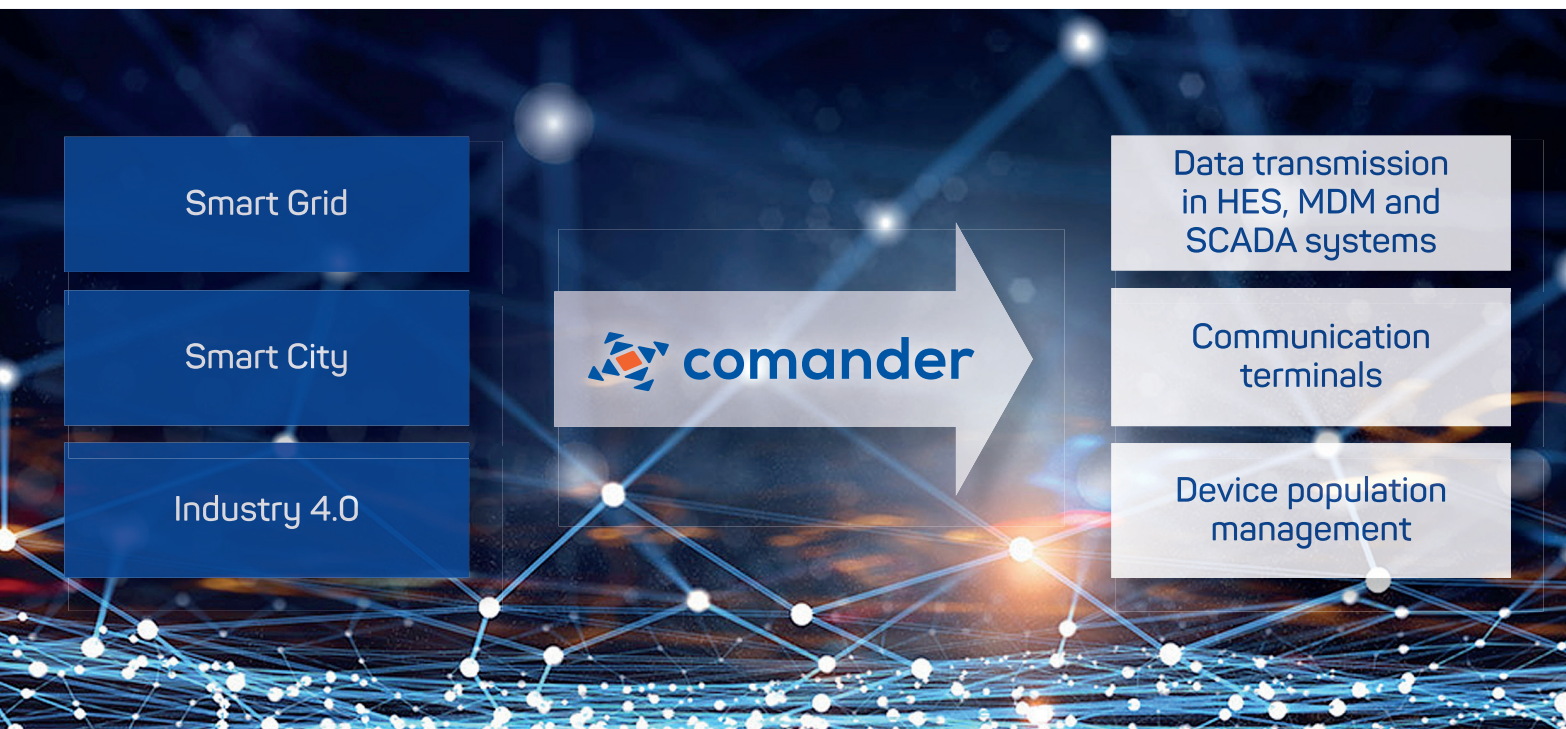




M2M/IoT: WIRELESS DATA TRANSMISSION

LTE, LTE450, LTE CAT-M1, NB-IoT, 5G

SMART GRID

Data transmission in billing and control systems

comander solutions support:

- collecting metering data from utility meters,
- managing a large population of distributed devices,
- detecting failures.

SMART CITY

IoT in urban areas

comander solutions contribute to the interactive infrastructure of the smart city. They increase the efficiency and security of communication and automate technological processes by ensuring reliable data exchange.

INDUSTRY 4.0

Automation of data processing and exchange

Our solutions ensure flexible adaptation of machines, devices and systems to changing functional requirements.

For multiple industrial sectors:

- we design communication devices,
- we implement required interfaces and protocols,
- we develop embedded applications to meet our customers' requirements,
- we integrate the solution with cloud platforms.

MANAGEMENT SOFTWARE

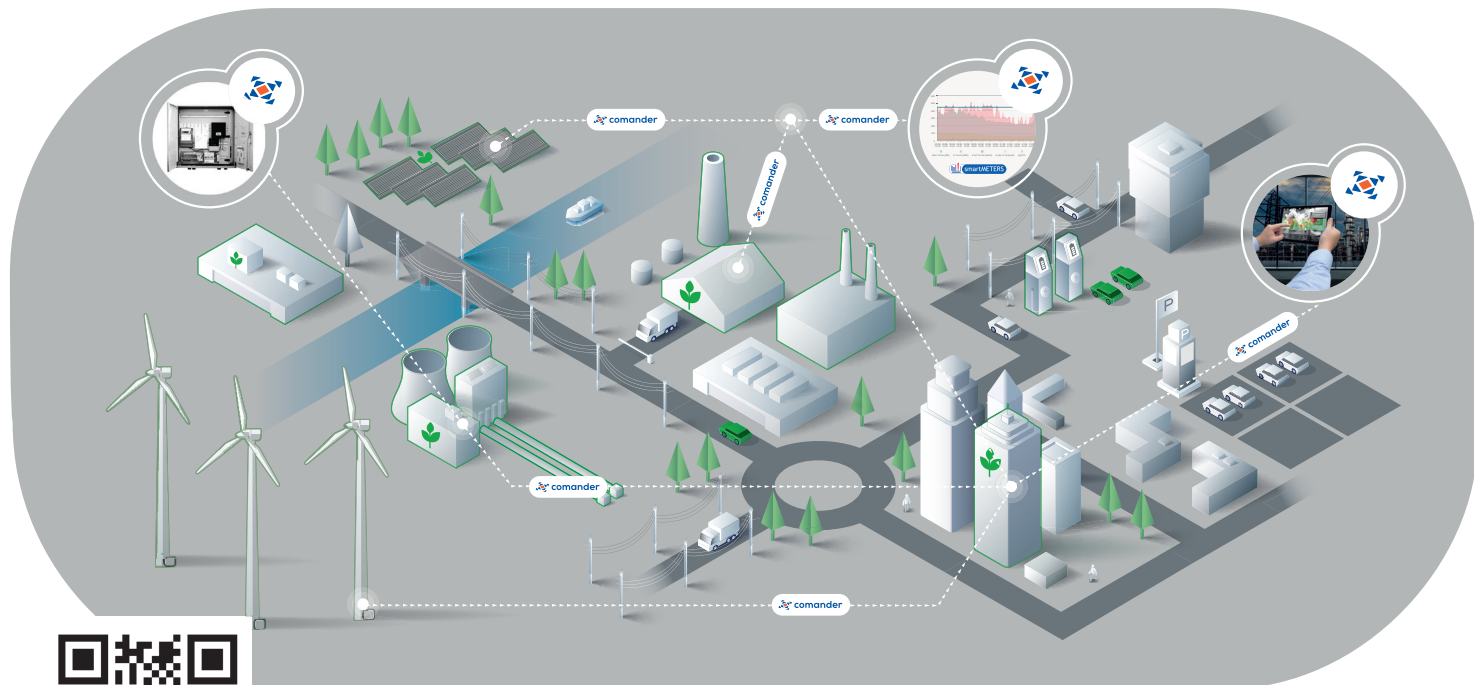
Effective management of field equipment population

- swift detection of failures and events that disrupt data transmission efficiency,
- real-time diagnostics of network parameters,
- streamlined, automated hardware functionality updates,
- compatibility with equipment from other OEMs.

More than 700 000 *comander* devices are currently used by power grid operators in Poland and Europe.

In the era of Industry 4.0, the measurement, diagnostic, control, and security infrastructure involves thousands of distributed devices. How can we ensure effective and stable communication and data transmission between these devices and central systems?

The *comander* platform enables wireless data transmission wherever cable connections are not possible. The complete system includes transmission terminals (modems and routers) together with utility software and application for monitoring and diagnostics of the entire population of devices.



COMMUNICATION TERMINALS

LTE * HSPA * GPRS * CDMA * WIRELESS M-BUS

**Industrial
routers**

**General purpose
modems**

**Dedicated
modems**

**Data
concentrators**

Wide range of supported communication protocols and interfaces
Reliable last mile communication
Modular architecture
Application support for SCADA, Smart Grid, Smart City systems
Security of data transmission
Conformity with industrial standards
Compact size
Visualisation of operating status
Design as per individual specifications

MONITORING AND MANAGEMENT SOFTWARE

Remote management of device population:

- » Configuration
- » Diagnostics
- » Upgrade
- » Reporting