

# Synergies between DSOs and ICT

KPN & Alliander: A CDMA-450 network for utilities

CEDEC, Brussels, 6 November 2013



Pim de Groot, KPN

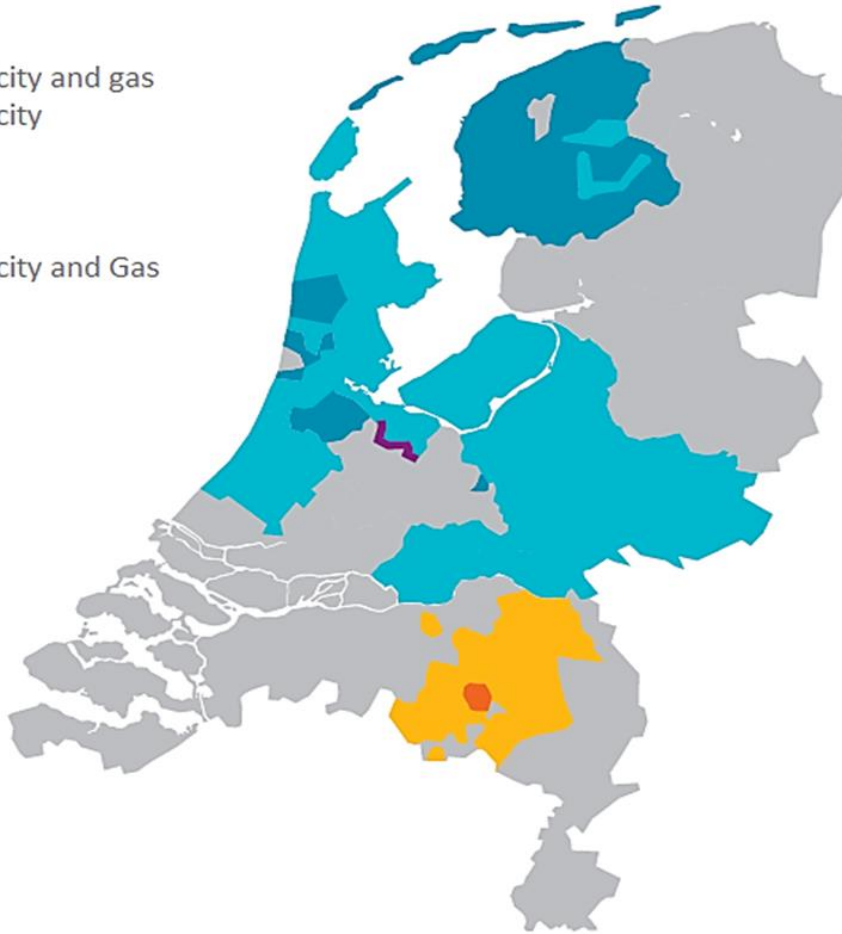
The Alliander logo consists of the word "alliander" in a white, lowercase, sans-serif font. It is positioned on a dark green rectangular background that has a slight gradient and a shadow effect. Below this green background is a horizontal orange bar.

Erik Moll, Alliander Telecom

# Alliander – Key facts



- Liander
  - Electricity and gas
  - Electricity
  - Gas
- Endinet
  - Electricity and Gas
  - Gas



Customers	
Million	Marketshare %
3,4	37%
Revenue	Employees
€ Billion	FTE
1,6	6.800
Annual outage	
Electricity in minutes	20,4
Gas (Liander) in sec	35
Gas (Endinet) in sec	67

Link to the video

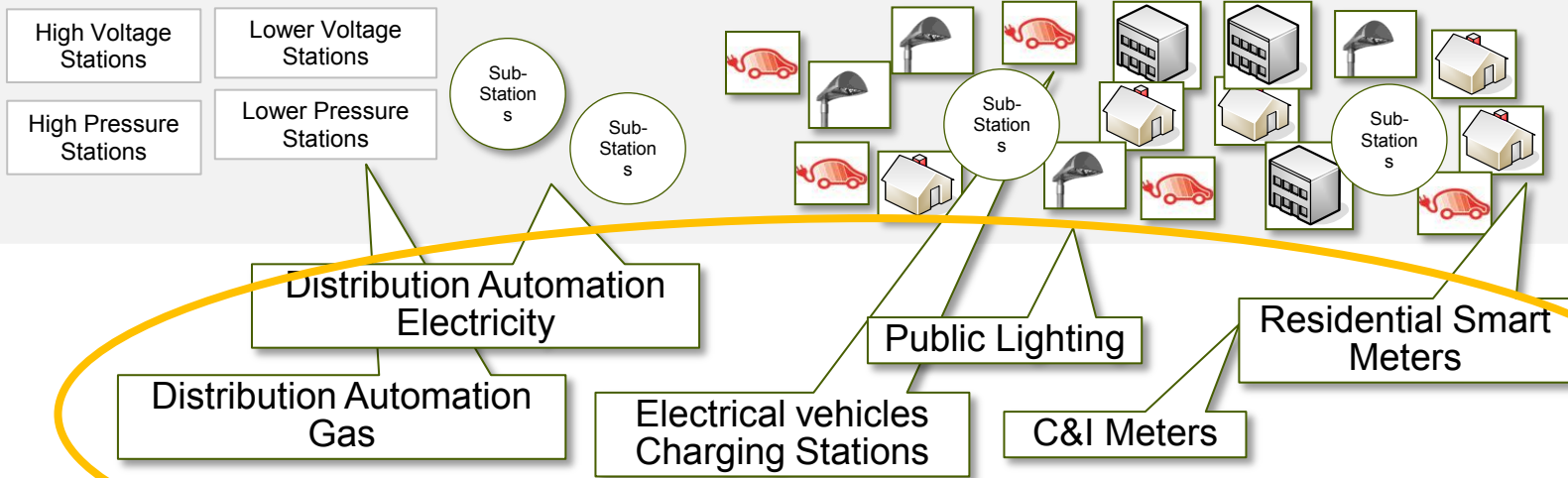


Secure, Safe & Reliable

Smart Grid

Smart Assets

Electricity & Gas



Smart Grid & Smart Asset Use-Cases

**The utility telecom requirements are challenging for typical commercial offers**

## **Utility telecom requirements**

- **Guaranteed longevity and supply over long period**
- **Guaranteed low cost per asset**
- **A-typical functional specifications**
- **High level of control on quality and security applications**
- **Mission critical**



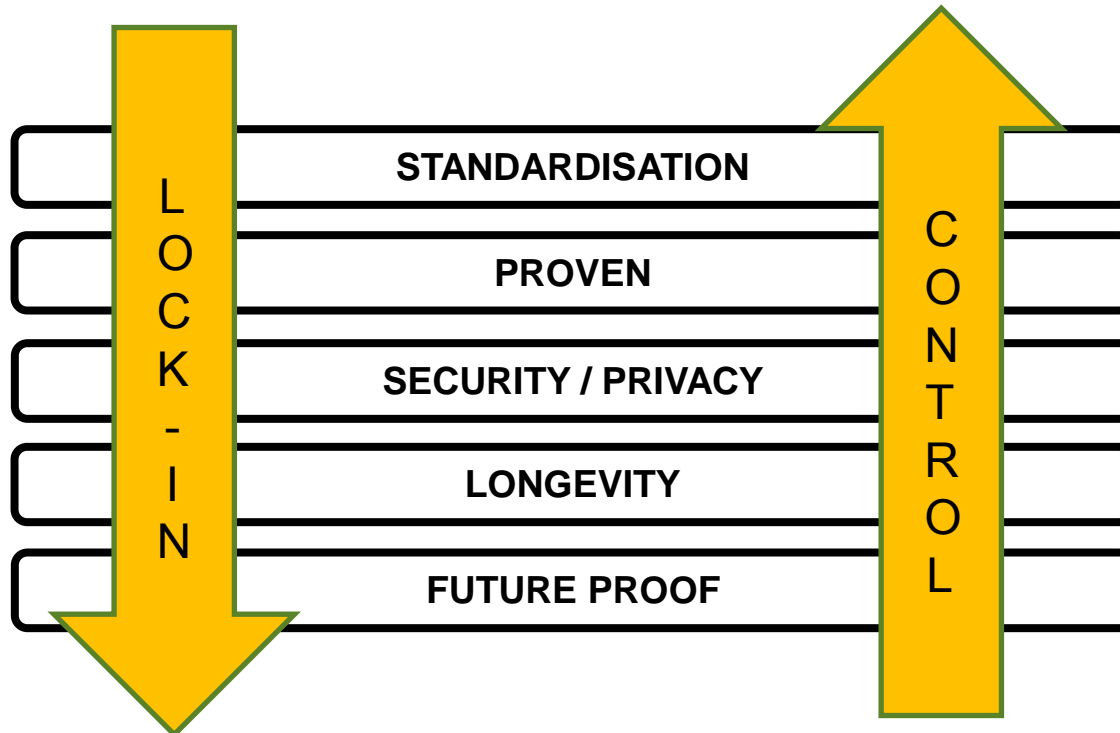
## **Typical commercial offers**

- **Fast changing technologies**
- **Standard products and service are aimed at smartphones**
- **Utilities are relatively small customers**

Private telecom solutions give better opportunities to exercise control

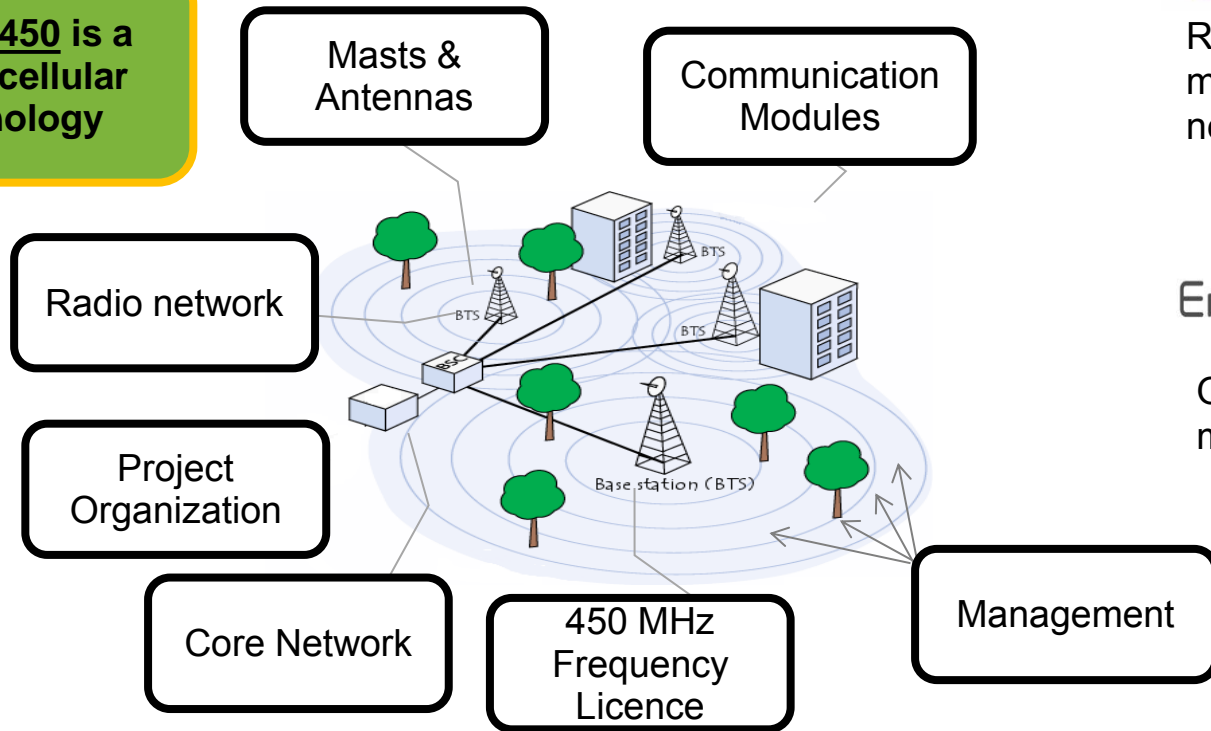
High level of control on telecom solution, infrastructure, customisation of solutions, flexibility and scalability

Strategic criteria are as important as technical aspects



A private network is the best answer to the various different strategic challenges

**CDMA-450 is a global cellular technology**



Rolls-out, operates and manages the wireless network



Operates and manages the masts and antennas

# CEDEC Workshop

6 November 2013

Pim de Groot





# ICT in the transformation of the energy market

The energy market is developing in unprecedented fashion. The global demand for energy is growing. Climate change and environmental pollution through the use of fossil fuels require us to radically adjust our energy use. Consequently, the energy market is undergoing a fundamental transformation in which ICT is the central, facilitating and unifying factor.

## Energy savings and consumer behaviour

A smart electricity meter, in combination with sensors in intelligent devices, makes energy consumption transparent and controllable.

## Changing relationship with energy supplier

The consumer is becoming a prosumer, who is able to manage his energy consumption proactively based on the transparency of energy suppliers.

## Cross-sectoral approach

Thinking across sectoral boundaries is a precondition for smart cities and is the foundation stone for solutions in areas such as sustainability and energy & water saving.

## From centralised to dispersed energy generation

An intelligent network enables households and businesses to take and supply energy in a safe, sustainable manner.

## Smart grids

Smart grids allow the energy system to become sustainable by gearing demand to supply via smart interchange of information.

## Security and privacy by design

In critical infrastructures such as smart grids substantial interruptions caused by malfunctions are unacceptable. This is why KPN, together with Alliander and DNV GL, has set up the European Network for Cyber Security (ENCS).

## Smart cities, smart living

Smart cross-sectoral infrastructures give rise to smart cities, in which a central nervous system containing a communal services structure ensures that cost savings are made and that living standards rise.

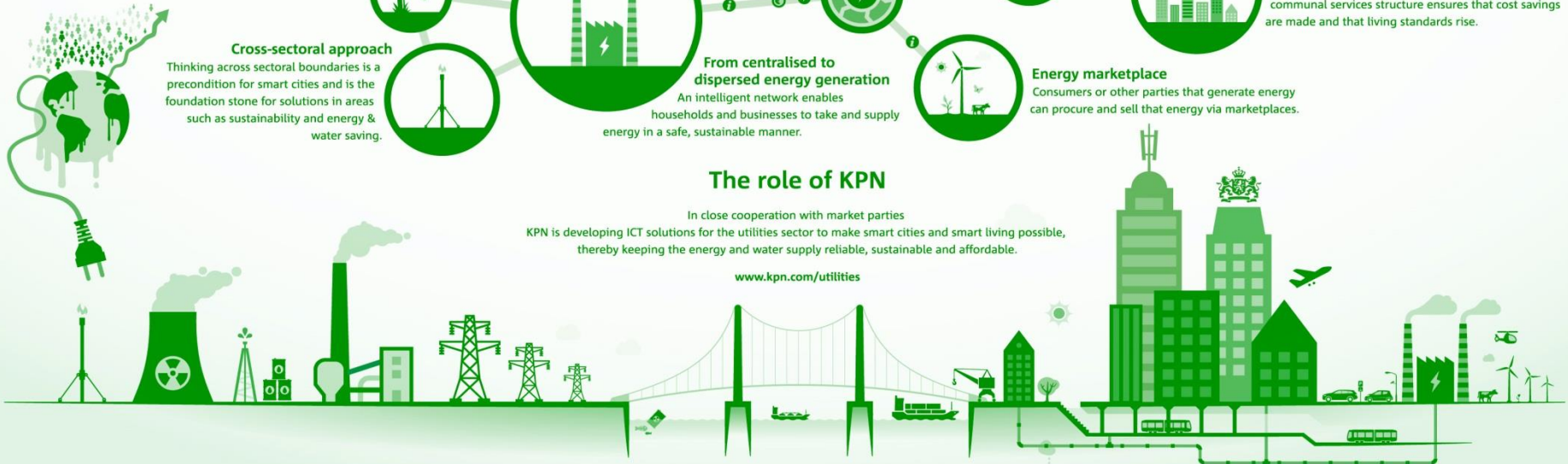
## Energy marketplace

Consumers or other parties that generate energy can procure and sell that energy via marketplaces.

## The role of KPN

In close cooperation with market parties KPN is developing ICT solutions for the utilities sector to make smart cities and smart living possible, thereby keeping the energy and water supply reliable, sustainable and affordable.

[www.kpn.com/utilities](http://www.kpn.com/utilities)



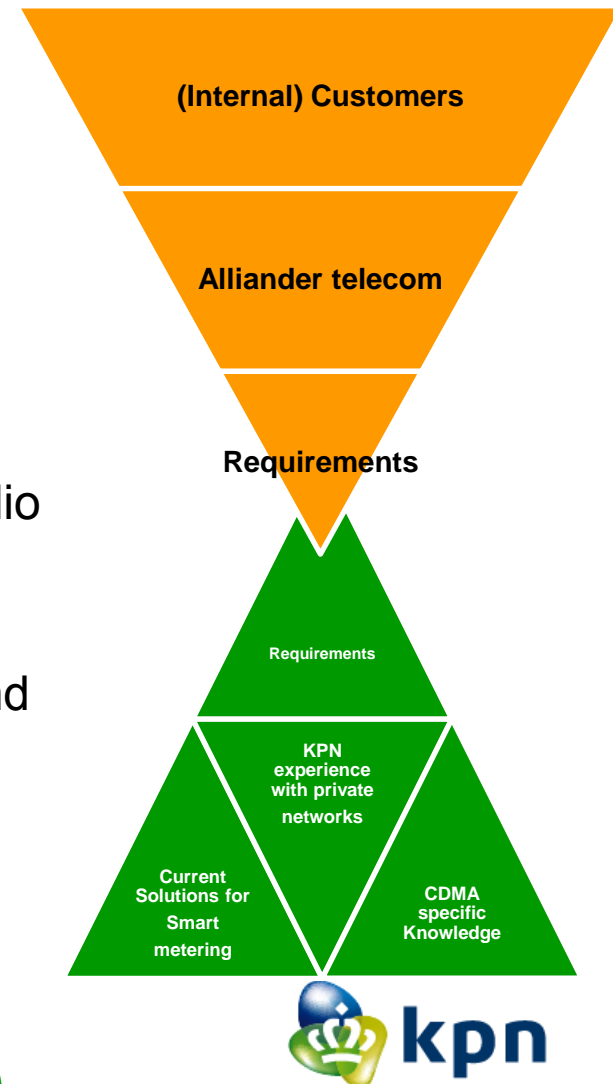
# Strategic partnership with Alliander

- KPN believes in the Internet of Things, every thing will be connected to every thing.
  - This is a trend that KPN sees in several industries:
    - Utilities
    - Automotive
    - (Public) Transportation
    - Logistics
  - The needs of these Industries have many similarities but also explicit differences.
  - KPN chooses to develop a communication solution that meets the requirement of the specific Industry in close corporation with leading companies, like Alliander in the Netherlands, of the industry.
  - In this way we can combine the knowledge of KPN of the industries from telecom perspective and Alliander from grid management perspective.
  - In this way innovation goes faster and meets the requirements of the industry.



# Experience KPN with private (mobile) telecommunication networks

- Experience with several private (mobile) telecommunication networks in the Netherlands;
  - Mobirail – Mobile network for rail operator
  - C2000 – Mobile communication network for emergency services
  - RWS – Fix network for depart of transportation to manage the traffic infrastructure
- Knowledge of designing, building and maintaining of radio networks
- Knowledge of requirements to set up a radio network and to deploy end to end services on it.
- Experience with communication requirements and solutions for several industries.



# Expectations/Benefits

## Partnership with DSO's that leads to a Win-Win

- To design, build, maintain and manage a private (Mobile) network for the Utility Industry in the Netherlands and become a strategic partner for the DSO's.
- All or almost all DSO's in the Netherlands use this private (Mobile) network to manage their Smart Grids and Meters more effectively than other solutions as PLC or GPRS.
- Benefits for KPN and Alliander:
  - KPN can invest in their core business, but can play a crucial role in the utility sector with a good profit.
  - Alliander can use the knowledge of KPN from the commercial networks to their benefits.
  - Alliander can control the speed of innovation.

