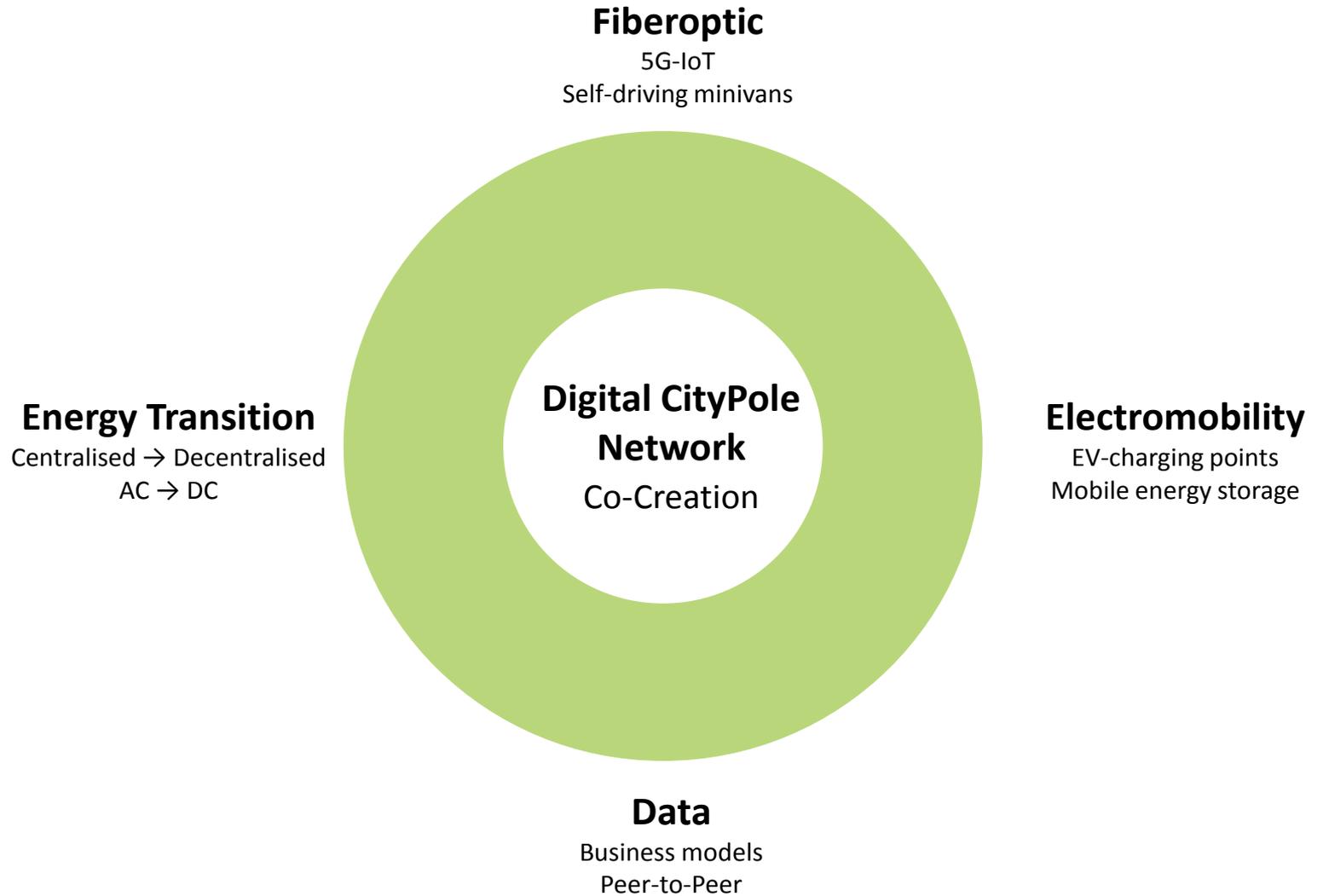


Digital CityPole infrastructure

Public Citynet 2.0

28/05/2019

MEGATRENDS



MOTIVATION

The CityPole infrastructure gives Cities and Municipalities the prospect of generating an annual recurring revenue.

- Lighting: an important public service but also a cost drain.
- Cost: purchasing, installing and powering street lighting as well as detecting outages that may cause public safety hazards and deploying resources to make repairs.
- Income: the annual cost could be avoided if the lamppost is upgraded to a Digital CityPole that in addition to illuminating the street, generates income by facilitating services and applications based on the principles of the Internet of Things. (IoT).

DRIVERS

Powerful drivers:

- The prospect of an annually-recurring revenue for cash-strapped Cities and Municipalities.
- The CityPole network as a supporting technology for improving how Cities and Municipalities work.
- The development of a 5G data network and the need for a large number of small cells.
- The need for unobtrusive EV-charging points for EV-drivers without a driveway or a garage.

Powerful drivers (1)

The prospect of an annually-recurring income stream.

- The annual cost of public street lighting is approximately 100 € per light point. Though, switching to LED lighting solutions offers a 50% saving on energy consumption and a 40% saving on maintenance costs, it is still an annually-recurring cost.
- The prospect of facilitating new applications and services over time, each generating a steady stream of recurring income, is for cities and municipalities much welcomed.

Powerful drivers (2)

The CityPoles as a supporting technology for improving how cities and municipalities work.

- Digital CityPole technology makes a City or Municipality smart when the technology is used to support the needs of the citizen.
- Big Data will help to develop smart solutions based on innovative ideas.
- The Digital CityPole network can address these needs in an open network where innovators and developers test and implement their ideas without having to worry how the Data is processed.

Powerful drivers (3)

Development of a 5G data network.

- The deployment of a 5G data network requires large numbers of cells to expand the capacity of the existing wireless network.
- Increasing the number of 5G-cells, however, presents a number of challenges including finding unobtrusive sites to locate the cells, get the approvals for the installation and providing backhaul connections leading to the core network.
- The Digital CityPole technology provides a comprehensive solution by turning every Digital CityPole into a 5G-cell.

Powerful drivers (4)

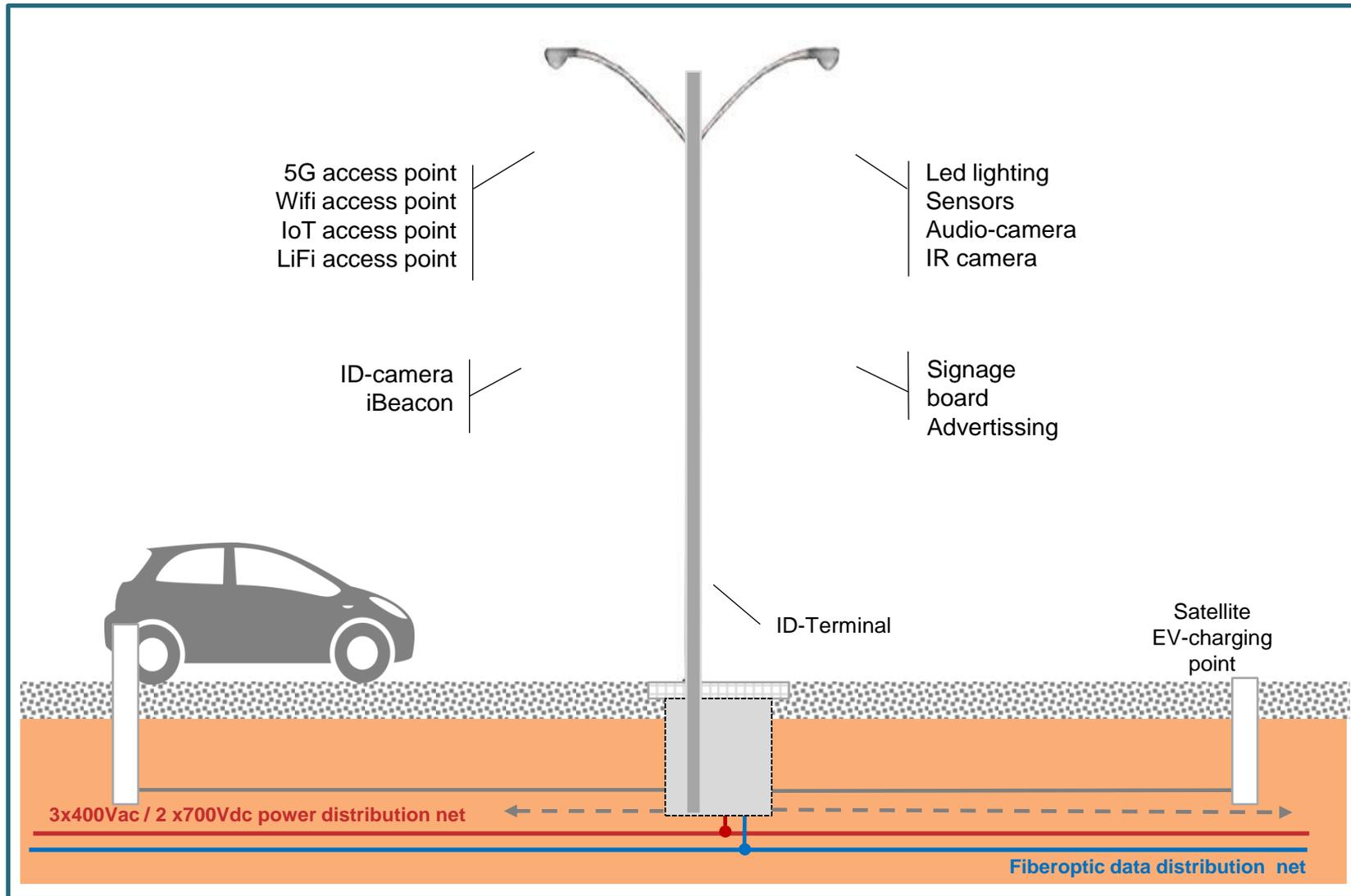
The need for unobtrusive EV charging points for EV drivers without a driveway or a garage.

- The transition to electro-mobility will greatly increase the need for charging points for EV drivers.
- In Cities and Municipalities, the percentage of homes having access to a garage is around 30%, this means 7 out of 10 electric car owners will not be able to recharge their car.
- The aim is to provide charging points at locations where the car is parked in the public domain. For aesthetic reasons, and to avoid that streets are cluttered with charging stations, charging points are compact satellite EV-outlets that will hardly be noticed in the street.

SOLUTION

- The Digital CityPole concept combined with an integrated electricity and fiberoptic data distribution network, is a sustainable solution that fits seamlessly into the energy transformation citizens are asking for.
- A key element is that the energy and data consumption is settled per application.
- An **energy and data usage package** is defined for this purpose, which makes it possible to adjust the value of both packages according to the type of application and the time of day the application is used.

Power-Data backbone for Digital CityPoles



Digital CityPole



Use Case: Balanced-Growth path LEUVEN

Greenfield



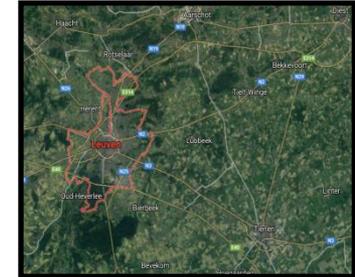
Research Park



Leuven City



**District Leuven
30 communities**

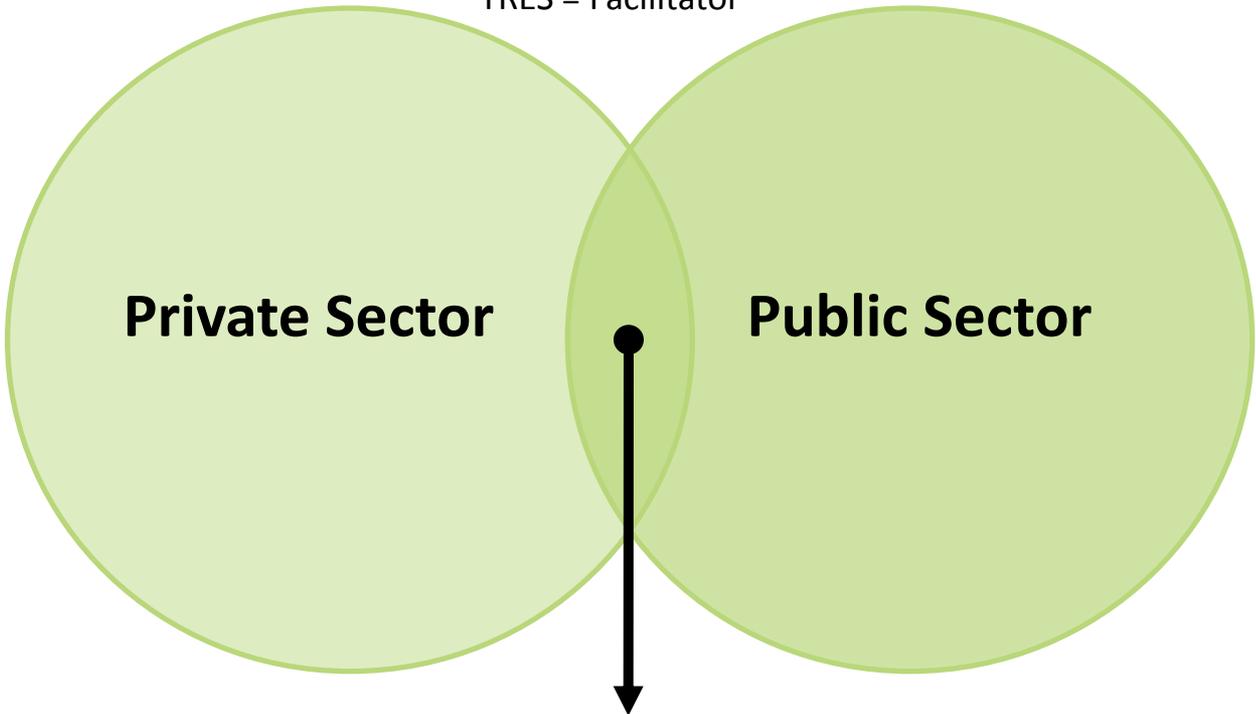


Area (km ²)			
0,11	1,36	55,66	1.169
Number of Digital CityPoles			
24	226	13.500	94.300*

* 10% of the street lighting poles in Flanders.

Co-Op business Model

Co-Creation model
TRES = Facilitator



Participative model
50% local community
30% City authority
20% Private



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