Cognify your Products and Production Systems with Pro<sup>2</sup>Future



# **Pro2Future**

#### **Pro2Future GmbH**

We dedicate ourselves to research in the field of industrial ICT, with special regard on the development of cognitive products and cognitive production systems. Our research is deliberately aligned with ambitious and visionary targets and is oriented beyond "Industry 4.0" right now. Expressed in simplified terms, we want to scientifically support enterprises in their digitalization efforts.

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#### **Services**

Competence Center for Excellent Technology on Products and Production Systems of the Future, Expertise in national (FFG, FWF, ...) and international (EU/Horizon) funded projects.

Services in the core Areas of Cognitive Products and Cognitive Production Systems, as well in underpinning Areas of Perception and Aware Systems, Cognitive Robotics and Shopfloors and Cognitive Decision Making. Additionally, Pro²Future is focussing on emerging research fields like Pervasive AI, Causality, Explainable AI, Edge Analytics, Engineering for Distributed AI, Analytical User Guidance, Failsafe & Robust AI, AI for Sustainable Production, and furthermore on TinyAI and Methods and Tools for Sustainable, integrated Product-Production-Service Systems.





### **Equipment / infrastructure**

Pro<sup>2</sup>Future focusses on cognitive products and cognitive production systems, being categorized as a Competence Center for Excellent Technology by FFG on the field of production and materials, but also focussing on digitalization, ICT and applied AI research. More than 30 scientist are researching on late-breaking scientific topics at Pro<sup>2</sup>Future Headquarters in Linz and also in Graz. As a special AI focussed hardware-benefit, Pro<sup>2</sup>Future has its own NVIDIA DX A100, a universal system for covering AI workloads.

### Best practices / case studies of cooperation

Project **SINPRO**: A forecasting model-based discovery of causal links of key influenceing performance quality indicators in sinter production  $\square$  Improvement of Sinter Production Quality and Outcome (Primetals Technologies Austria GmbH)

Project **E-Manager**: Novel measuring method enables to detect axial distribution of mechanical energy input along a single-screw extruder  $\sqcap$  Improved Energy Efficiency in Extrusion

Project **CRP**: Usage of a cognitive headgear for optimizing processes in industrial production [] Artificial Intelligence meets Human Intelligence (Common Research Programme together with the Austrian Center for Digital Production, TRUMPF, AVL List, Fronius International, SONY Europe, KEBA AG and Wacker Neuson)

Project **Simatic Failsafe 4.0**: Enhanging automation devices with low-cost IoT equipment enables device-awareness and fosters novel cognitive services [] Creating Awareness in Autmation Systems (Siemens AG Austria)

Projekt **A2PS**: Supporting the detection of deviations, optimization potential, and just in time replanning without exposing workers  $\square$  Privacy-respecting monitoring of manual assembly lines (Profactor, Wacker Neuson, Fabasoft)

## **Keywords**

Cognitive Products, Cognitive Production Systems, Perception and Aware Systems, Cognitive Robotics, Cognitive Shopfloors, Cognitive Decision Making, Pervasive AI, Causality, Explainable AI, Edge Analytics, Engineering for Distributed AI, Analytical User Guidance, Failsafe & Robust AI, AI for Sustainable Production, and furthermore on TinyAI and Methods and Tools for Sustainable, integrated Product-Production-Service Systems.