

Press Release

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From energy research to the global market

WIKA commercializes Fraunhofer IZM overhead line monitoring technology

A major success for technology transfer from applied research: At the end of July 2026, Fraunhofer IZM, Fraunhofer ENAS, and WIKA Alexander Wiegand SE & Co. KG signed a comprehensive agreement to commercialize the ASTROSE® overhead line monitoring technology. Under the licensing agreement, WIKA will take over the industrialization, production, and global marketing of the system. At the same time, the partners agreed on a five-year research and development collaboration to jointly advance the technology and open up new international markets.

ASTROSE® is the result of more than 15 years of research. Since 2009, the technology has been continuously developed with funding from the German federal ministries responsible for research and economic affairs and with support from application partner LTB Leitungsbau GmbH and distribution system operator MITNETZ STROM. It was tested together with grid operators and industry partners in the ASTROSE, ISOSTROSE, ASTROSE-VISION, ASTROSE-MAGIC, and MoNet projects. The aim was to enable intelligent monitoring of power lines and make more efficient use of existing grid infrastructure.

ASTROSE® increases the capacity of existing power grids

The sensor system is installed on overhead lines and measures the temperature, current flow, inclination, and torsion of the conductors. Combined with weather data, these measurements provide a more precise determination of the actual available transmission capacity of power lines. This enables grid operators to make better use of existing infrastructure and to complement costly grid expansion measures in a targeted manner.

“ASTROSE® demonstrates how long-term research can result in market-ready technologies. Our collaboration with WIKA is an excellent example of how Fraunhofer transfers innovations into industrial value creation and thereby makes a direct contribution to the energy transition,” says Harald Pötter, Head of the department responsible for the development work at Fraunhofer IZM.

Joint development for international markets

For WIKA, the agreement marks its entry into a high-growth technology field. The company will offer ASTROSE® worldwide as an industrial product portfolio for energy utilities. The technology is already in use in Germany, Switzerland, and Chile.

The joint development work will focus on the further industrialization of the technology, increasing the robustness of the sensor nodes for different operating conditions, and adapting the system to international regulatory and technical requirements. Particular emphasis will be placed on preparing the market launch in North America.

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Successful technology transfer supporting the energy transition

“The partnership combines the research and innovation capabilities of our partners within the Fraunhofer-Gesellschaft with our expertise in industrial manufacturing and the global marketing of measurement technology. This creates the conditions for establishing ASTROSE® internationally and offering energy utilities new opportunities for more efficient grid operation,” says Alexander Hein, Head of the WEgrid Solutions business unit at WKA.

The agreement underscores the Fraunhofer-Gesellschaft’s role as a bridge between research and industry. Licensing the technology and establishing a long-term development collaboration will facilitate the targeted transfer of scientific expertise into industrial applications. This turns publicly funded research into a marketable product with direct benefits for grid operators, industry, and the energy transition.

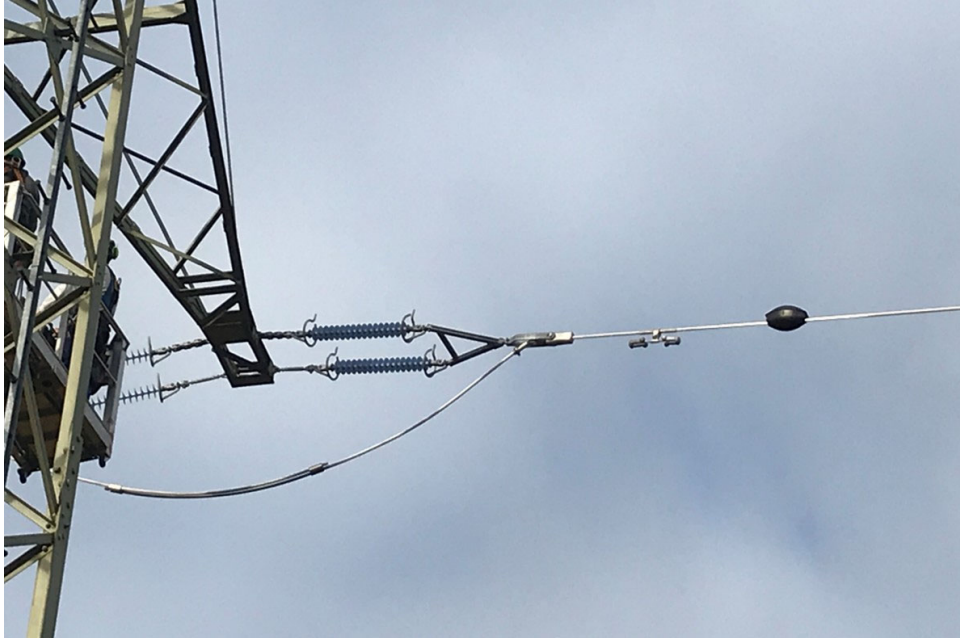
ASTROSE® at a glance

From research project to industrial product

- Direct measurement of temperature, current flow, inclination, and torsion on the conductor instead of indirect model calculations
- Self-powered sensor nodes with wireless data transmission
- Use in high-voltage and extra-high-voltage grids
- Applications in overhead line monitoring, ampacity calculation, ice-load detection, and condition monitoring

Benefits for grid operators

- Better utilization of existing power lines
- Supports the NOVA principle of grid optimization before grid expansion
- Contributes to cost-efficient grid modernization and improved integration of renewable energy
- Greater transparency regarding the actual condition of power lines
- Extends the service life of existing transmission routes



ASTROSE® monitors high-voltage lines directly on the conductor, enabling more precise use of existing grid infrastructure. Developed by Fraunhofer IZM, the technology will now be industrialized and marketed worldwide by WIKA.

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A licensing agreement and a five-year research collaboration are taking ASTROSE® from the laboratory to the international market.

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The Fraunhofer-Gesellschaft, headquartered in Germany, is one of the world's leading organizations for applied research. Founded in 1949, the Fraunhofer-Gesellschaft currently operates 74 institutes and research units throughout Germany. Its nearly 30,000 employees, predominantly scientists and engineers, work with an annual business volume of 3.6 billion euros; 3.2 billion euros of this stems from contract research.

The Fraunhofer Institute for Reliability and Microintegration IZM is one of the world's premier research institutions for electronics packaging. With its dedication to developing miniaturized, high-reliability electronics in cutting-edge lab facilities, the institute works to maintain the competitive edge of Germany and Europe.

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