



Real Estate Association of Luxembourg a.s.b.l.

# LuxReal Forum: From Smart Building to Smart City

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3 of May 2017



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# Welcome



Sven Rein

Board Member at LuxReal



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With special thanks to our  
Supporting Members



ALLEN & OVERY

alterDomus\*

arendt  
arendt & medernach



ATOZ  
TAX ADVISERS  
LUXEMBOURG

Baker  
McKenzie.

BANQUE DE  
LUXEMBOURG

bepartners  
bodecker ernst & partner

BIL  
BANQUE  
INTERNATIONALE  
À LUXEMBOURG  
1856

BNP PARIBAS  
REAL ESTATE  
INVESTMENT MANAGEMENT

BNP PARIBAS  
SECURITIES SERVICES

BROWN  
BROTHERS  
HARRIMAN

caceis  
INVESTOR SERVICES

CAPITAL  
TO VALUE  
REAL ESTATE ADVISORY

CBRE

CLIFFORD  
CHANCE

conwotec  
CONCEPTS FOR WORKSPACE AND TECHNOLOGY

CREDIT SUISSE

CRESTBRIDGE

CUSHMAN &  
WAKEFIELD

Deloitte.

DREES &  
SOMMER

DSM  
AVOCATS A LA COUR

DTZ

EAGLESTONE

EFA  
Reliable & Independent

EY  
Building a better  
working world

formart  
LUXEMBOURG S.A.

GAM

FELIX GIORGETTI  
ENTREPRISE GÉNÉRALE  
DE CONSTRUCTION

Grant Thornton  
An instinct for growth™

IKOGEST  
IKODOMOS HOLDING

INOWAI  
PROPERTY PARTNERS

Intertrust

Invesco

JLL

KPMG

KBL  
EUROPEAN  
PRIVATE BANKERS

Leasinvest  
IMMO LUX

Linklaters

LOYENS Loeff

LRI Invest  
Luxembourg

Luther.

LUXEMBOURG  
CAPITAL

LIS  
LUXEMBOURG  
INVESTMENT  
SOLUTIONS

MAZARS

MOLITOR

pancura  
INDEPENDENT AIF MANAGER

pandomus  
alternative investment services

PGIM

Polaris

pwc

PROLOGIS

QUILVEST  
ASSET MANAGEMENT

RBC Investor &  
Treasury Services

RC RESIDENCE  
CONCEPT  
REAL ESTATE DEVELOPMENT

SANNE

savills

SGG

BUILDING TEAM SPIRIT TOGETHER  
SOCIETE GENERALE  
Securities Services

TMF  
GROUP

Union  
Investment

WILLEMEN





# Agenda

- 06.25 p.m. **Tom Eischen**  
Ministère de l'Economie, Luxembourg  
Making Luxembourg SMART ready: driving transition through open societal innovation!
- 06.45 p.m. **Patrick Goldschmidt**  
Ville de Luxembourg  
Smart Luxembourg
- 07.05 p.m. **Marc Daumas**  
President de la commission "smart building for smart cities" au sein de la SBA - Directeur Grands Projets et Nouvelles Offres - Engie Ineo  
From the smart building to the smart city
- 07.25 p.m. **Alexis Daloze**  
Spallian Innovation  
Smart cities : How smart data can enhance strategic governance
- 07.45 p.m. **Q & A**  
Moderator:  
Sven Rein, LuxReal board member



# Making Luxembourg SMART ready: driving transition through open societal innovation!

Tom Eischen

Ministère de l'Economie, Luxembourg



# FROM THE SMART BUILDING TO THE SMART CITY

Making Luxembourg SMART ready:  
driving transition through  
open societal innovation!

Tom Eischen  
*Government Commissioner for Energy*  
*Ministry of the Economy*

Luxembourg, May 3<sup>rd</sup>, 2017

# Agenda

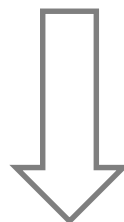
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1. « The 3<sup>rd</sup> Industrial Revolution Strategy Study »
2. What is « SMART »?
3. « SMART » – A structuring experiment and Post-Strategy Study process
4. Getting concrete: Steps to « SMART Energy » and « SMART Mobility »

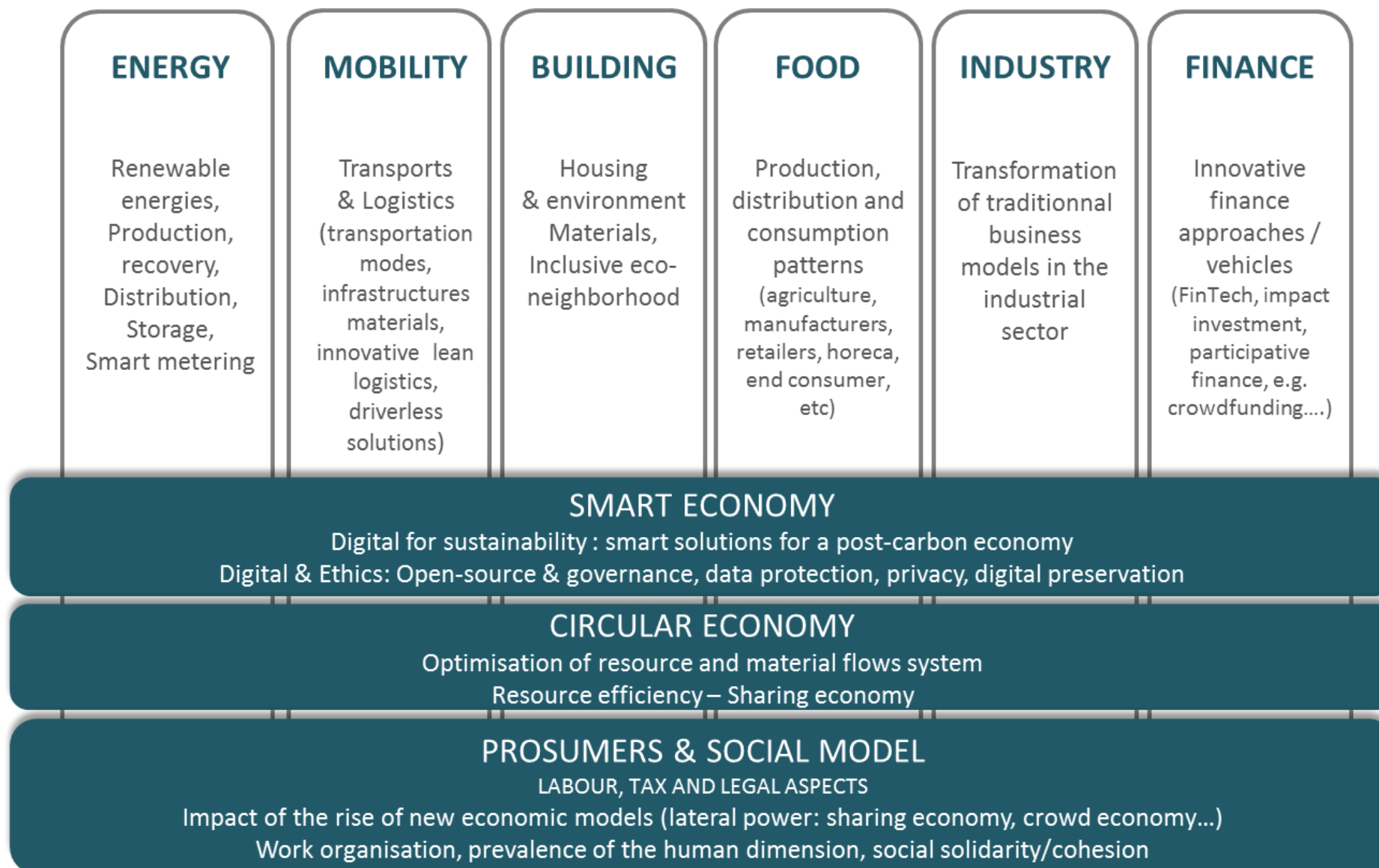


# « The 3rd Industrial Revolution Strategy Study »



« OPEN SOCIETAL INNOVATION »

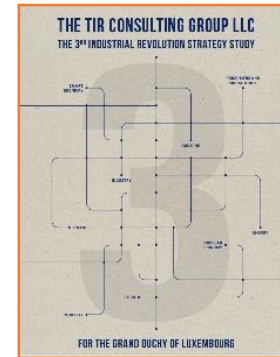
# Strategy study – Pillar & Cross axes



# Strategy study - Results



- The work between experts and working groups led to:  
« long version » and « short version »



- Structure of the « short version », by pillar:
  - STATE OF PLAY
  - OPPORTUNITIES
  - VISION
  - STRATEGIC MEASURES

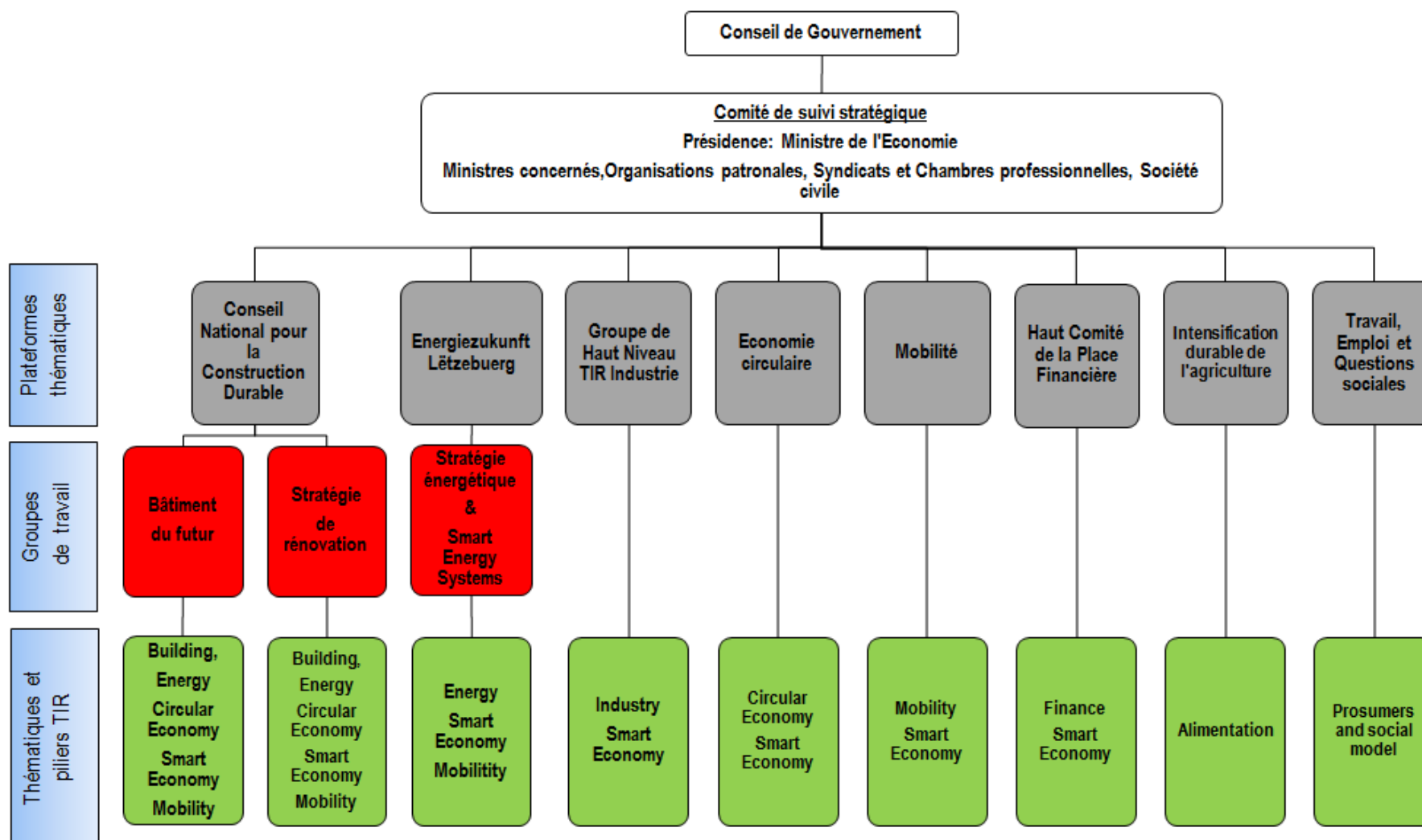


# Strategy study – Post study process



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## Gouvernance de l'étude stratégique « Rifkin » combiné avec la stratégie « Digital Lëtzebuerg »





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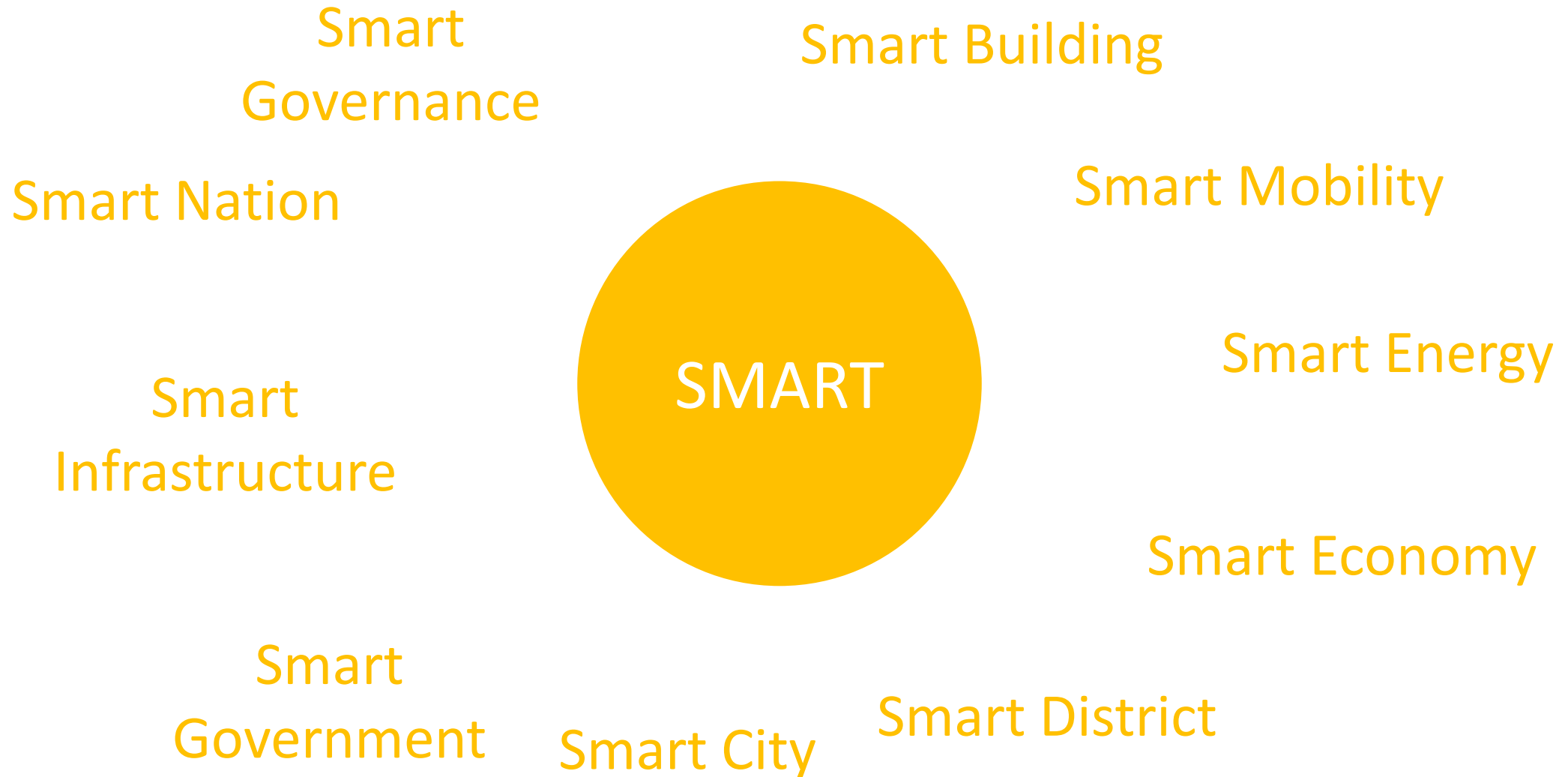
What is « SMART »?

# « SMART » – The big terminology mess

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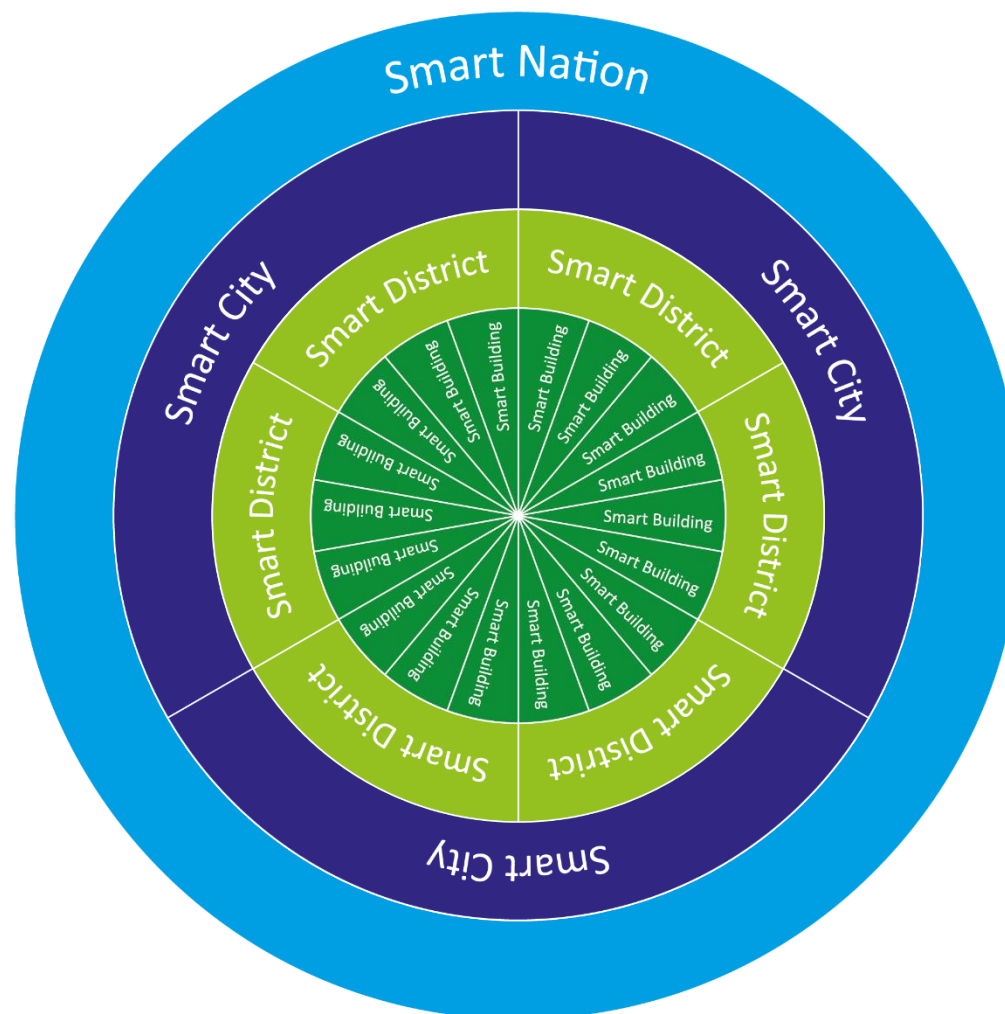
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# « SMART » - A structuring experiment and Post-Strategy Study process

# « SMART » – A structuring experiment

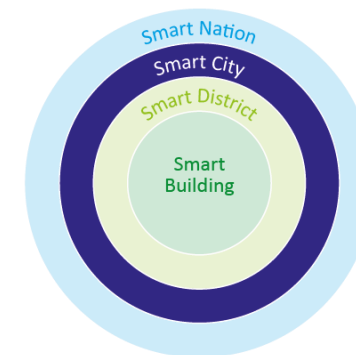
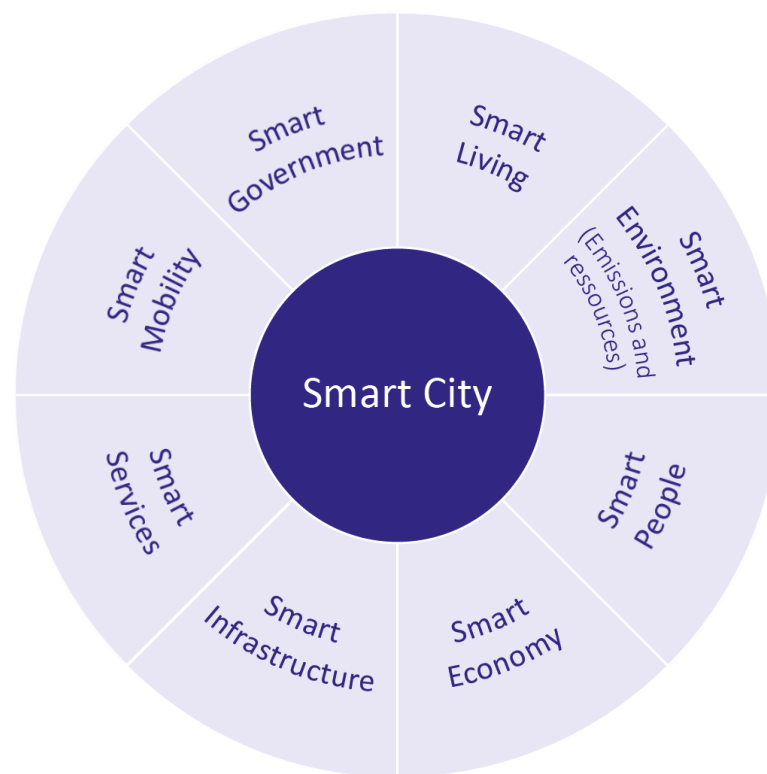


# « SMART » – The Smart City

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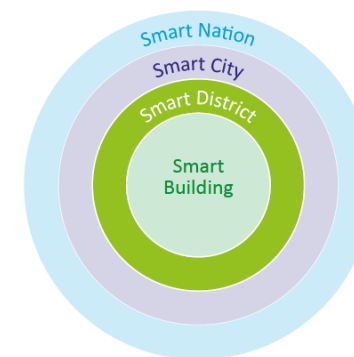
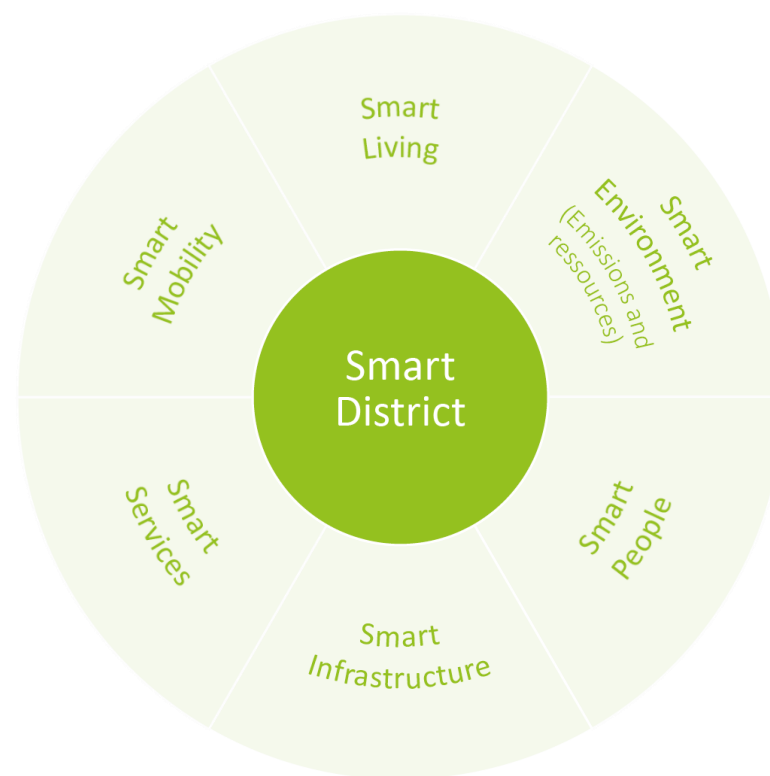


# « SMART » – The Smart District

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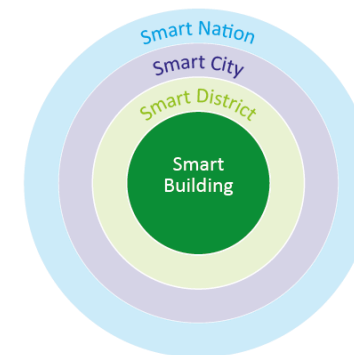
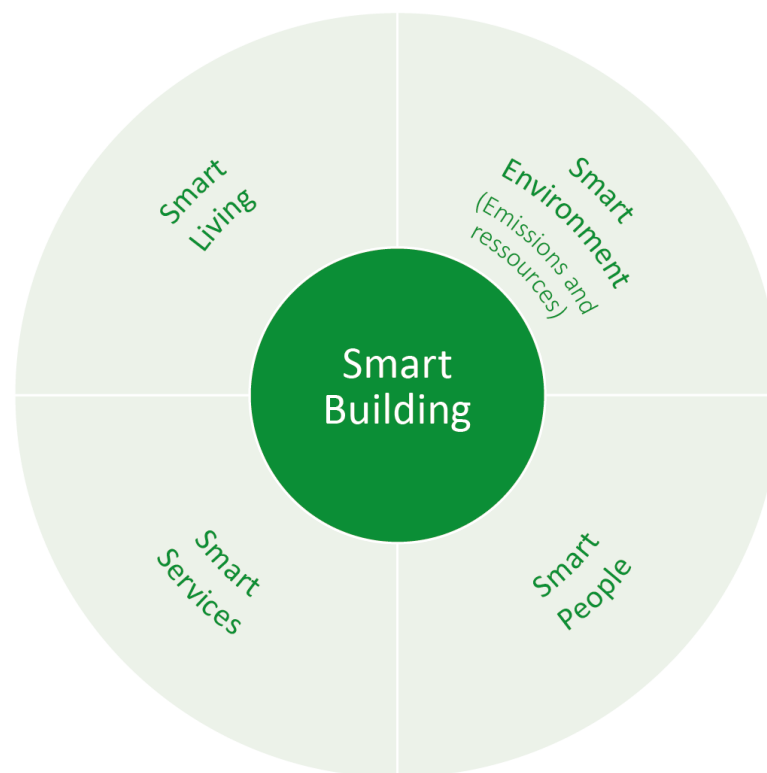


# « SMART » – The Smart Building

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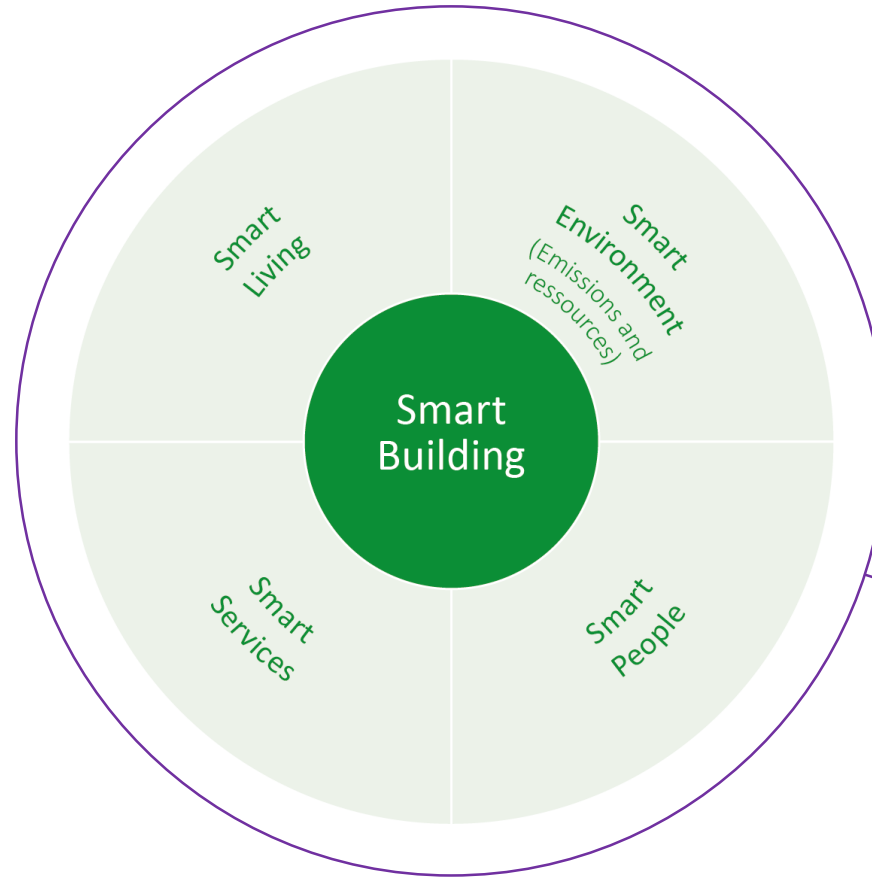


# The platform « Energiezukunft Lëtzebuerg »

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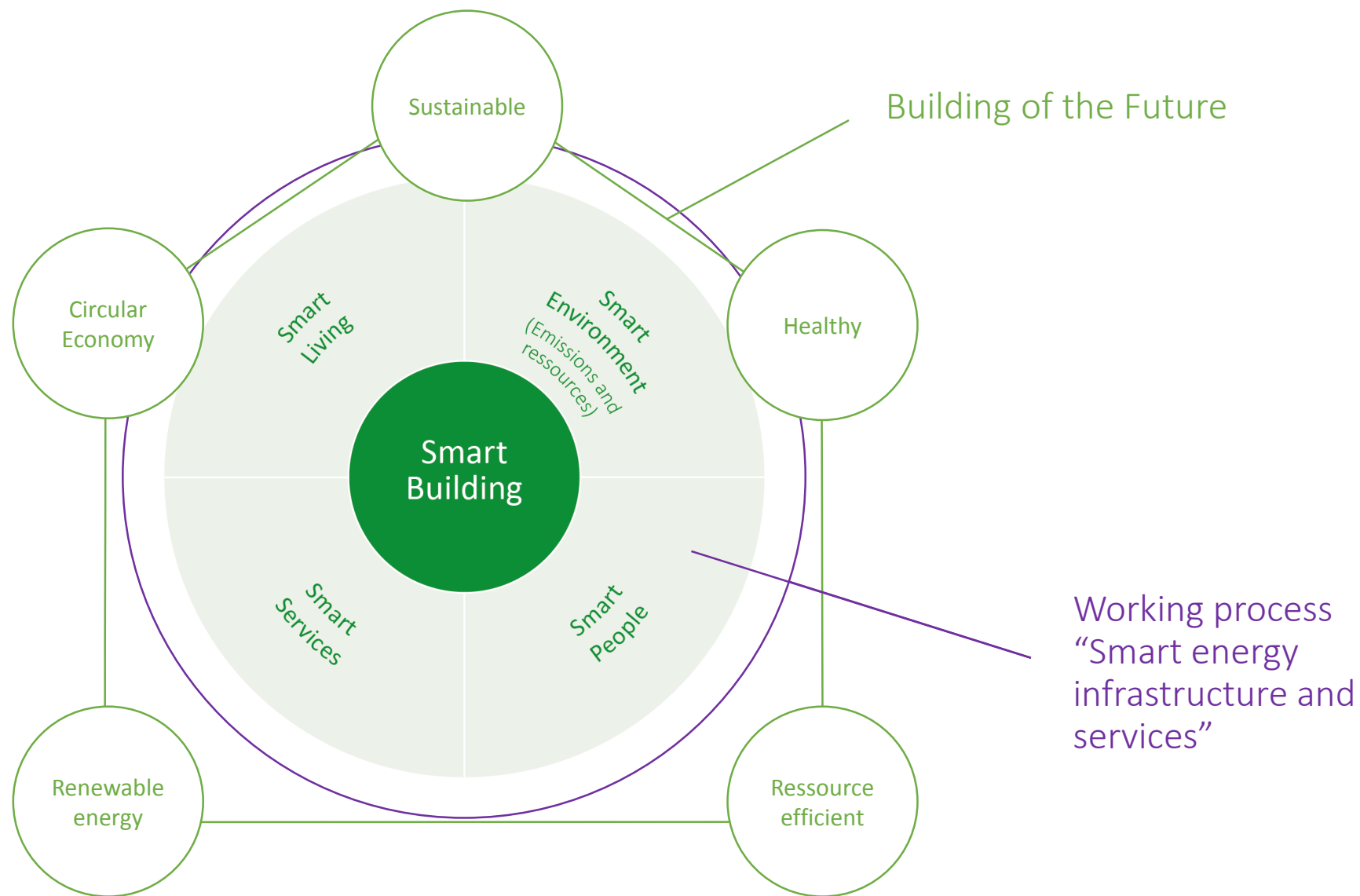


Working process  
"Smart energy  
infrastructure and  
services"

# The platform « CNCD »



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### ➤ Why structuring ?

A smart city model intervenes in a large number of sectors, such as transport, tourism, energy, public administration, health, etc., and (...) the fil rouge of this ecosystem is connectivity. (...) for the functioning of the mechanism as a whole, the more integrated the strategies are, the better the result. (...) fragmented intervention would mean single smart elements, but not a smart system.



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# Getting concrete: Steps to « SMART Energy » and « SMART Mobility »

- Study « *Etude économique à long terme pour la mise en place de compteurs intelligents dans les réseaux électriques et gaziers au Luxembourg* » with stakeholder involvement
- Creation of a legal framework for smart metering
- Implementation of a multi-fluid and centralized smart metering system (one common system for the entire country)
- A widespread roll-out starting from July 1<sup>st</sup>, 2016 and limited in time:
  - Electricity: > 95% of the smart meters must be replaced by December 31, 2018
  - Gaz: > 90% of the smart meters must be replaced by December 31, 2019
- Evolution towards « Smart Grid »

# « SMART Energy » - Smart meter deployment

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# « SMART Energy » - Smart meter deployment

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BETTER CONTROL OVER  
YOUR CONSUMPTION



GREATER COMFORT



ACCESS TO MORE  
FLEXIBLE OFFERS

- Study « *Etude technico-économique pour la mise en oeuvre nationale de l'électro-mobilité au Luxembourg* » with all stakeholder involvement
- Adaptation of the legal framework for the deployment of a public charging infrastructure
- Implementation by the distribution grid operators in conformity with the general implementation plan of February 2016:
  - 800 charging stations with 1.600 charging points
    - 400 on park & ride sites
    - 400 in the municipalities

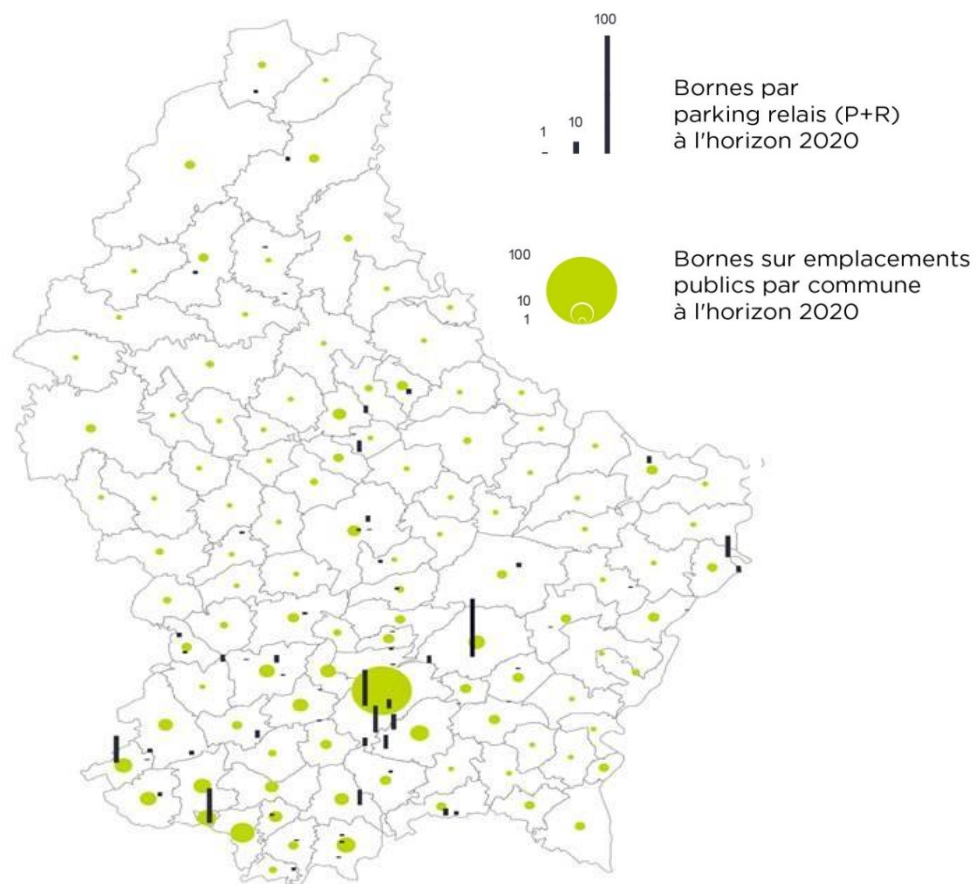


# « SMART Mobility » - Public charging infrastructure



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## COMMON GENERAL IMPLEMENTATION PLAN



## COMMON OPERATOR



## COMMON SYSTEM CHARGEY



# « SMART Mobility » - Public charging infrastructure



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# « SMART » is more than technology!



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Source: Slideshare.net – IDG Nederland



Thank you for your attention!

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# Smart Luxembourg

Patrick Goldschmidt  
Ville de Luxembourg

# Smart Luxembourg

## Luxembourg's Smart-City Strategy





# Smart-city: a definition



- Urban development
  - integrating information and communication technology (ICT) and Internet of things (IoT) technology
  - in a secure manner
  - to efficiently manage a city's assets
- Rise of Urban Quality
  - Housing
  - Economy
  - Culture
  - Social
  - Environment

# The 6 domains of the Smart-City model



- Smart Economy
- Smart Mobility
- Smart Environment
- Smart People
- Smart Living
- Smart Governance



# City of Luxembourg's Smart-City strategy



- The start: 10 years ago
- In 2007: the vision of a Wifi Network all over the City
- Several innovative projects throughout various City departments
- Today: convergence of the different projects and initiatives under a common smart-city strategy

# City of Luxembourg's Smart-City strategy



European Ranking of medium-sized cities

**City of Luxembourg number 1**

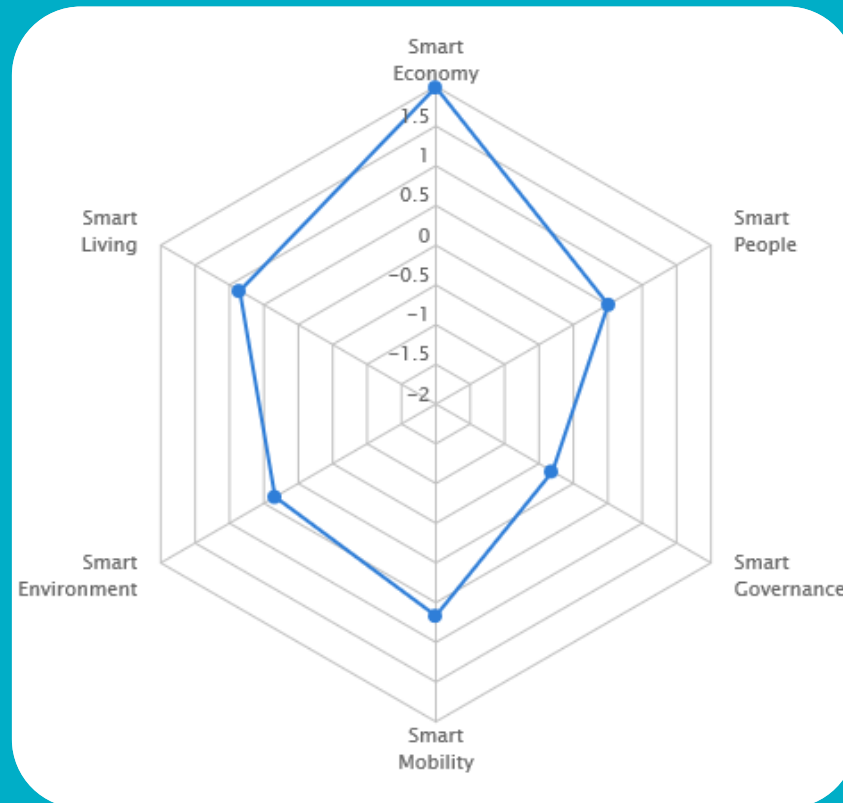
(Ranking realized in 2014 by Vienna University of Technology)

[www.smart-cities.eu](http://www.smart-cities.eu)

# City of Luxembourg's Smart-City strategy



## Benchmarking



# City of Luxembourg's Smart-City strategy



## Achievements and projects

### Smart People

#### Information

- Internet portal
- *Smart City portal*
- Agenda
- Streaming (CC, Royal-Hamilius, PAG,...)
- In Focus (A la Une)
- *Project information (Chantiers)*

#### Participation of Smart projects

- *Open-Space Workshop*

#### Education

- Technolink

# City of Luxembourg's Smart-City strategy



## Achievements and projects

### Smart Mobility

#### Local accessibility

- Bus information (APP, DS, ITCS)
- Vehlo'h information
- Parking information
- Traffic information (CITA, Circulation)

#### TIC infrastructure

- Optical fibre
- WIFI network
- Sensors (*Parking, Pollution, Traffic,...*)

# City of Luxembourg's Smart-City strategy



## Achievements and projects

### Smart Environment

#### Environnement

- Solar cadastre
- WIFI radiation cadastre
- Air quality

#### Energy

- *Smart Grid*
- *Smart Lighting*
- *Smart Building*

# City of Luxembourg's Smart-City strategy



## Achievements and projects

### Smart Living

#### Culture and tourist attractions

- *Timetravel (Virtual Reality)*
- *Visit the town (Augmented reality)*
- *Visit the museum (Augmented reality)*
- Points of interest

#### The future of the town

- *Timetravel (Virtual Reality)*

# City of Luxembourg's Smart-City strategy



## Achievements and projects

### Smart Governance

#### Participation in decision making

- Participatory budgeting

#### Transparency

- Tracking of building permits
- Open Data

#### Social services

- Bus information beacons
- Crossroads information beacons

#### Public services

- Electronic forms
- Report-It



# City of Luxembourg's Smart-City strategy



## Achievements and projects

- Sound underlying infrastructures
- WIFI
  - Over 600 access points distributed throughout the City
  - Free Internet access
- Optical fiber
  - Over 150 km of fiber
  - Fast connections between internal buildings

# City of Luxembourg's Smart-City strategy



## Highlights: City-App



**Mobile and easy access to Smart-City content**

# City of Luxembourg's Smart-City strategy



## Projects in Focus

- Open Data
  - Collaboration with the government: <https://data.public.lu>
  - City of Luxembourg is one of the biggest data-provider after the Statec
  - Luxembourg (country) made the most progress in Europe since spring 2016

# City of Luxembourg's Smart-City strategy



## Projects in Focus

- **Open Data**
  - Vélo'h: detailed information about the City's bicycle network, free spots, available bikes, ...
  - Traffic and Parking
    - Park & Bike
    - Bicycle stations
    - Park & Ride
    - Parkings (Street, Underground, Motobikes, disabled people,...)
    - Bus-network

# City of Luxembourg's Smart-City strategy



## Projects in Focus

- **Open Data**
  - Mobility
    - Bus-stations
    - Real-time data of bus arrival (in collaboration with mobiliteit.lu)
    - Urgent messages for lines and/or stations
    - Bus-network

# City of Luxembourg's Smart-City strategy



## Projects in Focus

- **Open Data**
  - Topographical data
    - Water zones
    - Parking
    - Véloh
    - Bus-lines and stations
    - Places for bicycles
    - Water fountain
    - Limites of districts

# City of Luxembourg's Smart-City strategy



## Projects in Focus

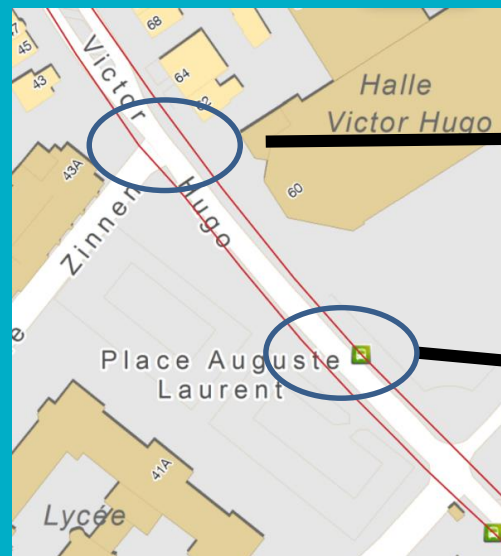
- **Open Data**
  - Environment
    - Activity reports
    - Tables of environmental zones
    - Separate collection of waste
    - Air quality and traffic
  - Citizen Center
    - Reports and Data “Etat de la population” 2008 – 2016

# City of Luxembourg's Smart-City strategy

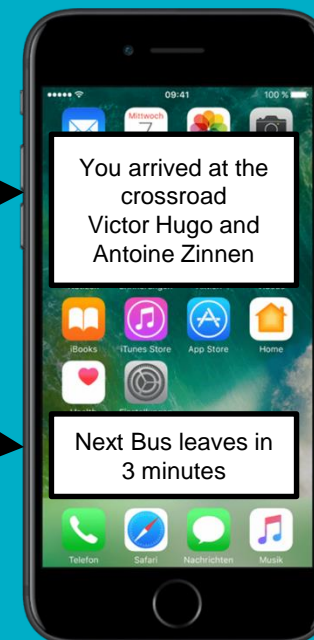


## Projects in Focus

- New Technologies: Beacons
  - Crossroad
  - Bus



automatic  
Push





# City of Luxembourg's Smart-City strategy



## Projects in Focus

- **New Technologies: AR & VR**
  - VR TimeTravel Pfaffenthal
  - AR Sightseeing
  - AR Bus



# City of Luxembourg's Smart-City strategy



## AR Sightseeing Pilotproject (July 2017)

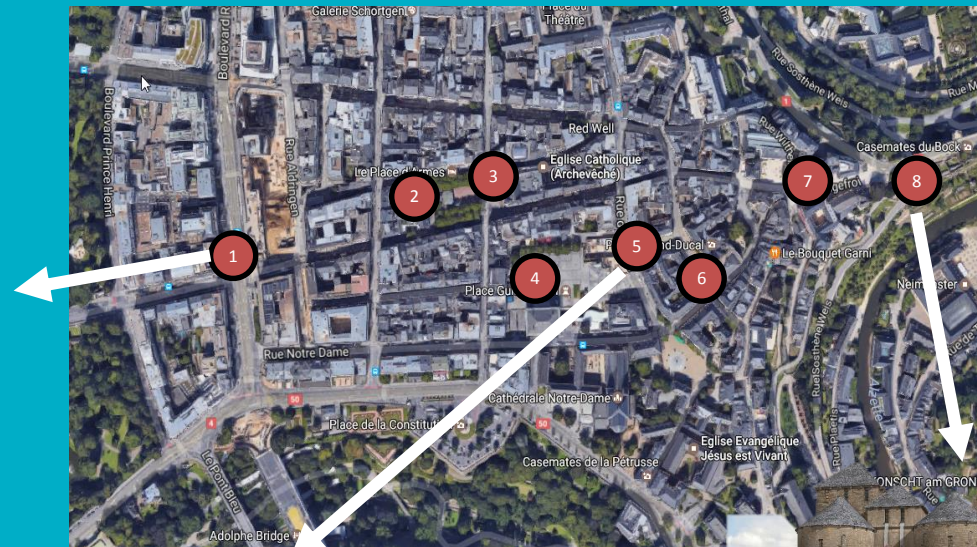
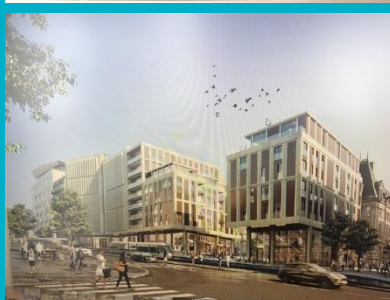
1980



2014



2020



# City of Luxembourg's Smart-City strategy



## Smart-City Portal: planned on short term

- Listing of all smart-city projects, according to 6 domains
- Portal accessible from the City's new internet site
- Link to the Open Data portal
- Links to other Smart-City projects, outside of the City of Luxembourg
- In Autumn: Launch of a contest for start-ups around smart projects using technologies and infrastructures provided by the City

# City of Luxembourg's Smart-City strategy



## Collaboration plateforme: planned on long term

- **Open Space Workshop**
  - Participation of startups, enterprises or individuals
  - Forum for people interested in smart-city topics
  - Coordination of projects, based on the same technology, provided by the City
  - Sharing ideas and combining data to promote further smart-city projects

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## From the smart building to the smart city

Marc Daumas

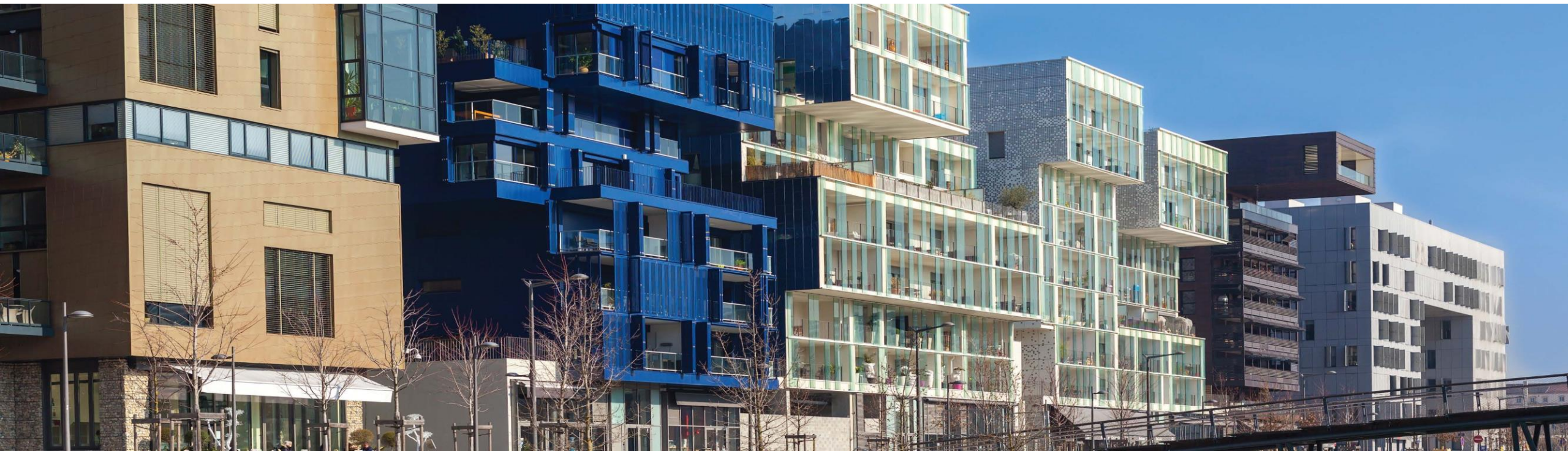
Président de la commission "smart building for smart cities" au sein de la SBA - Directeur Grands Projets et Nouvelles Offres - Engie Ineo





# FROM SMART BUILDING TO SMART CITIES

May, 3rd 2017



**Marc DAUMAS**

**SBA** - president of the smart building for smart cities committee

**ENGIE Avenue** - head of major projects and new offers

*Tel : +33 (0)6 69 00 70 13*

*@ : [marc.daumas@engie.com](mailto:marc.daumas@engie.com)*

## 1. SBA

## 2. CONTEXT

## 3. ENABLER : R2S – READY TO SERVICES

## 4. SMART TERRITORIES

## 5. SMART BUILDINGS



# SMART BUILDINGS ALLIANCE

- NON PROFIT ORGANISATION
- THINK TANK DEDICATED TO SMART BUILDINGS  
& SMART CITIES ECOSYSTEMS

**STATEMENT** : Digital has a huge impact in the building and public works industry...  
and is already revealing new cutting edge solutions and business models

End users, investors, public  
authorities looking for a credible  
interlocutor for smart questions...



...Market too fragmented, with  
opposite views and strategies with  
federations focused on their specific  
market share

**think**  
**GLOBAL & INTEROPERABLE**

Customers are looking for a GLOBAL solution... INTEROPERABILITY is key for a long lasting and sustainable approach

## + 200 members joined the SBA



13 F ■ ABB ■ ACCENTA ■ ACR ■ ACS2I ■ ACTIWATT ■ ADEUNIS ■ AIRRIA ■ ALIAXIS SERVICES ■ ALLIANZ  
REAL ESTATE FRANCE ■ ALTECA ■ ARC INFORMATIQUE ■ ARCHIMEN ■ ARCOM ■ ARISTOTE ■  
ARKHENSAPACES ■ ARP ASTRANCE ■ AVIDSEN ■ AZUR SOFT ■ B.tib ■ BAALBEK MANAGEMENT ■  
BARBANEL ■ Bernard THIERS ■ BIM IN MOTION ■ BNP PARIBAS REAL ESTATE ■ BOUYGUES  
CONSTRUCTION ■ BOUYGUES ENERGIES & SERVICES ■ BOUYGUES IMMOBILIER ■ CABA ■  
CAPENERGIES ■ CCF ■ CCI NICE COTE D'AZUR ■ CDU Immobilier ■ CEA TECH ■ CELEA INGENIERIE ■  
CITRED ■ CERTIVEA ■ CIT Red ■ CITYLITY ■ CLUSTER HBI ■ COSTE ARCHITECTURES ■ CSTB ■ CYMBI.O  
■ DALKIA ■ DASSAULT SYSTEMES ■ DECELECT ■ DEMATHIEU BARD ■ DISTECH CONTROLS ■ DOVOP ■  
E.ON ■ ECONOCOM ■ EDF - BRANCHE COMMERCE ■ EDF OPTIMAL SOLUTIONS ■ EFFIPILOT ■ ELITHIS  
■ EMBIX ■ ENERGISME ■ ENGIE ■ ENGIE AXIMA ■ ENGIE INEO ■ ENOCEAN ■ FFD ■ FIFTHPLAY ■  
FONCIERE DES REGIONS ■ FREEDOM ENERGY ■ GA.MM ■ GA2B ■ GETEO ■ GFI INFORMATIQUE ■ GLI -  
GROUPE EKIU ■ GROUPE BETOM - IDEAM SOLUTIONS ■ HAGER ■ HENT CONSULTING ■ HQE ■  
HXPERIENCE ■ IBM ■ ICADE ■ IDEX ■ INSITEO ■ INSPEARIT ■ INTENT TECHNOLOGIES ■ IP2I ■ IPORTA ■  
ISTA ■ ITEMS INTERNATIONAL ■ JULIEN LEBOURGEOIS ■ KALIMA DB ■ KORUS ■ LE PRIEURE ■  
LEFEVRE PELLETIER ■ LEGRAND ■ LEON GROSSE ■ LONMARK France ■ LUTRON ELECTRONICS ■  
M2OCITY ■ MEDIACONSTRUCT ■ MICROSENS ■ MIOS ■ NEOBUILD ■ NETSEENERGY ■ NEWRON  
SYSTEM ■ NEXITY ■ OCCITALINE ■ OGER INTERNATIONAL ■ OGGA ■ OPEN MANAGEMENT ■ ORANGE ■  
OVERKIZ ■ OYA LIGHT ■ PARTAGER LA VILLE ■ PHILIPS FRANCE ■ PLAN BATIMENT DURABLE ■ POLE  
TES ■ PROXISERVE ■ PROMOTELEC ■ QOS SOLUTION ■ RABOT DUTILLEUL - NACARAT ■ RESOLVING ■  
REXEL ■ S2I COURANT FAIBLE ■ SAIRENOR ■ SEMTECH ■ SERCE ■ SFR ■ SIRLAN ■ SLAT ■ SMART USE  
■ SOMFY ■ SPIE ■ SPINALCOM ■ SPL LYON CONFLUENCE ■ SPRINGBOK MOBILITY ■ STRATUMN ■  
STUDINNOV ■ SUNPARTNER ■ TELNET ■ TERACTEM ■ TEVOLYS ■ TRINERGENCE ■ UBIANT ■ ULIS ■  
UNIVERSITE DE RENNES 1 ■ URBAN PRACTICES ■ VEOLIA ■ VINCI ENERGIES France ■ VINCI  
FACILITIES ■ WAGO ■ WIT ■

✓ **Land corporations / land developers / Builders**

Bouygues, ICADE, Nexity, Lyon Confluence, CCI Nice, CDU, Vinci, Foncière des Régions, Demathieu & Bard, Rabot Dutilleul, I3F, ...

✓ **Architects / Engineering**

Barbanel, Costes, Elithis, Oger, Betom ...

✓ **Automations industries and manufacturers**

ABB, Hager, Kieback & Peter, Legrand, Philips, Somfy, Wago, WIT, Occitaline, Energys...

✓ **Integrators / Installers**

Arcom, Vinci Energie Services, Bouygues Energie Services, Engie, Spie, IP2i...

✓ **IT & Telecom**

GFI, CGI, IBM, Orange, Dassault Systèmes...

✓ **Solutions / Softwares**

iPorta, Visiativ, M2OCity, Ubiante, Vesta Systèmes, Energisme, Stratumn,...

✓ **Energies and utilities**

ENGIE, Veolia, edf...

✓ **Consulting / Services**

Altran, Embix, Effigence, Items International, Netseenergy, ...

✓ **Facility Managers**

Bouygues Energie Services, Engie, Cofely Services, Vinci Facilities ...

✓ **Unions / Alliances / Organisms**

ACR, Aristote, CSTB, EnOcean, FFD, LonMark, Serce, Plan Bâtiment Durable, CABA (Canada), Neobuild (Lu), SVDI, Promotelec ...

- ✓ **READY2SERVICES (R2S)**
- ✓ **READY2GRID (R2G)**
- ✓ **BUILDING AS A SERVICE**
  - ✓ Gestion des Espaces, Gestion du Stationnement & Parking, Santé & Bien Etre, Assistance aux Personnes Dépendantes, Logements Sociaux,
- ✓ **SMART BUILDINGS FOR SMART CITIES (SB4SC)**
- ✓ **ENERGY POSITIVE BUILDINGS AND TERRITORIES**
- ✓ **ASSET VALUE AND BUSINESS MODELS**
- ✓ **BUILDING INTELLIGENT MODELING, CITIES INTELLIGENT MODELING**
- ✓ **SMART LAW**
- ✓ **BREAKTHROUGH INNOVATIONS**
- ✓ **CHANGE MANAGEMENT AND EMPLOYEMENT**
- ✓ **INSTITUTIONS AND AUTHORITIES**
- ✓ **MARKETING**

1. SBA

**2. CONTEXT**

3. ENABLER : R2S – READY TO SERVICES

4. SMART CITIES

5. SMART BUILDINGS



## ENERGIE

- Cities : 78 % of energy usage (45% for buildings)
- +25 % in 10 years



## HEALTH & WELL BEING

- 430.000 premature death per year due to air quality in Europe
- 30 % of the population with allergies due to pollution (50% expected in 2050)
- 10 % of the population hypersensitive to eletromagnetism(50% expected in 2050)



## ECONOMY

- 16% of the european population is poor (80 millions)
- Paris region : 33% of the revenue for housing / 1h30 of transport per day
- 4,5 % of absenteeism in Europe. In France only, the cost for private companies is 45b€



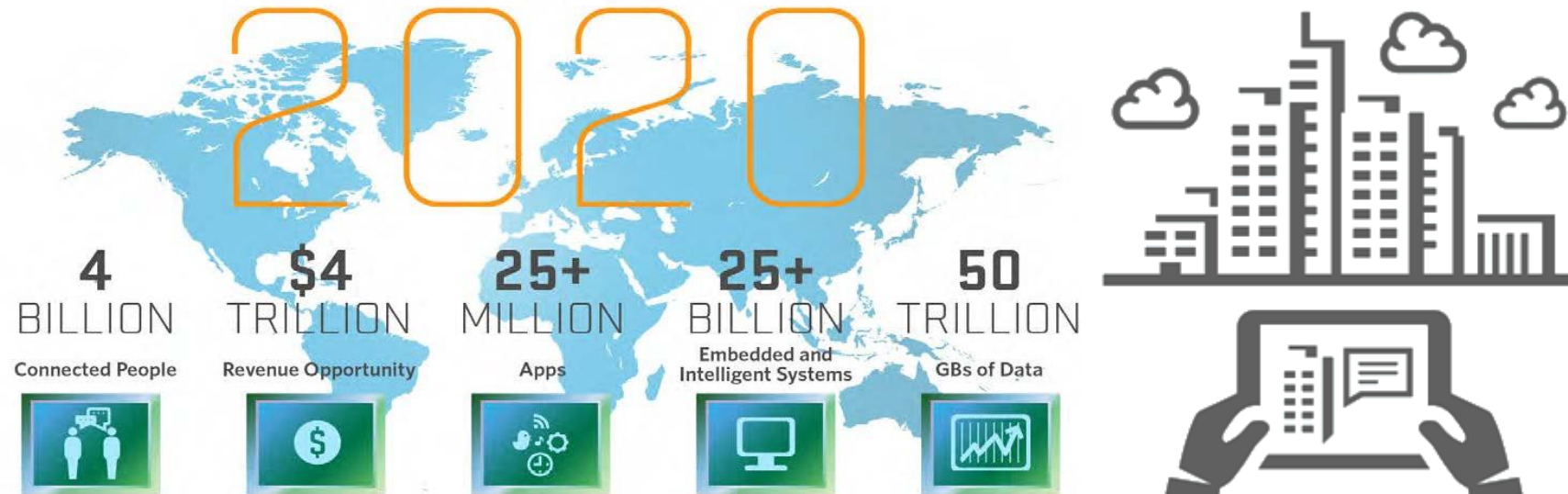
## ENVIRONMENT

- 50 % of the cities' surface is dedicated to car
- Global warming (1,5 °C to 3°C d'ici 2100)

**SBA :**

*combining  
digital and  
energy  
transitions  
for all users*

buildings and cities will massively benefit from digital transition



Source : IDC 2014

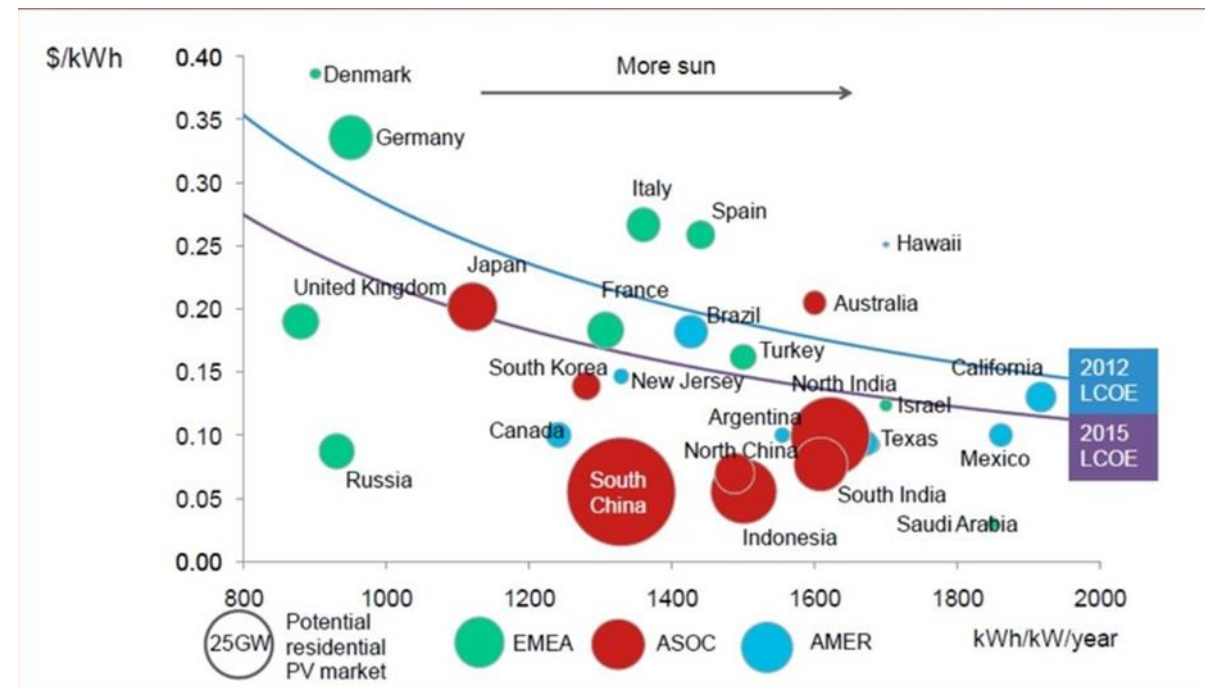
- ✓ Internet is now the 4th utility in all buildings and cities
- ✓ More informed, with a universal remote control : the USER is taking the power
- ✓ Access to datas is mandatory
- ✓ Openness of systems is essential to ensure interoperability and flexibility



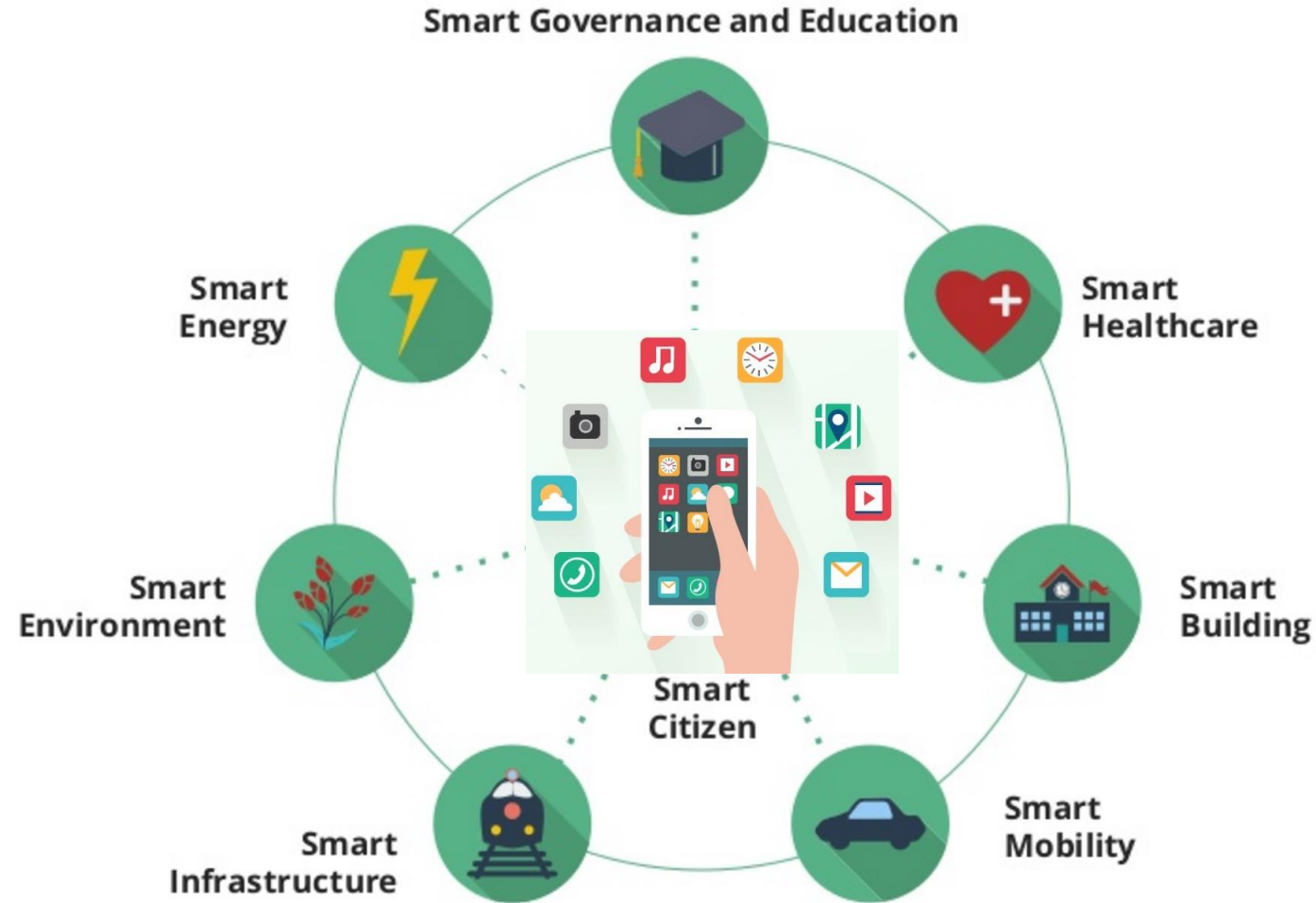
Biofuel · Biomass · Geothermal · Hydrogen · Hydropower · Solar energy · Tidal power · Wave power · Wind power ...  
are **competitive individually or combined at small scale.**

« Renewable energies are now competitive with conventional energy sources. [...] In France, the March 2017 call for tenders determined an average €62.50/MWh for solar energy, less than half the cost of electricity produced by new nuclear projects »

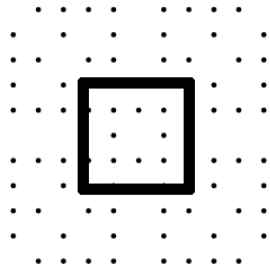
I. Kocher CEO ENGIE



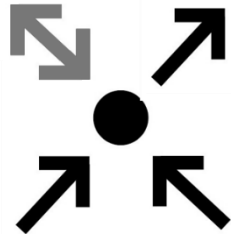
# User centric : more informed, with a universal remote control : the USER is taking the power



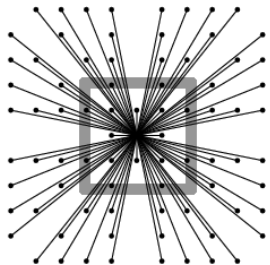
1. SBA
2. CONTEXT
- 3. ENABLER : R2S – READY TO SERVICES**
4. SMART CITIES
5. SMART BUILDINGS



**1. Smart Building =** building containing intelligent systems



**2. Intelligent Systems =** set of sensors and/or actuators offering a certun field of services to users (owner, manager, worker, visitor...).

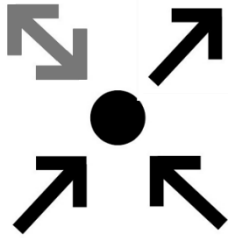


**3. Smart Building R2S =** Building containing open intelligent systems interconnected with outdoor.

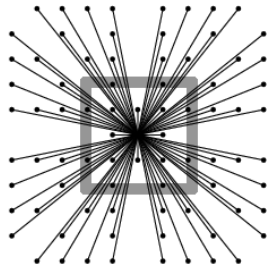
## 3 rules



1. For R2S referential to be adopted, **respecting existing ecosystems is mandatory.**

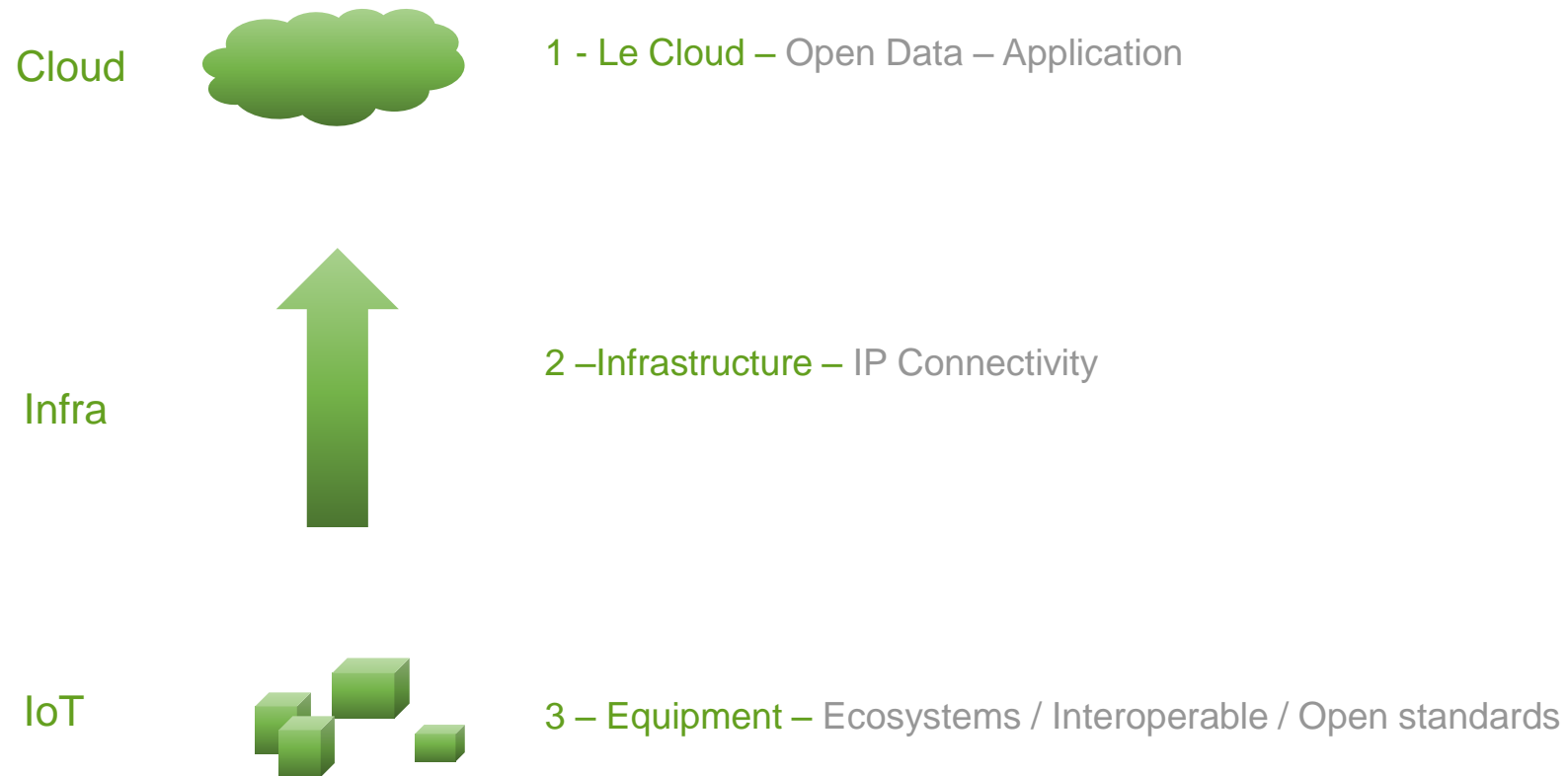


2. The counterpart is that **existing ecosystems have to open their datas and orders to the whole and users.**

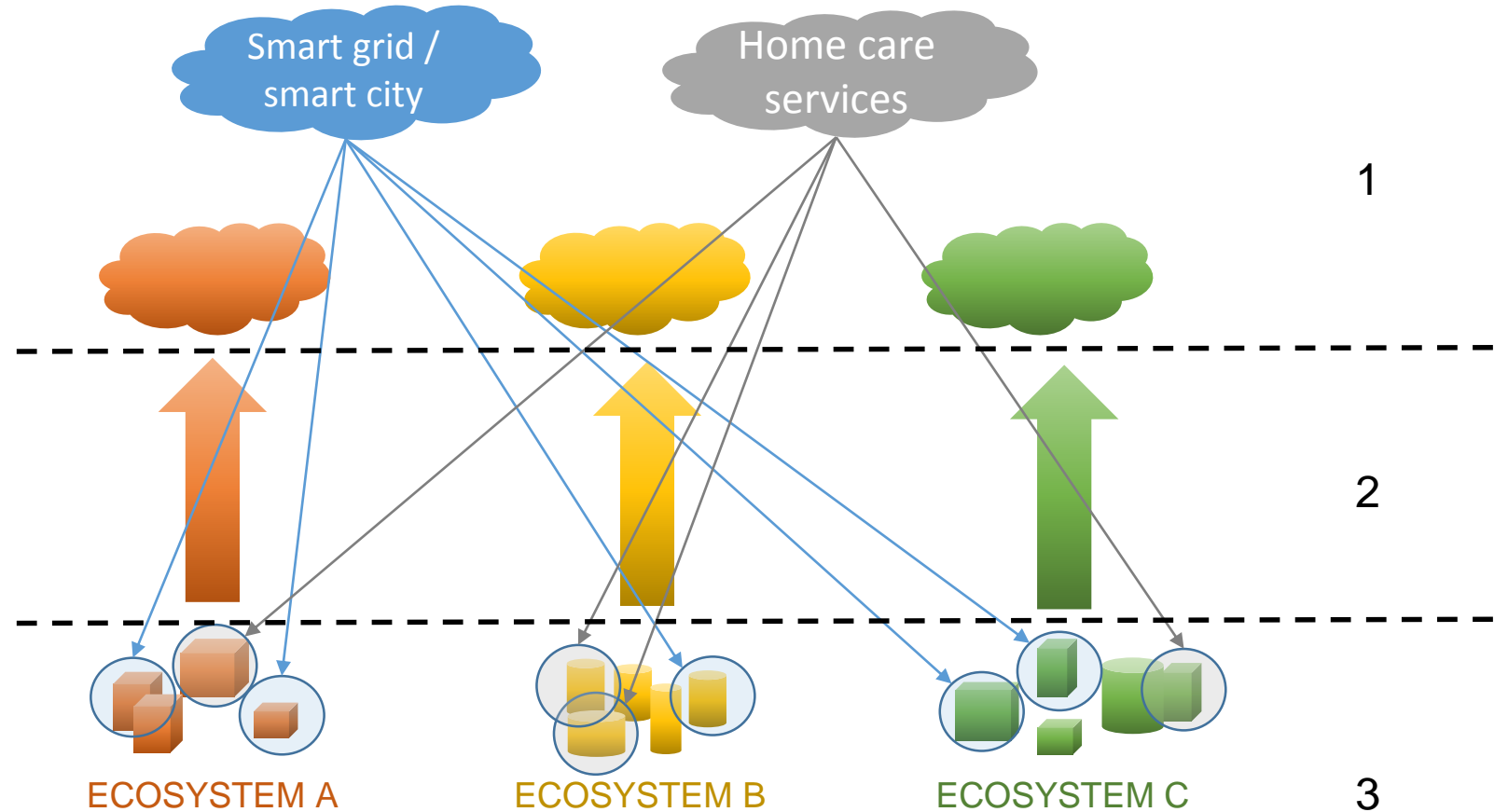


3. If a control is given to a user when inside the building, this **control must remain accessible from outside.**

## ARCHITECTURE : 3 INDEPENDANT AND REPLACABLE LAYERS



# Objectives : new services accross various ecosystems



# FROM READY2SERVICES FRAMEWORK TO « R2S » LABEL



*Contrat de coopération  
Mars 2017*



*Accord de partenariat  
Avril 2017*



*Groupe de travail Cerqual Logements Connectés*



# R2S - Opportunities for all stakeholders

## **For Land developpers**

Deliver a product that is at the state of the art for services; that is flexible, adaptable with a wide variety of usage, and have a capacity to evolve through the coming years.

## **For engineers, manufacturers and service operators**

Offer a framework, tools and methodology to help deploy a « R2S offer », leveraging the user experience and maximising value through mutualisation within or outside the building.

## **For owners**

Guarantee flexibility and evolutivity of the building over time. Enabling to answer future needs and preventing obsolescence.

## **For property and facility managers**

Offer a managing environment that ease technical maintenance and service delivery.

## **For occupants**

Guarantee of a living/working environment adapted to their needs and able to evolve through the time.

## **For territories**

Fully integrated to the city, open to its environment, sharing datas to enable the optimisation of public infrastructure and considering that the building itself is part of a bigger ecosystem.

1. SBA
2. CONTEXT
3. ENABLER : R2S – READY TO SERVICES
- 4. SMART BUILDINGS**
5. SMART TERRITORIES



- ✓ Car industry is now speaking of mobility...
- ✓ The building industry must reposition on Space, on Services, on Energy

Services , Energy management, Spaces...



✓ **Internet laws fully apply to buildings**

- ✓ *Mutualisation & sharing*
- ✓ *Cycles courts*
- ✓ *IP*

✓ **Buildings MUST be**

- ✓ *Flexible*
- ✓ *Modular*
- ✓ *Secured*

**Buildings are becoming platform for services. Their value is directly linked to the number of services offered.**

## I USE SPACES

- Offices
- Restaurant
- Parking
- Housing
- Retail
- Storage
- ...



## I NEED UTILITIES

- Electricity
- Heating / Cooling
- Water
- Waste
- Production / Consumption
- Storage
- Transformation
- ...

Mainly through digitalisation, each of these services can be mutualised

- ❖ day / night
- ❖ weekday / weekend
- ❖ working hours
- ❖ summer / winter
- ❖ common spaces
- ❖ ...

As a user I gain flexibility and easyness

As a owner I gain a variety of new revenues

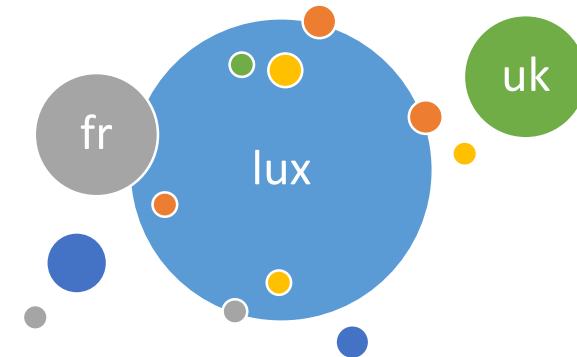
As a facility manager I gain runing costs

## How TO ? 10 tips for developpers, owners and asset managers

1. Federate specialists, consider the existing environment and **focus on your added value at your scale**
2. Connected buildings are becoming the standard but IT investments are short term ... ensure that your choices and policy enable **evolution and openness**
3. Consider that the **value** of each building is directly linked to the range of **services offered**
4. Look at each space, each system as **a potential economy or a potential new revenue**
5. Redefine each subsystem, each service provider : think **opex rather than capex**
6. Think the **user experience** and fonctionnal needs first
7. Create a **smart lot** rather than high voltage / low voltage
8. Ensure **service continuity** : indoor / outdoor / from one place to another...
9. Manage and govern the **datas** : production, use, storage, sharing...
10. Secure your IT infrastructure and equipment : **cybersecurity**

1. SBA
2. CONTEXT
3. ENABLER : R2S – READY TO SERVICES
4. SMART BUILDINGS
- 5. SMART TERRITORIES**

- ✓ Smart Territory rather than city : territory is a more extensive approach considering
  - All the stakeholders : citizens, companies, public authorities...
  - Interdependencies between geography, politics, ...
  - A certain ability to directly or indirectly decide or interfere on infrastructures
- ✓ A smart territory **integrate technology into its strategic approach to sustainability, citizen well-being, and economic development**. These policy objectives are being met through innovation across all aspects of city infrastructure and operations, including the energy and water sectors, urban mobility, smart buildings, government services, and developments in underlying data and communication platforms.





# Smart buildings & Smart territory interdependencies

- ✓ **Smart territory start with Smart Building**

*Smart building is a puzzle piece*

- ✓ **Continuity**

*Smart territory offers continuity to the user through public spaces, infrastructures and services*

- ✓ **Common goals**

*User centric*

*Sustainable*

*Safe*

*Efficiency*



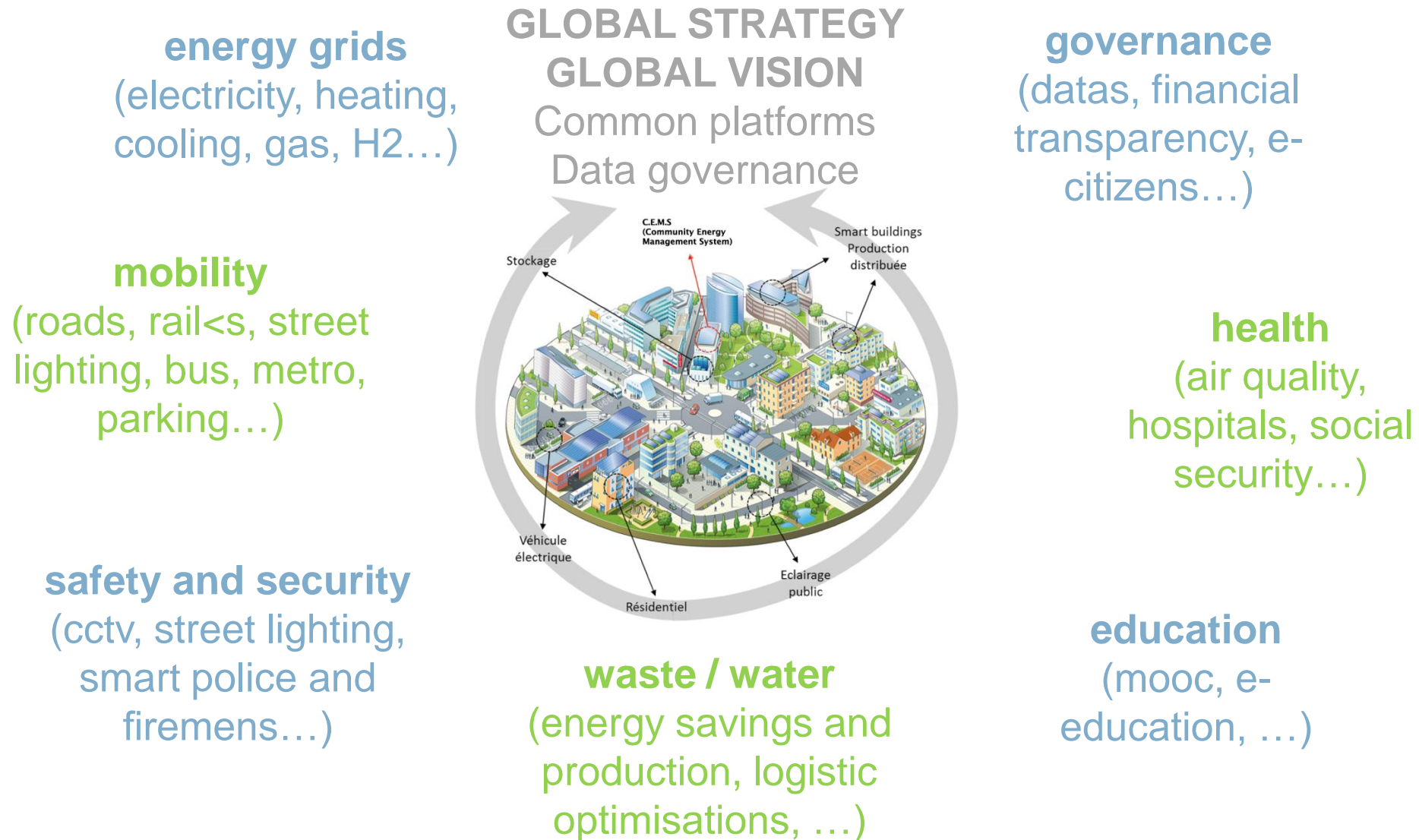
« Ready to Service »



« Ready to Grids »

# Smart territories

## 3D : Digitalisation, Decarbonisation, Decentralisation



## Revolution is now ... Ask the right questions

- ✓ **Electric & autonomous vehicles are preferred** : 3 or 5 years ?
- ✓ **30 % independant workers** : 3 or 5 years ?
- ✓ **Real time information / on the environnement and its consequences** : 3 or 5 ans ?
- ✓ **Renewable and decentralised energy production**: 3 or 5 years ?
- ✓ **Blockchain : banalised new transaction mode banalisé** : 3 or 5 years ?
- ✓ **Generalized use of AI** : 3 or 5 years ?

**New generations are pushing for fast mutations, looking for new usage rather than property. Scale effect will accelerate transition.**

Thank you for your attention



R

# Smart cities : How smart data can enhance strategic governance

Alexis Daloze  
Spallian Innovation





## TellMyCity Smart cities :

How smart data can enhance strategic governance

Alexis Daloze Sales Manager Spallian / Luxembourg 03/05/2017



 SPALLIAN

**Spallian:**

<http://stat.spallian.com>

 **SPALLIAN**

# Our company of technology and innovation

A leading company in the field of data analysis, Spallian has been assisting its clients for more than 18 years in collecting, processing and analyzing strategic information. We offer a range of innovative, powerful and secure solutions to explore Big Data and only retain the information that is immediately useful in your decision-making processes.



**1998**

Year founded



**100%**

French company



**€8,5m**

Capital stock



**20%**

Turnover dedicated to  
R&D

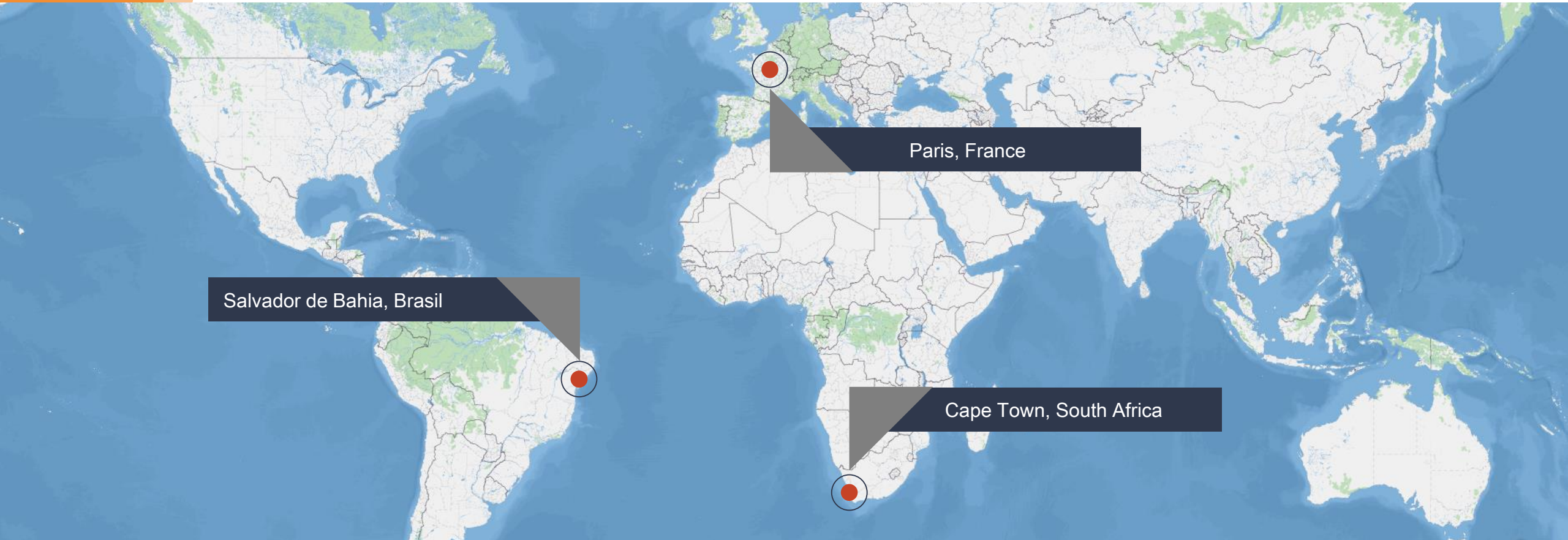


**1600**

Customers from the public  
and private sectors



## Our company expanding worldwide



# Our Smart Data development



## Collect

Target information  
essential to your business



## Display

Provide intelligible visualization and  
intelligent interpretation



## Interpret

Project your data to optimize your  
strategic decisions



## An innovative app dedicated to citizens' feedback and smart governance

TellMyCity is an app dedicated to strengthen participatory democracy and improve request-tracking between citizens and their city.

TellMyCity offers entertaining and user-friendly features to improve the communication process between citizens and their city.

---



## Our solution for a smart governance



### Centralize

all available data  
on a given territory



### Adapt

public policies



### Assess

the impact  
of decisions



### Communicate

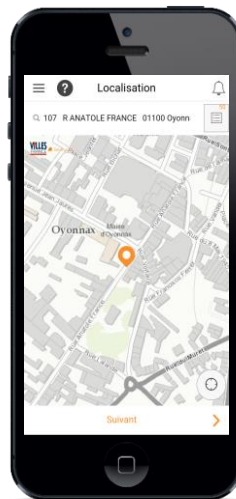
on  
achievements

# 30 seconds to send a message to the city



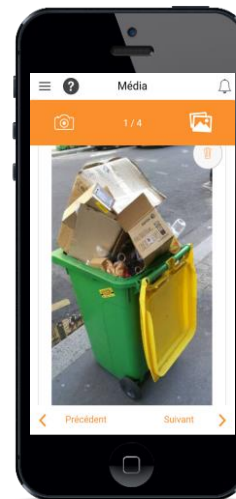
## Homepage

Issue a report, check current reports or change account settings



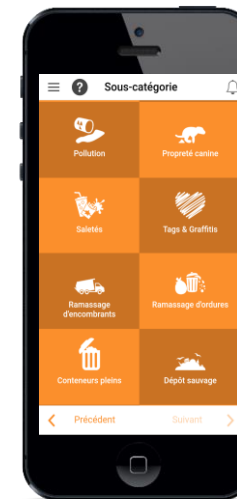
## Location

Choose to be automatically geo-located or to indicate your current location



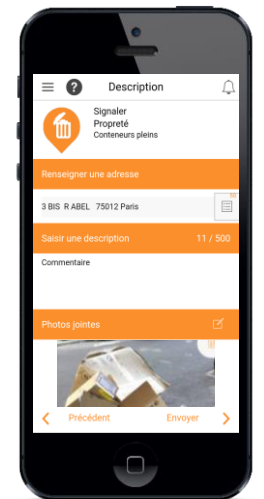
## Photo

Take a picture or use one from your library



## Categorize

Pick the category that is relevant to your report



## Comments

Add comments and send report



# A newsfeed to communicate with your citizens



Easily share news

Send notifications to alert your citizens



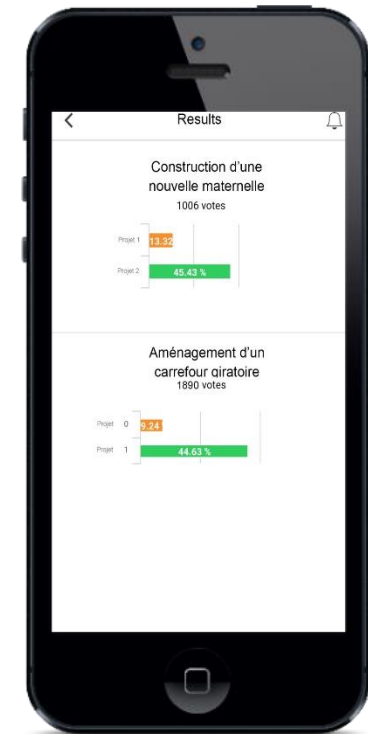
# Surveys and polls to invite your citizens to contribute



Let your citizens have a say in your decisions

Send out surveys or polls through an exhaustive, easy-to-use tool

Display real-time results on the app





**SPALLIAN**  
SMART IDEAS FOR BIG DATA

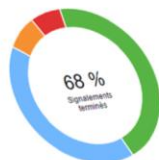
**TellMyCity** | Statistiques sur ma Ville

Explorez les données en choisissant des paramètres sur les signalements :

Type:  Catégorie:  Service concerné:  Date:  Fin:

Statut:  Sous-catégorie:

Nombre de signalements moyen par jour: 16.25  
Nombre d'utilisateurs actifs: 722  
Première catégorie de signalements: Propreté  
Nombre de signalements de la première catégorie: 1183



Temps de traitement des signalements (jours): 11.10  
Temps de traitement par les services techniques  
Temps de gestion par le modérateur

Répartition des signalements par catégorie (les 10 premières catégories)



Répartition des signalements par sous-catégorie (les 10 premières sous-catégories)

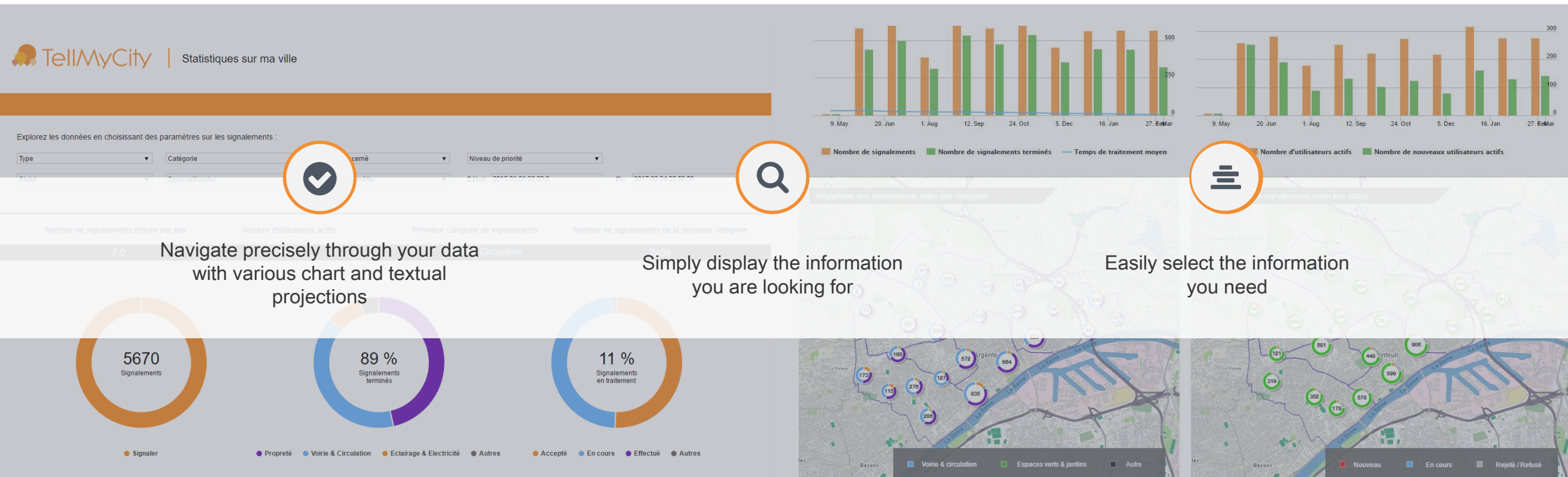


**Stat'**

## Connected and interactive tailored reports

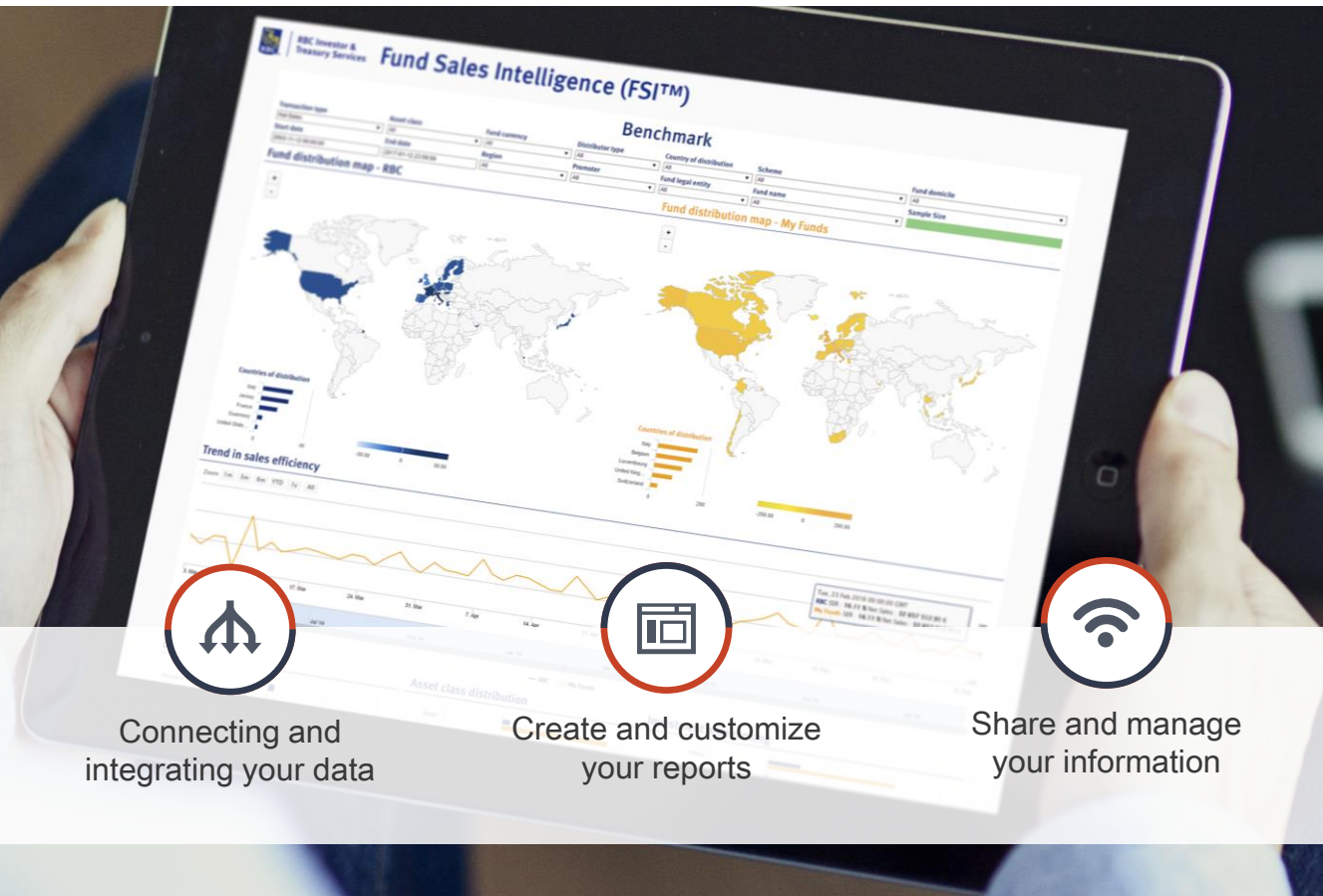
Combined with our "Stat'" dashboard solution, TellMyCity provides a visual and strategic interpretation of the information collected from your territory

# Accurate and accessible dashboards





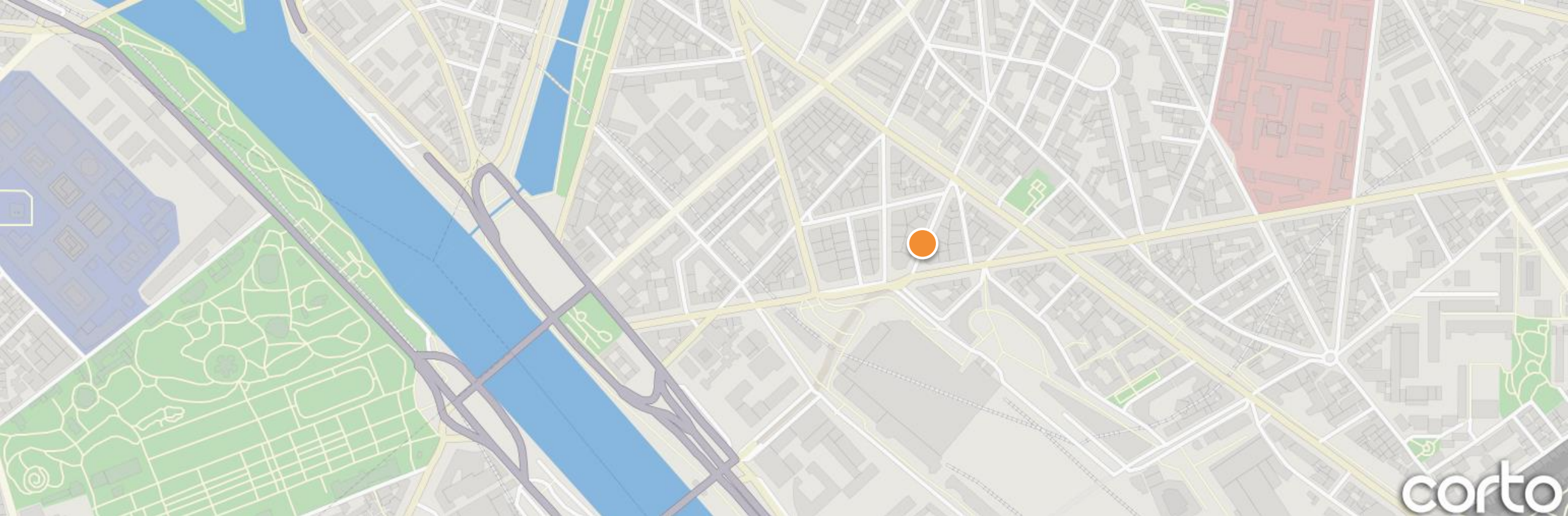
# Stat' customizable solution to create connected dashboards



# They work with us







#### Adresse

5 rue Abel - 75012 Paris  
+33 1 58 39 39 99

#### Email & Site Internet

[contact@spallian.com](mailto:contact@spallian.com)  
[www.spallian.com](http://www.spallian.com)

#### Réseaux sociaux

[Linkedin.com/Spallian](https://www.linkedin.com/company/spallian)  
[Twitter.com/SpallianFr](https://twitter.com/SpallianFr)



## Q & A

**Tom Eischen**

Ministère de l'Economie, Luxembourg

**Patrick Goldschmidt**

Ville de Luxembourg

**Marc Daumas**

President de la commission "smart building for smart cities" au sein de la  
SBA - Directeur Grands Projets et Nouvelles Offres - Engie Ineo

**Alexis Daloze**

Spallian Innovation

**Moderator:**

Sven Rein, LuxReal board member

R

Q & A

Fence of the event

BCEE

LuxReal



R

## Cocktail

Thank you for coming and enjoy the evening