

Innovation: the driver for urban transformation



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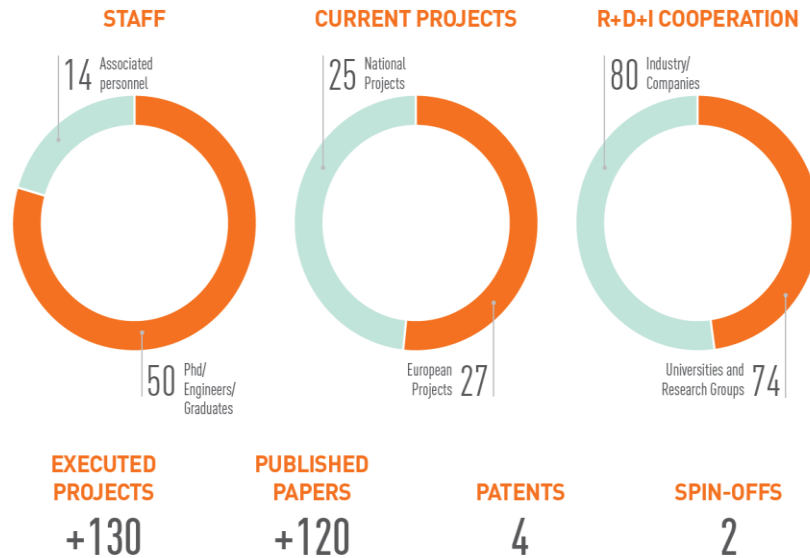
Content

- **i2cat at a glance**
- The momentum
- Global trends



i2cat is a non-profit **Research and Innovation Centre** which promotes **mission-oriented** R+D+i activities on **advanced Internet** architectures, applications and services

i2CAT IN FIGURES



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 **CISCO**

 **FUJITSU**

 **interoute**
from the ground to the cloud

 **JUNIPER**
NETWORKS

 **MEDIAPRO**

 **orange**

 **cellnex**
driving telecom connectivity

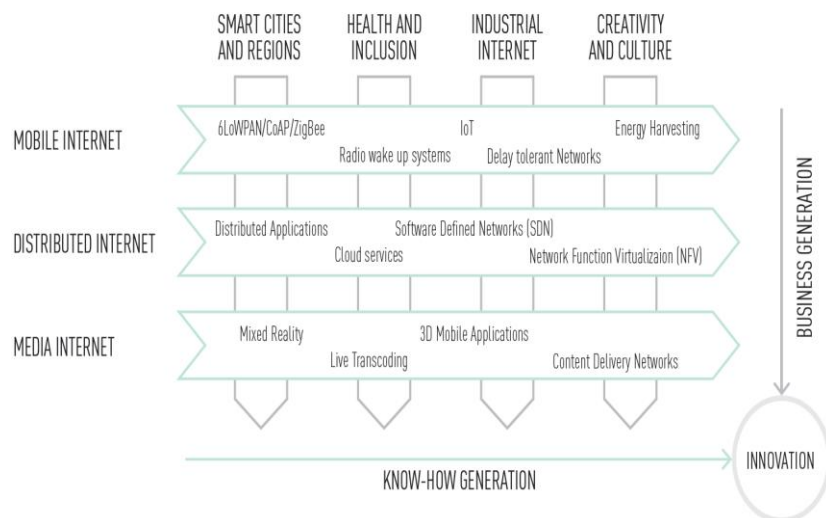
 **upf.** Universitat Pompeu Fabra
Barcelona

 **Universitat Ramon Llull**

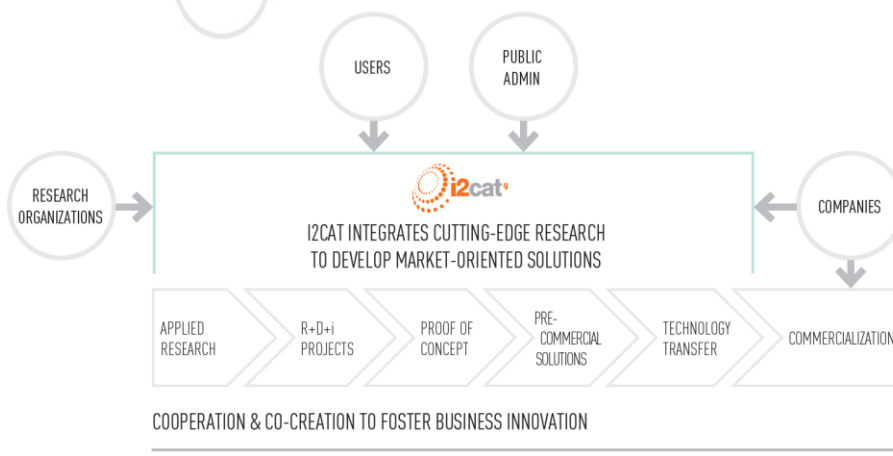
 **vodafone**

 **EPSON**

i2CAT FOCUS



i2CAT VALUE CHAIN



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The momentum

Migration from rural to urban areas



The digital revolution:
the Internet Era

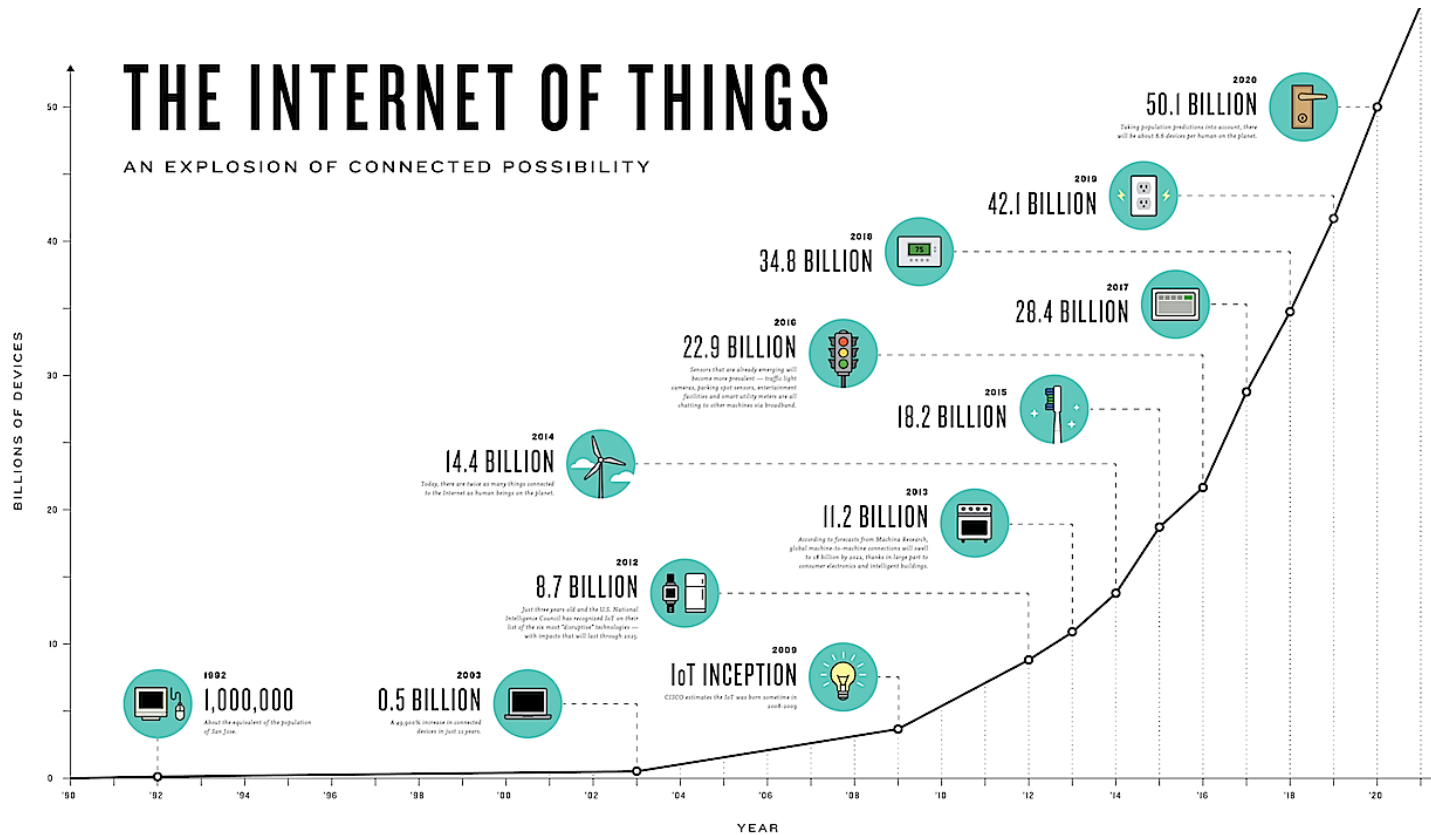
21st century – The cities' century

- Nowadays **more than 50%** of the world population lives in **urban areas**
- These cities are responsible for **70% of the worldwide energy consumption**, and at the same time they are responsible for **70% of greenhouse gases emissions**
- By **2050** almost **70%** of the world's population is projected to be **urban**.
- Today the **32% of the urban population** in non-developed countries **live in slums**



Conversion of urban areas into ***smart cities*** will be required to avoid environmental overexploitation and to preserve and expand the welfare standards of developed societies.

The Internet of Things



Source: Cisco

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Energy

- Urban Micro/Minigeneration of energy
- Integration of energy production systems in buildings
- Creation of smart grids
- Introduction of energy efficiency criteria in buildings and in public services

Environment and natural resources

- Water – Smart metering
- City sensing (waste management, irrigation solutions,...)
- Energy valorization

Transport and mobility

- Electric vehicles.
 - Comprehensive mobility plans.
 - Carpooling or Carsharing.
 - Connected Vehicles and V2x communications
 - Sensoring (traffic density, car park places...)
-

ICT

- Telecommunication networks (Software Defined Networks, Small cells)
- Smart Cyber-Physical Systems
- Massive processing of gathered data (Big Data)
- M2M communications and the IoT

Smart Cityzens

- **More active, highly involved citizen**, both towards administration and towards other citizens.
 - **Open Data**: fostering public and free availability of information
 - Applications to promote Citizen-Local Administration interaction
 - The citizen as a sensor for the generation of city
-



Fostering your innovation

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