



FLOW

FaiL-safe and
mOtivational Workplaces



smart

advanced manufacturing

VTT Technical Research Centre of Finland

VTT is Finnish RTO, owned by the Finnish state. VTT task is to advance the utilisation and commercialisation of research and technology in commerce and society. Key figures:

1942 year of VTT's establishment

2,129 number of employees

32.5% doctorate or licentiate degree

48 different nationalities

1,410 customers

of which **1,230** are domestic and international private sector customers

244 M€ total revenue

Turnover **149 M€**

Government grant **87 M€**

Other operating income **8 M€**

45% of our turnover comes from abroad

440 patent families

27% of Finnish innovations include VTT's expertise

PROPOSAL INTRODUCTION (I)

Vision:

- **Increased efficiency:** Seamless collaboration between systems and people
- **Enhanced labour supply and retention:** Adaptive/self-learning (AI) systems that sustain workability, sensible work environment, and that can be taught through work
- **Fewer errors, faster introduction to a new tasks:** Personal assistive techs and solutions

Motivation: Manufacturing industry is one of the biggest industries worldwide and contributing to environmental, economic and societal sustainability. It is estimated that two-third of the observed technological accidents in the industry would be due to human errors because human limitations are underestimated (work is getting more complicated, requires continuous learning etc.) Intelligent self-learning systems working collaboratively with humans (e.g. cobots) are making headway to manufacturing as well. Adaptive systems and real-time communication between systems and human workers is needed to avoid problems and accidents

PROPOSAL INTRODUCTION (II)

Content:

- AI technologies for knowledge capture, anomaly detection, decision support, etc.
- IoT solutions and analytical tools
- Privacy-preserving technologies (e.g. self-sovereign identities)
- New assistive technologies (e.g. AR/VR/XR)
- ***What other enables do you see?***

Proposed duration: 36 months

PARTNERS

Current Consortium: Finland, Belgium, Spain, Turkey

Partner search:

- Use case providers: manufacturing industry, process industry, etc.
- Self-controlled industrial automation solution and intelligent equipment & environment solution providers
- Security and privacy preservation solutions
- Robotics
- Personal assistance solutions (e.g., AR/VR/XR)
- IoT systems, data integrators

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