Block 2: Foundations of managing urban infrastructure systems

6. The role of the ICTs

Prof. Matthias Finger
Session overview

In this session you will learn about the impact of the information and communication technologies (ICTs) upon the management of urban infrastructure systems, more specifically about:

- Efficiency gains
- The empowered role of the customer
- New, ICT-based services
Efficiency gains

Duplication or mirroring of the infrastructures thanks to the ICTs (sensors, RFID, cameras, data management) (data layer)

For example:
Sensors can alert if a pipe breaks and trigger rapid intervention

More efficient operations and maintenance

Infrastructure services

Infrastructures

Block 2: Foundations of managing urban infrastructure systems
The empowered role of the customer

For example:
Real-time information about transport

Data layer

Customers

Interaction between the customer and the infrastructures

Infrastructure services

Infrastructures
New ICT-based services

For example:
Car or bike sharing

Infrastructures
Infrastructure services
Data layer
Customers
New services
Conclusion

In this block, you have heard about:
● what urban infrastructure managers do
● how they deal with stakeholders
● what main dimensions they have to address
● about the main schools of thought they can refer to, and
● about the role of the ICTs

In the next two blocks we will talk about managing urban energy and transportation systems