

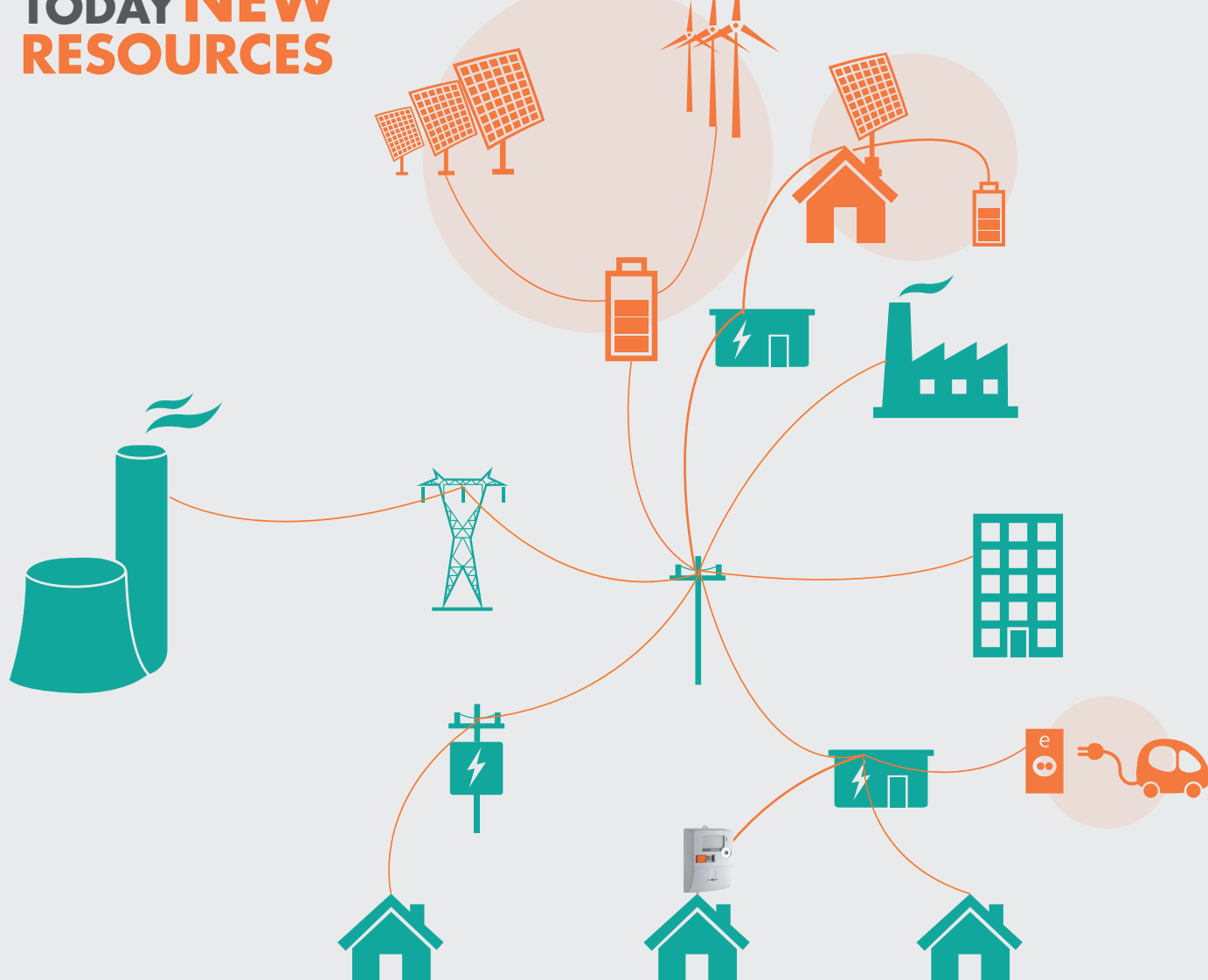
PLC for SMARTER GRIDS

THE KEY ROLE OF POWER LINE COMMUNICATION FOR GRID OPERATORS

EVOLUTION OF THE HISTORIC GRID

The electric network has to grow beyond the historic role for which it has been built. It must now take renewable and decentralized energy sources (wind farms, photovoltaic...) into account, as well as the new uses of electricity (electrical vehicles, electricity storage...). The operator has to adapt to optimize the grid, adopt a more pro-active management to guarantee quality of service, and comply with the new regulations (deployment of smart metering, CO2 reduction...).

TODAY NEW RESOURCES

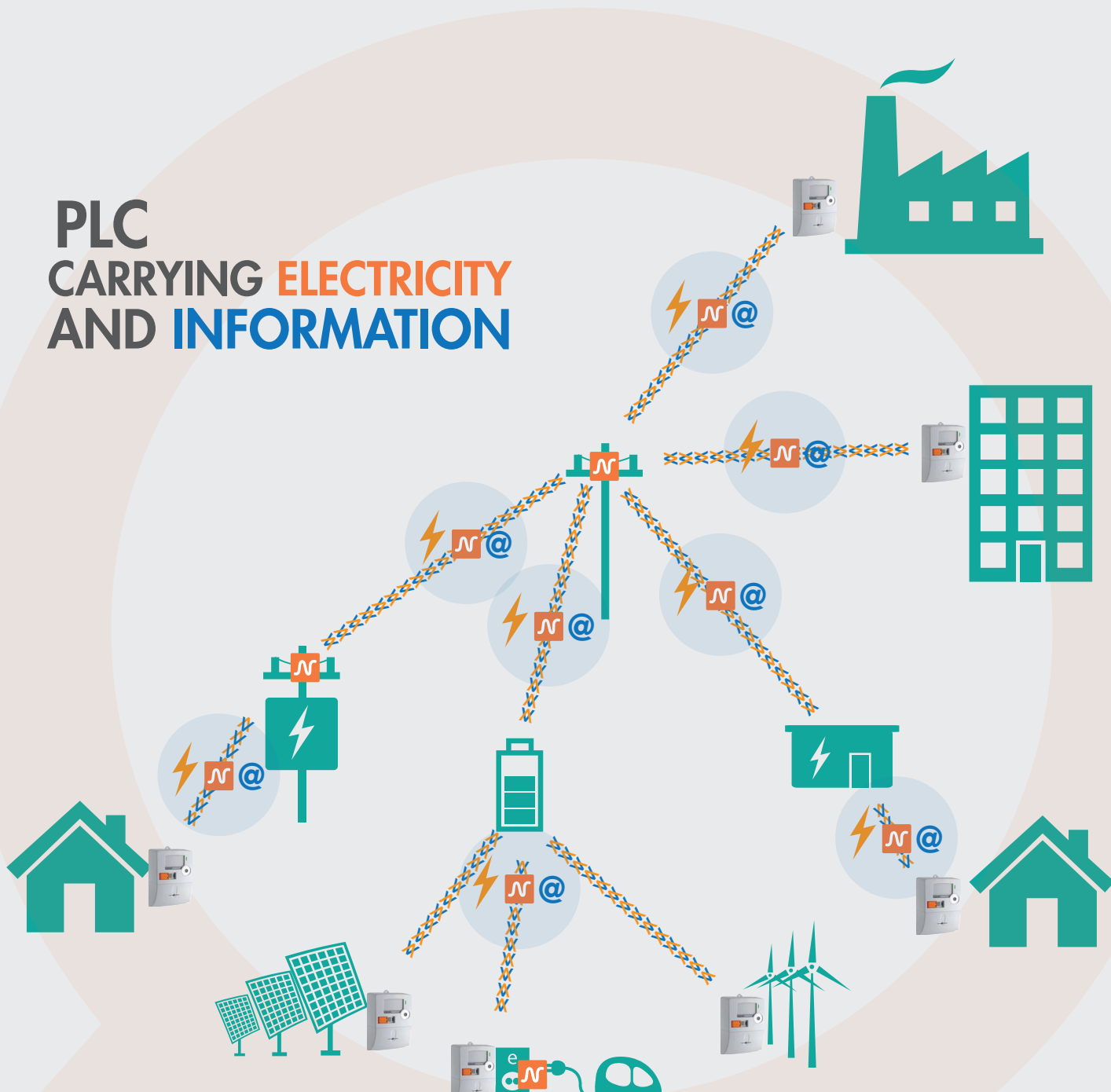


TOMORROW NEW USES

THE COMMUNICATION NETWORK

These new constraints will grow over time; they call for a chain made of a myriad of sensors, control and communication components, providing the operator with a global view, in real time of their grid. The data collected can then be processed and necessary actions undertaken pro-actively to guarantee the expected quality of service. Different communication solutions are possible, wired or wireless. PLC offers the operator the indisputable advantage of using their own electric network for communications support, with the obvious gains in terms of savings, security and reliability.

PLC CARRYING ELECTRICITY AND INFORMATION



NEXANS IN THE ENERGY NETWORK VALUE CHAIN

With Energy as its core business, Nexans has focused on PLC, which uses the electric network itself as the communication channel, from the meter to the primary sub-station, ie on the LV as well as on the MV network. Building on this expertise, Nexans is acquiring new capabilities, which put us at the interface of electricity, electronics, telecoms and software; from this fusion of technologies certain key components of tomorrow's network are emerging : couplers, sensors... which will be an integral part of our comprehensive PLC solutions, bring together the different players in this new field, working in partnership to deliver the best possible service for our customers, the distribution grid operators.

POWER INFRASTRUCTURE LAYER

COMMUNICATION LAYER

INFORMATION TECHNOLOGY LAYER