



Smart Cities, Orange Testimony

IUT NBTC Leveraging ICTs for Smart Sustainable Cities

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Summary

- Presentation of Orange
- Orange view on Smart Cities
- Orange Smart Cities dedicated program
- Examples of Smart Cities solutions
 - Public Transportation
 - Smart Grids
 - Smart Buildings/ Smart Districts
 - City and community services
 - The connected car
- How telcos contribute to the digital transformation of cities and territories through smart cities programs

Orange today

- Orange is one of the topmost European operators for mobile and broadband internet services as well as a world leader in providing telecommunication services to businesses.

We have a rich heritage of improving the world of communications, providing solutions and services for all to enjoy the best opportunities offered by digital technology.

Our role has always been to help our customers communicate, interact and team up more. We focus on the benefits for people, rather than the technology; we deliver reliable services and create simple experiences.



Orange in figures

236
million

customers worldwide



4G

in 10 countries

60th

strongest brand
in 2013



780 million Euros invested in
research and

innovation



165 000 employees

102,000 in France

10 million
Orange Money

customers in 13 countries



more than 382,000
customers with

fibre

4 000

permanent contracts in France
between 2013 and 2015 – of which
2500 are younger than 30



@Orange

with 70 000 followers on Twitter

7482

patents

in our R&D portfolio



450,000 km

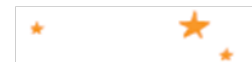
of submarine cables
(enough to circumnavigate the
earth 10 times!)



more than 7 million fans
across all of our local

Facebook

pages



1 000

new recruits in 2014 working
on very high broadband (fibre
and 4G)

2400 employees who
volunteer in 32 countries for
the Orange

Foundation



9 000

training programmes

more than 1 million
visits on Orange.com

the brand is
20 year-old



Orange Key financial indicators for 2013

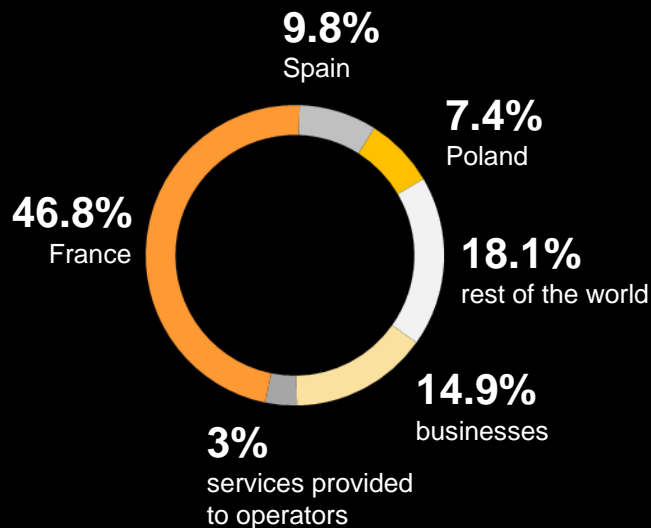
€40.9 billion
revenue

€1.873 billion
net profit

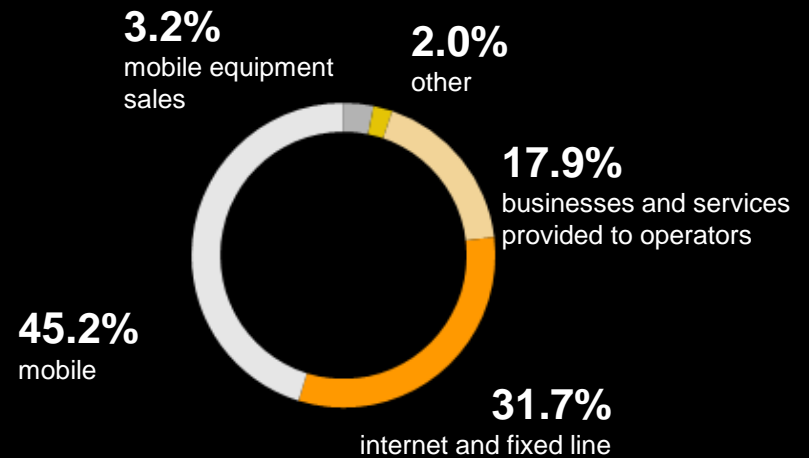
€0.80*
dividend per share
*(proposed to Annual General Meeting of Shareholders on 27 may 2014)

€7,0 billion
operational cash flow

turnover broken down by region



turnover broken down by activity



The digital revolution is underway in an evolving world

- Every day new services are launched.
 - More than 7 billion people connect to the web everyday and 15 billion devices will be connected by 2015.
 - That's two for every person on the planet.
- Digital technologies have changed our expectations in the way we share and use products and services.
- At Orange, our investments go beyond supporting high performing networks to create unique experiences that fit our customers' essential needs.

Orange view about Smart Cities

- Urban areas are economically impacted by traffic congestion
 - Up to 20mn to find a parking place
 - Productivity loss: Up to 5% of the GDP of the city
- By 2050, 2/3 of the world population will live in urban areas
- Smart City is about supporting **cities, districts or regions** in fulfilling some of their **key missions** thanks to the support of ICT by
 - providing **new services**,
 - **optimizing** existing services,
 - allowing **savings** on key limited **resources** (energy, water, space, etc.),
 - enhancing the **relationship** between the city and its citizens, its tourists, its businesses
- Smart City implies **changes in usages and behaviors**. Smartphone penetration and usage is key.
- ICT is only an **enabler** :
 - connectivity,
 - IT integration and applications,
 - data analytics.



Orange Smart Services programs

by 2010, focus on

today, rolling out of



5

connected car



1

public transportation



2

smart grids



4

innovative urban services



3

smart home : building / district

e-Health
e-Agriculture
e-Safety
e-Oil, Gaz, Mining
...

by 2000

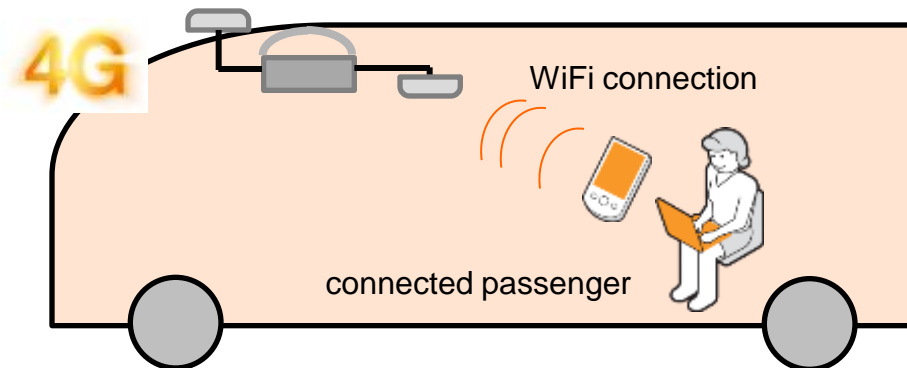
Messaging Info.
M-Payment
...

1 - Encouraging use of public transport

- Making communication and information services available to travelers is a key driver for making public transport more user friendly.
- Orange has developed services for travelers based on:
 - connectivity,
 - e-ticketing,
 - real-time information.
- For instance, 2 types of services:
 - 4G-based WiFi service :
 - Orange + Loire Atlantique region authority + Keolis (major public transport operator)
 - NFC enabled digital ticket:
 - Orange + Strasbourg City Transport Company (CTS)

WiFi on board buses for passengers (Nantes, France)

- **Wifi as a service to attract passengers to public transportation**
- Orange has launched a 4G-based WiFi service on board of coaches in Nantes.
- A pathfinder project:
 - **1st time** such a high-throughput service is proposed in France
 - highlighting the power of 4G
 - paving the way for a new set of on-board value added services.
- Agreement signed with the Loire Atlantique District local authority and market leader Keolis to implement the brand new service from September 2013.



NFC enabled digital ticket

CTS, Compagnie des Transports Strasbourgeois:
the Company of public Transports of Strasbourg city

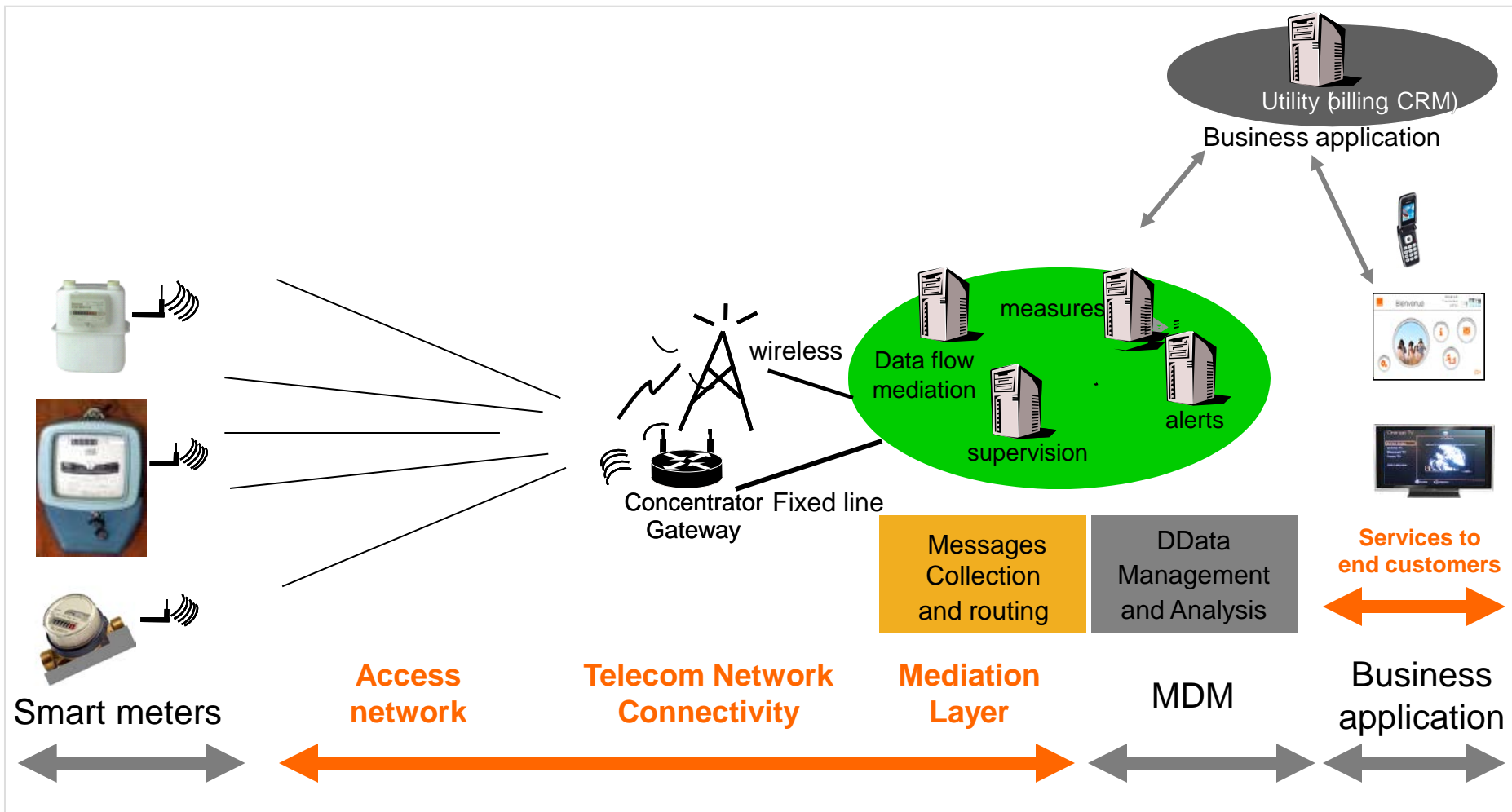


2 – Helping distributors to manage energy efficiently

- Smart Grids help to optimize the distribution networks for energy supplies by:
 - using sensors on the network,
 - using smart meters for water, gas and electricity consumption,
 - Identifying and resolving malfunctions remotely.

- In 2011, Orange teamed up with Veolia to create the « **m2o city** » joint venture.

More than 1 million water smart meters deployed in France



↔ : Orange Scope

3 – Supporting the development of smart buildings, smart districts at the service of the city of tomorrow

- Encouraged by new cities, the traditional players in the field of technical building management are gradually migrating towards the computerization of building for business use.
- Orange offers services such as:
 - personalized and simplified visitor reception made possible by mobile phones
 - unique access control thanks to NFC
 - real-time, multi-site management of energy consumption
 - dynamic display of enriched communication for employees
 - Geo-location for routing and flow management applications.
- Orange supports real estate developers

Orange, the ICT partner for new districts or real estates developments

Orange Offers:

- **ICT infrastructure:**

- ✓ state-of-the-art

- **Telecom Services :**

- ✓ Very High Broadband connectivity's
- ✓ Cloud solutions,

- **Added Value Services :**

- ✓ Digital Signage,
- ✓ Location Based Services,
- ✓ Video-surveillance and Command Centers
- ✓ Collaborative tools
- ✓ Business and Commuting areas solutions
- ✓ ...



Some projects and benefits:

- Orange has been supporting RIC (Rayadah Investment Company) in KSA for 5 years for the digital development of two new districts :
 - ✓ KAFD (King Abdullah Financial District) and
 - ✓ ITCC (IT & Communication Complex).
- consulting, design, supervision of service implementation.
- key benefits : smart city vision, state-of-the-art network design, convergent services...
- creation of a new subsidiary in KSA in April 2012 and in Qatar early 2013.

4 – Developing services to improve daily life for citizens, tourists, businesses

- Modern conurbations provide a broad range of urban services to their citizens that are managed by different IT systems including information related to
 - canteens, libraries,
 - culture,
 - tourism,
 - swimming pools, sport
 - ...
 - public transportation
 - municipality council decisions,
 - regulation, tax,
 - invitation to bid, request for quotation
- Orange has developed services based on:
 - NFC mobile phones
 - anonymous statistical analysis of hundreds of thousands of pieces of data collected via its mobile phone network
- For instance, 2 types of services:
 - e-City news: Orange + the city of Bordeaux
 - Cellular-based traffic information and mobility flows (Floating Mobile Data technology)

my City in my pocket

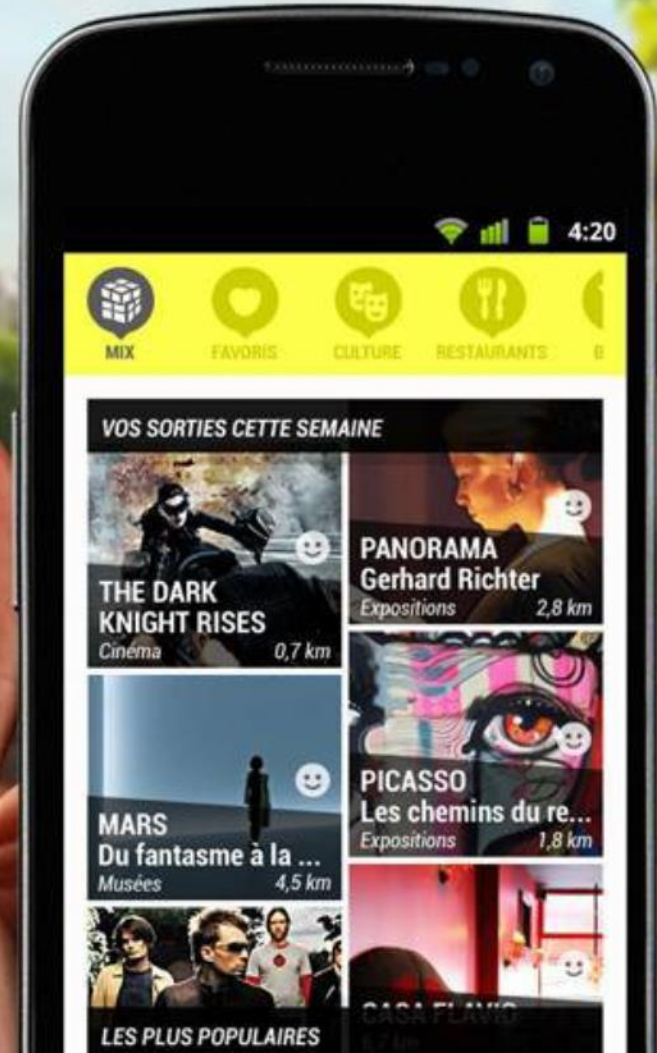
my Company in my pocket

my Activities in my pocket

my Region in my pocket

Framework

mXimp^(*)



(*) mXimp = my X in my pocket
X = City, Company, Region, Hobby, etc...

e-City news based on mXimp framework

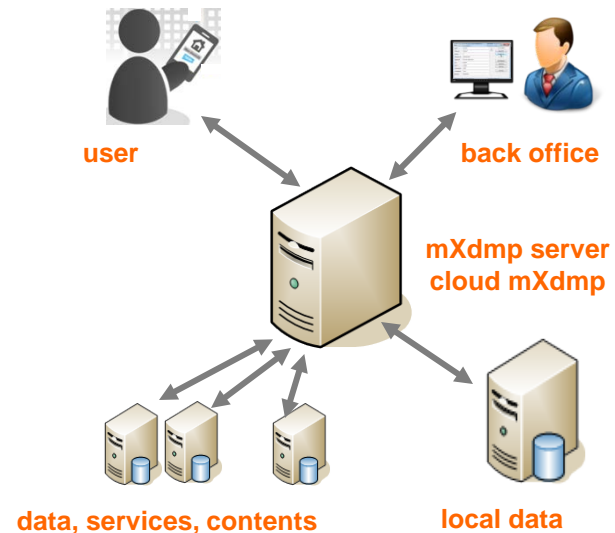
mXimp = **my X in my pocket**, with X such as City, Company, Region, Hobby, etc...

mXimp is a framework developed by **Orange Labs** enabling a city to easily build and run mobile applications and services with a high degree of customization, context and event awareness, providing access to various and reach contents

Easy to use applications



Systems easy to implement and manage



Cellular-based traffic information and mobility flows (Floating Mobile Data technology)

Floating Mobile Data technology enabling a range of **innovative** services:

- focused on producing **mobility indicators** from vehicles and people flows,
- developed from our tools and skills in analyzing efficiently the overall activity of the **wireless network infrastructures** of Orange,
- for local authorities and businesses in the management area of **roads infrastructures**, transportation, **tourism** and geo-marketing,
- interested in improving their **knowledge of travels** on a given territory and in support in the management and **dissemination of information** on mobility.



5 – Improving mobility within cities and making traffic more fluid with connected cars

- Orange is working alongside players in the automobile industry to:
 - Develop onboard entertainment and security services
 - Provide real-time information about traffic jams and carpooling services
- Orange also helps to make travel more efficient by providing drivers with interactive services designed to reduce journey times and encourage car sharing in urban areas.
- For instance, Orange + Streetline service for smart parking

Orange smart parking solution to ease drivers' life

partnership on smart parking with:



Integrated Smart Parking platform

mobile payment

Municipal Smart Parking Systems

Parking Management Platform

Consumer Guidance



user friendly SMS-enabled on street parking payment based on multi-operator micro-payment solution



sensor-enabled applications for cities around the world



Software-as-a-Service parking management platform



consumer guidance for smart phones, tablets and in car navigation systems

How telcos contribute to the digital transformation of cities and territories through smart cities programs

1 By creating **E2E services integrated under a single network**:



2 By **coordinating** the various services and departments provided by the local government, as well as adopting a **diversified partnership strategy** (with automobile manufacturers, energy companies, city bodies, etc.) in a multi-player ecosystem:



3 By bringing every citizen and every business the **best technologies and innovative services** to help increase usage in a shifting technological environment, guaranteeing the continued usage of these services as well as their evolutions

thank you



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