Ecosystem Discovery Mission Webinar

I- STARTUP3 clusters ecosystems
South Eastern France Deeptech ecosystem

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A Digital Leading Ecosystem in the South of France

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Agenda

• Identity & Missions of POLE SCS
• POLE SCS at a glance
• The Deep Tech technological Ecosystems: major challenges and issues
• Deep Tech R&D project: example
• Growth services portfolio: focus on Private Equity fundraising
Identity & Missions

- **French Government** Label « World Class Cluster » in 2005
- **European Gold** Label Cluster since 2013

- Enhance collaborative R&D Innovation
- Accelerate the growth of startups & SMEs
- Make our digital ecosystem essential

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Microelectronics
Includes IP, components and semiconductors, microelectronics equipment, micro-packaging and assembly technologies, electronic product design

Internet of Things
Includes sensors and smart objects, connectivity technologies and services, servers and platforms, services and management, tools for objects and services

Digital Security
Includes technologies, products and services for authentication, identification, security and protection of objects, services and digital data

AI & Big Data
Includes technologies and products for big data analysis and management and Artificial Intelligence

✓ Health
✓ Smart Cities
✓ Industry 4.0
✓ Transport and Mobility
✓ Smart Vehicle
POLE SCS at a glance

AN INTERNATIONAL PANEL OF LARGE GROUPS & MID CAPS

A GALAXY OF INNOVATIVE STARTUPS & SMES

UNIVERSITIES, RESEARCH AND TRAINING INSTITUTES

ALMOST 310 MEMBERS

+ 1 BILLION € R&D INVESTMENTS

+ 250 MILLIONS € FUNDRAISING

+ 50% GROWTH STARTUPS & SMES

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POLE SCS
Microelectronics: Deep Tech technological major challenges & issues

**MAJOR TECHNOLOGICAL CHALLENGES**

- Low-power architectures
- Bioelectronics (organic electronics)
- Energy harvesting (located or not, instant or not)
- Multi-communication systems
- Heterogeneous System Packaging
- Sensors and actuators
- Printed electronics
- Microcontroller with embedded AI decision making engine
- Equipments and new materials for More Moore and More Than Moore electronic technologies

**KEY FIGURES**

- A network of 50 partners
- 40% of startups and SMEs
- 530 Million € of R&D invested in 100 R&D projects funded up to 190 million €
- 21% turnover annual growth over the past 5 years
IoT: Deep Tech technological major challenges & issues

MAJOR TECHNOLOGICAL CHALLENGES

- Miniaturization and antenna integration
- Energy controlled AI for objects and gateways
- Multiprotocol integration and aggregation
- Printed electronics for wearables
- IoT objects and solutions security
- Multifrequency antenna
- Autonomy and energy consumption management

KEY FIGURES

- A network of 150 partners
- 85% of startups et PMEs
- 324 million € R&D invested in 80 R&D projects funded up to 118 million €
- 23% turnover annual growth over the 5 past years
AI & Big Data: Deep Tech technological major challenges & issues

**MAJOR TECHNOLOGICAL CHALLENGES**

1. Capability to process and organize a large variety of data (structured, unstructured, multiple formats, ...)
2. Capability to process and organize data in real time or very quickly
3. Data volume growth: what volumes of data to process and store?
4. Data levels of trust and security

**KEY FIGURES**

A network of 80 partners

70% of startups and PMEs

100 million € R&D invested in 28 R&D projects funded up to 33 million €

28% turnover annual growth over the 5 past years

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Digital Security: Deep Tech technological major challenges & issues

**MAJOR TECHNOLOGICAL CHALLENGES**

- Customizable and adaptable security architecture development and concepts
- Integrity demonstration programs for HW, FW and SW end product components
- Light cryptography algorithm implementation, countermeasures and low energy impact protection
- IoT objects customization, key distribution, connected object lifecycle, secured update
- Post-quantum cryptography
- Security and trust for embedded AI based systems

**KEY FIGURES**

- A network of 50 partners
- 60% of startups and SMEs
- 316 million € R&D invested in 60 R&D projects funded up to 108 million €
- 19% turnover annual average growth over the 5 past years

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POLES

STARTUP3
Deep Tech R&D project example

PACLIDO-2
Light protocols and Cryptographic Algorithms for the Internet of Things

Project PACLIDO (Light Protocols and Cryptographic Algorithms for the Internet of Things) aims to make safe the Internet of Things by integration in connected objects of algorithms and light cryptographic protocols guaranteeing the confidentiality, the integrity and the authentication of the exchanged data. These innovations will bring security guarantees and of performance very expected by the actors of the field.

The case of principal use will be centered Smart City and will be approached in close collaboration with the urban area of Saint Quentin in Yvelines, partner of the project and potential ground of experimentation. The project also will be supported and advised by two other end-users: the club Climate Energy of SOY and group LACROIX.

The markets concerned are numerous and diversified, their common point being the need to integrate features of security in objects limited in resources without compromises their performances. These needs are found in particular on the markets smart city, house automation, ICS/SCADA, which correspond to the cases of use selected in PACLIDO. With that is added markets of opportunity: E-health, defense, connected industry,. Each test addresses one or more these markets according to his strategy.
Growth Services portfolio

DEVELOPMENT PRODUCTS & SERVICES
I WANT TO develop an innovation

BUSINESS PLANNING
I WANT TO access markets

VISIBILITY & BRAND RECOGNITION
I WANT TO make my startup visible

INTERNATIONAL DEVELOPMENT
I WANT TO access clients

EXPERTISE & SKILLS
I WANT TO find an expert

I NEED TO RAISE MONEY

I WANT TO DEFINE MY GO-TO-MARKET STRATEGY

I WANT TO REACH OPERATIONAL EXCELLENCE

NETWORKING BTOB

MEDIA COVERAGE

PROMOTION

INTERNATIONAL TRADESHOWS AND WORLD CONGRESSES

INTERNATIONAL MISSIONS

LARGE WORLD CORPORATES
**Focus on Private Equity fundraising**

<table>
<thead>
<tr>
<th>Plan Description</th>
<th>Duration</th>
<th>Cluster Resources</th>
<th>External Resources</th>
<th>Cost for the SME</th>
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</thead>
<tbody>
<tr>
<td><strong>Private Equity Pass</strong></td>
<td>2 days over a period of 3 months</td>
<td>1 Senior Expert</td>
<td>N/A</td>
<td>1 000 € + success fees</td>
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<tr>
<td><strong>Private Equity fundraising Program</strong></td>
<td>7 days over a period of 6 months</td>
<td>1 Senior Expert</td>
<td>2 Senior Experts</td>
<td>5 400 € + success fees</td>
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</table>
Added Value & Examples

FOR ENTREPRENEURS

✓ ACCESS TO HIGH LEVEL EXPERTS TO BE PREPARED
✓ VALUABLE FEEDBACKS ABOUT THE PROJECT
✓ FULLY PREPARED STRATEGY AND DOCUMENTATION TO DISCUSS WITH INVESTORS
✓ NATIONAL CERTIFICATION
✓ ACCESS TO 25 INVESTORS
✓ COST EFFECTIVE PROGRAMME

Seed and A series only

<table>
<thead>
<tr>
<th>60 SMEs certified</th>
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<tr>
<td>25 millions € fundraising</td>
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<tr>
<td>40% success rate</td>
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<td>Average of 1M €</td>
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1 Million € fundraising
Software for Big Data, distributed computing
Deep tech challenges on Computing capabilities for the IoT/Al & Big data / Cloud

5.2 Million € fundraising
Software for medical imaging for faster diagnosis
Deep tech challenges on Big Data, AI & Deep learning algorithm

27 Million € fundraising
Electrode material for ultra-fast carbon battery for electrical storage
Deep tech challenges on Energy harvesting, autonomous & Energy consumption

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Thank you!

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