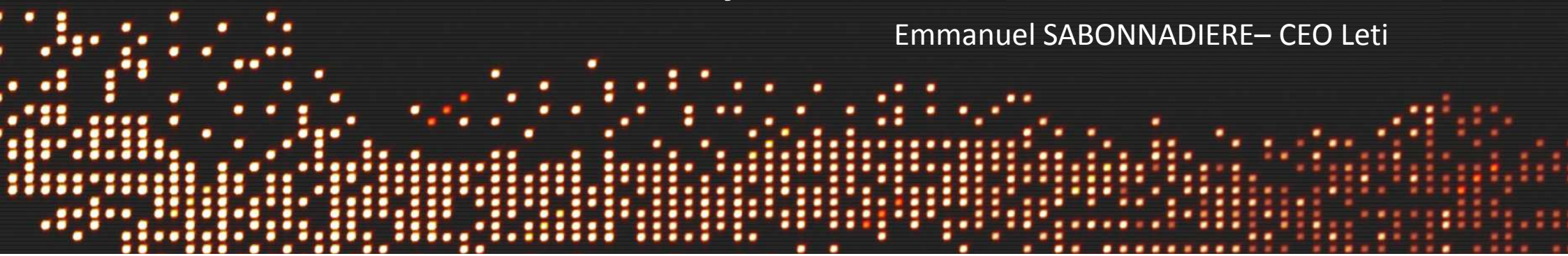




Welcome to Leti, Institute of Innovation

Emmanuel SABONNADIÈRE – CEO Leti





Welcome: Leti celebrates 50 years of innovation

> Leti CEO

RF Devices: breakthroughs thanks to new materials

> Jean-René Lequepeys
Leti Executive VP Silicon Components Division

Power Devices: a new era of energy conversion with GaN

> Léa Di Cioccio
Leti Scientific Advisor

New Sensors: emerging concepts at nanoscale

> Thomas Ernst
Leti Chief Scientist for Silicon Components and Technologies

3D Technologies: a smart way to enhance performance

> Perrine Batude
Leti 3D Sequential Integration Technical Expert

Si Photonics: latest innovations creating new markets

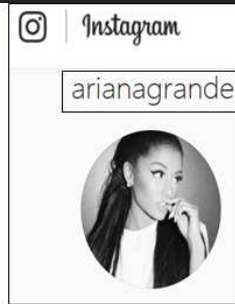
> Bertrand Szelag
Project Manager Silicon Photonic Devices

Special Keynote: Perspectives on Enabling Connected Intelligence through a More than Moore Roadmap

> John Pellerin
Deputy CTO and Vice President of Worldwide R&D, GLOBALFOUNDRIES



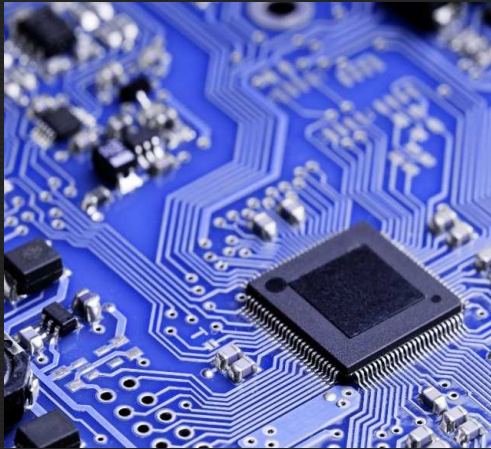
WHAT'S NEW IN OUR INDUSTRY?



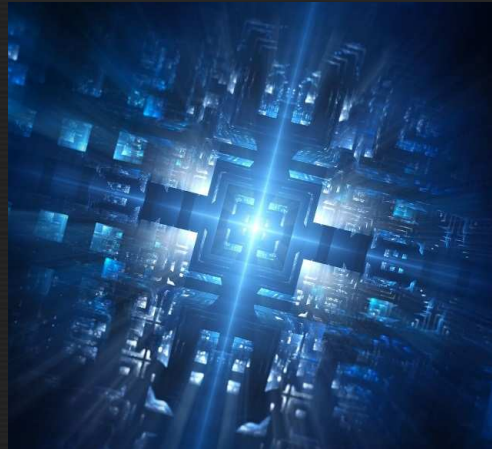
THIS IS ILLUSTRATING SOME OF THE KEY BREAKTHROUGHS IN TECHNOLOGIES



MICROELECTRONICS



ARTIFICIAL INTELLIGENCE



AUTONOMOUS VEHICLES



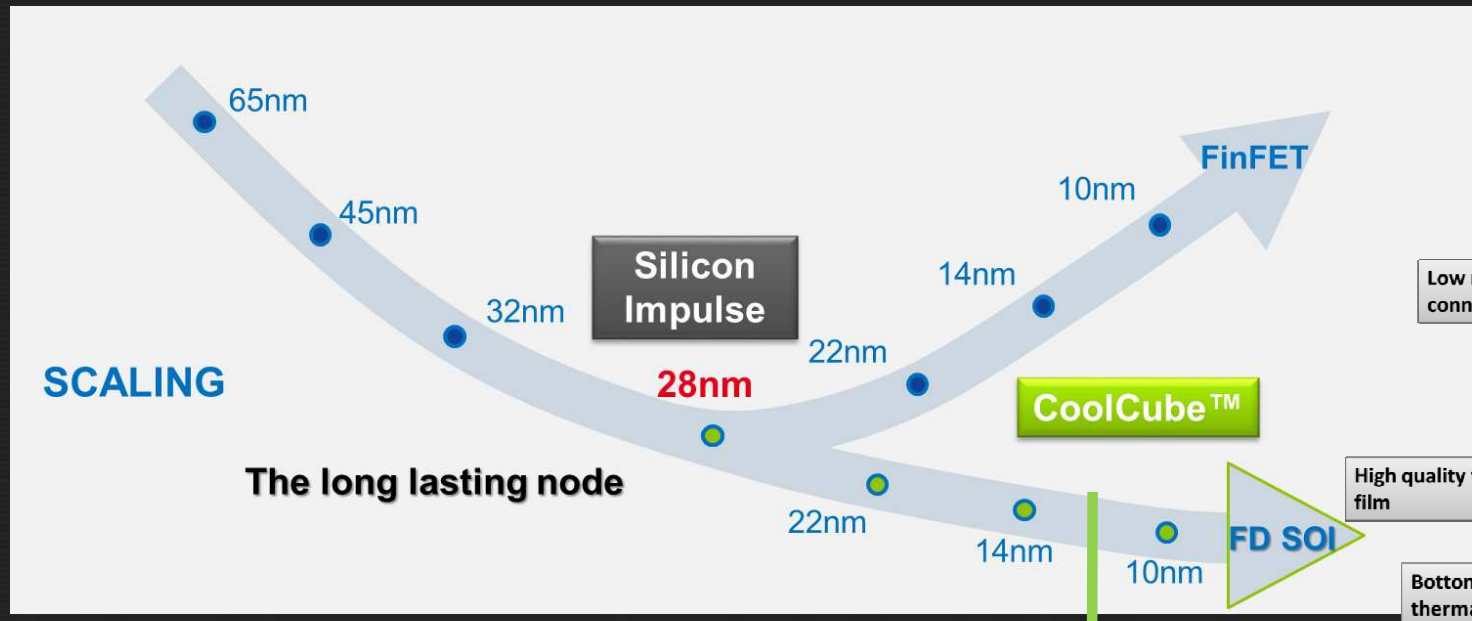
HEALTH & BIOLOGY



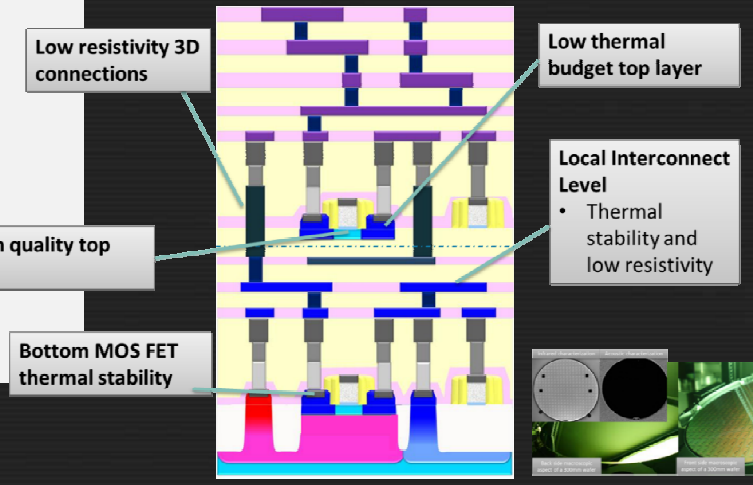
« MORE MOORE » TRENDS TOWARD MORE PERFORMANCE SUPPORTED BY MORE 300 MM



Si Quantum bits
Nanowires

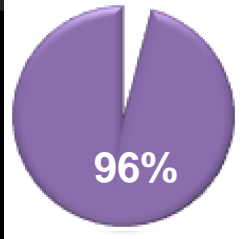




3D architectures



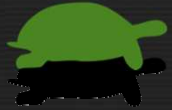


Memory wall Execution time



Memory Access 
Compute 

Interfaces



PCM
Storage Class Memory
(enhanced Flash)

MRAM
NV-SRAM

RRAM
Hybrid Memory

CoolCube™ + RRAM/PCM
Computing and data stored in a single die (non-volatile processor)

Far

Near

ARTIFICIAL INTELLIGENCE IS STIMULATING SMART DEVICES



TODAY

TOMORROW

AFTER TOMORROW

Cloud
Computing

Supervised Learning
+ Inference

Supervised Learning

Data-centric Computing

Embedded
Computing



Signal Capture

Inference



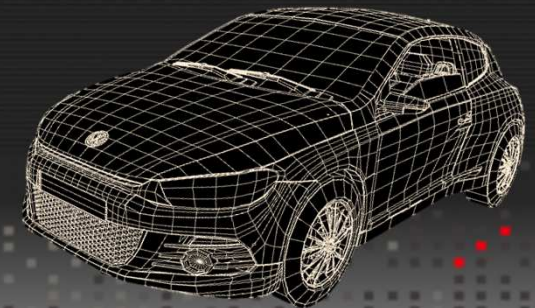
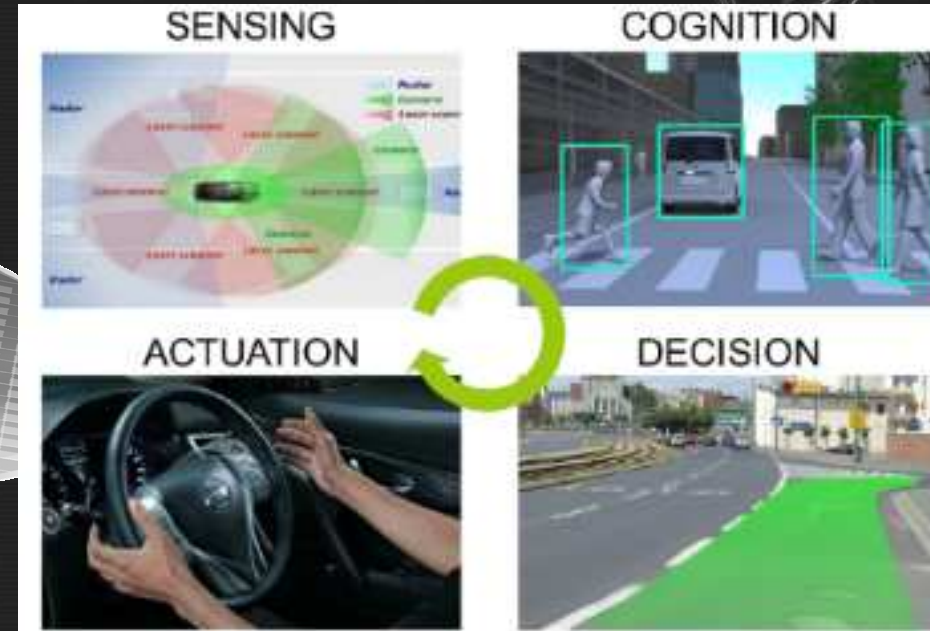
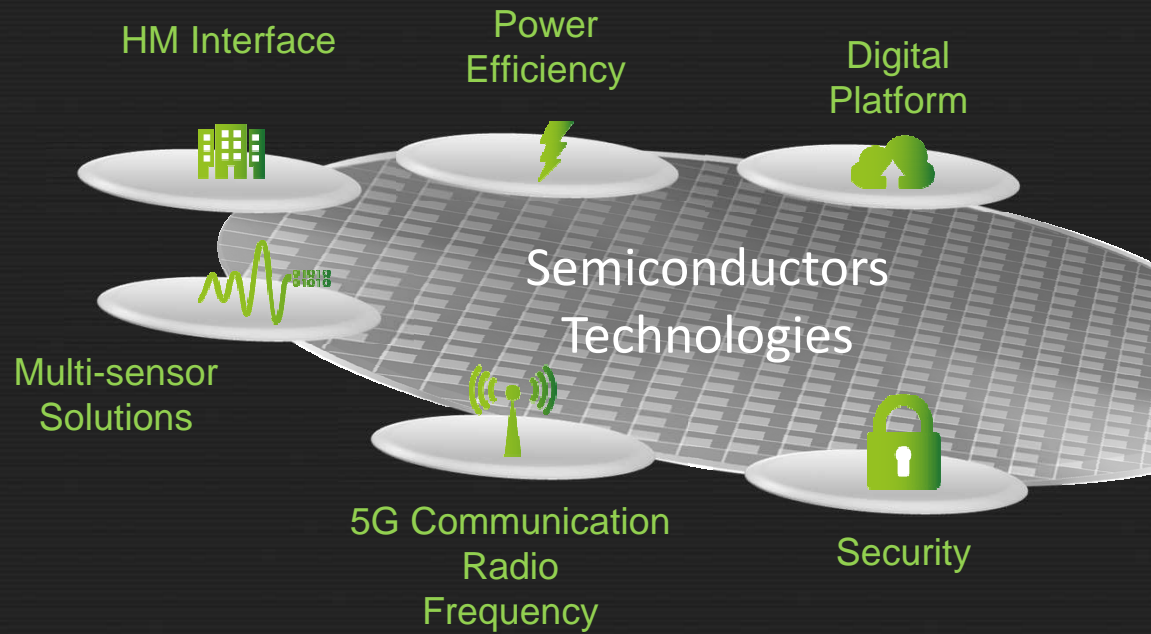
Environment Awareness
and Data Fusion

Non-supervised
Learning Inference



Bio-Inspired Approach
Learning Through Interactions

SMART ARCHITECTURES FOR SMART DEVICES



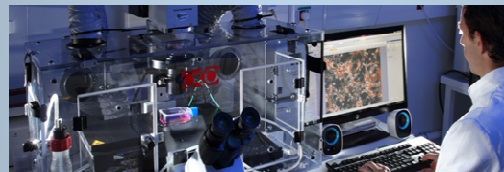
LETI IS CLOSELY COMBINING MICROELECTRONICS, AI AND BIOLOGY



IN LETI, A UNIQUE MODEL IN A MULTIDISCIPLINARY ENVIRONMENT



TECHNOLOGISTS



BIOLOGISTS



CLINICIANS

INNOVATIVE TECHNOLOGIES & DATA PROCESSING FOR NEW HEALTHCARE SOLUTIONS

DIABELOOP :
*the world's first portable
artificial pancreas...*



BCI PROJECT :
*get quadraplegics
walking, tomorrow*



THE CLINATEC ENDOWMENT FUND



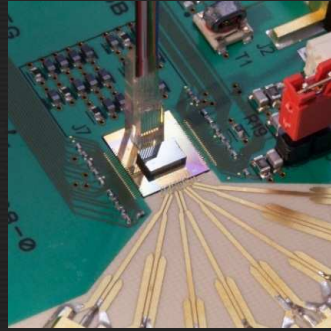
A UNIQUE & FRUITFUL COMBINATION OF WORLD-CLASS LABS & EXPERTS AT LETI

Technologies and treatment for information and communication

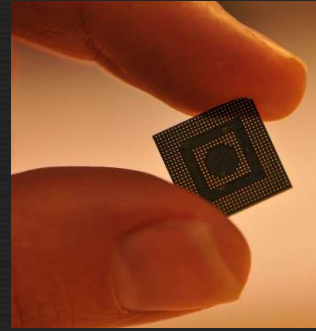
MICRO & NANO ELECTRONICS



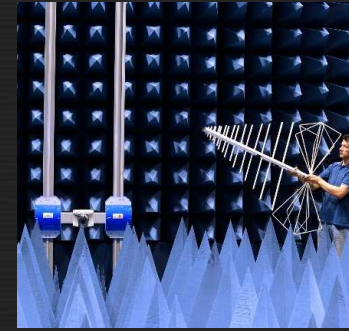
PHOTONICS



EMBEDDED SYSTEMS DESIGN



SENSORS NETWORK & SMART DEVICES



SOFTWARE & DATA



Cyber Security



Micro Energy



Health & NanoBioTechnology



Nano Characterization



leti
cea tech

50
1967-2017

AN ECOSYSTEM OF PIONNEERS IN GRENOBLE AND ACROSS THE GLOBE



INSTITUT
CARNOT
Leti



FRENCH TECH VISA
Innovation Fund of € 10bn





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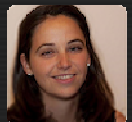
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Bertrand Szelag, PhD



***Invited*: Perspectives on enabling connected intelligence through a More than Moore**

John Pellerin – Deputy CTO and VP of Worldwide R&D, GLOBALFOUNDRIES, PhD

