



Successful R&I in Europe 2024

"Maximized lifetime & Minimized Downtime with end-to-end predictive maintenance solution in Wind and Hydroelectric Energy Sector"

Düsseldorf, Germany

Who we are?

Wisersense is an end-to-end smart machine health monitoring solution to control increased maintenance and energy costs. In line with Industry 4.0 and the trend towards digitalization, it offers monitoring, tracking, remote measurement and detection of possible faults much earlier for smart factory and smart city projects. The health of all systems, large and small, in every stage of production, especially motors, compressors, fans, pumps, etc. rotary systems can be monitored. In this way, early detection of problems, improvement in operations and personnel safety, increase in production, decrease in downtime, increase in end product quality, etc. many benefits are provided.

What we offer?

WiserSense offers adaptable IoT solutions with diverse communication protocols, including Wi-Fi, LTE, 4G, 5G, and LoRa. Their cloud-based preventive maintenance platforms utilize artificial intelligence for analysis, health monitoring, and fault detection. WiserSense is actively involved in R&D projects, such as machine learning and digital twin initiatives, and is ready to participate as a partner in relevant projects.





Large Industry

Energy and manufacturing sectors have an important share in the machinery health market. Due to the need for security of supply in energy and the large production, the main focus has been placed here.



Small Manufacturers

This market is an empty one in terms of machine health. SMEs, in general, does not use tools to protect their equipment; hence, it will be a rapidly growing sector with subscription-based business models.



Equipment Producers

Equipment (pumps, compressors, etc.) producers present a very high-volume opportunity. WiserSense sensors can be mounted within the equipment from the production and subscription-based services can be provided to equipment buyer.



Digital Twin for Energy Efficiency Improvement in Wind and Hydraulic Energy Systems

- We embark on a forward-thinking project that amalgamates the cutting-edge capabilities of digital twin technology and predictive maintenance methodologies. Our overarching objective is to usher in a new era of energy efficiency within the realms of wind and hydraulic energy systems. These two complementary technologies hold the promise of not only fine-tuning and enhancing the performance of these systems but also of revolutionizing their maintenance practices to make them more proactive, cost-effective, and sustainable.

- By weaving the intricate fabric of digital twins into the core of these energy systems, we aspire to create digital replicas that faithfully mirror the real-world conditions and operations of wind turbines and hydraulic installations. These digital twins will serve as dynamic and responsive counterparts, allowing for an unparalleled level of real-time monitoring, analysis, and control, thus enabling us to harness the full potential of these renewable energy sources.

Expected Results

Enhanced Energy Efficiency

Through the integration of digital twin technology and predictive maintenance, we expect to significantly boost energy efficiency, leading to increased energy output and minimized losses.

Reduced Downtime and Maintenance Costs

Predictive maintenance will substantially cut downtime and lower maintenance expenses, improving system reliability and ensuring uninterrupted energy supply.

Knowledge Exchange

Collaboration with Turkish and UK partners will enable the exchange of expertise, enhancing the project's outcomes and fostering international cooperation.

Innovative Energy Management Solutions

Our end-to-end energy management approach will serve as a model for future endeavors in the sustainable energy sector.

Economic and Environmental Benefits

Increased energy efficiency and reduced waste will offer economic advantages and contribute to environmental sustainability.

Objectives

Develop Digital Twins

Create digital twin models for both wind and hydraulic energy systems to accurately replicate real-world energy generation and consumption, enabling a better understanding and monitoring of the systems.

Predictive Maintenance

Utilize data analysis and predictive maintenance techniques to proactively identify and address maintenance needs in both wind and hydraulic energy systems, reducing downtime and maintenance costs.

Improve Energy Efficiency

Collaboration with Turkish and UK partners will enable the exchange of expertise, enhancing the project's outcomes and fostering international cooperation.

Foster Turkish-UK Collaboration

Establish a collaborative partnership between Turkish use-case scenarios and the United Kingdom, leveraging local and international expertise to advance the energy sector and promote knowledge exchange.

Enable End-to-End Energy Management

Implement end-to-end energy management solutions for wind and hydraulic energy systems, optimizing energy consumption and resource utilization throughout the entire lifecycle of these systems.

Current Consortium

PARTNER NAME	Type	Country	Role in the Project
ZORLU ENERJİ	Large Ind.	TR	End-User
WiserSense Information Technologies	SME	TR	Technology Provider
Osmangazi University	University	TR	Academic Partner
FARADAI	SME	UK	Technology Provider
DORAL ENERGY	Large Ind.	ISR	End-User

WiserSense Information Technologies Inc.

📍 Manchester, UK | Ankara, Türkiye

✉ hello@wisersense.io

🌐 wisersense.io

🌐 [WiserSense Information Technologies](https://www.linkedin.com/company/wisersense-information-technologies)

📷 [@WiserSense.io](https://www.instagram.com/WiserSense.io)



Burak Bağcı

🌐 [linkedin.com/in/burakbagci](https://www.linkedin.com/in/burakbagci)

✉ burak.bagci@wisersense.io