Sensoneo Joins European Research Project Pioneering Near-Zero-Energy IoT for the 6G Era

Bratislava, Brno / 24 March 2026

SENSONEO is proud to announce its participation in IoT-ZERO, a European research project focused on enabling near-zero-energy IoT devices for the 6G era. Coordinated by TU Wien and supported by the Horizon Europe grant, the consortium brings together leading research institutions and technology companies, including Thales, TU Delft, IMDEA Networks, Slovak University of Technology in Bratislava, LMT, Qascom, and Lasting Software.

Enabling the Future of 6G IoT

As billions of IoT devices are expected to operate in increasingly dense and complex environments from industrial facilities and hospitals to smart campuses and cities, connectivity must become more energy-efficient, interference-resilient, and scalable.

IoT-ZERO addresses this challenge by designing communication architectures for 6G-enabled IoT operating in unlicensed spectrum bands. These shared frequency bands are cost-effective and flexible but prone to interference. The project will develop spectrum-aware access protocols and intelligent resource management techniques to ensure stable performance even in dense and unattended deployments.

A central ambition of IoT-ZERO is to support ultra-low-power and battery-less devices. By combining energy harvesting technologies and wake-up radio mechanisms with optimized protocol stacks, the project aims to enable IoT nodes that can operate for years with minimal maintenance.

Long-Term Vision and Sensoneo's Contribution

By combining ultra-low-energy hardware, intelligent communication protocols, and advanced 6G network capabilities, including integration across terrestrial (TN) and non-terrestrial networks (NTN), IoT-ZERO aims to lay the foundation for sustainable, maintenance-free IoT infrastructures.

The project's results are expected to accelerate the deployment of resilient and scalable IoT systems that can operate autonomously for years, significantly reducing operational costs and environmental impact.

Within IoT-ZERO, Sensoneo will provide real-world smart city and logistics use cases to guide development and validate technologies in practical environments. Their role ensures that cutting-edge 6G research translates into deployable, scalable, and environmentally responsible solutions.

„Sensoneo's expertise in smart waste management and large-scale IoT deployments is a strong asset for IoT-ZERO. The company contributes to validating zero-energy concepts in realistic conditions, demonstrating that energy-harvesting, event-driven devices can meet the requirements of long-term, maintenance-free deployments. This helps translate the project's innovations into scalable and practical solutions, "said Assistant Prof. Dr.-Ing. Andrea Ortiz from TU Wien's Institute of Telecommunications, coordinator of the IoT-ZERO project.

„The future of smart cities and industry depends on technologies that are not only powerful, but also energy-efficient and sustainable. We are proud that Sensoneo helps bridge the gap between research and real-world deployment within this project. It demonstrates not only our unique expertise, but also the strong innovation capability of our R&D team," said Martin Basila, CEO of Sensoneo.

About Sensoneo

Sensoneo is a global provider of innovative technology solutions that support the digital transformation of waste management to achieve efficiency, transparency, and sustainability and facilitate the transition to the circular economy. With a team of more than 150 professionals and an active presence across Europe, the United States, the MENA region, and South-East Asia, Sensoneo supports waste professionals, Deposit Return Scheme operators, and Producer Responsibility Organisations in managing waste more efficiently.

Over the years, Sensoneo has been expanding and perfecting its portfolio, which now ranges from waste monitoring and logistics optimisation to end-to-end take-back systems, IT solutions for PRO and EPR, and comprehensive IT systems running nationwide deposit return schemes.

Sensoneo has successfully implemented and operated IT systems for Deposit Return Schemes (DRS) in nine countries, achieving recycling performance exceeding 90%. Sensoneo's deployment of smart sensors contributes to the largest smart waste installation worldwide, encompassing an impressive 11,100 sensors in Madrid. Sensoneo solutions help the largest factories and logistics centres to automate industrial waste collection, enabling full transparency over the waste streams managed and accurate data reporting necessary for ESG.