



CELTIC-NEXT Proposers Day



26th of January 2022, Online via WebEx

**AI and Robotics for quality and risk management processes in
Harsh conditions**

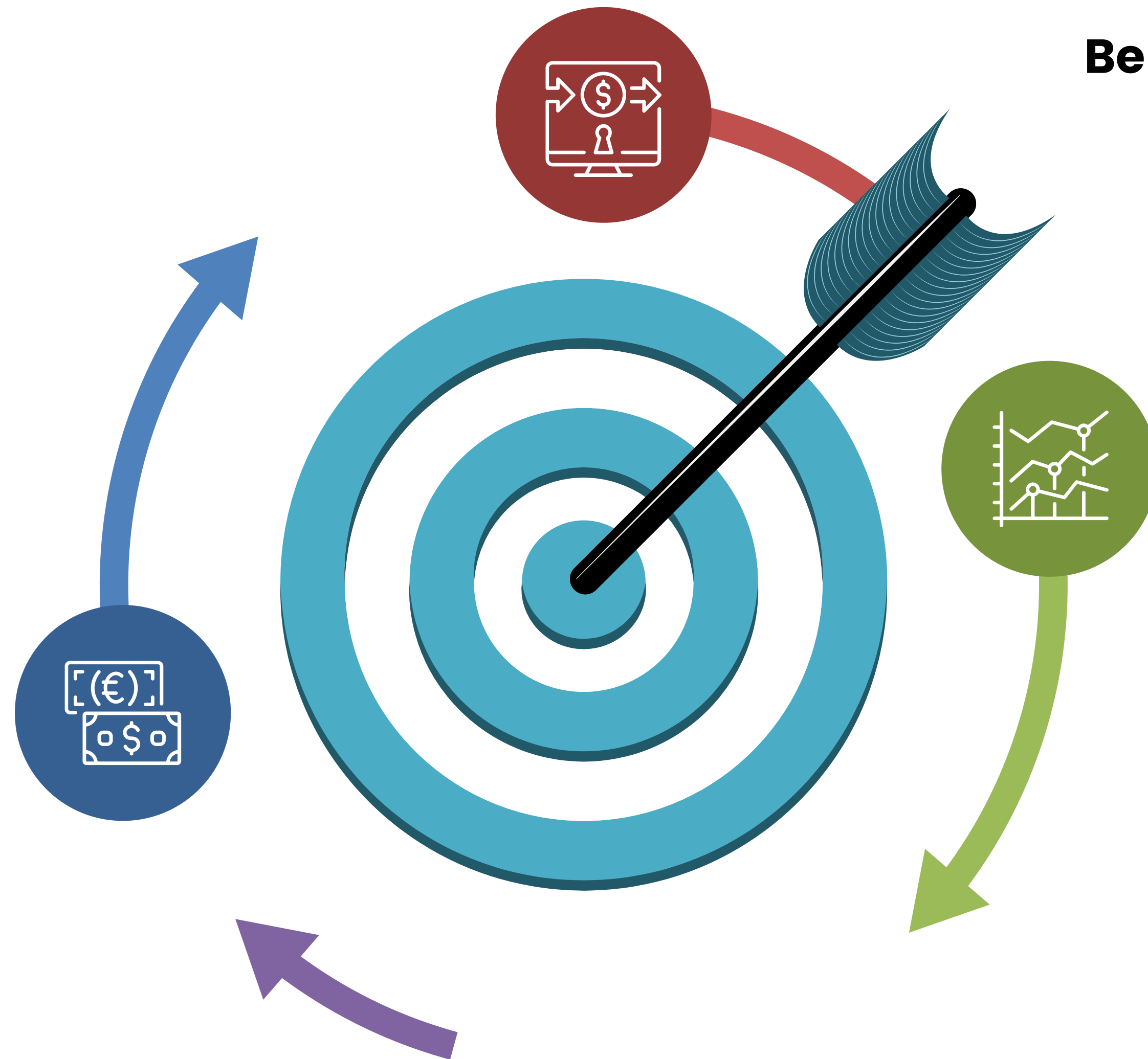


Athith Sagar
Athith.Sagar@centria.fi

Tomi Pitkäaho (Coordinator)
Tomi.Pitkaaho@centria.fi

Jorma Hintikka
Jorma.Hintikka@centria.fi

Teaser



Benefits in HARSH condition for mines:

Pro-Active Maintenance

Pro-active maintenance by real time remote inspection (via Drones, and Mobile robots) in complex industrial harsh conditions in mines to improve risk management

Quality Assurance

Fault recognition & analysis for quality assurance through image analysis

Boosting overall production efficiency

Utilization of drones & mobile robots via 5G, IoT, AI, & image analysis technologies for substantial time saving, boosting operational efficiency, cost effectiveness & safety.

Organisation Profile



Our Expertise

R&D institute with expertise in:

- Production technology
- Digitalization
- Chemistry and Bio-economy
- Entrepreneurship and well-being **Goal**


- Creating new knowledge, skills and technologies for businesses and industries
- To provide work-based learning environment



 Research, development and Innovation staff
105

 Projects
96

 International Projects
22

 Three main Pillars

- (1) Project Activities
- (2) R&D and production development services for business
- (3) Training Services

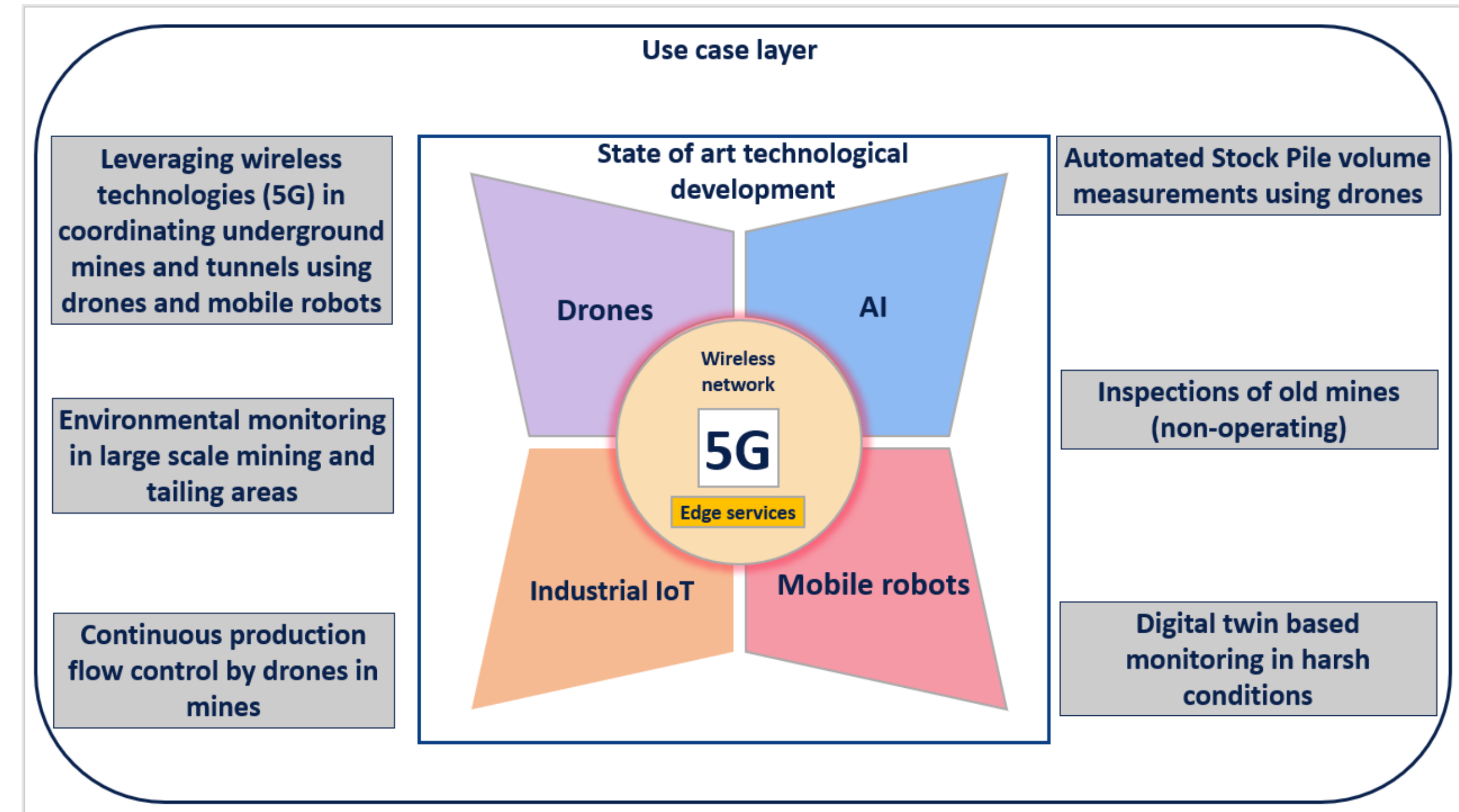
Proposal Introduction

Vision:

- The overall goal of this project is to develop advanced technologies to enable monitoring and improve quality of processes to further ensure better productivity, safety and quality for humans operating in complex harsh industrial conditions

Motivation:

- Safety for workers in industrial harsh conditions is a major concern (Example: Human health, & accidents).
- Major challenges like GPS denied environment, & Lack of wireless network for drones & mobile robots in harsh conditions.
- Quality enhancement challenges during inspection in harsh conditions.






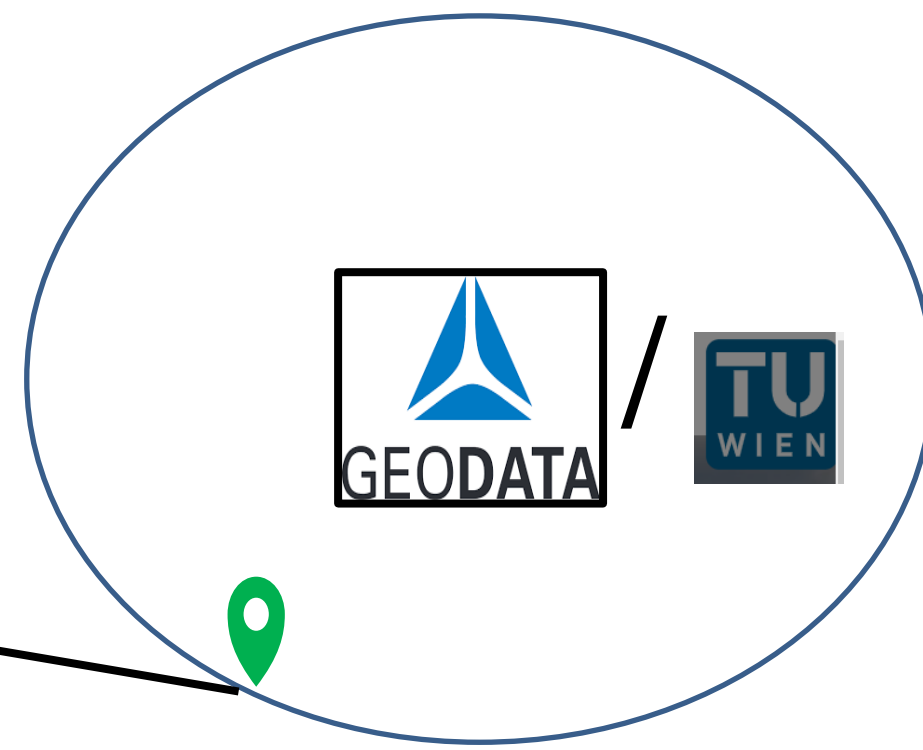
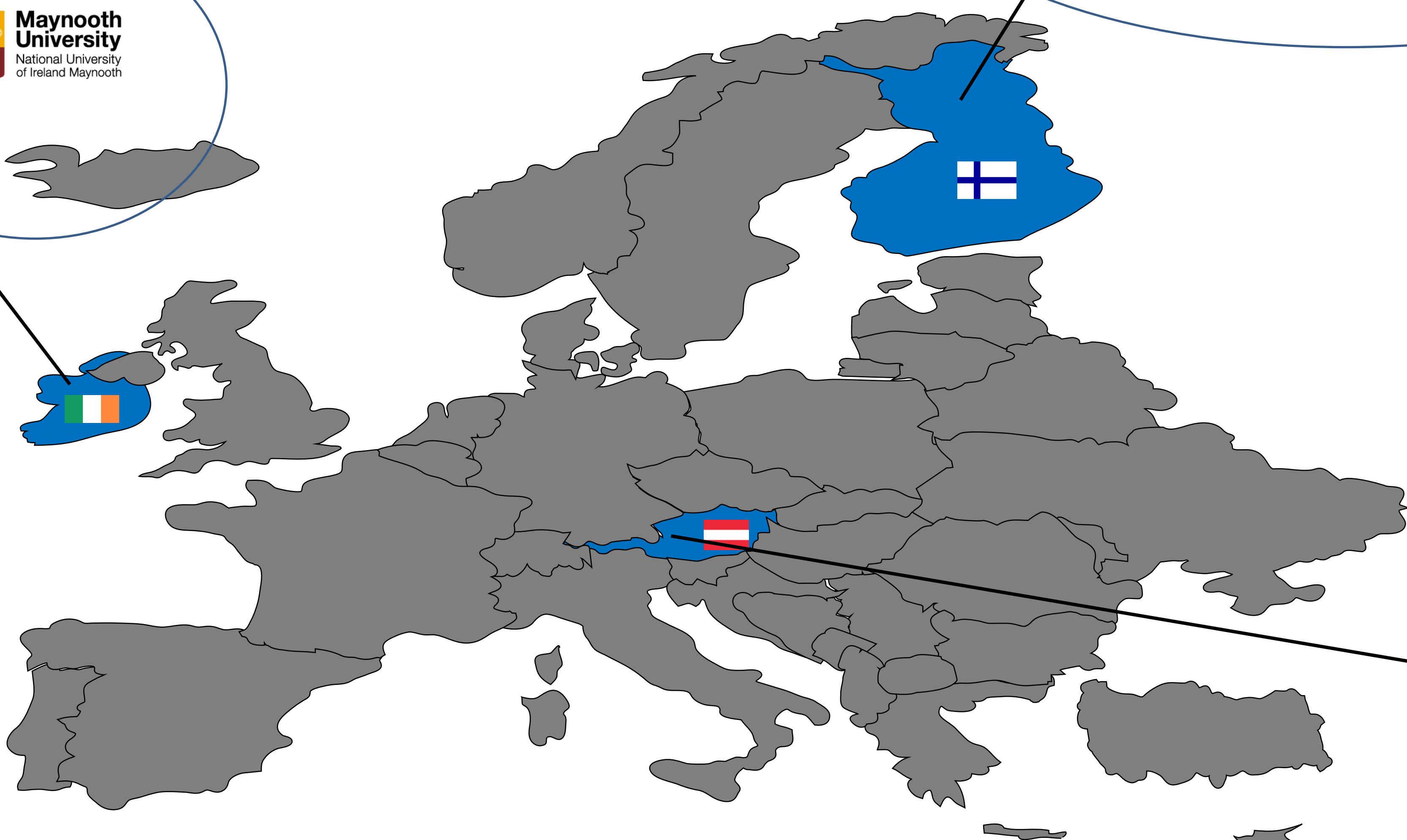
Partners





 **Maynooth University**
National University of Ireland Maynooth



 **PROBOT**
 **APEX AUTOMATION**
 **Centria**
UNIVERSITY OF APPLIED SCIENCES
 **BOLIDEN**
 **SENSMET**
 **PehuTec**
Innovation by commitment
 **MERIUS**
Engineering Solutions for the Future®



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Countries in negotiations



Requirements and current updates

Current updates

Celtic Label received in 2021

- We received the Celtic label successfully. But, all countries were not successful with funding. However we can still continue with the label to apply for a PCR.

Aim for Project change request (PCR)

We will apply for a PCR with a updated consortium early this year to ensure funding from individual national funders and successful kick-off of the project

Our requirements: We are considering if we still need one sub-consortium country

Sub-Consortium country with best funding possibilities

- Sub-consortiums which have the best funding possibilities in their country.

Research groups with a strong network

Research groups who can bring with them suitable SME's/Companies.

Seeking Sub-consortium in-line to AIROHARSH

Sub-Consortiums should have focus in line with our use-cases and technologies.

Contact Info

Tomi Pitkäaho
RDI Coordinator, AI Specialist
Tomi.Pitkaaho@centria.fi
+358 404858219



Jorma Hintikka
R&D Manager, Robotics/Production tec
Jorma.Hintikka@centria.fi
+358 444492637



Athith Sagar
RDI Specialist, Industrial Engineering
athith.sagar@centria.fi
+358 406359442



*Presentation can be found
here*

