AI2HUMAN

Using AI for occupational safety and accident prevention
Air Quality Monitoring

Pro²Future

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MOTIVATION & GOALS

This project aims to **leverage the emerging generation of AI-based production** systems to **promote occupational safety** and **accident prevention**.

The project aims to implement the following goals:

i. **Survey of the research landscape** concerning aspects of AI systems, such as robustness, transparency, trust, risk assessment, and evaluation.

ii. **Risk assessment of AI systems** in upcoming industrial projects, beginning with identifying potential hazards, followed by the evaluation of risks and the implementation of measures to mitigate them.

iii. **Demo within a controlled factory environment**. The demo will showcase implementations of robustness, transparency, trust, risk assessment, and evaluation principles in AI systems.

APPROACH

The project addresses its goals using a threefold approach:

i. **Participating** in **meetings of (inter)national standardization** committees, to understand issues for safety and AI systems.

ii. **Cooperating with affiliated companies** outside the project consortium, real world issues regarding AI systems and worker safety are identified and investigated.

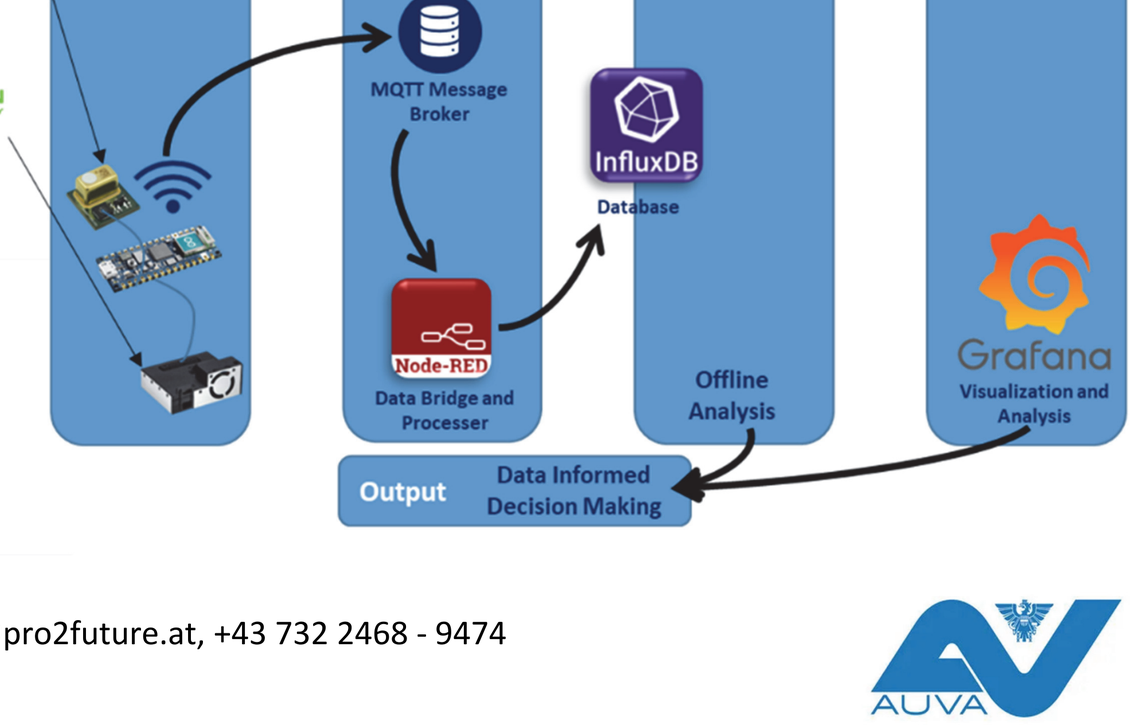
iii. **Developing** a **prototype of a safe integration of an AI system** into a production process and demo within the industrial setting.

SYSTEM ARCHITECTURE

Board Name:
Espressif ESP32-WROOM-32 SOC

Sensors:
Infineon Xensiv PASCO2
Sensirion SCD41/SEN55

Software:
MQTT Broker
Node-Red
InfluxDB/Grafana



Project FactBox

Project Name AI2HUMAN
Project ID MFP II 1.3
Duration 42 Months

Area 1
Perception and Aware Systems

Project Lead
Dr. Michael Haslgrübler

CONTRIBUTION

Scientific contribution
Analysis of current AI safety mechanisms used to reduce worker hazards.
Demonstration of a safe implementation of an AI system in an industrial environment.

Economic contribution
Providing a risk assessment for planned AI projects to minimize deployment risks.

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