

# Power over fiber technology for energy transmission in extreme environments for its application in wind farms or power plants

- **SCHEDA**
- **APPROFONDIMENTI**

Identificativo proposta: TOES20200610003

**RICHIEDI MAGGIORI INFORMAZIONI**

A Spanish University has developed a new smart energy technology: a power-over-fiber system based on optical fibers for data transmission and remote powering. Insensitive to high magnetic fields, it's ideal in extreme areas with high electromagnetic interferences or lightning protection. The University is seeking companies manufacturing wind turbines or monitoring power plants to develop a prototype adapted to their needs under financial or technical cooperation agreement.

A group of researchers from a well-known Spanish University has developed a new power-over-fiber technology for energy transmission in extreme environments. This technology is based on the use of optical fibers to integrate both data transmission and remote powering. As the technology is insensitive to high magnetic fields, it can be used in high electromagnetic interference areas or under lightning protection or galvanic isolation, avoiding electromagnetic interference, sparks and short-circuits. It can also be used in structural health monitoring combined with innovative technologies where weight can be a critical factor. The research group, specialised in photonics displays and applications, is currently developing several prototypes of power-over-fiber in multimode optical fibers, along with the conduction of energy efficiency studies and future developments using multi-core fibers. The group is also considering the development of systems for harvesting energy meanwhile not powering. The University is currently looking for companies interested in the development of a prototype adapted to their specific sector or market, either under a financial or a technical cooperation agreement. The ideal partner would be a company specialised in manufacturing wind turbines or monitoring energy power plants.

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