REWAI – Reducing Energy and Waste using AI

Building Explainable and Trustworthy AI-Solutions for Even More Sustainable Fiber Production

Pro²Future

Asha Choudhary[2], Aysenur Gilik[1], Belgin Mutlu[2], Michael Haslgrübler[1]

Pro2Future GmbH[1,2]
[1] Science Park 4, Altenberger Strasse 69, 4040 Linz
[2] Inffeldgasse 25F, 8010 Graz

MOTIVATION & GOALS

We want to **reduce the carbon and material footprint** of the textile industry by reducing energy and material consumption by building **Reliable, Trustworthy and Energy-Efficient AI Solutions** for Industrial Processes Analysis capable of **forecasting and anomaly-spotting**.

To this end, we want to **empower Human Operators** in making informed and more timely decision on near real-time data from continuous processes.

Project FactBox

Project Name	REWAI
Project ID	FFG No. 892233
Duration	36 Months

Area 1 & Area 3
1 - Perception & Aware Systems
3 - Cognitive Decision Making

Project Lead
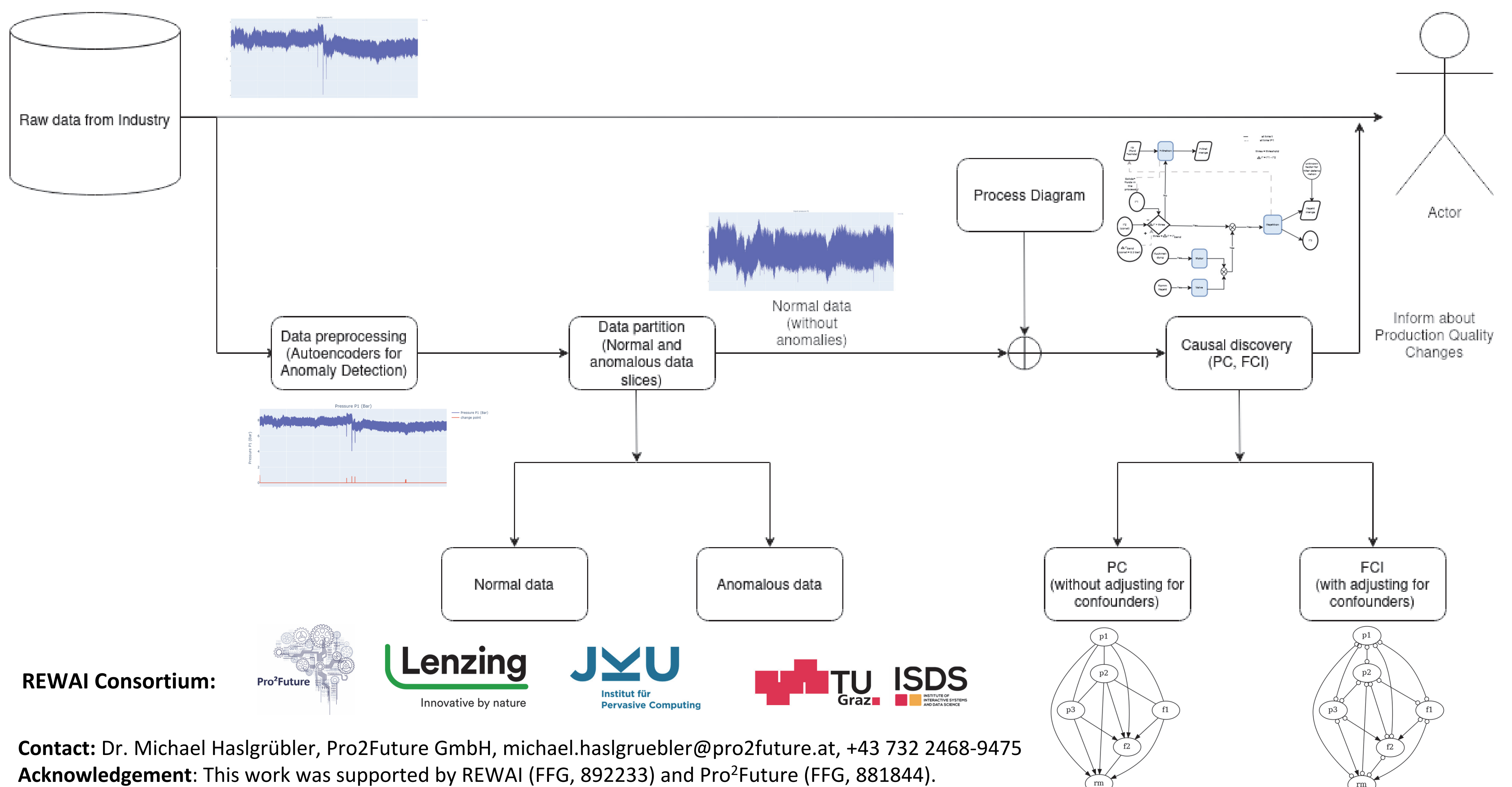DI Dr. Michael Haslgrübler
DI Dr. Belgin Mutlu

SCIENTIFIC CONTRIBUTION

- Algorithmic framework for recovering lagged causal relationships in complex industrial processes
- Counterfactual reasoning: "What-if" scenarios & AI models are used to predict the outcomes of different scenarios to make informed decisions based on the predicted outcomes
- Improving interpretability in time series by reducing dimensionality and complexity

ECONOMIC CONTRIBUTION

- Minimizing time and energy wastage in the analysis process by efficiently extracting essential features
- Improving resource utilization by reducing the computational cost
- Empowering human operators to make informed decisions

APPROACH

REWAI Consortium: Pro²Future | Lenzing Innovative by nature | JKU Institut für Pervasive Computing | TU Graz ISDS INSTITUTE OF INTERACTIVE SYSTEMS AND DATA SCIENCE