



EUCloudEdgeIoT.eu

Digital Platforms for the Cloud-Edge-IoT, Innovation through Open Source & Software

Systems Research Institute
Polish Academy of Sciences
(SRIPAS)

HORIZON-CL4-2024-DATA-01-03

Smart IoT Platforms and decentralized intelligence (IA)

Speaker: Karolina Bogacka

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Funded by
the European Union

- **Speaker:** Karolina Bogacka, researcher at SRIPAS
- **Systems Research Institute, Polish Academy of Sciences**
 - Extensive expertise in applied AI, Federated Learning, Cloud-Edge-IoT systems, and more
 - **Technical coordinator** of H2020 project: ASSIST-IoT
 - Created FL systems for two real-life use cases in ASSIST-IoT
 - Work package leader: aerOS, task leader: INTER-IoT
 - Located close to a large and growing IT hub in Warsaw
 - Committed to open-source
- **Positioning:** Technical work package leader



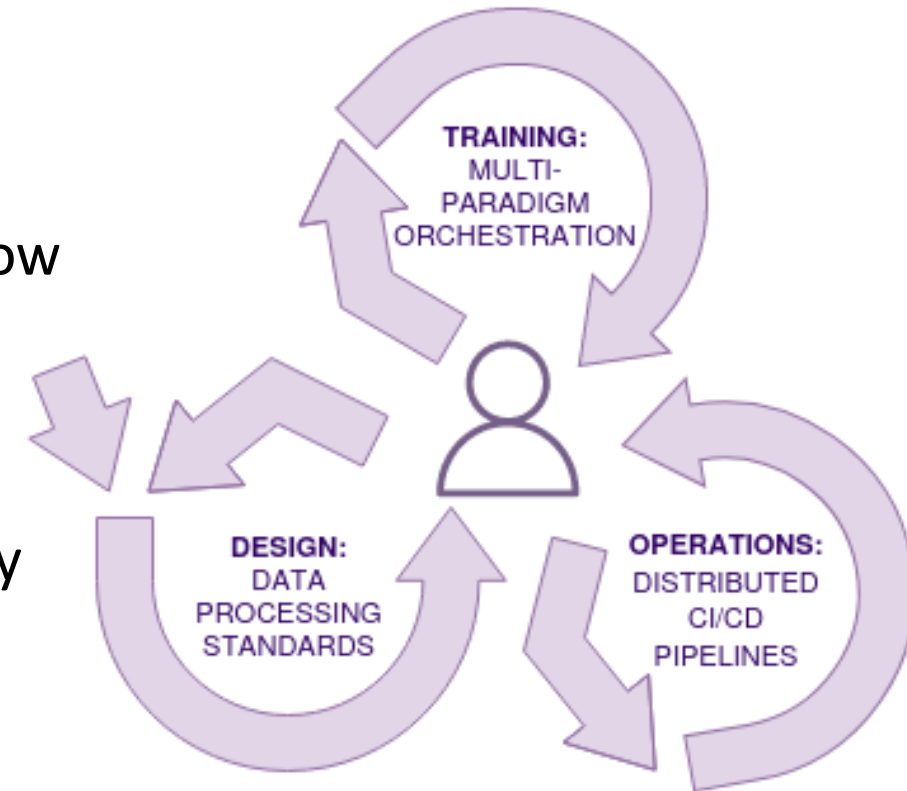
Our vision for the Smart IoT Platforms and decentralized intelligence (IA)

- **Our approach:**

- Open, scalable, multi-paradigm solution (ML, FL, SI) through Kubernetes orchestration
- Distributed CI/CD compatible with Airflow and Kubeflow for more resilient and mature training processes
- Data preprocessing standards for distributed AI compatible with streaming ML
- Managing data quality to enable solution explainability

- **We are looking for:**

- **Pilot partners with large AI use cases**
- Industry partners, software companies
- Research/academia partners



Impact and next steps

- **Proposal value:**
 - Compatible with multiple distributed ML paradigms
 - Next-level automation of distributed AI processes
 - Robustness and reusability baked into the platform design
- **SRIPAS value proposition:**
 - Experience in technical coordination of a Horizon project
 - Expertise both with innovative research work, particularly in distributed AI, and operationalizing the solution in IoT environments
 - Two realized Federated Learning systems and a proven research track record
- **Next steps**
 - Looking for partners: pilots, industry, research/academia



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