



Solutions for Intelligent Electrical Networks



The necessary changes of electrical networks

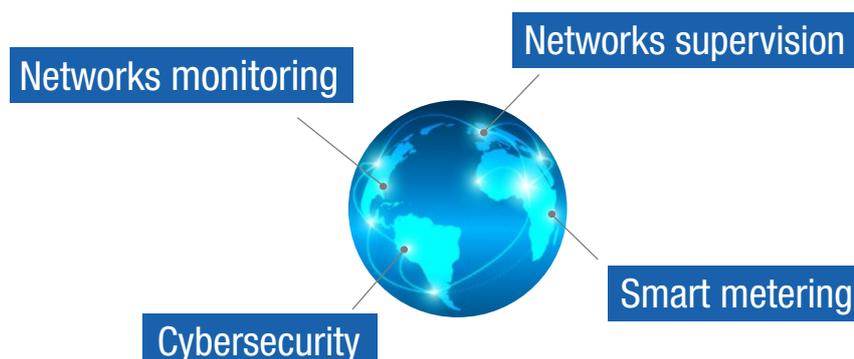
The growing demand for energy is a direct consequence of population growth and economic development related to industrial, commercial and tertiary levels.

- This results in more electricity production sources, in particular renewable energies, and also in the improvement of transport and distribution networks in order **to improve energy reliability** and ensure optimum service quality whilst minimising the frequency and duration of power cuts in particular.
- Managed centrally and unidirectionally (from production to consumption) until now, grids will soon be managed using a decentralised and two-way method.
- The emergence of new environmental and political objectives, the development of decentralised production, and the integration of electric vehicle charging terminals are all **factors that require grids to be modernised to become smarter**.
- Significant changes in the energy domain have initiated a review of the rules governing the use of electricity distribution grids and require adaptations in terms of the observability and management of these grids globally.
- These significant changes must go hand-in-hand with the incorporation of new information and communication technologies in the grids, to **transform them into Smart Grids, enabling them to ensure electricity distribution that is more effective, more economically viable and safer**.

Operator and third party safety remains a key concern for CAHORS, alongside the new cyberattacks risk associated with information security. CAHORS takes this issue into account as early as the preliminary design phase of all new developments.

Smart Grid Solutions

Armed with a wealth of technological and industrial expertise, CAHORS proposes global Smart Grid solutions. CAHORS aims to work with its customers to help them to improve and automate grids.





Solutions for Protection of Smart Grid cyberattacks

CAHORS takes the issue of cybersecurity into account at the start of the product development phase, conducting an analysis to identify which protection means to implement. The concerns of our developers consist in making products and solutions resistant to the most widespread cyberattacks.

Data encryption, intrusion system management, access control, and secure update management are ways in which different and varied types of cyberattack can be prevented. When necessary, certified security modules, enabling in particular the storage of cryptographic elements, are implemented in products.

Supervision center



Networks monitoring



Solutions for monitoring MV/LV distribution substations

CAHORS designs equipment used to monitor both underground and overhead MV/LV distribution substations. These solutions are multi-purpose, modular and smart. For example, they can be used to monitor a number of LV feeders to improve charging balance. An SMS alert can be sent if a configurable threshold is exceeded. These solutions can also be used to make other devices smart.

Networks supervision



Solutions for the remote control and monitoring of MV electricity distribution grids

CAHORS designs equipment to automate MV electricity distribution grids : MV Fault Detectors, Command and Control Boxes for MV switches and Interface Boxes with decentralised energy production.

Smart metering



Smart metering solutions

Smart metering systems enable network managers to reduce maintenance time, provide accurate billing, manage consumption, reduce non-technical losses and improve supply. CAHORS designs smart metering solutions to meet its customers' requirements.



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