25 years of ITEA Roadshow – Finland

Bittium

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Jari Partanen

25 | years

ITEA4
1998–2023

ITEA is the Eureka Cluster on software innovation

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Introduction to Bittium & ITEA
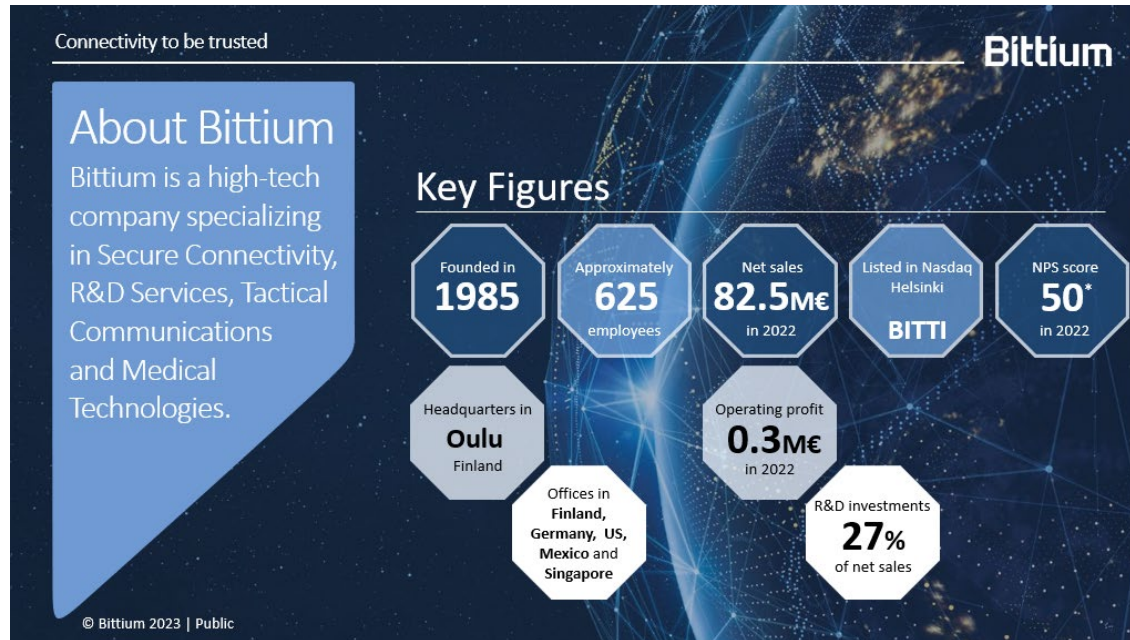
- Active in ITEA over 15 years

  - Involved in 6 projects so far: Secur-e-Health,TioCPS, Cyberfactory#1, M2MGrids, Accelerate and Flexi.

  - Bittium is now in process to become member of ITEA Board

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Some examples of successful ITEA projects

Cyberfactory #1 (12.2018 – 6.2022)

- https://www.cyberfactory-1.org/home/
- The CyberFactory#1 project, led by Airbus Cybersecurity SAS (France), consisted of 28 partners from Canada, Finland, France, Germany, Portugal, Spain and Turkey.
- The project addressed the needs of pilot factories across the aerospace, transportation, machine fabrication, textile and consumer electronics industries in a total of 10 use-cases.
- Depending on the use-case, different aspects of FoF were developed and tested, such as **collaborative robotics, process optimisation, real-time quality control, distributed manufacturing and predictive maintenance**.
- The project also proposed **preventive and reactive capabilities to address cyber and physical threats and safety concerns for FoF**.

Key results:

- Cyberfactory#1 was an excellent project as it created a **solid foundation for cybersecurity and cyber-resilience capabilities** in the context of the **Factory of the Future and Industry 4.0**.
- The approach taken for the development of cyber-resilience capabilities goes beyond risk management and tactical technical solutions, requiring a **holistic view of systems and processes** to prepare for the reality of cyber-incidents.
- These were conducted in e.g. the Bittium case by **modelling digital twins and performing true simulation and testing** with hundreds of test scenarios with available cyber-frameworks in excellent collaboration with Airbus Cybersecurity FR.
- The outcome was that the **cybersecure architecture for the use-case** could be practically taken into use and can be adopted in alternative use-cases the future."

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Some examples of successful ITEA projects

Accelerate (1.12.2013 – 30.11.2016)
- http://www.accelerateproject.eu/
- Accelerate project focused on the "European Paradox" – great science, poor marketable innovations.
- The aim of the Accelerate project was to create services to accelerate the speed from ideas to business, based on the needs of the European technological industry.
- The services were implemented in technological innovations, streamlined processes and new software technologies.

Key results:
- During Accelerate project **innovation channel** to accelerate product, service and feature innovations faster to the market was created.
- Innovation channel was a **method for capturing an innovation, growing it to its full size, evaluating the maturity and concretizing into a product feature or new product/service**.
- Method here means a complete set of all incredients for a successful implementation of this goal; **Process, People Involvement and Digital Workflow**

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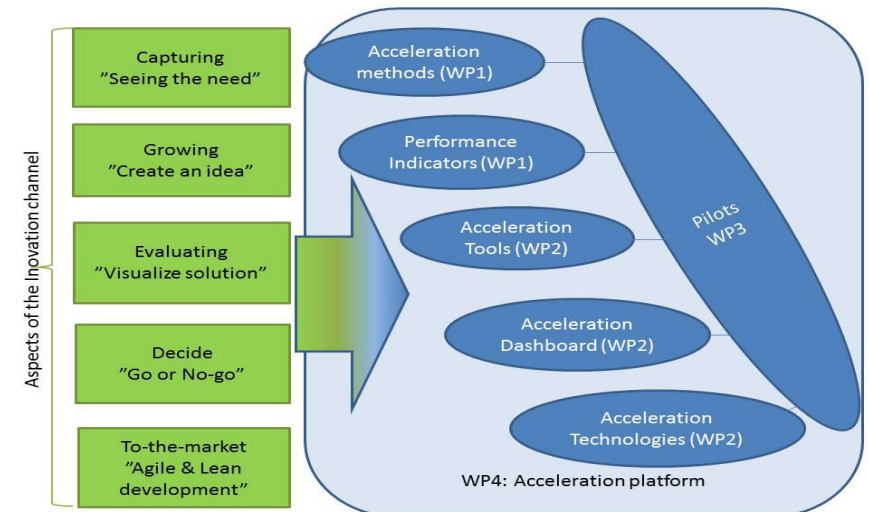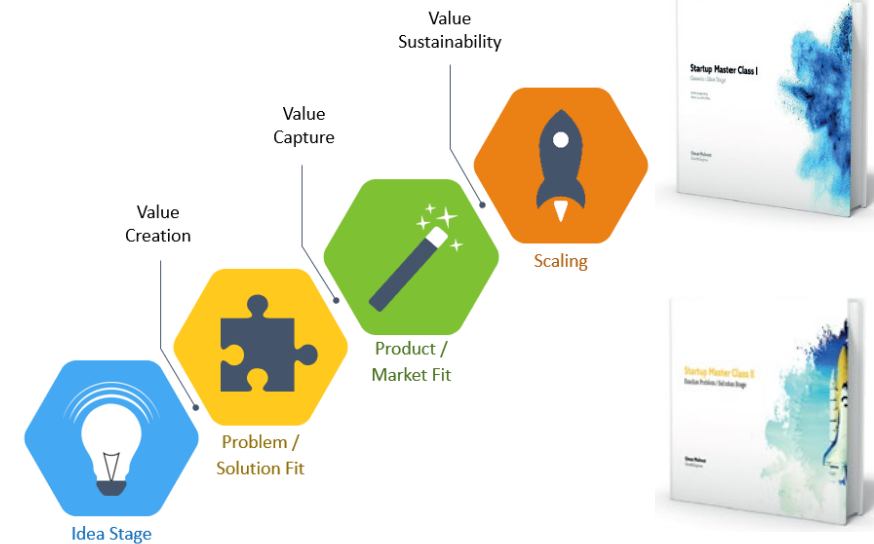
Some examples of successful ITEA projects

Societal impact

- **Flexi** (Flexible Global Product Development and Integration): Agile culture beyond the agile principles; **From the software development to whole product development**.
- **Accelerate**: **Foundation for Innovation Culture**, creation of "Start-Up Master Class" Series
- **Cyberfactory #1**: **Large involvement of various cyber security European companies and research organisations** to collaborate stakeholders like Enisa etc and define essential of cyber security in FoF.

Business impact

- **Flexi**: "Major **improvements in productivity for embedded systems software development across large enterprises**. Trials of the agile approach demonstrated concrete impacts on production innovation, reduction in lead times for new products and cutting integration time in major software development projects".
- **Accelerate**: **Contributed significantly to company journey to a clearly more product and innovation-driven company than previously**.
- **Cyberfactory #1**: Collaboration enabled to **discover, define and simulate a with a digital twin cyber-secure architecture** for a set of systems controlling **virtual manufacturing** with manufacturing partners supporting the major growth of production volumes.

Unique aspects/benefits of the support of ITEA & Business Finland

- Large collaboration with bigger & smaller companies together with research partners is unique in European context supported by ITEA and Business Finland
- ITEA is a forum seeking concrete approaches to seek for practical benefits from the research
- Networking in research projects creates possibility to research & validate the ideas and concepts with academia and industry European wide with potential customers

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