Getting your electricity up and running is one of the primary public service missions of our 35,000-strong team. Every day in all weathers, regardless of your electricity supplier, we maintain, repair and install thousands of miles of power distribution lines, right down to the last yard. The one that leads to your door.

35,000 OF US ARE GOING TO PLACES THAT NO OTHER PERSON CAN REACH
ERDF : the main French DSO

- EDF Group’s subsidiary with 34 million customers
- €12.2 billion turnover
- 36,000 employees

ERDF manages 95% of the power distribution network in France through Concession Contracts

- Industrial network operator
- Electricity market operator
- Participant in local economic development
Electricity Distribution: at the core of social change and expectations
Existing network “smart” functionalities

- 30 regional ERDF agencies already control equipment remotely, including 60,000 switches

- 12 million remote control domestic water heaters, which store heat during off-peak hours and deliver it during peak hours

- Transmission of price signals to encourage customers to reduce their consumption on peak days
Accommodating new uses thanks to a much smarter grid

Distributed, intermittent energy sources

ICT infrastructure

Electricity infrastructure

“Customer” infrastructure and technologies

Electric vehicle

Electricity storage

Smart meters

Distributed, intermittent energy sources
Customers

Power Line Carrier (PLC) communication, via LV cables

Telephone communication (Telecom network)

Concentrators located in MV/LV substations

Linky

Suppliers

Distributor’s IS (incl. LINKY IS)

Distributor’s IS portal

Linky, a smart meter system

GDF SUEZ

EDF

DIRECT ENERGIE

POWEO

ERDF
Helping customers reduce their energy consumption
LINKY : ERDF smart metering project

LINKY project :

- 35 million meters
- 4 billion Euros
- Half of the cost for installation (35,000 meters per day)
- Planned duration for full deployment : 5 years
- Communication solution : PLC on LV networks and GPRS for WAN (from MV/LV substation to Centre)

The pilot project delivers positive results :

- 300,000 smart meters installed in Lyon (urban area) and Tours (rural area)
- test of components : OK
- test of IT tools : OK
- test of duration and cost for meters installation : OK
- customers’ satisfaction : OK

Next step: analysis by Regulator and Ministry of Energy prior to full deployment decision
Linky, the 1st building block in a smart grid

Remote interventions via the meter

Balance adjustment generation / consumption

Quicker response to network faults

Better plan network investments

Remote meter reading and operating system

Data collection (Linky) and analysis system

Risk management and preventive maintenance policy
Huge investments until 2020

- ERDF invested €2.5 billion in 2010
  Estimated cost of deploying Linky (35 million meters) is €4 billion
  Cost of integrating renewable energy and EV is over €10 billion

- The French investment aid programme provides for €250 million for smart grids and €1 billion for “cities of tomorrow”

- Europe estimates that smart meter deployment and network modernisation will each cost €40 billion

- USA, China, Japan and S. Korea all have investment and funding programmes for exp. Projects worth several $ billion
Data communication and processing
Key Challenges

What communication architecture should be used to transmit data reliably and securely from the source substation to the meter?

How can long-term network investments (planned over several decades) be reconciled with ICTs, which are renewed every 3 to 5 years?

How can we efficiently collect and process several thousand times more data?
Thank you for your attention!