VTT Technical Research Centre of Finland

EDF Info Day Austria 2026

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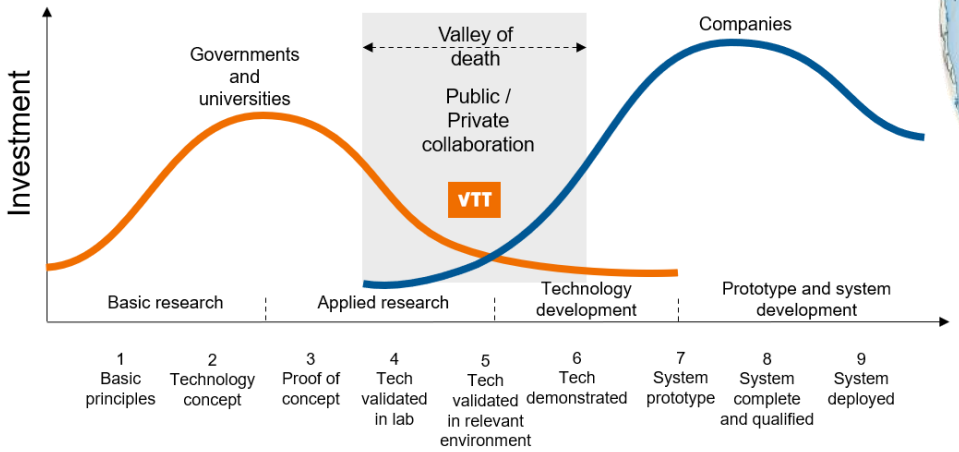
VTT Technical Research Centre of Finland

- As a state-owned research and technology organisation, VTT's task is to create an impact of change in society and industry by accelerating their renewal.
- The main method is technology transfer.



VTT’s year 2024 in numbers

296 M€ operating income	**2,390** employees	**457** patent families
49 % of the net turnover from abroad	**1,100** customers	**598** scientific articles

VTT excels in Horizon Europe (2021-2027)

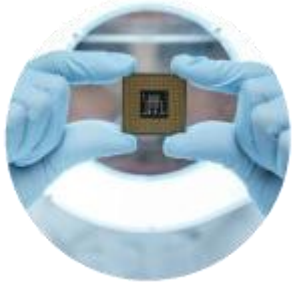
15%	VTT's share of all Finnish funding (EUTI report February 2025) Largest Finnish beneficiary
17th	VTT's position in the ranking of all 22,300 Horizon Europe beneficiaries
4,100	Number of organizations with which VTT has partnered (1 950 companies of which 151 Finnish)
78k€	Average EU funding per number of staff

Data from Horizon Europe dashboard June 2025

We create solutions in three main areas

Carbon neutral solutions

- Energy systems
- Process industry
- Smart built environment
- Smart mobility
- Strategic foresight



Digital technologies

- Quantum technologies
- Microelectronics
- Photonics
- Security and defence
- Personalised health solutions

Sustainable products and materials

- Sustainable manufacturing
- New materials
- Material design
- Synthetic biology

Technology platforms and infrastructure at VTT support piloting of new technologies

Autonomous systems
marine transport, innovative air mobility, electrification, non-road mobile machinery, engines, heavy-duty vehicles, rail mobility, drone outdoor testing, arctic.

Optical measurements
spectrometers, spectroscopy, cameras, machine vision, sensor integration

MIKES Metrology
time, hyperspectral

Nano- and micro-electronics, quantum technology
photonics, chips, cleanroom, electronics manufacturing, RF filters, ceramics circuits, reliability testing

Smart manufacturing
human-robot interaction, robotics, remote operation, mixed reality solutions, manufacturing

Printed and flexible electronics
Development of elastic wireless sensors: ideation, piloting, prototyping including materials, manufacturing , integration, applications

Smart energy and built environment
energy generation, energy storage, hydrogen, AI, sensors, edge computing, digital twins

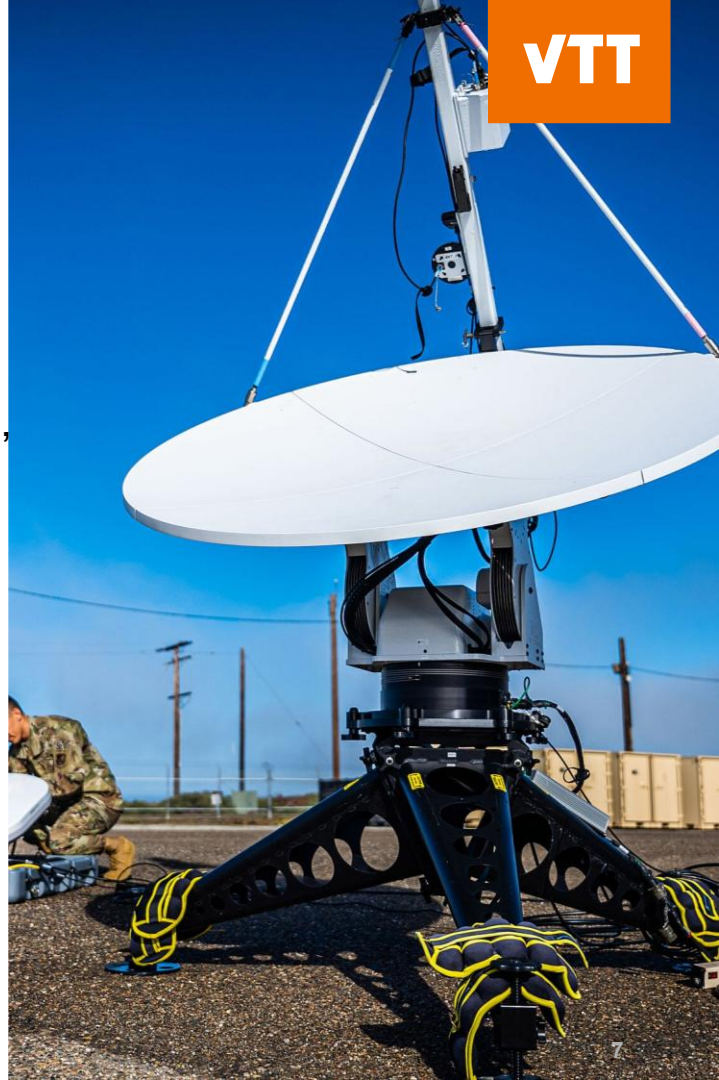
Materials Performance
materials fatigue, simulation, operation and maintenance, additive manufacturing

Nuclear energy
radiation modelling, hot cells, TEM, mass spectrometry, SEM, radiochemistry

Secure and resilient connectivity
Cybersecurity, 5G, 6G, edge computing, quantum networks, quantum key distribution, critical communication

VTT, defence activities

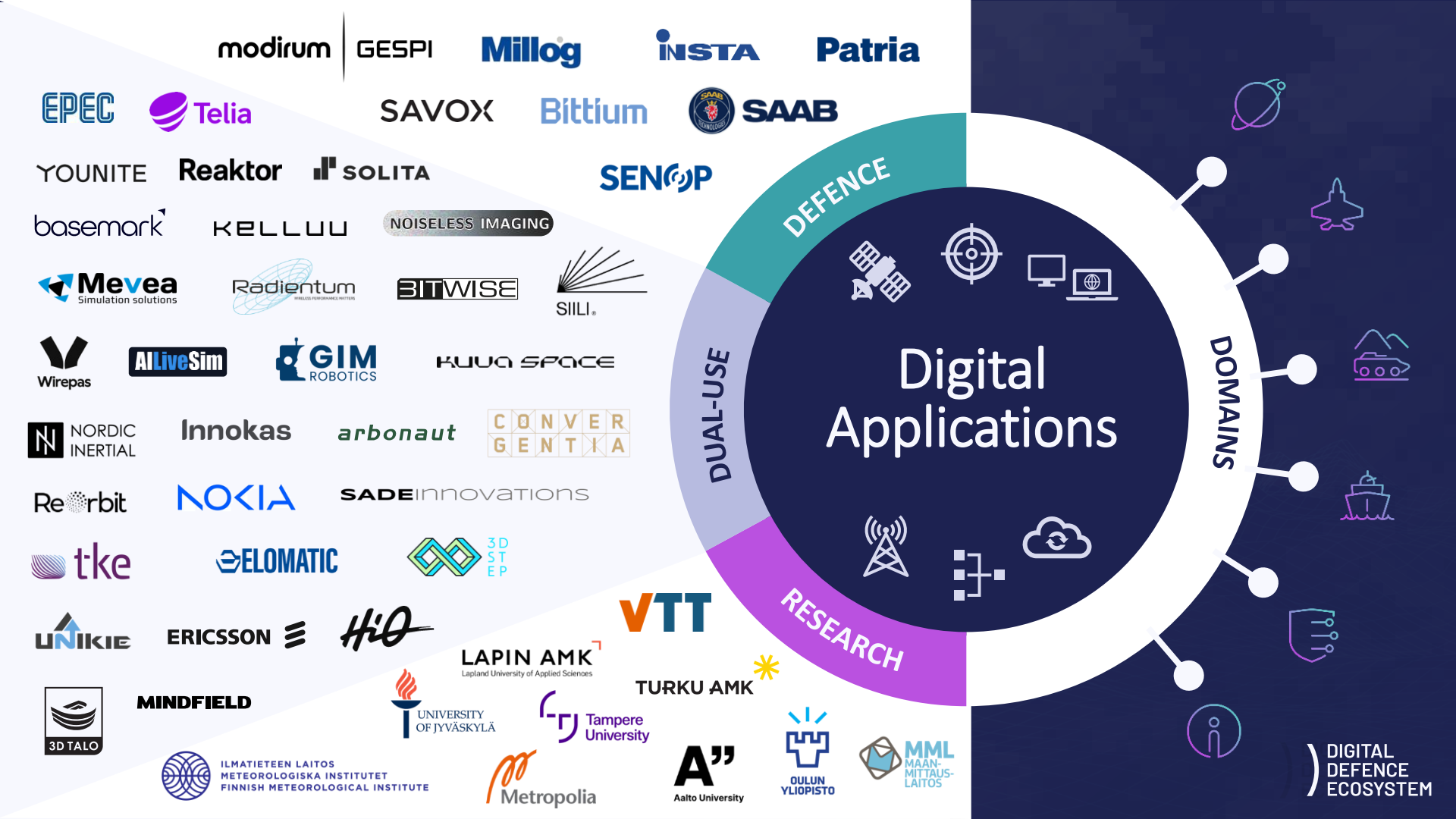
- Defence applications on the basis of civilian technologies
- Developing solutions for the military
- Capability to manage EU / NATO / US classified information, covering facilities, processes, systems and personnel
- Research platforms and infrastructure for military testing
- Defence and dual-use IP; VTT spin-offs



VTT is active on Defence sector

- **Partnerships**:
  - Partner with the Finnish Defence Forces
  - European Defence Fund projects
  - USA Department of Defence projects
  - NATO NFPF member and DIANA coordinator

- **Capabilities**:
  - Supports all defence domains: land, sea, air, cyber, and space
  - Competitive pricing and access to world-leading SMEs
  - Fully qualified facility and testing sites
  - Joint development of special topics
  - Complete technology transfer as part of an agreement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GESPI
Millog
INSTA
Patria
EPEC
Telia
SAVOX
Bittium
SAAB
YOUNITE
Reaktor
SOLITA
SENOP
basemark
KELLUU
NOISELESS IMAGING
Mevea
Simulation solutions
Radientum
BITWISE
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Wirepas
AILiveSim
GIM
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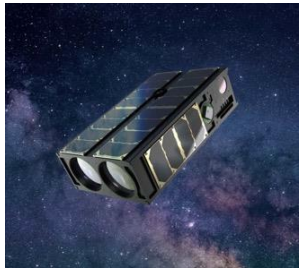
VTT spin-offs and licensed technology



KUVA SPACE

DobbelGänger

OBSIDIAN™

Synadel

Mantis Vision

VTT LaunchPad

VTT Spin-off incubation

Military Areas for Technical Collaboration

- Arctic Operations and Performance
- Datalinks
- Cybersecurity
- Sensor Data Fusion and Analytics
- Networks Per Need (Land, Sea, Air and Space)
- 5G/6G in Military Applications
- Space and C5ISTAR
- Underwater Explosion Analyses
- Underwater Signatures
- Swarming – Collection Machine Intelligence
- Position Navigation Timing (PNT)
- Secured Connectivity
- Dynamic Spectrum Analysis
- Drones in the Arctic
- Wearable technology
- Life Cycle Management
- CBRN Decontamination
- Military Materials Properties and Performance
- Adaptive Signature Management
- Radar Absorbing Materials
- Material Electrical Properties
- Chlorophyll-based Camouflage
- Advanced Material Technologies
- Microstructurally Accurate Materials
- Materials
- Ballistic Protection Materials
- Improved SITAW, Simulations, Maintenance

Examples of international VTT work

VTT European Defence Fund (EDF) project topics

VTT is the largest recipient of EDF funding with 14 projects in Finland.

We work together with the main European defence prime contractors in Europe.

Main partners:
- Thales
- Airbus
- Leonardo
- Indra
- Patria
- AIT, CEA, FHR, NLR

Main themes:
- Future combat vehicles
- Command and control systems
- Cyber security
- Situational awareness
- UAS and counter-UAS
- Connectivity solutions
- Space
- AI / ML

EDF 2021

VTT participates in one European Defence Fund project that received 10 million euros of funding

ECOBALLIFE

Research in eco-designed ballistic systems for durable lightweight protections against current and new threats in platform and personal applications

- New materials and technologies to ensure a high level of protection against a wide range of threats, reducing the risk of injury to soldiers.
- Identifies European know-how in the field of military protection systems along the whole value chain from raw material industries to validation and test facilities.

https://defence-industry-space.ec.europa.eu/system/files/2022-07/Factsheet_EDF21_ECOBALLIFE.pdf

EDF 2022

VTT participates in two European Defence Fund projects that received a total of 58 million euros

Projects involving VTT focus on developing the EU's defence capabilities in critical areas in air surveillance and military intelligence.

- The SPIDER project will continue to develop satellite constellations that will be used for intelligence, surveillance, and reconnaissance (ISR). Airbus coordinates
- The SESIOP project will improve the interoperability of European civil and military air traffic management (ATM) systems and secure data transfer between them for recognised air picture. Airbus coordinates

SPIDER

Space based Persistent ISR for Defence and Europe Reinforcement

SESIOP

Single European Sky and InterOPerability

https://defence-industry-space.ec.europa.eu/system/files/2023-06/SPIDER-Factsheet_EDF22.pdf
https://defence-industry-space.ec.europa.eu/system/files/2023-06/SESIOP-Factsheet_EDF22.pdf

EDF 2023

VTT coordinates two European Defence Fund projects and participates as a partner in three projects. These 5 projects received a total of 68 million euros funding

SWARM-C3

Command, Control, and Communications for Multi-X Swarms

EUR 4M, VTT as coordinator

SWARM-C3 is expected to bring a radical new vision to the adoption of multi-X swarms in modern armed conflicts by relying on beyond state-of-the-art multi-domain swarming capabilities, innovative human-machine interfaces and ultra-secure data communication.

FESPAN

Forecasting Electromagnetic Signal Propagation Anomalies

EUR 22M, VTT as coordinator

FESPAN will design and develop a unique Electromagnetic Signal Propagation (EMSP) modelling platform which incorporates novel environmental and EMSP models (including hypersonic signature) as modules.

ESOCA

European System for Outsized Cargo Airlift (ESOCA)

EUR 20M, Airbus coordinates

NEMO

laNguagE Modules develOpment

EUR 6M, SINTEF coordinates

FMBTech

Technologies for existing and Future MBTs

EUR 20M, Thales coordinates

https://defence-industry-space.ec.europa.eu/funding-opportunities-0/calls-proposals/results-edf-2023-calls-proposals_en

EDF 2024

VTT participates as a partner in 6 projects, which received almost 200 million euros of funding

AI-WASP

Artificial Intelligence Warfare Adaptive Swarm Platform

EUR 45M, Patria coordinates

A pioneering solution of AI-based multifunctional aperture and transceiver, to be integrated to uncrewed aerial systems and ground vehicles or stations.

ENGRT II

European Next Generation Rotorcraft Technologies Phase II

EUR 100M, Airbus coordinates

The project develops the next generation rotorcraft by 2030

EUROSWEEP

European Autonomous Heavy Minesweeping System

EUR 29M, FFI coordinates

The project develops a minesweeping system to protect large commercial ships and military re-supply vessels

https://defence-industry-space.ec.europa.eu/funding-opportunities-0/calls-proposals/result-edf-2024-calls-proposals_en

ASTERION

Adaptive and Secure Technology-Enabling Reliable and Integrated Opto-acoustic underwater Networking

EUR 23M, TNO coordinates

Develops a universal architecture for underwater communication

BATTLEVERSE

A Human-Centred MSaaS Ecosystem for Enhanced Mission Planning and Execution via Battlefield Modelling, Adversarial AI, and Multi-domain Simulation Environments

EUR 15M, CERTH coordinates

Bridges real and virtual battle environments to support dynamic and effective mission planning and execution

ORDEAL

Operational Resilience of Drones in Experiments and Autonomous fLight

EUR 7M, NLR coordinates

EDF Challenge: host an environment, where participants can demonstrate accurate positioning in non-permissive environments for single and swarm drones

Why VTT?

- **Long term expertise from defence. Since 1942.**
- **Government owned, we will not be sold to investors**
  → Long-term continuity
- **Clear IP accessibility**
- **We understand triple-use technology needs & targeted problem solving**
  → You can trust us
- **Feasibility studies & NextGen Proof-of-Concepts**
  → Fresh Expert-to-Expert “2nd opinions”
- **We are multi-disciplinary, networked, trustworthy, impartial, flexible**
  → Most suitable VTT experts assigned per your needs
- **One stop shop: most project relevant technologies in-house**
  → Easy to you, specific solutions to your needs, long-term savings to you
- **Comprehensive planning, one-time execution**
  → Continue keeping you happy
- **Rapid communication (progress reviews, action items, …)**
  → We share and care, we respect NDAs

Puolustusministeriö / Försvarsministeriet / Ministry of Defence
Finnish Defence Forces
ELOMATIC CONSULTING & ENGINEERING
SAAB
esa
AIRBUS
AgustaWestland
BAE SYSTEMS
INSTA
LOCKHEED MARTIN
THALES
Millog
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beyond
the obvious

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