

smartCATALONIA

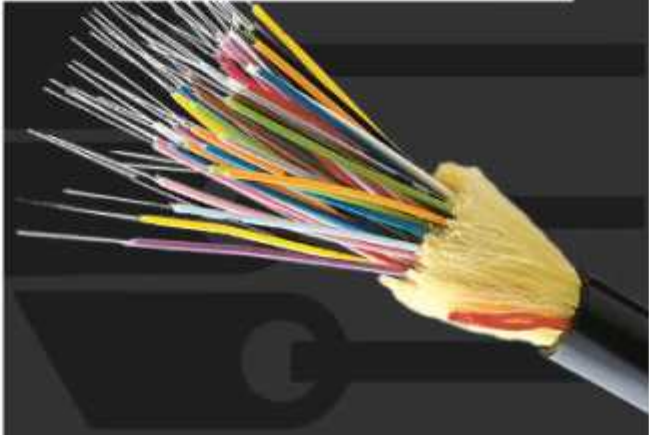
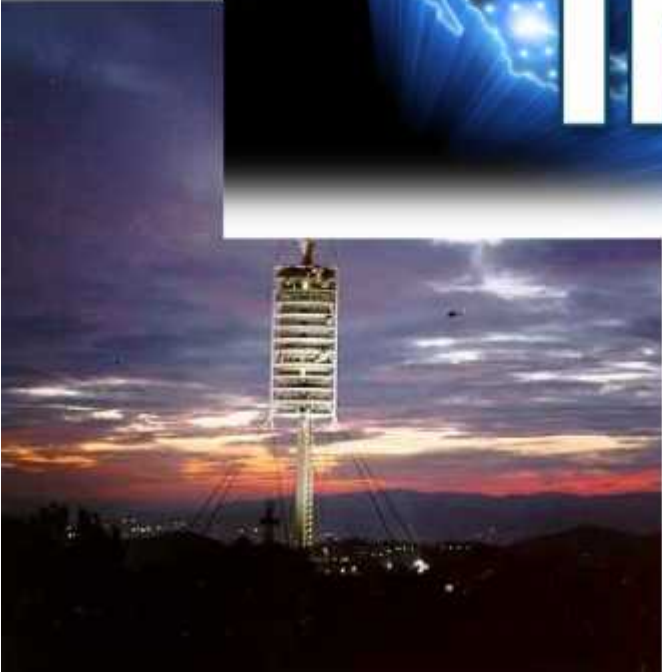
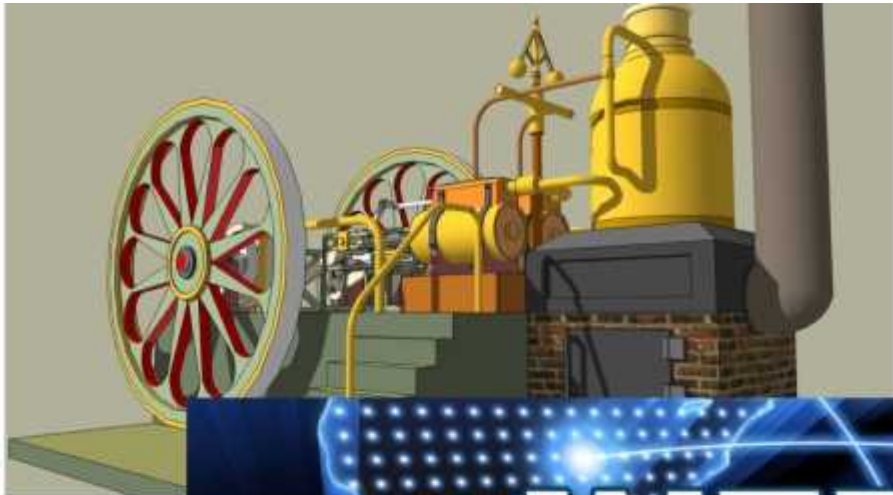
Catalonia's Smart Region Strategy

Mr Jordi Puigneró

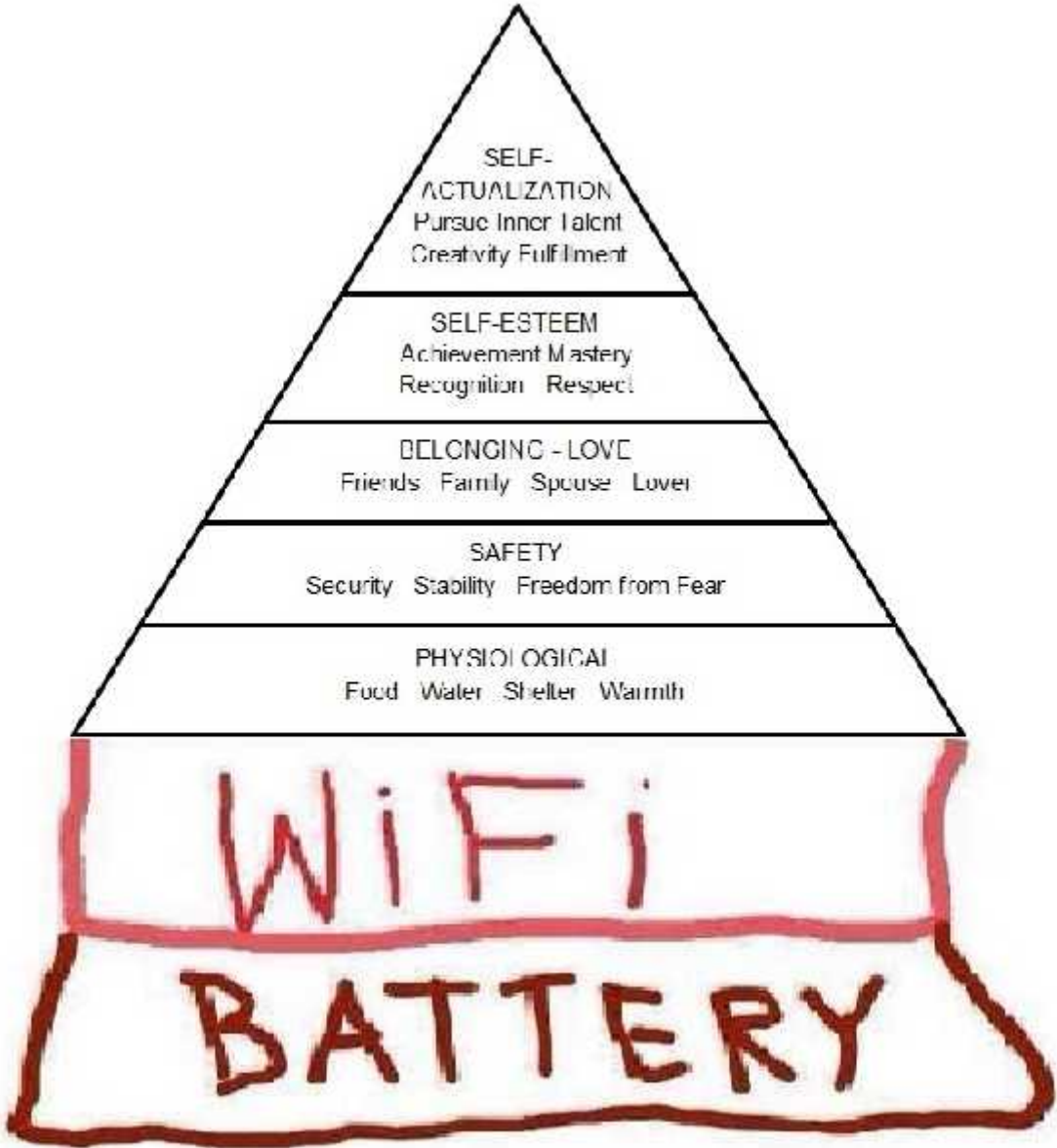
Secretary of Telecommunications,
Cybersecurity and Digital Society

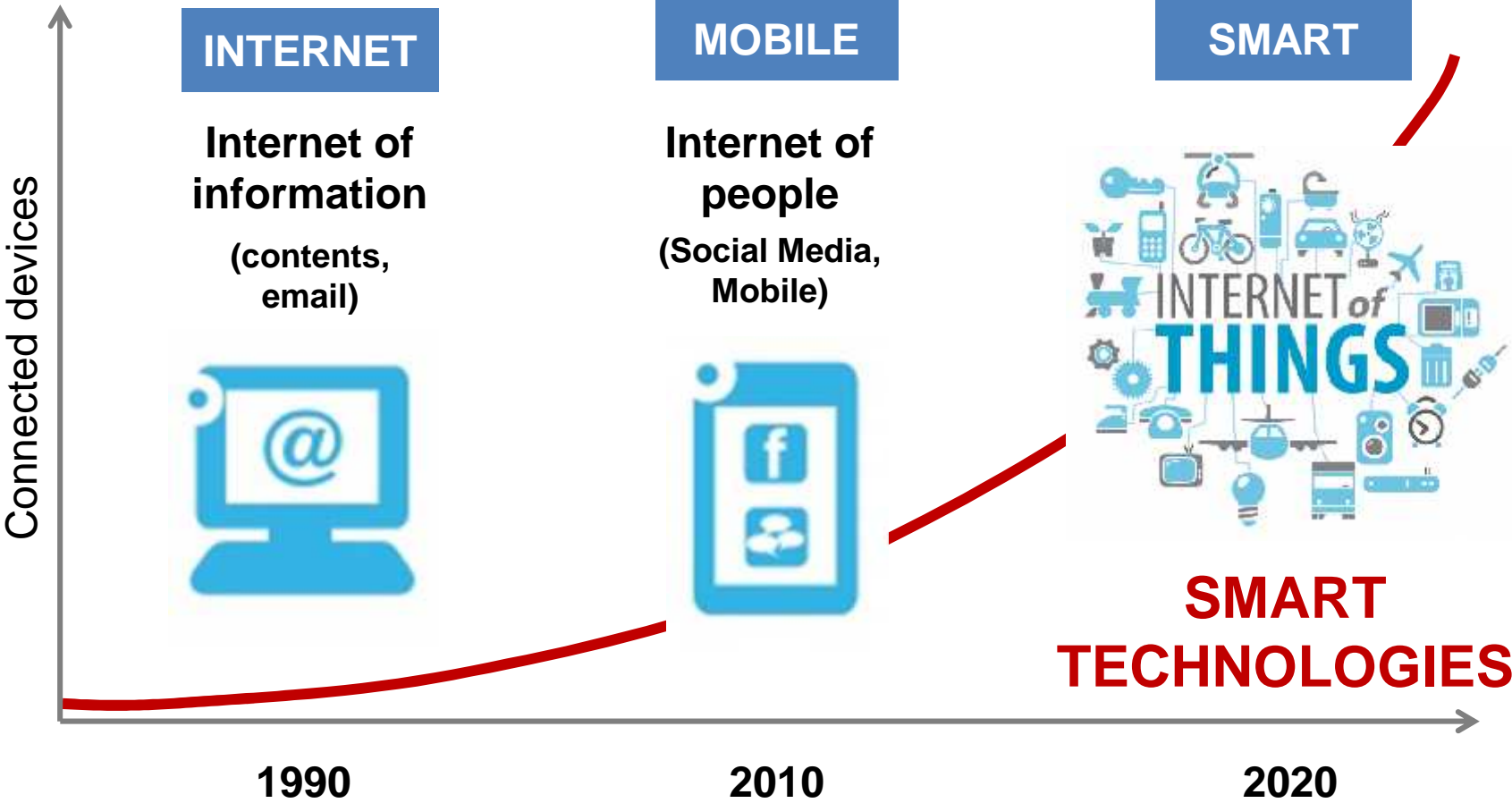


Generalitat de Catalunya
Government of Catalonia









The new Internet Revolution

Internet of things



Big Data



Artificial intelligence



Virtual Reality



Cyber-physical Systems



Wearables



Smart Robots



Drones



Mobile



Cloud



Cibersecurity



3D Printing





Smart growth



Smart growth means improving the EU's performance in:

- **education** (encouraging people to learn, study and update their skills)
- **research/innovation** (creating new products/services that generate growth and jobs and help address social challenges)
- **digital society** (using information and communication technologies)

EU goal : 30Mbps (50% population 100Mbps)

*"We need very fast Internet for the economy to grow strongly and to create jobs and prosperity, and to ensure citizens can access the content and services they want."*¹

*"La connectivité Internet à grande vitesse est la condition sine qua non de l'économie numérique: sans elle, des services essentiels tels que l'informatique en nuage, la santé en ligne, les villes intelligentes, les services audiovisuels – et les avantages qu'ils procurent – ne pourront tout simplement pas être mis en place. Une augmentation de 10 % du taux de pénétration du haut débit pourrait se traduire par une croissance du PIB de l'ordre de 1 % à 1,5 % par an ou par des gains de productivité du travail de 1,5 % sur les cinq prochaines années."*²



**“The first smartregion strategy approved
in Europe”**

Markku Markkula, President of the European Committee of the
Regions

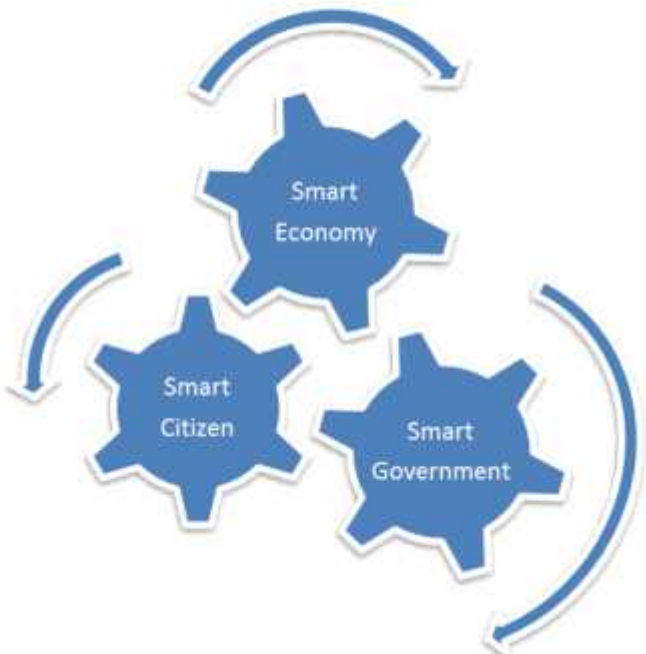
smartCATALONIA

To deal with the challenges of the Digital Revolution

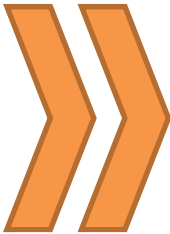
the Government of Catalonia

approved in October 2014

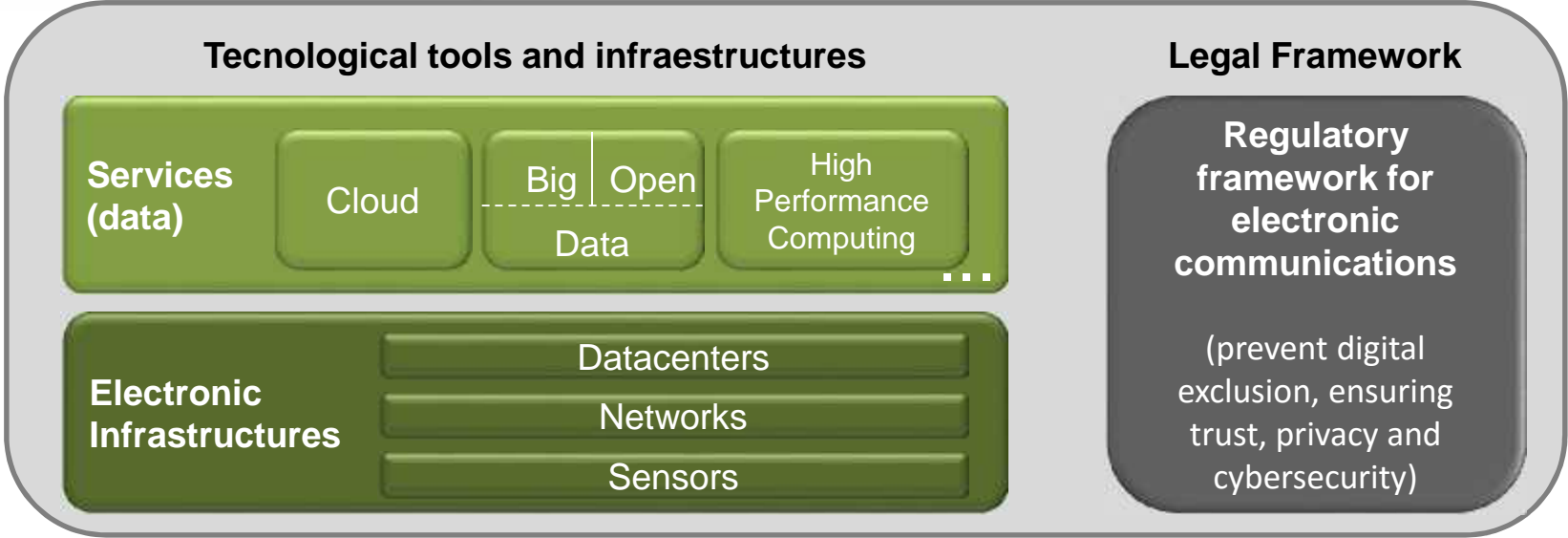
the strategy



Promoting smart projects deployment in the region



Framework



smartCATALONIA

mobilitat SMART mobility

- Gestió del transport públic
Public transport management
- Optimització de l'aparcament
Parking optimization
- Ús de vehicles elèctrics
Electric vehicle use
- Gestió intel·ligent del trànsit
Smart traffic management



medi ambient SMART environment

- Sistemes d'eficiència energètica
Energy efficiency system
- Xarxes de districte de calor i fred
District heating and cooling networks
- Gestió de contaminació
Pollution management
- Monitorització energètica
Energy monitoring



medi rural SMART rural

- Producció alimentària intel·ligent
Smart food production
- Sistemes de reg d'alta eficiència
High-efficiency irrigation systems
- Drones per al control de camps i bestiar
Drones to monitor fields and livestock
- Desenvolupament rural
Rural development



govern SMART government

- Govern Obert i gestió intel·ligent de les dades a l'administració i tributs
Open government, smart management of public data and smart tax

seguretat SMART security

- Sistemes predictius de seguretat
Predictive safety systems
- Videovigilància intel·ligent
Smart video surveillance
- Ciberseguretat i confiança
Cybersecurity and trust
- Drones a incendis i emergències
Drones for fire and emergency response

ensenyament SMART education

- Dispositius mòbils a l'aula
Mobile devices in classrooms
- Gestió escolar amb les TIC
School management using ICT
- Informació de l'estudiant
Student information
- Robòtica educativa
Educational robotics



salut SMART health

- Targeta sanitària al mòbil
Health card on mobile
- Informació del temps d'espera
Waiting time information
- Telemedicina i teleassistència
Telemedicine and telehealth
- Dades obertes i dades massives
Open data and big data



economia SMART economy

- Competitivitat dels sectors tradicionals i impuls de la nova indústria de les dades
Competitiveness of traditional sectors and promotion of the data-driven economy

turisme SMART tourism

- Patrons de comportament dels turistes
Tourist behaviour patterns
- Plataforma mòbil de turisme
Mobile platform for tourism
- Generació de rutes personalitzades
Personalized route generation
- Visites virtuals i realitat augmentada
Virtual visits and augmented reality



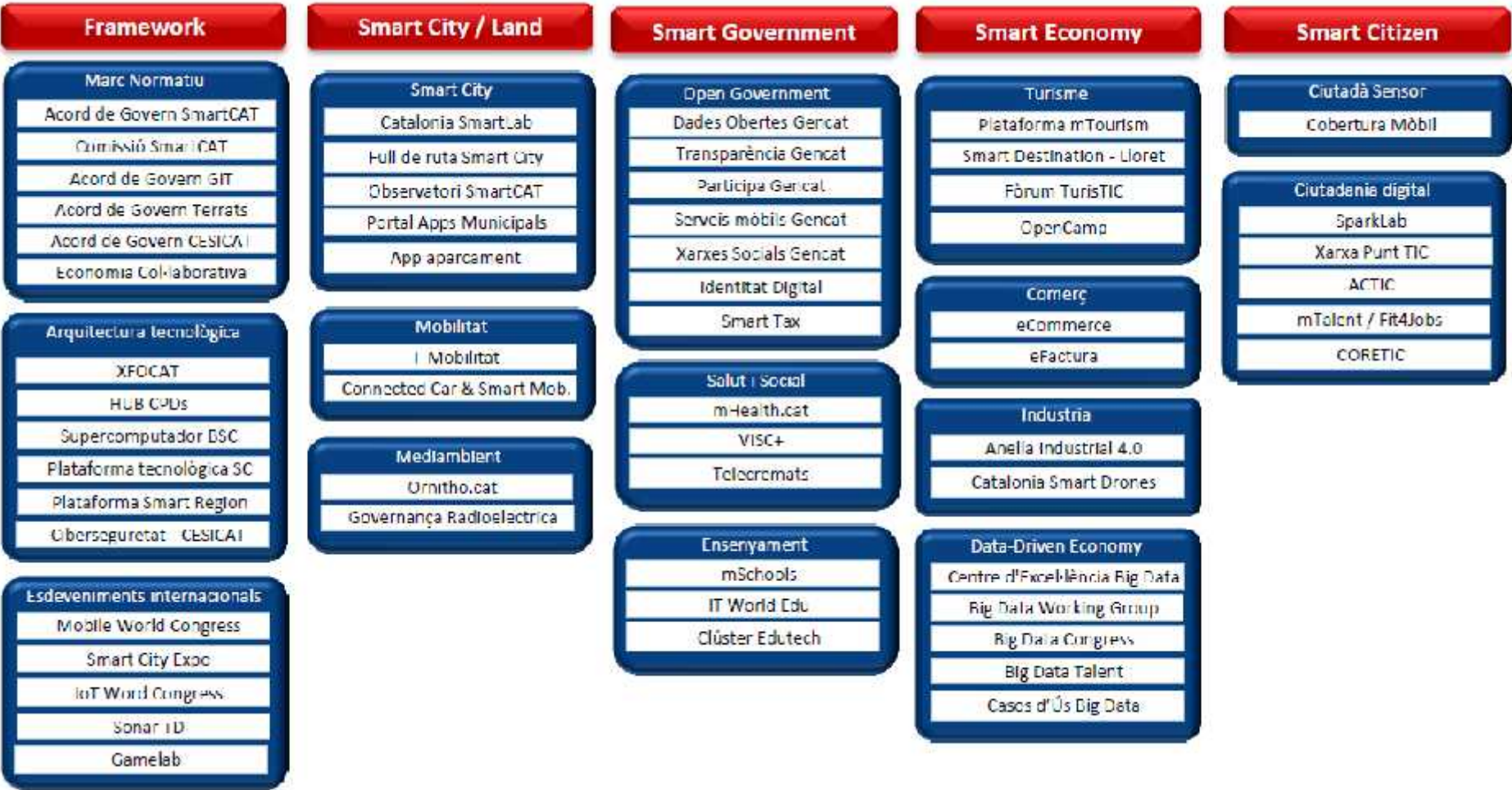
comerç SMART retail

- Comportaments de consum
Consumer behaviour
- Dades massives en el punt de venda
Big data at point of sale
- Portals i apps de comunicació
Communication portals and apps
- Sistemes de pagament
Payment systems

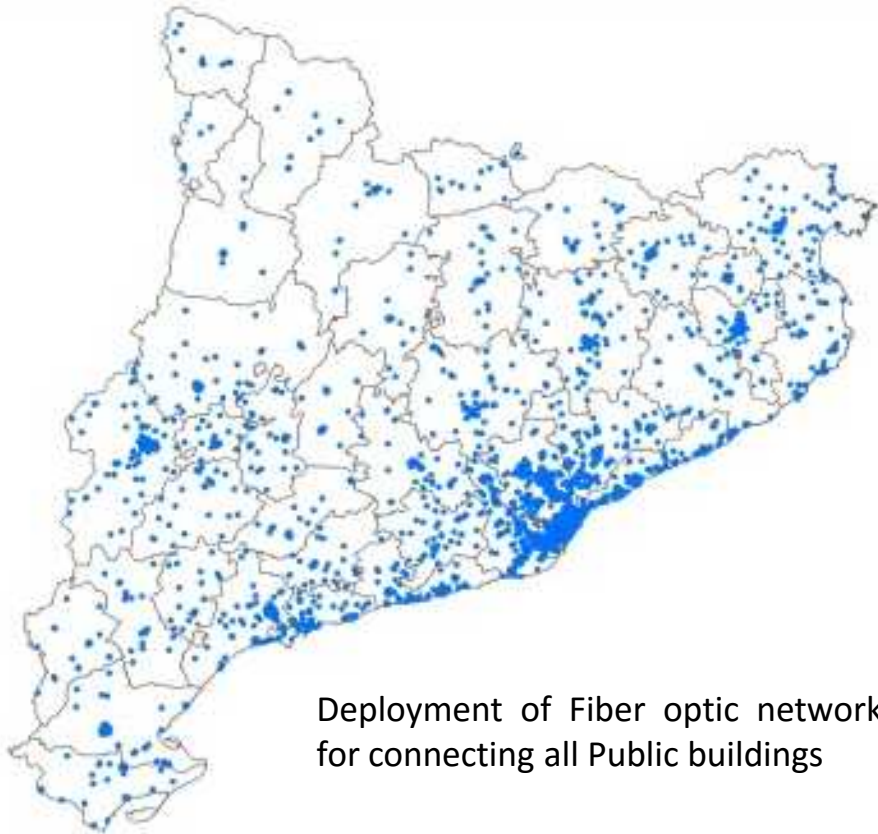


ciutadà SMART citizen

- Capacitació, implicació i participació de la ciutadania
Citizen qualification, involvement and participation



Government's Broadband Network



Technology Infrastructures

Datacenter HUB



Barcelona Super Computation Centre



CESICAT – New Cybersecurity Agency



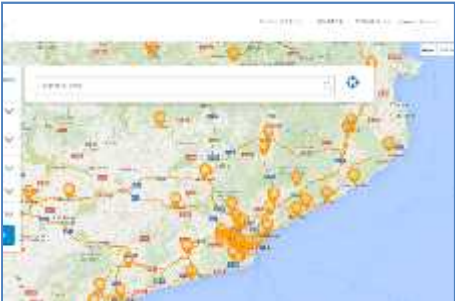
Catalonia SmartLab



Urban network of laboratories dedicated to test and validate smart solutions in real environments.

Smart City

SmartCATALONIA Observatory



Comprehensive and updated overview of the projects and initiatives of the Smart Catalan territory.

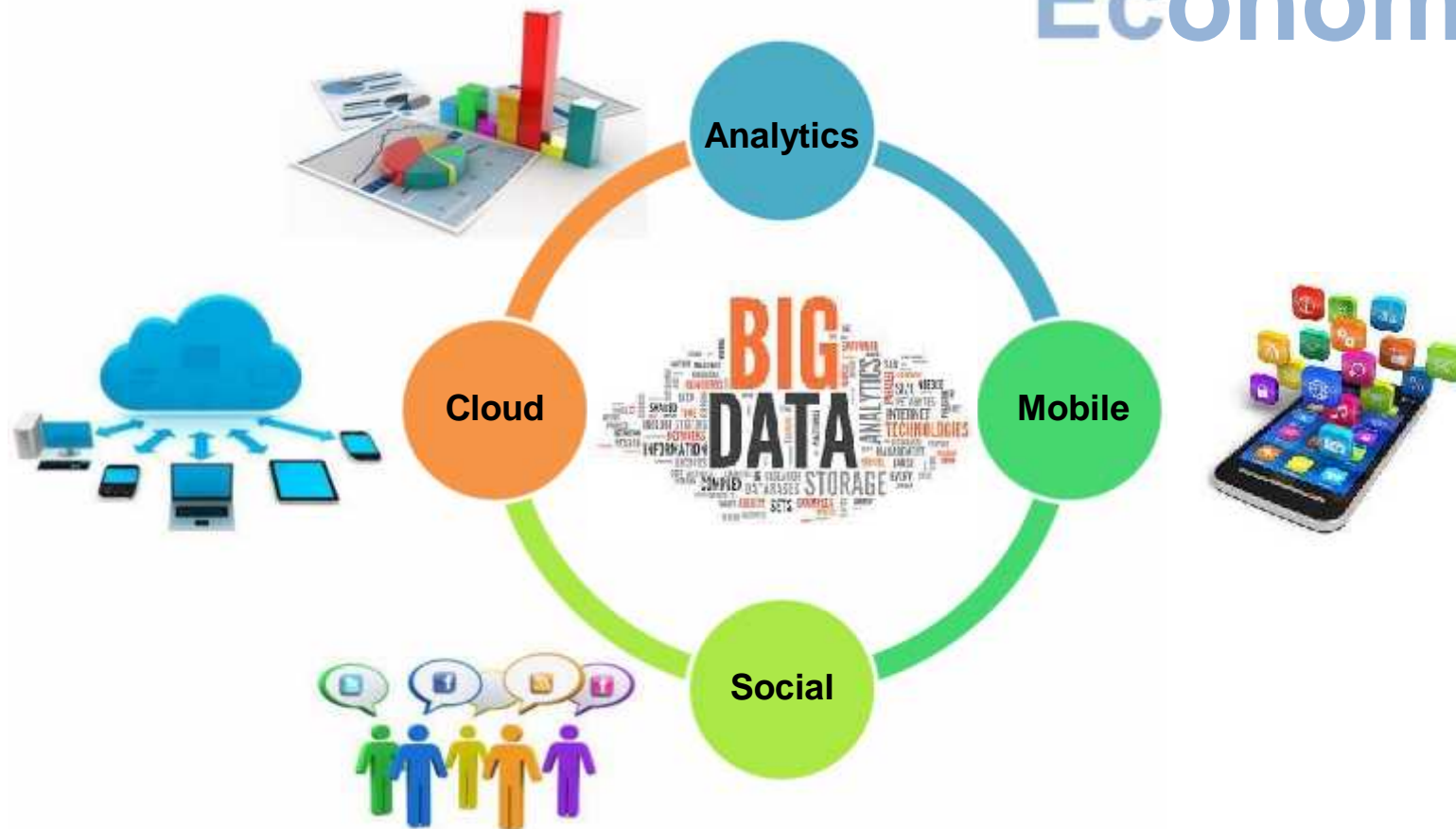
Smart City Roadmap



Guidelines for municipal officials to adopt smart cities gradually.

Smart Region

Data Driven Economy



Smart Technologies



Connected Vehicle & Automatic Driving Forum



3D Printing





European Commission

Brussels, 2 July 2014

Commission urges governments to embrace potential of Big Data

Data collection and exploitation is a growing phenomenon; in response to industry and grassroots demands the European Commission is today calling on national governments to wake-up to this "big data" revolution.

Vice President [@NeelieKroesEU](#) said *"It's about time we focus on the positive aspects of big data. Big data sounds negative and scary, and for the most part it isn't. Leaders need to embrace big data."*

The main problems identified in public consultations on big data are:

- Lack of cross-border coordination
- Insufficient infrastructure and funding opportunities
- A shortage of data experts and related skills
- Fragmented and overly complex legal environment

Smart Industry



Tech environment

Innovative environment

Emerging activities



Industrial Ring 4.0



Food



Energy,
Chemistry
&
resources



Industrial
systems



Design
industries



Mobility
industries



Health
industries



Cultural
industries



Smart Citizen





Generalitat de Catalunya
Departament d'Empresa i Ocupació



SmartCat Observatory



Ornitho.cat



T-Mobility

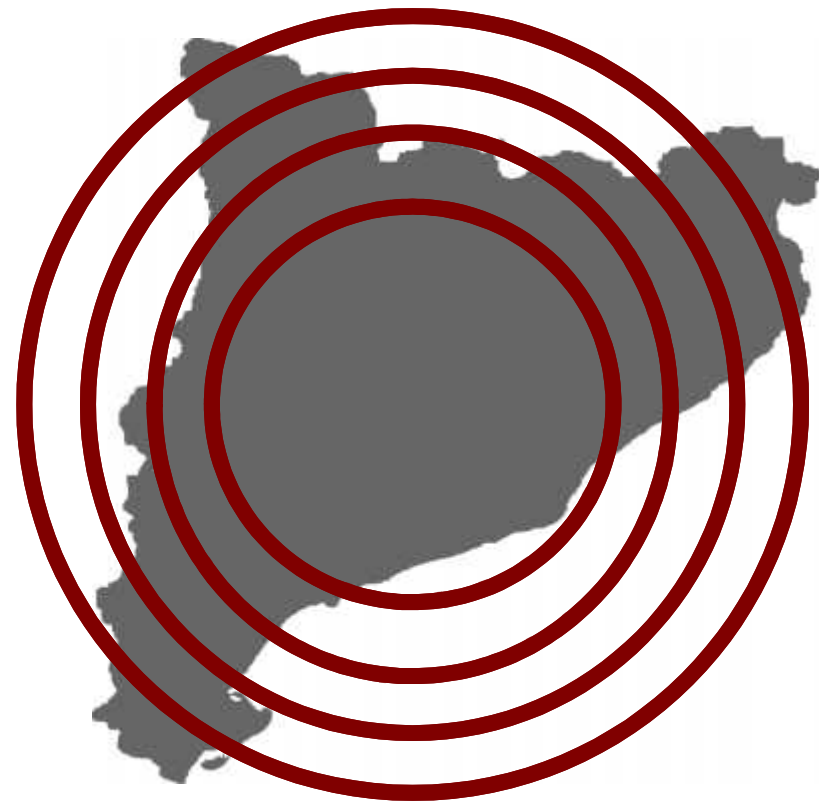


cONnect (to find a job)!



Mobile Coverage >>

1. **Strategic location.**
2. **Access to global markets.**
3. **Dynamic and innovative ecosystem.**
4. **Talented and competitive workforce.**
5. **Office space and competitive costs.**
6. **Mobile World Capital.**
7. **Leading Scientific Facilities.**
8. **Internationally connected.**
9. **Business mindset.**
10. **Multicultural and open society.**



Catalonia an emerging ICT HUB in south Europe



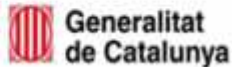
Catalonia an emerging ICT HUB in south Europe



Catalonia an emerging ICT HUB in south Europe



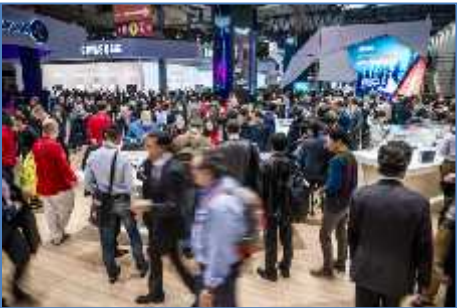
 **PARCDEL'ALBA**
Barcelona Datacenter Cluster



Catalonia an emerging ICT HUB in south Europe



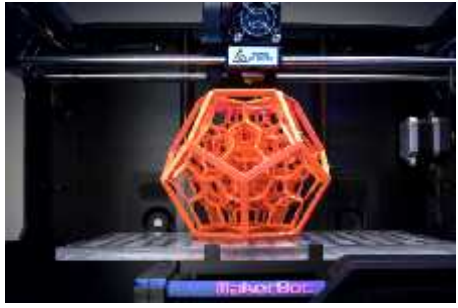
Framework – Knowledge ecosystem



MOBILE
WORLD CONGRESS
BARCELONA 22-25 FEB 2016



sonar
2016



IN(3D)USTRY
FROM NEEDS TO SOLUTIONS
Additive & Advanced
Manufacturing Global Hub 2015



IOT
Solutions
World
Congress
Barcelona



**smart
city
expo**
WORLD CONGRESS



**Barcelona
Games
World**



Catalan News Agency

Politics

Business

Society & Science

Life & S

Catalonia
Trade & Investment

Home

Friday, 11 March 2016 BUSINESS

Zurich chooses Barcelona to establish its new Global Data Centre

CNA

Barcelona (CNA).- The Zurich Insurance Group has chosen Barcelona to establish its global data centre ('Big Data'), disclosed company CEO in Spain Vicente Cancio in a conference at the ESADE Business and Law School. Zurich's sources confirmed to CNA that the global data centre will create 200 jobs, to be added to the 250 positions that the Zurich Group has already created in Barcelona. The company explained that while it not yet established a date to launch this venture, the global data centre is devised as a two-year project. "Barcelona has all the traits to unite talent from all of Europe" tweeted Cancio last Thursday.

The Zurich Insurance group, which is present in more than 170 countries, was founded in 1872 in its namesake city in Switzerland. In 2014, the company celebrated its 130 years of presence in Spain. In 2008, the company founded its High-Tech Delivery Centre in Barcelona. The 'Servizurich Technology Delivery Centre' is designed to service every country. Currently, more than 250 people are part of this hub, including internal and external collaborators. In all, the Zurich Group has more than 2,000 employees in Spain.

NEWS - 04 April

BUSINESS

Amazon to create 2,000 jobs in El Prat project

EFC

Internet retail giant Amazon has announced that it will create 3,000 new jobs as part of its operations in Spain. The existing centre in San Fernando de Henares (Madrid) will take 1,000 of those. The remaining 2,000 will come with the recently announced new logistics and distribution project in El Prat de Llobregat. The company's 32,000 sq metre capacity will grow to 77,000 sq metres.



Zurich's CEO in Spain, Vicente Cancio (by ESADE)

PRESS RELEASE

The French company Toro Development moves its head office from Taiwan to Catalonia

22.01.2016

The French funded company Toro Development has moved its head office from Taiwan to Barcelona in order to be closer to Europe, its target market. At present, Toro Development is launching an independent European mobile wallet platform that includes payments, loyalty plans and transport public use. This system, using smartphones and a high level of security, facilitates payments of all amounts in shops or on public transport. The mobile wallet can also be used as ID in accessing areas

RECENT INVESTMENTS

Computacenter in Barcelona expands operations

05.03.2016

The British telecommunications group Computacenter is increasing the activity of its Barcelona operations, where it employs 600 people – 20,000 people globally – and offers IT consultancy and support for clients all over the world from the city. It presently has two offices in the Catalan capital, and is now opening a third office in the 22@ district. The company uses Barcelona to base its global 24-hour client service operations and is now undergoing a job selection process searching for 50 more employees for when it opens its new offices at the end of the year.

Computacenter has 29 nationalities on its staff (the majority from France, the UK, Italy and Germany) and offers computer consulting services in seven languages. Attracting skilled, international talent is important for the company and according to a company spokesperson "the surroundings they can offer employees are important to attract and retain top professionals".

These new premises were rented with an eye on the future given that the amount of space available will allow the company to grow. The new 6,000 m2 offices, which are currently being renovated, represent the district's largest real estate operation in 2015. It also is a key indicator of the importance of this district for international IT companies, with these new offices being located near the recently

years over
via

it as part
2015

Nestlé to set up global digital services center in Barcelona

- This will create 70 new jobs for professionals specializing in new technology
- The center will design and implement the company's global digital communication strategy



The Nestlé Group has decided to set up its Global Digital Hub in the facilities the Swiss multinational corporation has in Esplugues de Llobregat. This center will serve all of the group's companies around the world and will create 70 new jobs to form a team of professionals specializing in new technology.

This digital services center will design, shape and implement the company's strategy to communicate with clients through social media and maintain the digital platforms Nestlé uses to communicate with consumers. These platforms will include solutions in the digital marketing arena: e-commerce and communication with consumers by designing websites, mobile applications and digital services.

PRESS RELEASE

Lenovo opens new sales centre in Barcelona and announces the creation of 80 new jobs

12.01.2016

This Tuesday Lenovo inaugurated the new Barcelona sales centre which represents the creation of 60 direct jobs, with an expected team of 80 people in three years. The company, which already had a sales delegation in Barcelona, consolidates with this investment its presence in Catalonia. The goal for the sales centre is to serve over 13,000 medium-sized companies in Southern Europe, Belgium, and the Netherlands. With this investment Lenovo expects to increase its market share in the medium company sector in Europe, the Middle East and Africa by 5% annually. The firm has centres in Copenhagen, Stuttgart and Basingstoke in the UK. The Barcelona centre is the largest of them all.

The project received the support of the Catalan Government through its public agency for foreign trade, Catalonia Trade&Investment, which had advised the company on locating in Barcelona and finding the best premises in Barcelona.

Vodafone's Instant Network project moves to Barcelona

Thursday 11 February 2016 | 09:41 CET | News

The Vodafone Foundation has announced that its Instant Network global cooperation programme has moved from London to Barcelona. The project seeks to bring connectivity to the poorest parts of the world and last year distributed a portable Instant Network Gateway and

British Ocado Technology to open technology center in Barcelona and hire 200 engineers

- The firm will concentrate its big data, data analysis and route management services in Barcelona
- They will move into the Barcelona Activa incubator in Glòries temporarily

CaixaBank and Oracle set up a Big Data Centre of Excellence in Barcelona

- The centre will leverage Oracle's experience in deploying new Big Data infrastructure for CaixaBank.
- According to Juan María Nin, Deputy Chairman and CEO of CaixaBank, "being one of the world's first banks to incorporate Big Data into daily business procedures further emphasises our commitment to innovation."

CaixaBank and Oracle will set up a Big Data Centre of Excellence in Barcelona. The technology company will leverage its experience in deploying new Big Data infrastructure in Barcelona for CaixaBank to provide Big Data services to customers across Europe.

CaixaBank and Oracle announced the launch of their Big Data technology project in December 2013, which was subsequently developed in record time. The initial phase culminated with the deployment of



RECENT INVESTMENTS

Nintendo opens 13,600-m2 logistics center in Tarragona

22.07.2016

EGD Logistics has leased a 13,600-m2 logistic platform in the Vila-Rodona Park logistics area in Alt Camp, Tarragona, to distribute the products of Japanese company Nintendo exclusively, which is expanding its presence in Catalonia. The new platform will employ between 50 and 100 people depending on the workload.

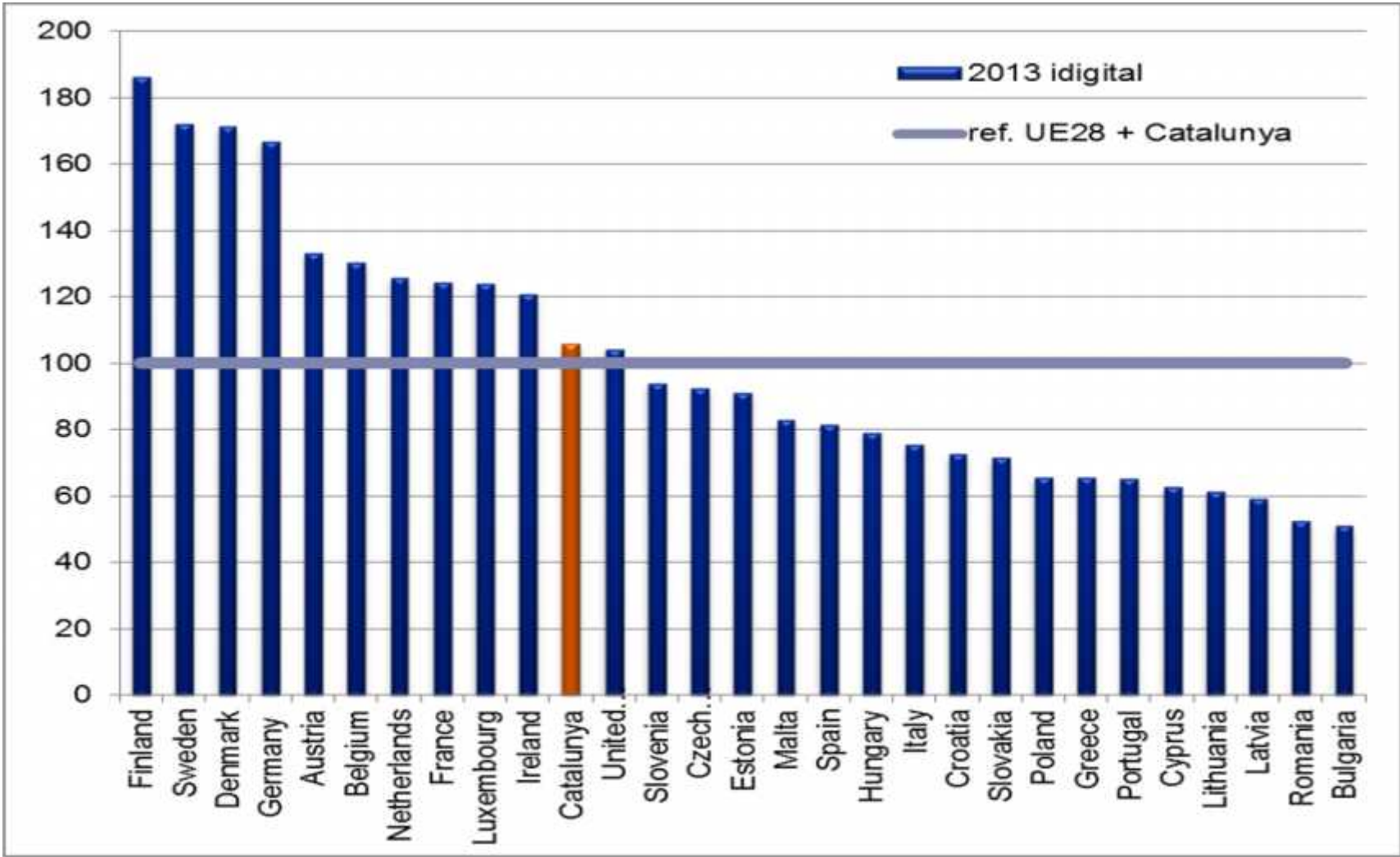
ICT development, r&d, GDP (Sources: ITU, OECD & WorldBank)

Rank ↕	Country ↕	Score ↕
1	Denmark	8.86
2	South Korea	8.85
3	Sweden	8.67
4	Iceland	8.64
5	United Kingdom	8.50
6	Norway	8.39
7	Netherlands	8.38
8	Finland	8.31
9	Hong Kong, China	8.28
10	Luxembourg	8.26
11	Japan	8.22
12	Australia	8.18
13	Switzerland	8.11
14	United States	8.02
15	Monaco	7.93
16	Singapore	7.90
17	Germany	7.90
18	France	7.87
19	New Zealand	7.82
20	Andorra	7.73
21	Estonia	7.68

Country/Region ↕	% of GDP PPP ↕
South Korea	4.36%
Israel	3.93%
Japan	3.67%
Sweden	3.3%
Finland	3.1%
United States	2.7%
Austria	2.5%
Estonia	2.41%
Denmark	2.4%
Germany	2.3%
Taiwan	2.3%
Switzerland	2.3%
Iceland	2.3%
Singapore	2.2%
China	2.08%
France	1.9%
Canada	1.8%
United Kingdom	1.7%
Australia	1.7%
Belgium	1.7%
Luxembourg	1.62%

Rank ↕	Country ↕
—	Macau
1	Qatar
2	Luxembourg
3	Kuwait
4	Singapore
5	Brunei
6	Norway
7	United Arab Emirates
8	Switzerland
9	Saudi Arabia
—	Hong Kong
—	Bermuda
10	United States
11	Netherlands
12	Ireland
13	Oman
14	Austria
15	Sweden
16	Germany
17	Bahrain
18	Australia
19	Denmark
20	Canada

Catalonia's ICT ranking in Europe



Catalunya as a country would be in position N^o 11
and over 6% of EU countries average

smartCATALONIA

@TIC #smartcat

www.smartcat.gencat.cat