

TELECOM ITALIAGROUP

Strategy, Innovation & Customer Experience

Hannover – June 2018

CeBIT event

Internet of Things exploitation

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Strategy, Innovation & Customer Experience

Innovation – Business Positioning & PMO



Agenda



IoT Market in Italy - overview



Telco industry evolution and TIM vision

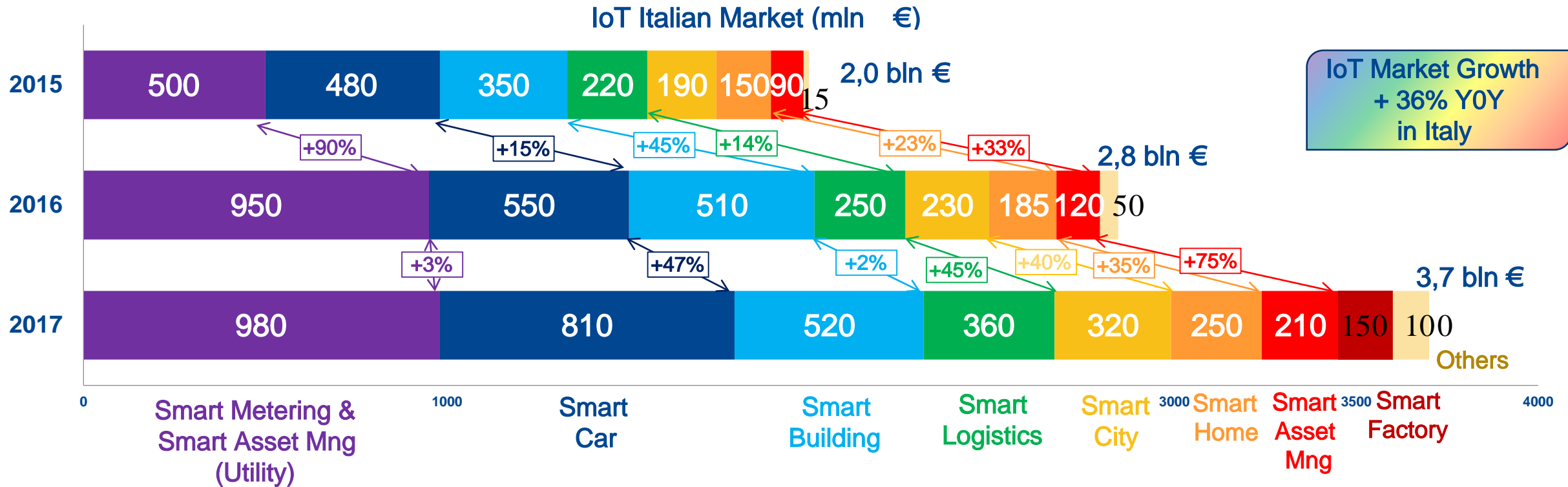


Highly Efficient IoT



TIM and Huawei MoU agreement on IoT

IoT Market in Italy

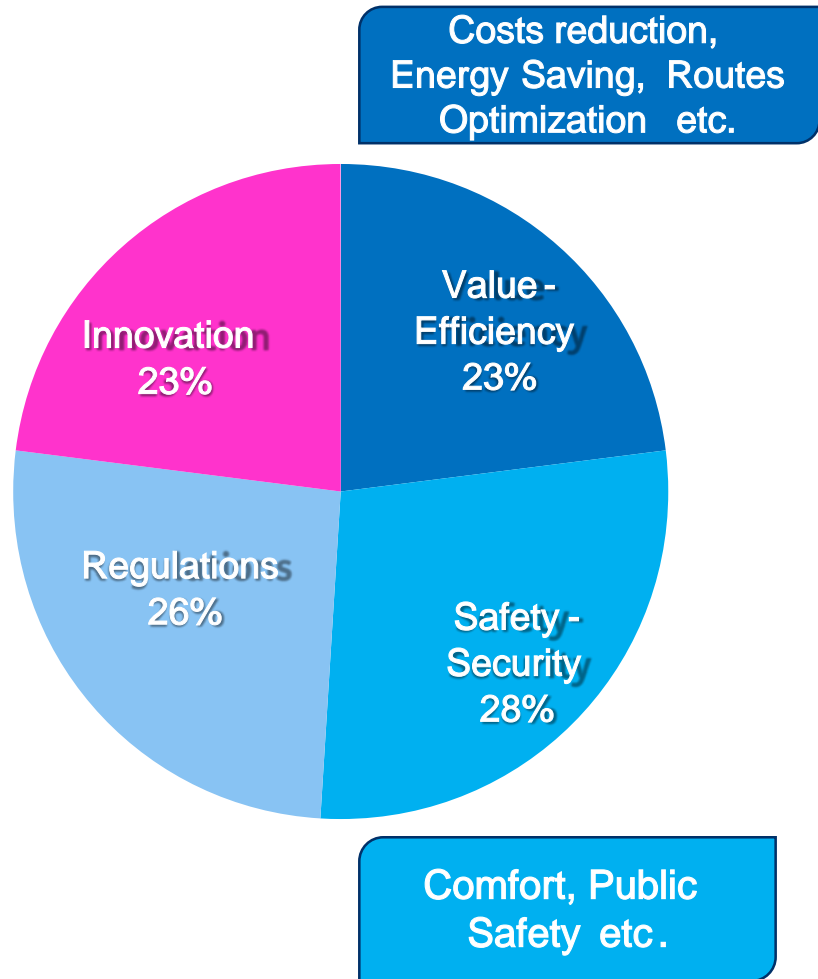


Italy IoT market is worth 3,7 bln € in 2017, average growth rate YoY has been of 36 %

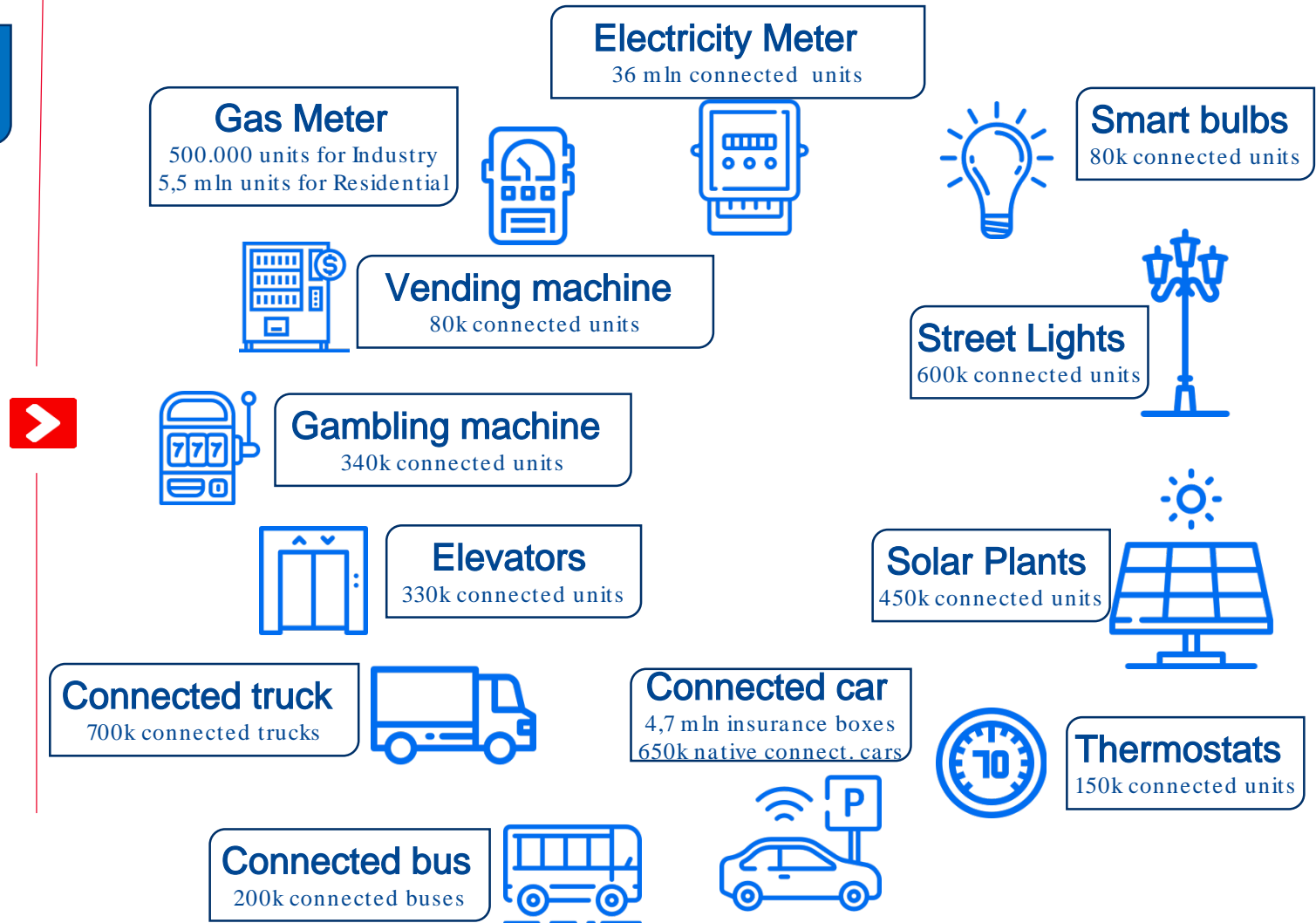
IoT – Drivers and numbers for Italy



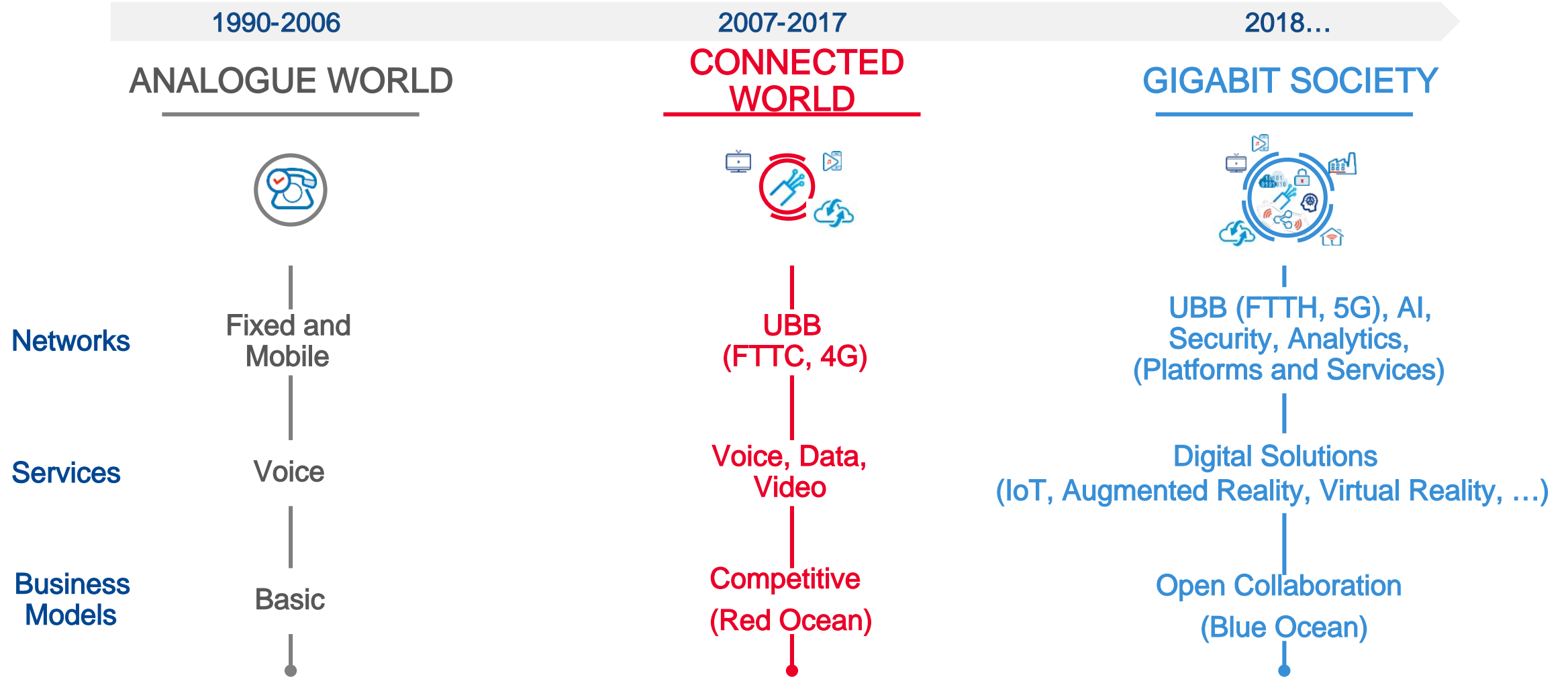
IoT adoption drivers for Italy



IoT connected devices diffusion for Italy

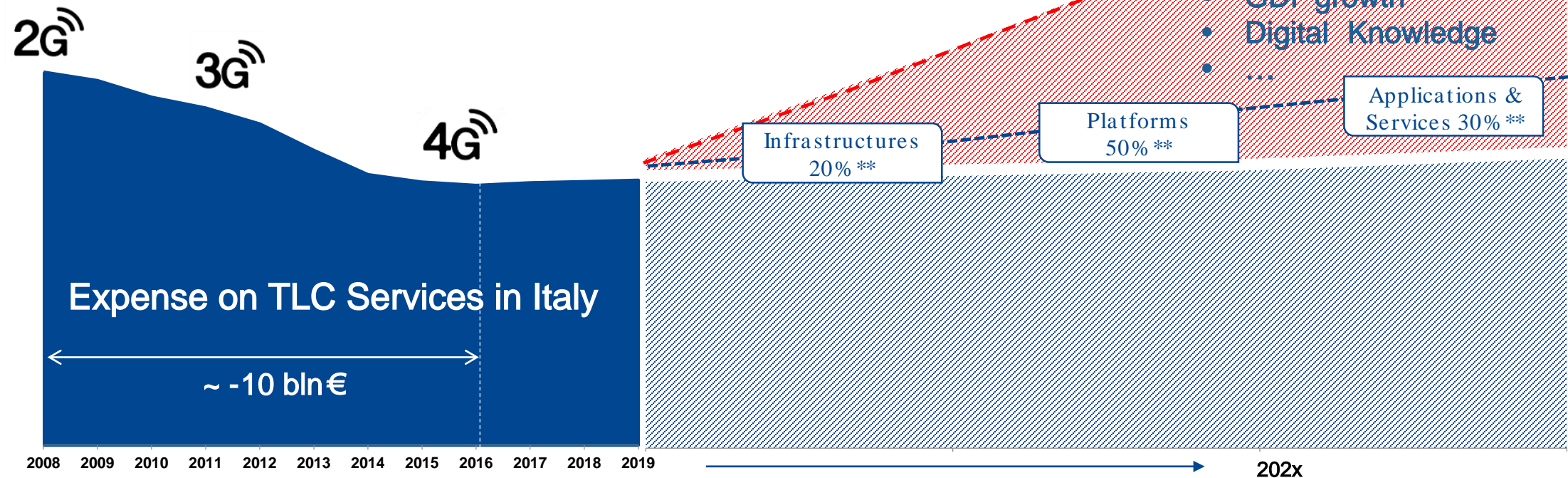
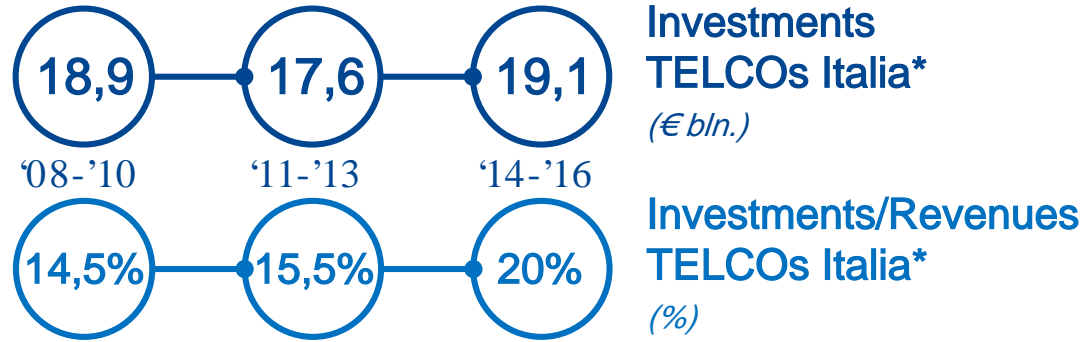


TELCO Industry evolution: from the Connected Word to the Gigabit Society



- Evolution of the business model, digital transformation and speed of execution are the key elements to return to winning in the Gigabit Society

Value Creation for the Italy System



*Spectrum Licenses not included. Source: elaboration from Asstel

** Market up to 2026 (Share of Value). Source: Elaboration from Arthur D. Little, 2017

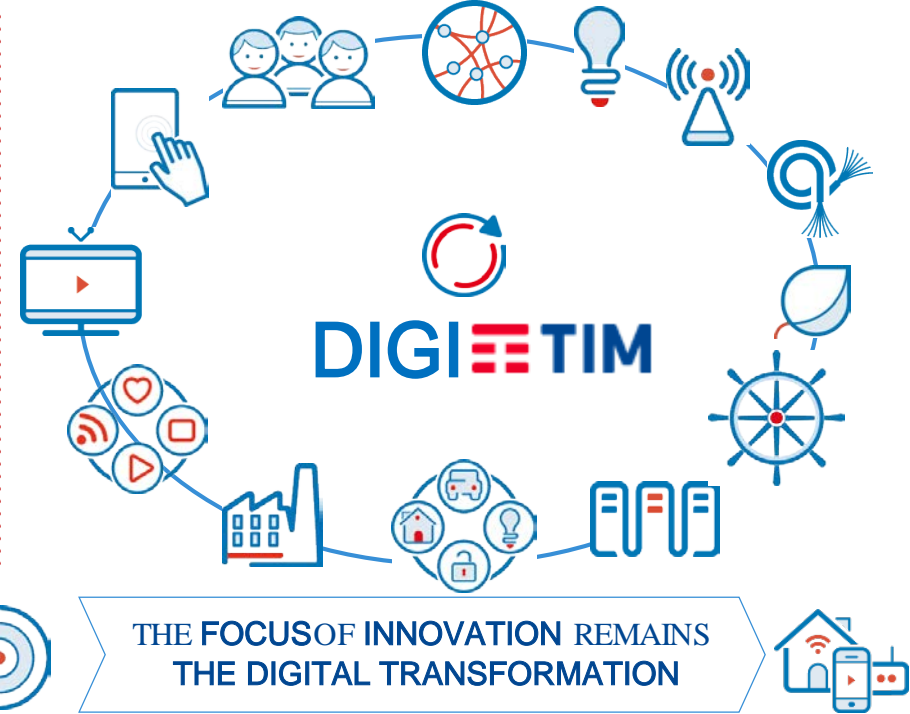


TIM leader for investments on networks and innovation

TOTAL INVESTMENTS
ITALIA (2018-2020)

~9
€bn

FOCUS ON NEW GENERATION
NETWORK AND INNOVATION



THE FOCUS OF THE PLAN REMAINS ON
INNOVATION

THE FOCUS OF INNOVATION REMAINS
THE DIGITAL TRANSFORMATION

IMPACT OF INVESTMENTS ON
NEW GENERATION NETWORKS



+100 ca.
Kilos
of jobs

+15 ca.
€bn
GDP growth

1 billion euros * =
20,000 new jobs and 3 billion euros of
GDP growth

A constant commitment that focuses on customers, citizens and businesses. Investments, know-how and technologies at the service of the digitization of Italy

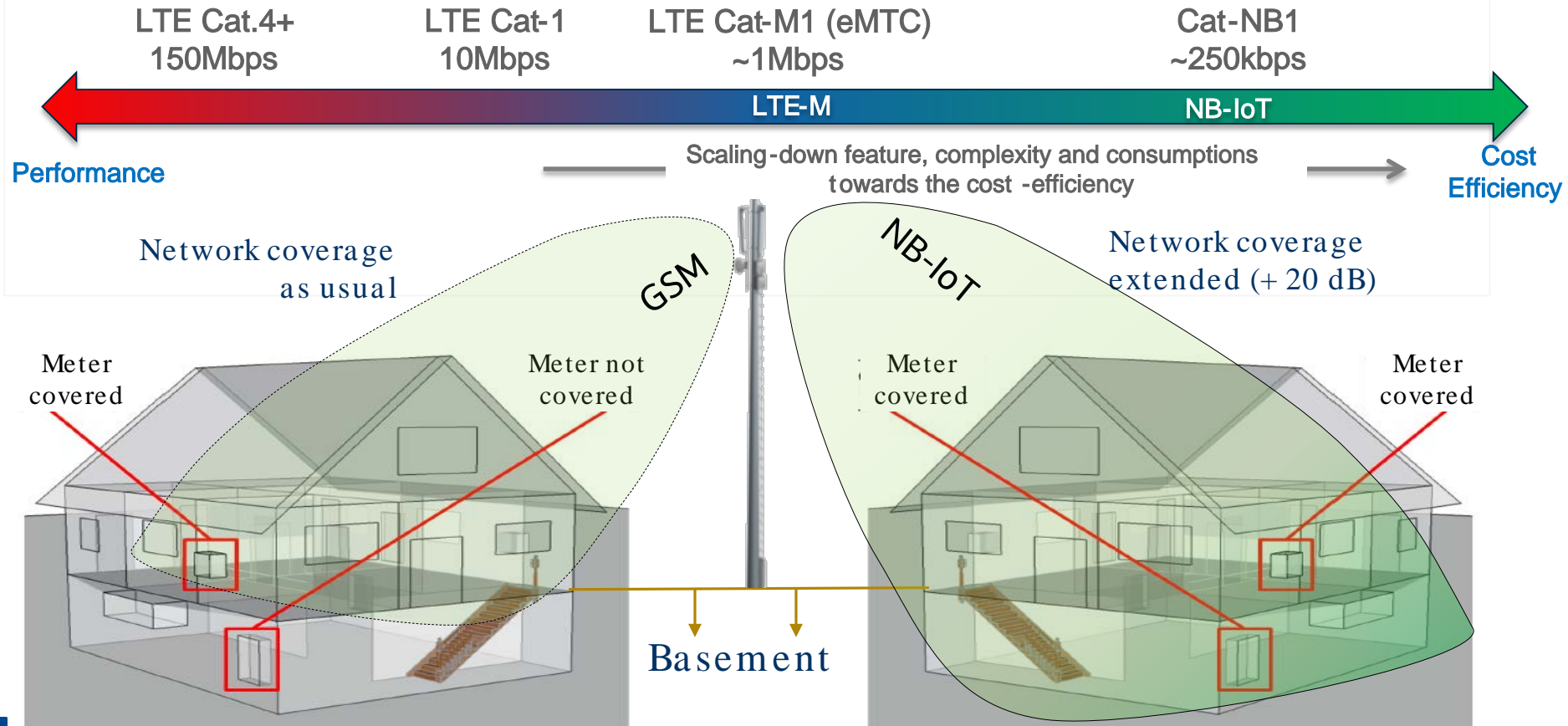


(*) Source: *The socioeconomic impact of bandwidth*, study of DG Communications Networks, Content & Technology European Commission 2013

Highly Efficient IoT - Focus on NB-IoT

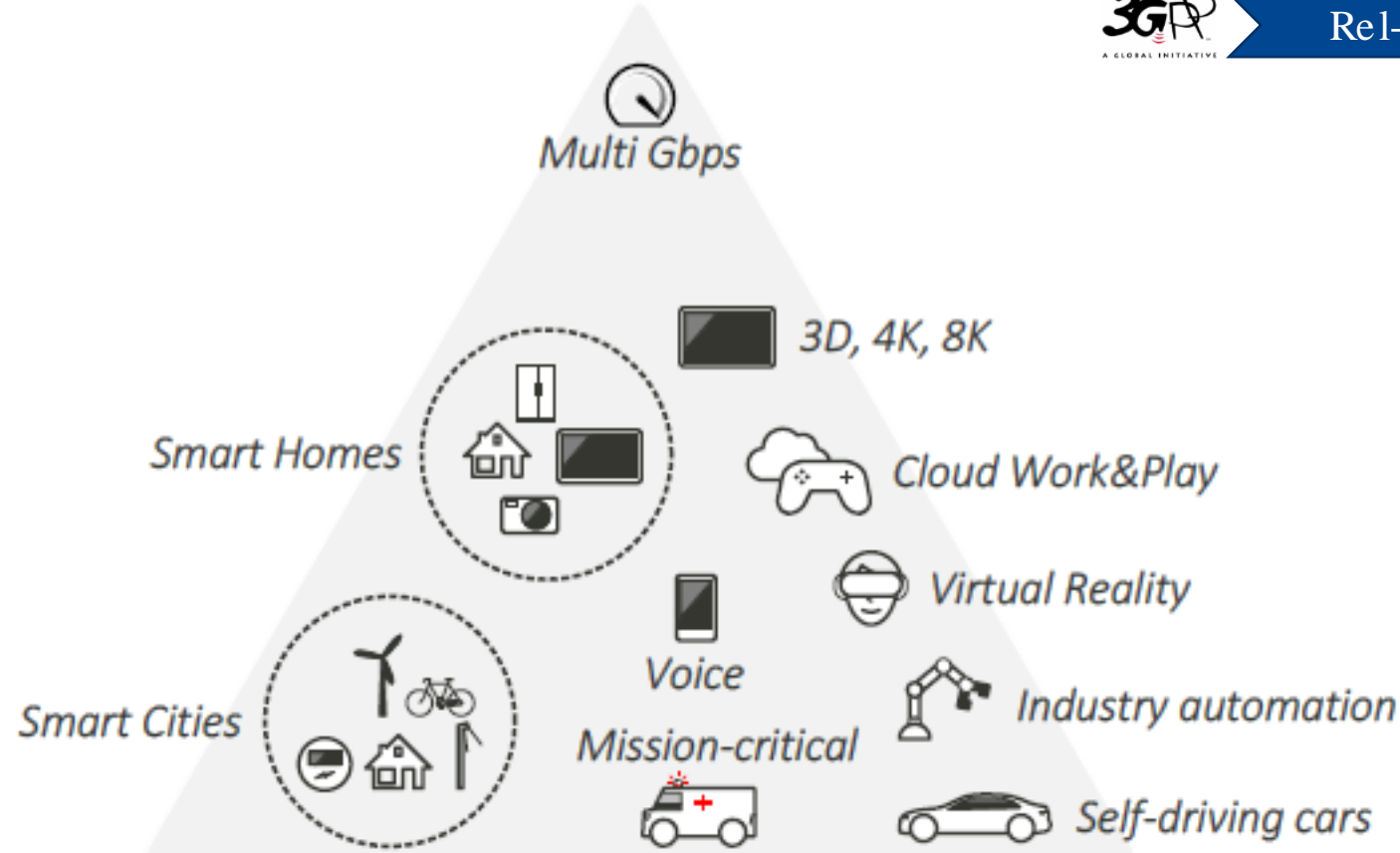
Wireless cellular coverage:

- ▶ **Runtime update**, through just in time FW/SW updates;
- ▶ **LTE licensed spectrums**, interferences management optimisation;
- ▶ **“deep indoor” coverage** (+20dB wrt GSM)
- ▶ **NB-IoT** = efficiency + security + flexibility for advanced IoT Solutions



NB-IoT towards 5G

eMBB: Enhanced Mobile Broadband



mIoT:
massive Internet of Things

URLLC/CriC:
Ultra-reliable and Low Latency Communication & Critical Comm.



❖ **eMBB:**
Handling of 5G **enhanced Mobile broadband**, useful, but not limited to the general consumer space mobile broadband applications including streaming of High Quality Video, Fast large file transfers etc.

❖ **mIoT:**
Allowing the support of a large number and high density of IoT devices efficiently and cost effectively (**massive IoT or Massive Machine Type Communication**).

❖ **URLLC/CriC:**
Supporting **Ultra-Reliable Low Latency Communications** for allocations including augmented (virtual) reality, advanced gaming, industrial automation, tactile interaction, (remote) control systems. Public safety and **Critical Communication** are included in this category.

From the Gigabit Society to Digital Life: A World of Services

Home: security and entertainment

- Security and Automation
- New models of Entertainment



Smart city: citizen services and sustainability



- Safety
- Sustainability
- Life quality
- Energy saving

Smart Mobility: connected car



- Reliability, Safety and Comfort
- Collaboration & Entertainment



- Life quality
- Personalized care
- Remote monitoring of vital parameters
- Access to your Digital Clinical Folder

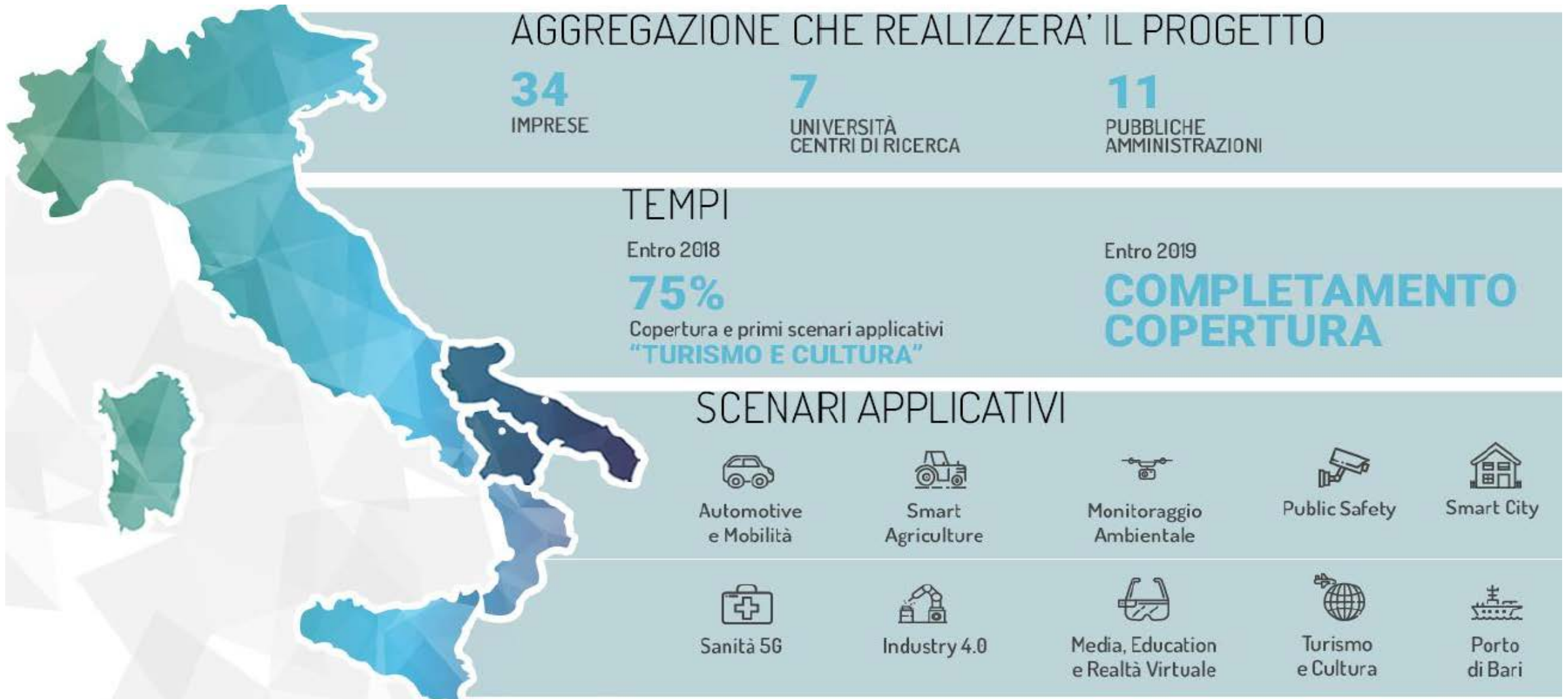
Health: predictive medicine, personalized, robotic surgery

- Automation
- Safety
- Productivity
- Competitiveness



Work: a new manufacturing reality that is more productive and sustainable

5G Sperimentation supported by Italian Government



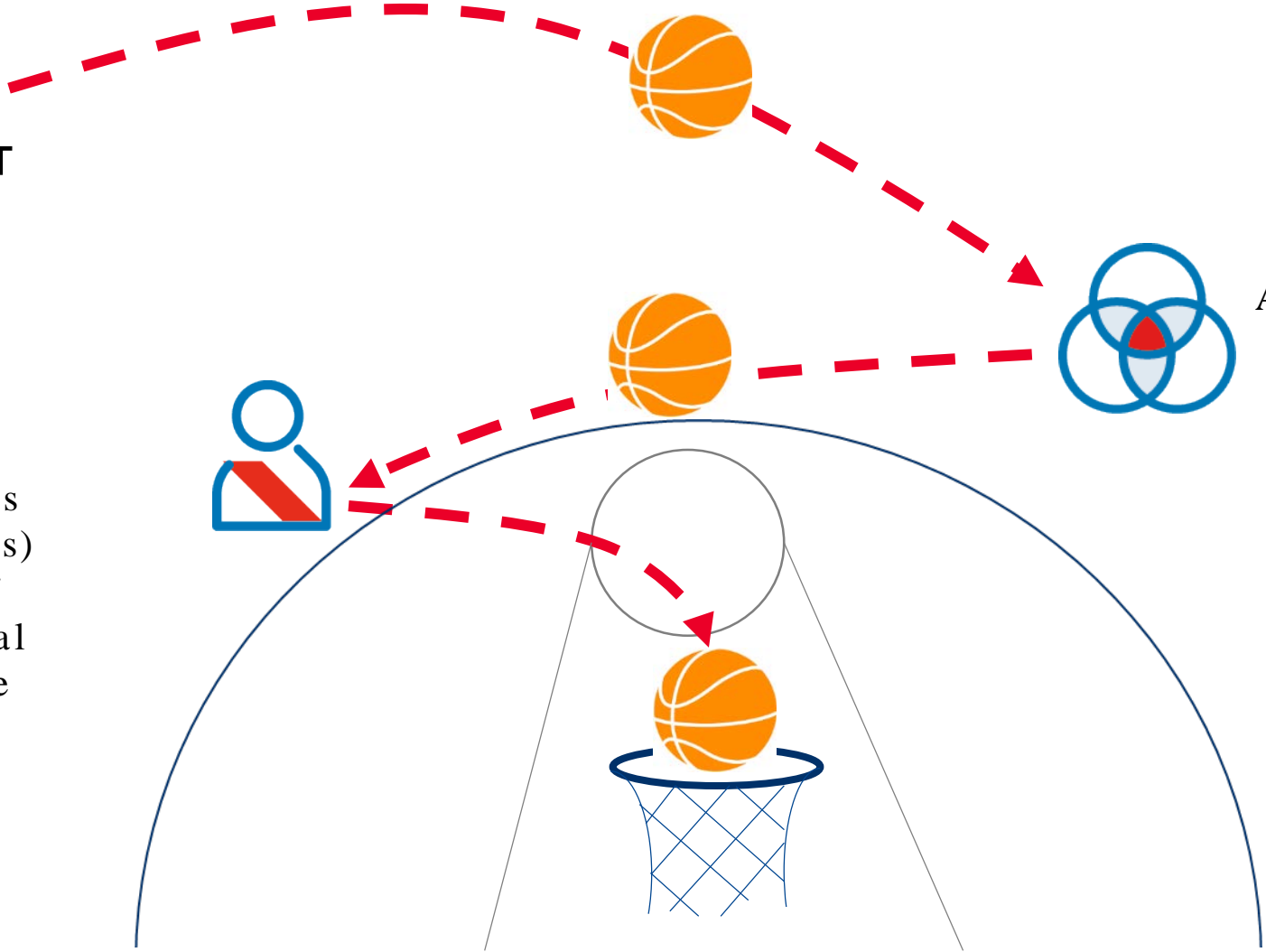
Progetto Bari Matera 5G

TIM Strategy: the Winning Approach for the Country System



Strategic agreements for IoT and 5G related innovative Solutions

The involvement of **Institutions** (Universities and local administrations) for the acceleration of adoption in the industrial fabric and in the service system



An ecosystem of industrial partners and start-ups to create new models of business and services



TIM-Huawei agreement on IoT



- ✓ A strategic **collaboration on Internet of Things** is the focus of the **TIM-Huawei MoU** (signed by TIM and Huawei Italy CEOs during the **MWC18 in Barcelona**).

TIM and Huawei long-term cooperation on **Internet of Things (IoT)** ecosystem with focus on the most innovative business solutions and business models based on NB-IoT towards 5G.

Use Cases: Smart City, Smart Metering, Smart Safety, Smart Agriculture etc.

Relevant Stakeholders:

- TIM (Strategy, Innovation & Customer Experience – Innovation)
- Huawei



Grazie!

Thank You!

Danke Schön!