AI & ROBOTICS ESTONIA

Co-funded by the European Union

EDIH | European Digital Innovation Hubs Network

AIRE EDIH: Supporting Estonian Industry in Adopting AI & Robotics

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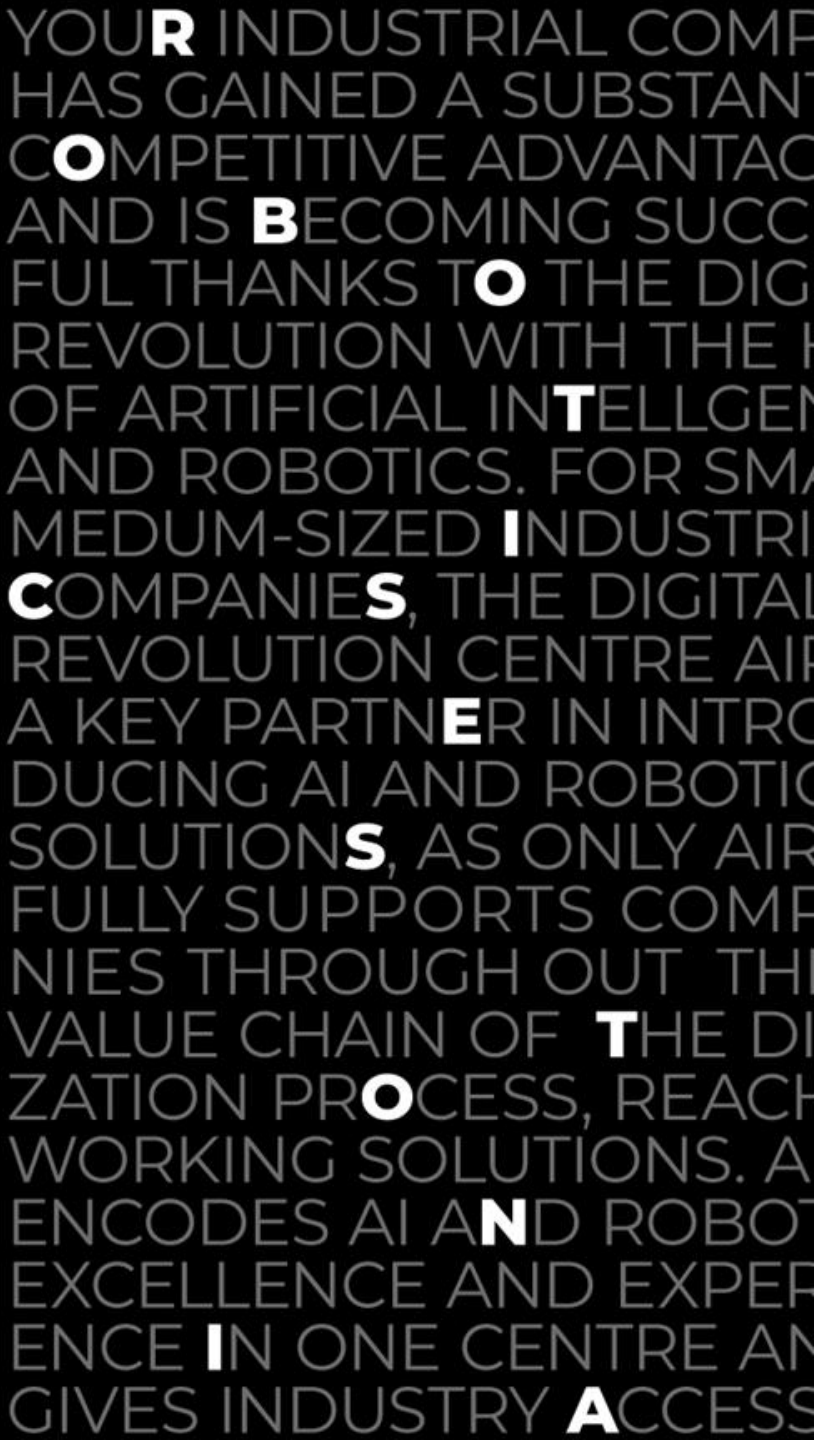


TAL TECH · TARTU ÜLIKOOL · Eesti Maaülikool · Tehnopol · TARTU TEADUSPARK · IMECC

SOLUTIONS IN ARTIFICIAL INTELLIGENCE AND ROBOTICS.

#validation #experimentation #testing AI and robotics #collaboration

- DIGITAL MATURITY ASSESSMENT
- AIRE PRE-ACCELERATOR
- AI SUITABILITY ASSESSMENT
- ROBOTICS SUITABILITY ASSESSMENT
- FINDING SOURCES OF FUNDING – PRIVATE CAPITAL
- FINDING SOURCES OF FUNDING – PUBLIC MEASURES
- TRAININGS
- AIRE CLUB
- DEMONSTRATION PROJECTS

#mindset #disruptive innovation #change #reducing fear of failure

270 +	1200 +	2200 +	54
Clients	Participants in trainings	AIRE club participants	Demonstration projects launched

YOUR INDUSTRIAL COMPANY HAS GAINED A SUBSTANTIAL COMPETITIVE ADVANTAGE AND IS BECOMING SUCCESSFUL THANKS TO THE DIGITAL REVOLUTION WITH THE HELP OF ARTIFICIAL INTELLGENCE AND ROBOTICS. SMALL & MEDUM-SIZED INDUSTRIAL COMPANIES, THE DIGITAL REVOLUTION CENTRE AIRE IS A KEY PARTNER

2024: Testing of automation of 2D scanning of products – detecting shadow line

2024: Testing of Machine Vision Based Workpiece Misplacement Detection and Quality Check of a Collaborative Robot

2024: Validation of a multi-purpose quality control system operated by artificial intelligence for food industry production lines at Nõo Lihatööstus

2024: Validating of artificial intelligence-based concept for decoding low-power signals

2024: Digital twin for validation of AI-based motion planning and control for robot-assisted processing of curved surfaces

2024: Validation of a prototype of a software robot for automatic modelling, planning and optimiztion of production processes based on artificial intelligence in Aktaprint OÜ

2023: Multi-parameter AI solution for quotation automation

2023: A study on the applicability of an artificial intelligence-based optimization model for production processes based on new planned production unit

2023: Intelligent robot-assembly workstation for the production of bag filters

2023: Productivity analysis and production optimisation in the company

2023: Development of an automatic surveillance solution with cameras for warehouse stores on stackable and removable platforms

2023: Grain dryer automation using artificial intelligence-based process controls

EXAMPLE of a DEMO PROJECT – MINDCHIP OÜ

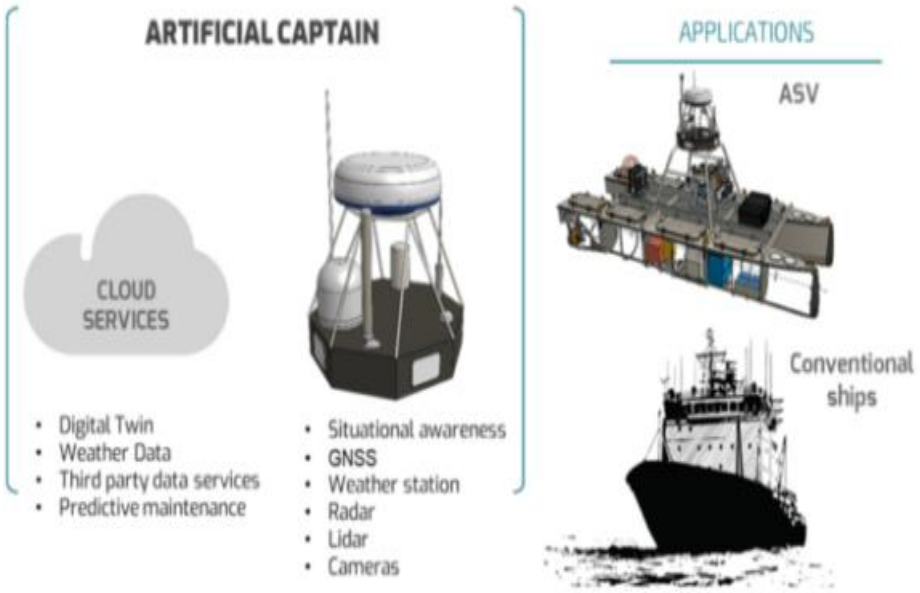
Objective: development of an artificial captain system for autonomous ships.

Results: The AI model was trained to detect other ships and buoys on the sea. Tests on sea show that our model can consistently detect small boats starting from distance of 100 to 150 m were provided. Larger ships can be detected from even farther away, depending the size of the ship and weather.

Future areas of use: can be used in wide range of tasks where machine vision and image processing are required on a device running the Robot Operating System (ROS). Some examples include different land and sea-based robots, **also smart city applications, such as traffic monitoring, different smart sensors**

Lessons learned: Never underestimate the "simple" tasks. As mentioned before, it took much longer to get the cameras and image transmission and recording systems working reliably than initially anticipated.

MindChip is a deep-tech company whose main goal is to develop an AI-based captain. To train and develop AI-based captain, the company has developed an autonomous robotic vessel.



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Welcome to AIRE EDIH!

Co-funder:

Majandus- ja Kommunikatsiooni-ministeerium

Partners:

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Tartu Ülikool 1632 University of Tartu

Eesti Maaülikool Estonian University of Life Sciences

Tehnopol

TARTU TEADUSPARK

IMECC Innovative Manufacturing Engineering Systems Competence Centre

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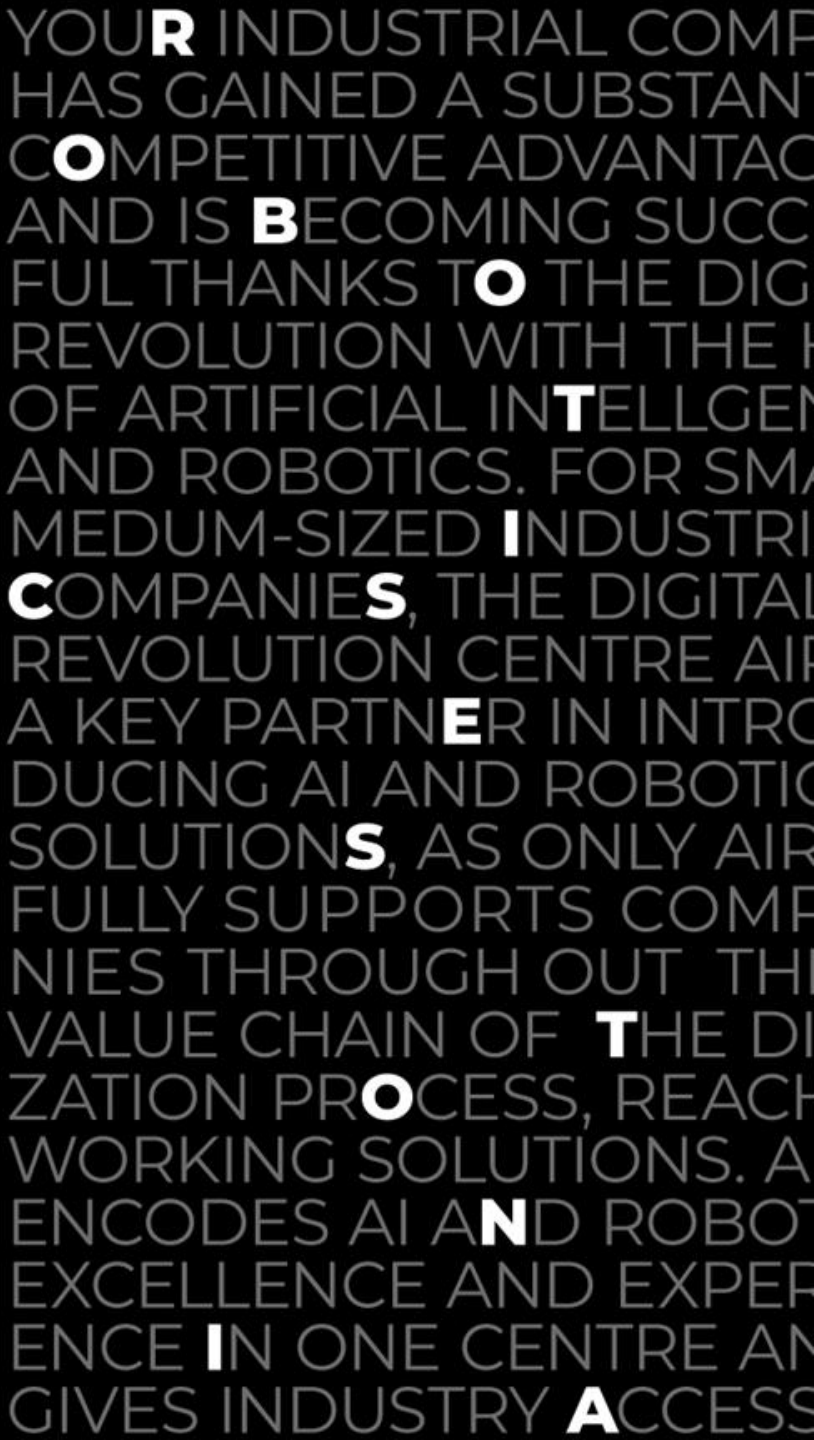
Thank you!

Questions? Ideas!

Contact: kirke.maar@aire-edih.eu



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