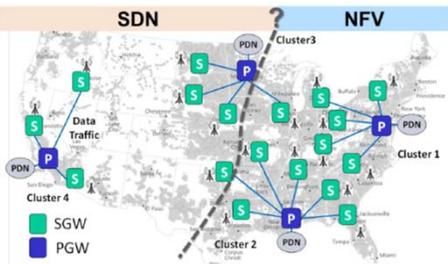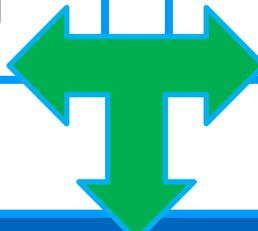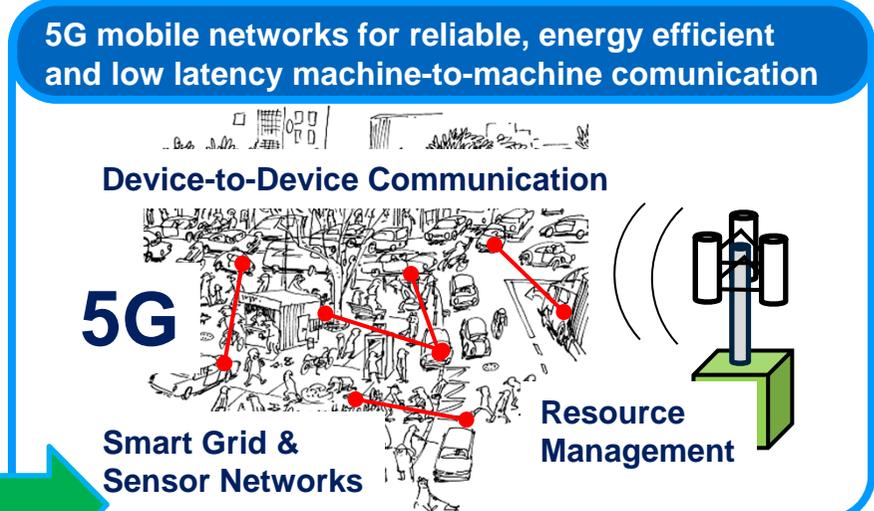# TUM Chair of Communication Networks (LKN)
Wolfgang Kellerer

Flexible, dynamic and resource-efficient internetworking

5G mobile networks for reliable, energy efficient and low latency machine-to-machine comunication

Device-to-Device Communication

5G

Smart Grid & Sensor Networks

Resource Management

Virtuelles Netz

Physikalisches Netz

Software Defined Networking Controller

FlexNets

Cloud

SDN NFV

Data Traffic

Cluster3 PDN
Cluster 1
Cluster 4
Cluster 2 PDN

SGW
PGW

VIRTUWIND

Source: BOSCH
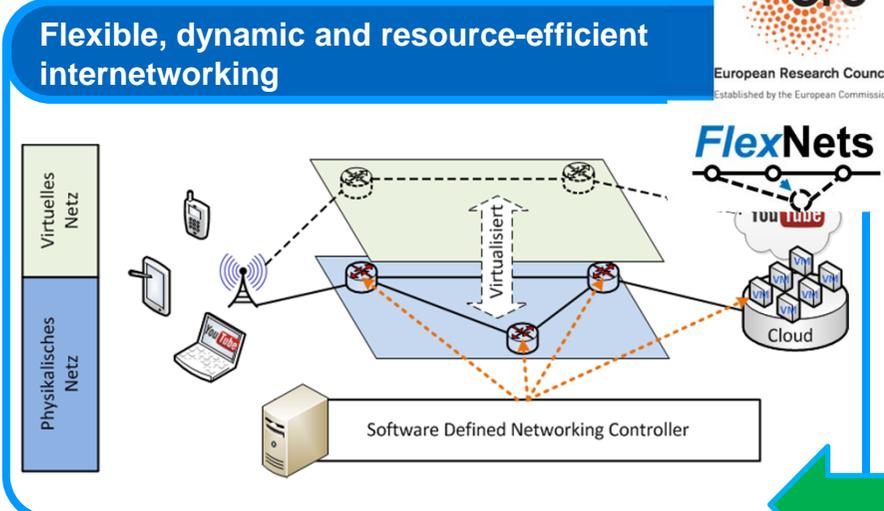
Techno economic analysis & resilient network planning

Benefits

Cost

new services

Open Access

FMC

OPEX
-service prov.
-energy

CAPEX
-infrastruct.

TUM LKN: Wolfgang Kellerer
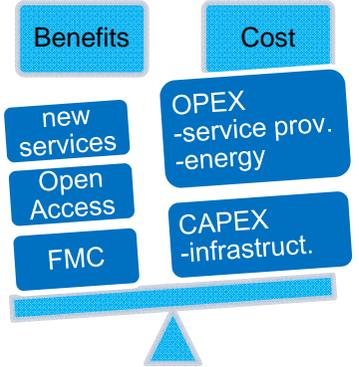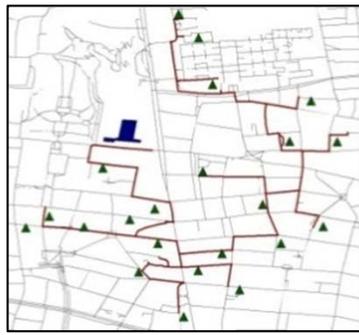
What are the next big questions in Internet Security ?

- New stakeholders enter the Internet – "Verticals" with high risks and high security / privacy requirements

- What does this mean for the Internet? Do we need a secure, trustful version of the Internet? Which endpoints?

Some research challenges

- Where are the loopholes? How to get to end-to-end security/privacy?

- How can we get sysadmins *and* users implement the right features?