CELTIC-EUROGIA Proposers Day

29th January 2020, at Nokia Premises in Madrid

Pitch of the Project Proposal

AI-centric Dynamic Systems Control using IoT (AIDYNCONT) (ICT)

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Teaser

Benefits:

- *AIDYNCONT project will be dealing with AI based control for dynamic systems in order to track them better.*
- *Conventional dynamic systems are operated under control systems such as PID, optimal or adaptive systems.*
- *Nevertheless AI based dynamics control is not one of the commonly/mostly used techniques so far.*
- *It addresses to control the dynamic systems based AI for better tracking that will reduce the investment/operation costs and will increase the accuracy of the dynamic system operation in real-time based AI control using IoT.*

Added values:

✓ *Creating a database for similar projects in the future and reducing the number of repetitive errors*
✓ *Open ECU (electronic control unit)*
✓ *Dynamic simulator/ CAVE (VR/AR/MR)*
✓ *Closed loop controller design and comparison with uncontrolled state*
✓ *IoT*

Why should I participate in the project?

❑ *The business relevance and the targeted market will be covering the use of ; control algorithms, AI based embedded control, inverse optimal control (IOC) or inverse reinforcement learning (IRL) for open source software and hardware platform developments using IoT.*

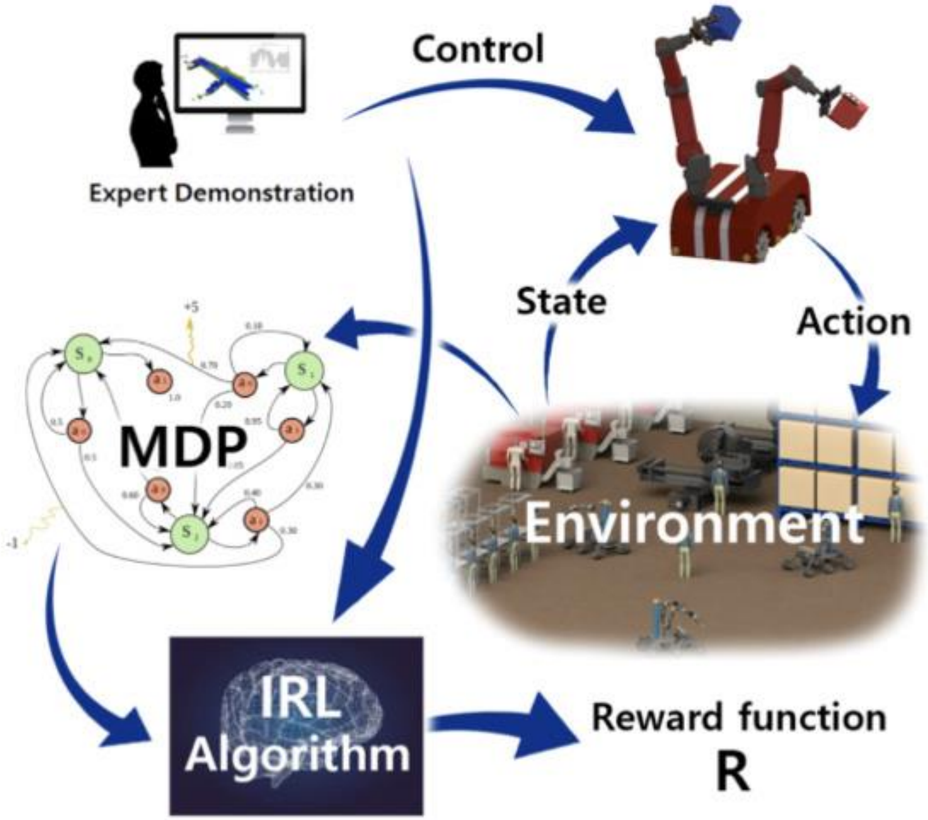
Organisation Profile

- *Profen Group, and its 200 employees within two countries Turkey and UK, provides products, solutions and services for Communications, Defense, Government, Broadcast and Internet industries, with its In-House Research& Development Centers.*
- *It offers a portfolio which comprises communication and information technologies, Satellite Communication, RF receive and processing, control systems, data processing, system integration and satellite teleport operation and data center.*
- *Profen Group shares a set of core values based on integrity, understanding, excellence, creativity, unity and responsibility.*
- *Its beliefs and convictions are core to these values and continue to guide and drive business decisions.*
- *Together with highly qualified engineering staff, being the main driving factor of the company's success, Profen allocates its big portion of income to research and development activities.*

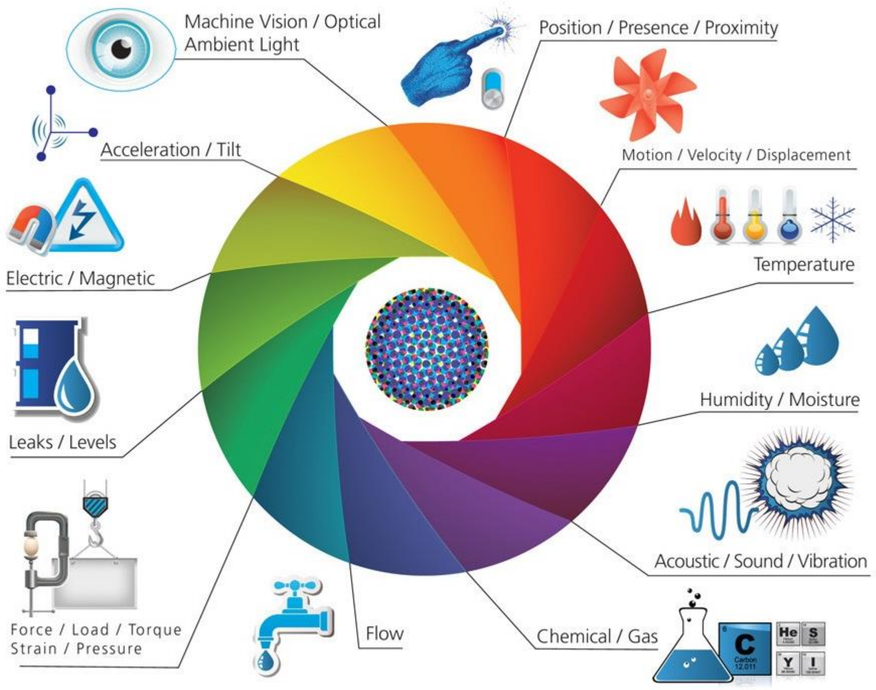
Learn more about Profen Group at www.profen.com or follow us on Facebook, LinkedIn, Twitter and our blogs.

Proposal Introduction

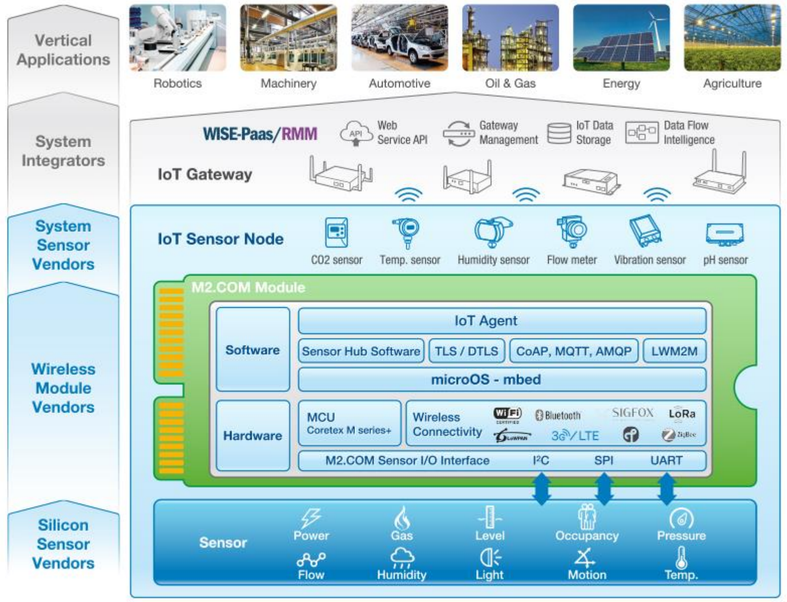
- *Methodology: Perspective*
  - *Control algorithms*
  - *AI based embedded control*
  - *Inverse Optimal Control (IOC) or inverse reinforcement learning (IRL)*
  - *OpenIMU platform*
  - *IoT*



Proposal Introduction



There is a wide variety of sensor types used in the industry that need connection to the IoT. (Image: Postscapes)



Assembling an IIoT sensor system is simpler when using standardized building blocks, such as with the M2.COM platform. (Image: M2.COM)

- Collecting IoT data in cloud and deploy AI from cloud to embedded nodes
- Running AI driven edge nodes in parallel to embedded controllers to create a complete system

Proposal Introduction

Short info on expected outcome, impacts, schedule typical project:

- *Innovative parts of the AIDYNCONT project will be that it will be providing a TRL 6 system that includes AI based dynamics control focusing in embedded software, embedded control on control unit using IoT with open source software, modularity.*
- *Market relevance of AIDYNCONT project is that it will trigger the use of open software and hardware platforms for motion control and embedded control for real dynamic systems such as X-Y pedestal antenna. This will also allow us to create databases for the testing and data acquisition.*
- *AIDYNCONT project will give the possibility to boost the following sectors and markets and increase the importance and utilization of the open source software developments, embedded control, control units development using IoT as well as the auxiliary tools such as CAVE (CAVE-like Automatic Virtual Environment) digital twins.*
- *AIDYNCONT project will be increasing the innovation focusing in automated vehicles, smart factory/manufacturing domain and providing high accuracy AI based control functions/algorithms to be used in embedded control for real dynamic systems for manucaturing, engineering, etc.*

duration: 36 month

Partners

Involved countries: *Finland, Belgium,Portugal, Turkey.*

Expertise, profiles and types of partners you are looking for:

- *Use case provider*
- *AI, big data related institution (university), SME, large enterprise*
- *IoT related university, research lab, SME, large enterprise*

Join the follow-up Telco
4 February 11.00-11.30 CET

Meeting number : 142 733 102
Meeting password: Ax2p7iJ9Pqe
Link to join:
https://eurescom-meetings.webex.com/eurescom-meetings/j.php?MTID=m1aa370a7c45638405a80f9dd897d2b7c

Join by phone
+49-6925511-4400 Germany toll
Global call-in numbers

Can't join the meeting?

Contact Info

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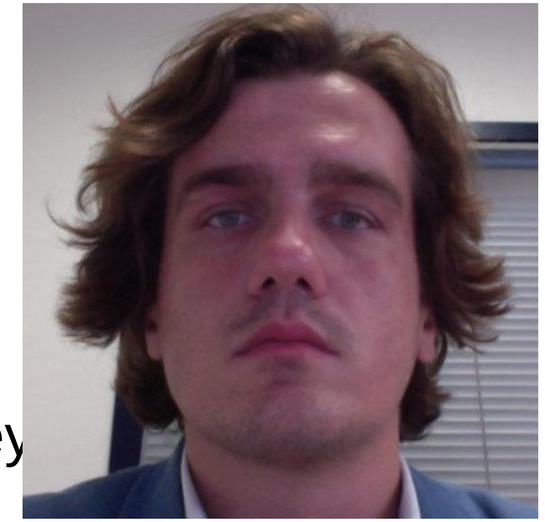

Presentation available via: