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**FAME**

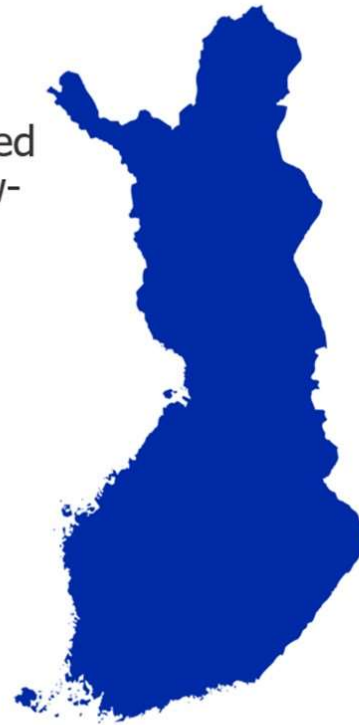
**Finnish Additive Manufacturing Ecosystem**

2.12.2020 MFG4.0 Seminar

## AM Ecosystem

Based on the workshop it is clear that Finland has a need for an AM ecosystem, which will boost Finnish AM know-how regardless of what happens within the HX-project

- There are plenty of players exploring possibilities of AM and carrying out their own small research projects
  - Finnish Defense Forces
  - Companies
  - Universities
  - Research centers
- Finland is lacking an ecosystem which would bring all shareholders together to share the information and find partners for co-development projects.
- Umbrella organization with government funding is required in order to create a vital and flourishing AM ecosystem in Finland
  - Combination of private and government funding



Key conclusions from Business  
Finland's "**Additive  
Manufacturing Workshop**  
related to HX-program"  
facilitated by Etteplan



# Quotes from AM Workshops

"IF WE CAN GAIN AM COMPETENCE **ADVANTAGE** COMPARED TO OUR FOREIGN COMPETITORS, **ADDED VALUE** WOULD BE COUNTED IN MILLIONS"

- AM workshop participant

"CURRENT METAL AM CAPACITY IN FINLAND IS NOT SUFFICIENT **FOR TIMES OF CRISIS**"

- AM workshop participant

"ADDITIVE MANUFACTURING **COOPERATION** RECEIVED FROM OEM WITHIN HX PROGRAM WOULD HELP MY ORGANIZATION IN A SIGNIFICANT WAY"

- AM workshop participant

"REPLACEMENT OF NON-CRITICAL PART IN TANK HAD A LONG LEAD TIME (1 YEAR) AND HIGH COSTS. WITH AM **DOWNTIME WOULD HAVE BEEN FEW DAYS OR WEEKS** AND COST APP. 1% COMPARED TO TRADITIONAL."

- AM workshop participant

"IF FINLAND DOESN'T HAVE **HIGH-QUALITY RESEARCH** IN AM IT MAY END ALL TOGETHER"

- AM workshop participant

"100 NEW DESIGN ENGINEERS WOULD LEAD TO 15 M€ **ADDED REVENUE**"

- AM workshop participant

## ***What is the challenge?***

Additive Manufacturing as a technology in all of its application fields develops fast. Without one's own participation, knowledge alone will not bring benefits that would increase Finnish companies' ability and competitiveness significantly.

## ***State of play in Finland***

Currently Finland lacks a professionally facilitated, business-driven and co-creative Additive Manufacturing ecosystem which would bring all relevant parties together to share information, to create new business opportunities and applications, and to make match between various partners.

## ***Join the movement***

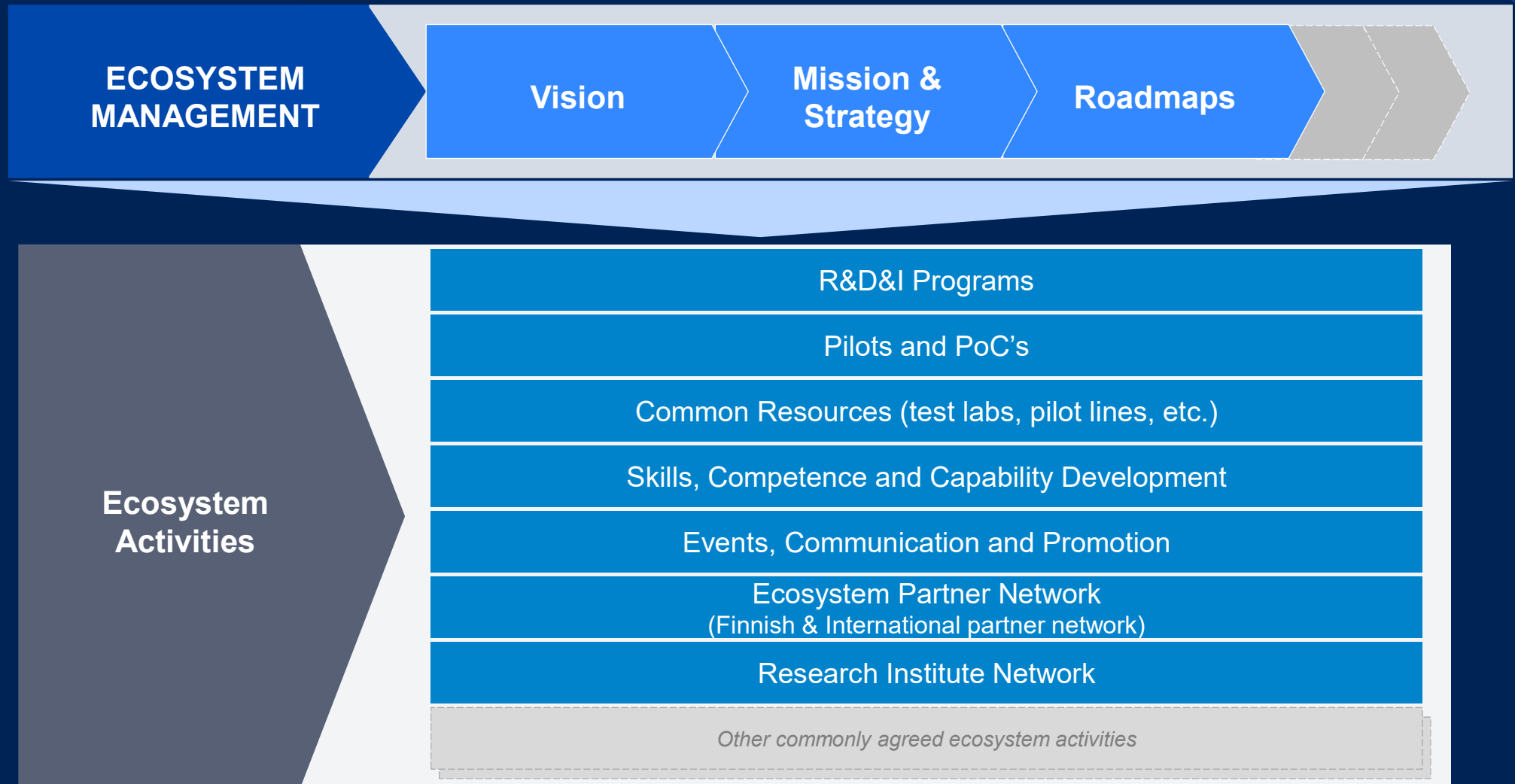
We work with companies, research & educational institutions, and public funding organisations to create a vital and flourishing Finnish Additive Manufacturing Ecosystem (FAME) to leverage investments from private and public stakeholders.

# FAME

Finnish Additive Manufacturing Ecosystem

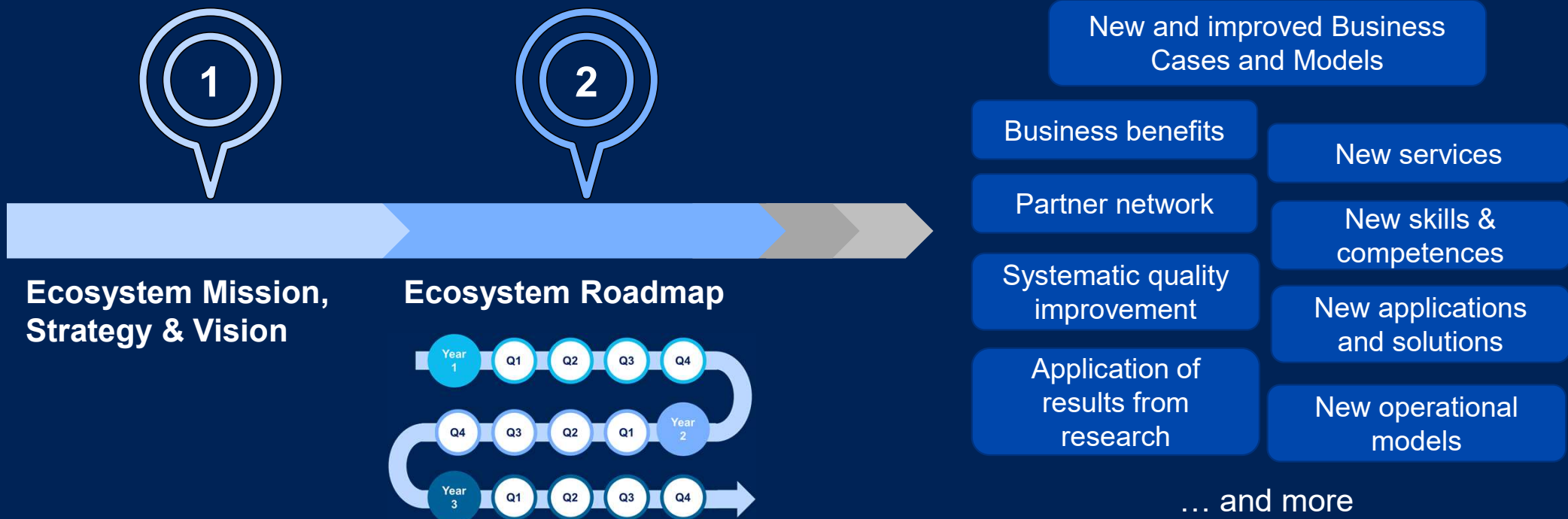
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- 1 ▪ **Strategic direction (WP1):** leadership & management of FAME ensuring that its vision remains relevant and ambitious, its key targets are measured, updated, and met, and that the FAME roadmap is regularly updated.
- 2 ▪ **New market creation (WP2):** creates joint sales, marketing and communications material for FAME and its member organisations. Finland's position as an attractive AM environment for foreign investors and customers is underlined in the communications.
- 3 ▪ **Inspiration & sharing (WP3):** 3D-printing tests and pilots are defined, designed, and produced in shared facilities and with shared resources. Sharing the experiences, knowledge, results, and infrastructures is the key content of this work package.
- 4 ▪ **Material knowledge support (WP4):** creates a library-type database for materials and material compositions in various 3D-printed applications as a tool for wider dissemination of ecosystem's results. Experiences and latest trial results are collected to a material bank.
- 5 ▪ **Paradigm shift in design (WP5):** creates a discussion forum towards educational institutes and Ministry of Education and Culture (OKM) to renew and refresh many different level education directions and paths in Finland. The aim of the WP is to form and launch new education programs and major subjects
- 6 ▪ **Competence & knowledge building (WP6):** joint preparation and execution of large-scale RDI programs. These programs include significant industrial practical trials, tests, pilots, and demonstrations. The preparations of these programs are funded via the FAME ecosystem, and their execution via specific funding to be decided and applied separately, case-by-case.
- 7 ▪ **Future services (WP7):** FAME creates and tests new, value-added services that will be available against payments to all potential customers, not only FAME members.

Ecosystem Partners work together to identify, plan, create and execute common roadmap activities.





TO BE UPDATED DURING  
PREPARATION DISCUSSIONS

- Target: **10+ committed Partner companies**, which establish the core of the ecosystem.
- Targeted funding model is **50-50** between Public and Partner company funding.
- 1<sup>st</sup> planned term of operations is **2-3 years** (2020-2023).
- **Membership Tiers** enable participation at different levels of commitment.

	PARTNER		Support Members
	Large & Midcap companies	Medium & Small companies	
<b>Membership Fee/Year</b>	ca. 20 000 €	ca. 10 000 €	ca. 2 000 €
<b>Management Board</b>	Can nominate a member to ecosystem's Management Board		-
<b>R&amp;D&amp;I Advisory Board</b>	Can nominate a member to ecosystem's R&D&I Advisory Board		-
<b>R&amp;D&amp;I Program preparation</b>	Can suggest and initiate program proposals. Can participate in program preparation.		Participation via invitation from Partners
<b>Company promotion at ecosystem web-page</b>	Extensive introductory text. Includes also ecosystem Partner –video.		Narrow introductory text
<b>Newsletter</b>	Can nominate unlimited number of recipients to ecosystem newsletter's mailing list		Can nominate two recipients to ecosystem newsletter's mailing list