

# What if we could innovate our manufacturing shop floors in a “Heart-Beat”?

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A challenge being tackled by the “Open European Network  
for Enterprise Innovation in High Value Manufacturing  
(ENTOV-HVM)”

Website: [www.innovation-web.eu](http://www.innovation-web.eu)

Blog: <https://open-european-innovation-network.blogspot.com/>

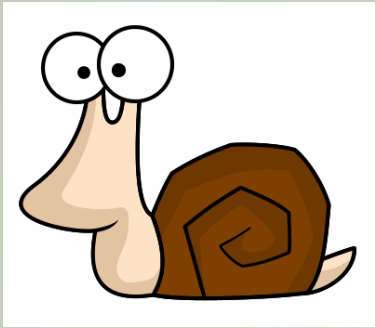
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## Manufacturing Innovation takes too long....



Did you know that it takes several months to several years to find, implement and benefit from a manufacturing innovation\*? Experience however shows that if you can't get it done in under 3 months, it will not really get done.

\* (Source: OECD "Action steps for sustainable manufacturing" <https://www.oecd.org/innovation/green/toolkit/actionstepsforsustainablemanufacturing.htm>).

Innovation Speed is THE Dominant Success Factor

What if we could innovate our manufacturing shop floors in a **“Heart-Beat”**?

## The Journey to Real-Time Innovation across the Whole Product Life-Cycle of Manufacturing...

- Builds on an open, adaptive and robust tribe of stakeholders from innovators, through users, product packagers, buyers, funders, to marketers and commercializers.
- Follows an evolving and emergent pattern of stakeholder relationships.
- Feels, tastes, smells, sounds, looks and desires to be an incident response phenomenon.



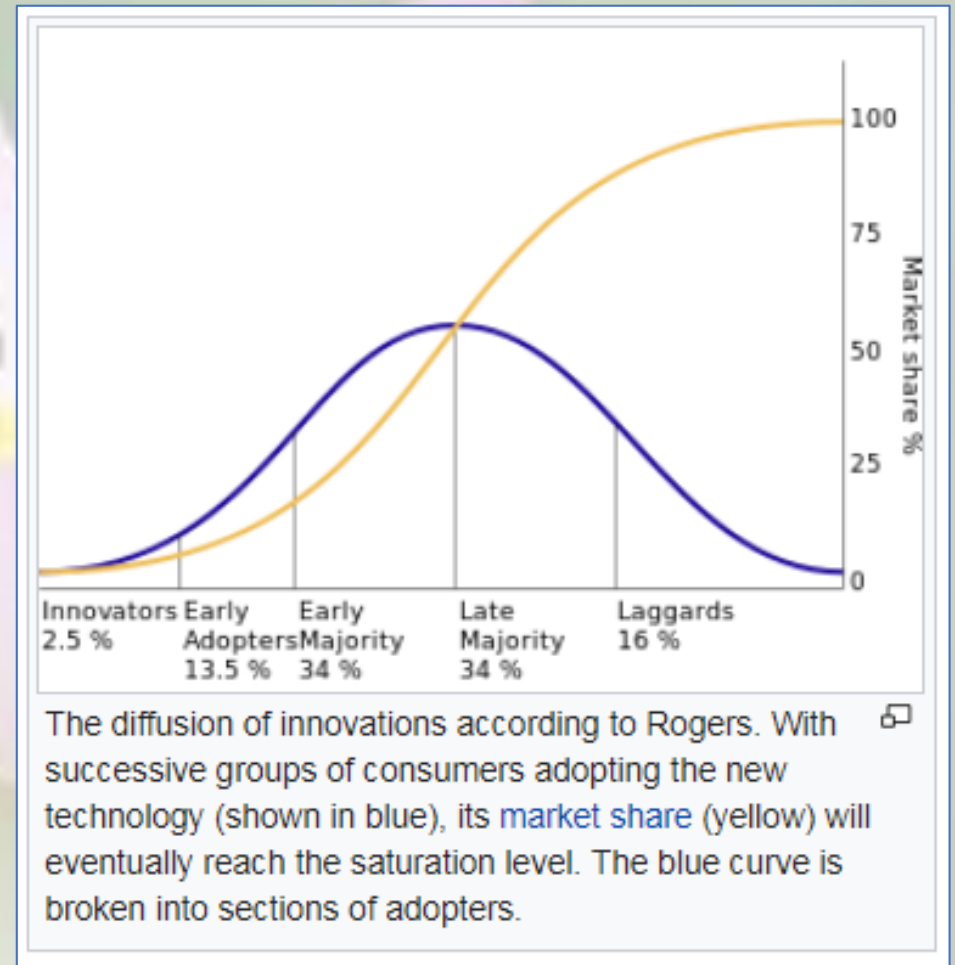
# How do we MEASURE and INFLUENCE the speed of manufacturing innovation?

## Context

- Based on the Diffusion of Innovation Curve (Rogers, E.M. (2003) Diffusion of innovations. Free Press, 5th edition, 2003. (First published 1962))
- Starts with a “really really good idea”.
- Ends with an idea becoming a “household” concept.

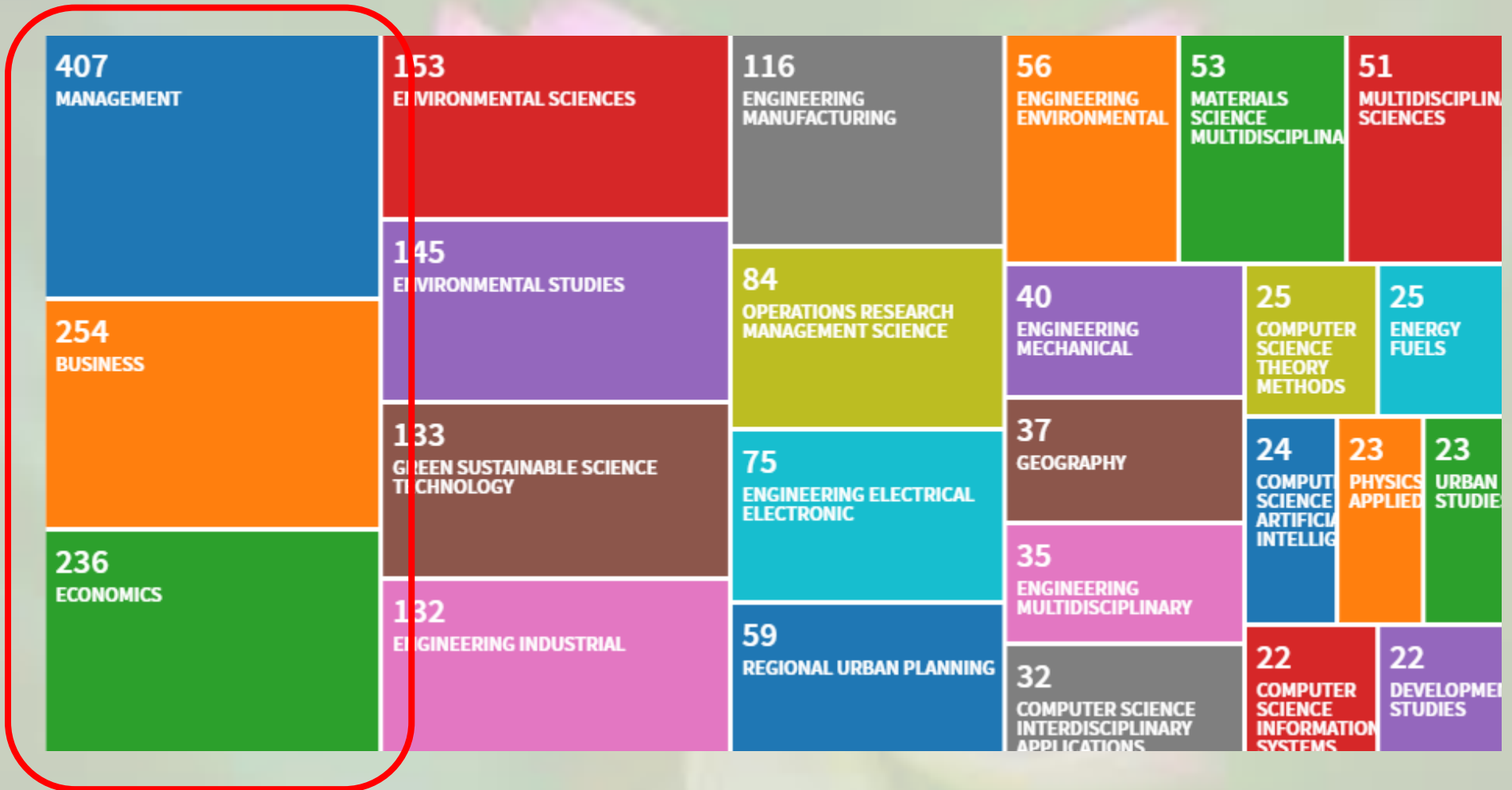
## Challenge

- Measurement
- Variables
- Influencers



Source: Wikipedia “Diffusion of Innovations”  
[https://en.wikipedia.org/wiki/Diffusion\\_of\\_innovations](https://en.wikipedia.org/wiki/Diffusion_of_innovations)

# Scientific Pulse - Keywords: Manufacturing AND Innovation

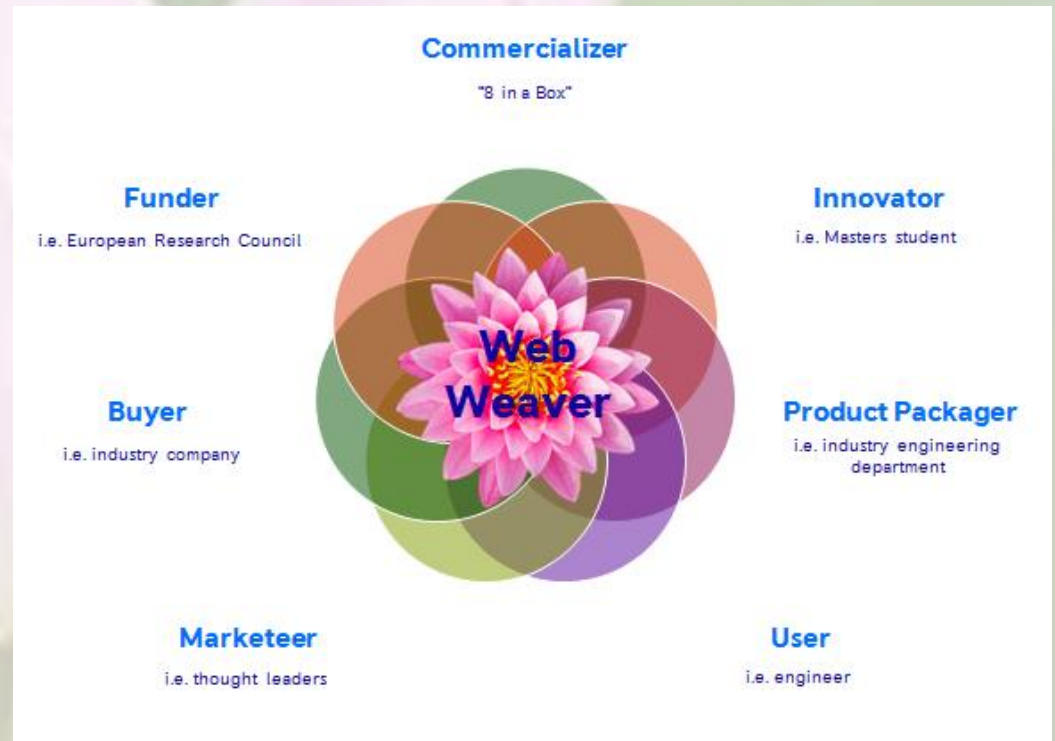


Data Source: Web of Science search "manufacturing innovation" on 10 May 2019 (1593 records returned for 2018 & 2019)

# The Open European Network for Enterprise Innovation in High Value Manufacturing (ENTOV-HVM)...

...brings together a trustworthy, deeply connected group of diverse world-class game changers, at all career stages, from multiple disciplines with a passion for innovation and addressing industrial and societal challenges.

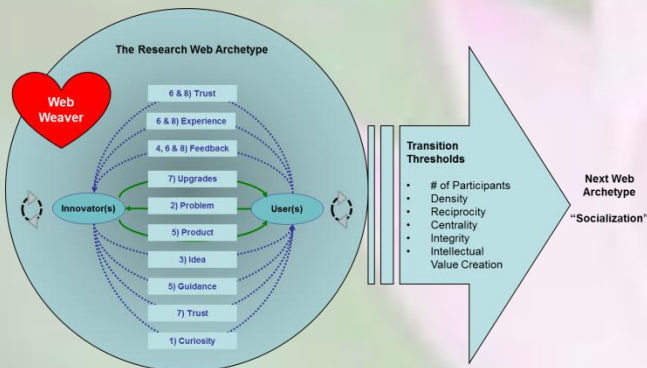
...collaborates in an open, adaptive and tribal network based on archetypal patterns of innovation success.



# Research Method – Innovation Web Evolution

## 1. Research Web

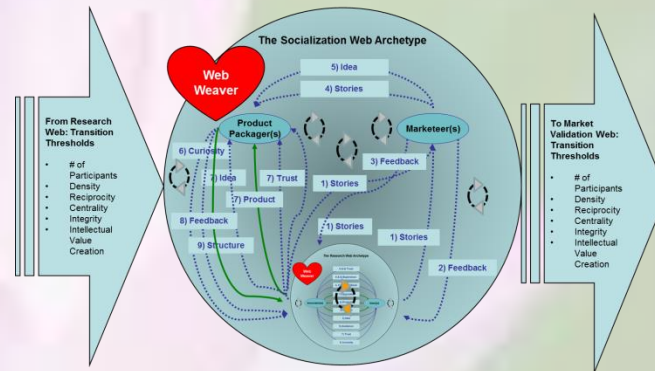
<https://open-european-innovation-network.blogspot.com/2019/06/exploring-first-innovation-web-research.html>



*Nested, Complex Adaptive Systems*

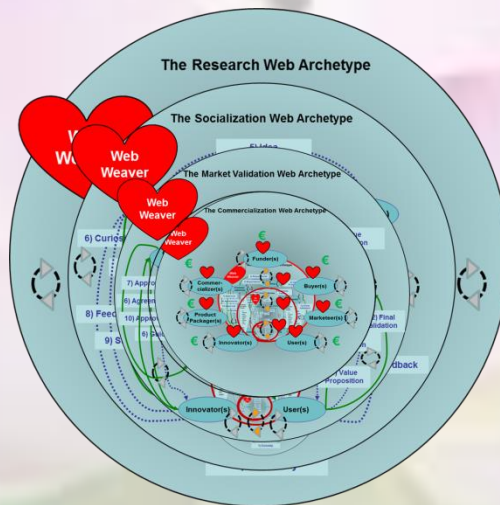
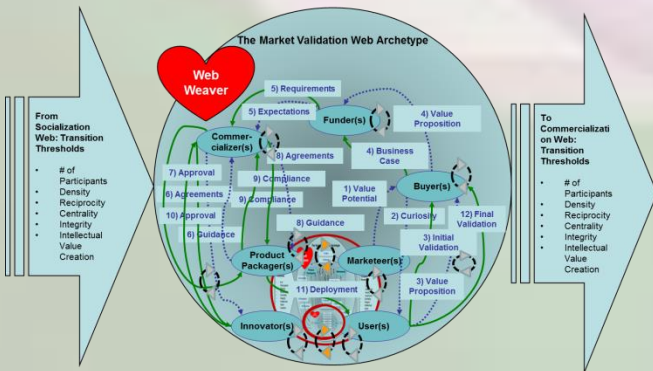
## 2. Socialization Web

<https://open-european-innovation-network.blogspot.com/2019/06/exploring-second-innovation-web.html>



## 3. Market Validation Web

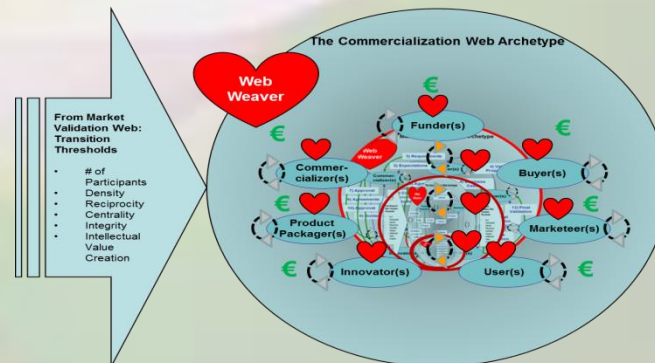
<https://open-european-innovation-network.blogspot.com/2019/06/exploring-third-innovation-web-market.html>



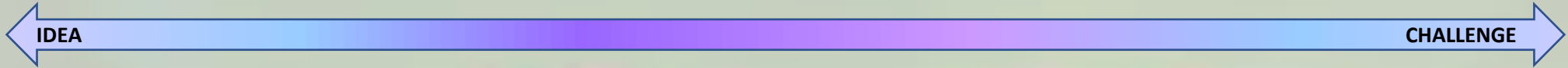
*„Woven“ with a Passion*

## 4. Commercialization Web

<https://open-european-innovation-network.blogspot.com/2019/06/exploring-fourth-innovation-web.html>



# Example - From Discovery to House-Hold Concept



## Discovery

## Research Web

## Socialization Web

## Market Validation Web

## Commercialization Web

Image Recognition Algorithm

SMART Camera Integration

ARENA2036



Manufacturing IoT Connectivity



Digital Product Twinning



Sub-Assembly Maintenance Integration



Integrated Product Monitoring

Finding the right idea & innovator for the challenge

Assembling the suitable tribe for initial exploration

Packaging the innovation for industrialization

Creating the conditions for rapid implementation

Embedding the innovation in existing ecosystems

# (Emergent) ENTOV-HVM Timeline

Image Source: <https://toddhensonphotography.com/blog/stages-lotus-flower-blooming-kenilworth-aquatic-gardens>



2019



2020



2021



2022



2023

## Web Assembly & Piloting

- COST Networking Cost EU Grant Call Response #1 (COSTOC-2019-1-23678)
- ERASMUS+ Knowledge Allianz EU Research Grant Call Response
- 1 x Industry Project Opportunity Response



07/09/2019

## Developing the Shared Web Purpose

- ERASMUS MUNDUS Joint Degree Programme Grant Call Response
- COST Networking Cost EU Grant Call Response #2 & 3
- Cultural grant for Stage-Play "Innovation Journey"
- 2 x Industry Project Opportunity Response

...

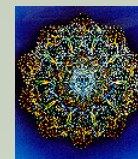
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# Grant Call Focused Tribe (Launching with COSTOC-2019-1-23678)



- **Canada**
  - Alleyne Inc. <https://alleyneinc.net/> (COSTOC-2019-1-23678)
- **Germany**
  - ed-media e.V. [www.ed-media.org](http://www.ed-media.org) (COSTOC-2019-1-23678)
  - EureCons Förderagentur GmbH [www.eurecons.com](http://www.eurecons.com) (COSTOC-2019-1-23678)
  - Eurofocus International Consultants Ltd. [www.innovation-web.eu](http://www.innovation-web.eu) (COSTOC-2019-1-23678)
  - Technical University of Berlin <https://www.mf.tu-berlin.de/> (COSTOC-2019-1-23678)
  - University of Applied Sciences Kaiserslautern [www.hs-kl.de](http://www.hs-kl.de) (COSTOC-2019-1-23678)
- **Ireland**
  - Maynooth University [www.maynoothuniversity.ie](http://www.maynoothuniversity.ie) (COSTOC-2019-1-23678)
- **Israel:**
  - Israel Smart Cities Institute [www.smartcitiesisrael.org](http://www.smartcitiesisrael.org) (COSTOC-2019-1-23678)
- **Italy:**
  - University of Padova [www.unipd.it](http://www.unipd.it) (COSTOC-2019-1-23678)
- **Latvia:**
  - Latvian Technology Center <http://innovation.lv/en/ltc/> (COSTOC-2019-1-23678)
  - Riga Technical University [www.rtu.lv](http://www.rtu.lv) (COSTOC-2019-1-23678)
- **Lithuania**
  - Kaunas University of Technology <https://en.ktu.edu> (COSTOC-2019-1-23678)
  - Vilnius University [www.vu.lt](http://www.vu.lt) (COSTOC-2019-1-23678)
- **Luxembourg**
  - University of Luxembourg [www.uni.lu](http://www.uni.lu) (COSTOC-2019-1-23678)
- **Poland**
  - Rzeszów University of Technology <http://w.prz.edu.pl/en/> (COSTOC-2019-1-23678)
- **Portugal**
  - Centre of Studies on Migrations and Intercultural Relations – CEMRI <https://cemri.uab.pt/en/apresentacao-2/> (COSTOC-2019-1-23678)
  - LNEC - Laboratório Nacional de Engenharia <http://www.lnec.pt/en/> (COSTOC-2019-1-23678)
  - University of Lisbon [www.ulisboa.pt](http://www.ulisboa.pt) (COSTOC-2019-1-23678)
- **Slovakia**
  - Technical University of Kosice [www.tuke.sk](http://www.tuke.sk) (COSTOC-2019-1-23678)
- **Slovenia**
  - University of Maribor [www.um.si](http://www.um.si) (COSTOC-2019-1-23678)
- **Turkey**
  - Sabanci University [www.sabanciuniv.edu](http://www.sabanciuniv.edu) (COSTOC-2019-1-23678)
- **United Kingdom**
  - Cranfield University [www.cranfield.ac.uk](http://www.cranfield.ac.uk) (COSTOC-2019-1-23678)
- **USA**
  - Entovation International [www.entovation.com](http://www.entovation.com) (COSTOC-2019-1-23678)

# Join Us, Sponsor Us, Follow Us to...

## 01 Get Your Research Funded

We collaborate to build the optimal tribes of proposers participating in consortia responding to research challenges and funding opportunities.

## 02 Assemble the Best Team

We collaborate to populate the roles of innovation webs with an optimal tribe of participants and evolve them through the innovation web process in a structured manner based on the Value Networks Exchange Analysis technique.

## 03 Connect Research and Industry

We collaborate to conduct workshops bringing together young innovators, early career researchers, and industry participants in order to create those relationships needed to master innovation web evolution.

## 04 Create Your Living Lab

We collaborate to send young innovators and early career investigators to industrial innovation “hot spots” to implement their ideas with all the seasoned support needed to quickly create measurable value.

## 05 Go on Scientific Missions

We collaborate to send young innovators and early career investigators to research innovation “hot spots” to share knowledge, expand horizons and create new ideas.

## 06 Conduct Cutting Edge Research

We collaborate with research and industry participants to conduct research into questions related to achieving our objectives. Research results are continuously targeted for presentation at international conferences with peer-reviewed publishing of conference contributions and peer-reviewed international journals.

## 07 Write Successful Grants Applications

We collaborate with experienced research grant proposal writers to collaboratively prepare highest quality grant proposals responding to calls at local, regional, national and international level.

## 08 Learn How to Innovate at the Speed of "Heart-Beat"

We collaborate to provide a wide range of blended online and offline (a-) synchronous knowledge creation experiences ranging from (accredited) Masters level course, through masterclasses and skills training to mentoring and coaching.

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