



The Smart City in Mediterranean territories : Funding, deployment and 2021-2027 opportunities

July 16th, 2020 web conference

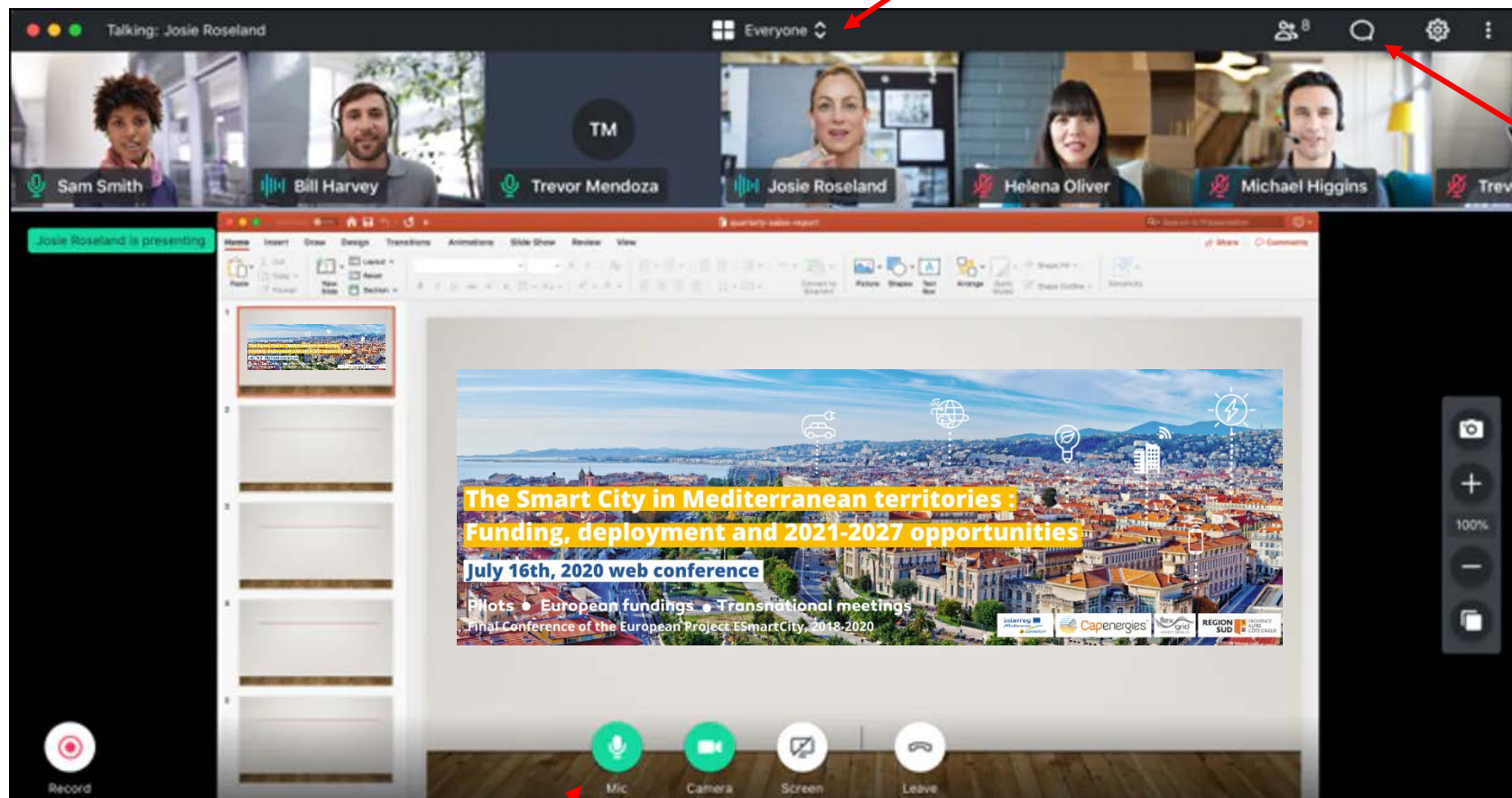
Pilots • European fundings • Transnational meetings
Final Conference of the European Project ESmartCity, 2018-2020



GoToMeeting Functionalities

Chose your layout : Speaker Talking/Intervenant

Chat – Ask questions



Turn OFF your microphone and your camera



ESmartCity - Final Conference

Enabling Smarter City in the MED Area through Networking



AGENDA

- 14:00** Smart Cities: Challenges and Opportunities for Better Work-Life-Society
- 14:20** Open infrastructures providing insights for local stakeholders on standardized approaches: The Smart Santander approach
- 14:30** The EC Intelligent cities and digital challenges
- 14:50** Economy recovery plan and/or good experiences of cities after lockdown ending measures, Granada and Milan cases
- 15:10** Conclusion of the event by the Region South of France
 - Innovative and green public procurements in the economy plan
 - Digitalization of industry and services

Economy, Green Deal and Digital Age: Prepare your territory, university and industry for Europe's top 3 priorities for 2021-2027

Keynote speech 1



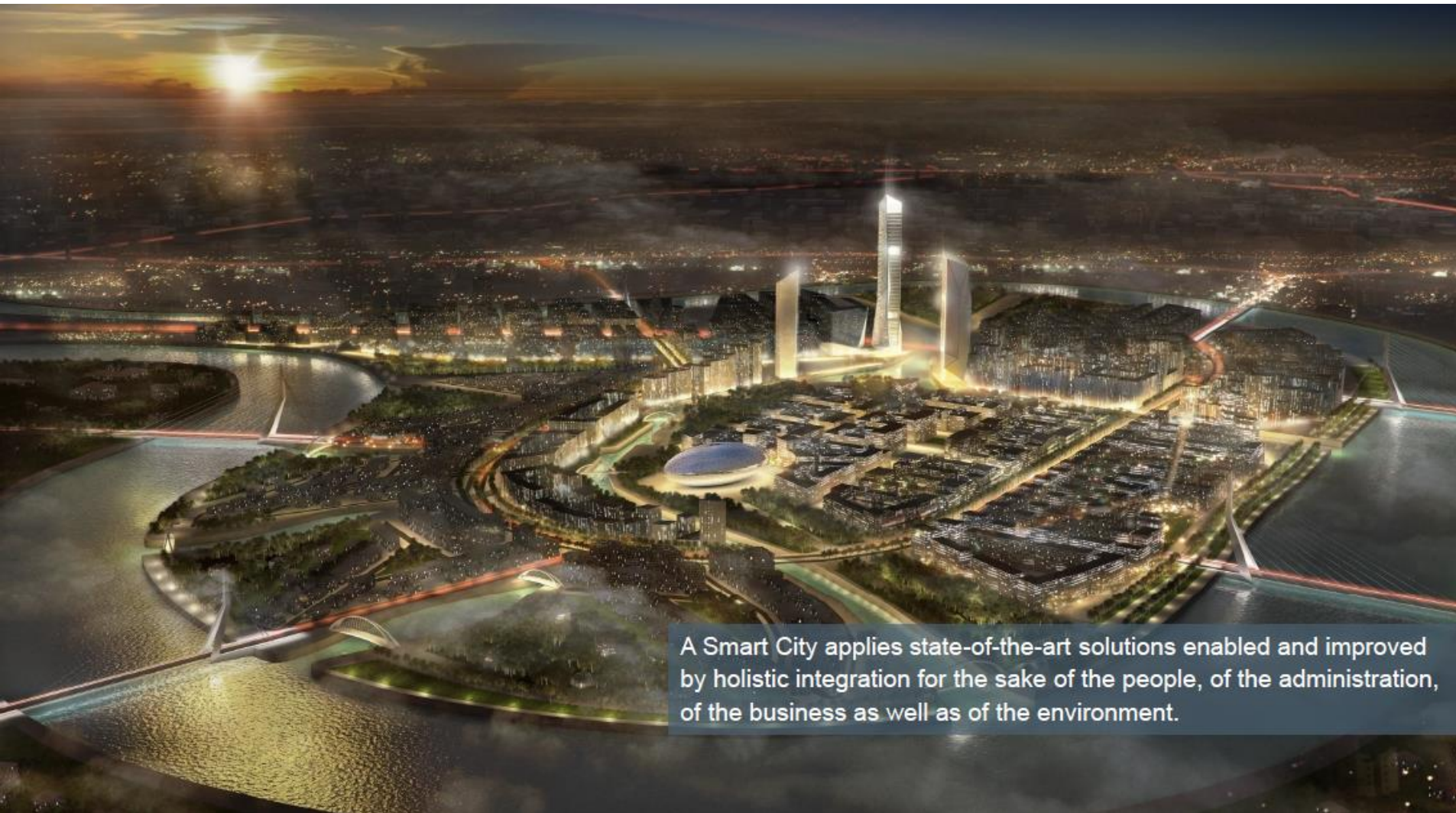
Smart Cities: Challenges and Opportunities for Better Work-Life-Society



Dr. John S. Baras
University of Maryland
USA



Future Smart City: Smart, Resilient, Sustainable



A Smart City applies state-of-the-art solutions enabled and improved by holistic integration for the sake of the people, of the administration, of the business as well as of the environment.

Digitalization drives infrastructure of tomorrow

Secure energy supplies, flexible mobility, energy efficient building control – the requirements for sustainable infrastructure are growing. Digitalization enables the implementation of innovative solutions that make urban centers better places to live.

Efficient building management

Better control of building environments not only improves the working or living environment but also reduces the energy consumption of a building. Effective solutions can ensure reliable and efficient operation of buildings.

Reliable, safe and efficient energy

The supply of reliable and affordable energy is an essential condition for economic growth and good quality of life. The grids of the future have to be agile in order to manage our changing energy world.

Smart mobility

Getting from A to B is something people face every day. Improving availability, optimizing throughput and enhancing the passenger experience of our transport networks are key elements of smart and sustainable mobility solutions.

Challenges for Intelligent Infrastructure



5 bn
No. of people living in cities in 2020*



2.5 bn
No. of vehicles in 2050*
+100% compared to 2015



194,000 TWh
Global energy demand 2030*
+25% compared to 2012



239 bn
Expected costs resulting from traffic jams in Europe and USA in 2030*



15%
of global NOx emissions are contributed by shipping*



~ 5% p.a.
Rate of Data Center power consumption increase to 2020*



40%
Advanced building automation and control systems can save up to 40% of energy*

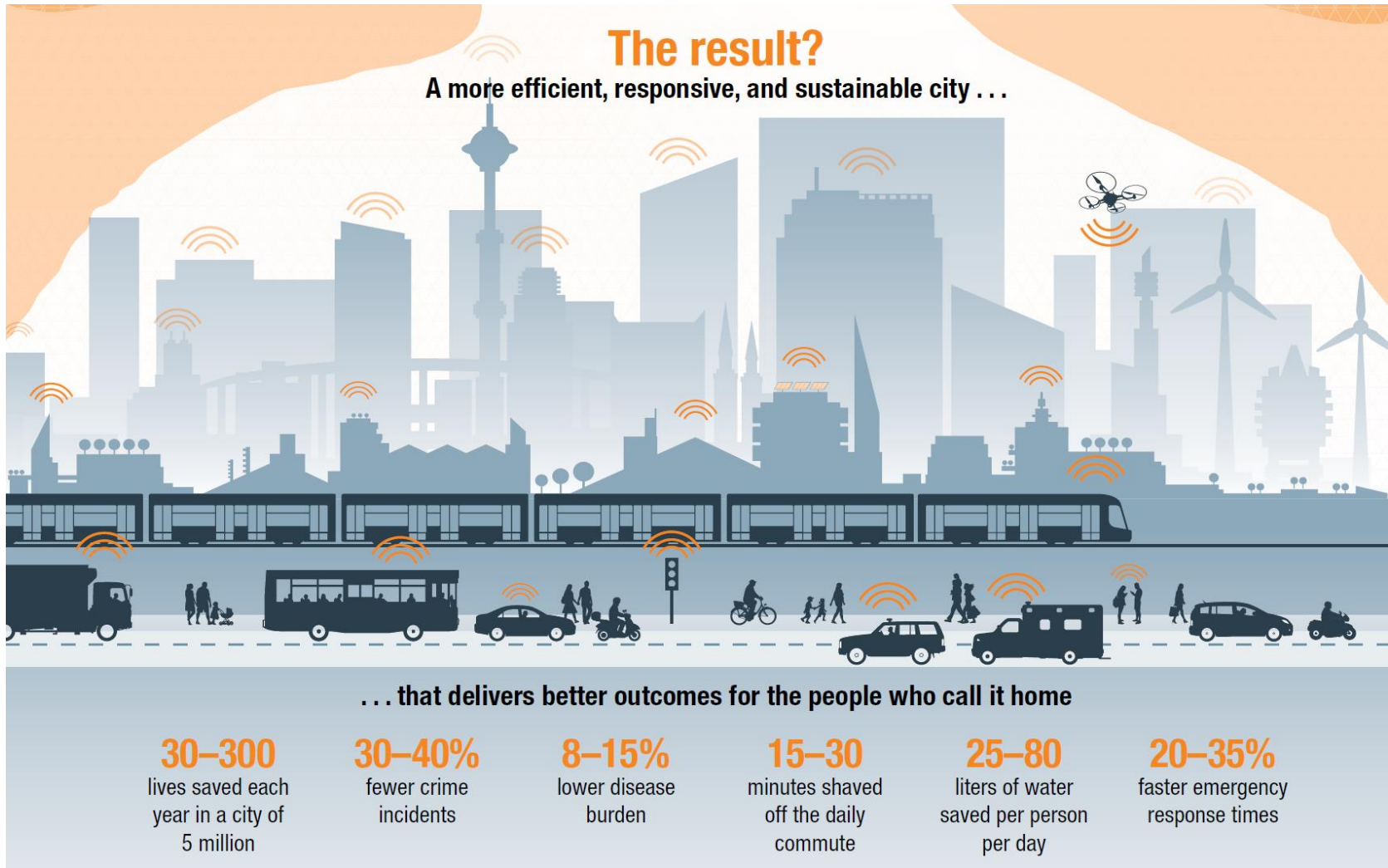


Smart cities use data and technology to make better decisions.

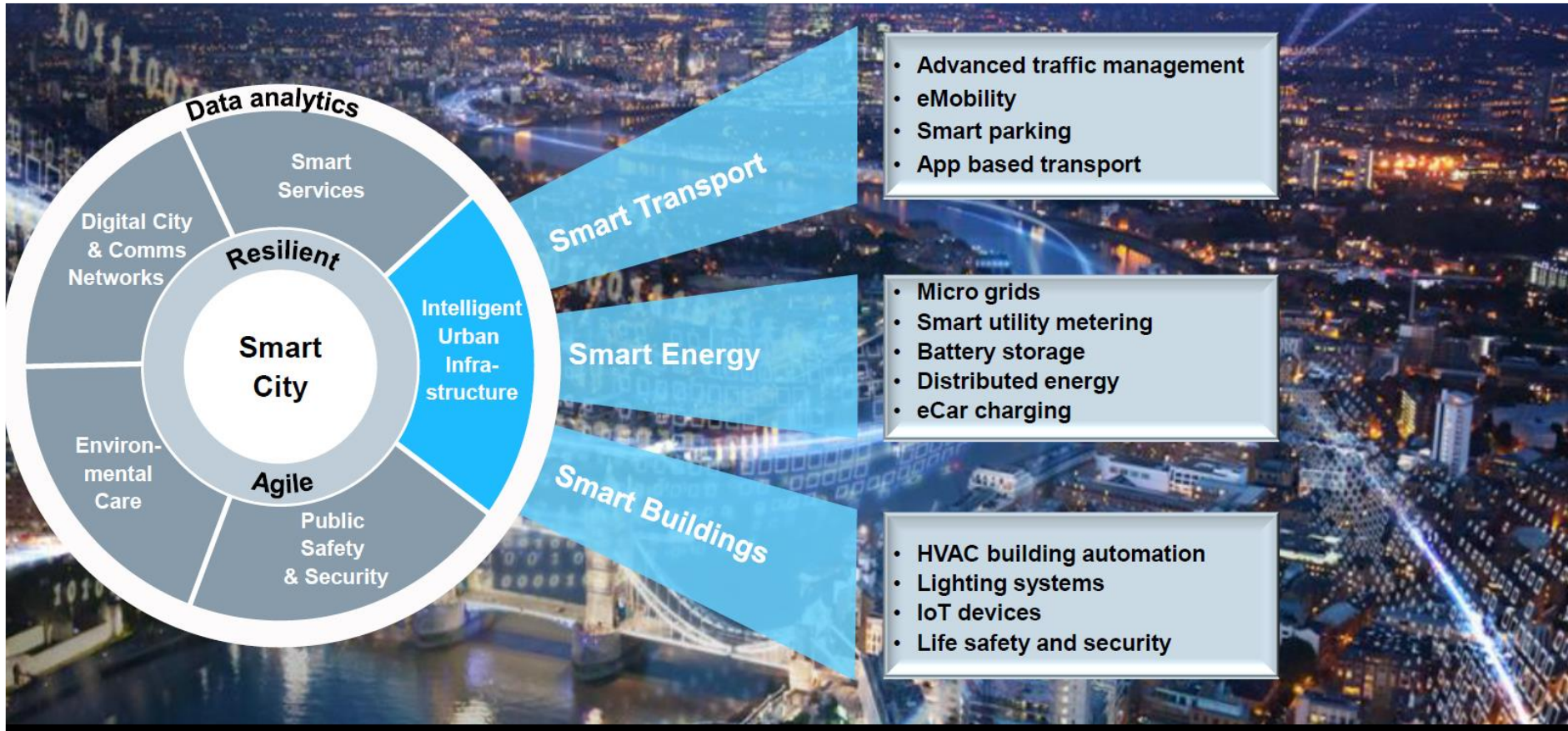
Smart applications in eight domains affect multiple aspects of the quality of life



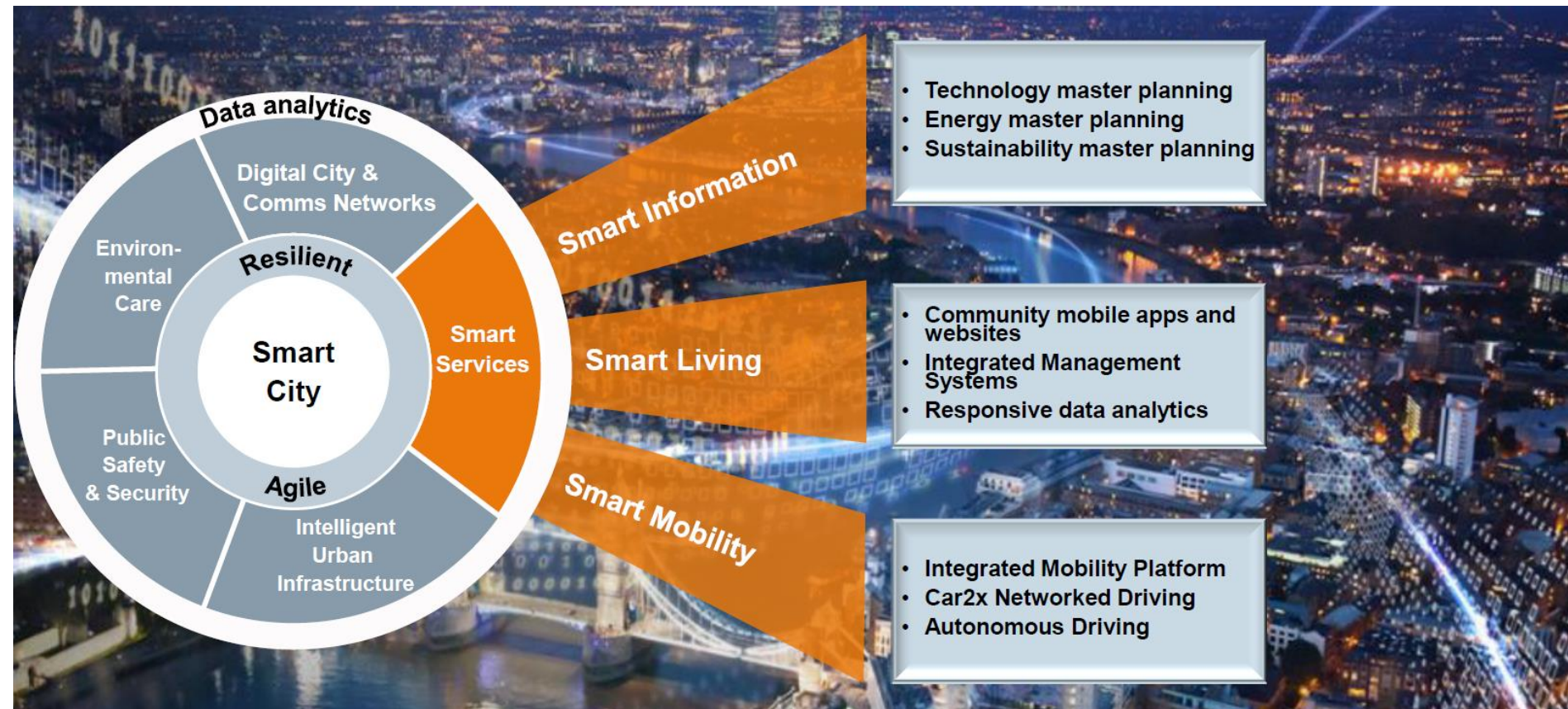
Smart Cities: Projected Benefits



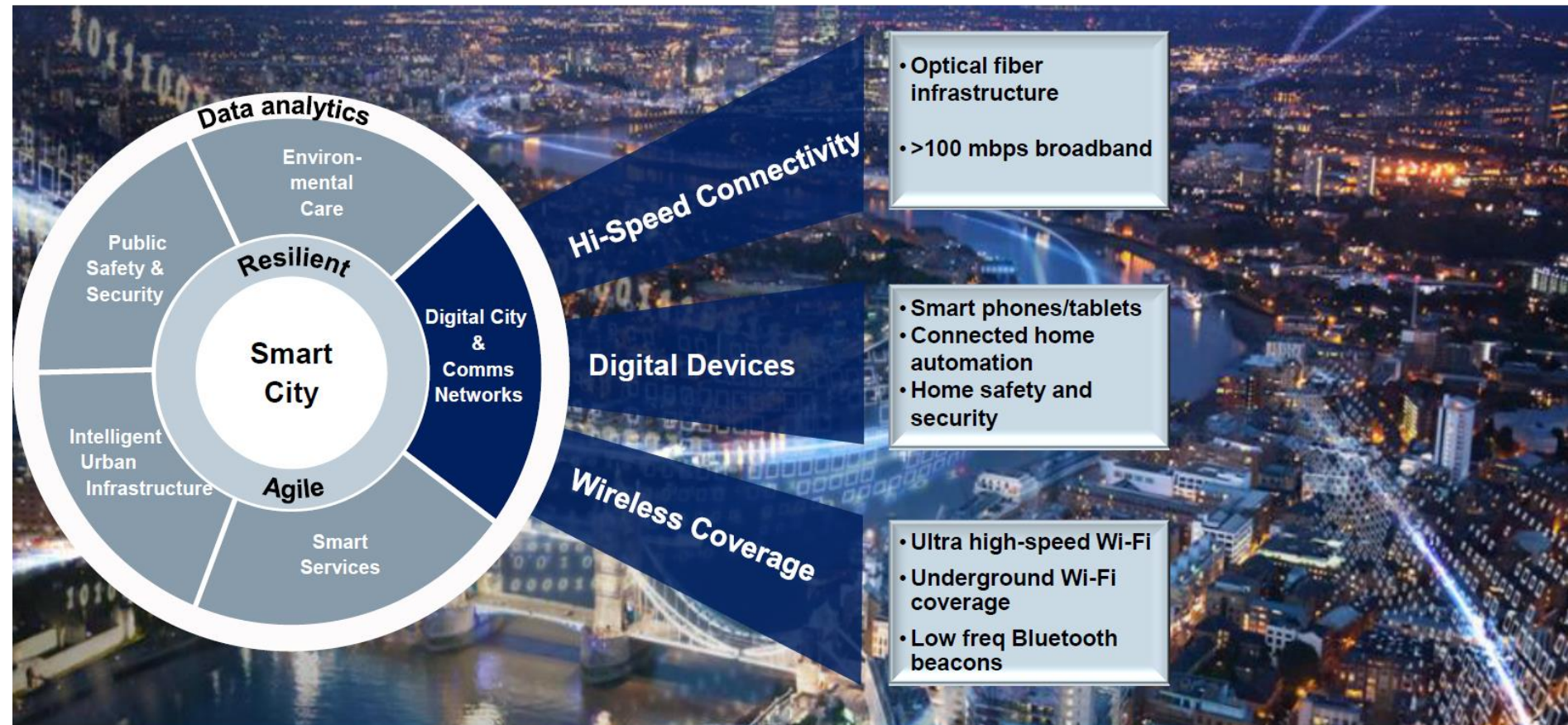
A Framework for Smart Cities



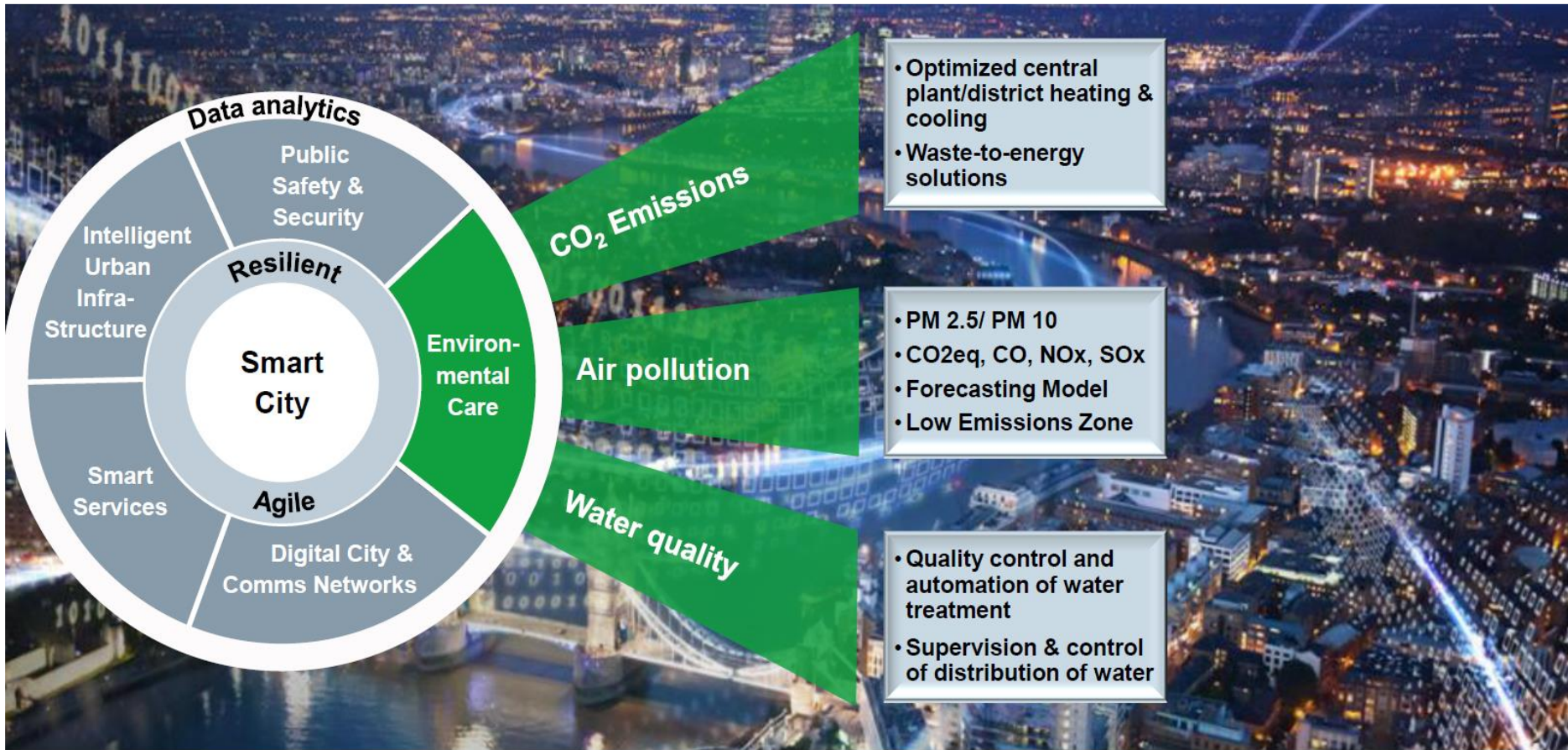
A Framework for Smart Cities



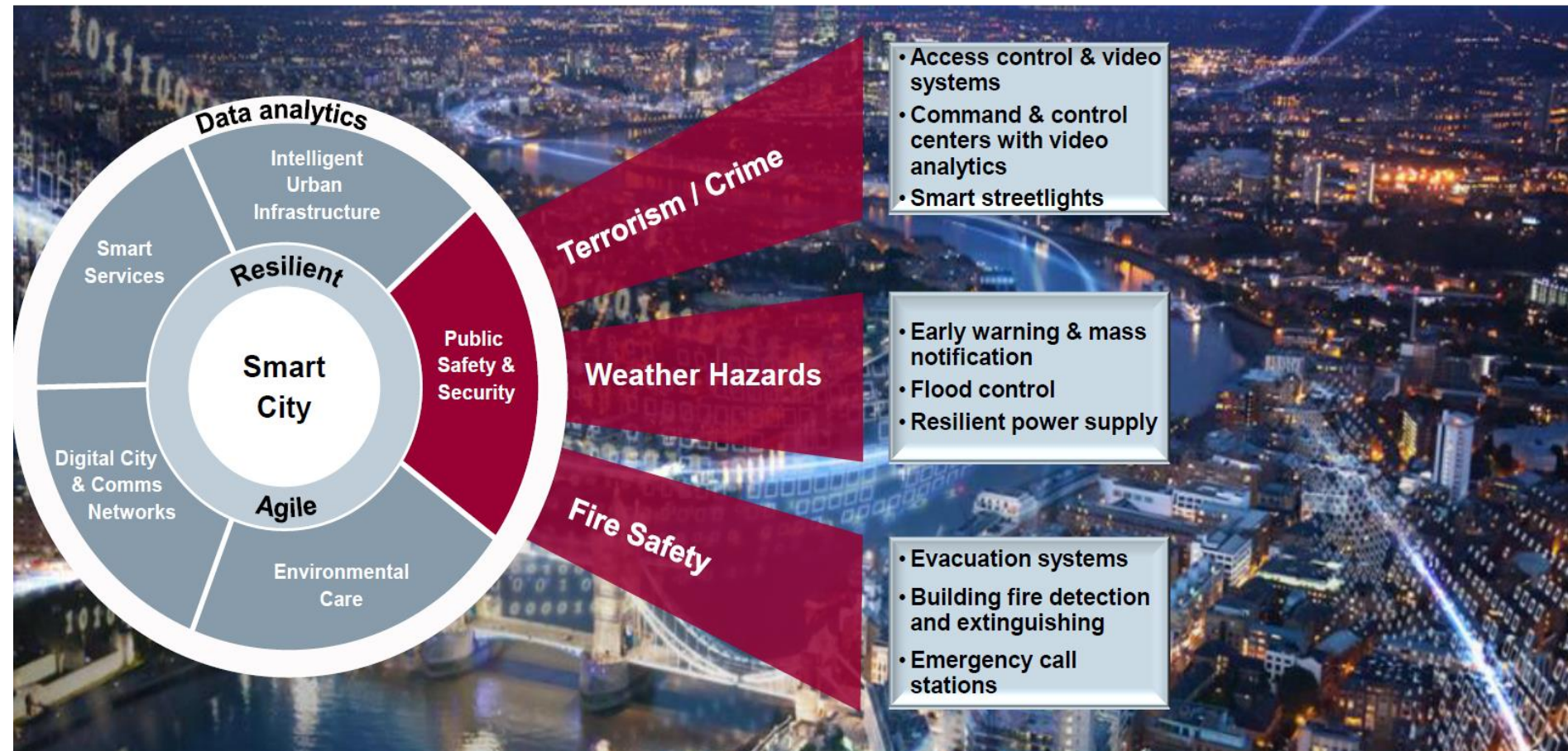
A Framework for Smart Cities



A Framework for Smart Cities

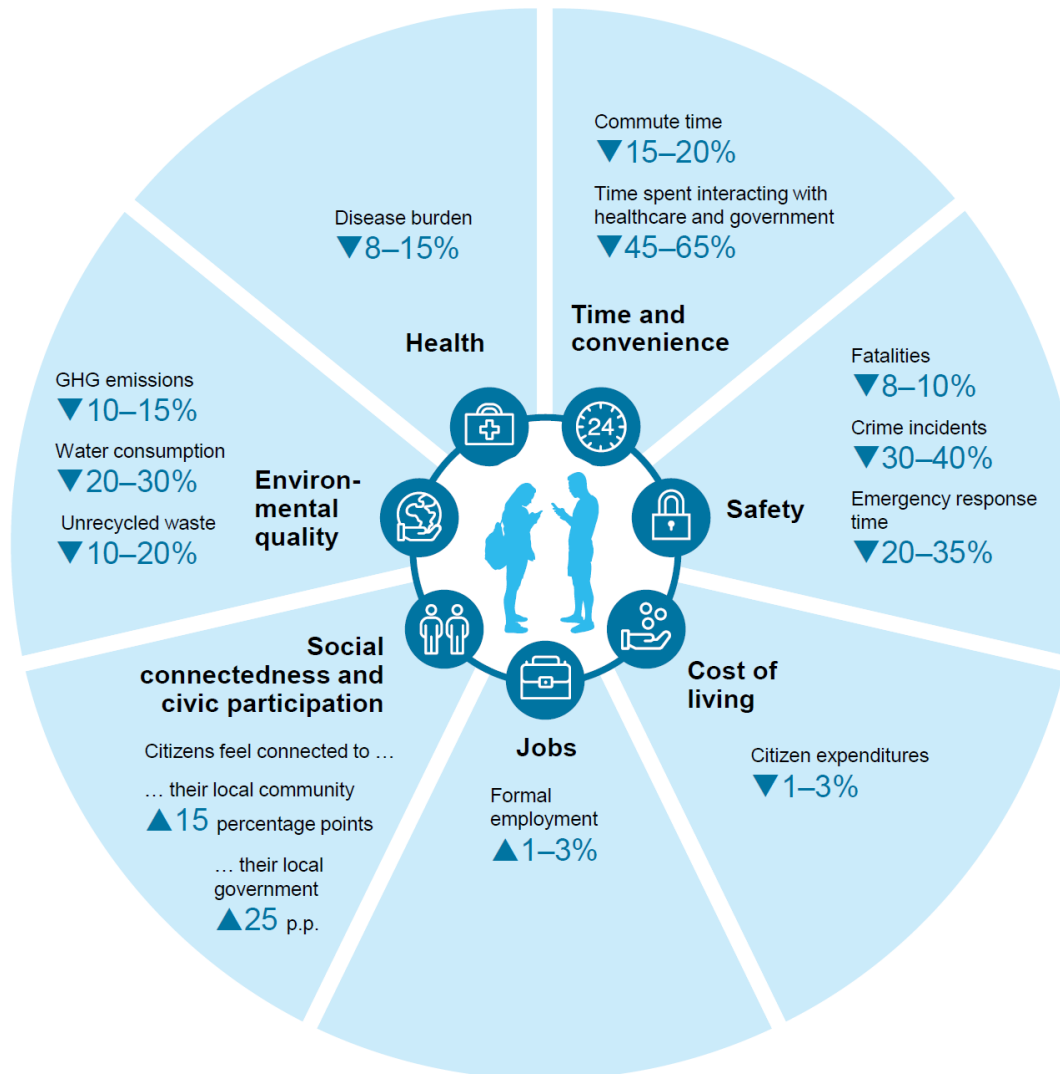


A Framework for Smart Cities



- Virtual power plant / smart grid
- Waste-to-energy
- Automated people movers
- Parking management
- Smart street lighting
- Shared, electric, connected, and autonomous vehicles
- Smart metering
- Building automation
- Automated financial services
- Automated agriculture
- Automated and dynamic management of hybrid communication networks
- Automated and novel renewable energy generation
- Local product design and manufacturing
- E-government

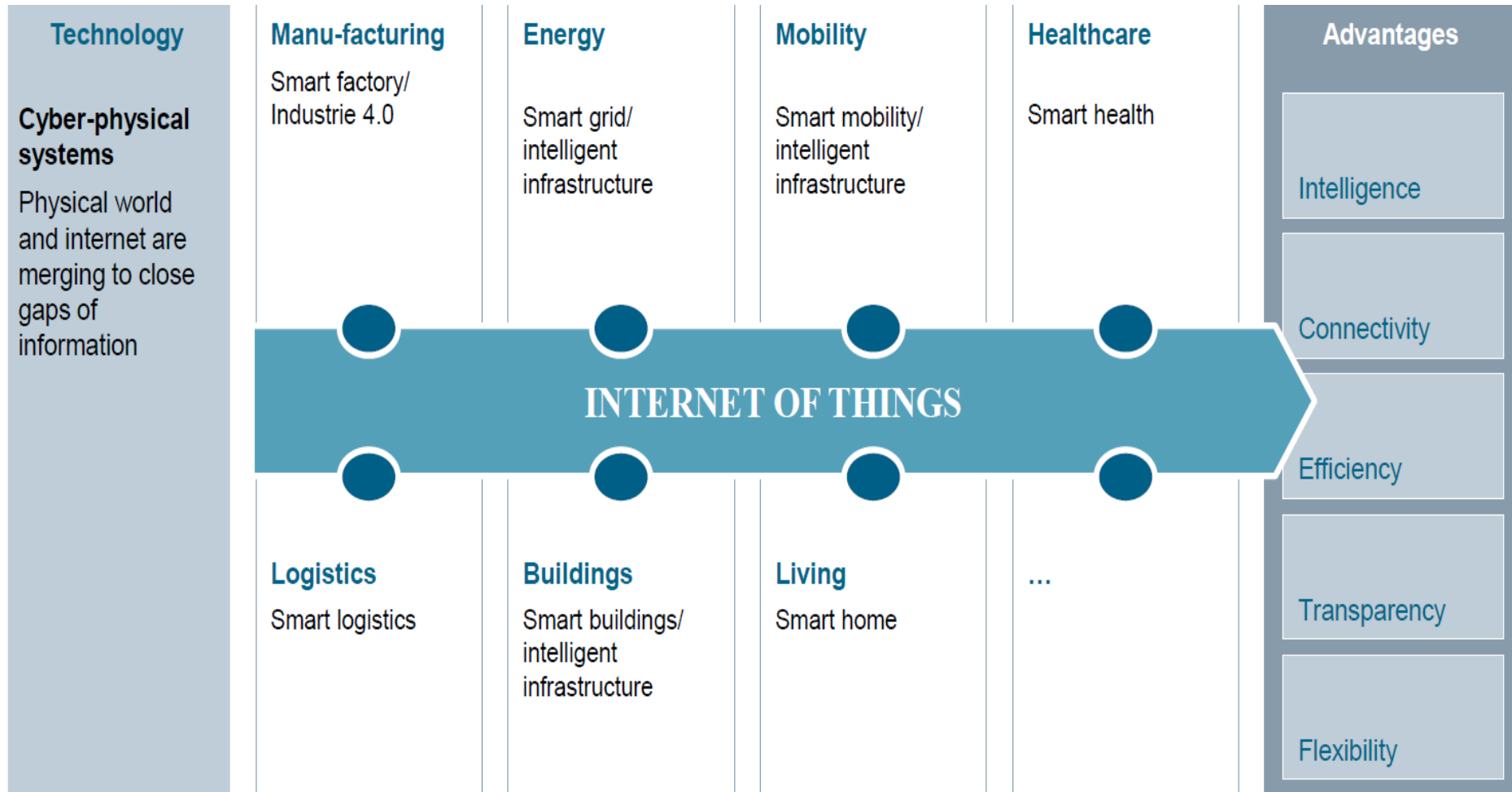
Smart APPs Can Improve Key Indicators by 10-30 %



Smart City Technology Base: Sensors, Connectivity, Open Data Platforms



Digitization and IoT



Smart City as a System: Key Components

City operation center



+

Cloud data center



City IoT network

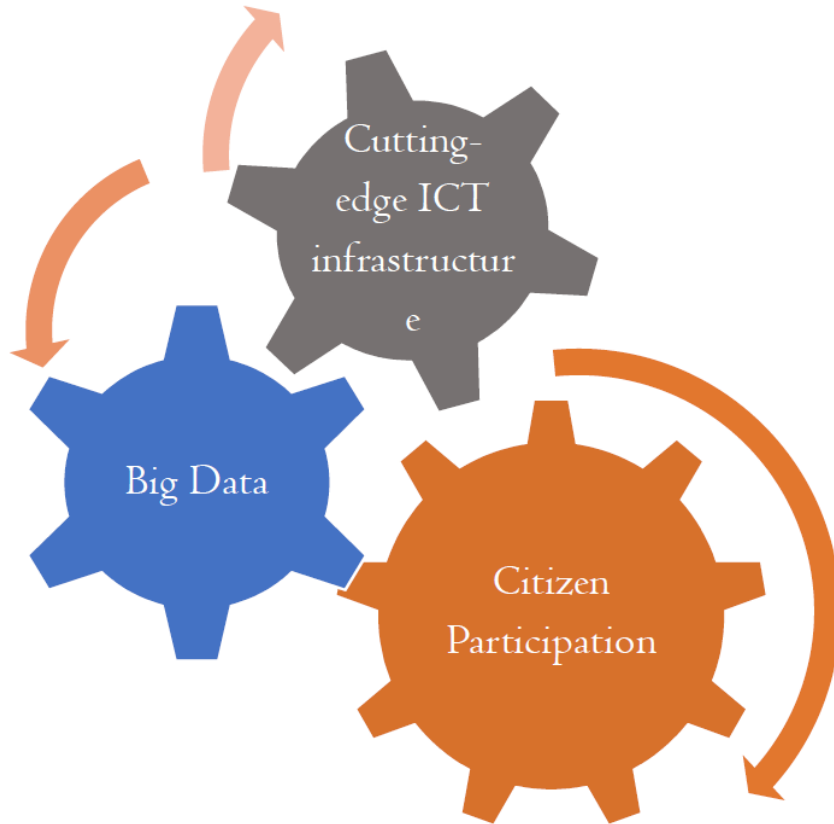


+

City communication network



Smart Cities: Fundamental Challenges



- Intelligent, efficient, resilient, secure communication networks
- Big data analytics, ML and AI
- Human behavior and decision making, regulatory policies, acceptance
- Trust, recommendation, security, privacy
- Efficient integration of several complex systems (system of systems)

Intelligent Comm Nets: 5G Vision

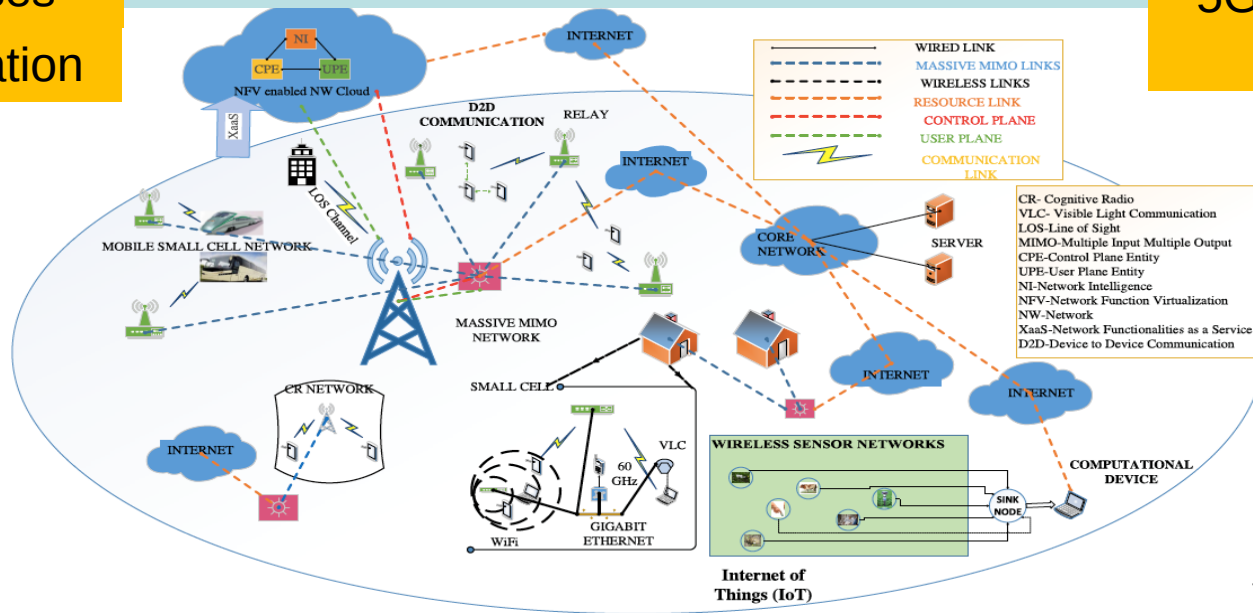
End-to-end ecosystem to enable a fully mobile and connected society
Value creation towards customers and partners, with existing and
emerging **use cases**

Delivered with consistent experience

Enabled by sustainable **business models**

5G Use Cases
5G Value Creation

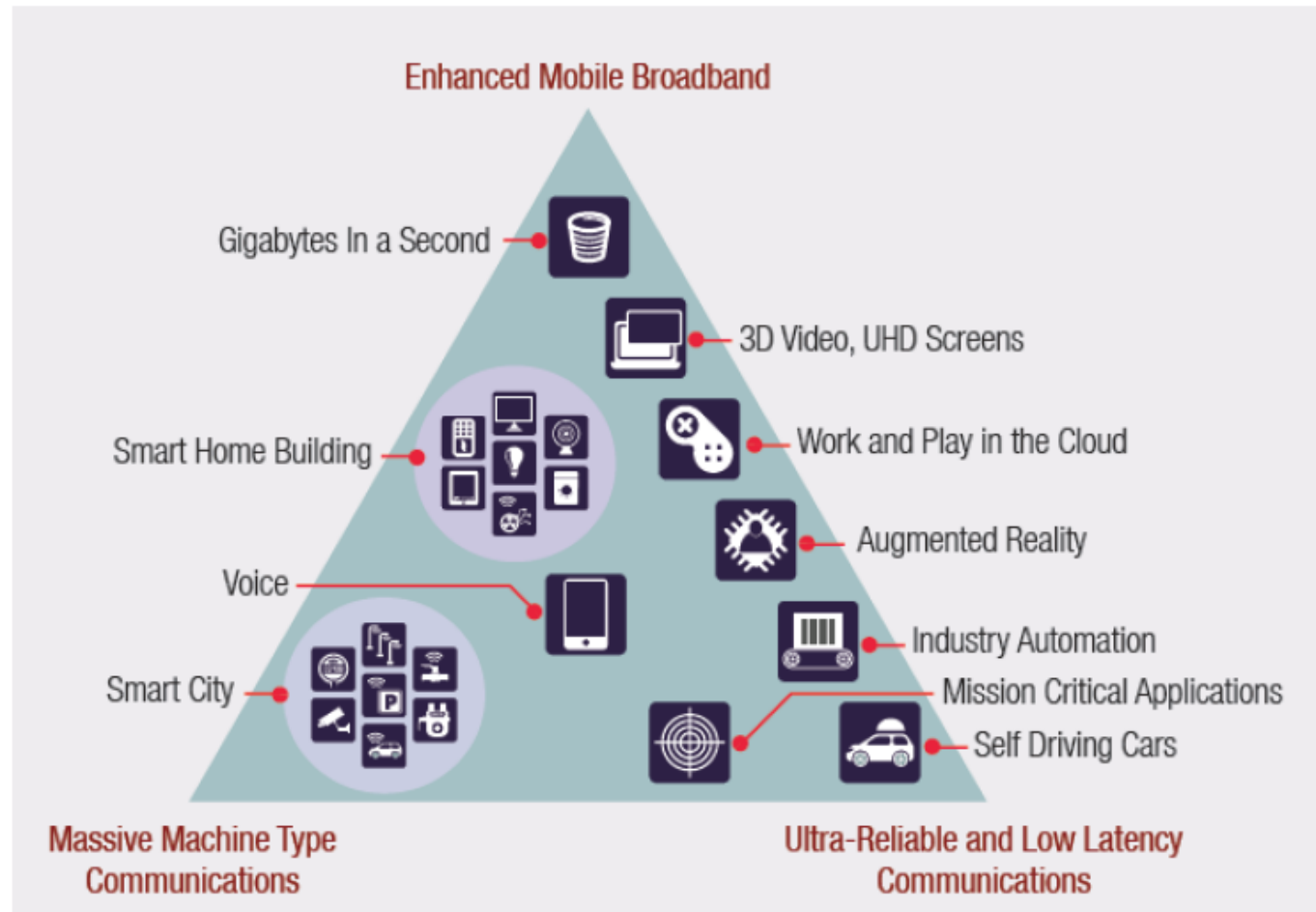
5G Business
Models



SRC: A Survey of 5G Network: Architecture and Emerging Technologies, IEEE Access, 2015

Network of networks,” i.e., a heterogeneous system comprising a variety of air interfaces, protocols, frequency bands, access node classes, and network types

Three broad use cases that 5G wireless technology seeks to transform.

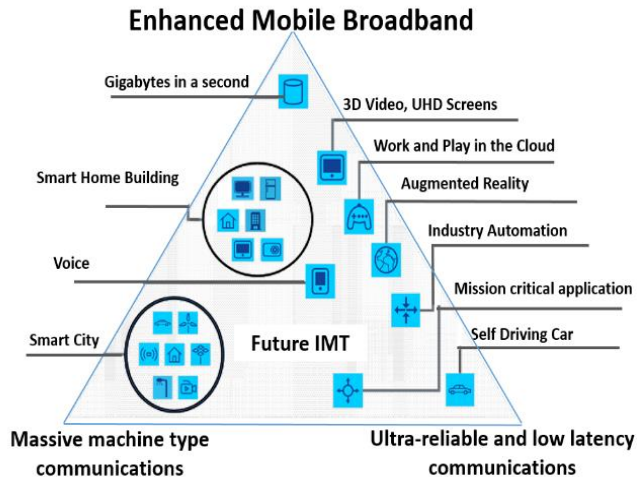


Our Research Foci: Networked Human Cyber Physical Systems (Net-HCPS)

The technologies: 5G and IoT, implemented
via Software Defined Networks, Network
Function Virtualization over to wireless



**Network Virtualization aka
Networks as a Service (NaaS)**

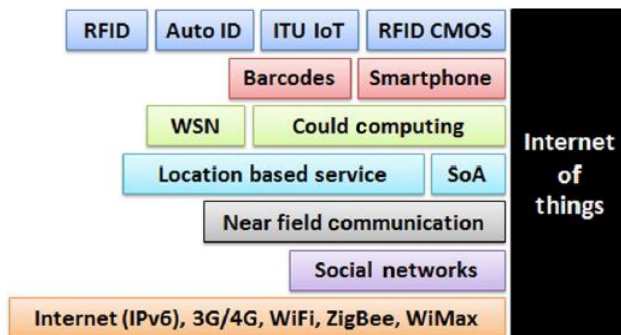


The Applications



Our Research Foci:

- SDN/NFV for 5G
- Security, Trust, Privacy
- Smart Transportation – Highway, Urban
- Massive Medical Information Highways for Diabetes II
- IT for High Quality Low Cost Emergency Healthcare
- Social Network analytics for integrity, safety, security
- Human Behavior and Decision Making



Virtual Networking: NFV & SDN – Key Enablers for 5G and IoT

- Network Functions Virtualization (NFV) decouples network functions from dedicated hardware devices
 - Network services (routers, firewalls, load balancers , etc.) can now be hosted on virtual machines
- SDN is an architectural model that offers network virtualization and programmability
 - SDN abstracts the network control plane from the data plane
 - Some definitions are less focused on decoupling the planes, and more on APIs and integration

Virtualizing the Network / Network as a Service (NaaS)

Connecting USERS with APPLICATIONS

*Single Policy based Network Automation
Platform from the DC to the Branch*

Virtualized Services Platform (VSP)

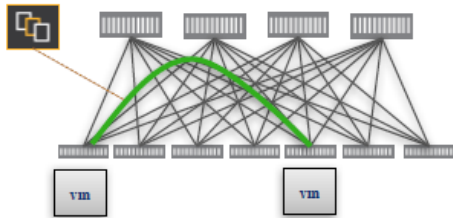
Virtualized Cloud
Services (VCS)

Virtualized Network
Services (VNS)

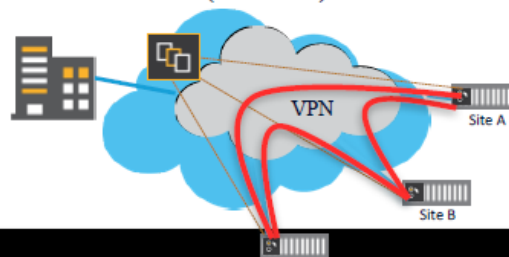
Virtualized Services
Assurance Platform
(VSAP)

Virtualized Security Services
(VSS)

Data Center
(Private Cloud)



Connecting & Serving
Disparate Locations
(SD-WAN)



Operational Tools
(Monitoring / Correlation)



Micro-segmentations & Analytics
Prevent, Detect & Respond



Nuage Networks
Virtualized Services Platform (VSP)



Virtualized Services Directory (VSD)
• Network Policy Engine – abstracts complexity
• Service templates and analytics



Virtualized Services Controller (VSC)
• SDN Controller, programs the network
• Rich routing feature set



Virtual Routing & Switching (VRS)
• Distributed switch / router – L2-4 rules
• Supports leading hypervisors and bare metal assets
• Virtual (VRS) and Physical (VSG) form-factors

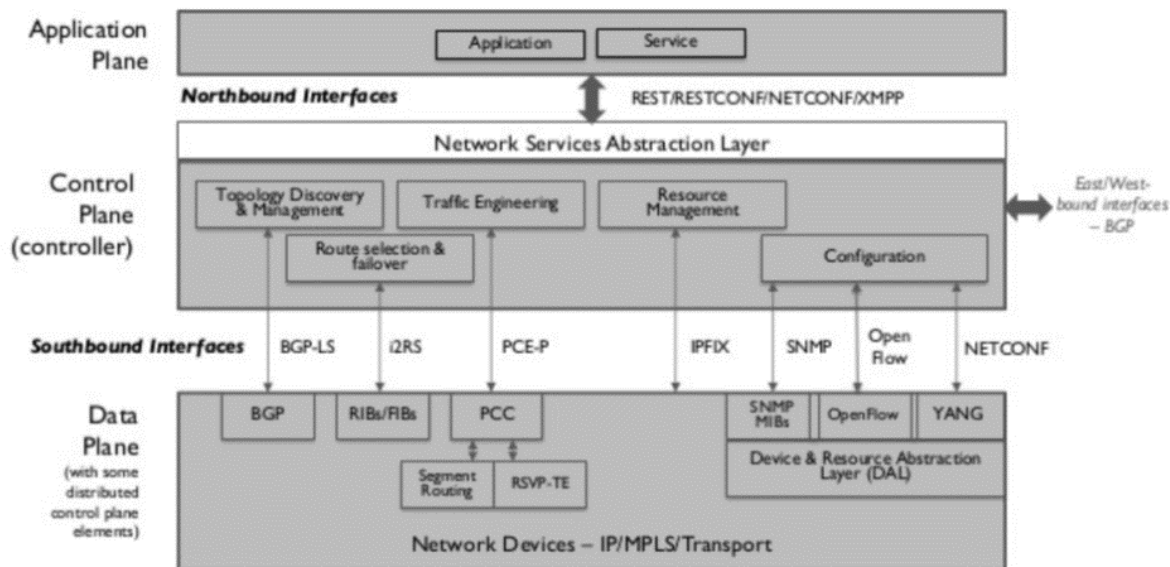
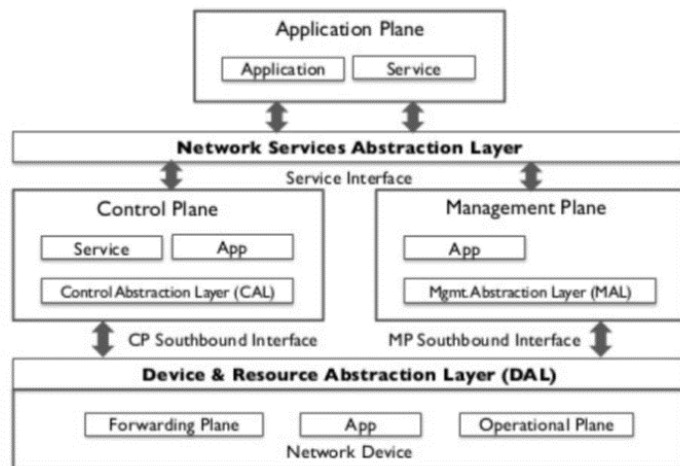
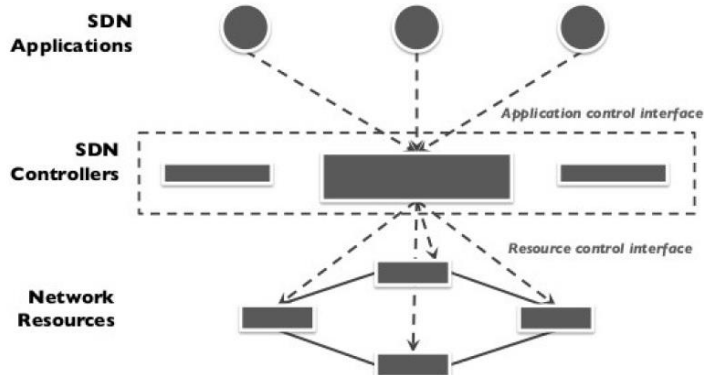


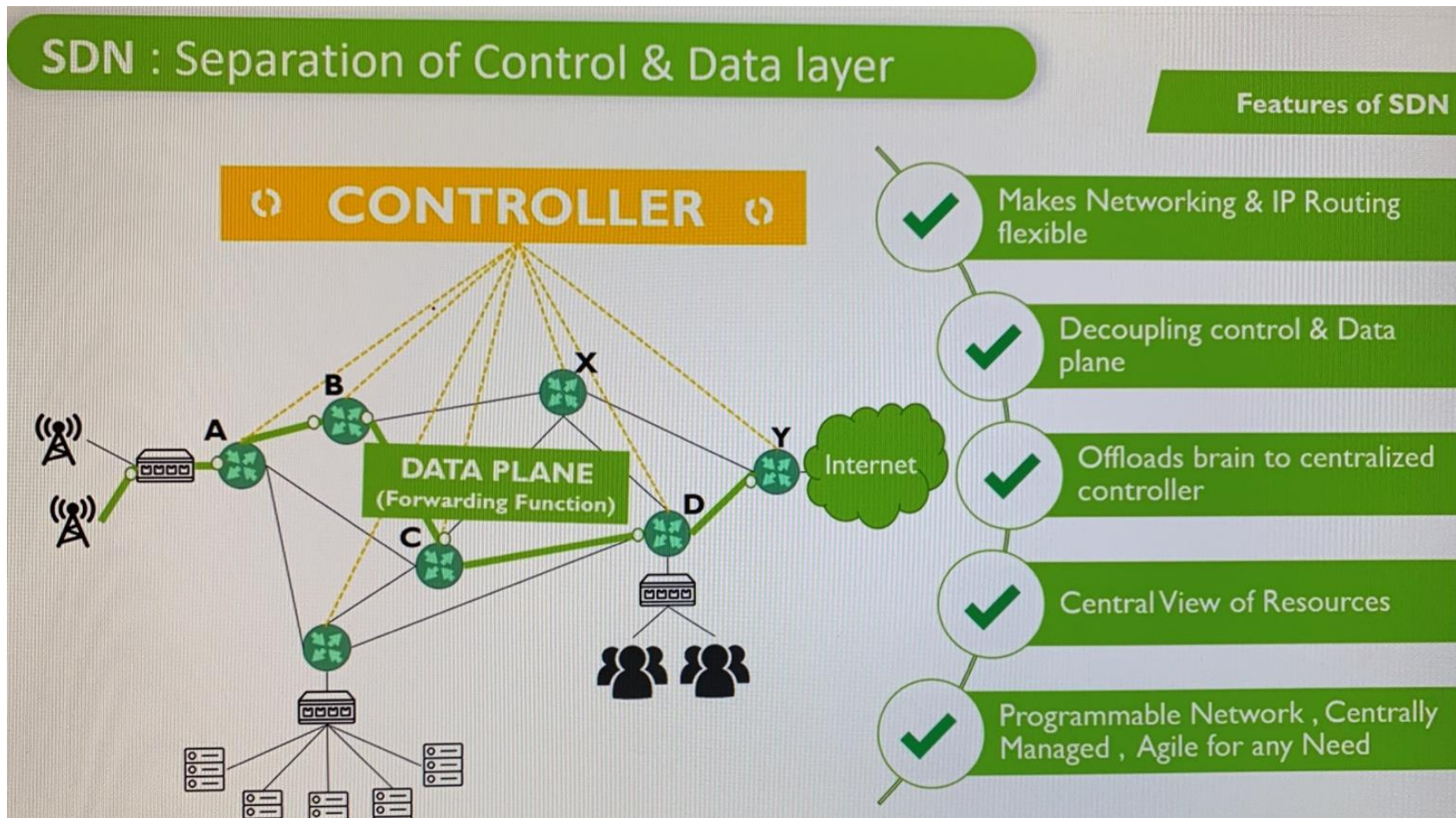
Network Services Gateway (NSG)
• Network service platform for branches
• L2-L4 Switching & routing w/advanced nwk functions
• Physical or Virtual form-factors

Data Center Feature Set (VCS)

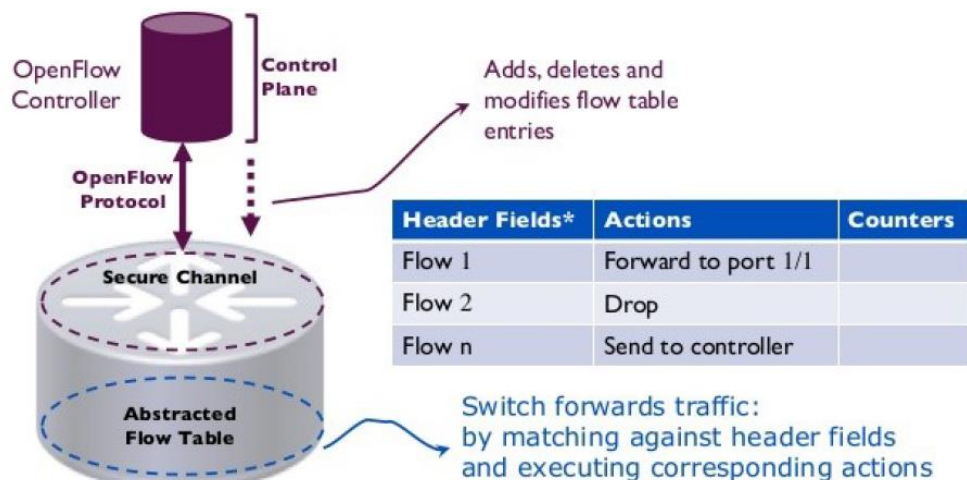
SD-WAN Feature Set (VNS)

SDN: Architectural Framework

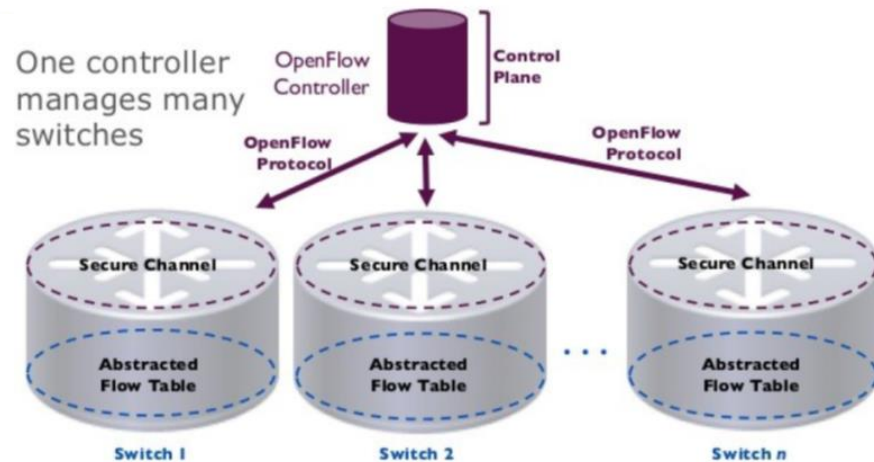




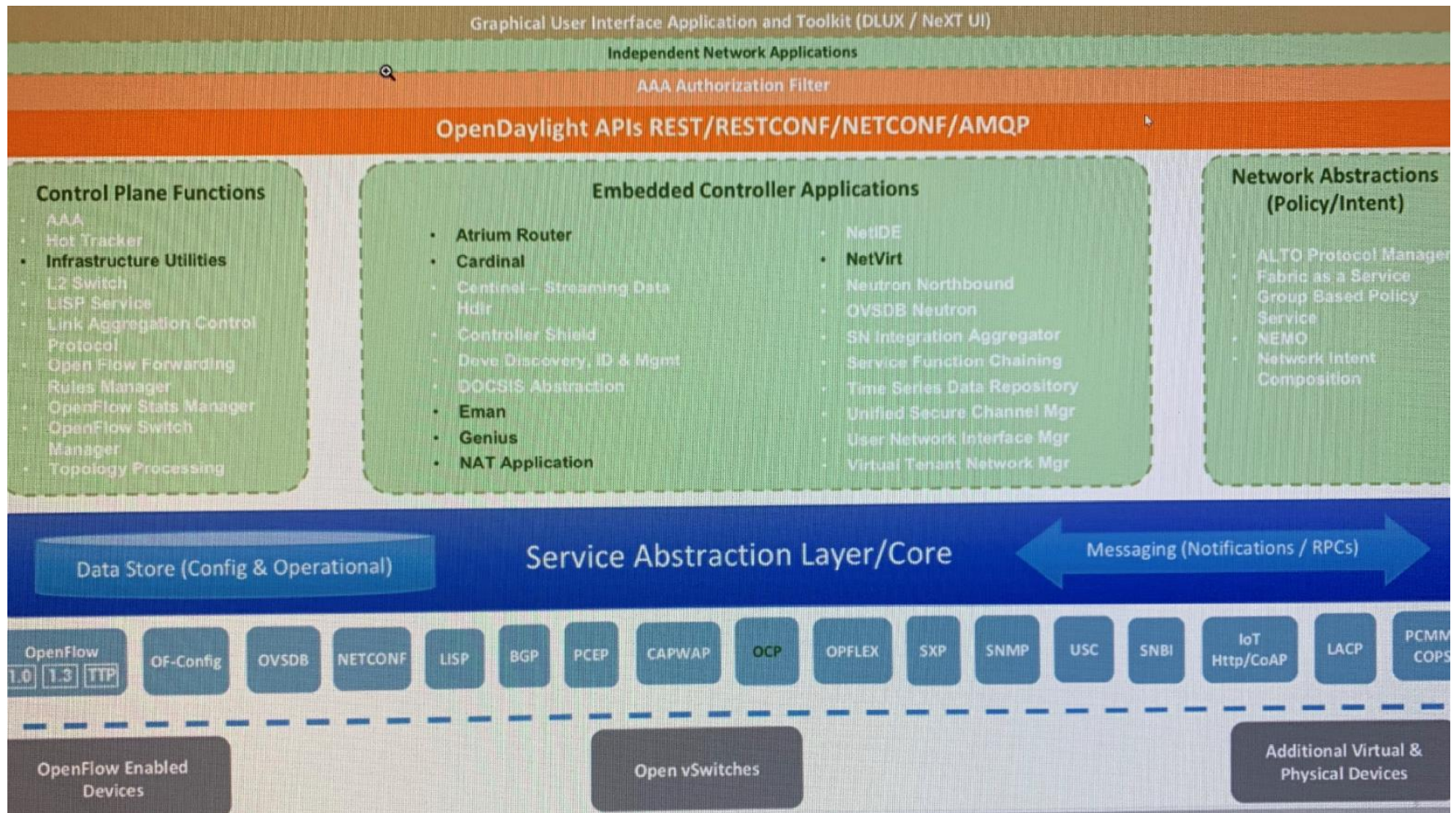
OpenFlow



* Ingress Port, Ethernet SA, Ethernet DA, VLAN ID, VLAN PCP, IP SA, IP DA, IP Proto, IP ToS, Source L4 Port, Dest L2 Port etc....



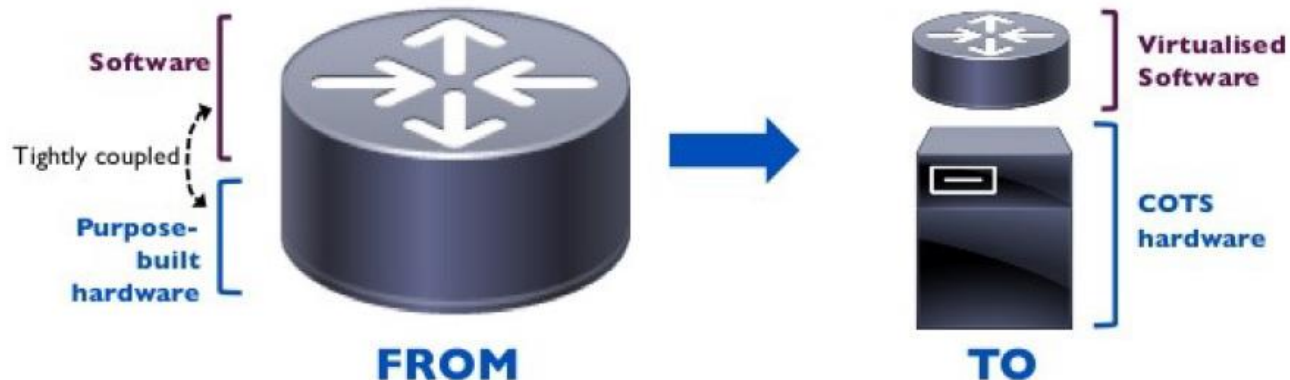
SDN: Northbound and Southbound Interfaces



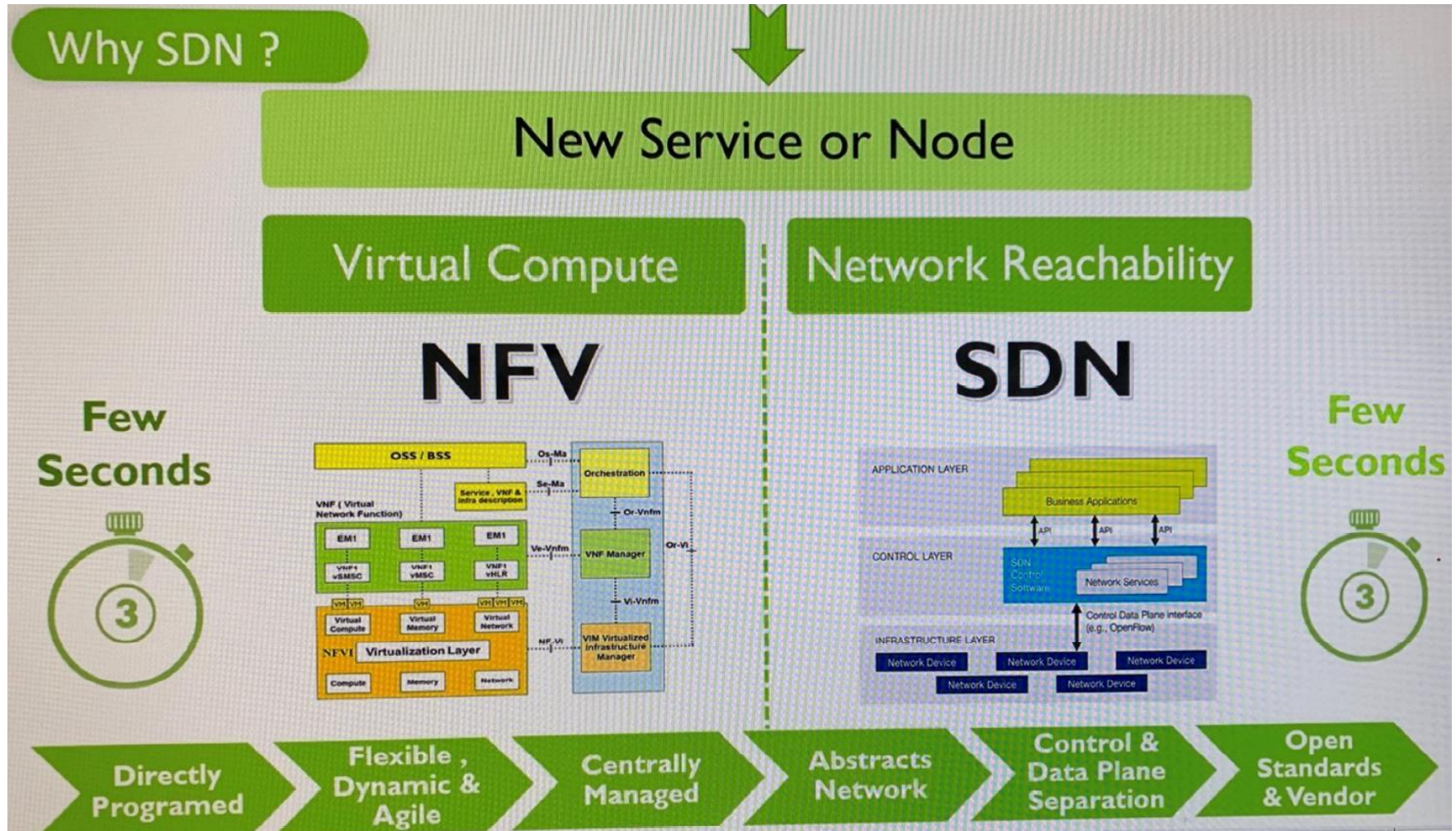
SDN vs NFV

SDN: decouples elements of the control plane from the data plane

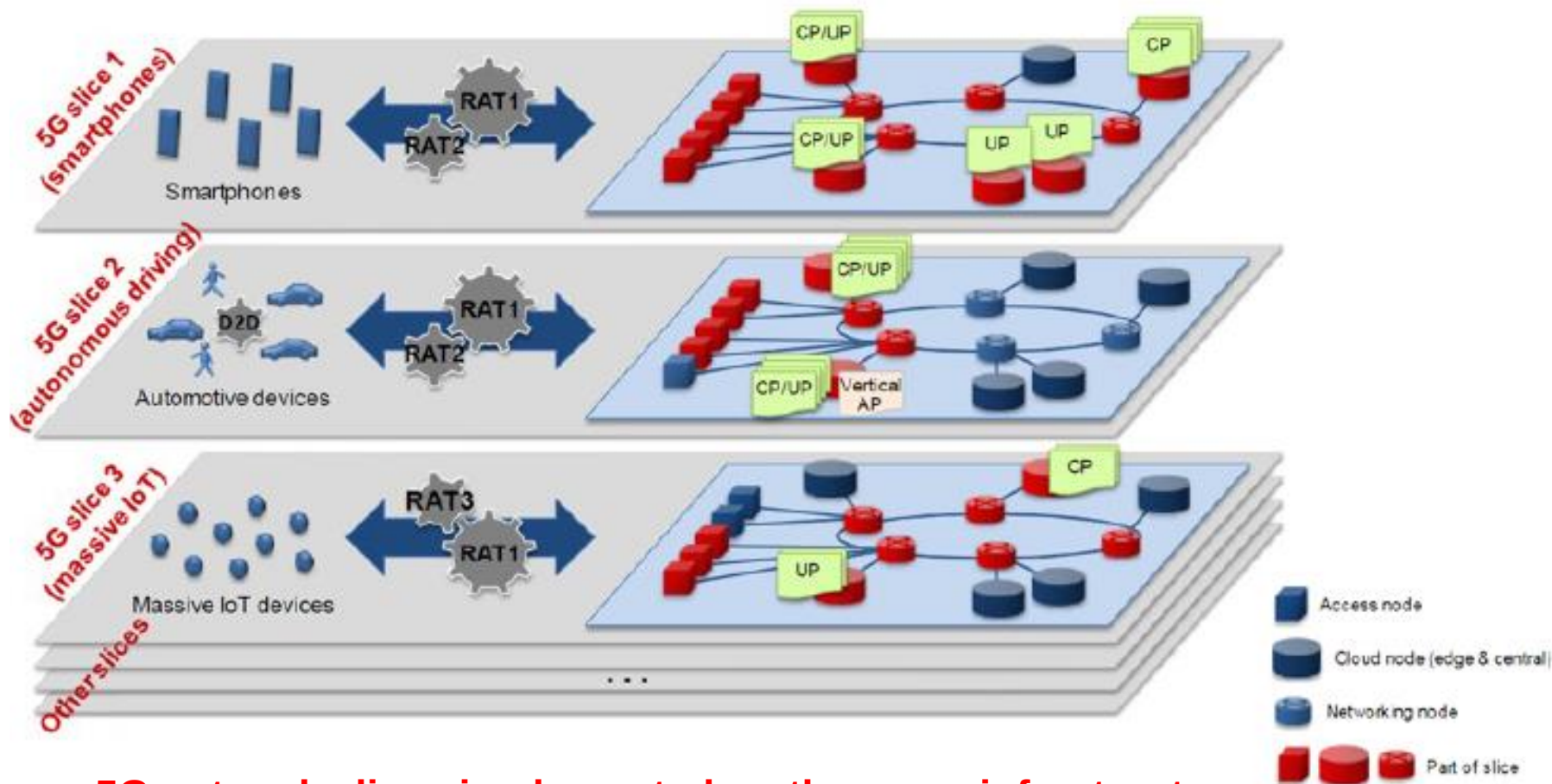
NFV: decouples network software from closed, proprietary hardware systems



SDN with NFV



5G Network Slicing

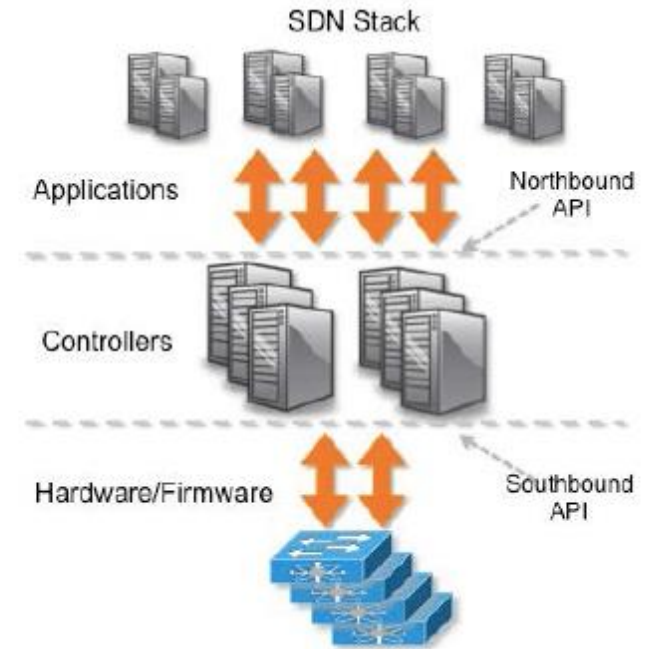


5G network slices implemented on the same infrastructure

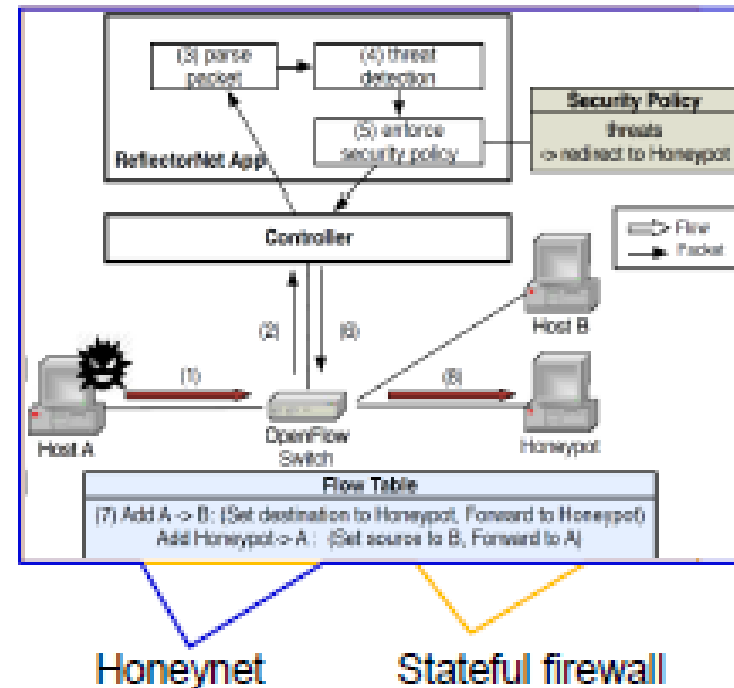
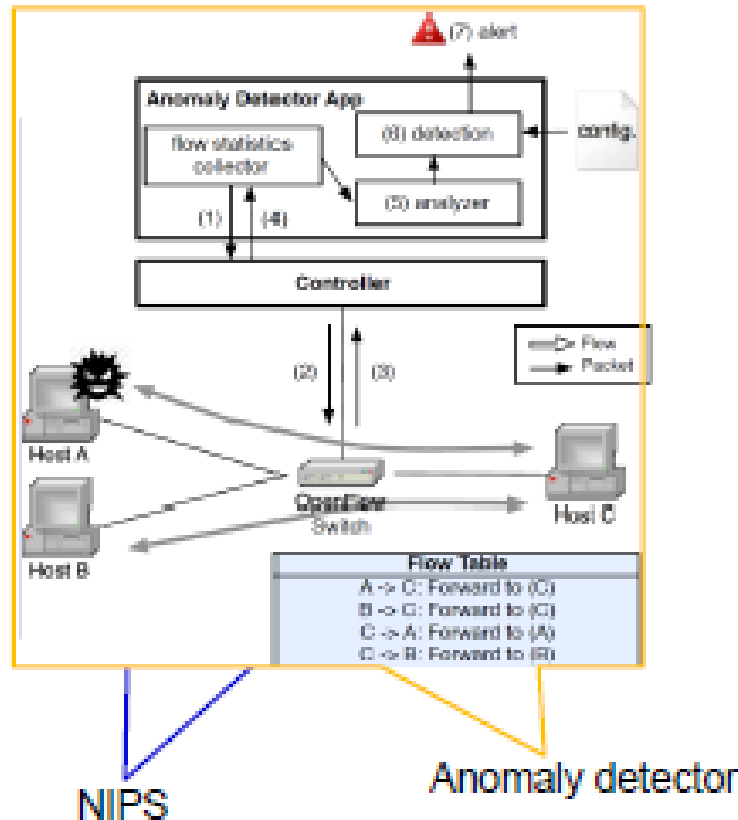
SRC: NGMN

SDN, Controller Security

- **Controllers are the “brains” of SDN**
 - Centralized
 - Programmable
 - Attackable
- **Focus on: patching and basic service security (HTTPS, SSH)**
- **Focus on: role-based access and authentication/authorization**



SDN Based Security Functions

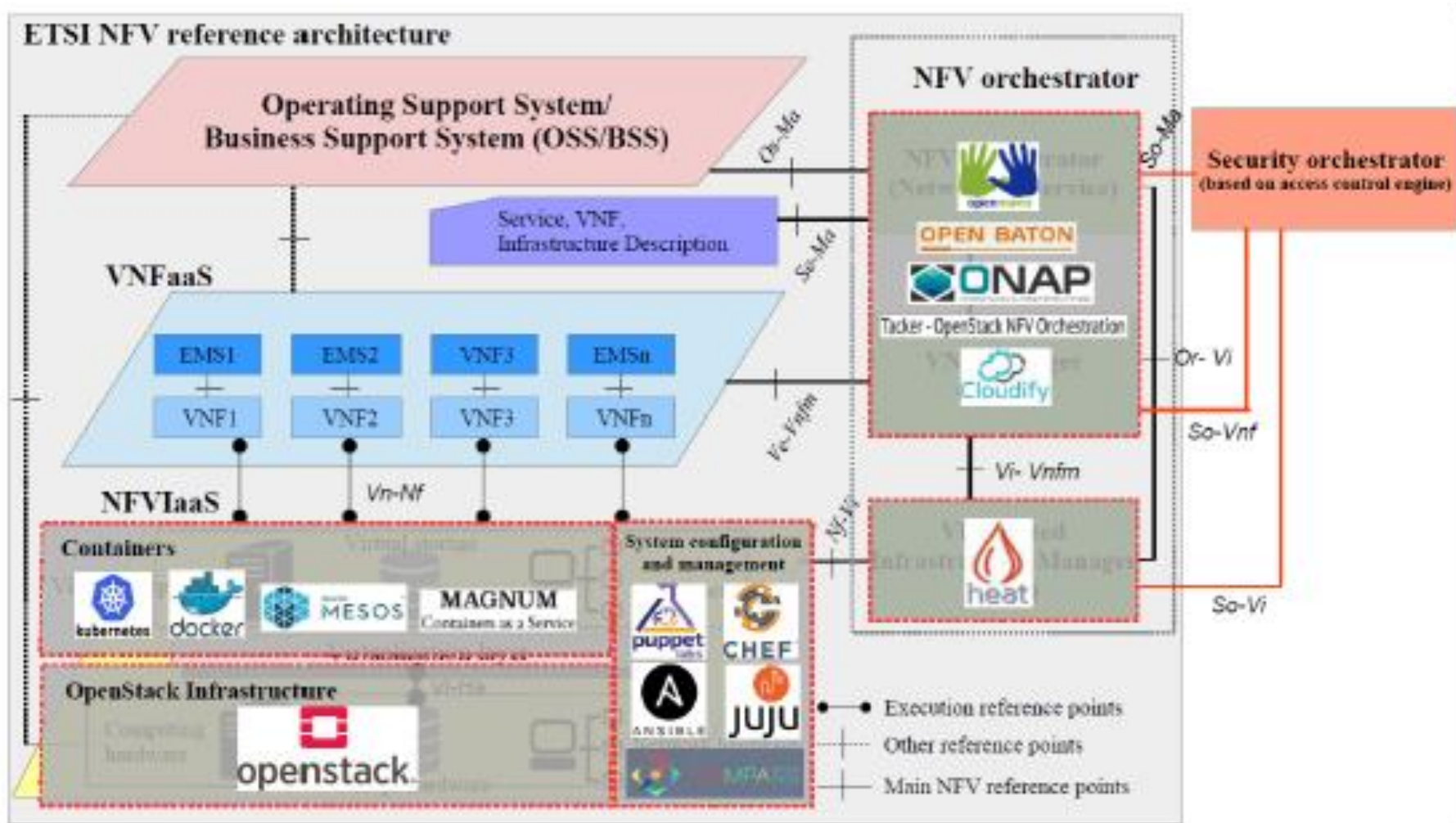


- ▶ Hardware matters (e.g., multi-port-forwarding, picket header modification)
- ▶ Performance bottleneck is due to control messages (packet-in)
- ▶ Data plane has a rich set of network status information (SDN as database)

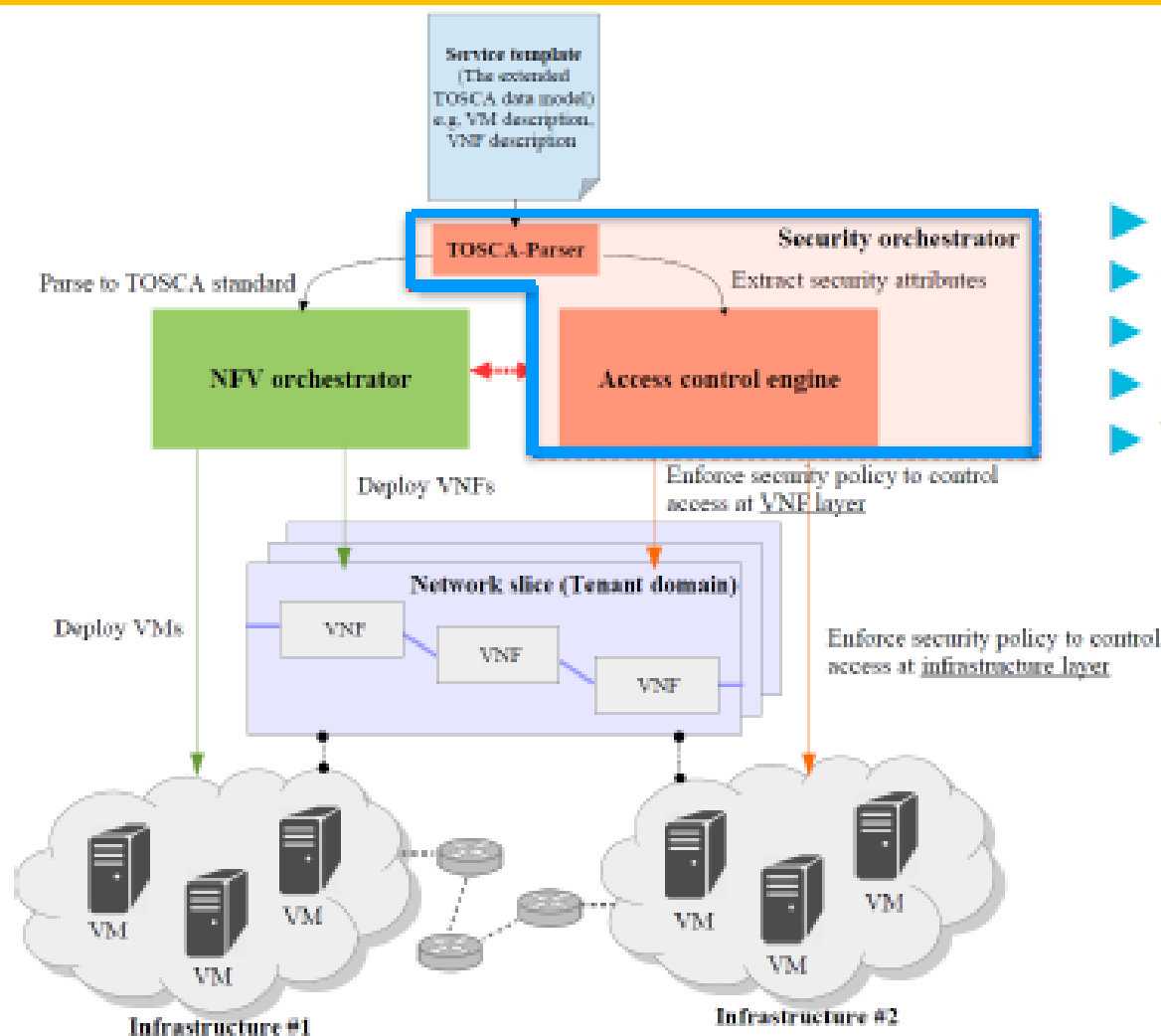
NFV Security Concerns

- **NFV platforms have many capabilities, but new risks:**
 - Resource sharing, role/privilege models, encryption exposure, etc
- **Look into the following:**
 - Vendor code review and security
 - APIs exposed and used by NFV platforms
 - Security configuration settings and patching for NFV solutions
- **Perform regular scans and assessments of NFV tools and components**

NFV Based Security Management and Orchestration



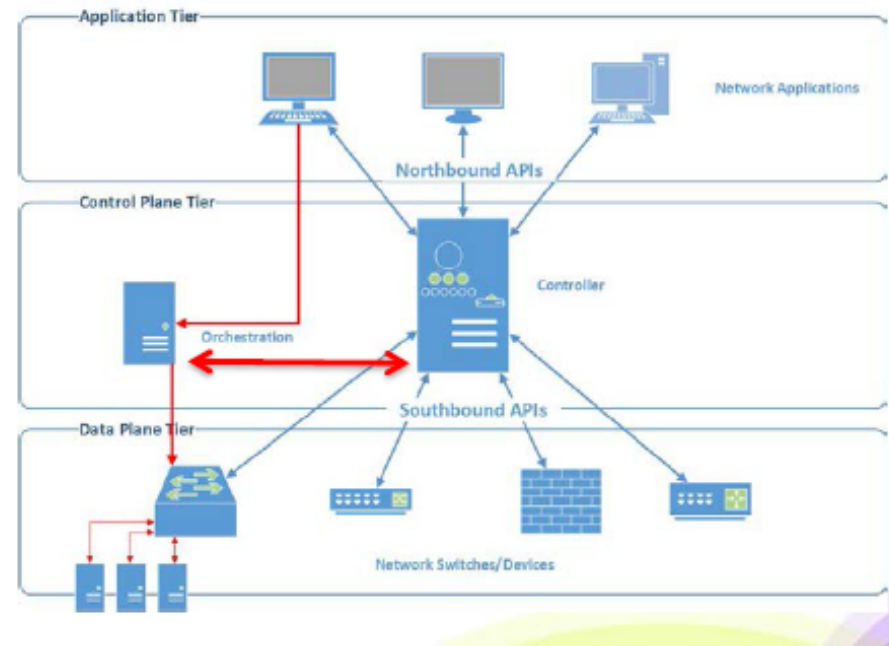
Security Orchestrator



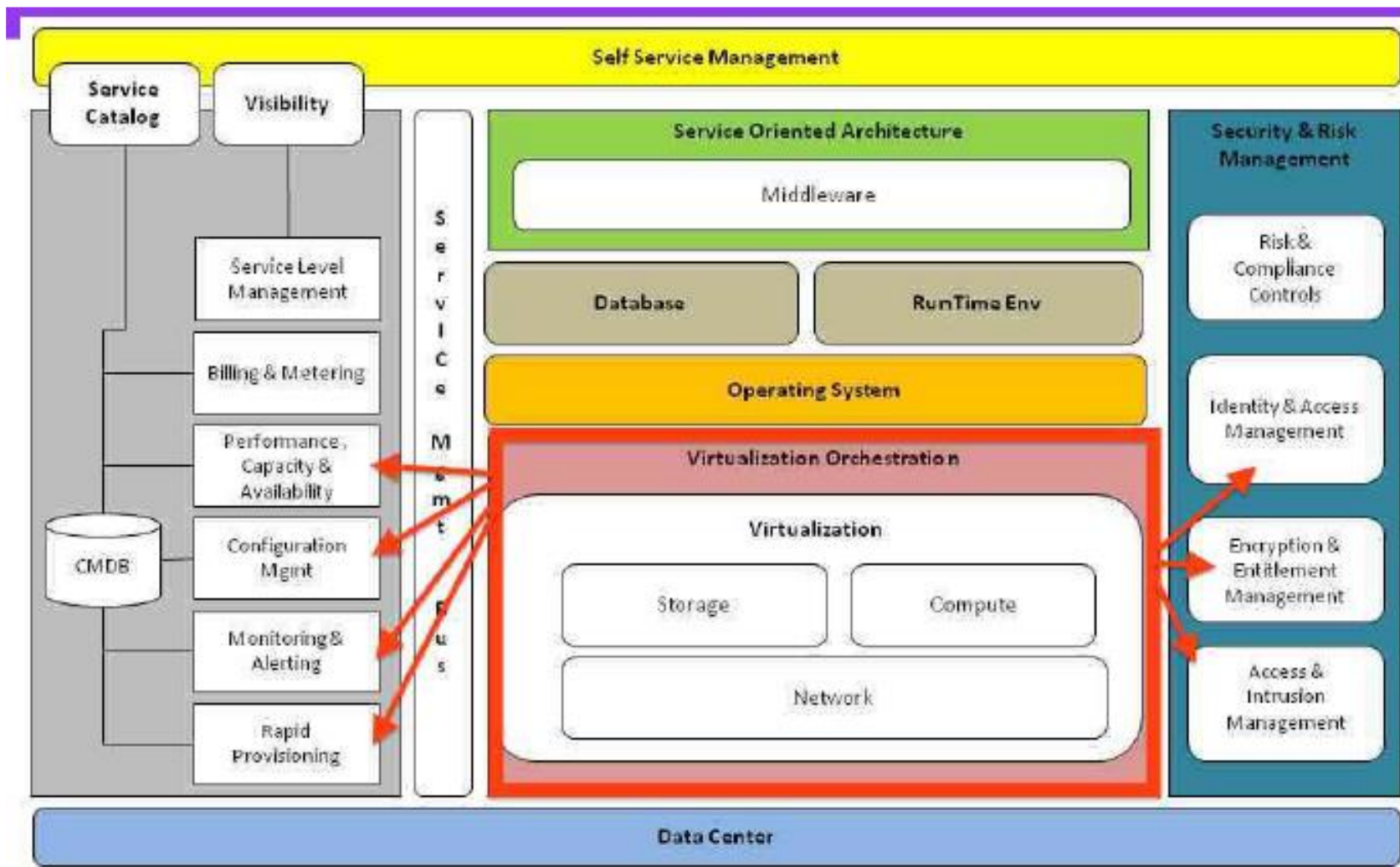
- ▶ Policy-driven
- ▶ Centralized control
- ▶ Programmable
- ▶ Cross-layer
- ▶ Tenant-specific

NFV, SDN, Service Chaining

- With NFV and SDN, the concept of “service chaining” in security is important
- A single platform can accommodate:
 - Anti-malware
 - Network access controls
 - Anomaly detection
 - Intrusion prevention
 - Etc

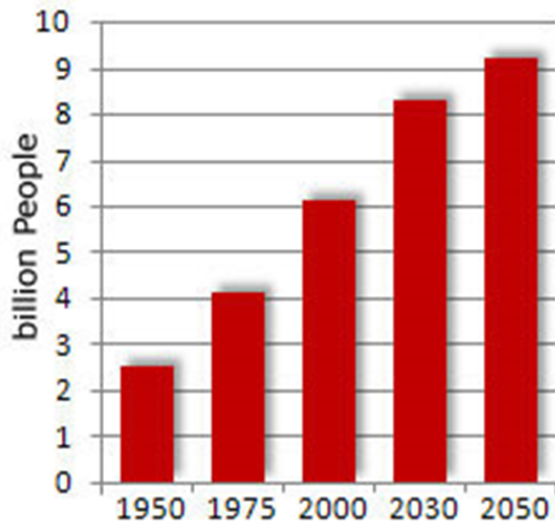


Orchestration Security

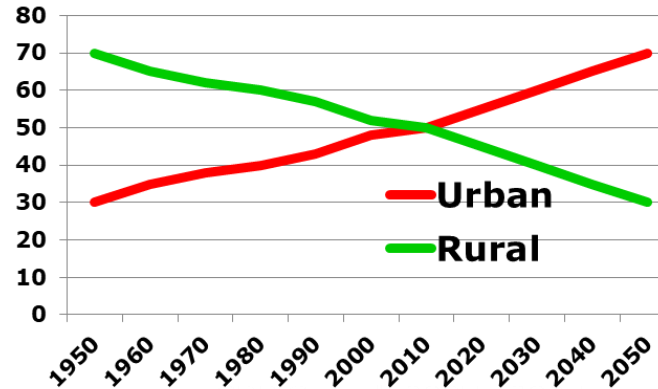


Risk: Urbanization speeding up globally

World Population Growth
1950-2050



World-Crisis.net Source: UN

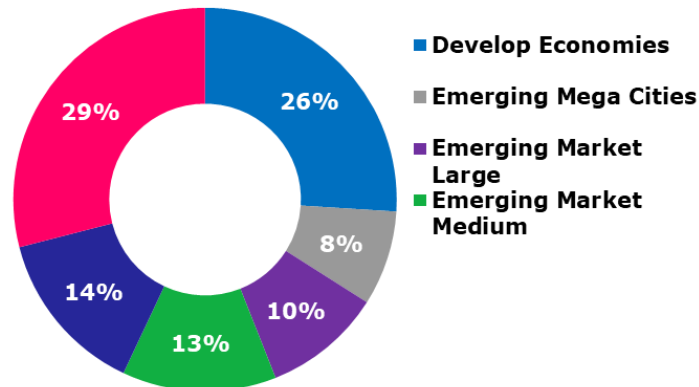


Increasing Urbanization

•Now **50%** of population is in cities

•In 2025 there will be **57%**

Source: United Nations



GDP Growth 2007-2025

•**70%** global GDP comes from cities

•**30%** of GDP growth comes from top 75 cities in 2025.

Source: McKinsey

Challenges of Urbanization

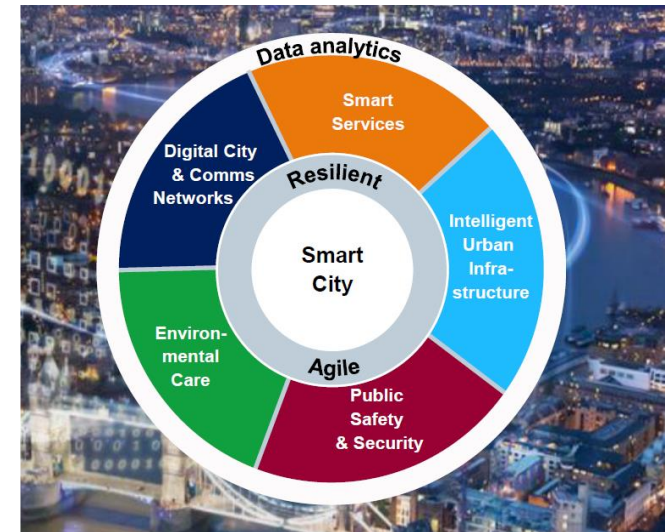
Overall pressures on **Infrastructure, Sustainability and Livability**



Smart, Resilient, Sustainable Cities



Source: Siemens 2018



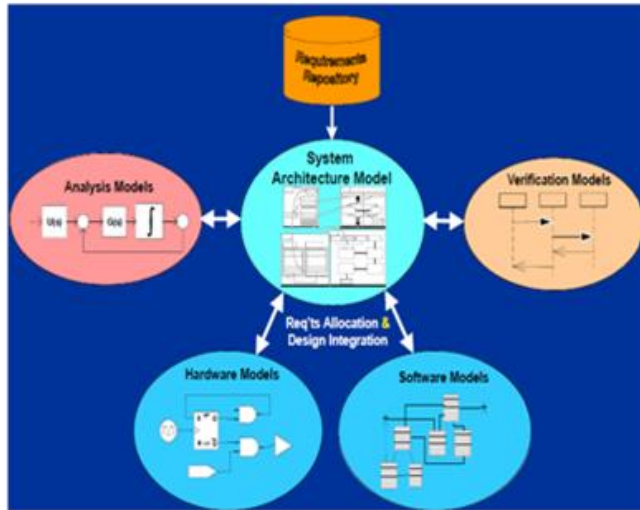
Source: Siemens 2018

- Need to Integrate several complex heterogeneous systems
- **View Smart City as a System of Systems**
- Extend and apply modern Model-Based Systems Engineering Methodologies

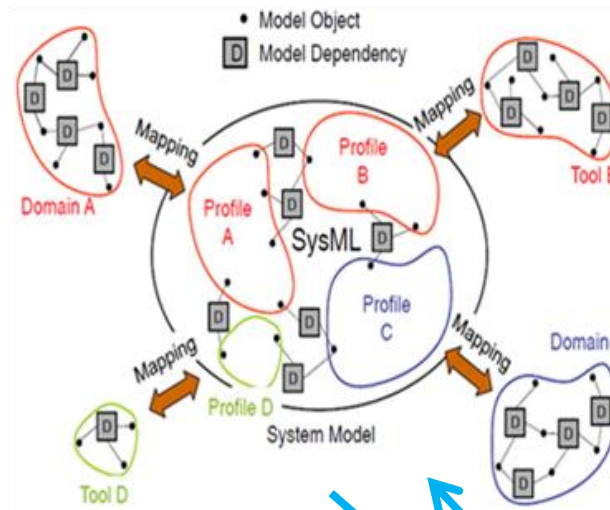
The Challenge & Need:

Develop scalable holistic methods, models and tools for enterprise level system engineering

Multi-domain Model Integration
via System Architecture Model (SysML)



System Modeling Transformations

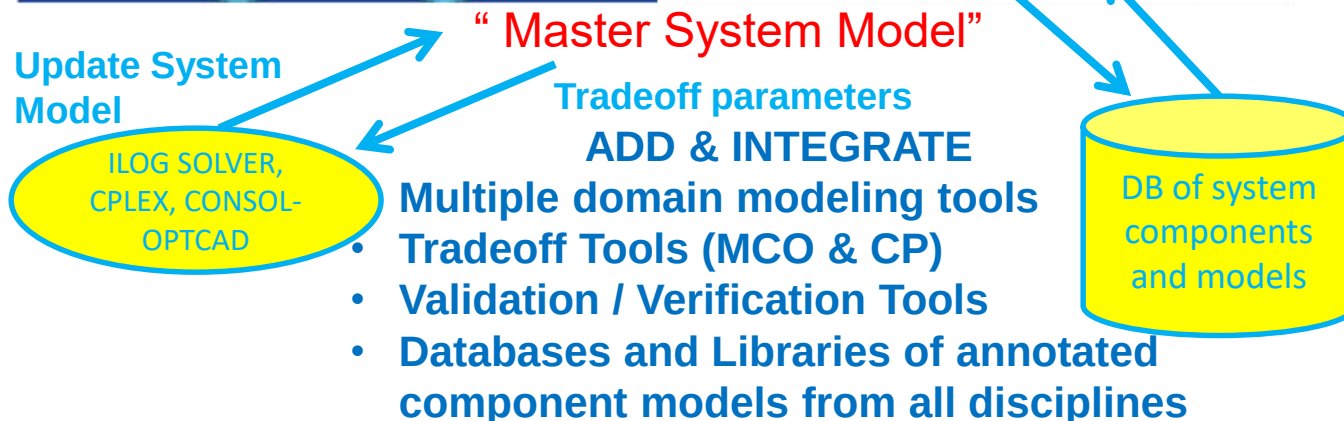


BENEFITS

- Broader Exploration of the design space
- Modularity, re-use
- Increased flexibility, adaptability, agility
- Engineering tools allowing conceptual design, leading to full product models and easy modifications
- Automated validation/verification

APPLICATIONS

- Avionics
- Automotive
- Robotics
- Smart Buildings
- Power Grid
- Health care
- Telecomm and WSN
- Smart PDAs
- Smart Manufacturing



- Dynamic allocation of resources; Dynamic VNF allocation
- Dynamic adaptation and on-line monitoring of slices
- SDN/NFV security; applications to 5G
- Analysis via formal methods; composable security
- Taxonomy of trust-based vs trustless security (blockchain)
- Integrated security, reliability and safety of Net-HCPS
- Human behavior effects and mitigation
- Role of hardware in security and trust of 5G networks
- Formal modeling and performance analysis of networks as a service
- MBSE methods and frameworks for Smart Cities as Systems of Systems

Risks and Challenges

- Dependable data?
- Privacy, security, trust, “dark” Internet
- Acceptance by humans
- Assured AI and ML
- Non-existence of open data platforms
- Lack of business models
- Jobs and automation
- Government and bureaucracy
- Lack of standards
- Human behavior

Thank you!

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Questions?

Keynote speech 2



Open infrastructures providing insights for local stakeholders
on standardized approaches: The Smart Santander approach

Prof. Ioannis Chatzigiannakis
University of Sapienza
Italy



SAPIENZA
UNIVERSITÀ DI ROMA



Open infrastructures providing insights for local stakeholders on standardized approaches

The SmartSantander approach

Ioannis Chatzigiannakis

Sapienza University of Rome
Department of Computer, Control, and Management Engineering (DIAG)

July 16, 2020

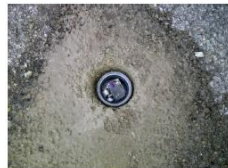
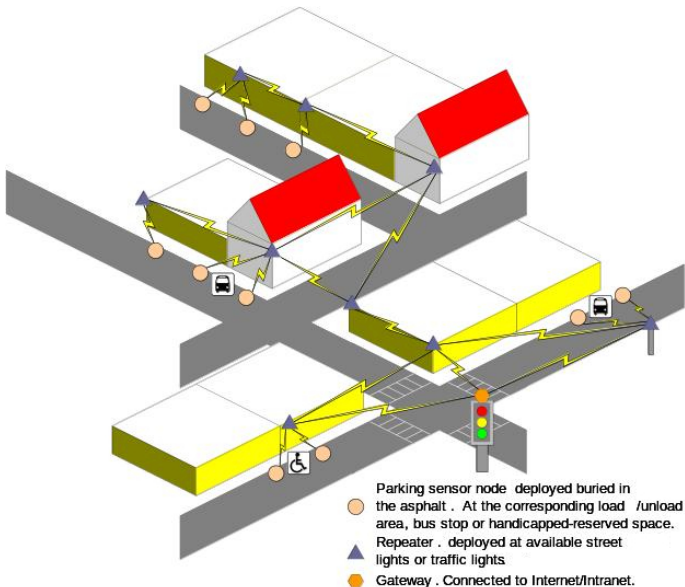


SmartSantander: A City-Scale IoT Infrastructure

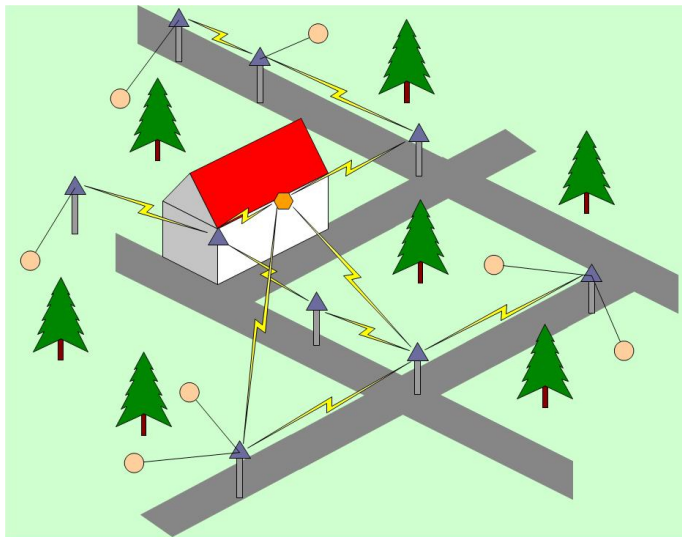


- City-scale IoT deployment.
- 18,000 sensing points.
- Outdoor deployments, Mobile nodes, Human interaction.
- Integrated City Services – Continuous operation.
- Large variety of sensors – Large data.
- Business models and sustainable exploitation combining research & service support.

Monitoring Off-Street and Loading Spaces



Park Irrigation Monitoring

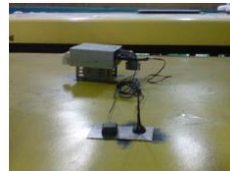
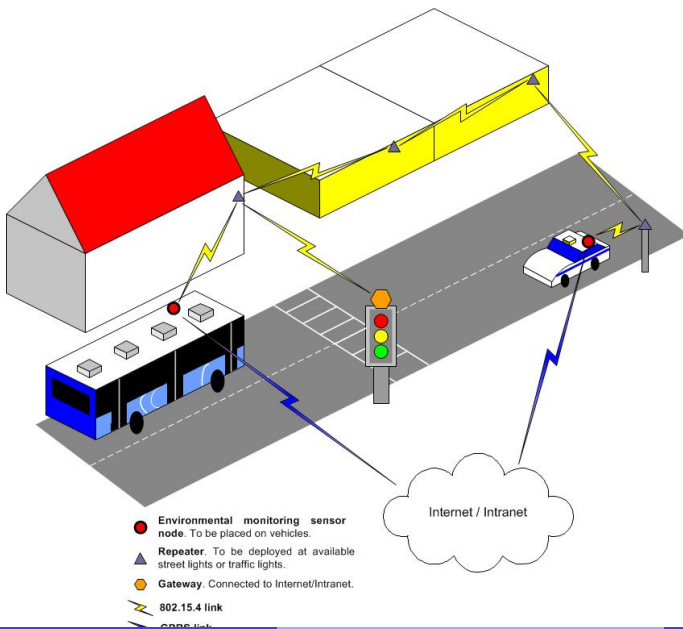


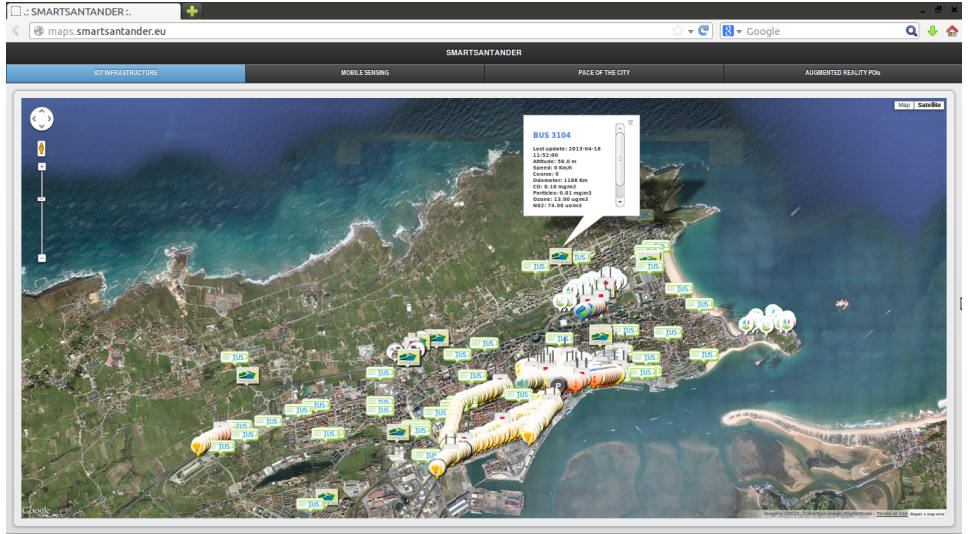
● Park irrigation monitoring sensor.
deployed buried in the ground.

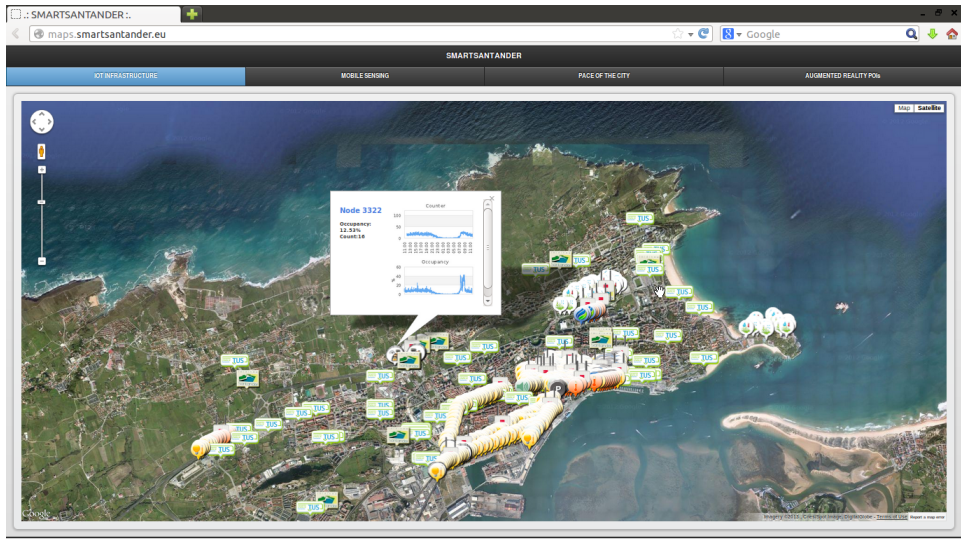
⚡ Radio link

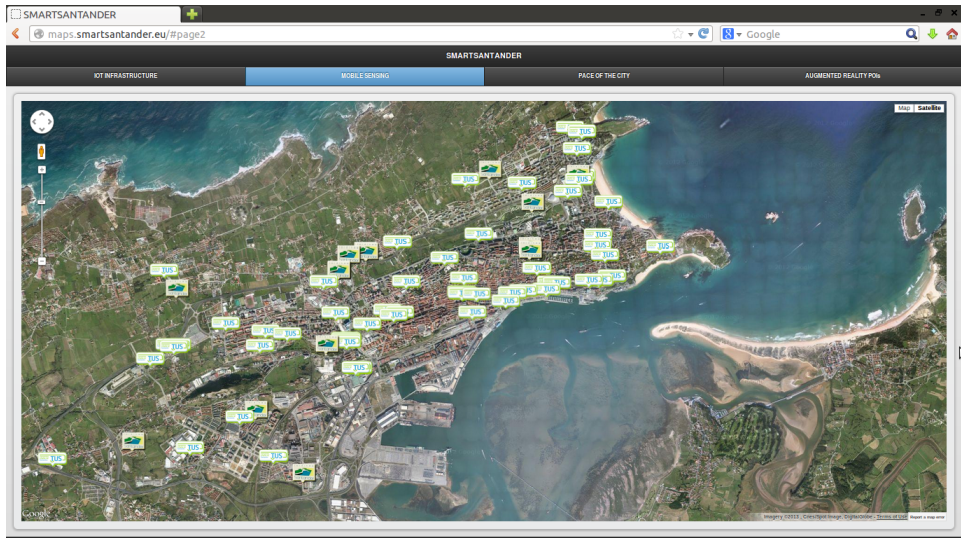


Public Transportation Monitoring







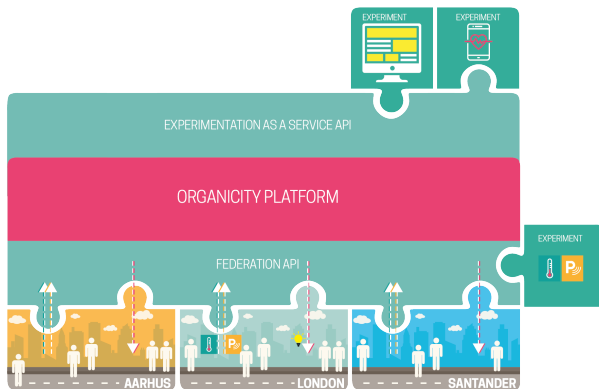


Sustainability of Smart city Infrastructure

- Maintaining a Smart City Infrastructure requires
 - ▶ **Sensor related:** Calibration of sensors, Replacement of lost/broken components, Deployment of new sensors.
 - ▶ **Network related:** Maintain coverage to all static and mobile points, Incorporate new technologies.
 - ▶ **Data related:** Curate data, Incorporate new ontologies, Maintain scalable access, Safe-guard Privacy.
 - ▶ **Software related:** Support of new standards, Incorporate new components, Oversee Cybersecurity.
 - ▶ **Service related:** Integrate with existing services, Introduction of new citizen-facing services.
- A multi-facet approach.
 - ▶ Santander Municipality.
 - ▶ Cantabria University.
 - ▶ Regional Innovation-Driven Technology Companies.

Enabling Co-Creation of Smart City Services

- Experimentation-as-a-Service (EaaS)
- **For Active Citizens:** Open access to IoT data.
- **For City Authorities:** Create digital solutions for urban challenges.
- **For Businesses:** Explore new models.
- **For Technology Providers:** Test new technologies.



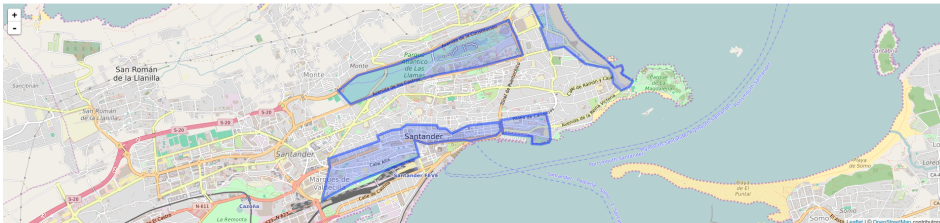
OrganiCity Web Platform



EXPERIMENTS SENSORS

amaxiat@cti.gr

LOG OUT



amaxiat@cti.gr OrganiCity WiFi Scanner

LAST DATA RECEIVED: --

8 Regions 9 Plugins 6597 measurements Inside Regions 4343 measurements Outside Regions 10940 measurements Total

Details

OrganiCity WiFi Scanner

amaxiat@cti.gr

Location Sensor WiFi Sensor

Measurements Outside Regions

Users Contribution

Contact Experimenters

Download Experiment Measurements [LOGS](#) [CSV](#)

Description

OrganiCity WiFi Scanner

Measurements per Region

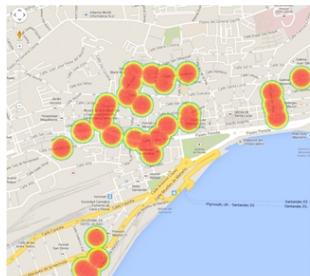
Show 10 entries

Search:

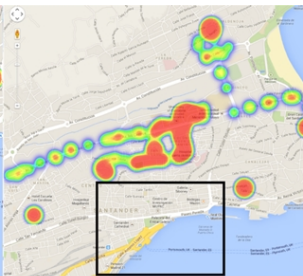
Name	Measurements	%	Coverage	View
Patras	2751	41.70%	137%	View
UC	2288	34.68%	114%	View
Imperial College	609	9.23%	30%	View

OrganiCity Web Platform

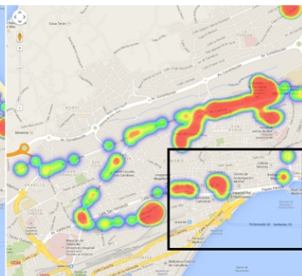
- Detect ambient noise in city centers throughout the day.
- Citizens participate using their smartphones to extend IoT infrastructure.



Stationary IoT nodes



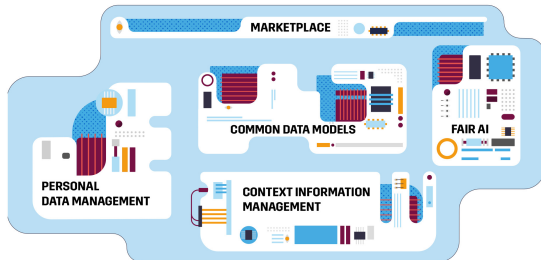
Readings 12:00 – 18:00



Readings 18:00 – 24:00

Guaranteeing Long-lasting Value

- Fast growing market of IoT- and AI- enabled smart city technologies.
 - ▶ Single-vendor End-to-end solutions.
 - ▶ Focused solutions by smaller technology providers.
- How can we promote an Open Innovation Culture?
- How to enable to “shop around” for the best services ?
- SynchroniCity: opening up a global market
 - ▶ Minimal Interoperability Mechanisms (MIM)
 - ▶ Open & Agile Smart Cities (OASC)



Delivering Smarter Cities

- Active engagement of all local stakeholders.
- Promote open innovation.
- Adopt open standards.
- Implement an agile mindset.

The EC Intelligent cities and digital challenges



Dana ELEFTHERIADOU
Head of Advanced Technologies and
Digital Transformation Team
DG for Internal Market, Industry,
Entrepreneurship and SMEs
European Commission



Intelligent Cities Challenge (ICC)

Intelligent Cities driving a Green and Digital Recovery

16 July 2020

The EU response to the coronavirus crisis

#NextGenerationEU #StrongerTogether



Elements of Response

1. Health and emergency response
2. Economic response
3. Research and funding
4. Coordinated exit



2. Economic response

State aid rules

- liquidity to economy
- support SMEs, jobs, etc.

SURE program

- €100 billion
- support for unemployed

Complements ECB measures

- €750 bn new measures
- €120 bn earlier

Recovery Plan for Europe

- €750 bn Next Generation EU
- €1100 bn long-term EU budget

Budget flexibility

- 'Escape Clause'
- maximum flexibility

Coronavirus Response Investment Initiative

- unspent cohesion funds
- transfers between funds, regions and priorities

Recovery Plan for Europe



Supporting Member States to recover, repair and emerge stronger from the crisis



Kick starting the economy and helping private investment to get moving again



Learning the lessons of the crisis and addressing Europe's strategic challenges



SURE / ESM /
EIB Guarantee

€540 billion

Next
Generation EU

€750 billion

Long-term
EU budget

€1100 billion

Instruments for the Recovery Plan

WHO BENEFITS

**Regions,
companies and
citizens**

Companies

Health sector

Global partners

Twin green and digital transitions

INSTRUMENTS

- European Recovery and Resilience Facility
- REACT-EU (cohesion policy)
- Reinforced rural development
- Reinforced Just Transition Mechanism

- Solvency Support Instrument
- Strengthened InvestEU
- Strategic Investment Facility

- New Health Programme
- Reinforced Horizon Europe
- Reinforced rescEU

- External Action Guarantee
- European Fund for Sustainable development

WHO INTERVENES

European Commission & Member states

European Investment Bank & other public finance partners

European Commission

European Commission & international organisations

Political priorities



Why the Intelligent Cities Challenge?



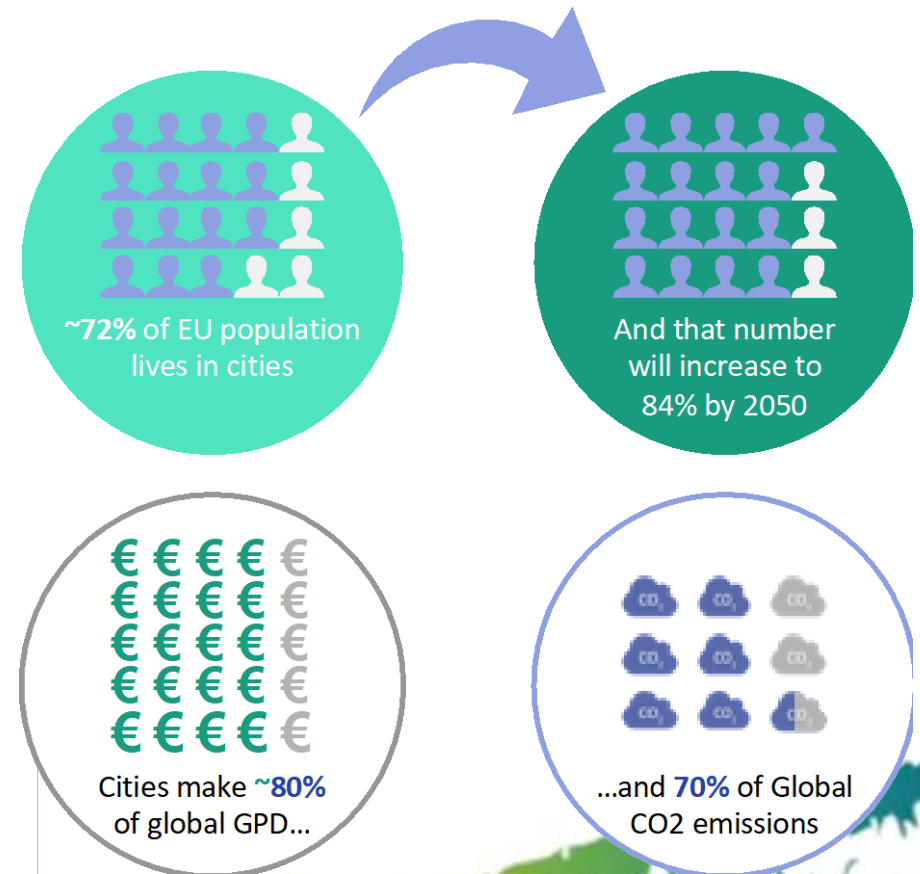
What is the context of the ICC?

Cities shape the future of the EU

72% of EU citizens live in urban areas and their ecosystems are powerful actors of change. ~50% of the reductions necessary for net zero emissions can be achieved at city level.

Effective technologies are offering solutions to these challenges.

Many cities are emerging as world leaders in innovative technologies and business models. Others can profit from their knowledge.



European
Commission

The Intelligent Cities Challenge is funded by COSME, the EU
programme for the Competitiveness of Enterprises and SMEs

The European Commission's
100 Intelligent Cities
Challenge

What is the Intelligent Cities Challenge?



The 100 **Intelligent Cities Challenge** (ICC) is an EU initiative that **helps EU cities leverage cutting edge technologies** to tackle the **pandemic crisis and reconstruct their economies** while steering them in the direction on **green smart sustainable growth**. This will help cities to improve the quality of life and create new opportunities for their business communities.

It builds on the **Digital Cities Challenge**, which helped 41 EU cities develop a strategic vision and a roadmap for digital transformation. It introduces key innovations such as the **international dimension** and a stronger focus on **hands-on implementation**. The ICC is part of wider EU support contributing to a **European Green Deal**, an economy that works for people and a Europe fit for the Digital age.



European
Commission

The Intelligent Cities Challenge is funded by COSME, the EU
programme for the Competitiveness of Enterprises and SMEs

The European Commission's
**100 Intelligent Cities
Challenge**

ICC - What are the goals and vision?



ICC cities will receive **tailored guidance and expert support**, access to advisory and city peer **networks** (European and international), and **capacity building tools**, to shape ambitious green and digital growth strategies harnessing advanced technologies.

Through its action oriented and collaborative approach, the ICC helps cities to:

- **Foster a vibrant public-private ecosystem** joining up all city stakeholders
- **Identify local strengths and shape ambitious vision:** conduct performance assessments, define strategic goals and implementation roadmaps;
- **Leverage cutting edge technologies** to bring innovation and accelerate the city's transition
- **Learn from peer cities and mentors and engage in long-lasting collaborations;** joint open data platform, EU marketplace for city solutions and joint investments/procurements;



88

APPLICATIONS
ACCEPTED



INVOLVING

124

CITIES



ICC
CITIES
ANNOUNCEMENT

The European Commission's
100 Intelligent Cities
Challenge



IN

20

EU COUNTRIES



10

INTERNATIONAL
CITIES TO JOIN

What type of policy goals can the ICC help cities pursue?



Esmartcity

Five thematic tracks - 16 themes

1

Green economy and environment

Transforming industry and cleaner and resource-efficient industries

Waste management and circular economy

Scaling up renewable energy solutions and energy efficiency

Efficient management of water systems

Sustainable use and management of natural resources

Sustainable and resilient food systems

2

Mobility and urban infrastructure

Smarter and greener mobility and transport

Transforming and greening construction, housing and urban management

3

Government services and social connectedness

E-government and digitising public services

Enhancing citizen participation and connectivity

4

Economic growth and skilling

Innovative education and training for up- and re-skilling

Growing start-ups, SMEs and social entrepreneurship

Smart and sustainable tourism

5

Health and safety

Promoting health and well-being of citizens

Supporting safety and security

Climate resilience and disaster management



European Commission

The Intelligent Cities Challenge is funded by COSME, the EU programme for the Competitiveness of Enterprises and SMEs

The European Commission's
100 Intelligent Cities Challenge

ICC Covid-19 response in cities



- **A series of Covid-19 webinars** to support mutual learning and share best practices from European and global cities : <https://www.intelligentcitieschallenge.eu/covid-19-webinars>
 - *Fighting Coronavirus at a city level (3 April)*
 - *Building cities' resilience: mobilising local ecosystems (15 April)*
 - *Post-Pandemic Recovery Plans in Cities: Turning the Crisis into an Opportunity (14 May)*
- **The ICC Covid-19 good city practices portal** with case studies of technology-based actions taken by cities to support their citizens and ecosystem in facing the COVID-19 pandemic crisis:
<https://www.intelligentcitieschallenge.eu/covid-19-good-practices>
- **Covid-19 useful links** with the most relevant EU response measures and other public-private initiatives of relevance to cities: <https://www.intelligentcitieschallenge.eu/covid-19-useful-links>

Re-imagine the post-CoVid-19 city



- **City and Community Resilience:** support the efforts of frontline communities, promote healthy cities and welfare of citizens, reunite the makers community, Fablabs, volunteers, citizens and social actors and steer them where real needs are.
- **Local Green Deals:** Twin -Green and digital- recovery plans (Renewable energy solutions and energy efficiency; Circular economy; Sustainable management of water, waste and natural resources; Clean smart mobility, Clean infrastructure)
- **Strategic autonomy: Restore local Manufacturing / Sustainable and resilient Local Food systems**
- **Re-skilling and Up-skilling the city** (civil servants, local workforce, youth and students to respond to new emerging needs) – **Digital, Green and Social skills**



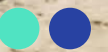
European
Commission

The Intelligent Cities Challenge is funded by COSME, the EU
programme for the Competitiveness of Enterprises and SMEs

The European Commission's
100 Intelligent Cities
Challenge

Q&A

Questions and answers on the ICC initiative



Economy recovery plan and good experiences of cities after lockdown ending measures in...





Gonzalo Esteban Lopez
Provincial Council of Granada
Spain



Carmine Pacente
Head of Unit of European Policies and Programs
Metropolitan City of Milan
Italy



Città
metropolitana
di Milano



ESMARTCITY Local Conclusions

We identified in our territory two key aspects:

- *The **digital development of our territories is key** to fight against depopulation and to improve quality of life of our citizenship.*
- *In rural areas, as well, the current situation tells us that **this digital and green development Will only arrive through the support of bigger administrations to small and médium municipalities.***



Ursula von der Leyen #UnitedAga...
@vonderleyen

Today we celebrate 70 years of European solidarity that offered a helping hand to rebuild & reunite a continent on the ashes of WWII and to build prosperity. The same solidarity is needed to save lives, livelihoods and build a **green & digital** future. Long live Europe 🇪🇺
#EuropeDay

ESMARTCITY Project Granada Provincial Government Recovery PLAN - COVID19



Granada Recovery Plan



Our institution launched a COVID19 plan to cope this crisis with 52 measures and an investment of 181 M€. The actions within the plan cover a range of actions including social measures, and among those there are some innovation actions to cope the situation as well.

All information about the plan can be seen here (In Spanish) :

https://www.dipgra.es/uploaddoc/contenidos/25099/PlanGranada_Diputaci%C3%B3n.pdf

Granada Recovery Plan

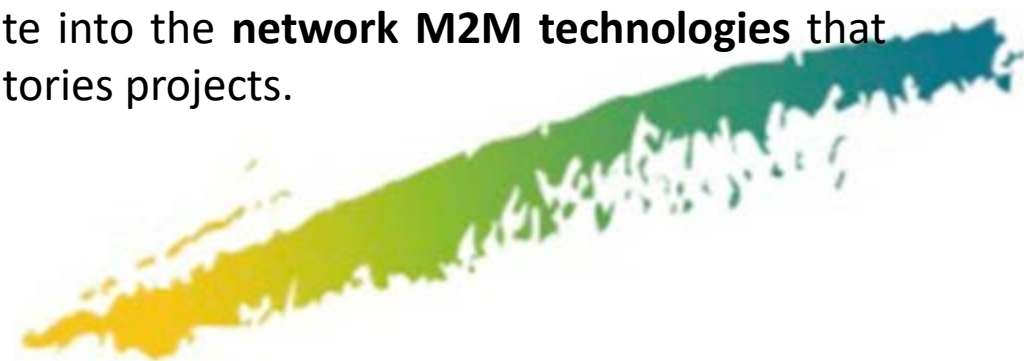
Inside of the **GRANADA COVID 19 Plan** there are various initiatives where the innovation area as a transversal service in the Provincial Council and Municipalities, but there are as well two specific initiatives of the department:

Line 25. DIGITAL TOOLS AS A BET FOR THE FUTURE FOR THE TOURISM SECTOR

Line 39. BROADBAND PLAN FOR THE PROVINCE

The line 39 is part of the extension of the provincial corporate network (Red Mulhacén) Multiprotocol and multi-technology virtual private network in such a way that safely, reliably and scalable interconnects all external centers of the County Council and local entities and workers in the territory, as well as IoT nodes. It implies that **all the centers of the province and nodes municipal access to broadband communications, mainly based on fiber optics**, in one hundred percent of the municipalities **within four years**. With an investment of 4,500,000 €.

The network will allow broadband to be extended to the municipalities of the province to improve **access and availability of companies and inhabitants** and will be able to integrate into the **network M2M technologies** that allow connectivity of Internet of Things devices deployed in Smart Territories projects.



Granada measures after lockdown



**ATENCIÓN
PSICOLÓGICA
TELEFÓNICA**

Servicio Provincial
900 16 81 68 (tlf. gratuito) y **958 24 72 04**
de **8 a 14.30h.** de **lunes a viernes**

 **Diputación
de Granada**
Avanzamos juntos



#GRANADACULTURAENRED
PROGRAMACIÓN MAYO - JUNIO 2020

2020

 **Diputación
de Granada**
Avanzamos juntos

 **cultura**
y Memoria Histórica
y Democrática



AULA MENTOR
**PROGRAMA EXTRAORDINARIO DE
FORMACIÓN ONLINE
GRATUITA**

Certificada por el Ministerio de Educación
y Formación Profesional

 **Diputación
de Granada**
Avanzamos juntos



Granada measures after lockdown

ELECTRONIC ADMINISTRATION in rural areas → Efficient services, environmental benefits, & quality of life



The screenshot shows the homepage of the Granada Electronic Administration website. The header includes the Granada logo, the slogan "Avanzamos juntos", the text "Sede Electrónica", a language selector, the date and time "14:34 Miércoles 3 junio 2020", and a login button "Identificarse". Below the header are three main navigation links: "Catálogo de Servicios", "Carpeta Ciudadana", and "Acceda a ...".

The main content area is divided into several sections:

- Search Section:** A search bar with the placeholder "¿Qué quieres buscar?" and a magnifying glass icon. Below it, a section titled "Otros han buscado:" lists three common search queries: "¿Qué documentación debo presentar para realizar un trámite?", "¿Cómo puedo modificar mis datos personales?", and "¿Cómo puedo acceder al catálogo de trámites?". A link "Ver todas las búsquedas" is provided.
- Catálogo de Servicios:** A grid of service icons and labels:
 - AYUDAS Y SUBVENCIONES (Euro symbol icon)
 - BOLETÍN OFICIAL DE LA PROVINCIA (Document icon)
 - CONCERTACION LOCAL (Book icon)
 - EMPLEO PÚBLICO (Pencil icon)
 - OTROS TRÁMITES (Film strip icon)
 - PARTICIPACIÓN CIUDADANA (Group of people icon)
 - PERSONAL (Person icon)
 - PLAN AGRUPADO DE FORMACION (Laptop icon)
 - SABOR GRANADA (Leaf icon)
- Calendario Oficial:** A calendar for June 2020. The days of the week are listed in the header: Lu, Ma, Mi, Ju, Vi, Sá, Do. The calendar grid shows dates from 1 to 30. The 3rd of June is highlighted with a yellow circle.
- Tablón de anuncios:** A yellow button with a calendar icon and the text "Tablón de anuncios".
- Trámites más solicitados:** A section titled "Trámites más solicitados" with a star icon, listing "PRESENTACIÓN DE ESCRITOS".
- Trámites más destacados:** A section titled "Trámites más destacados" with a star icon, listing "GESTION BOLSA TRABAJO TEMPORAL ANTIGUO REGLAMENTO EMPLEO PÚBLICO".

Granada measures after lockdown

www.facebook.com/GeoparquedeGranada/
[@GranadaGeopark](https://www.instagram.com/GranadaGeopark)
[@geoparquedeGranada](https://www.instagram.com/geoparquedeGranada) (Instagram)
[@GeoparquesUNESCO](https://www.instagram.com/GeoparquesUNESCO)
[@ComEspGeoparks](https://www.instagram.com/ComEspGeoparks)

IV Semana Geoparque de Granada

1 - 7 Junio 2020

Semana de los Geoparques Europeos

2020

#RespiraGeoparques

Lunes 1 de Junio	Martes 2 de Junio	Miércoles 3 de Junio	Jueves 4 de Junio	Viernes 5 de Junio	Sábado 6 de Junio	Domingo 7 de Junio
Exposición Virtual "La Identidad de la Tierra".	Curso ENTURNA Mindfulness EJECUTIVO	Presentación de la Red de Centros de Divulgación del Geoparque de Granada. Jornada temática.	Mesa redonda abierta a la participación ciudadana.	Curso ENTURNA Transformación digital para negocios	Jornada dedicada a los Geoparques Españoles de la UNESCO.	Visita virtual a los yacimientos arqueológicos de Galera con JOSÉ MANUEL GUILLEN
II Concurso de dibujo artístico infantil temático sobre el Geoparque.	JIMMY PONS 09:30 a 11:30		En directo vía Zoom // Google Meet	TIRSO MALDONADO 11:00 a 13:00	#Respirageoparques.	
	Inscríbete: bit.ly/3er5QF9		"Hablamos de Geoparques: ¿Qué te gustaría saber?"	Inscríbete: bit.ly/2zD5sVq		
				II ENCUESTO TÉCNICOS MEDIO AMBIENTE		
Emisión de podcast diario.	Emisión de podcast diario.	Emisión de podcast diario.	Emisión de podcast diario.	Emisión de podcast diario.	Emisión de podcast de clausura	



GEOPARQUE GRANADA
www.geoparquedeGranada.com
www.turismoypatrimonio.com

GEOPARQUES
 FORO ESPAÑOL DE GEOPARQUES
 GEOPARQUES MUNDIALES DE LA UNESCO EN ESPAÑA



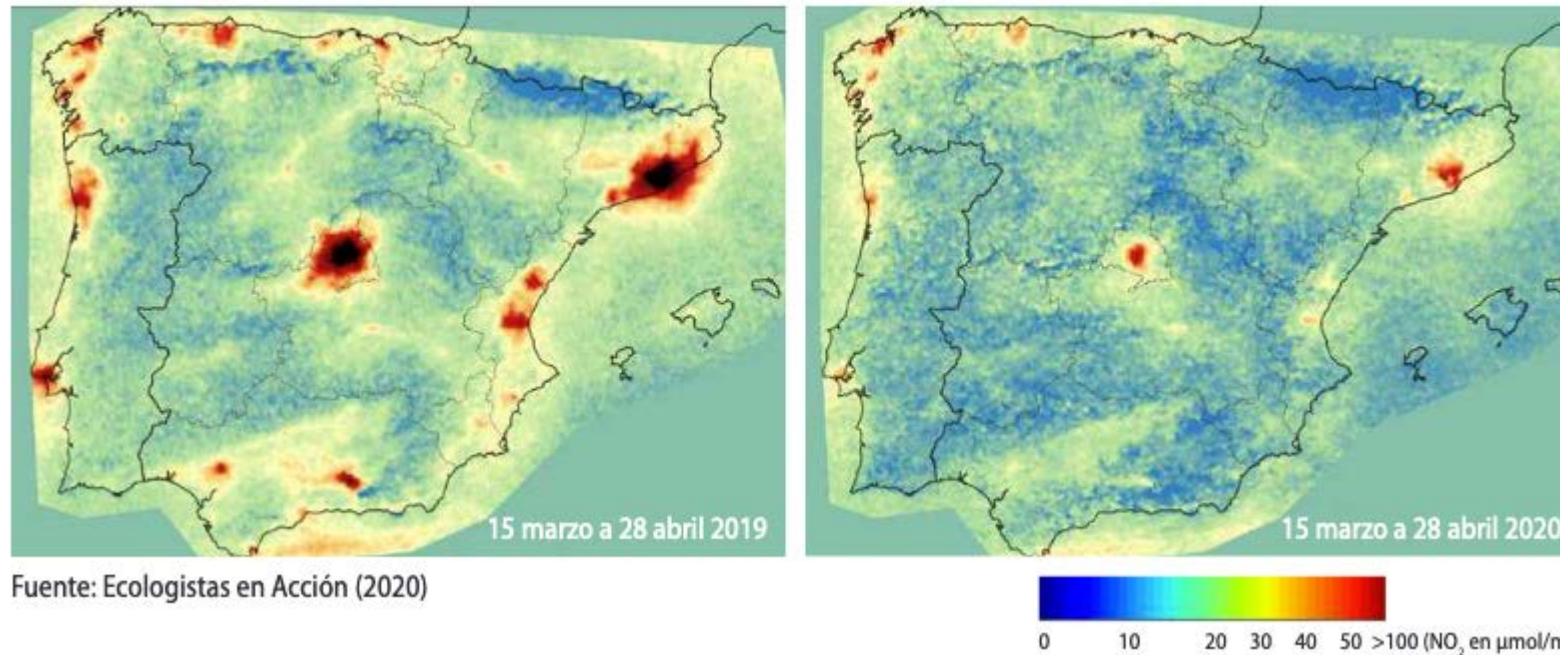

#EGNWEK2020
www.geoparques.eu

Examples of Adaptation

COVID19 has brought important and profound changes at least during the period that we do not have a vaccine, it is common to hear about taking advantage of the situation to learn and change our habits.

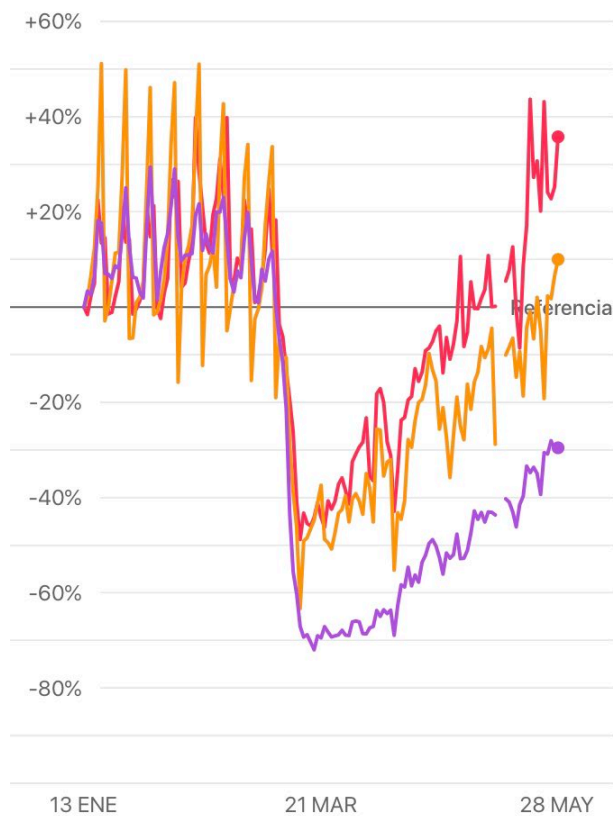
Specifically in the field of **mobility** (one of the main sectors that emit greenhouse gases and air pollution), we have seen several effects.

Gráfico 2. Concentraciones de dióxido de nitrógeno en España



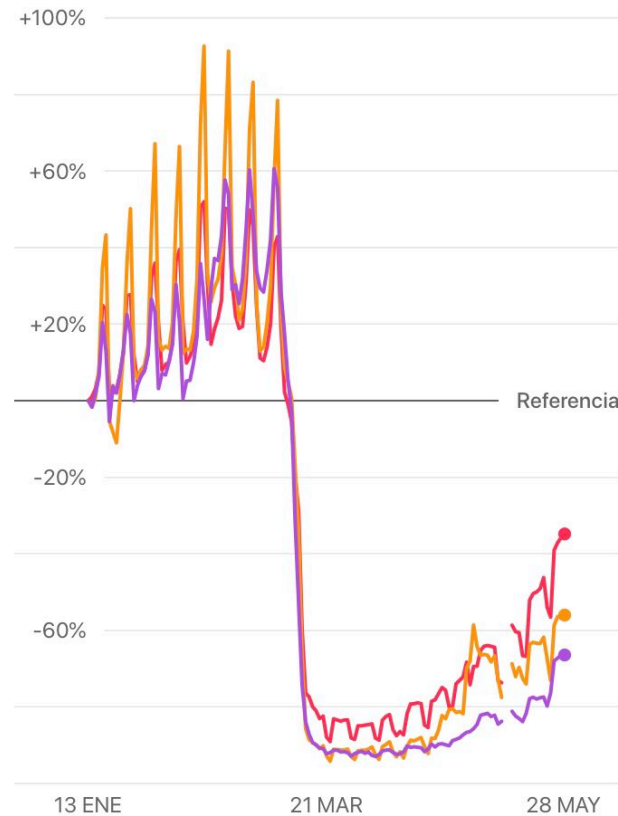
Examples of Adaptation

Buscar



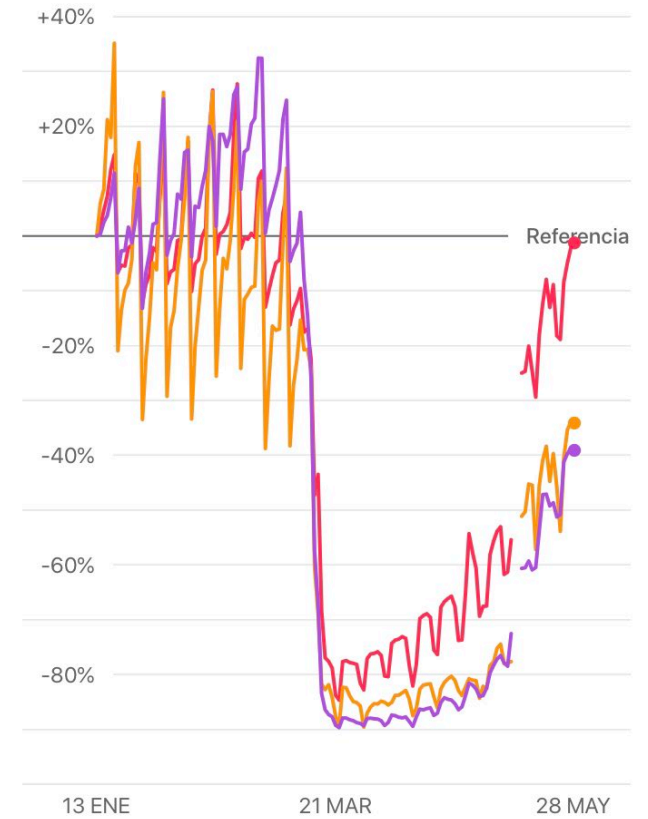
- En coche +36%
- A pie +10%
- En transporte público -30%

Buscar



- En coche -35%
- A pie -56%
- En transporte público -66%

Buscar



- En coche -1%
- A pie -34%
- En transporte público -39%



Examples of Adaptation

MEDIDAS DURANTE Y POST COVID19

Ampliación

Recomendaciones de uso de la bicicleta en el proceso de desescalada

Dirigidas especialmente a municipios de más de 5000 habitantes

En el proceso de paulatina salida de la crisis sanitaria provocada por COVID-19, la bicicleta puede constituir una alternativa limpia que ayude a descongestionar el transporte público y facilitar la distancia de seguridad

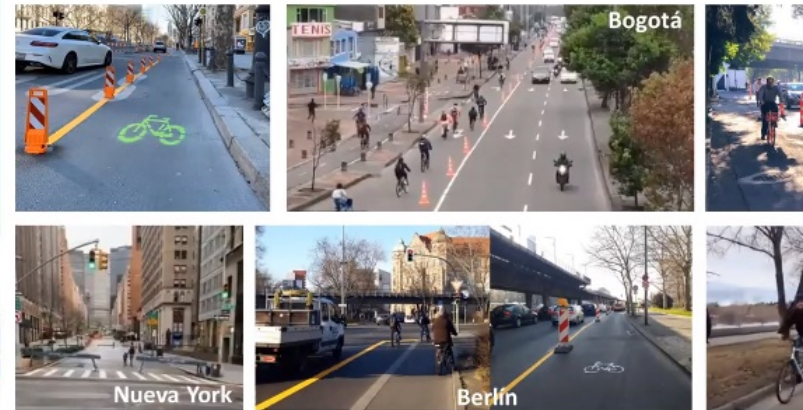
POR TU SALUD ante el COVID 19

CAMBIA a una movilidad activa y segura

RECUPERA la confianza en tu transporte público

EVITA el vehículo particular

Impulsemos **LOS DESPLAZAMIENTOS ACTIVOS** andar, la bici y VMP. Son más saludables, sostenibles y económicos.



Plan de choque para impulsar el uso de la bicicleta



MEDIDAS PARA FACILITAR EL USO DE LA BICICLETA



ciudadesporlabicicleta.org

Aparcamientos seguros

Facilitar aparcamientos seguros para bicicletas en centros de trabajo, estaciones de autobuses y de cercanías y puntos estratégicos



Vehículo autorizado

Identificar la bicicleta como vehículo autorizado para el desplazamiento en las actividades y excepciones permitidas, evitando así potenciales malentendidos que puedan conllevar multa



Corredores urbanos

Establecer corredores en zonas periurbanas que comuniquen polígonos, municipios vecinos o campus universitarios con los centros de las ciudades



Campañas de difusión

Hacer visible la bicicleta como medio de transporte autorizado y recomendado

Difundir buenas prácticas para su uso seguro

Elaborar guías locales con las normas municipales para desplazarse en bici



Bicicletas públicas

Impulsar la apertura de los servicios de bicicleta compartida pública, con las necesarias precauciones para evitar contagios



Transportes colectivos

Facilitar y reforzar la intermodalidad con modos de transporte colectivos (Metro y Cercanías), y la integración tarifaria de los sistemas de préstamo de bicis con títulos de transporte colectivo



Espacios para ciclistas y peatones

Implantar infraestructuras provisionales de bajo coste para la ampliación de zonas peatonales y ciclistas

Por ejemplo, la reserva del carril derecho en grandes arterias o la reducción de la velocidad en ciudad (no superar 30 km/h en vías de un solo carril por sentido)



Granada measures after lockdown

- As well Granada Townhall launched a mobility action plan against COVID19 to promote sustainable mobility.



More information (In Spanish):

<http://www.movilidadgranada.com/noticias.php?idioma=es&id=392>

Examples of Adaptation



More information of the Project here: <https://pocityf.eu/>

Subscribe POCITYF newsletter here: <https://pocityf.eu/subscribe/>



Integrated Solutions: the cornerstones of city's Renewable Energy Transitions

POCITYF will demonstrated 10 integrated solutions, built on top of innovative technologies. The solutions are grouped into 4 Energy Transition Tracks:



Positive Energy Buildings & Districts



P2P energy storage and management



E-mobility integration into smart grid



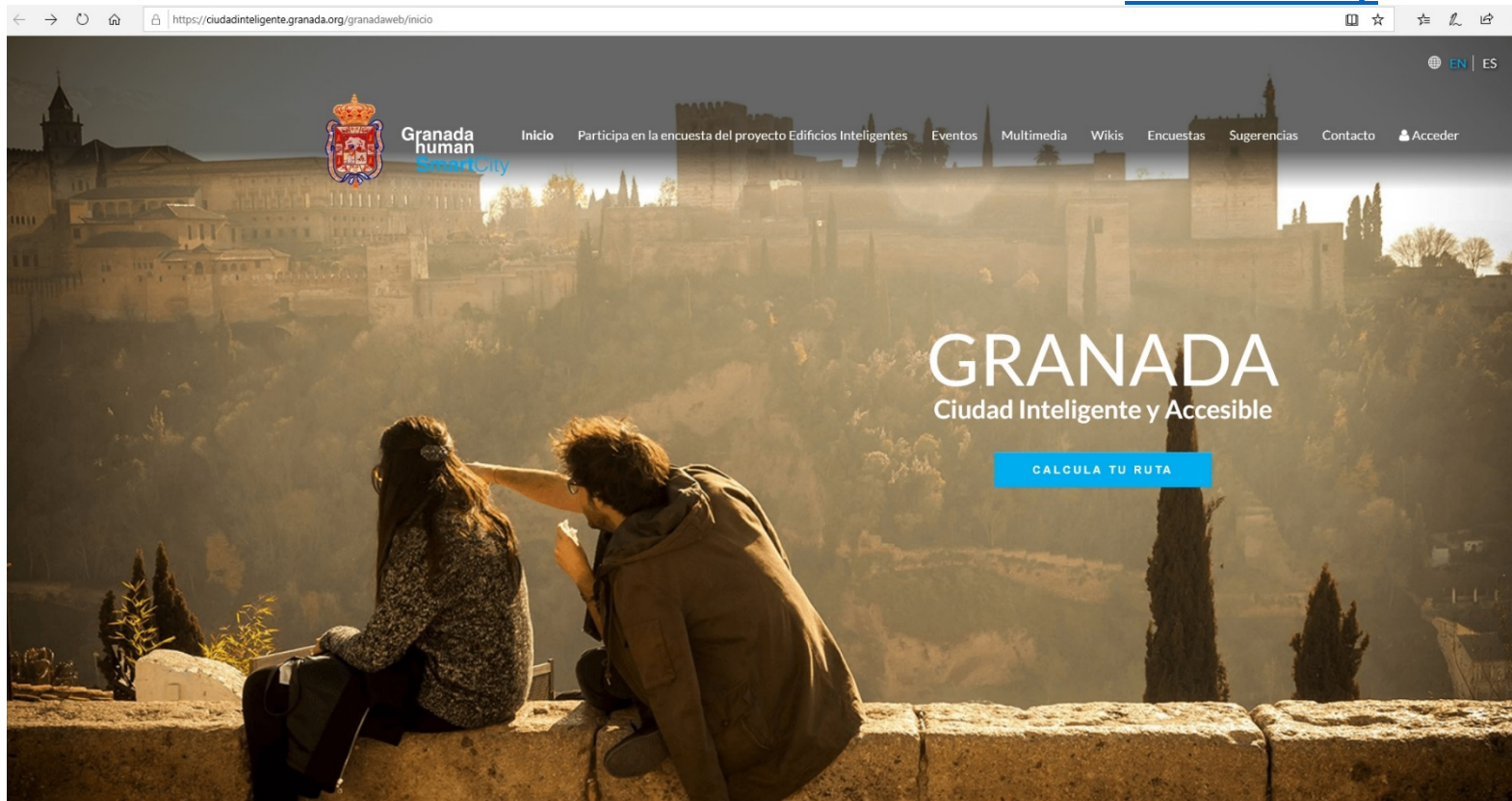
Citizen driven co-creation



GRANADA HUMAN SMART CITY, GRANADA CIUDAD INTELIGENTE

<https://ciudadinteligente.granada.org/granadaweb/inicio>

<https://www.intelligentcitieschallenge.eu/good-practices/granada-human-smart-city>



Thank you very much for your attention!

<https://granada4energy.com/territorios-inteligentes-granada/>

Gonzalo Esteban López

Diputación de Granada. Oficina Provincial de Energía

Edificio CIE - 1ºPlanta. Avda. Andalucía s/n. 18015 - Granada

Tel: 0034 958 80 58 22

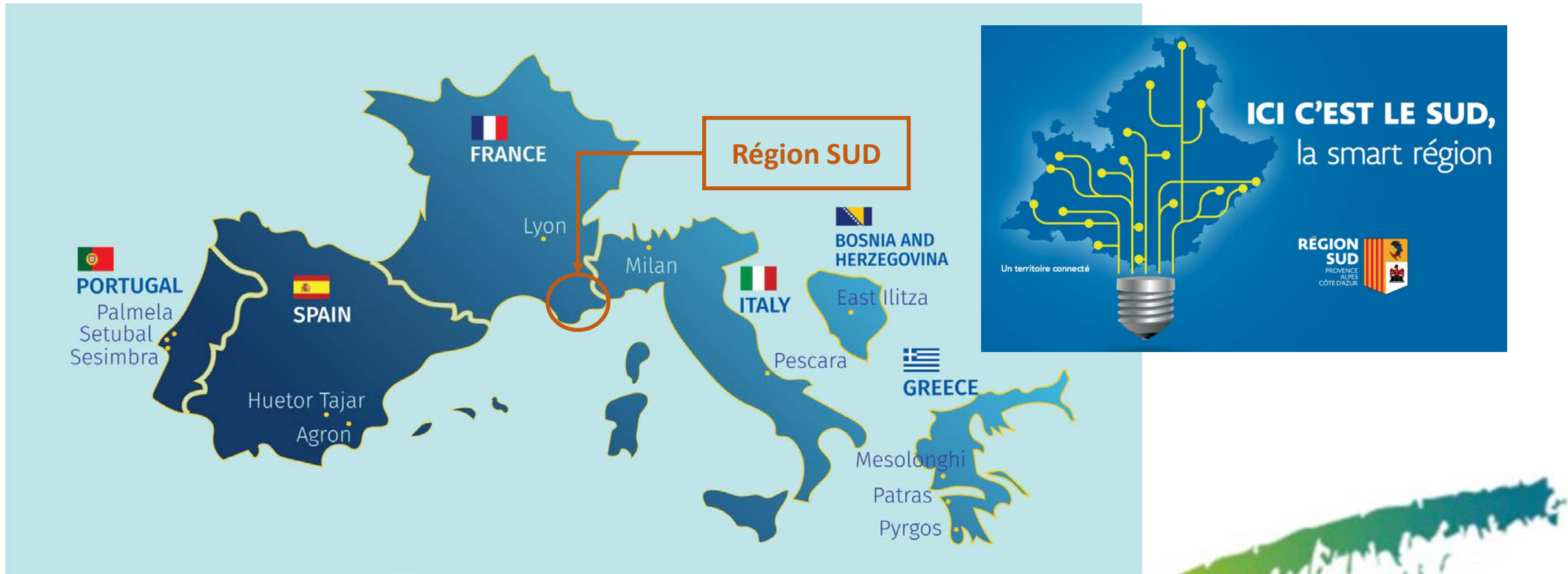
Fax: 0034 958 281 553

Correo-e: gestebanlopez@dipgra.es

Web: www.dipgra.es



Conclusion of the event by the Region South of France



Conclusion of the event by the Region South of France



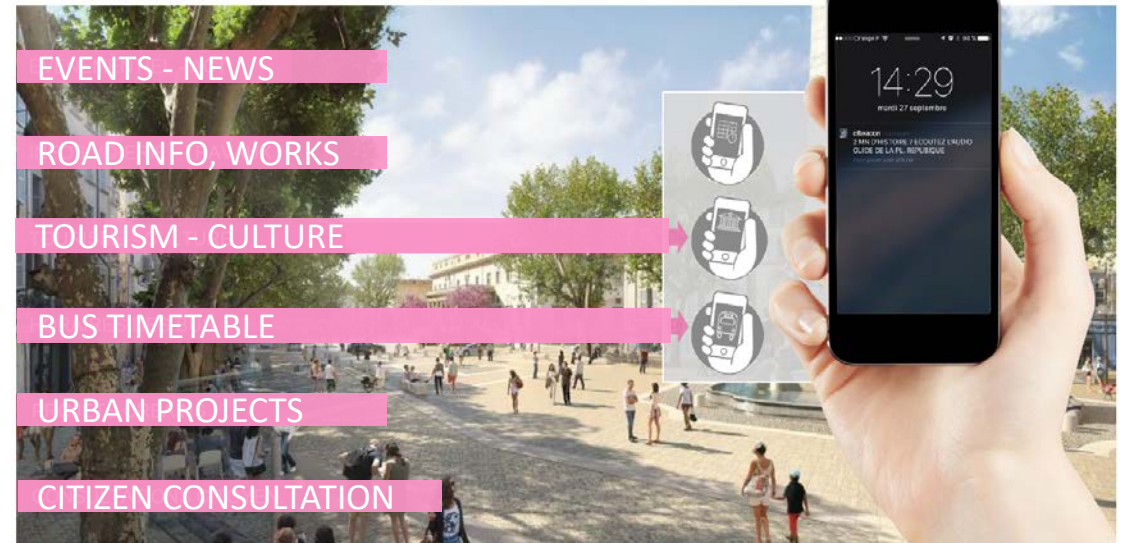


Pierre Corbu
Information System, Finance and
Dematerialization Project Manager
Digital Department, Information
Systems and Innovations
Aix-en-Provence
France

Aix Smart City



Aix Smart City « Connected places project »



A unique project to draw future's places with a demonstrator (Living Lab) in the historic center and capitalizing on the existing smart city equipment; public network wifi, mobile applications, network beacons, digital totems,

Theme		Aims
Improve the functioning of the city    	1. measure pedestrian flux	- Evaluate the impact of pedestrianization in the city center - Identify people's gatherings - Fluidify flows by acting on traffic lights - Understand the decline in business activity (attendance diagnosis + analysis of causes)
	2. Intelligent lighting	- Optimize street lighting and reduce energy costs - Improve the comfort and safety of the citizens
	3. Intelligent watering	- Optimize the watering on the places - Establishment of intelligent irrigation network
	4 connected bins	Know in real time the filling of bins
	5. Urban logistics	Optimization goods transport
Improve quality of life   	6. Measure noise pollution	- Improve the measurement of air quality by strengthening the device already implemented by AirPACA - Analyze / moderate data by involving health experts - Identify the sources of pollution. Inform / give advice to citizens
	7. Measure noise	- Measure noise in the noisiest places in the city - Inform / alert when thresholds are exceeded - Improve the comfort of citizens
	8. Stabilize city temperature	- Identify heat islands and identify the causes - Take steps to combat heat islands



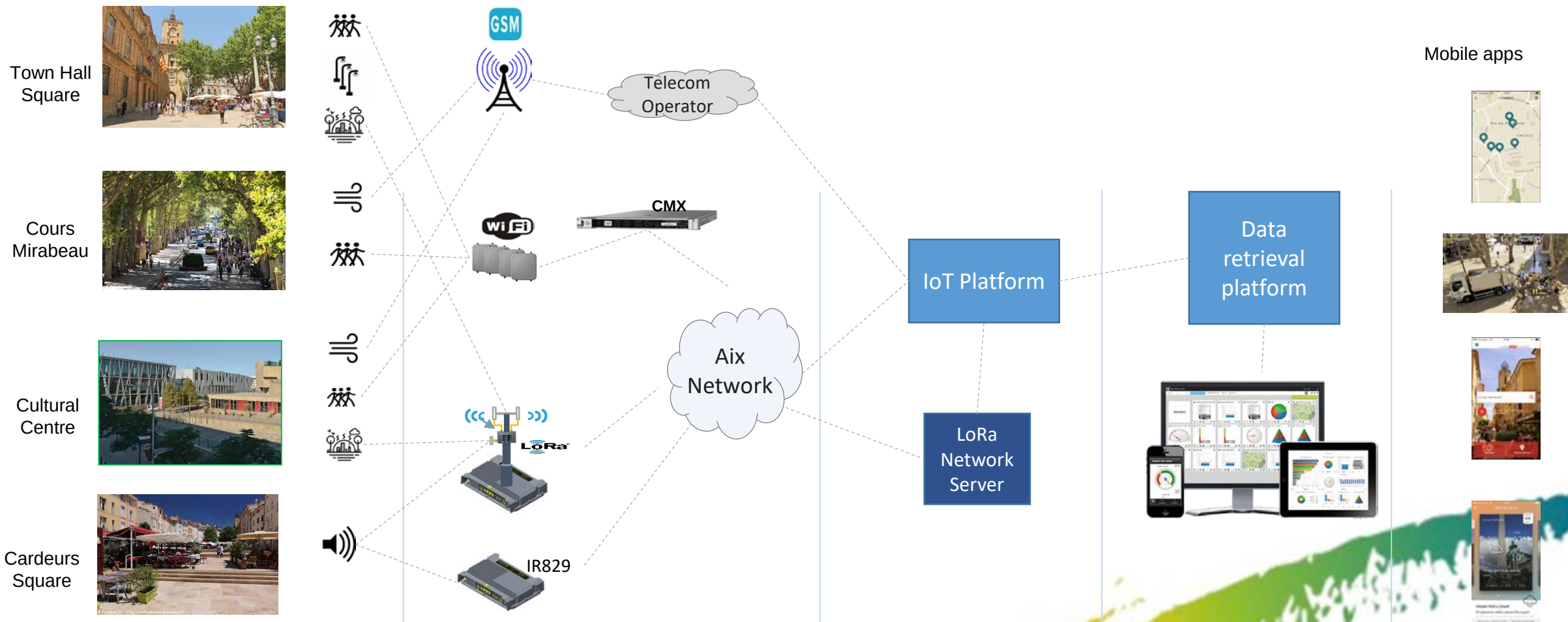
Sensors IoTs + Cameras

data's transmissions

Storage / aggregation /
standardization

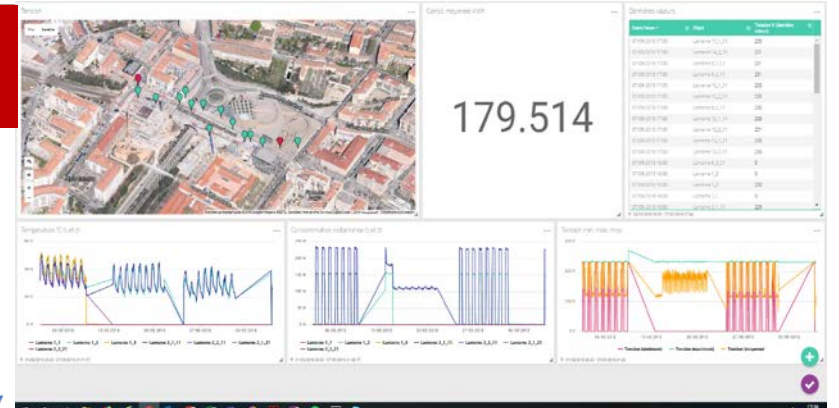
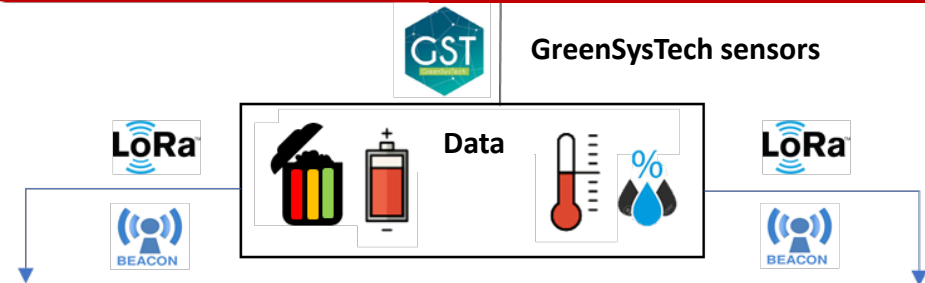
Data's visualization

New digital service





Use case Smart Lighting and Watering

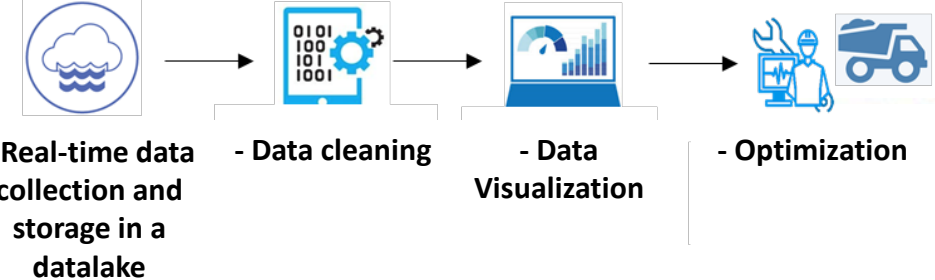


Manage in real time the switching on and off of street lights

Ensuring good lighting in the city in real time

Having a city secured by good lighting

To be reinforced in the optimization of energy expenses



FOR LIGHTING AND GREEN SPACE SERVICE CENTRES

Conclusion



Philippe Maurizot
City Councilor and Vice-president of the
Economy, Industry, Innovation, New
Technologies & Digital Commission
SOUTH Region
France



Let's meet!

BtoB meetings with the Euro-Mediterranean Smart City ecosystem



1. Each appointment will last 10 minutes with 5 minutes break.
2. In order to start the meeting, go to [Meetings](#) and click on **Start meeting**. Make sure your microphone and camera are enabled in the browser.
3. A virtual meeting can be started at any given time before its ending time and it won't stop automatically. One of the participants has to end it. The remaining time is displayed on the green card in the top right corner, as the **End meeting** button and the **Invite guests** button.



THANK YOU

