Digital Innovation Hub in Kainuu

High performance computing & AI

[- Aika Nature of Technology](#) , [AIKA Innovation Ecosystem: Overview | LinkedIn](#)

AIKA-ecosystem in brief

- Public launch January 2023, became official DIH by EU in June 2023.

- AIKA DIH – Digital Innovation Hub is an ecosystem that offers companies support for the digital business transition and the development of new innovative solutions. Through the partners operating in the AIKA ecosystem, companies can benefit from the latest digital technologies such as artificial intelligence (AI), supercomputing and data analytics in business and product development.

- AIKA-ecosystem is very much involved with its customers. We have our own technical AI & data analytics team, as well as long experience in technology business development.

Benefits of AIKA collaboration for companies

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- Build awareness and skills for AI in your company's operations

- Low financial threshold of AIKA ecosystem allows for experimenting with new technology without risks

- AIKA demo case will visualize the benefits of your data and business ideas

- New development projects, EU project funding.

Low risk innovation

Skills and awareness

Data & Insights

Business opportunities, EU Funding

It's all about data, checklist for AIKA-pilot

Business need

Product improvement

Process innovation

New markets

Data relevance

Products

Processes

Customers

Data consistency

Structured data, similar format

Documents (?)

Customer journey with AIKA
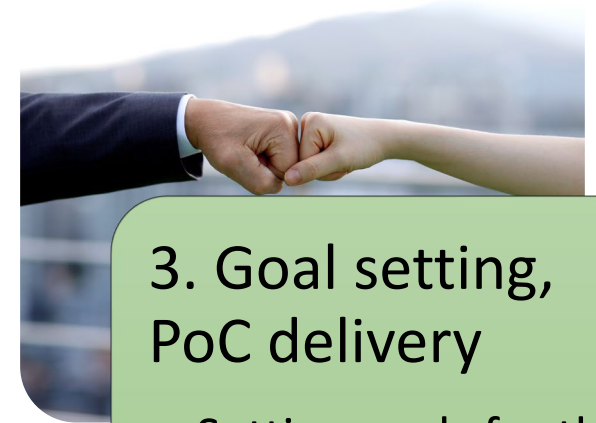
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1. Initial meetings with AIKA experts

- Understand the business and needs
- Discuss data availability

2. Data cleanup and clarifications

- Assigning the AIKA team for the pilot
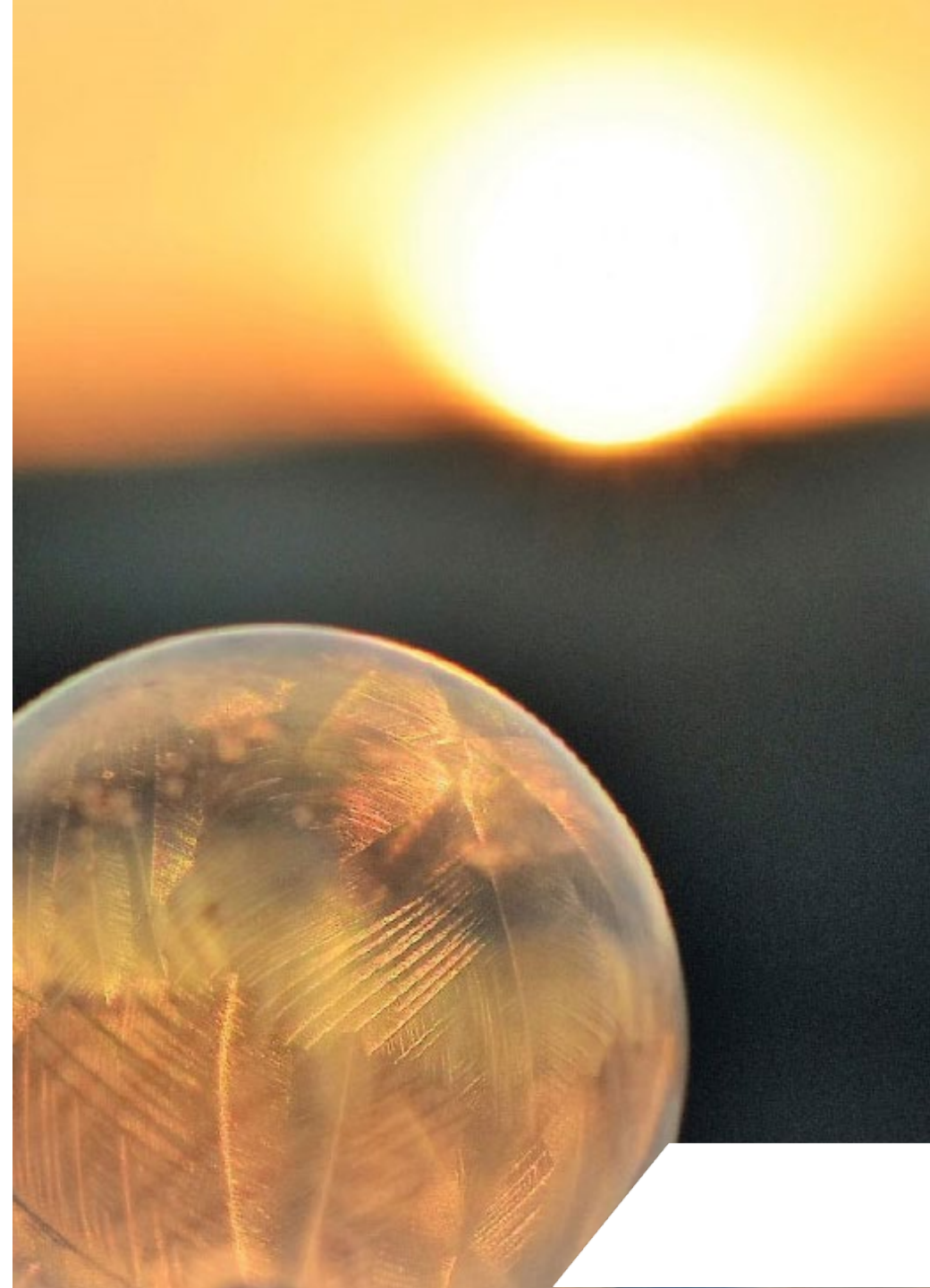- Clarify questions and hyphotheses on the data

3. Goal setting, PoC delivery

- Setting goals for the pilot
- Cadence for meetings until delivery

Potential business areas for AI and HPC

- **Production**
  - Automation, optimization, classification of materials and components.

- **Sales opportunities**
  - Bidding automation, profitability, data re-use

- **R&D, materials and chemicals**
  - Large batches of data suitable for HPC

- **Location-based services**
  - Satellite imagery, feature recognition from large datasets

- **Simulation and layouts**
  - Production and solution design

- **Logistics**
  - Insights, problem scenarios, predictive alerts

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AIKA Technology Examples: Unlocking Business Potential with AI

- ## Data exploration
  - Exploratory data analysis, Trend analysis

- ## Machine vision
  - Object classification, Feature recognition (e.g., defects, patterns)

- ## Predictive analytics
  - Event prediction, Trend forecasting

- ## Process automation
  - Process and product design

- ## Customized generative AI apps

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AIKA pilot examples

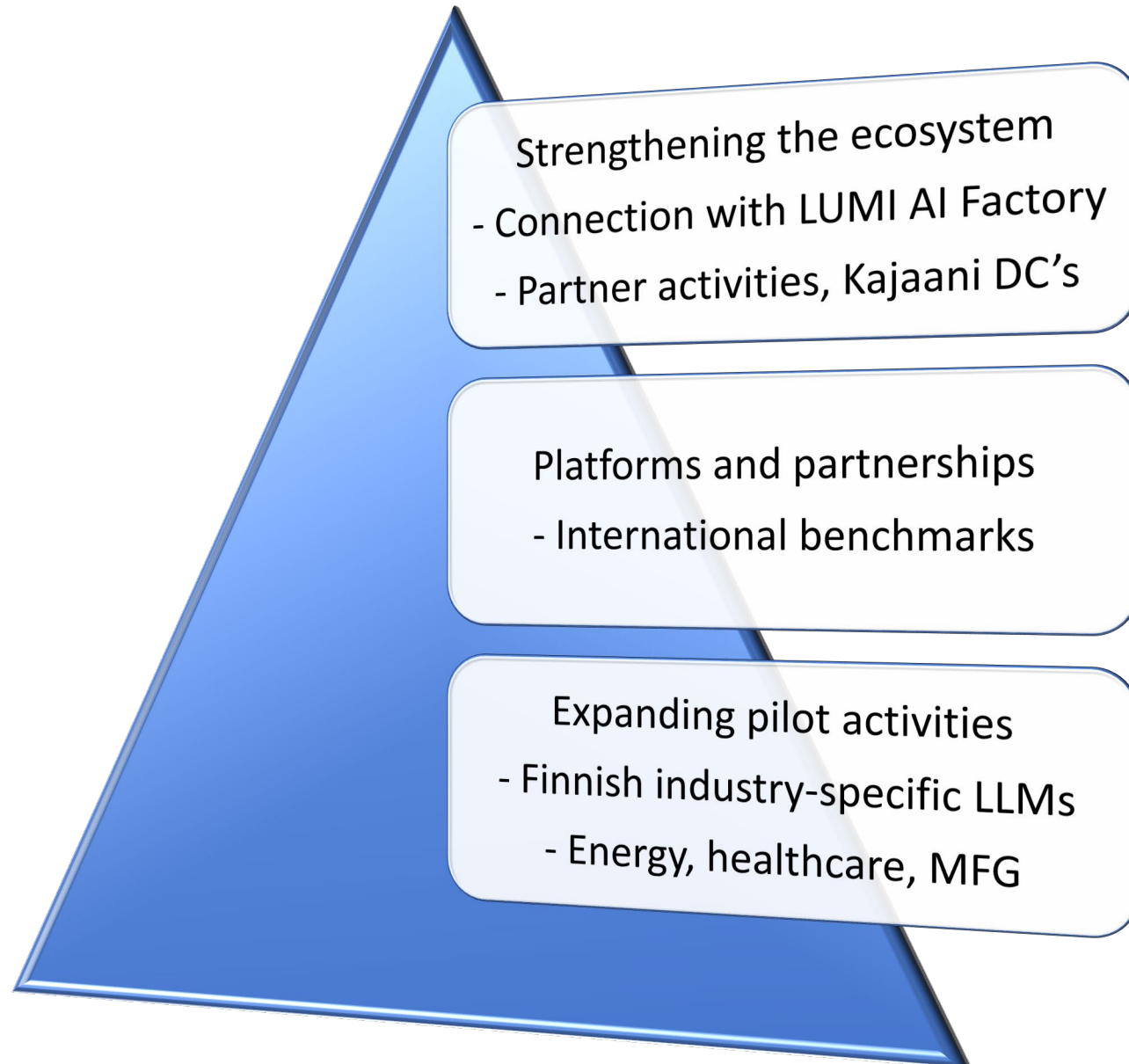Transforming spaces with indoor positioning system (IPS).

- **Business Potential:** Enhance sales, optimize design processes, and drive operational efficiency.

- **Technologies:** Computer vision and neural networks.

Estimating remaining project time.

- **Business Potential:** Optimize site logistics and operations.

- **Technologies:** Exploratory data analysis and machine learning.

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What's next for AIKA? 2025 plans:

Strengthening the ecosystem

- Connection with LUMI AI Factory

- Partner activities, Kajaani DC's

Platforms and partnerships

- International benchmarks

Expanding pilot activities

- Finnish industry-specific LLMs

- Energy, healthcare, MFG

aikaecosystem.com

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AIKA genAI demo: [-7929430939334274920.mp4 - Google Drive](#)