

Wärtsilä

Sustainable Technology Hub & Collaborative Ecosystems

How to Leverage and Invest in Future Networking

23,11.2022

Global leader

in decarbonisation of Marine and Energy markets

FOUNDED IN

1834

REVENUE (EUR)

~5BN

ACTIVE IN

68 countries

OUR PERSONNEL APPROX.

17,000

175 MEUR

In 2021, R&D investments amounted to 175 MEUR, representing 3.7% of net sales.



Sustainable societies through innovation in technology and services

Our value creation potential is based on two strategic themes

- 1 TRANSFORM**
Decarbonisation creates new business opportunities
- 2 PERFORM**
Leverage market recovery and growth
Continuously improve our operational performance

FLEXIBILITY AND AGILITY TO SUPPORT STRATEGIES

«... HOUSTON WE HAVE A PROBLEM»

In a VUCA* world (Volatility, uncertainty, complexity and ambiguity) **agility and flexibility** has become a primary enabler for competitiveness.

■ **No single actor** has all the required capabilities to keep up speed

■ To stay competitive is needed to **continuously evolve** the “understanding-of” and “responsiveness-to” customer

■ Economically viable “green” solutions require a “**smarter manufacturing approach**” to have responsiveness with high quality and low cost.

■ **Digital divide** with supply chain & Small and medium size enterprises (SME) in terms of competence, resources and investment.

SO HOW TO TRANSFORM?...TOGETHER → THREE PILLARS



To accelerate the decarbonisation of the energy and marine industries, Wärtsilä has made a major investment in the Sustainable Technology Hub (STH) in Vaasa, Finland.

We have created it to foster innovation, collaboration, and production of green technologies.

To support these ambitions we also needed to increase agility, flexibility and resiliency from manufacturing perspective

STH SUMMARY

Consolidation of Wärtsilä operations from several locations to maximise synergies

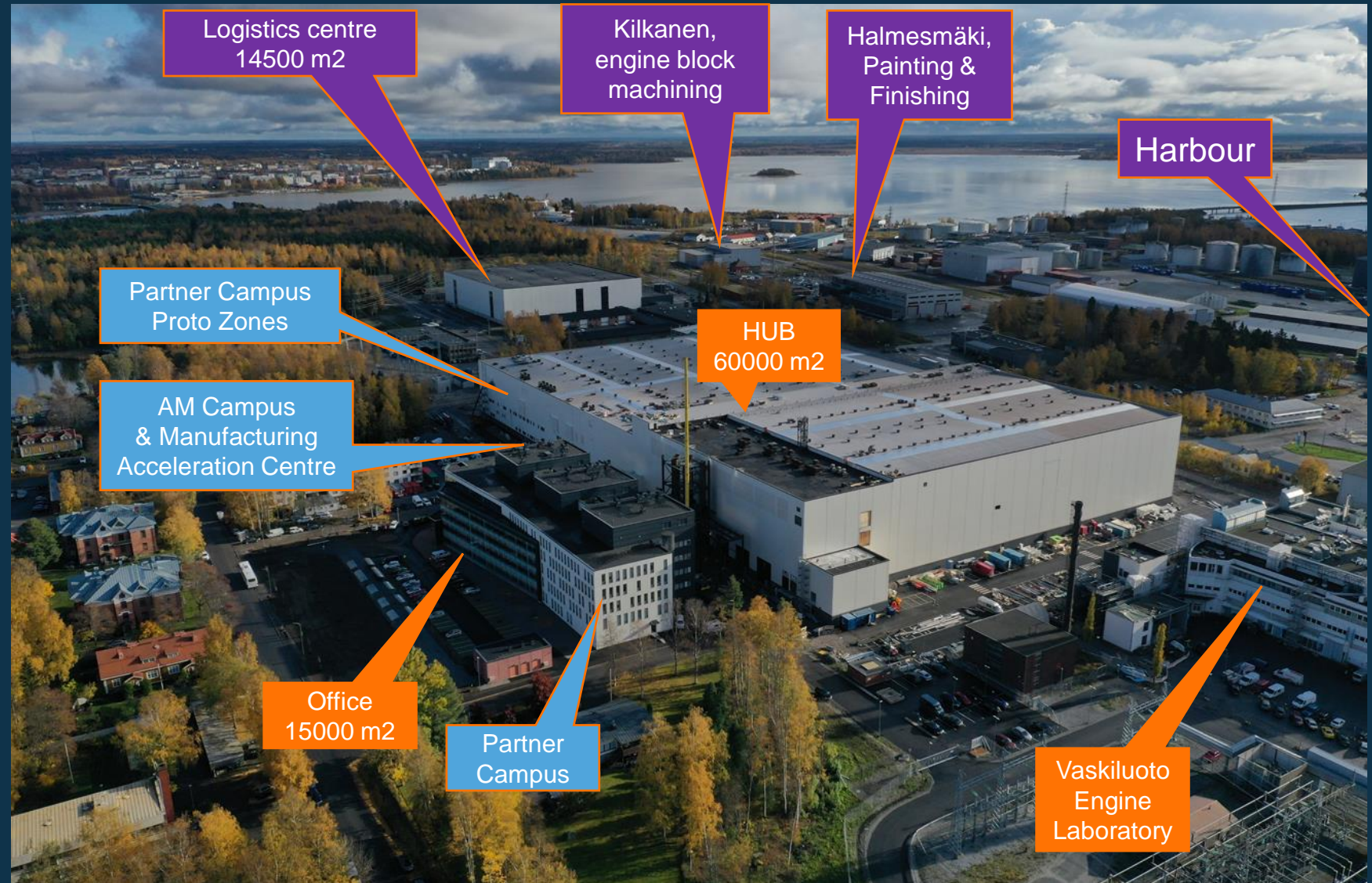
Operational Ecosystem with partners to complement capability

Flexibility to support whole Wärtsilä product portfolio, incl. life cycle

Network and Collaboration

- Partner Campus
- AM Campus (FAME)
- Manufacturing Acceleration Centre (OSME)

SUSTAINABLE TECHNOLOGY HUB TRANSFORM TO PERFORM

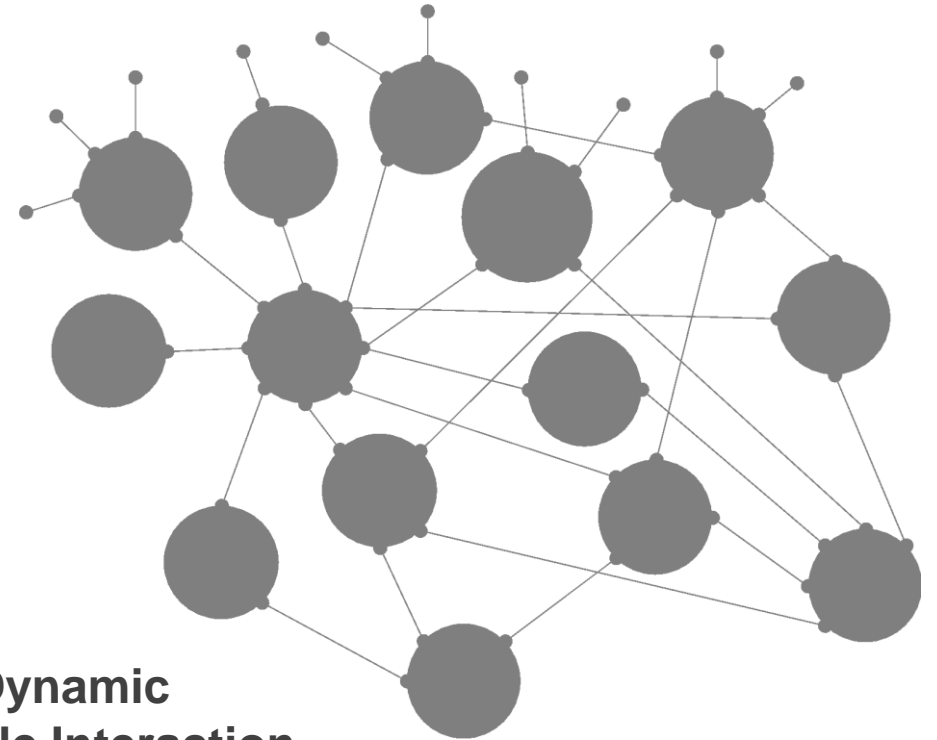


STH HUB – THE INNOVATIVE APPROACH

FROM «SILOED ECOSYSTEMS» to.....



NETWORKED COLLABORATIONS



- **Very Dynamic**
- **Multiple Interaction**
- **Roles are not static**
- **The dynamics within the network change with the challenges.**
- **New Ecosystem Strategy approach is needed → complementary leadership**

STH - TURNING VISIONS INTO REALITY VAASA

PROTOTYPING HOW MODERN ECOSYSTEM ARE CONNECTED IN A NETWORK OF VALUE



ENERGY CLUSTER OF VAASA



PARTNER CAMPUS



CITY OF VAASA



AM CAMPUS



TECHNOLOGY & INNOVATION HUB



SUSTAINABLE LOGISTICS



TESTING & VALIDATION
ON-BOARD AURORA BOTNIA



WÄRTSILÄ FLOATING LAB – AURORA BOTNIA

WASALINE PARTNERSHIP



WÄRTSILÄ



Exhaust treatment system



Smart Navigation system



Auxiliary systems and controls



Thrusters and Protouch



Hybrid energy management system



Engines



LNGpac



PARTNER CAMPUS

Partner access

Network where data, risks and added value are shared

PARTNER CAMPUS COMMUNITY

- Fast connection to networks of expertise
- Risk sharing in innovation

CO-CREATION NETWORK ENABLER

- Shared learnings from co-creation journeys
- Faster time to decision

SHARED PROTO ZONES

- Facilities for shorter and longer co-creation projects
- Facilities for POC Testing and prototype

PARTNER CAMPUS SHOWCASES

ONGOING COLLABORATION PROJECTS

Zero Emission Marine (ZEM) Ecosystem

- Almost 200 operators have joined to develop sustainable technology solutions.
- The goal is to reduce GHG emissions from the marine sector with 60% by 2030.



STH Ecosystem Challenge (STHEC)

- An innovation competition where students solve real company challenges.
- The teams develop solutions in an ecosystem consisting of customers, service designers, facilitators, coaches and juries.



OSME - OPEN SMART MANUFACTURING ECOSYSTEM

FROM A STRATEGY TO CONCRETE MISSION & VISION



MISSION

- Sustainable Resilient and Flexible Manufacturing

From «Siloed Enterprise» to «**Extended Enterprise**» → customers, supply chain and other local SMEs deeply connected and the data flow shared.

VISION

- **Open** Ecosystem where knowledge, expertise and digital platforms are shared
- **Extend** this "industrial ecosystem" to other industries by creating a "network of companies" sharing an "**open**" platform with **Add-Ons** that generate added value
- **Connect** the various realities of excellence in a Physical Hub at Wärtsilä, where you can share ideas and develop/test new technologies

SMART MANUFACTURING ECOSYSTEM
TECHNOLOGY & CAPABILITIES SHARING



Transformational "Extended Enterprise"

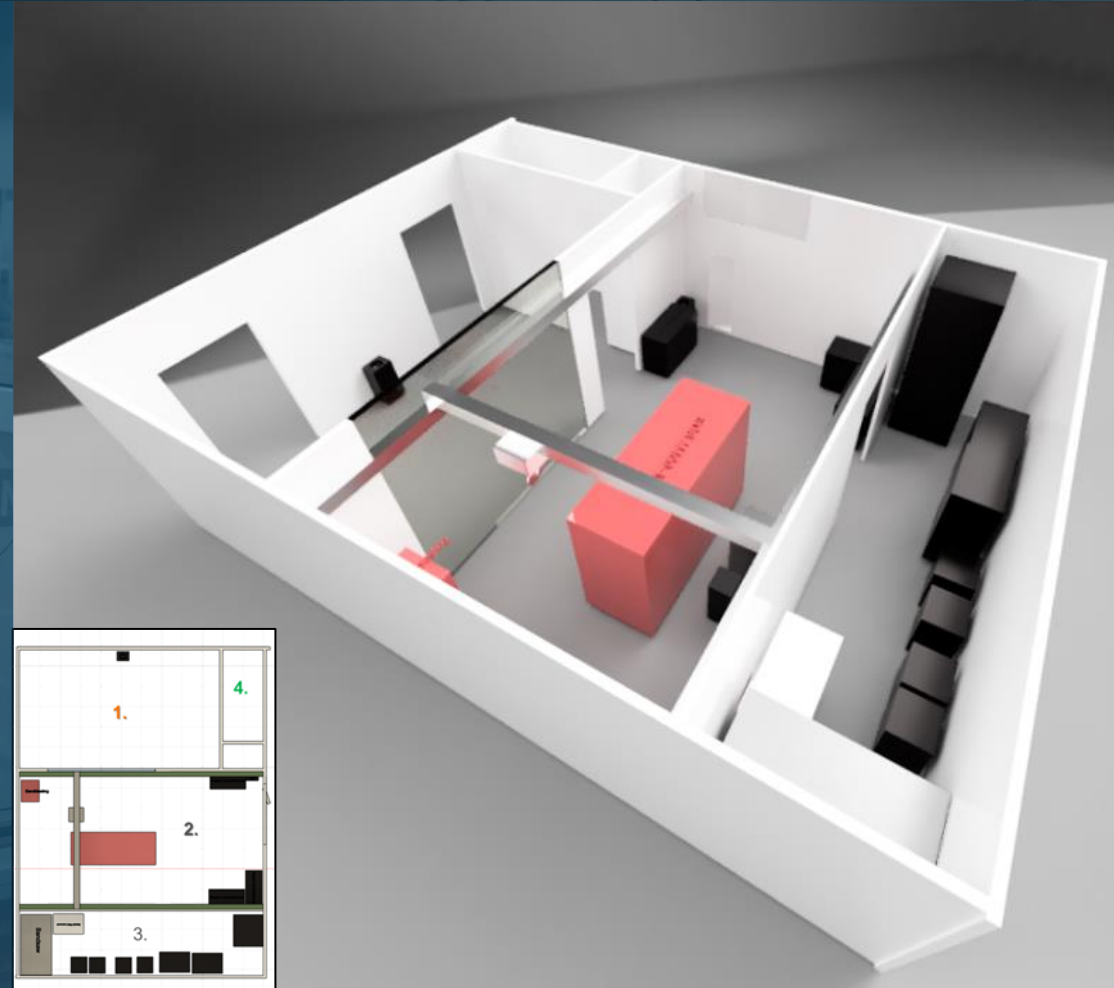
FAME AM CAMPUS HOSTED @ STH

A NETWORK FOR GROWTH

FAME
Finnish Additive Manufacturing Ecosystem



- Share assets costs & Risks
- Get hands-on experience on application & design for AM
- Conduct focused experimentation
- Co-creation space where possibility to set for “zero series” prototypes, prepare recipes for the go to serial
- Get people together from different companies, establishing network, inspiring each other
- Help and support each other, nurture knowledge growth by sharing problems and common findings
- **Competitive edge on the market for keeping & growing the manufacturing industry in Finland**





WÄRTSILÄ