stephan Gstöhl
FOGS AG, LI

Servicepaket CHF 550,00 →

HalloSophia®
Sophisticated Advice



crowd.li

Crowd.li – Collective Intelligence & Crowdfunding Digital Ecosystem 1.0

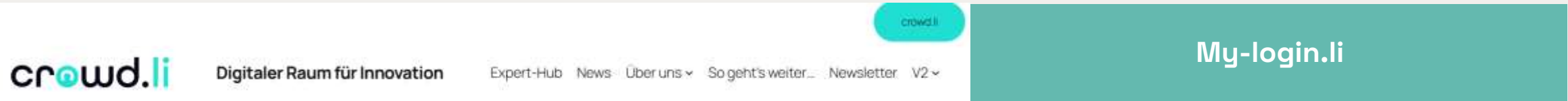


AI Business Assistant

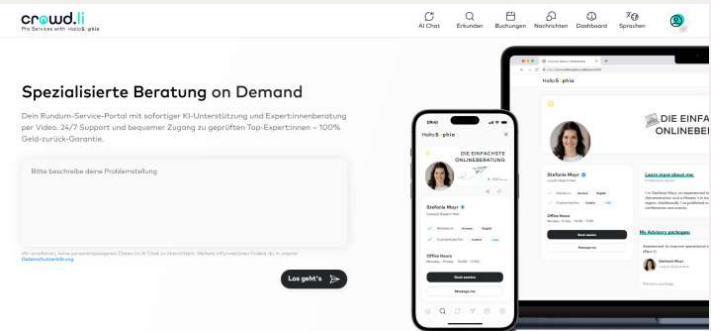
- Internal AI chat platform for SME with role model and access to all models
- EU-hosted, no model training, no tracking, E2E-encryption
- Building AI apps and share in the company
- No shadow AI in the company, data security, GDPR conform



Crowd.li – Collective Intelligence & Crowdfunding Digital Ecosystem 1.0



My-login.li



Public API

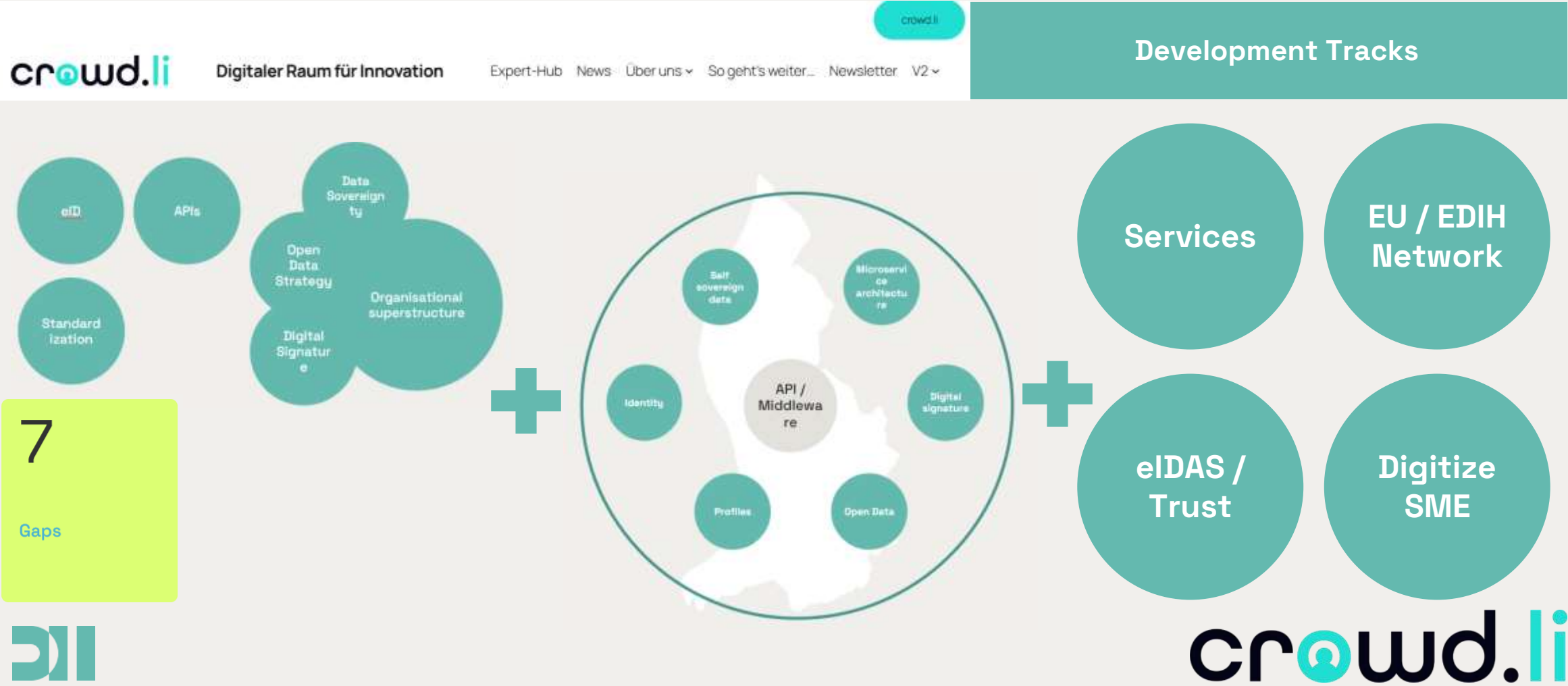


Crowd.li Digital Ecosystem 1.1 Outlook



Crowd.li – Collective Intelligence & Crowdfunding

Digital Ecosystem 1.1 Outlook



Crowd.li – Collective Intelligence & Crowdfunding

Digital Ecosystem 1.1 Outlook

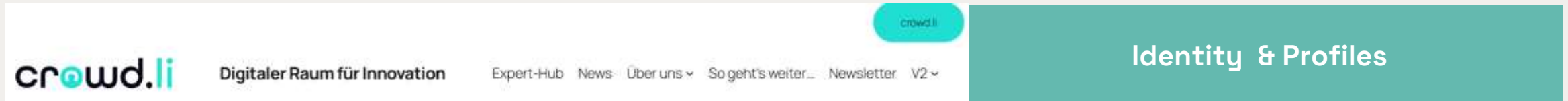


Profiles Search / Offer **+** Crowdfunding Crowd Intelligence **+** Services EDIH Network

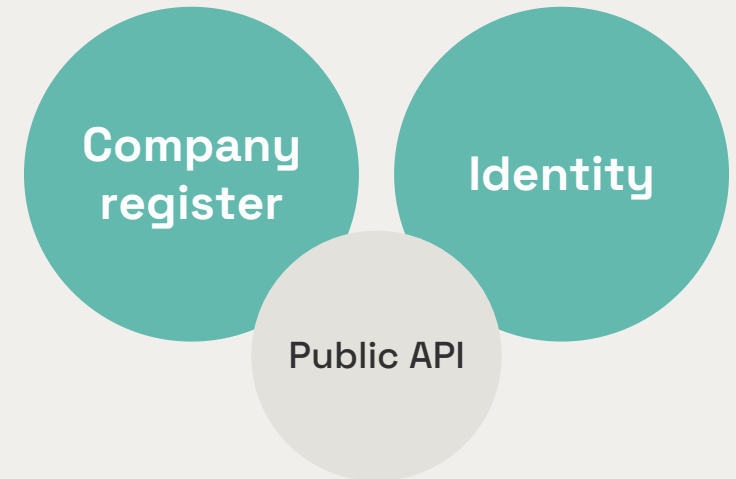


Crowd.li – Collective Intelligence & Crowdfunding

Digital Ecosystem 1.1 Outlook



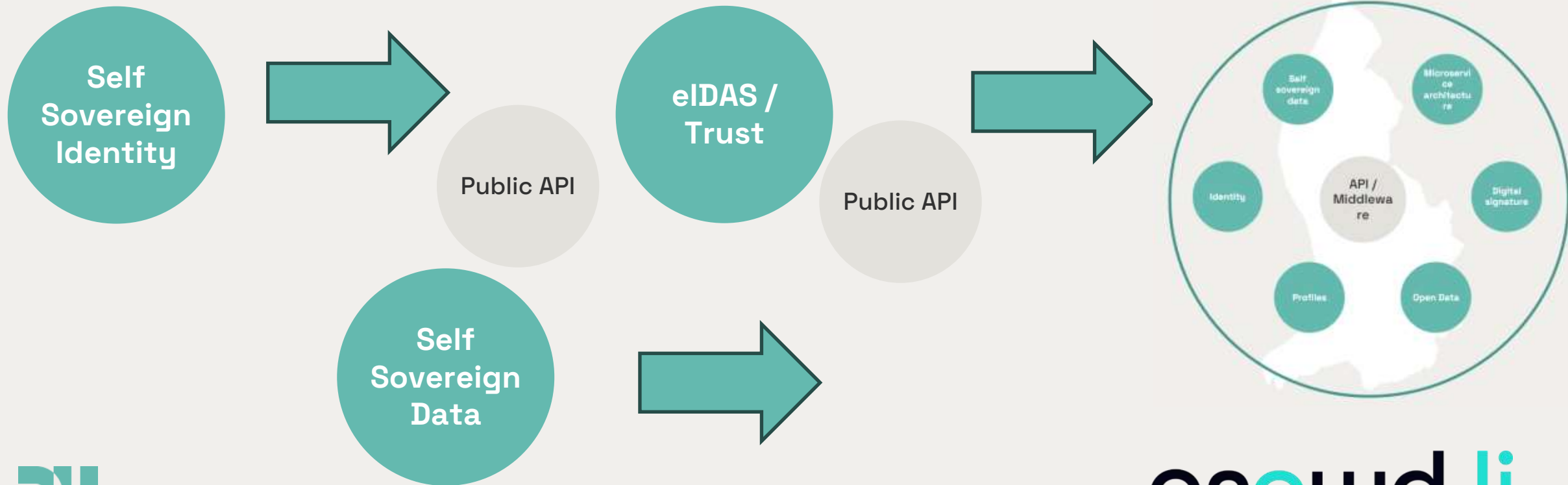
Prototypes with SME



Crowd.li – Collective Intelligence & Crowdfunding

Digital Ecosystem 1.1 Outlook

Further Development Tracks



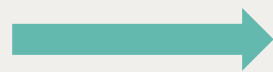
Crowd.li – Collective Intelligence & Crowdfunding Digital Ecosystem

crowd.li

Digital
Ecosystem

Expected Outcome

- Combination of activities and performed work
- Concrete implementation instead and further prototypes and concepts
- Providing target-oriented services for SMEs and PSOs
- “Digital Ecosystem crowd.li” as practical steps towards a broader Digital Ecosystem
- Structured collaboration with PSO on relevant topics
- Enabling SME for providing first Ecosystem services
- Show Case for Ecosystem and Ecosystem services

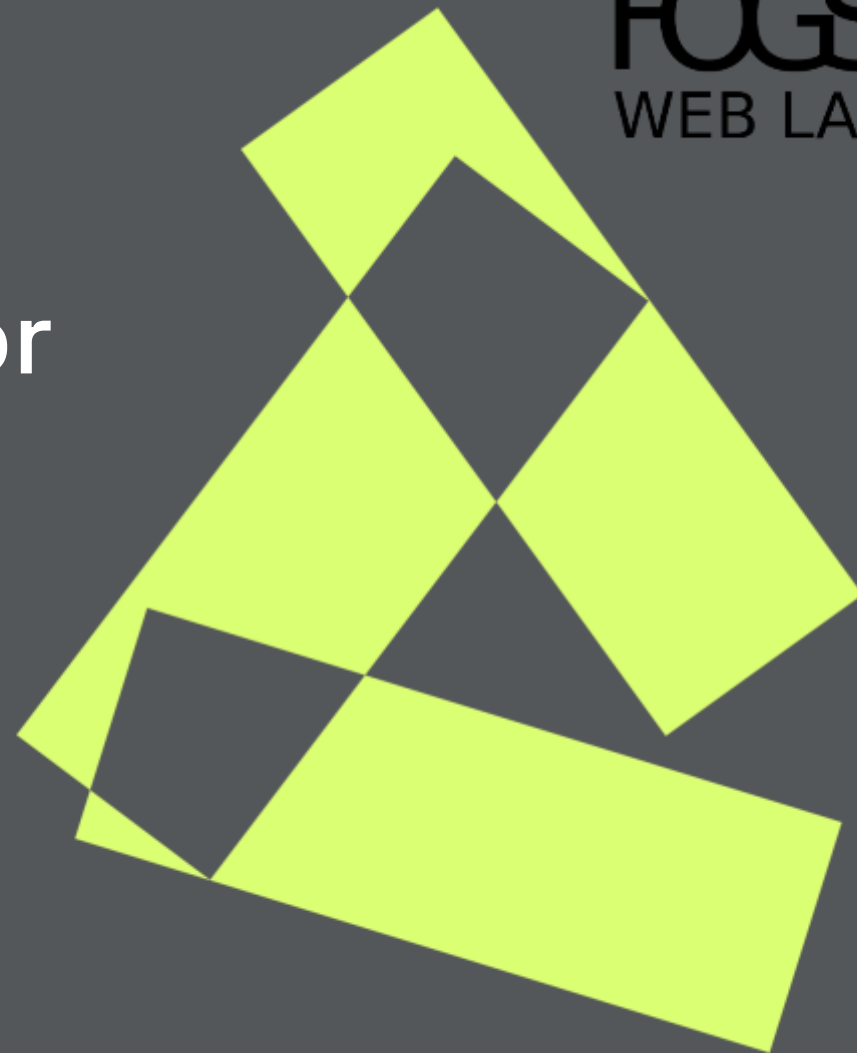


Make the Ecosystem real and tangible!



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Blueprint for EDIHs for setting up their digital ecosystem – Insights and our experience



Building a Digital Ecosystem for Liechtenstein

General Definition Digital Ecosystem

8

General Definition Digital Ecosystem

Definition Fraunhofer Institute, Germany (1/2)

“A Digital Ecosystem is a socio-technical system in which companies and people cooperate that are independent but expect to gain mutual benefits from participating. A Digital Ecosystem has a digital platform at its center that supports this cooperation particularly well via ecosystem services.

A Digital Ecosystem

- addresses actual needs of potential consumers,
- delivers added value that was previously unattainably without the ecosystem service,
- is attractive to both providers and consumers of services, and
- provides added values for all partners involved in the ecosystem service.”



The overall benefit of a Digital Ecosystem thus results from the combination of the digital brokering platform and a large set of partners who participate in the Digital Ecosystem for mutual benefit and whose interactions via the platform lead to network effects.
Frauenhofer Institute, Germany

Process



1...

Open Innovation

- Needs analysis
- Vision, potentials and added value

...8

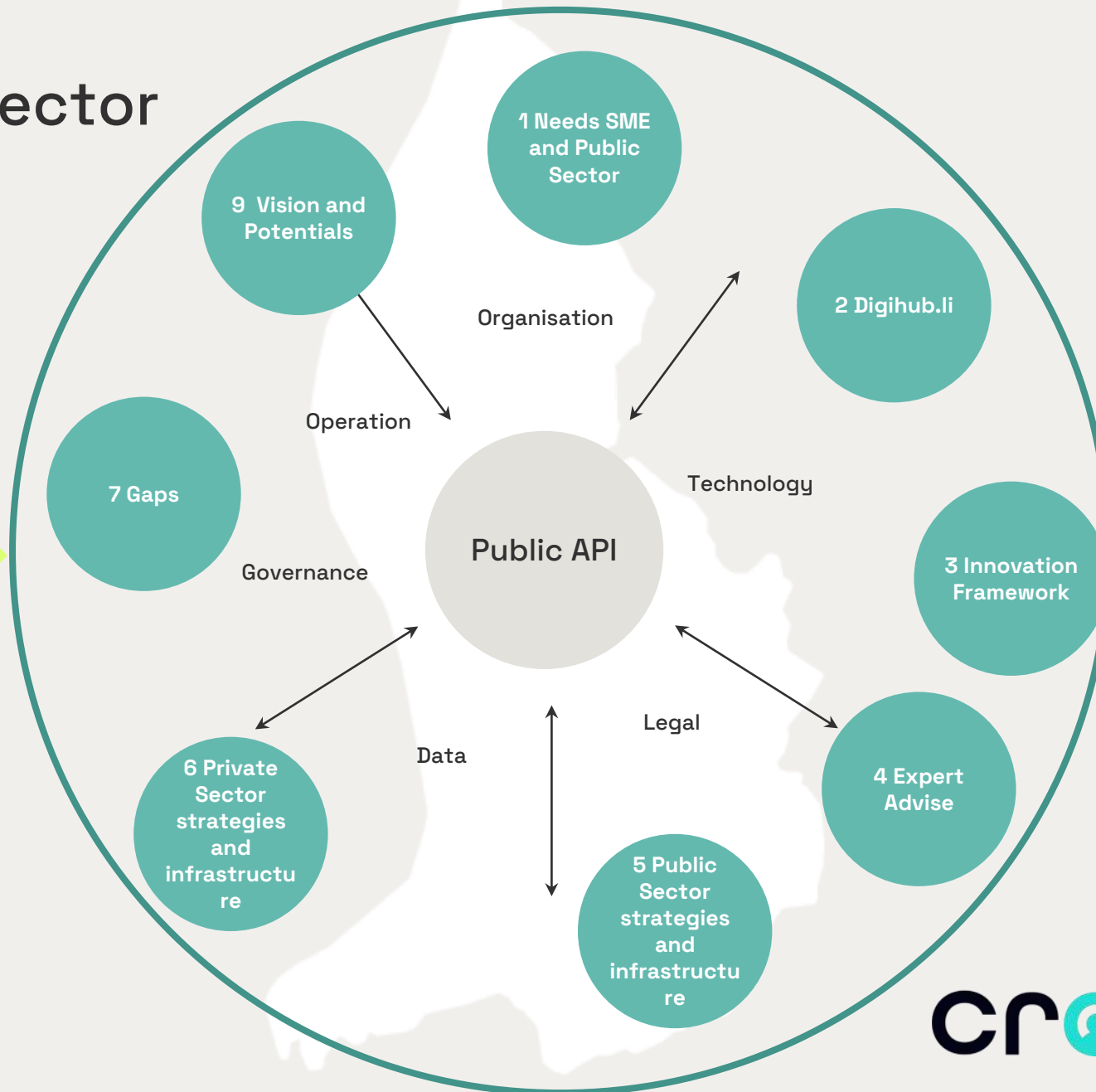
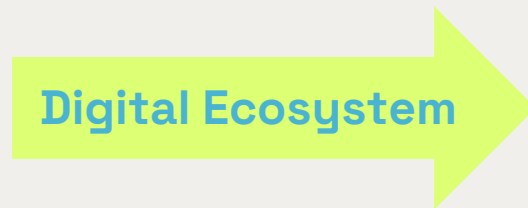
Design

- Proof of concept
- Expert Advice
- Ecosystem definition

9

MVP

Public API SME and Public Sector in Liechtenstein



Digital Ecosystem Smart Approach

1

Digital services +
SSO

2

Development
tracks

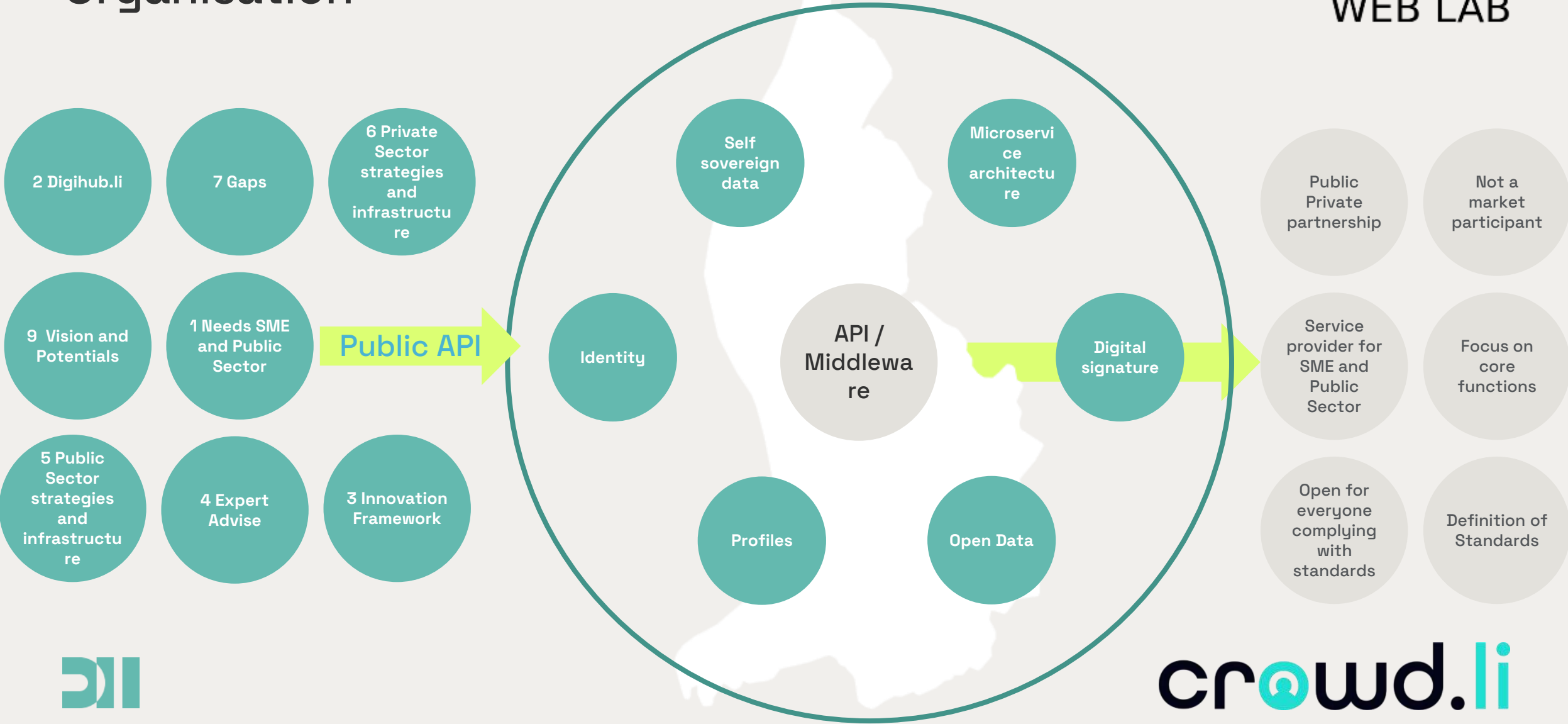
Prototypes and
Use Cases with
SMEs

Alignment to
broader
environment (EU,
eIDAS...)

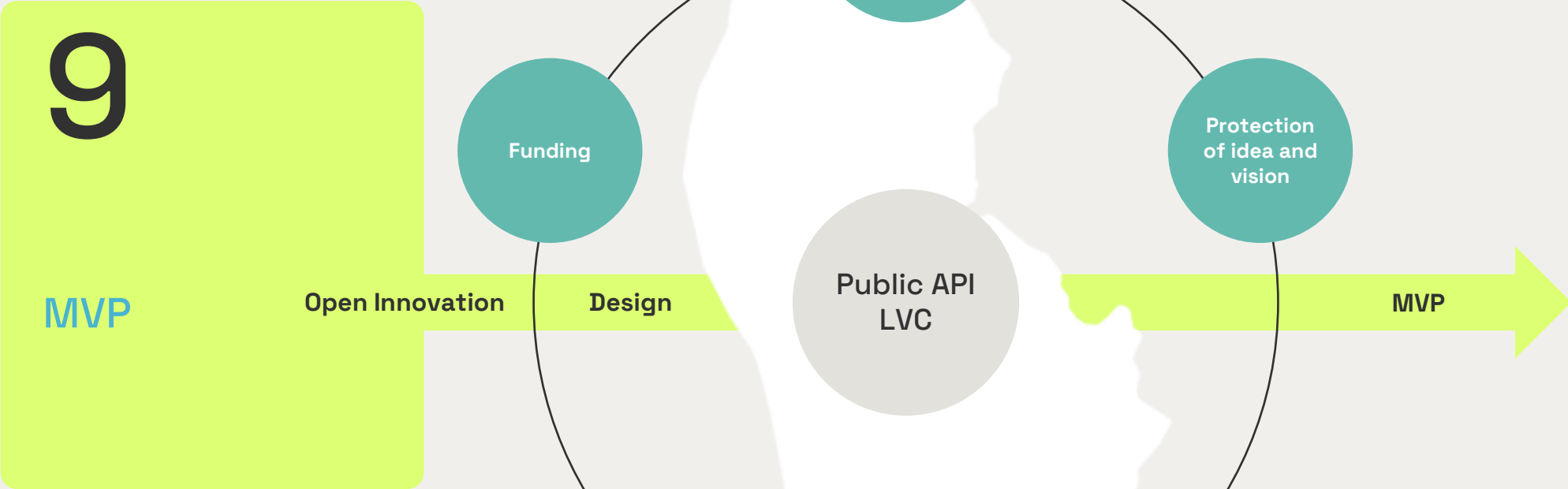
Principles / Organisation



Public API Organisation



Public API LVC
Liechtenstein Venture
Cooperative



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Multi-Stakeholder

Spin-off
Public Private
partnership
or Non-Profit
Foundation

Elaboration
of an organi-
zational
super-
structure

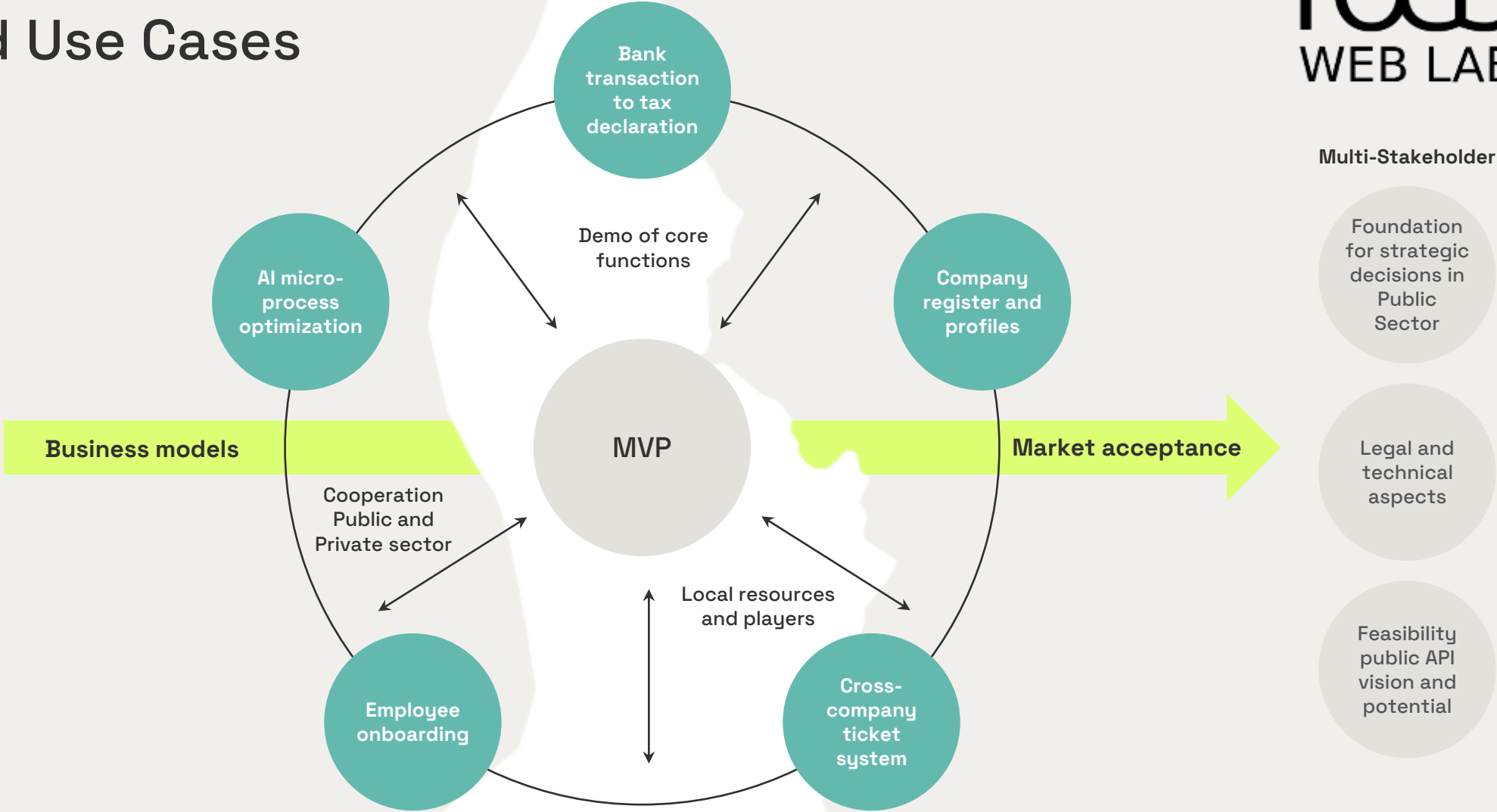
Realization of
Public API



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Public API LVC

MVP and Use Cases



Digital Basic Infrastructure

Public Sector

4

Public Sector

Necessary foundations from Public Sector

- Open Data Strategy
- Expansion of Identification Services
 - Accepting and transmission of identities
 - Further adaptations...
- APIs for Private Sector applications
- Participating in setting up structured cooperation with Private Sector for setting up a Digital Basic Infrastructure and ecosystem building
- Align and renewal of existing strategies with focus on DBI and ecosystem building

7

Gaps



Google, Amazon, Apple...
Estonia's digital ecosystem and society...

What makes Public API
Liechtenstein so unique?

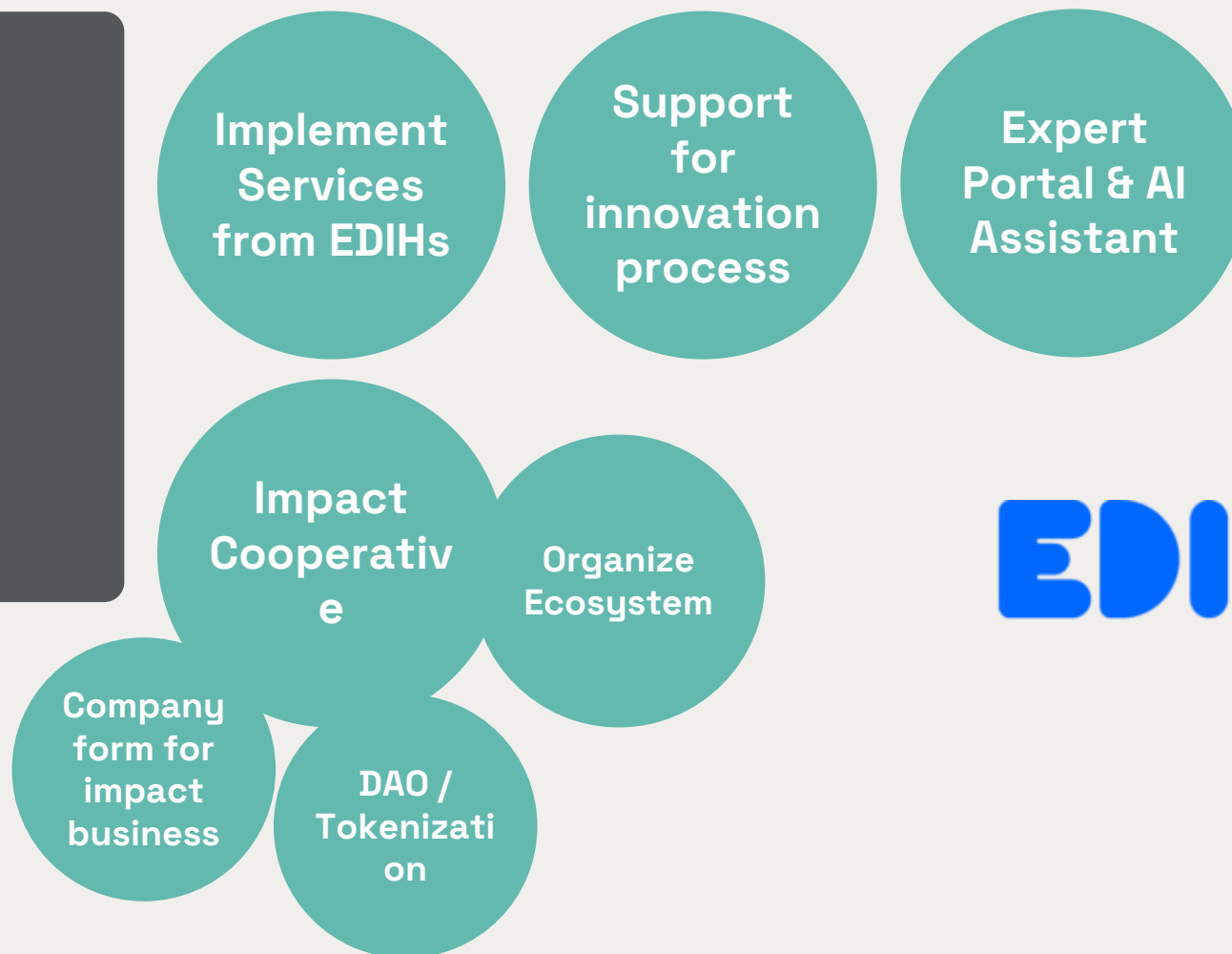
Ecosystem Building

EDIH Collaboration

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4

EDIH
Collaboration

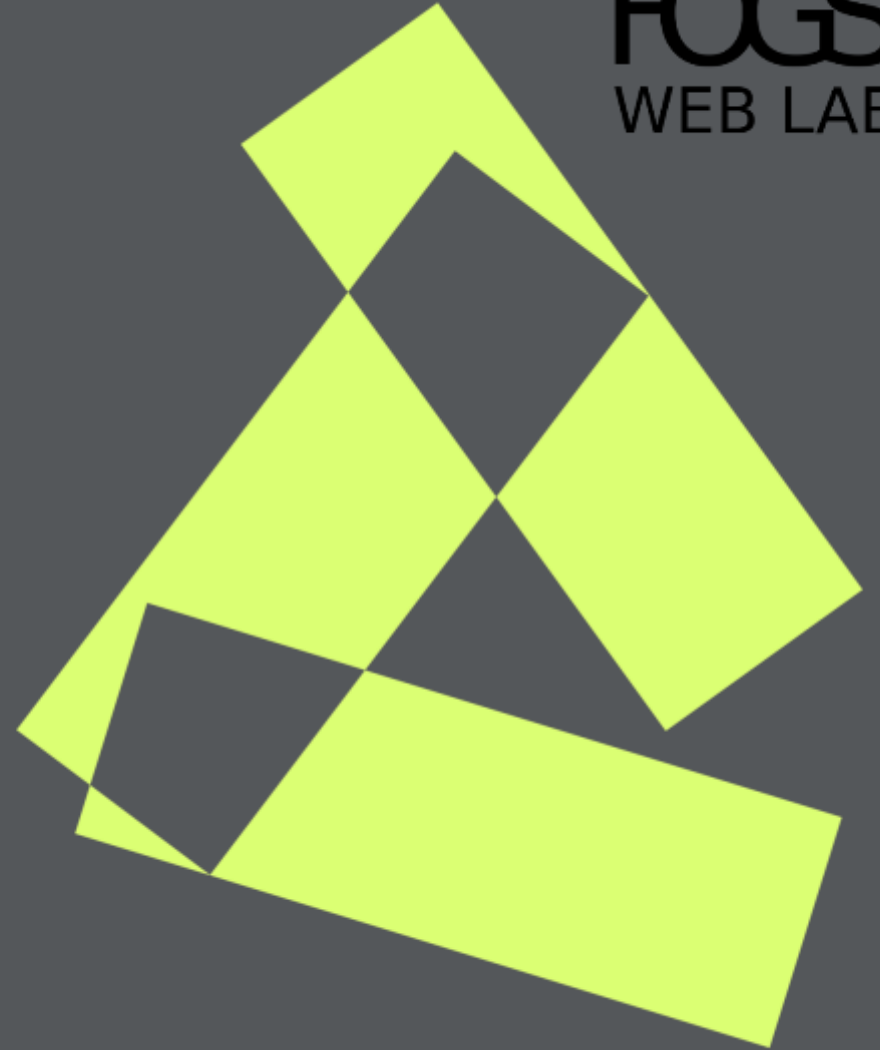


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Digital Innovation
Hubs Network



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Questions & answers



Thank you!

<https://digihub.li/projekte/public-api/>



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the European Union

FOGS AG – weblab.li
Birkenweg 6
FL-9490 Vaduz
Tel. +423 770 69 69
stephan@weblab.li



Stephan Gstöhl

CEO FOGS AG

stephan@weblab.li

Co-Founder digihub.li

stephan@digihub.li

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Participant discussion

