



Distributed Ecosystems: Evolution of Platform Ecosystems

Prof. Marko Seppänen



@DrSeppanen

IIASA@Laxenburg, AUT Dec 2, 2019

**Human
Potential
Unlimited.**



Marko Seppänen

Professor, Industrial Management @Tampere University

Tampere Area, Finland · 500+ connections



Tampere University



Tampere University of Technology

<https://www.linkedin.com/in/seppanenmarko/>

Google Scholar

<https://scholar.google.fi/citations?user=yUbl6KAAAAAJ&hl=fi>



DrSeppanen

Main topics for this presentation

- How should we understand ecosystems?
- How platform ecosystems are evolving?



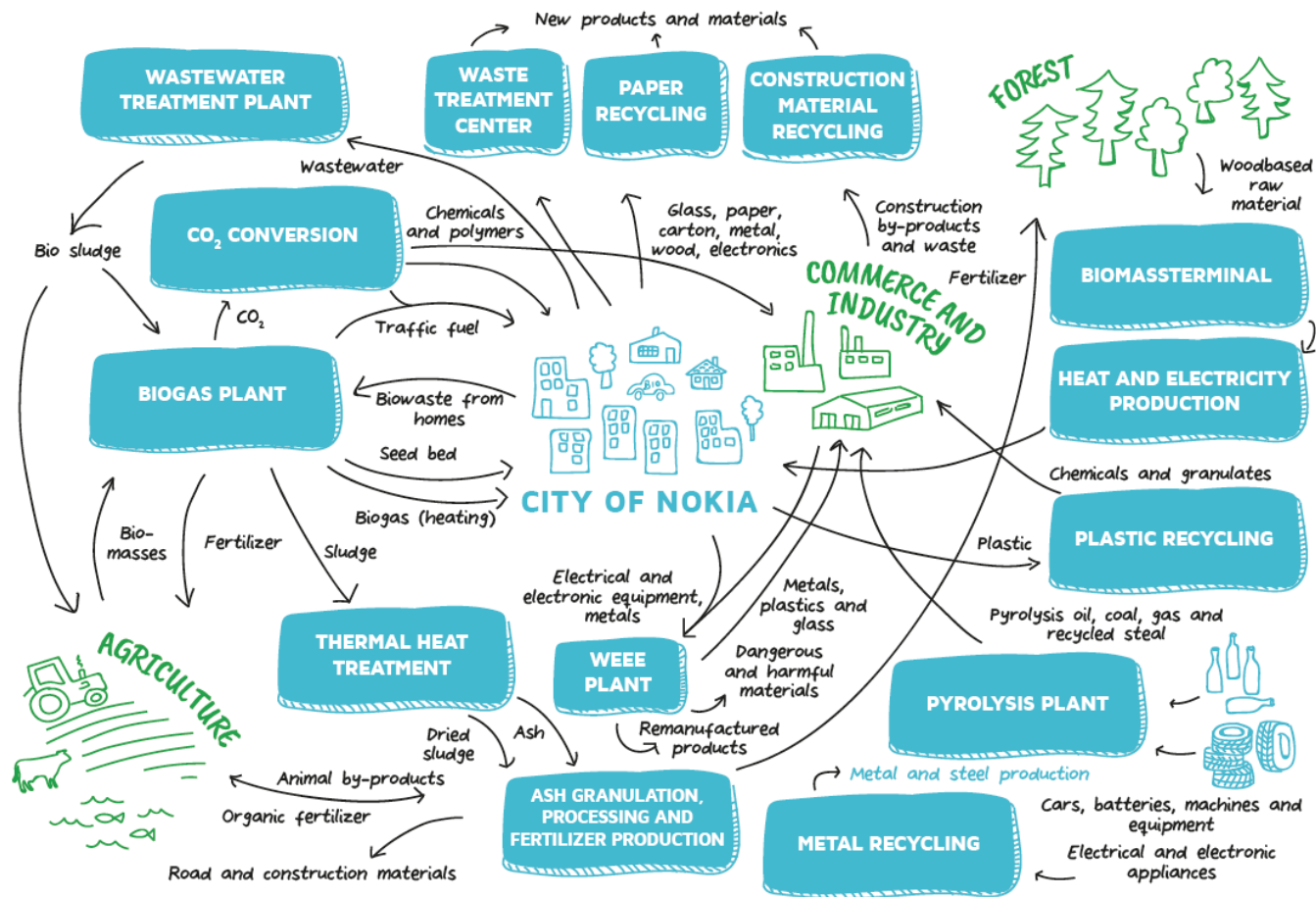
Ecosystem definition

Ecosystem is...

- “an ecosystem is a new structure of economic relationships, which enables the complementaries of production and/or consumption to be contained and coordinated without the need for vertical integration”
- Two types of modularities help to create the conditions for the emergence an ecosystem
 1. Unique complementaries (“A does not function without B”)
 2. Supermodular complementaries (“more A makes B more valuable”)

Jacobides, M. G., Cennamo, C., & Gawer, A. (2018). Towards a theory of ecosystems. *Strategic Management Journal*.

Example: ECO3 bio- and circular economy as a platform and an ecosystem

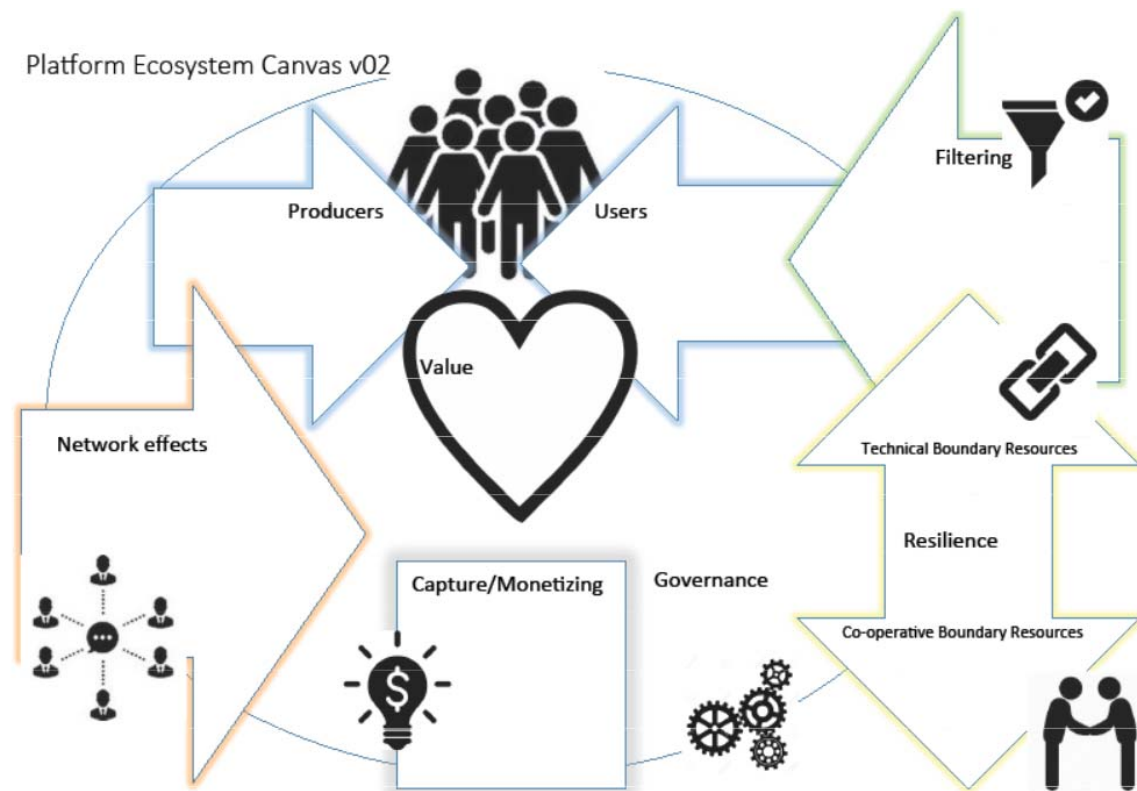


An ecosystem is
 1) a set of actors with
 2) varying degrees of multi-lateral, non-generic complementarities that are
 3) not fully hierarchically controlled

Ecosystems are built on platforms, and complementarity is the essence of platforms.

For more information, see <https://eco3.fi/en/>

Platform Ecosystem Canvas



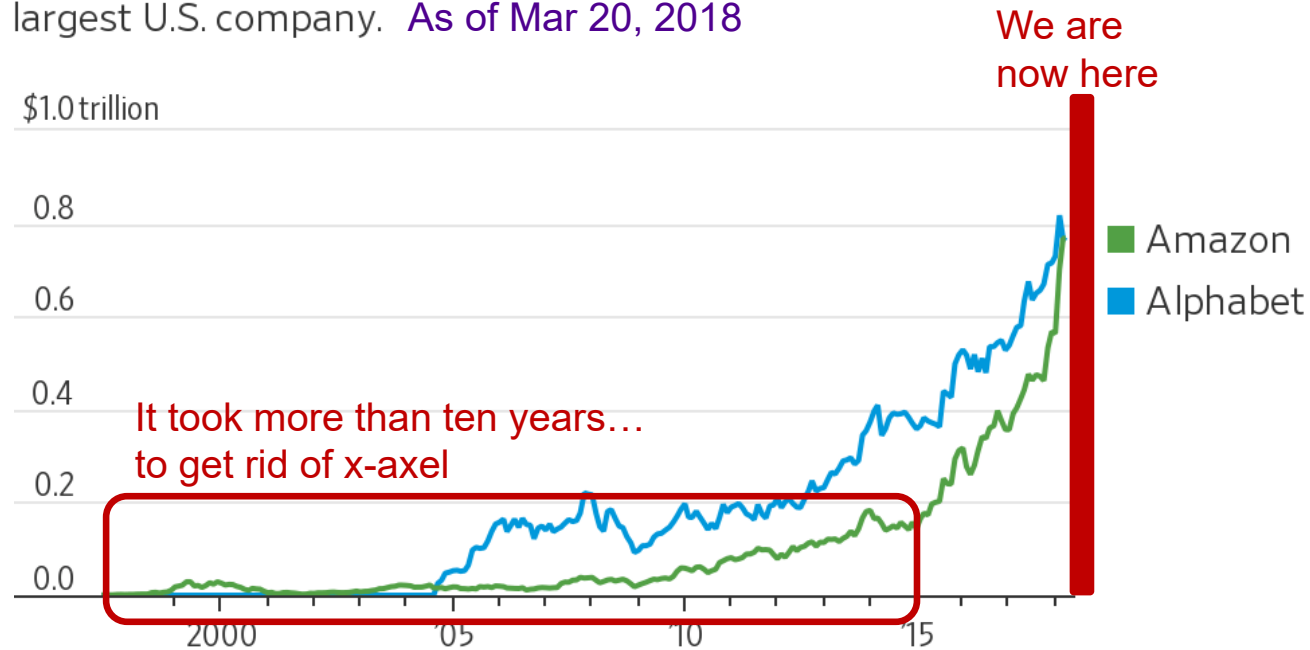
Sorri, Seppänen, Still and Valkokari (2019), Business Model Innovation with Platform Canvas, Vol. 7, No. 2, pp. 1-13
<https://journals.aau.dk/index.php/JOBM/article/view/1966/2972>

Development of platform ecosystems

Remember the time span

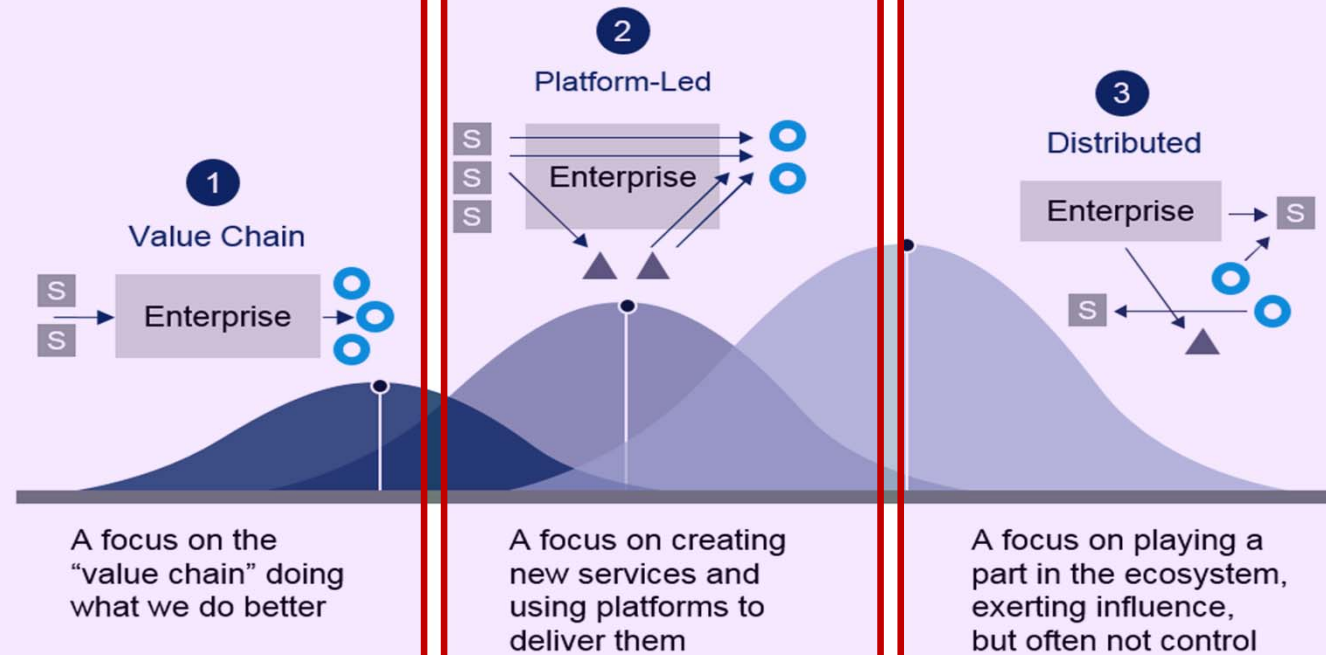
Amazon Moving Up

Amazon has surpassed Alphabet in market cap to become the second largest U.S. company. As of Mar 20, 2018




























Source: FactSet

Waves of Business Innovation Driven by Technology



ID: 368767

© 2018 Gartner, Inc

Type of Work	Example Creator Tools
Podcaster	     
Audio Content Creator	   
Newsletter Writer	 
Video Course Creator	     
Virtual Teacher/Tutor	   
Virtual Professional Coach	  

These new platforms share a few commonalities:

1. They're accessible to everyone, not only existing businesses and professionals
2. They view individuality as a feature, not a bug
3. They focus on digital products and virtual services
4. They provide holistic tools to grow and operate a business
5. They open doors to new forms of work

By Lin Ji, <https://a16z.com/2019/10/08/passion-economy/>

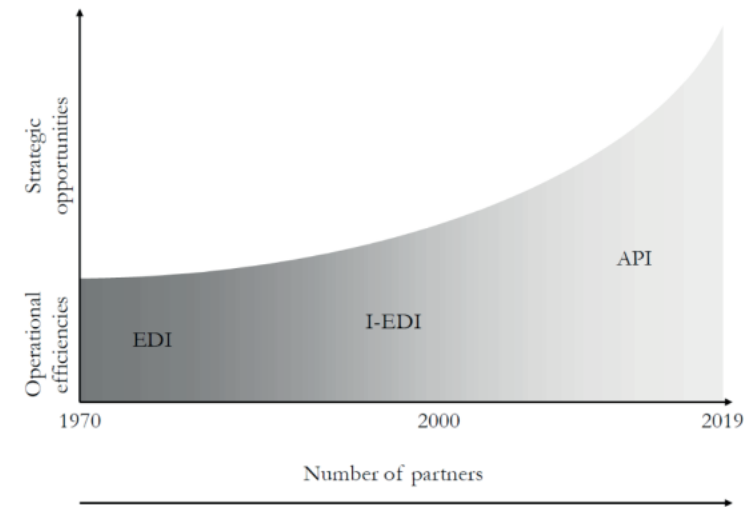
	The Gig Economy	The Passion Economy
Monetization Model	One-time revenue: pay per trip, per session, etc.	Ongoing revenue based on building an audience
Services Offered	Narrow, commoditized services	Wide variety of creative products and services
Software Stack	On-demand platforms that commoditize providers	Marketplaces that emphasize the individuality of providers SaaS tools that enable providers to run their own businesses
Relationship Between Consumer and Provider	Limited ability for consumer engagement	Platforms encourage direct interaction and loyalty between the service provider and consumer
Levers for Growing the Business	Doing more: more time spent, miles driven, jobs completed, etc.	Expanding audience and offering a differentiated service or product

Understanding data as a resource and a capability

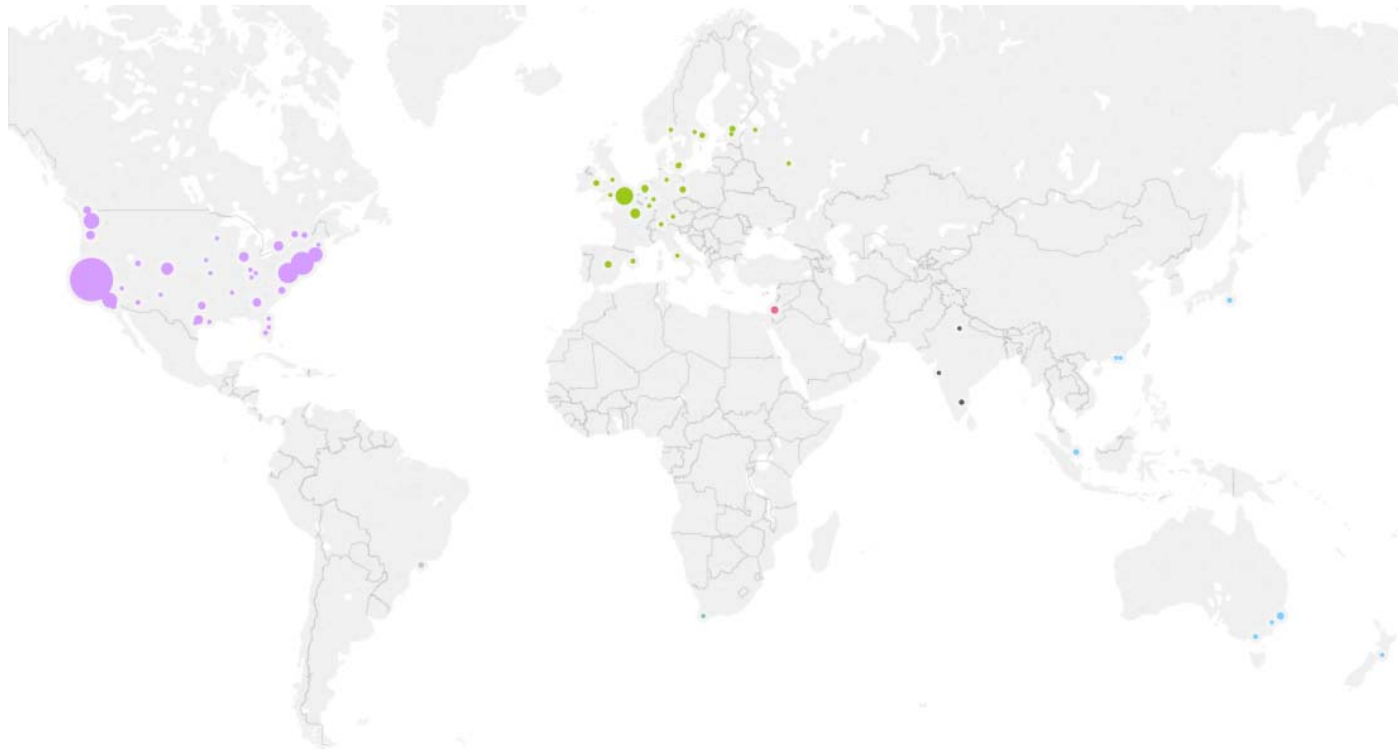
- The concept of **data as a resource** refers to the data controlled by an organization
 - Two types of data resources: proprietary data or shared data
- **Data as a capability** refers to what the companies can do with this data
 - Perceiving data as a resource as well as a capability can empower companies to migrate towards platform-like business models
- Approximately 49% of the Finnish industrial companies already share data with other companies (Huttunen et al. 2019)

→ **APIs are current medium for integrating and accessing these resources and capabilities**

- (cf. *Baldwin (2016), The Great Convergence: Information Technology and the New Globalization*)



Global API locations

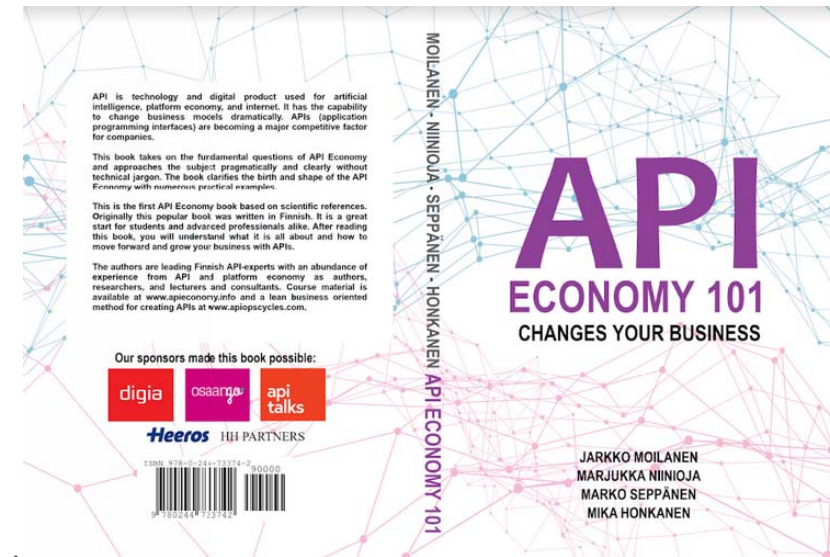


Huhtamäki, J., Basole, R., Still, K., Russell, M., & Seppänen, M. (2017). Visualizing the geography of platform boundary resources: The case of the global API ecosystem.

Business in API Economy

Eight different business models (by Aukia / Codento)

1. Internal API “Bezos moment” (@Amazon)
2. API is a sellable service (AWS, Stripe, Mulesoft, Foreca)
3. API opens new markets (iPhone, Salesforce, Slack, IKEA)
4. API is a marketing media (Expedia, Ebay, Netflix, Kaha)
5. API brings value to the service (Facebook, Twitter, Youtube, Instagram)
6. API as a monopolistic tool (GitHub, Slideshare, Slack, Payapal)
7. API is regulated (fintech, energy distributors)
8. API will be refined valuable (Google, Vainu.io, Bisnode)



API = Application Programming Interface; to distribute and share information, data, micro services etc. With pre-designed contracts and decisions – to support scalable business

One "size" does not fit all (purposes)

		Available for anyone to register?	Paid support available for adopting API?	Pay for usage?	Open license for data?
Open Data Interface		Yes	Yes	Maybe	Yes
Open API	Public API	Yes	Yes	Maybe	Maybe
	Partner API	No	Yes	Maybe	No
Internal and Private APIs		No	No	No	No

Selection and business model based on business objectives

API category cheat sheet: Marjukka Niinioja & Jarkko Moilanen 2018

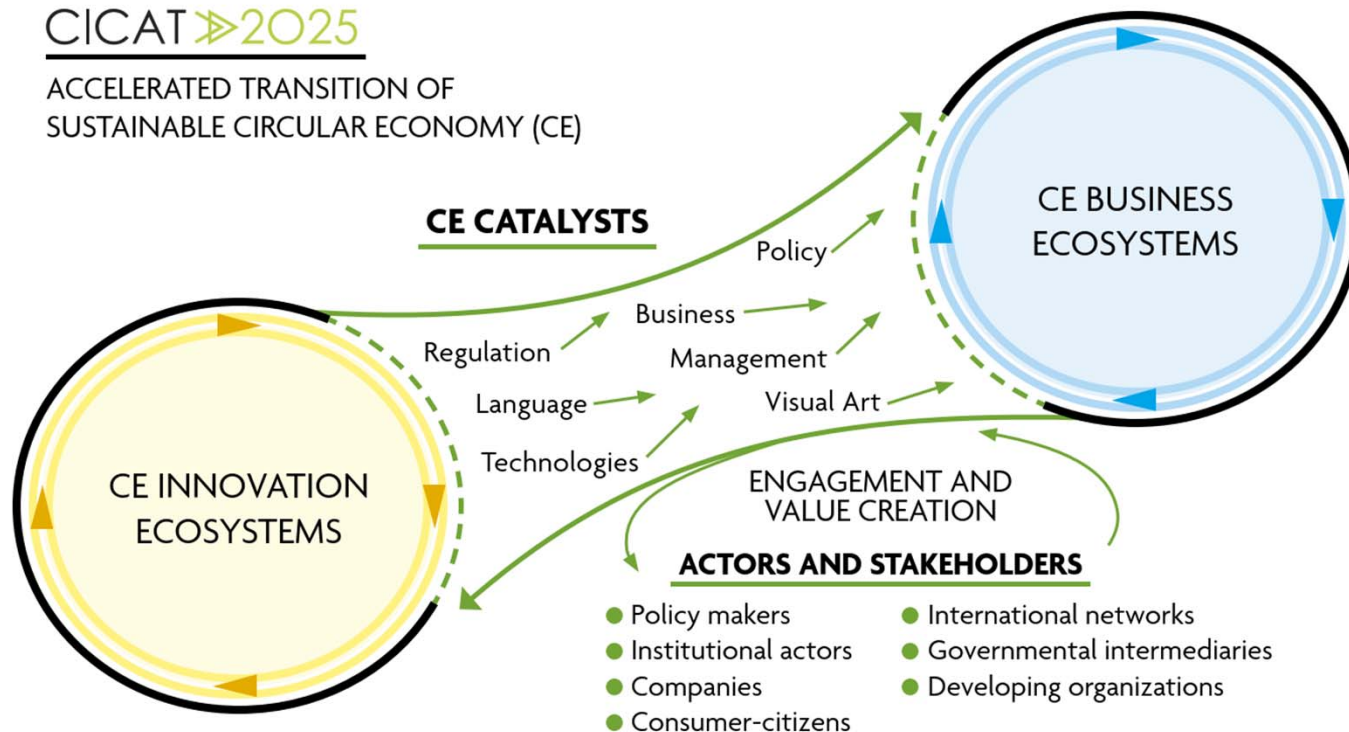
What should happen next?

- Understanding of ecosystem's systemic nature and dynamic, systemic value creation and capture
 - Further research on: **Effective models to support ecosystem building**
- Platform ecosystems are developing constantly, as W. Gibson aptly put: "*future is already here, just unevenly distributed*"
 - Digitalisation is integration
 - Understand integration with weak and strong ties (using different APIs)
 - Further action **to support "Bezos moment"; yet to be seen in many industries and companies**
- Data management procedures and conventions
 - Common data sharing templates to support development (example, "Model terms for data use", Technology Industries in Finland, Oct 2019)
 - Data strategies to support boundary crossing businesses
 - Further research on: **What type of data resources can companies treat as proprietary or as shared?**

Advertisement: STN-CICAT2025 From innovation ecosystems to business ecosystems

CICAT 2025

ACCELERATED TRANSITION OF SUSTAINABLE CIRCULAR ECONOMY (CE)



<http://ww.cicat2025.fi>

Thank you for your attention.

Prof. Marko Seppänen, Tampere University, FINLAND
@DrSeppanen +358 40 588 4080 marko.seppanen@tuni.fi