

HETEROGENEOUS
TECHNOLOGY
ALLIANCE

**EUROPEAN
LOW-POWER, SMART AND SECURE TECHNOLOGIES
IN THE AGE OF HYPERCONNECTIVITY**

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CEO, CEA-LETI





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LETI IN NUMBERS



Since **1967**



1,800 people



64 startups



2,763 Patents



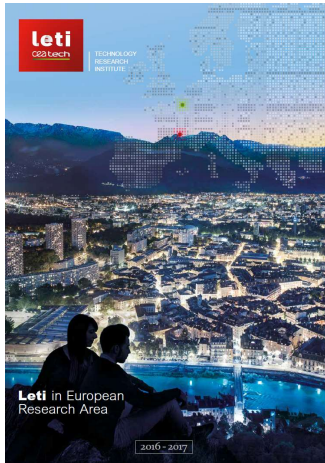
315 total budget (M€)



350 Industrial Partners



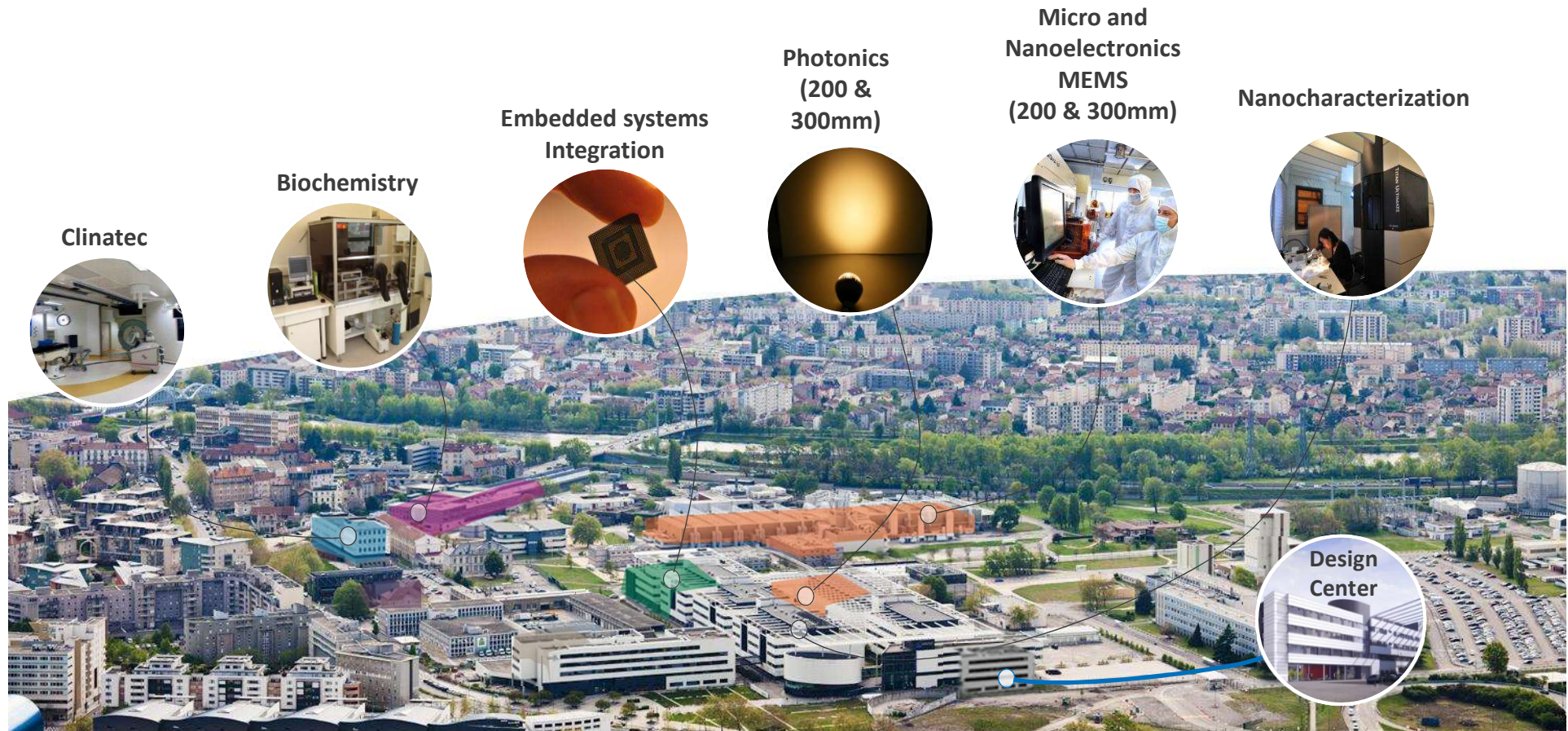
8,500 m² clean-room space
200-300 mm



125 European projects



World-class infrastructures and platforms





**HPC,
servers, μservers**

Hyperconnectivity

Diversification

Scaling

**Environment
Food industry,
agriculture**

**Safety,
Defense**

Industry 4.0

Spatial

Smart cities

Consumer electronics

Telecom

Transport

Connected Health

**Energy,
Power
conversion**

Components

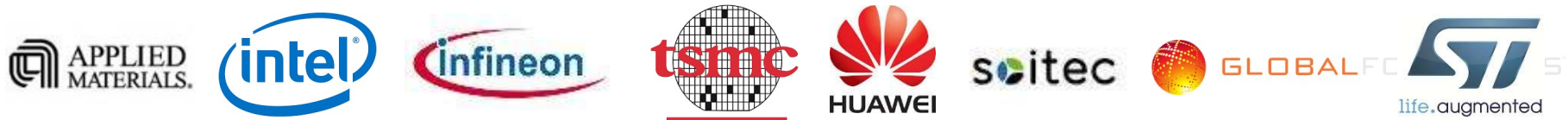
- Microelectronics / FDSOI
- Sensors / actuators
- Imagers
- Photonics
- Front End RF
- 3D integration
- Power Electronics



Systems

- System design
- Embedded Software
- Safety and cybersecurity
- Telecom
- Communicating objects
- Medical Devices

Components : Our key worldwide partners



Equipment



Electronics



Energy



Communication
5G, RF



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Systems : Our key European and national partners



Multi-sensors



Interface



Energy



Digital platform



Cyber-security

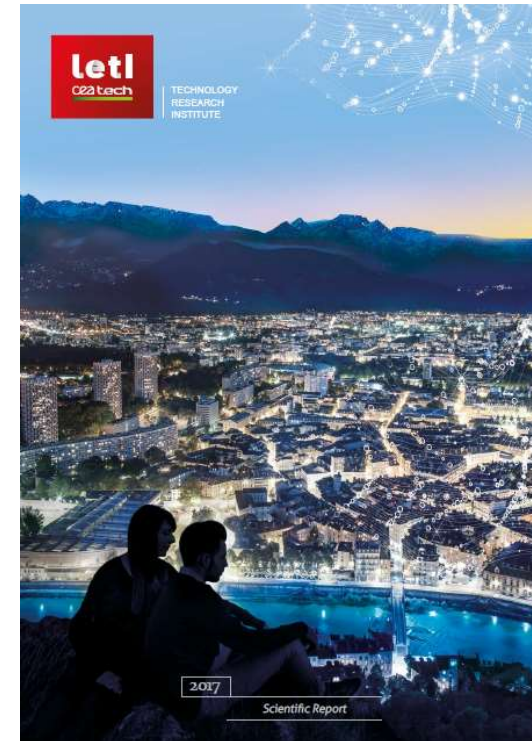
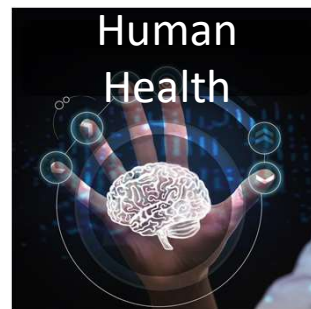
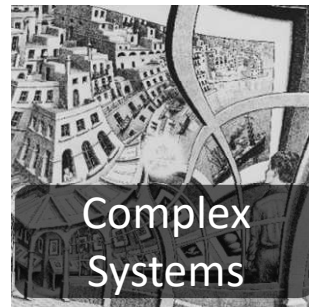


Communication
5G, RF

OUR 5 - 10 YEAR VISION



5 Key domains :





SOI: ECOSYSTEM AND VISIONARY INNOVATION PARTNERSHIPS



- Soitec was created in 1992 by 2 researchers from Leti.
- They pioneered to the development of PD- and FD-SOI CMOS within a full ecosystem

FDSOI is an enabling platform for low-power and low-cost applications

RF SOI is a reality

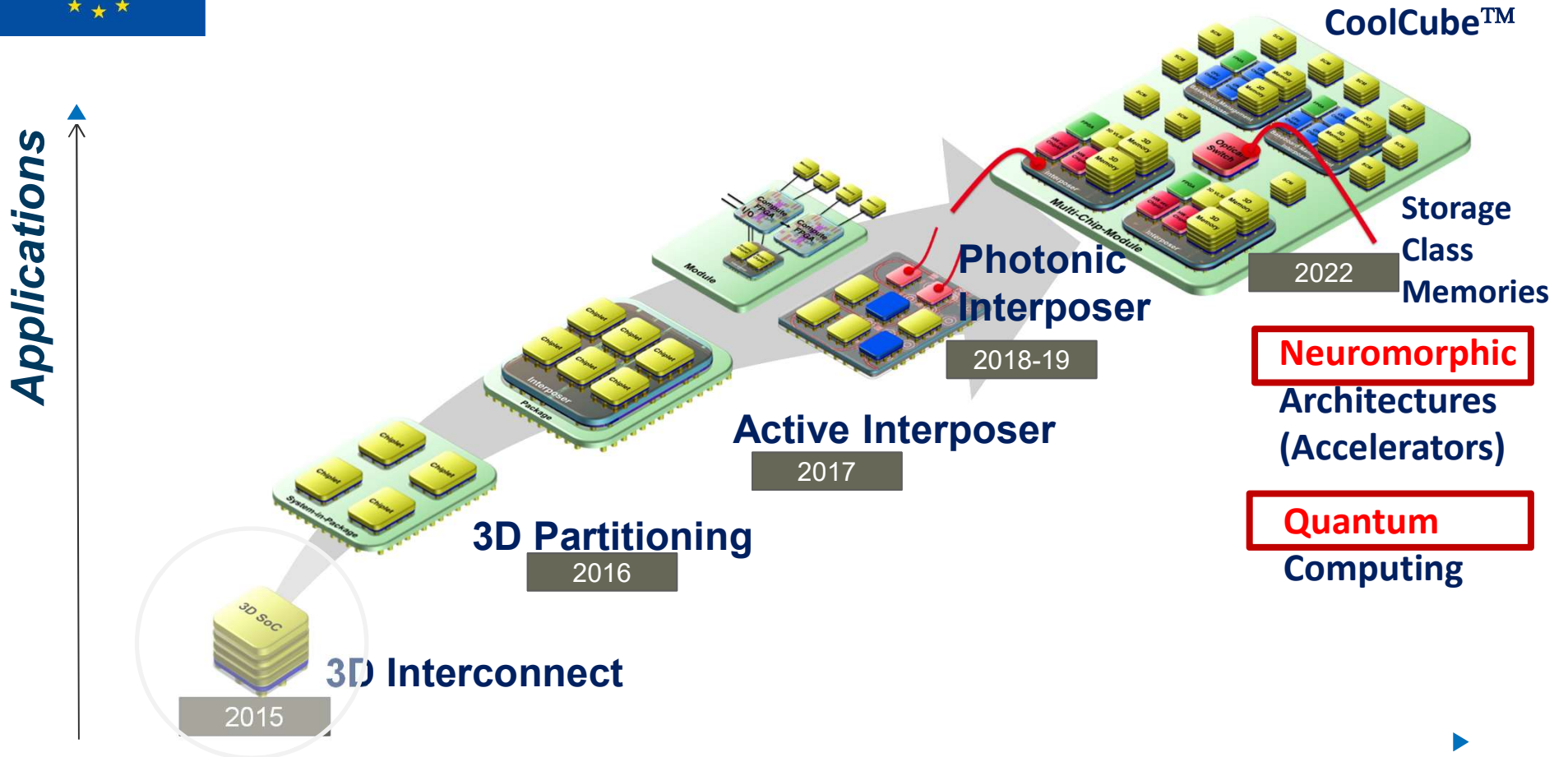
Through European and National funding, SOI roadmap will continue to move ahead !

- Places 2 be
- WayToGoFast
- Ocean 12
- Reference



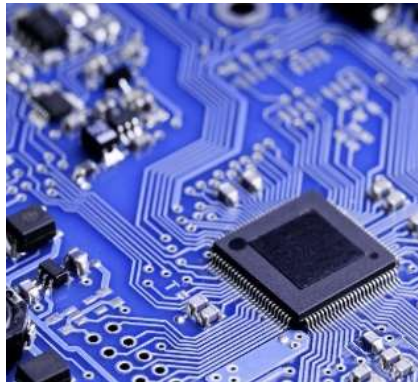


DEMONSTRATOR ROADMAP



Emerging Technologies

4 Key Segments :



Advanced Data & Computing

Exponential
Growth in Data Volume
+ 60% /year



Advanced Communication & Cyber-security

Cybercrimes x5
2013-2017
Cost > 265B€ / year



Advanced applications for new mobility

From IoT to IoE



Be bio-inspired & new e-Health

Personalized Medicine
Smart Medical Devices

5G: EUROPE-ASIA JOINING FORCES



H2020 PROJECTS

5G, Smart Cities,
IoT, Big data...



Korea
Japan
Taiwan
China



KNOWLEDGE
CAPITAL



1919
CREATES GLOBAL SPIRIT

財団法人 資訊工業策進會
INSTITUTE FOR INFORMATION INDUSTRY

SUCCESS STORY: 5GCHAMPION

- > Teams Built **World's 1st State-of-the-Art Terrestrial Wireless Communication System**
- > Including Disruptive Satellite Communication



****PRESS****



“At best, what will be demonstrated are some early lab prototypes that will look roughly similar to what 5G standards will eventually incorporate”



That's what you can expect next month at the Winter Olympics in Pyeongchang, if South Korea's telecommunications companies are to be believed. KT Corp. (formerly Korea Telecom), the Games' official sponsor, has announced plans for the first big test run of networking technologies that could herald peak download rates up to 100 times as fast as today's 4G systems, with delays as low as 1 millisecond.

Not to be outdone, KT's competitors SK Telecom and LG U+ are preparing their own 5G Olympic demos. Meanwhile, the South Korean government and the European Union have teamed up to fund still another trial, dubbed 5G Champion, that will include a broadband link between the Olympic Games and a 5G test-bed in Finland.



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LETI UPCOMING EVENTS



MICROELECTRONICS
EMPOWERING TECHNOLOGICAL REVOLUTIONS
& NOVEL USE-CASES

Conference & Exhibition

July 4-5th, 2018

Grenoble

Maison Minatec

www.leti-innovation-days.com



EIH-DAY
June, 13th 2018

Grenoble
Maison Minatec

Save the date!

From Space to Biomedical Imagery

- Brain disorder affects **+165 M people** & costs **€800B/Year** (Europe)
- Leti's Quantum sensor
 - > is maintenance free
 - > eliminates the need for cryogenic cooling
 - > will democratize magneto-encephalography reducing cost from 2.7M€ to 0.4M€



**Wins Best Early Stage
Innovation Award**
from European Commission



Towards TVWS adoption

« Super Outdoor WiFi »

- **Giving Everyone Internet Access, Everywhere**
 - > even citizens located in remote
 - > or Boats navigating along the coast
- **Wireless broadband technology** avoiding spectrum shortage
 - > Overcomes the shortcomings inherent in conventional technologies for 4G or WiFi
 - > @Lower-cost

