INSA INSTITUT NATIONAL DES SCIENCES APPLIQUÉES TOULOUSE

5G PTP ISS
20.11.2018

5G & Smart Cities

OPTIMIZE LIFE & HUMAN WELL-BEING

Rémy Dubois
Jonathan Malique
Elie Taillardat

SUMMARY

I. WHAT IS A SMART CITY?

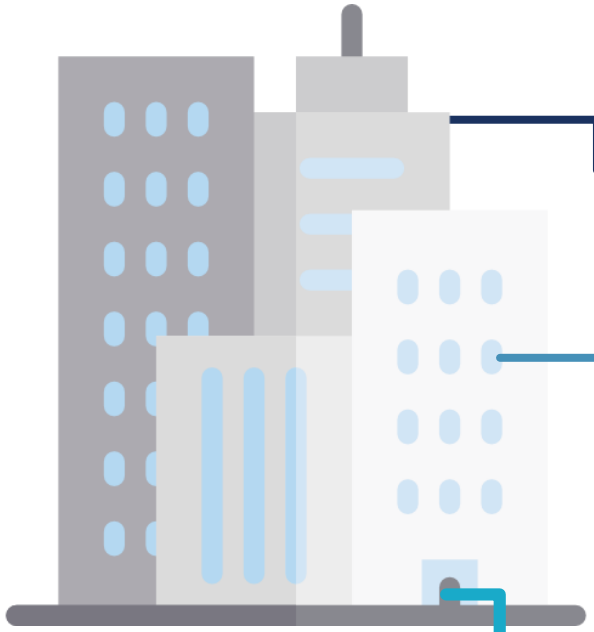
II. WHAT IS 5G ?

III. 5G IN SMART CITIES

IV. SINGAPORE: A SMART NATION

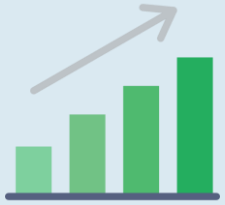
I. Smart City? - II. 5G? - III. 5G in Smart Cities - IV. Singapore: a smart nation

Smart City: connecting digital devices to efficiently run different places **through the IoT**



Population in cities

TODAY 50%



2050 70%

OPEN DATA

City goals

- Resources
- Costs
- Well-being
- Organization

Standard: Long Term Evolution Advanced Pro

Improving the **IoT**

Increasing the **speed**

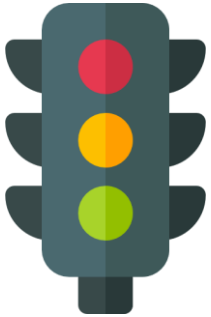
5G

2020

Release 15: Already approved
Release 16: December 2019

First standard: enhanced Mobile Broadband (eMBB), ultra-reliable low-latency communications (URLLC), and massive machine-type communications (mMTC)

5G Benefits: **50 billion** of devices connected to mobile networks in 2020

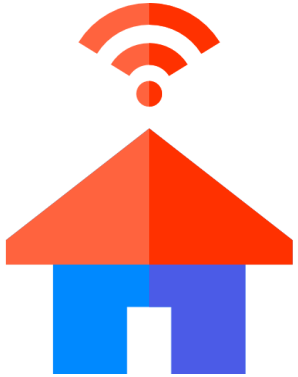


Smart traffic management

Street lights
Car navigation

Smart Grids

Low cost
Low power connectivity



Smart Homes

Domotic
Video surveillance
Street connectivity

Smart Healthcare & Security

Monitoring patient
Perform in better conditions

5G Challenges

Investments

Smart people
Quality of life

Smart mobility
Reducing traffic & contamination

Smart environment
Ecologically sustainable development

Flexible polities
(European countries)

Smart Nation: info**comm** technologies, **networks** and **big data** to create tech-enabled **solutions**

Convenient **administrative** services

Mobility

Safety

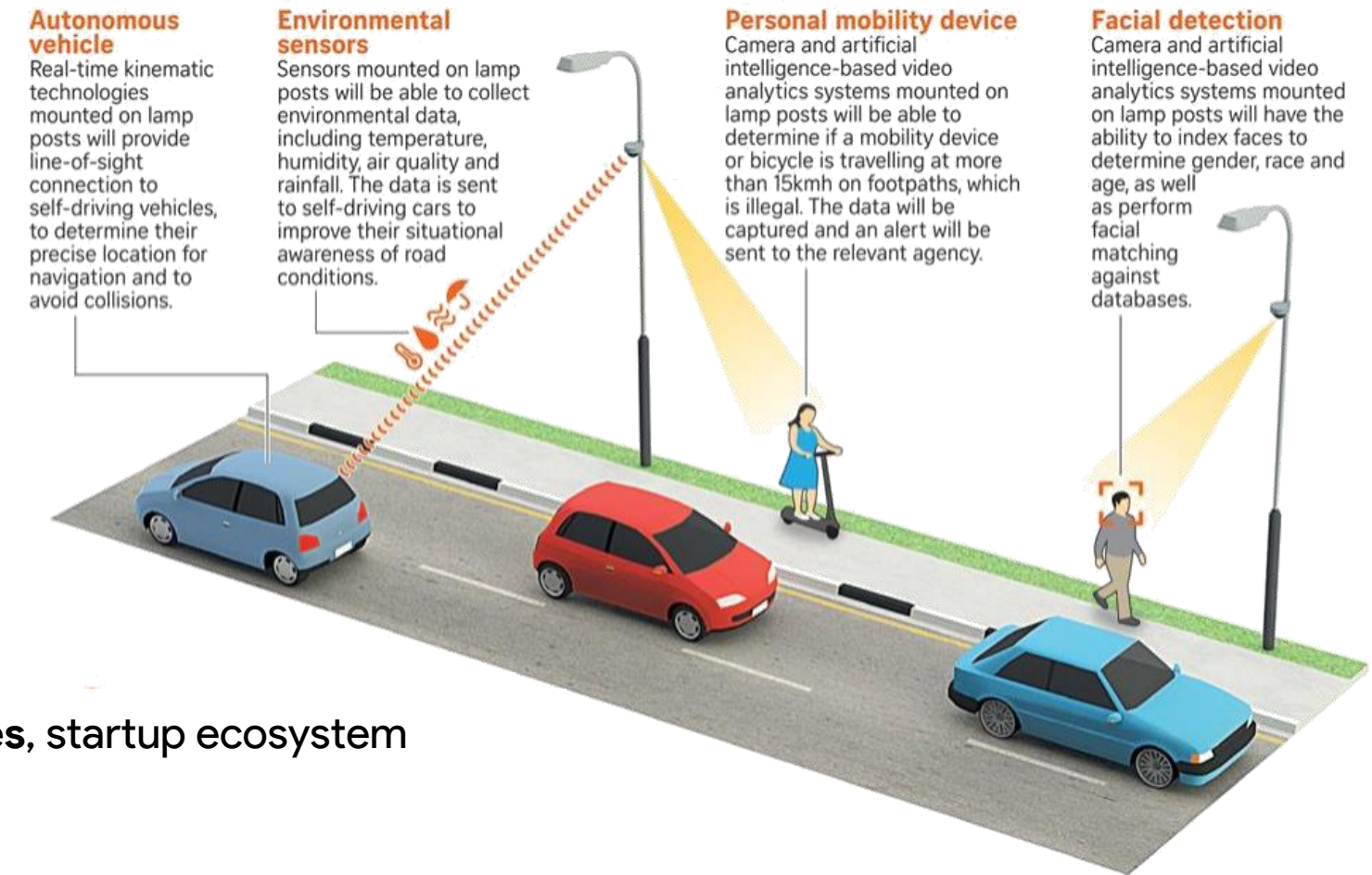
Healthcare

What's next?

Smart **lamp post**
iOMNISCIENT

Driverless taxis
→ more green areas
NuTonomy

Key of this success
→ strong government, **universities**, startup ecosystem



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Thank you for your attention!

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