

AGENDA

(HT & PARTNERS)

14:00 – 15:15 Smart City – ICT answer for the social challenges – Croatian Telecom

15:15 – 15:30 Pause

15:30 – 16:00 Mobilisis succes story – Mobilisis

16:00 – 16:30 SmartSense – Environmental solution for smart cities – SmartSense

16:30 – 17:00 Q&A



LIFE IS FOR SHARING.



InnoSoc

Innovative ICT Solutions
for the Societal Challenges



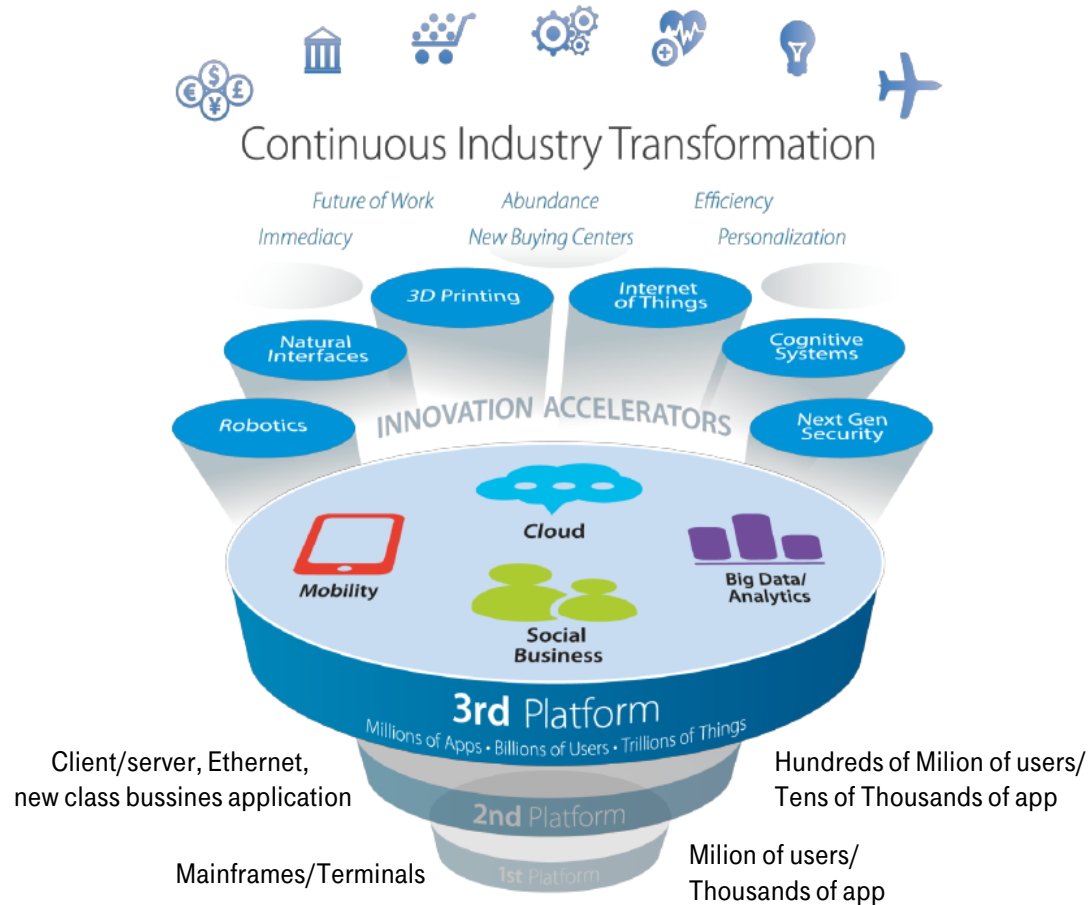
Smart City – ICT answer for the social challenges

Telecom industry as a key enabler

Goranka Gaćina, Renato Totić

Croatian Telecom

GLOBAL INDUSTRY TRANSFORMATION



LIFE IS FOR SHARING.

Renato Totic

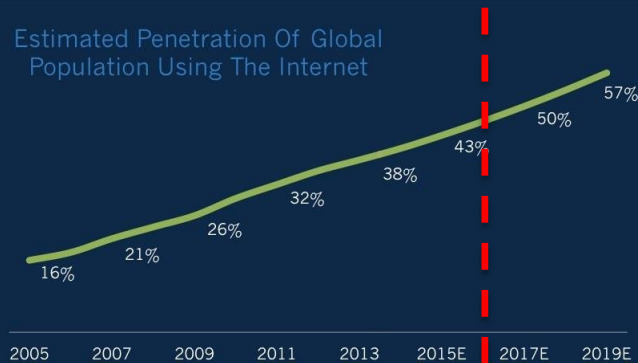


InnoSoc
 Innovative ICT Solutions
 for the Societal Challenges

CONNECTIVITY & SENSORS

By 2020, Half Of The Planet Will Be Connected To The Internet

Estimated Penetration Of Global Population Using The Internet

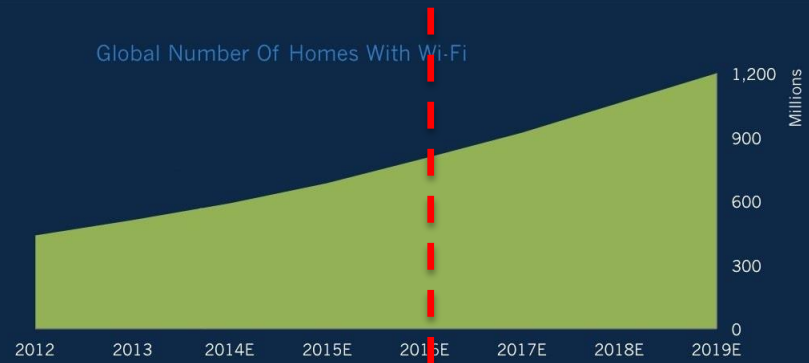


BI INTELLIGENCE

Source: ITU

Over 1 Billion Homes Will Have Wi-Fi

Global Number Of Homes With Wi-Fi

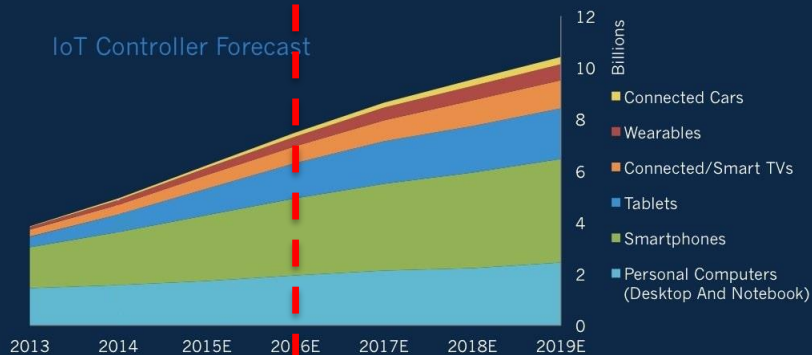


BI INTELLIGENCE

Source: Strategy Analytics, BI Intelligence Estimates

Mobile And Other Connected Devices Will Help Us Control The IoT

IoT Controller Forecast



BI INTELLIGENCE

Source: BI Intelligence Estimates

The Price Of Sensors That Make Up The IoT Will Keep Falling

Average Sensor Cost Forecast



BI INTELLIGENCE

Source: Goldman Sachs, BI Intelligence Estimates



LIFE IS FOR SHARING.

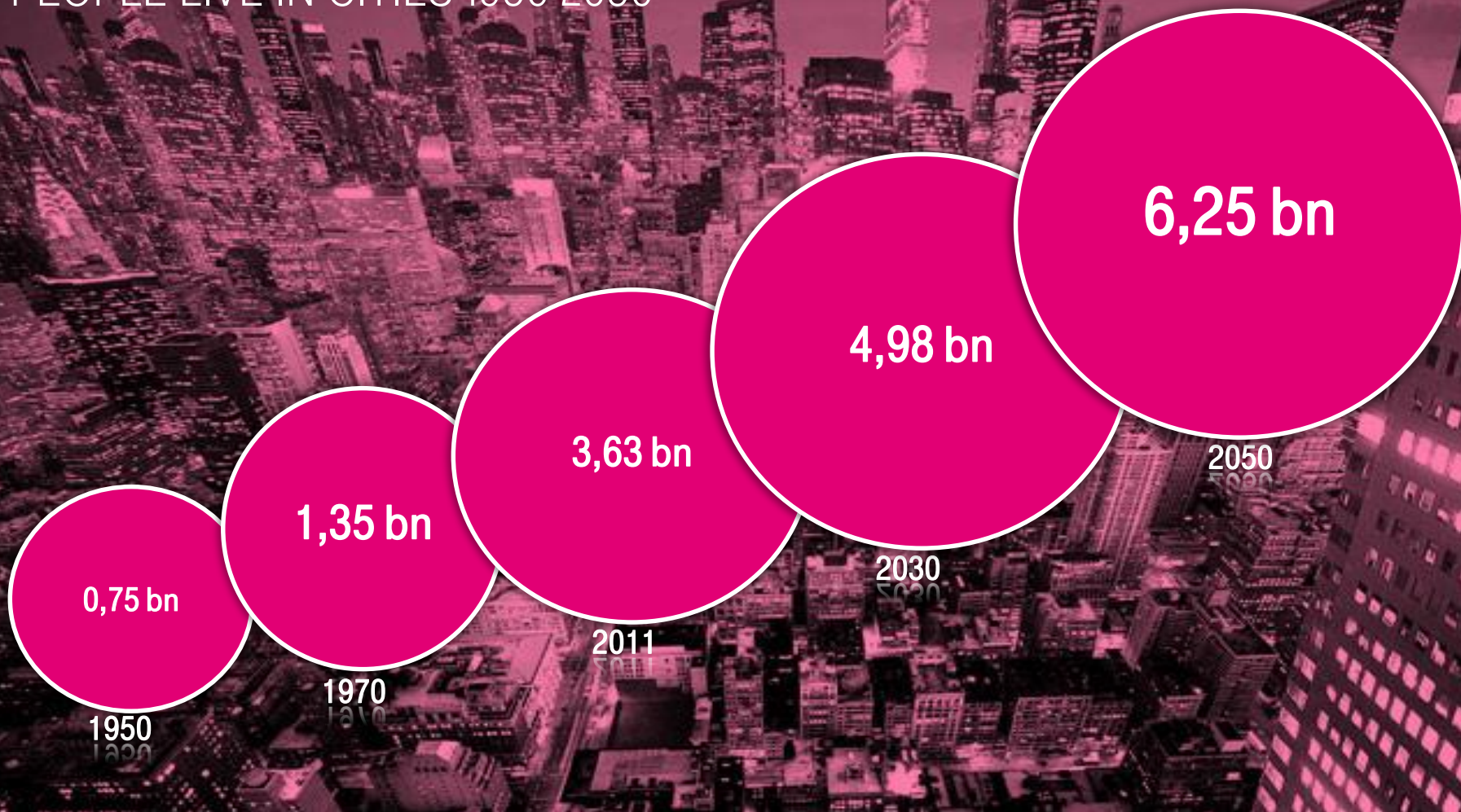
Renato Totic



InnoSoc
Innovative ICT Solutions
for the Societal Challenges

URBANIZATION

PEOPLE LIVE IN CITIES 1950-2050



*internet research, consolidated sources



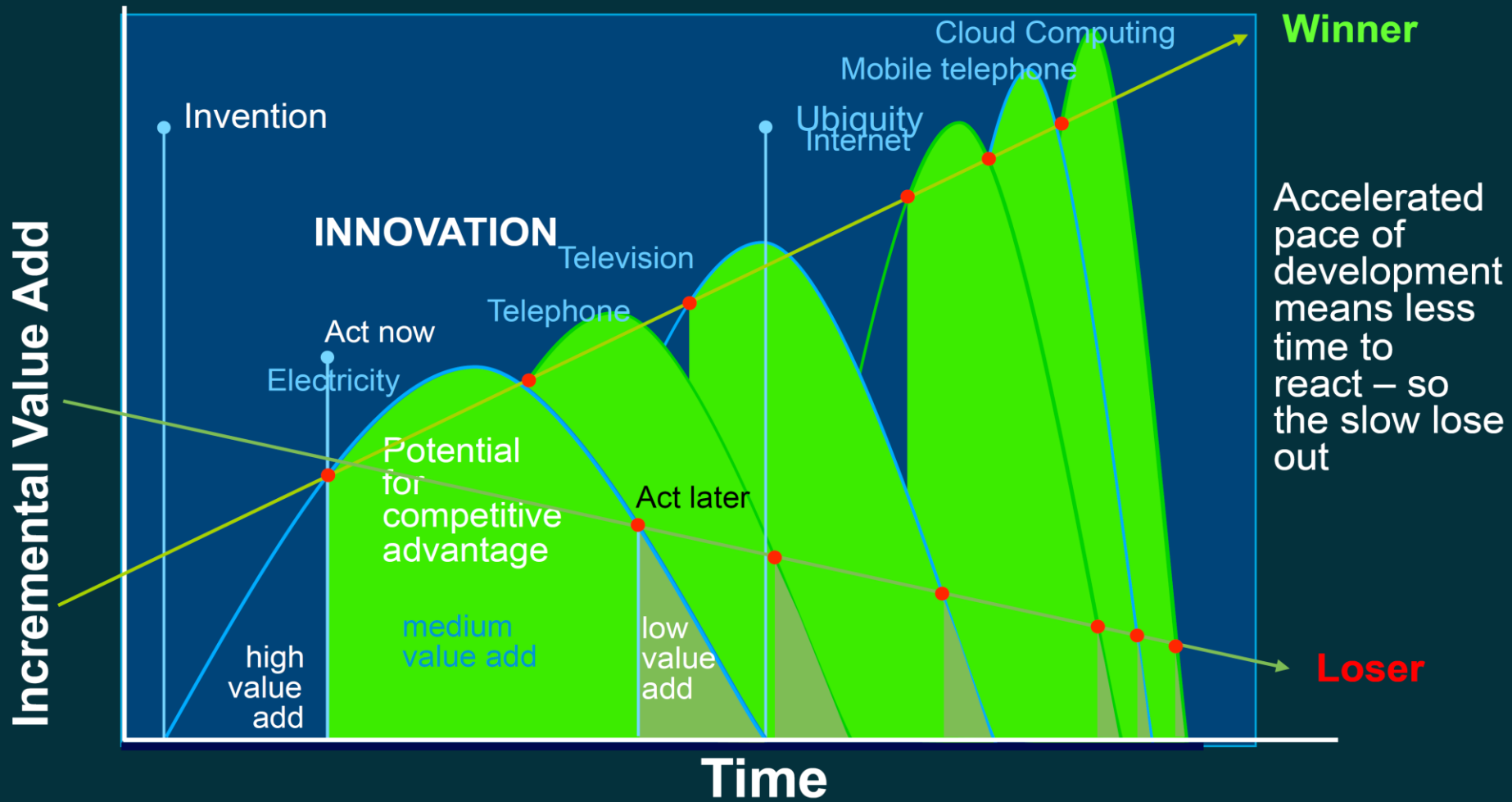
LIFE IS FOR SHARING.

Renato Totić



InnoSoc
Innovative ICT Solutions
for the Societal Challenges

INNOVATION



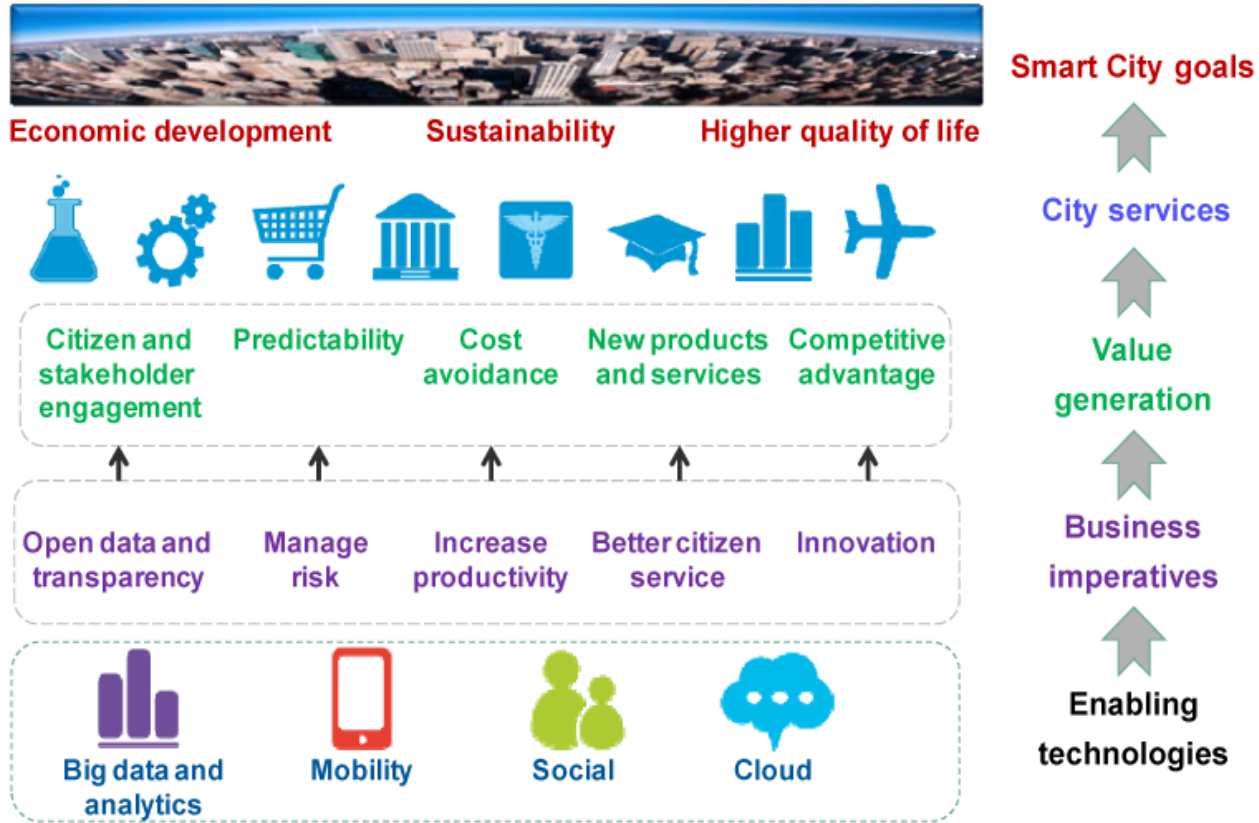
LIFE IS FOR SHARING.

Renato Totić



InnoSoc
Innovative ICT Solutions
for the Societal Challenges

CITY TRANSFORMATION



WHAT IS SMART ?



LIFE IS FOR SHARING.

Renato Totić



InnoSoc
Innovative ICT Solutions
for the Societal Challenges

WHAT IS SMART ?

3 I



The new ROI: making the case for smart

Source: IBM

THE 3 CORE FUNCTIONS OF SMART CITY

Collect

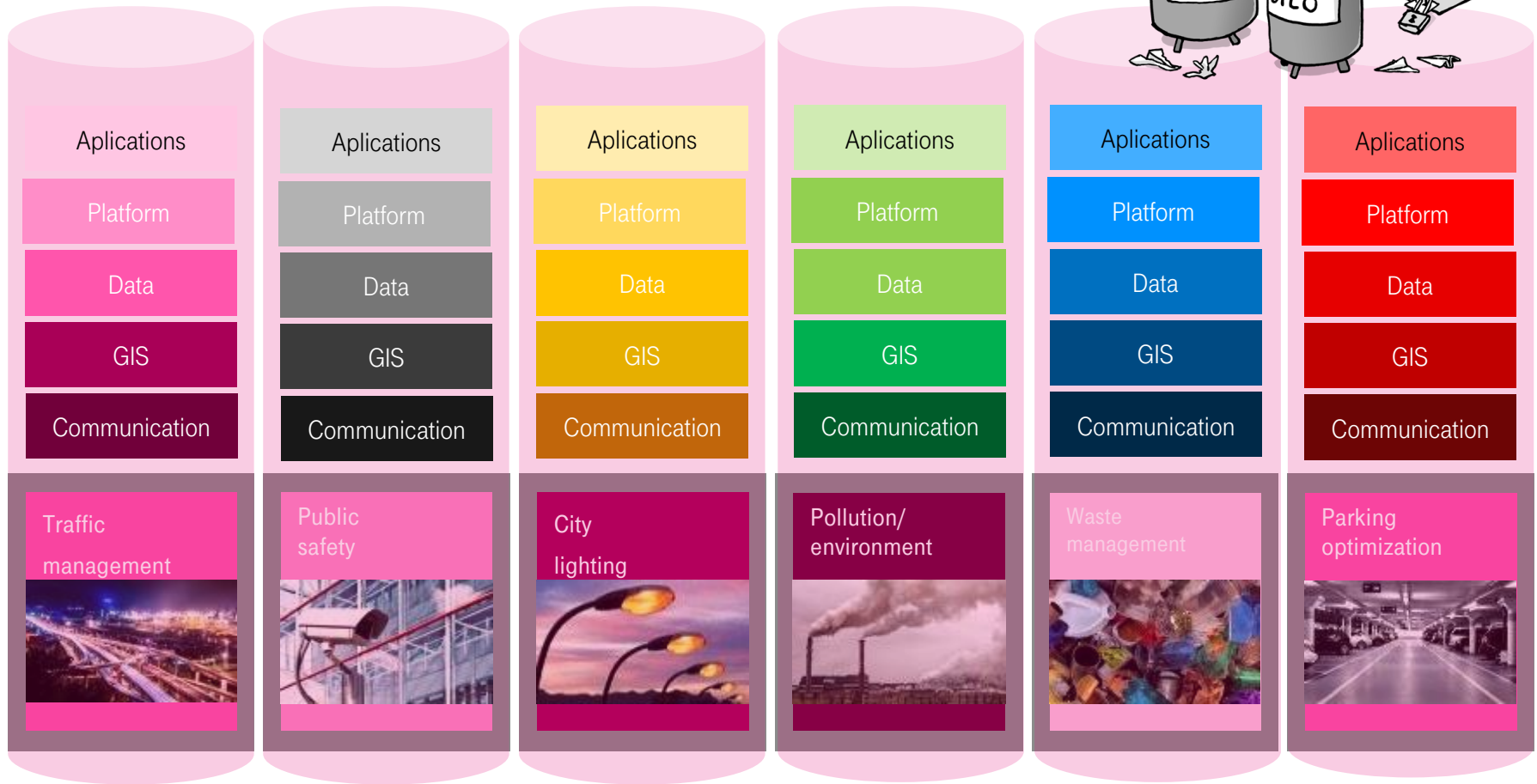
Communicate

„Crunch”

- to other device
- to control center
- to servers

- to Present
- to Perfect (optimize)
- to Predict

SMART CITIES CHALLENGES



This Fragmented/Siloed Approach is Inefficient, has Limited Effectiveness, and is Not Economical



LIFE IS FOR SHARING.

Renato Totić



InnoSoc
Innovative ICT Solutions
for the Societal Challenges

SMART CITIES CHALLENGES



EU FUNDS

CITY BUDGET



PPP MODEL



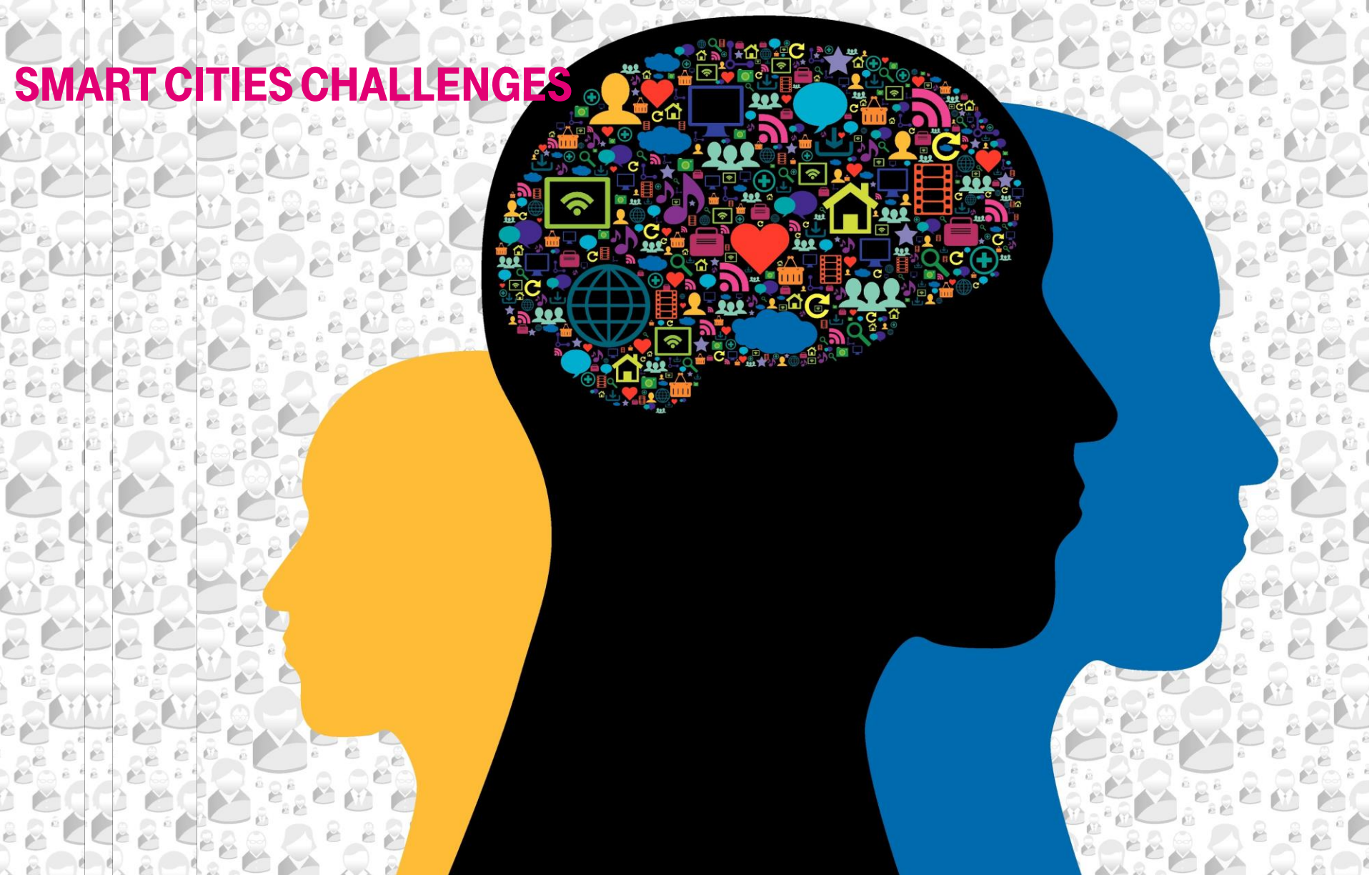
LIFE IS FOR SHARING.

Renato Totić



InnoSoc
Innovative ICT Solutions
for the Societal Challenges

SMART CITIES CHALLENGES



LIFE IS FOR SHARING.

Renato Totić



InnoSoc
Innovative ICT Solutions
for the Societal Challenges

SMART CITIES CHALLENGES



LIFE IS FOR SHARING.

Renato Totic



InnoSoc
Innovative ICT Solutions
for the Societal Challenges

HT TECHNOLOGY TRANSFORMATION



CROATIA
ALL-IP



Source: Fraunhofer FOKUS



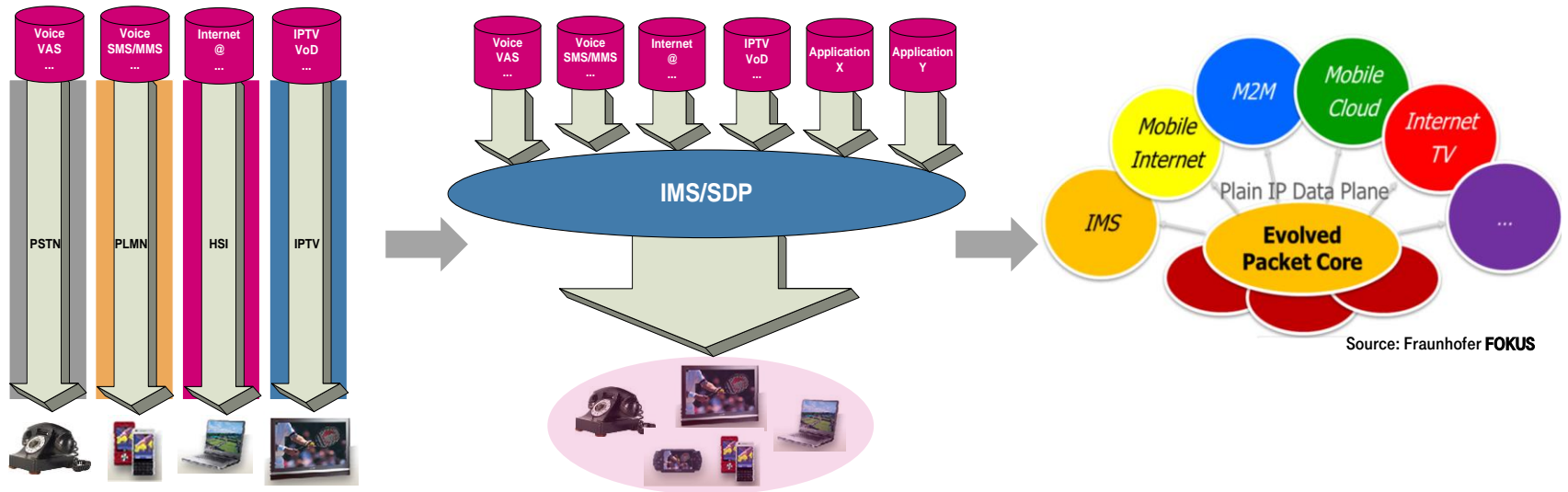
LIFE IS FOR SHARING.

Renato Totić



InnoSoc
Innovative ICT Solutions
for the Societal Challenges

HT TECHNOLOGY TRANSFORMATION



SALES TRANSFORMATION



LIFE IS FOR SHARING.

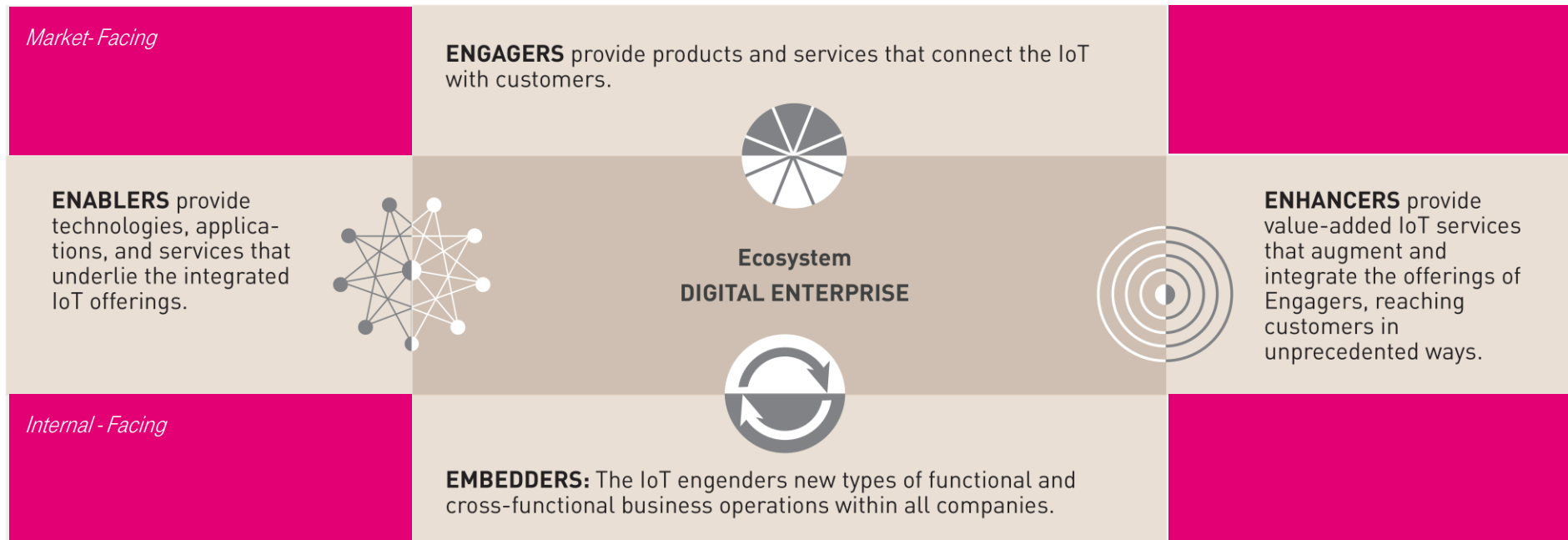
Renato Totić



InnoSoc
Innovative ICT Solutions
for the Societal Challenges

THE IOT ECOSYSTEM

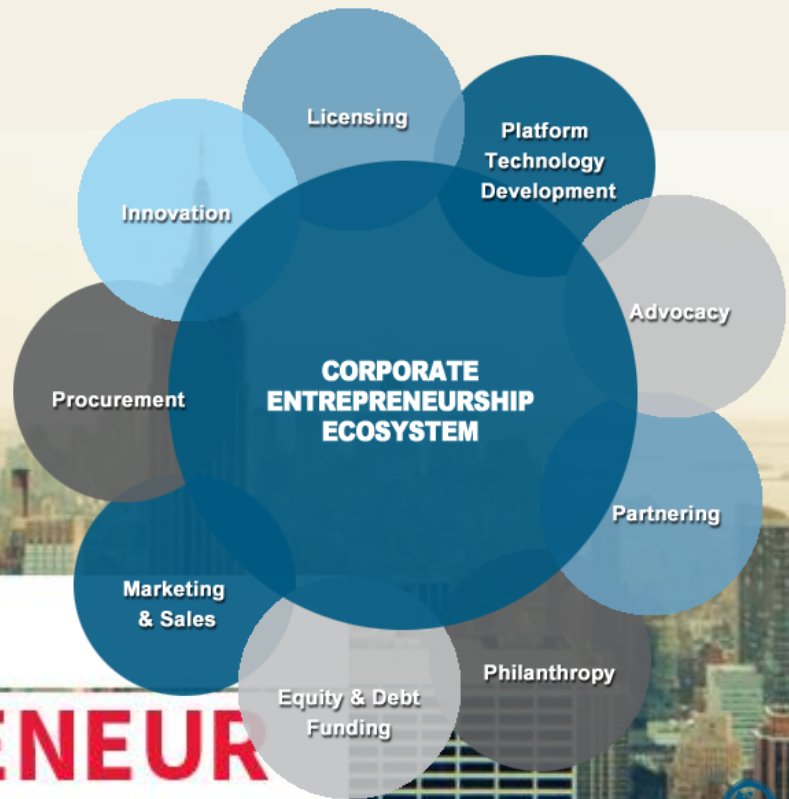
The overall IoT market will be divided among Enablers, Engagers, and Enhancers. These three kinds of companies will interact, working together to provide the technology and services needed by all—both to market the IoT and to deploy it for their own operations.



Source: Strategy&



THE CORPORATE IS
THE NEW ENTREPRENEUR



© Impact 2013. All Rights Reserved.



LIFE IS FOR SHARING.

Renato Totić



InnoSoc
Innovative ICT Solutions
for the Societal Challenges



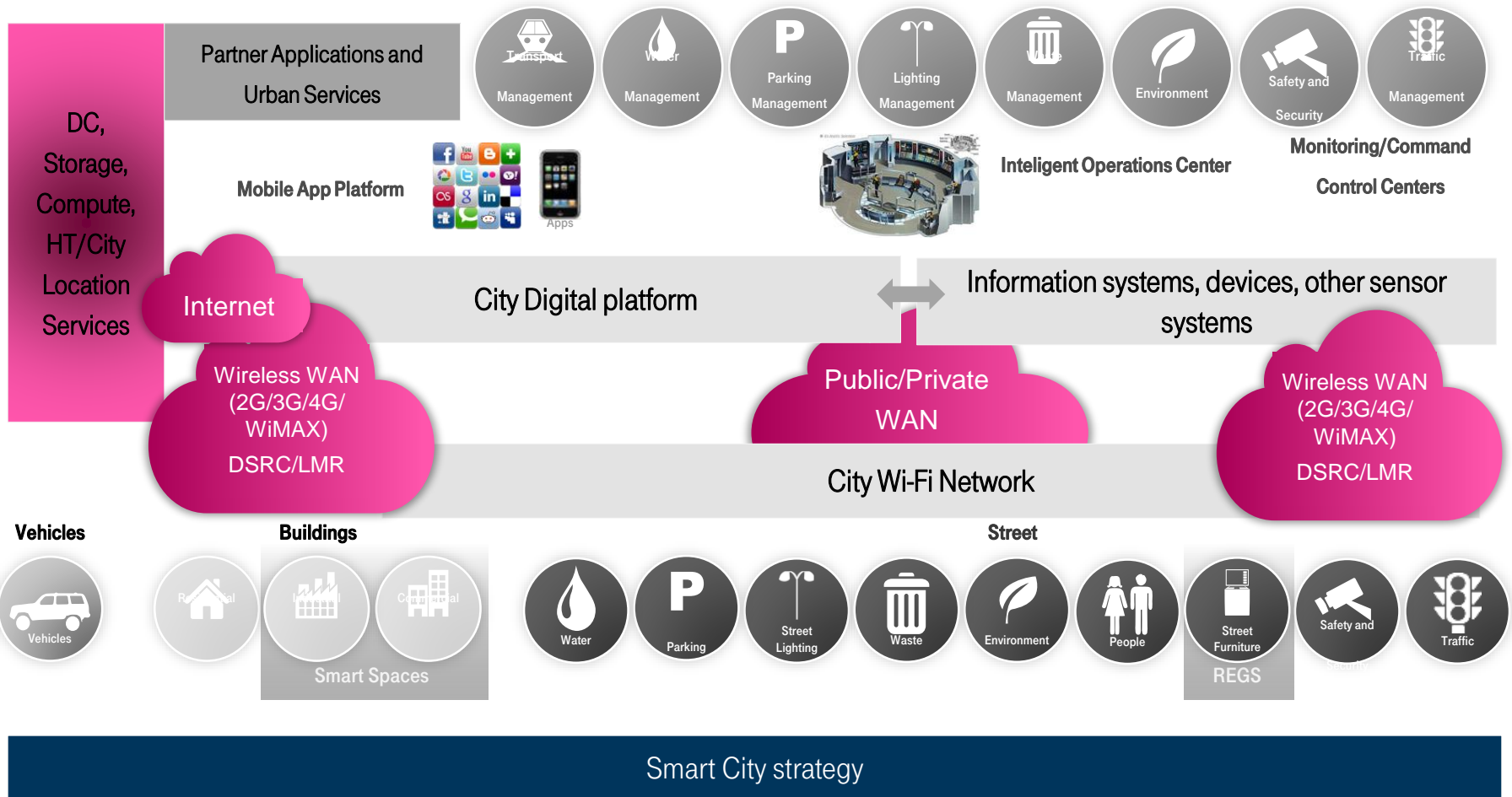
LIFE IS FOR SHARING.

Renato Totić



InnoSoc
Innovative ICT Solutions
for the Societal Challenges

HT SMART CITY VISION



LIFE IS FOR SHARING.

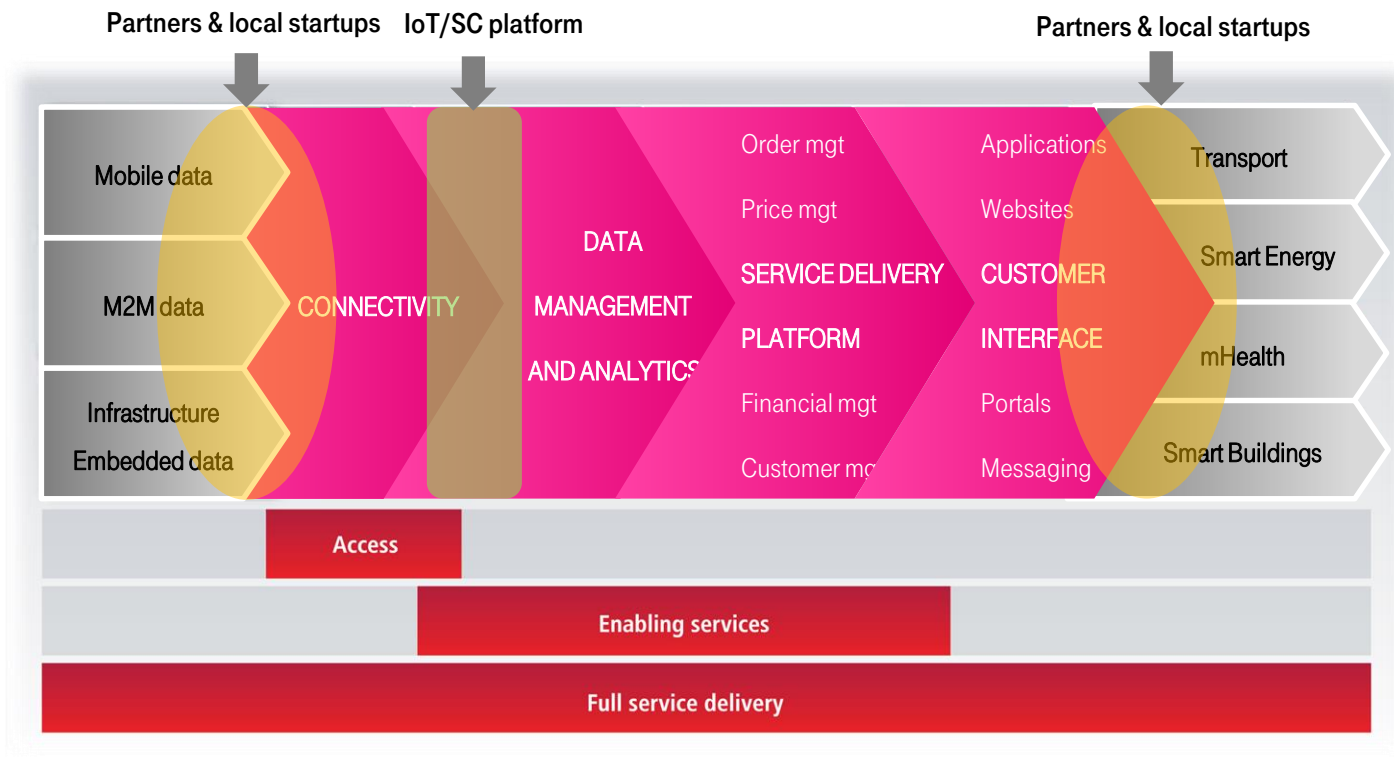
Renato Totić



InnoSoc
Innovative ICT Solutions
for the Societal Challenges

HT SC VISION - SMART CITY FULL SERVICE DELIVERY

SMART CITY VALUE CHAIN



Source: Accenture



LIFE IS FOR SHARING.

Renato Totić



InnoSoc
Innovative ICT Solutions
for the Societal Challenges

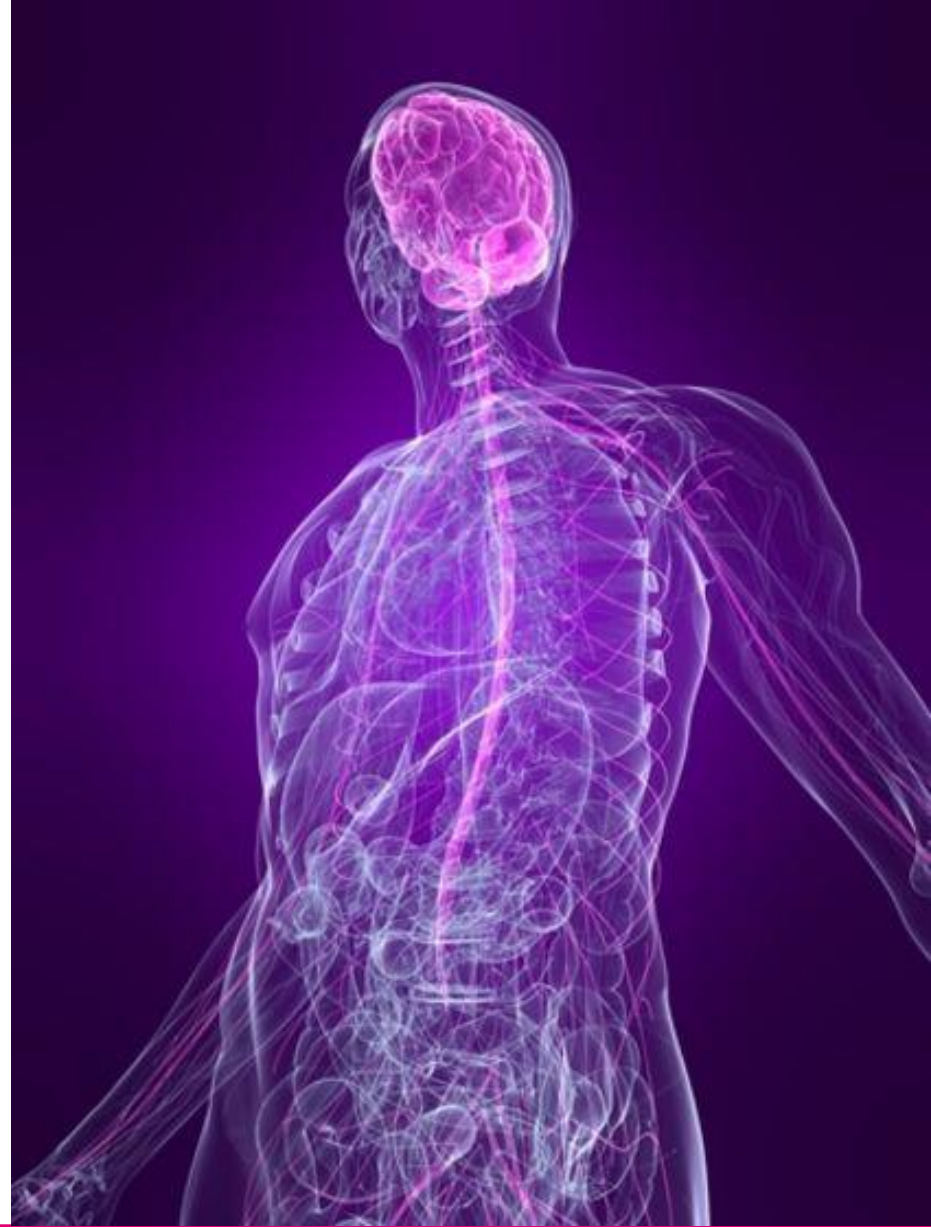
IoE ECOSYSTEM – HT POSITION

The telecommunication industry and other business branches are currently merging into a total convergence mediation layer possibly around the operator core networks.



Source: Fraunhofer FOKUS

ONE NETWORK



LIFE IS FOR SHARING.

Renato Totić



InnoSoc
Innovative ICT Solutions
for the Societal Challenges



ONE FRAMEWORK



LIFE IS FOR SHARING.

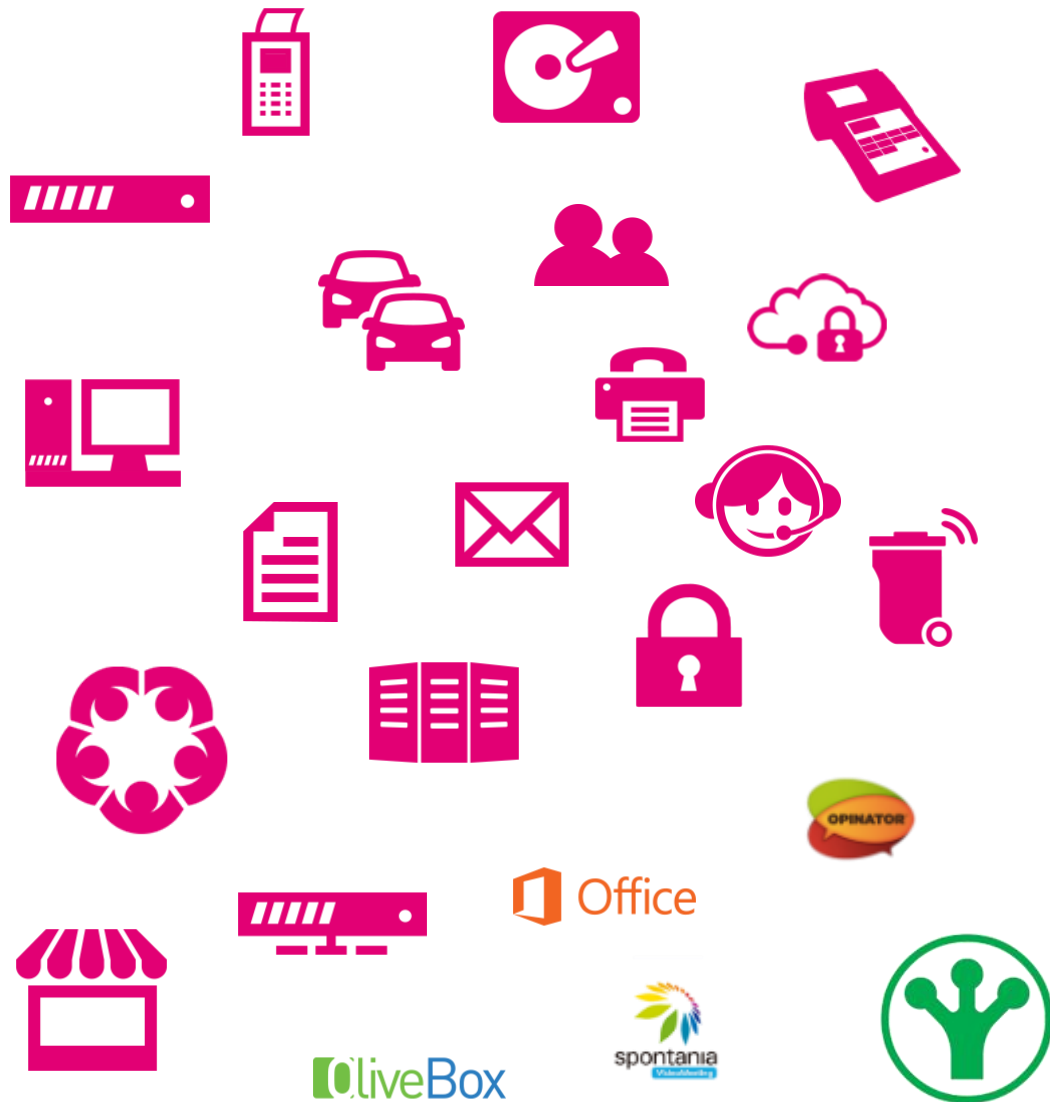
Renato Totić



InnoSoc
Innovative ICT Solutions
for the Societal Challenges

ALL SERVICES

ICT STANDARD & TAILORED MADE



LIFE IS FOR SHARING.

Renato Totić



InnoSoc
Innovative ICT Solutions
for the Societal Challenges



“... It’s about citizens,
not Technology”

1296 - Republic of Dubrovnik built one of the first medieval sewer system, which is still in use

1301.- introduced medical service

1317.- opened the third pharmacy in Europe as part of the Franciscan monastery, which works even today

1347.- there is a nursing home

1377.- Dubrovnik Republic made a decision introducing quarantine as protection against the introduction and spread of communicable diseases, especially the plague (the first time in the world)

1395.- passed the Insurance Act, which is the oldest in Europe

1416 - Dubrovnik is the first in Europe to abolish slavery

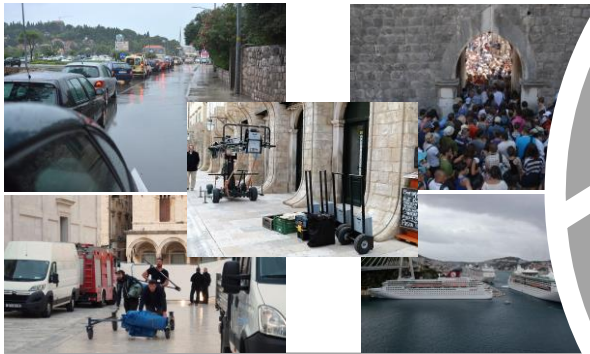
1434.- opened the orphanage for abandoned and illegitimate children in the monastery of St. Kalra (one of the first in the world)

1438.- Dubrovnik's water supply is put into operation (in the length of 11700 m)

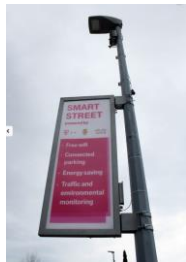
DUBROVNIK CONNECTED CITY

“... It’s about citizens, not Technology”

Answer to challenges of City transformations
- improving the quality of life



Additional revenue for City -
Marketing & T-City



City budget savings – City infrastructure
management & maintenance



OPEN DATA – innovation &
entrepreneurship



DUBROVNIK SMART STREET PILOT HT & PARTNERS

- Transformation of the company
- ICT service provider



PARTNERS ECOSYSTEM

Why partners?

The need for:

- the innovative solutions
- the fast development
- the knowledge and specialization for the new fields of interest

HT role

- Project management
- Data center (storage) and network (connectivity)
- Architecture design and system integration
- Customer contact , sales and customer service

SMART CITY PORTFOLIO

TRAFFIC



ENVIRONMENT



SECURITY



WASTE



PARKING



LIGHTING



E- MOBILITY



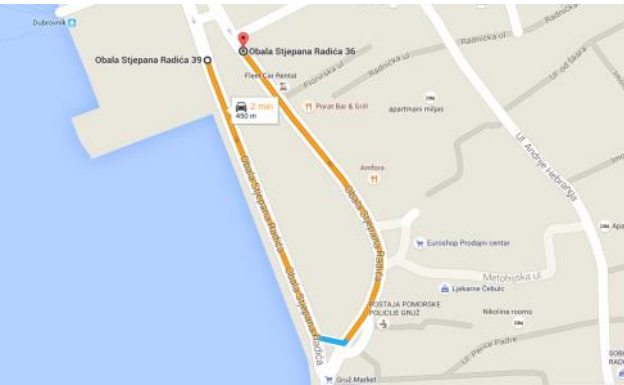
SOME FIGURES ABOUT THE DUBROVNIK PILOT PROJECT

- Duration
 - Start in June 2015
 - Implemented on 15th of March 2016 – on time
- 4 Smart City solutions integrated
- 8 HT's partners (international and local)
- 25 team members
- over 50 articles in media after go live

- **and a lot of fun**



DUBROVNIK PILOT PROJECT LOCATION



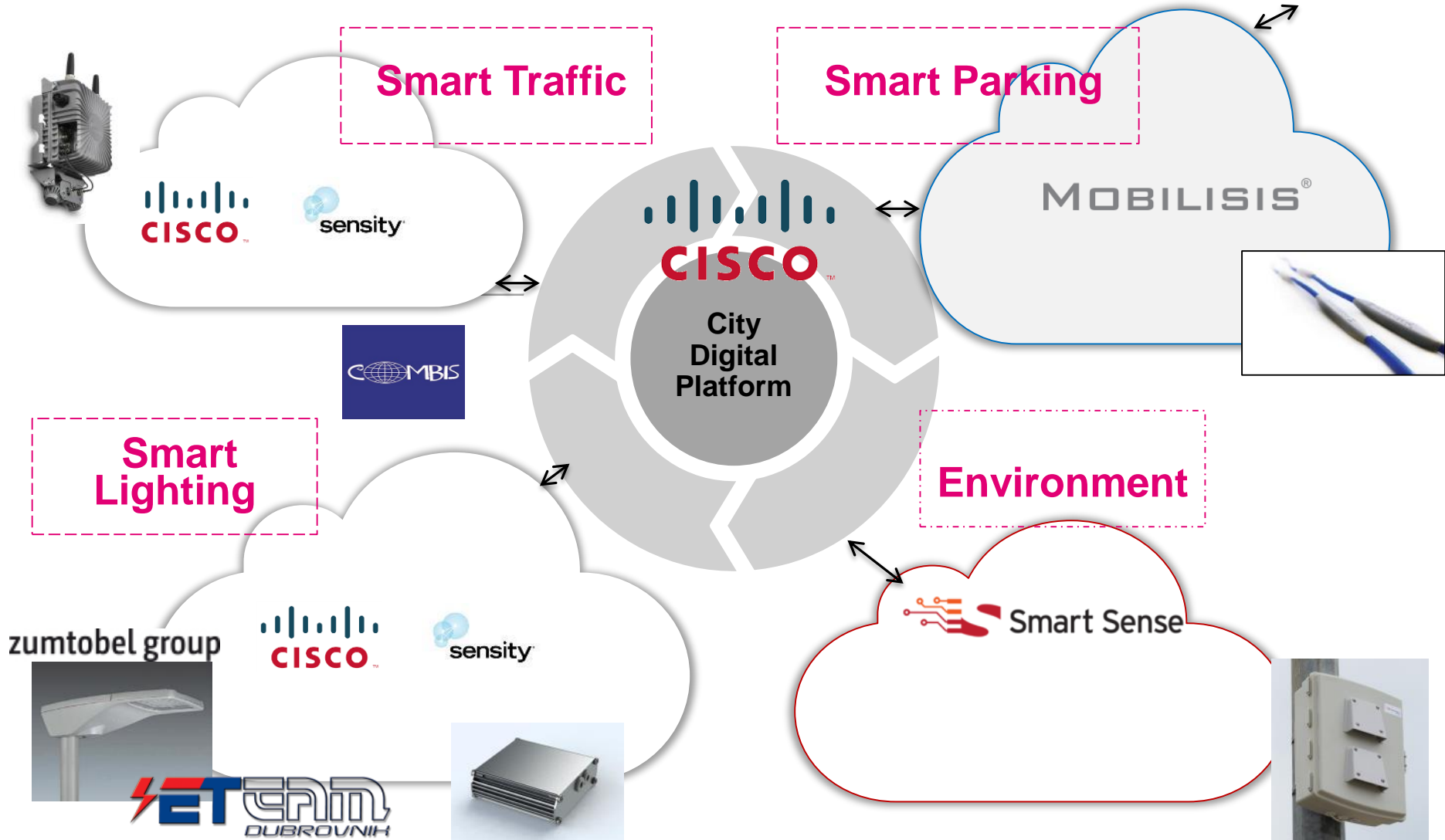
LIFE IS FOR SHARING.

Goranka Gaćina



InnoSoc
Innovative ICT Solutions
for the Societal Challenges

HT PARTNERS AND SOLUTIONS



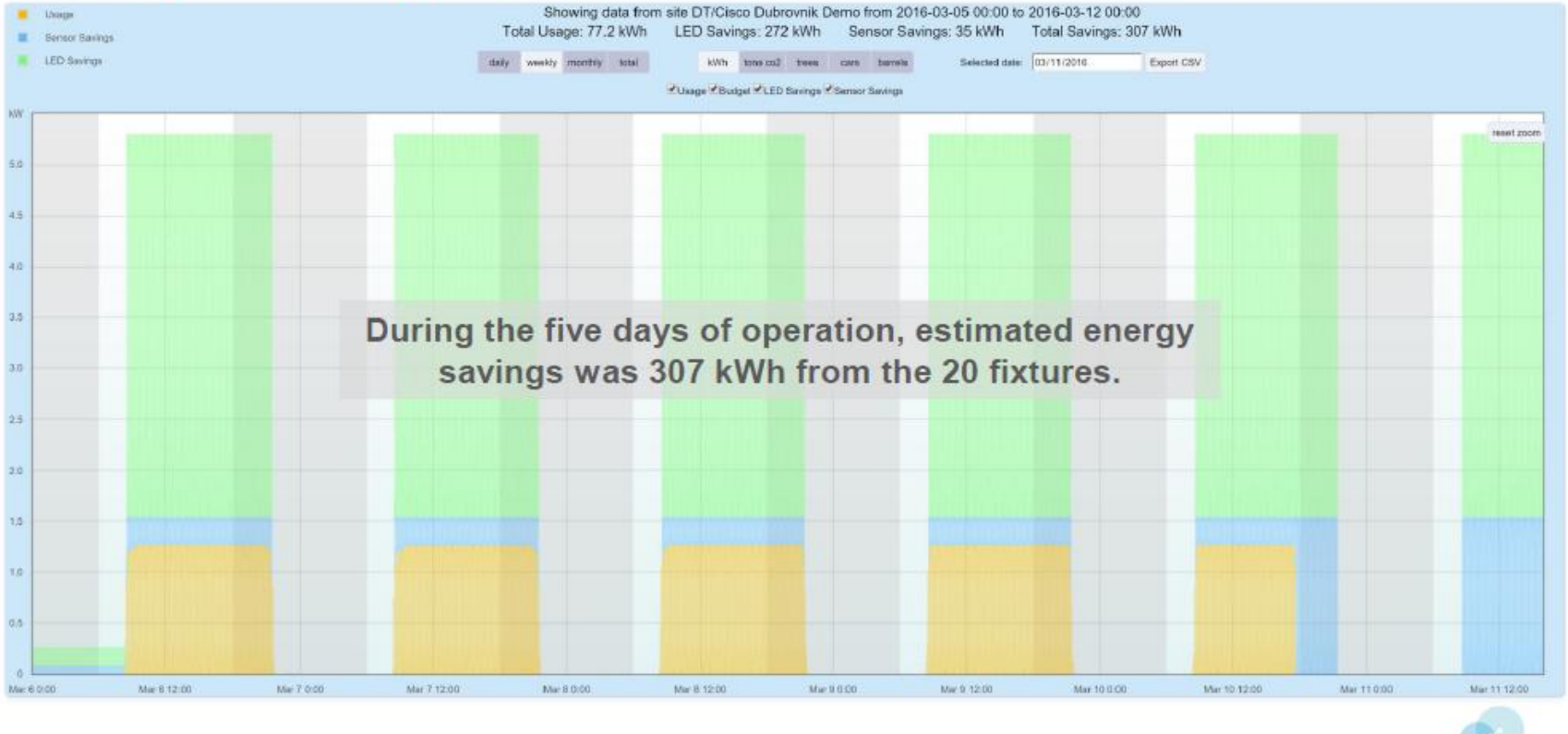
SMART LIGHTING

The goal: savings and improvements in lighting and environment protection

- Partners: Cisco, Sensity , Zumtobel
- Luminaires
 - 20 old power consuming luminaires replaced by the networked LED city lighting with sensors
- Solution (Sensity NetSense and Cisco IOT) enables:
 - Adaptive algorithms for light schedules based on daylight sensor
 - Dimming according to nearby traffic for increased energy savings and increased pedestrian safety
 - Remote management of all lights (individual and group)
 - Maintenance based on real time alerts
 - Energy consumption and other reports based on individual luminaire

SMART LIGHTING BENEFITS

Energy Savings



SMART TRAFFIC

The goal: traffic improvement

- Partners: Cisco, Sensity, RAO
- Solution: 3 advanced multi-video nodes, NetSense traffic solution and IOT platform enable:
 - Traffic monitoring (counting vehicles and pedestrians)
 - Incidents detection: driving in the opposite direction in one way street , car stopping on the street
 - Reporting

SMART TRAFFIC MONITORING



LIFE IS FOR SHARING.

Goranka Gaćina



InnoSoc
Innovative ICT Solutions
for the Societal Challenges

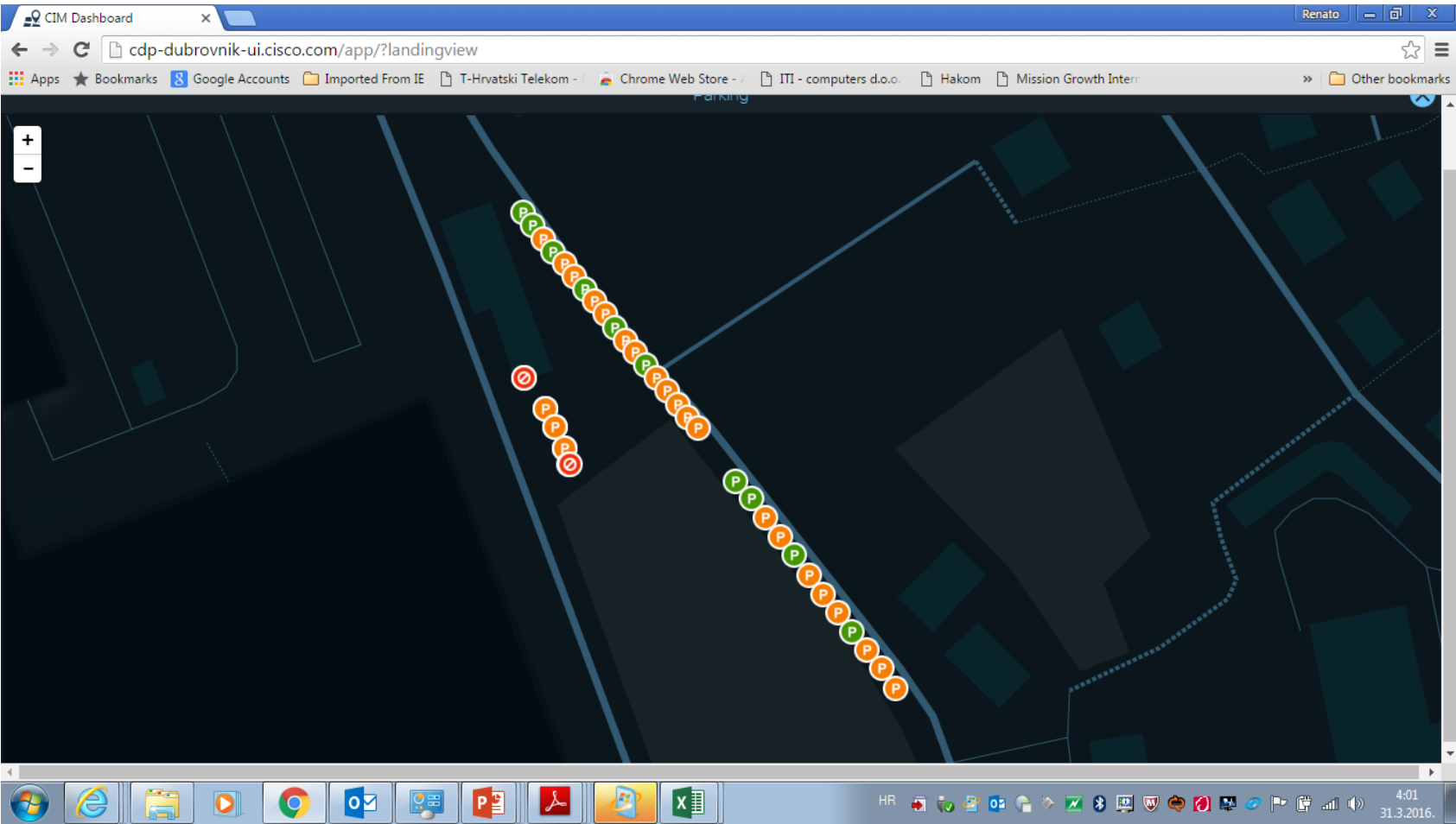
SMART PARKING



The goal: parking improvements and environment protection

- Partners: Mobilisis, RAO, Cisco, Sensity
- Solution:
 - Real time parking availability on 30 parking spaces based on MagSense sensors and displayed in the beginning of the street
 - Parking violation detected by multi sensor video nodes for 2 non parking spaces in the beginning of the street
 - Parking monitoring for parking inspectors and city police
 - Information for parking payment application
 - Reporting

PARKING - CITY DIGITAL PLATFORM



LIFE IS FOR SHARING.

Goranka Gaćina



InnoSoc
Innovative ICT Solutions
for the Societal Challenges

SMART PARKING BENEFITS

- Less traffic congestions
- Environment protection
- More parking revenues



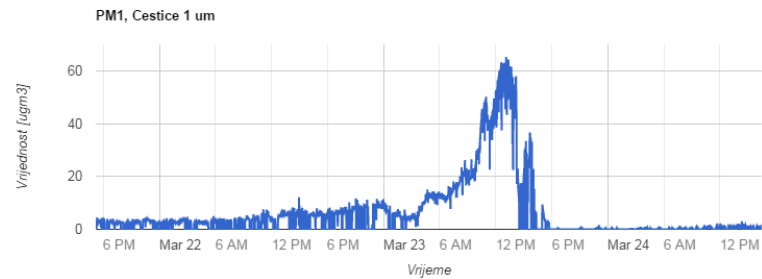
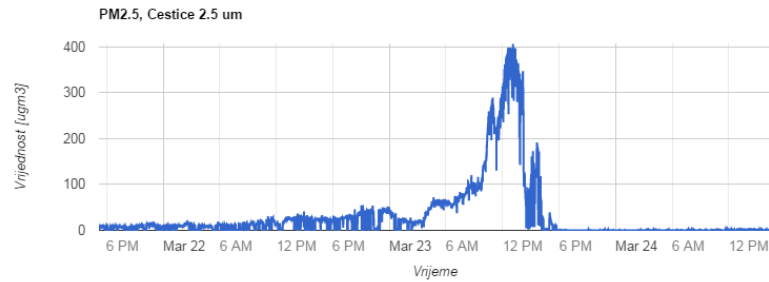
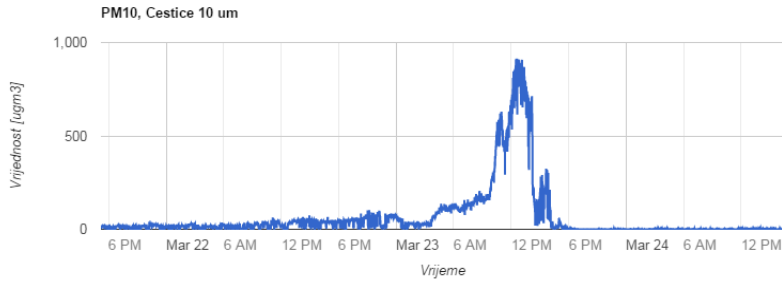
ENVIRONMENT

The goal: information on air quality control

- Partners: SmartSense , Cisco
- Solution: one fixed sensor for air quality control detecting pollutants
 - 5 gases (CO, NO, NO2, SO2, O3)
 - 3 types of air particles
- Detection of pollution, reporting and comparison with allowed pollution figures
- Reliable data for the indicative measurement of pollution in urban area
- Local community, citizens, public health institutions can be involved



ENVIRONMENTAL MONITORING



10,169 Views

HRT Vijesti

Yesterday at 4:06pm · 🌐

👍 Like Page

Dubrovčani danas imaju priliku svjedočiti zanimljivom prirodnom fenomenu. Naime, duboka ciklona koja se preko Sredozemlja premješta prema Jadranu sa svoje prednje strane 'usisava' velike količine pustinjskog pijeska iz Afrike i prenosi ga preko naših krajeva.

👍 Like

💬 Comment

➦ Share



LIFE IS FOR SHARING.

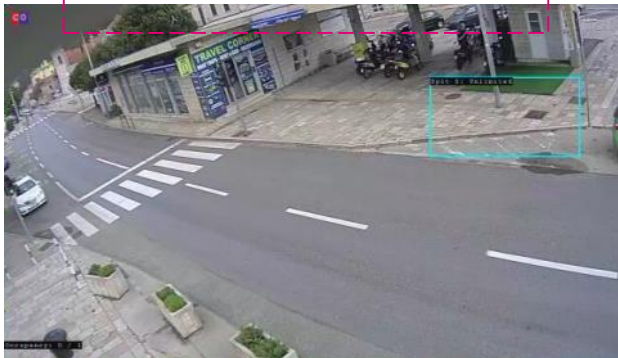
Goranka Gaćina



InnoSoc
Innovative ICT Solutions
for the Societal Challenges

BENEFITS FOR THE CITY

Smart Traffic



Improvement

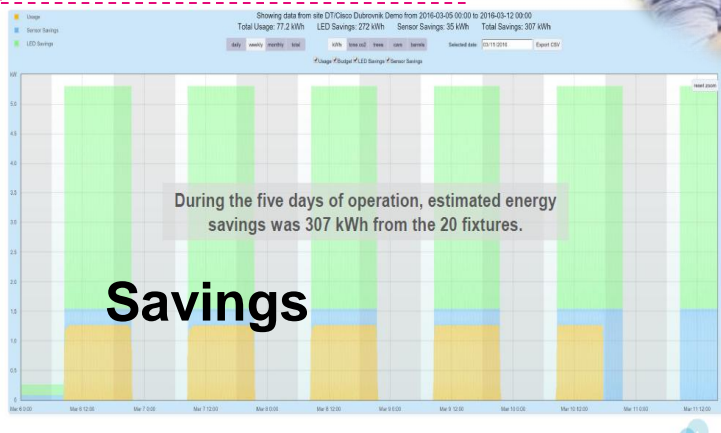
WI FI



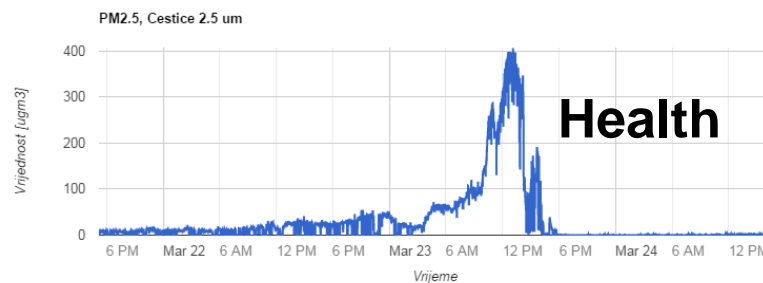
Smart Parking



Smart Lighting



Environment



LIFE IS FOR SHARING.

Goranka Gaćina



InnoSoc
Innovative ICT Solutions
for the Societal Challenges

CITY DIGITAL PLATFORM

The screenshot displays the Cisco City Digital Platform (CDP) interface for Dubrovnik. The top navigation bar includes the Cisco logo, the location 'Dubrovnik', the time '03:38 AM Thursday, March 31', and the 'CDP' title. The main dashboard is divided into several sections:

- Map View:** A map of Dubrovnik with a green square highlighting a specific area.
- Parking Occupancy:** A gauge showing 65% occupancy and 14 open spaces. The text 'OCCUPIED' is displayed in green.
- Health Indicators:**
 - Lighting:** Health: 100% - Excellent. All systems running optimally.
 - Environment:** Health: 43% - Poor. All systems running optimally.
 - Traffic:** Health Unavailable. No Active Traffic Systems!

The bottom of the image shows a Windows taskbar with various application icons and a system tray displaying the time '3:38' and date '31.3.2016'.



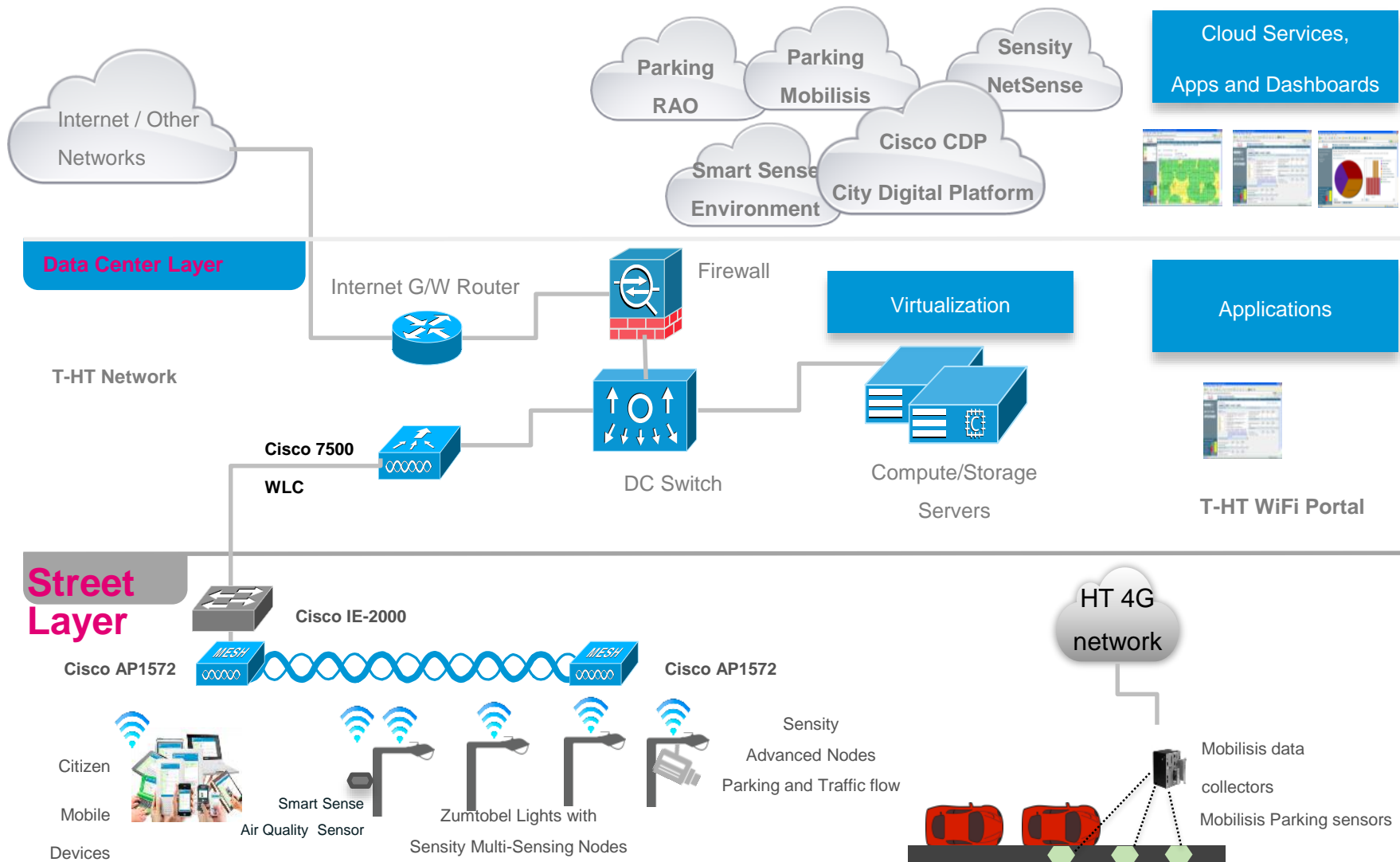
LIFE IS FOR SHARING.

Goranka Gaćina



InnoSoc
Innovative ICT Solutions
for the Societal Challenges

HIGH LEVEL ARCHITECTURE





“... It’s about citizens,
not Technology”

2016

Dubrovnik is first inovative, referent and testing Smart City center of Croatian Telecom & partners;

We are hosting many foreign and domastic city representatives (Moscow, Athens, Tirana, Tel Aviv...)

Dubrovnik community is
Monitoring....testing....commenting....
educating