ITALIA 5G: Speciale Sperimentazioni: l'esperienza di Wind Tre

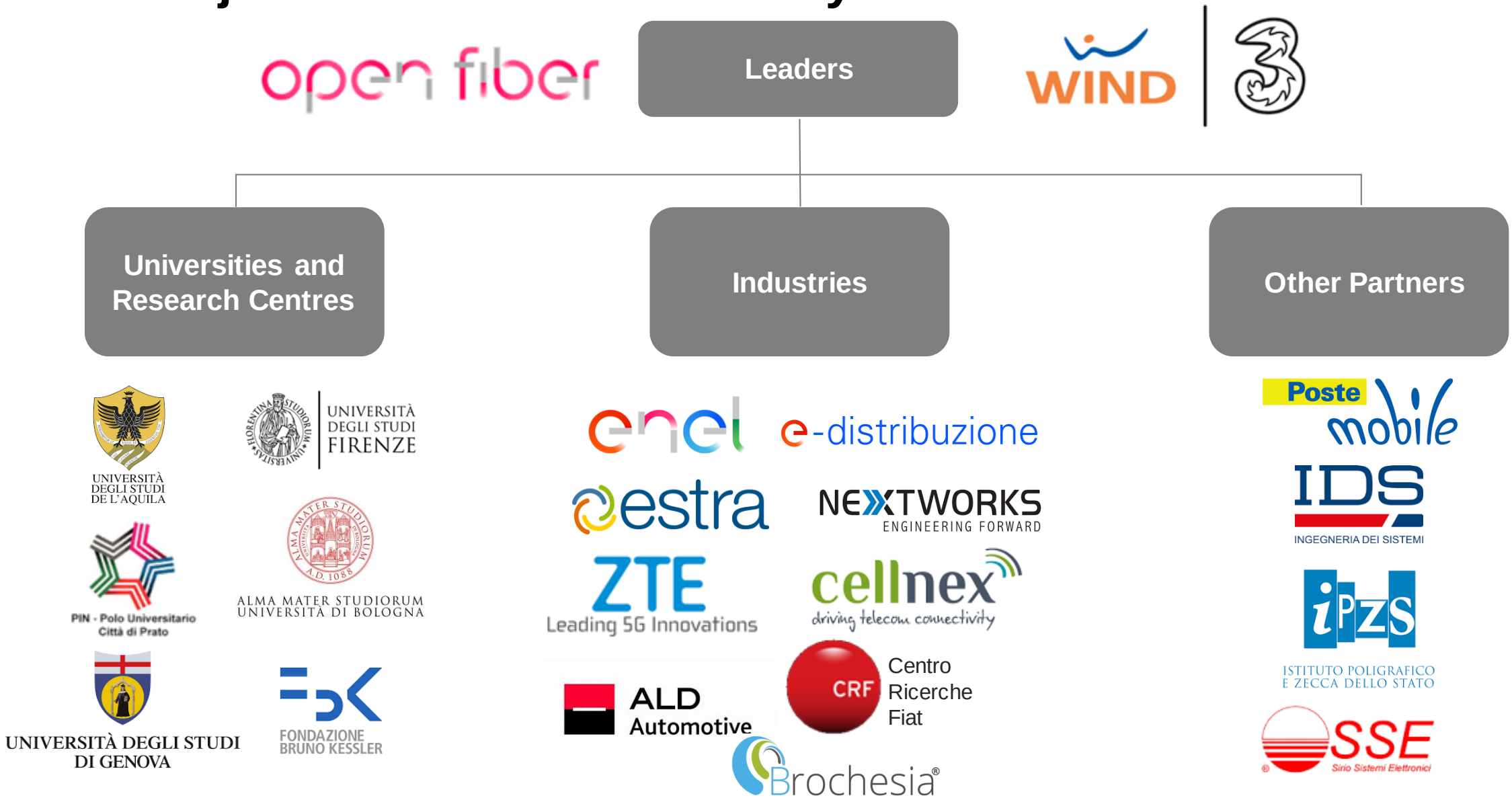
«Città 5G» - sperimentazione MISE

&

« 5G CITY» - H2020 5G-PPP

Milan 10-04-2018

5G: Objectives and Partner ecosystem

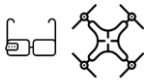


«Città 5G» The use cases contexts

e-health

Agricoltura 2.0

Videosurveillance



Smart security

IoT Sensors

Certification and Enhancement of Made in Italy

Improvement of the health assistance system

Security

Augmented and Virtual Reality for Museums and art heritage cities

Citizens at the core of the «Città 5G»

Effective mobility management system

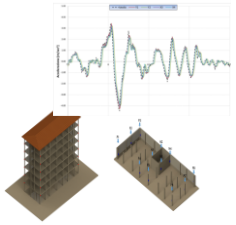
AR/VR

Advanced Mobility

High connected EV road monitoring

Structural Health Monitoring and emergencies prevention

Optimized electrical distribution networs



SHM

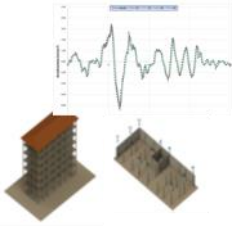
Manufacturing evolution

Industry 4.0

Grid 4.0

«Città 5G» : Use Cases - Wind Tre

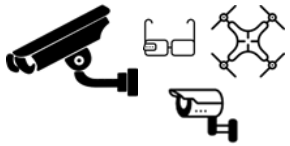
Structural Health Monitoring



Agriculture 2.0

E-Health – Medical Devices

Smart Security for a Smart City



Enhancement Traffic Management

Structural Health Monitoring

Buildings

Construction site

Infrastructure

Drones

Video Recordings &
Video Analytics

Sensors

Accelerometer, Inclinometer, Extensometer, Temperature and Umidity Sensors, GPS, Weather Station

Real-time monitoring of "health status"

Preventive and timely intervention

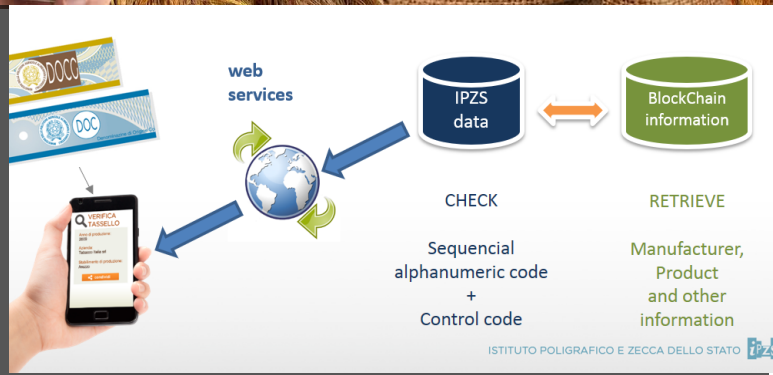
Greater security for citizens and buildings

Reduction of construction and maintenance costs

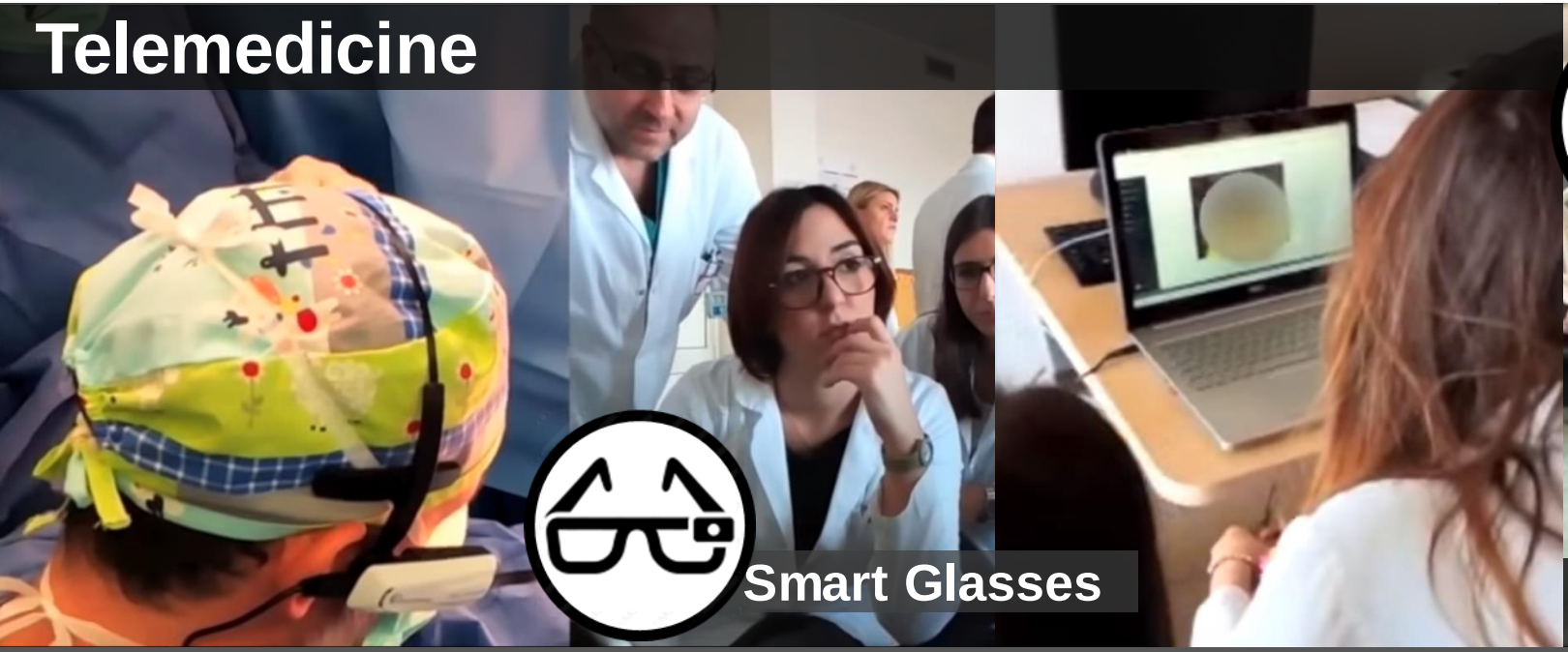
Agriculture 2.0

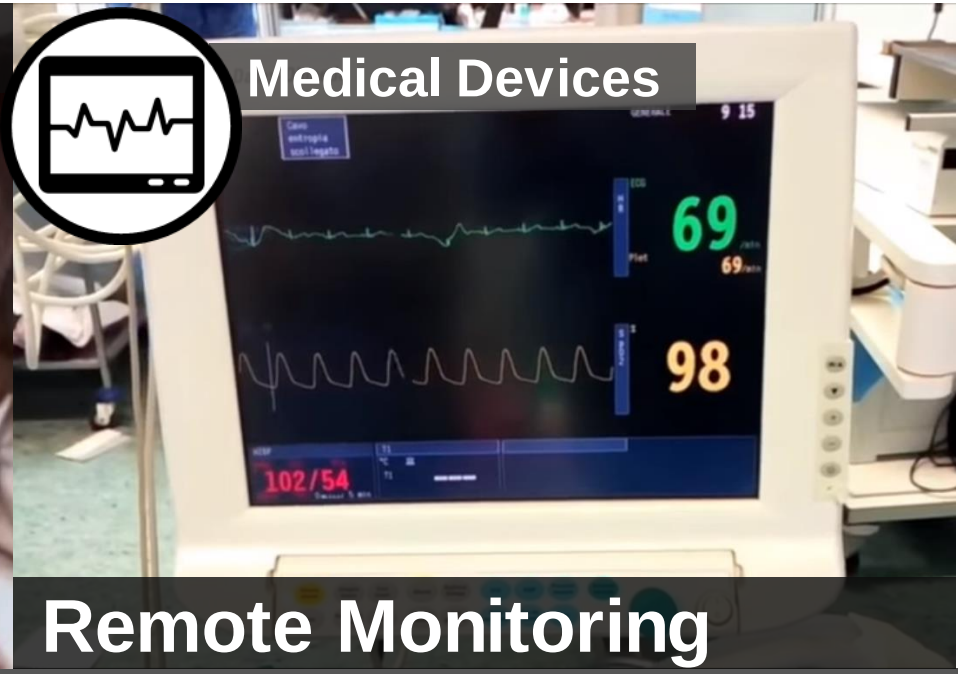
Precision Agriculture

Enhancement of Made in Italy
Quality Assurance
Guaranteed Authenticity of Products



E-Health, Medical Devices





Timely and effective remote intervention

Greater patient satisfaction at home

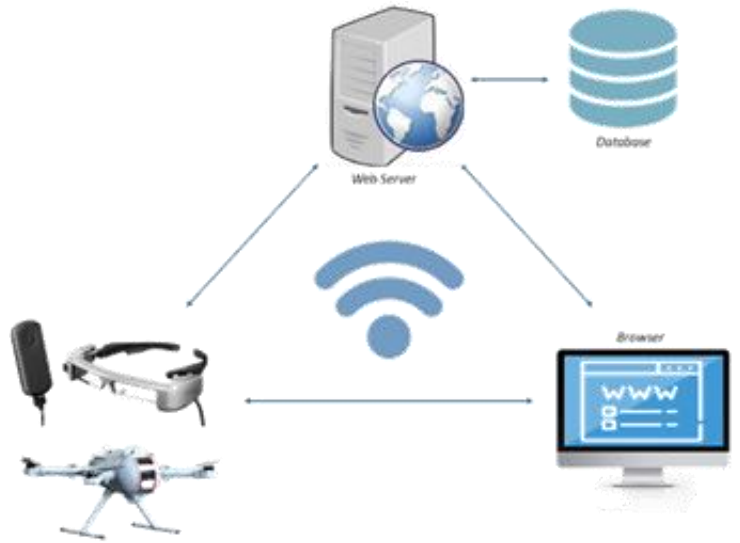
Cost reduction of the health system

Increased accessibility to healthcare

Smart Security for a Smart City

POLICE

PRIVATE SECURITY

Devices	Operations Centre
Police Agents W Smart Glasses	
Drones with camera	

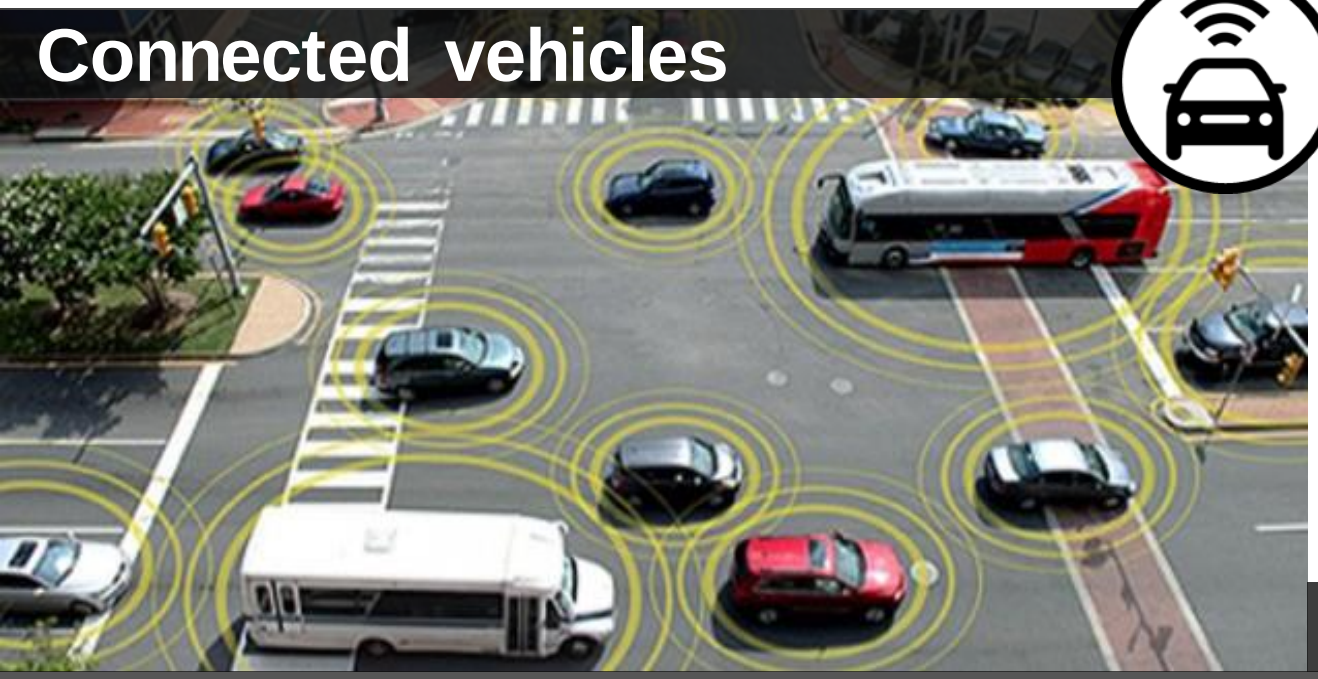
Effective and collaborative management of agents

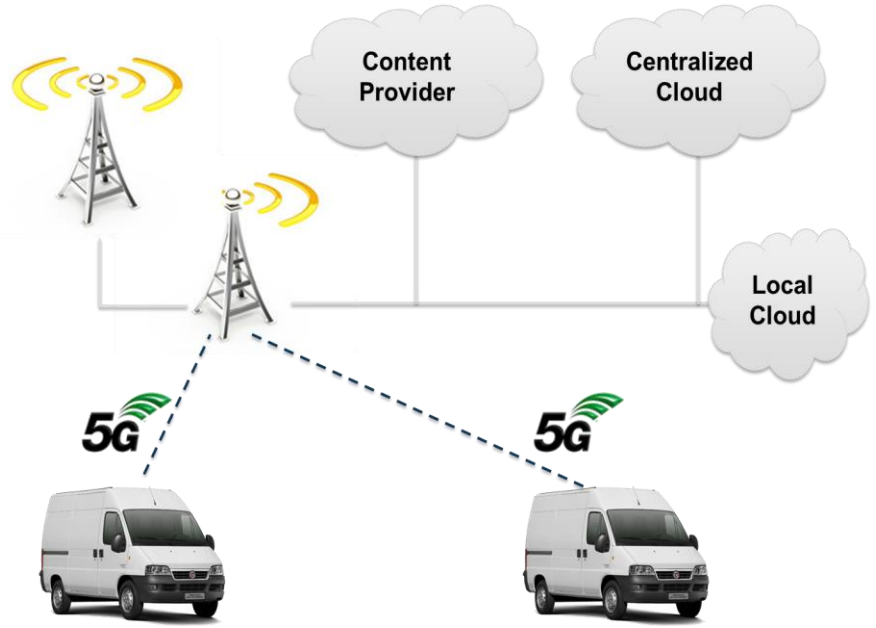
Preventive and timely management of security

Increased security for citizens and agents

Enhancement Traffic Management

Connected vehicles





Operations Centre

Effective, efficient and safe management of fleets

Safety of vehicles, drivers and people

Better comfort and driving style

Reduce road traffic and pollution

5GCity Project

PROJECT COORDINATOR i2cat

TECHNICAL COORDINATOR NEC

PARTNERS

betevé, ubiwhere, ITALTEL, PRISMTECH, retevisión, BRISTOL IS OPEN, University of BRISTOL, Comunicare Digitale, Virtual Open Systems, Accelleran, Rai, Ajuntament de Barcelona, Città di Lucca, mog, WIND 3, NEXTWORKS, inCITES

Media (Industry Vertical)

5GCity consortium includes different media-related partners, a television channel, a national broadcaster, and a SME focused on content acquisition and production in the Cloud or an association of media companies. Three different media use cases will be deployed and evaluated (mobile real-time transmission, UHD video distribution, and real-time video acquisition and production in the Edge & Cloud).

Unauthorized waste dumping prevention

The city of Lucca holds some yearly events that are highly disproportionate to the city size, resulting in a number of issues including illegal waste dumping. 5GCity will use the cities' surveillance cameras and deploy (multiple instances of) a virtualized service that can process video streams near cameras automatically to identify illegal dumping.

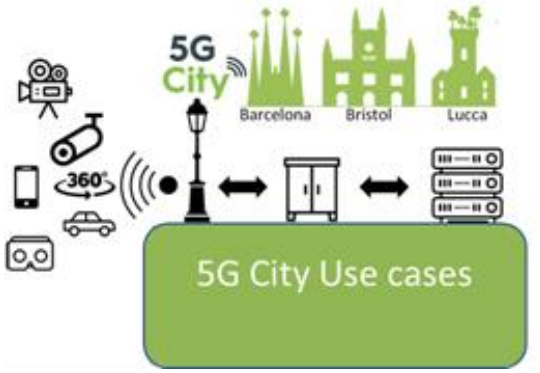
Neutral host (Telecom Use Case)

GCity will leverage its virtualization platform in order to enable the cities to create dynamic end-to-end slices containing both virtualized edge and network resources and lease it to third-party operators.

5GCity: the Use Cases

5GCity: a distributed cloud & radio platform for 5G Neutral Hosts.

- The main goal is to turn a city into a distributed, third party, and multi-tenant edge infrastructure, extending the cloud model all the way to the edge while enabling dynamic, fast and interoperable provisioning



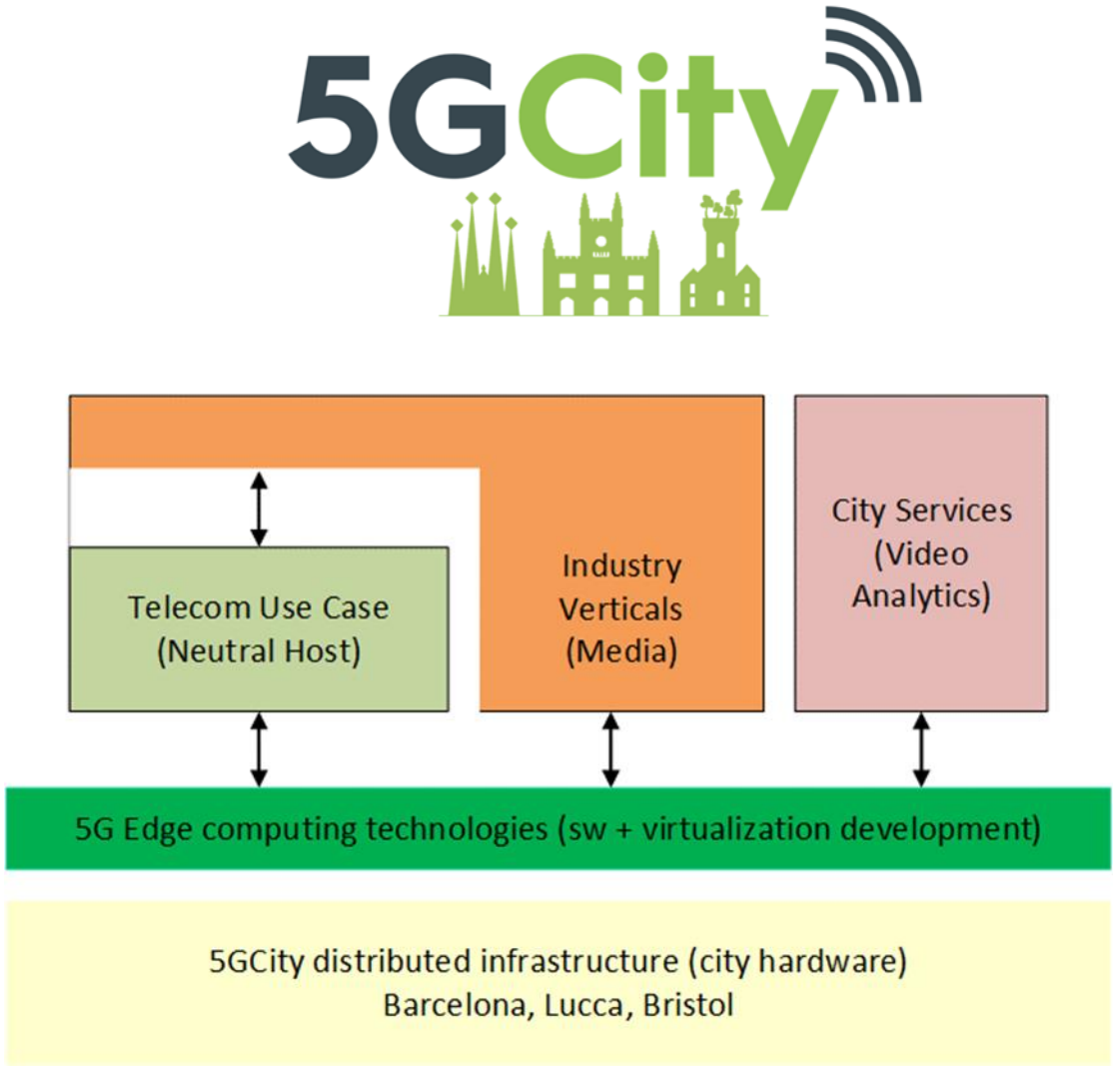
5GCity Use Case

- A specific application paradigm; it describes how the proposed technology can be used to satisfy specific needs: .
  - Unauthorized Waste Dumping Prevention
  - Neutral Host
  - Video Acquisition and Production Community media engagement in live events
  - UHD Video Distribution Immersive Services
  - Mobile Backpack Unit for Real-time Transmission
  - Cooperative, Connected and Automated Mobility
- For each Use Case, we are going to consider the following aspects:
  - Overall description, Actors involved, Requirement, Deployment topology Evaluation and Expected impacts

5G CITY: selected scenarios

All the use cases can be clustered in 3 scenarios:

- **Scenario 1 - Telecom Use Case**
- **Scenario 2 - Industry vertical**
- **Scenario 3 - City Services**



5G CITY: Use Cases distribution

ID	Use Case Name	City		
		Barcelona	Bristol	Lucca
UC1	Unauthorized Waste Dumping Prevention			Yes
UC2	Neutral Host	Yes	Yes	Yes
UC3	Video Acquisition and Production Community media engagement in live events	Yes	Yes	
UC4	UHD Video Distribution Immersive Services		Yes	Yes
UC5	Mobile Backpack Unit for Real-time Transmission	Yes		
UC6	Cooperative, Connected and Automated Mobility	Yes		