

# SmartComm



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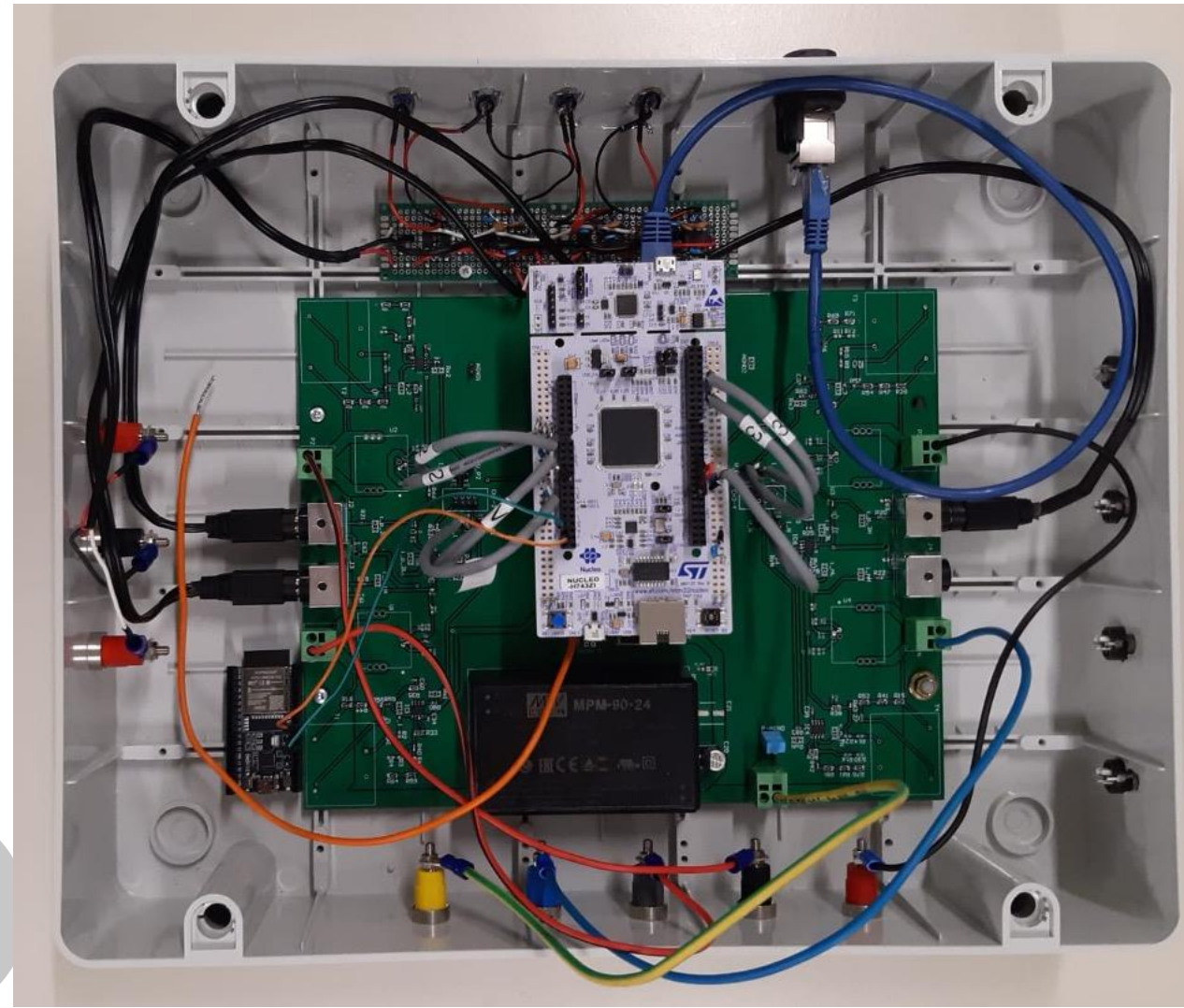
## Invention



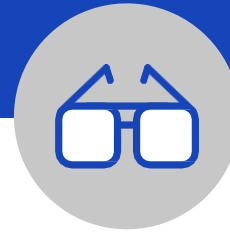
The SmartComm system was developed as a tool for measuring electrical network parameters and diagnostics for problems related to Power Quality. It can be applied to monitor the electrical parameters of the network (consumption, Power Quality levels) and to operate predictive diagnostics on electrical systems. The most qualifying feature of SmartComm is the ability to carry out intelligent diagnosis and monitoring independently.

The patented system is able to independently monitor the electrical parameters of the networks and identify any Power Quality disturbances. It is a low-cost system with a high technological content interconnected to the network and therefore remotely monitored. The system is able to measure the standard Power Quality parameters but also, through an algorithm based on a neural network, to identify any alterations in the line voltage, report such disturbances and classify them. This solution allows the customer to be able to monitor their plant in real time and be aware of the losses that certain behaviors can generate. In addition, it allows the installer to provide highly personalized and efficient advice and assistance. In addition to this, it is possible to use this system to operate predictive maintenance of the electrical systems connected to the measurement system. This functionality is enabled by the system's ability to identify the load profiles of the systems connected to the network and highlight any anomalies. The system can therefore be used to perform diagnostics on networks affected by Power Quality problems and to monitor the health of the networks with a view to efficiency and predictive maintenance.

Drawings  
& pictures



## Industrial applications



The invention can find application in energy efficiency auditing with automatic reporting; the SmartComm system is able to intelligently monitor the efficiency and health of the electricity grids. This also allows the system to be used as part of the predictive maintenance of electrical systems connected to the network, as well as the implementation of power quality disturbance mitigation strategies. The system implements an intelligent monitoring of electricity consumption, being able to highlight anomalies.

The advantages ensured by the patented technology consist in implementing an intelligent and automated analysis system, making it possible to check for non-specialized personnel in diagnostics and predictive maintenance of electrical networks and systems.



## Possible developments



The patent is available under an exclusive and non-exclusive license. The licenses are available for the entire remaining term of the patent titles.

The research group is available for new research activities in collaboration and on behalf of third parties, technical insights, scientific advice, also aimed at raising the TRL of technology.

The TRL of the invention is 5/6.

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