ascent
European Nanoelectronics Access

ASCENT Overview

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Tyndall National Institute
imec
cea leti

ASCENT Objectives

ASCENT will:

- Leverage Europe’s Unique advantage in nanofabrication to strengthen modeling and characterisation research community
- Accelerate development of advanced models at scales of 14nm and below
- Provide characterisation community with access to advanced test chips, flexible fabrication and advanced test and characterisation equipment
- Make project outputs available and easily accessible to nanoelectronics research community

ASCENT offers simplified access to advanced technology and research infrastructure

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ASCENT PARTNERS

mobilising European capabilities like never before

Tyndall National Institute

- Flexible nano-fabrication facilities for nanowire transistors and contacting to 2D materials
- Advanced nanowire and nanoelectrode test structures
- Electrical and nano-characterisation platforms

cea leti

- State-of-the-art 14nm FDSOI CMOS
- Advanced transistor and interconnect test structures
- Electrical and nano-characterisation platforms

imec

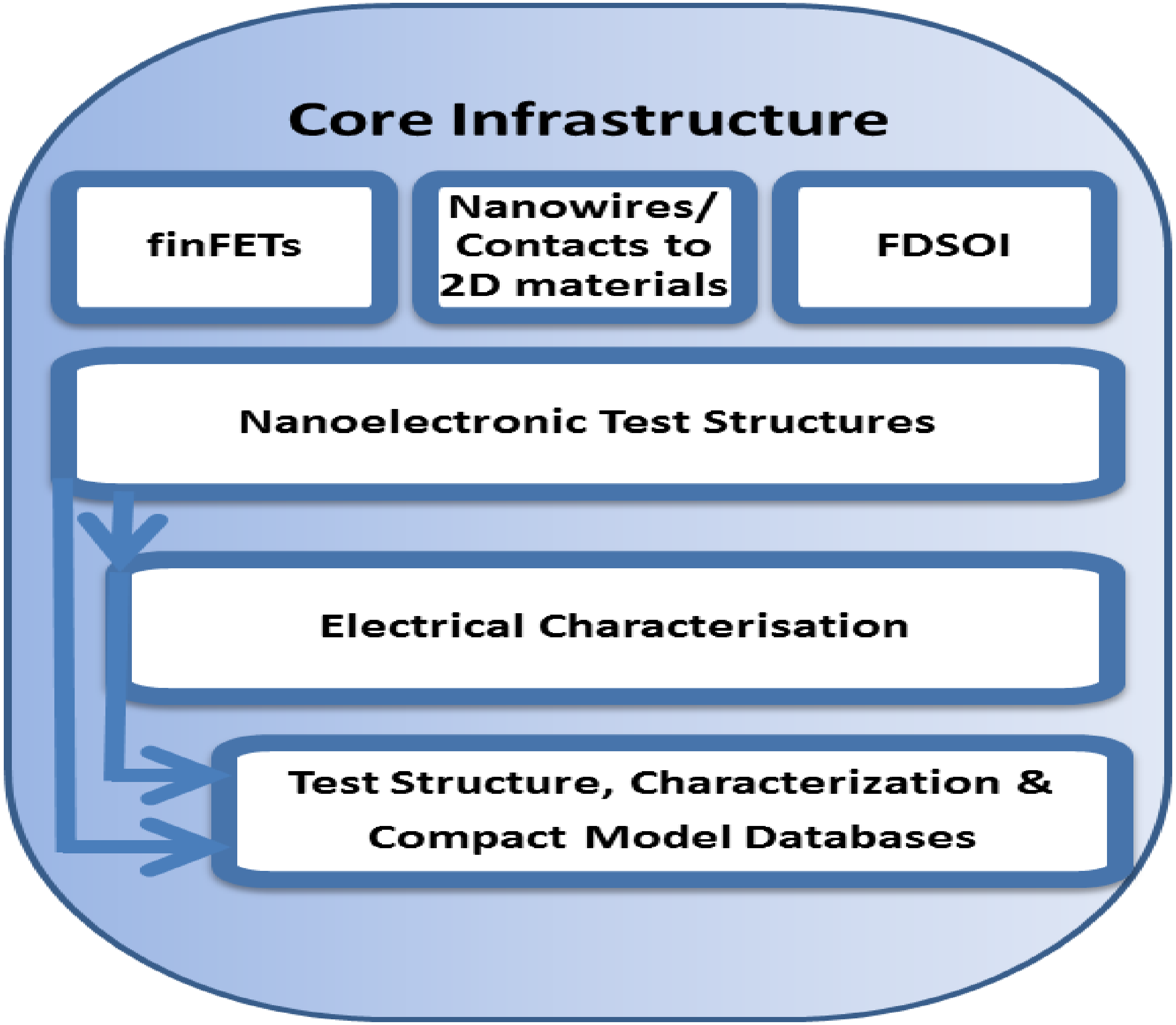
- State-of-the-art 14nm finFET CMOS
- Advanced transistor and interconnect test structures
- Electrical and nano-characterisation platforms

ASCENT PROVIDES

- Fast and easy access to the world's most advanced CMOS technologies and infrastructure.
- Access to 14nm CMOS device data, nanoscale test chips and characterisation facilities in Tyndall National Institute (Ireland), CEA-Leti (France) and imec (Belgium).
- Opportunity to share best scientific and technological practices, form a knowledge – innovation hub, train new researchers and establish a nanoelectronics research network.
- Interface to global industrial leaders in nanoelectronics

www.ascent.network

ASCENT Core Infrastructure



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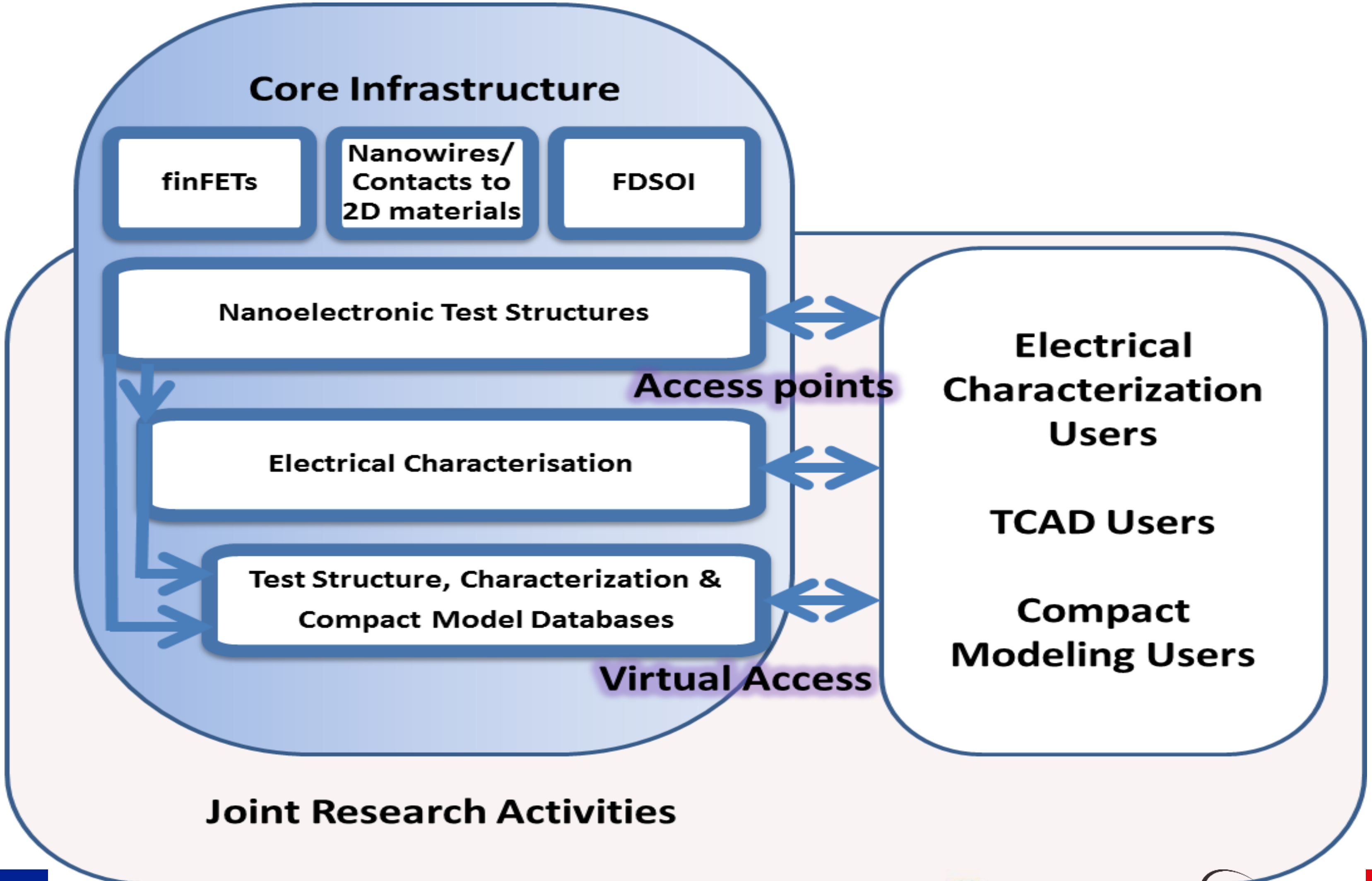
ASCENT Interface Points



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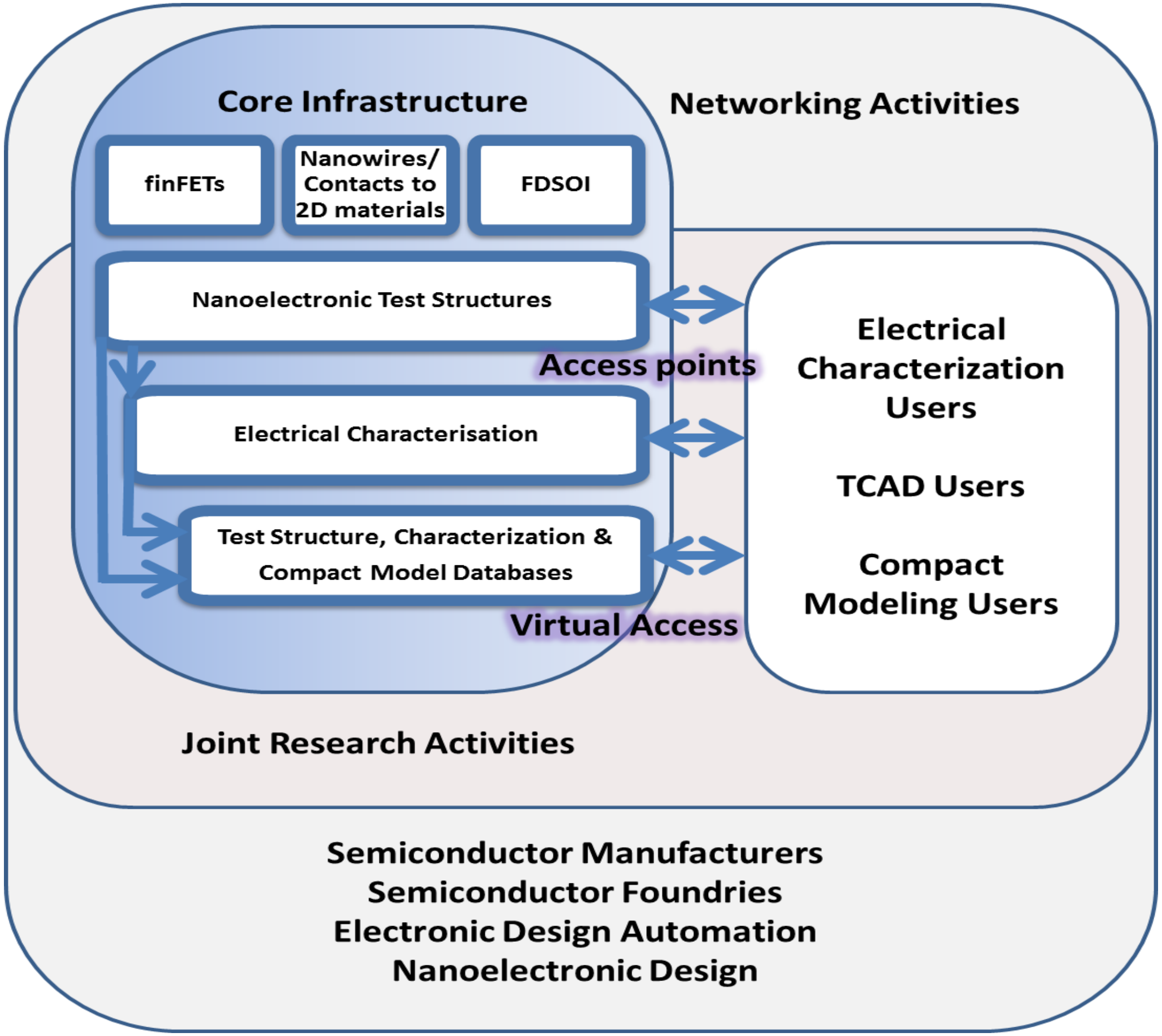
ASCENT Wider Network



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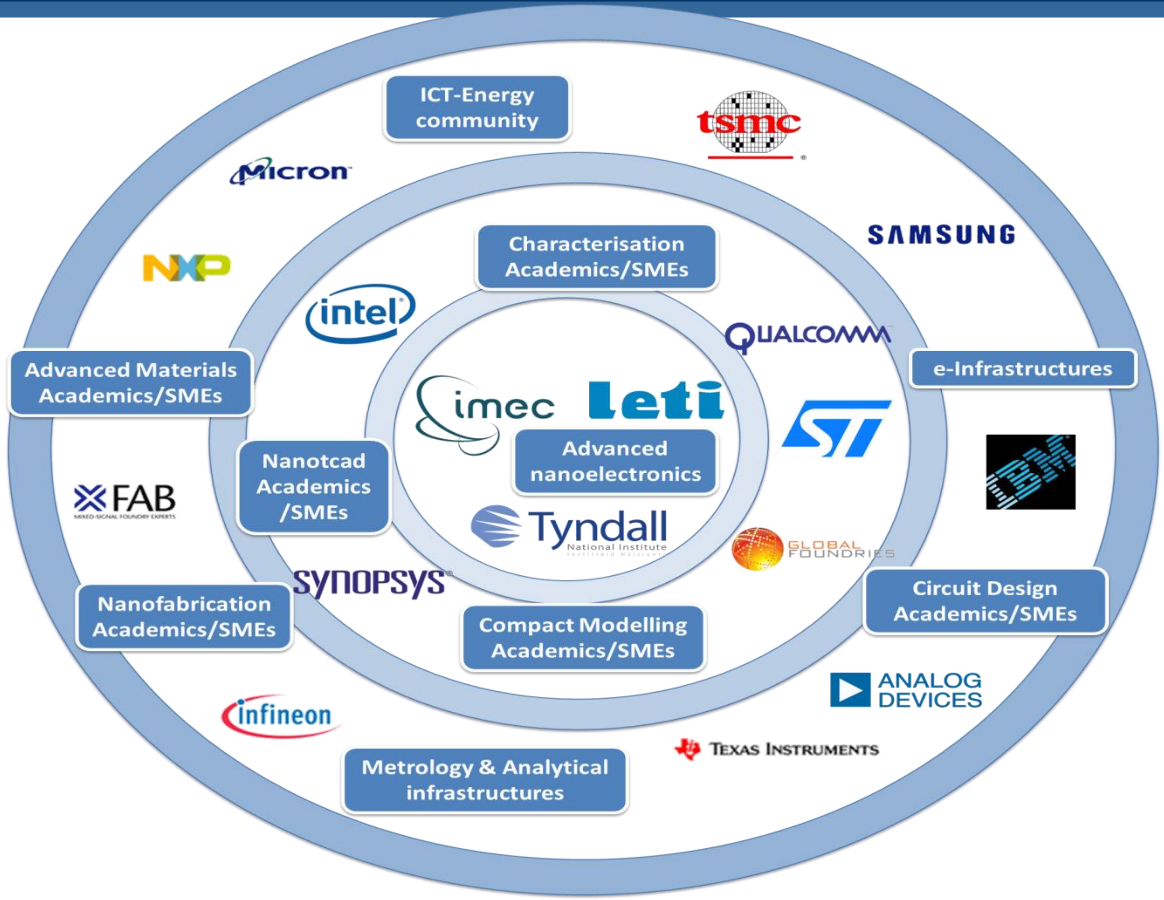
ASCENT Wider Network



- Centre circle = ASCENT nanoelectronics infrastrucure
- Middle circle = ASCENT nanoelectronics academic and industry community
- Outer circle = Wider potential impact on European research

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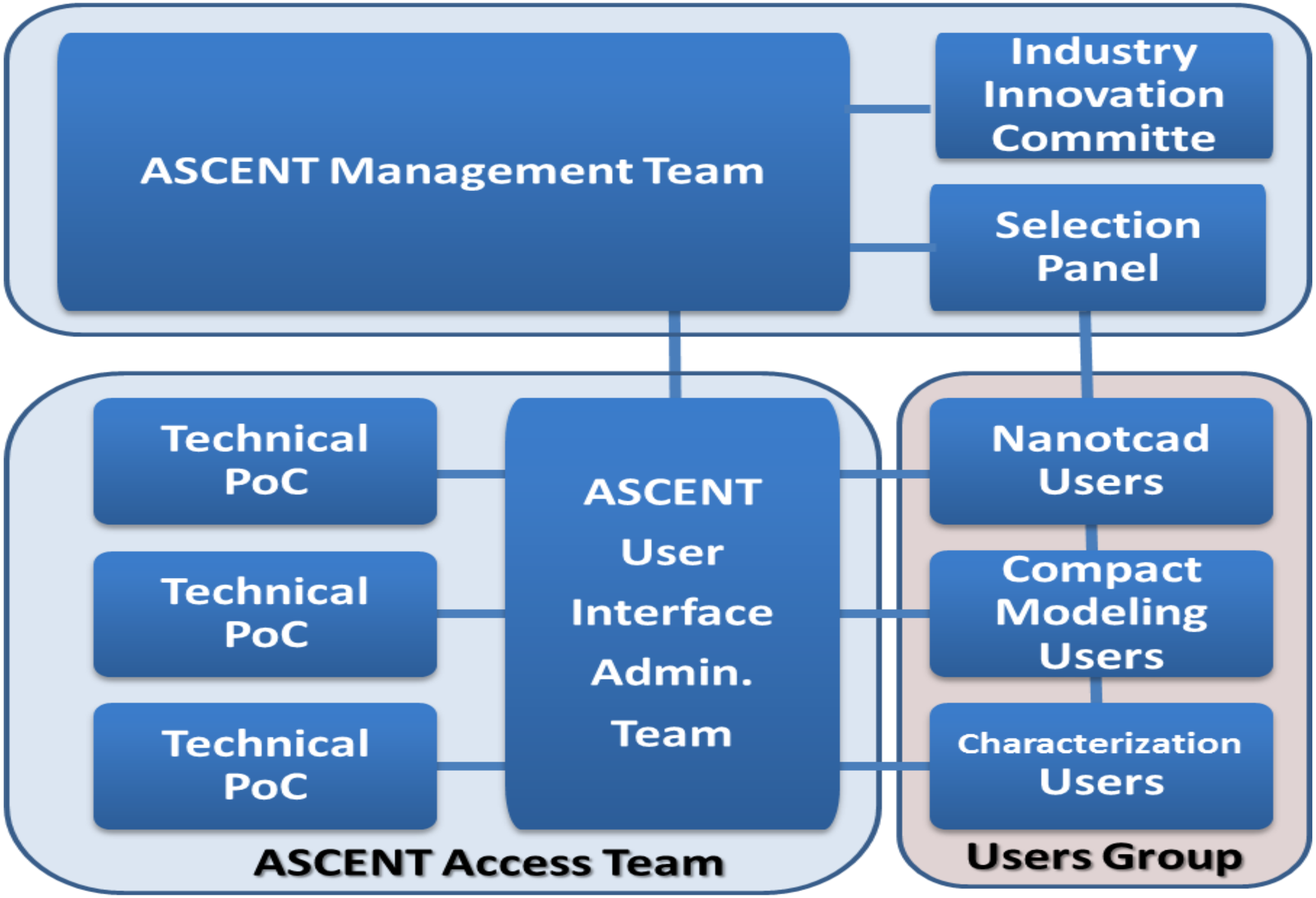
ASCENT Organisation Structure



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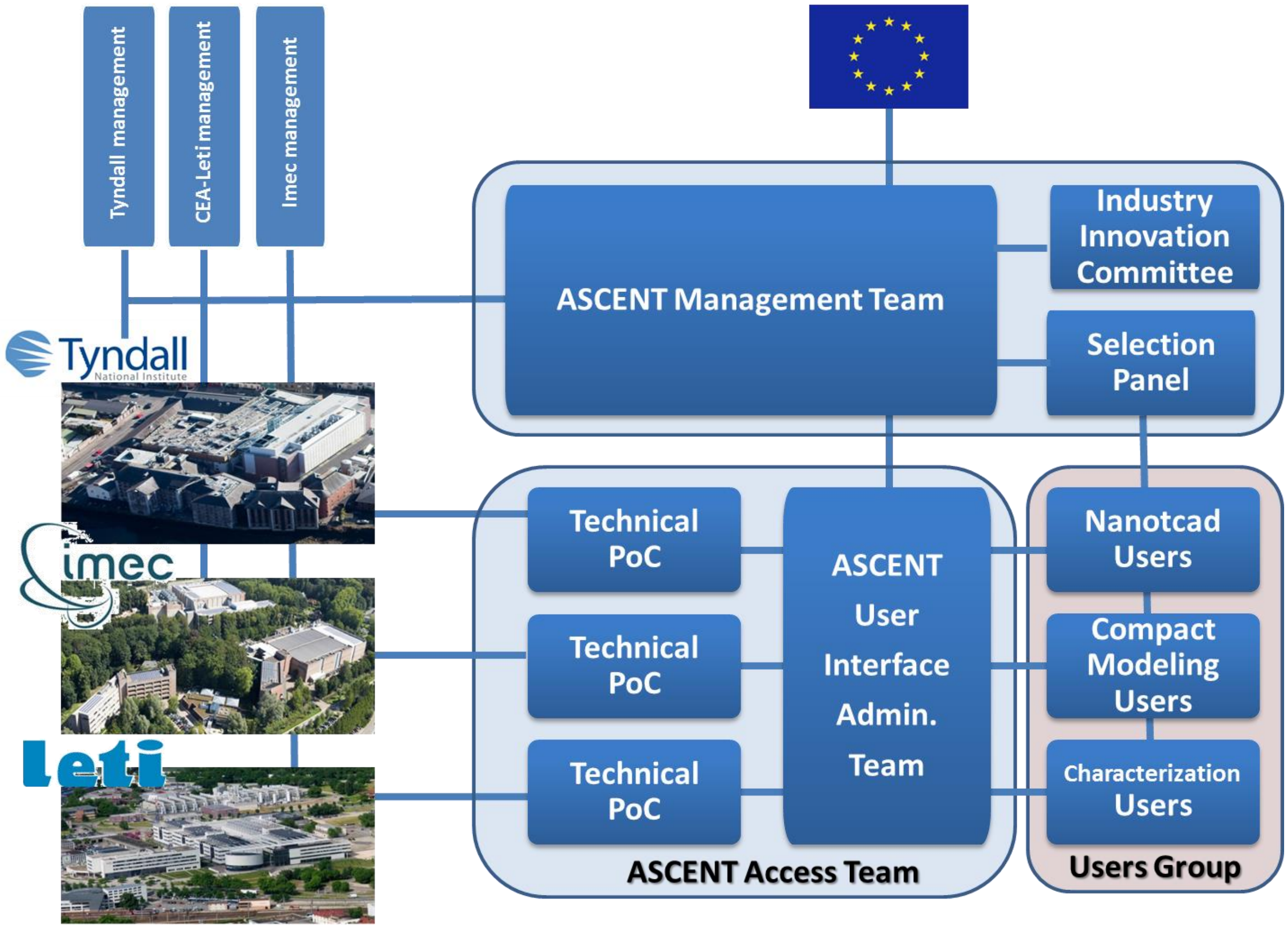
ASCENT research infrastructure

The combined resources of Tyndall, Imec and CEA-Leti nanofabrication capabilities and electrical characterization facilities integrated into a single research infrastructure present a truly unique opportunity



State-of-the-art 14 nm FDSOI CMOS

Advanced transistor and interconnect test structures

Electrical and nano-characterization platforms

State-of-the-art 14 nm finFET CMOS

Advanced transistor and interconnect test structures

Electrical and nano-characterization platforms

Flexible fabrication facilities for nanowire transistors and contacting to 2D materials

Advanced nanowire and nanoelectrode test structures

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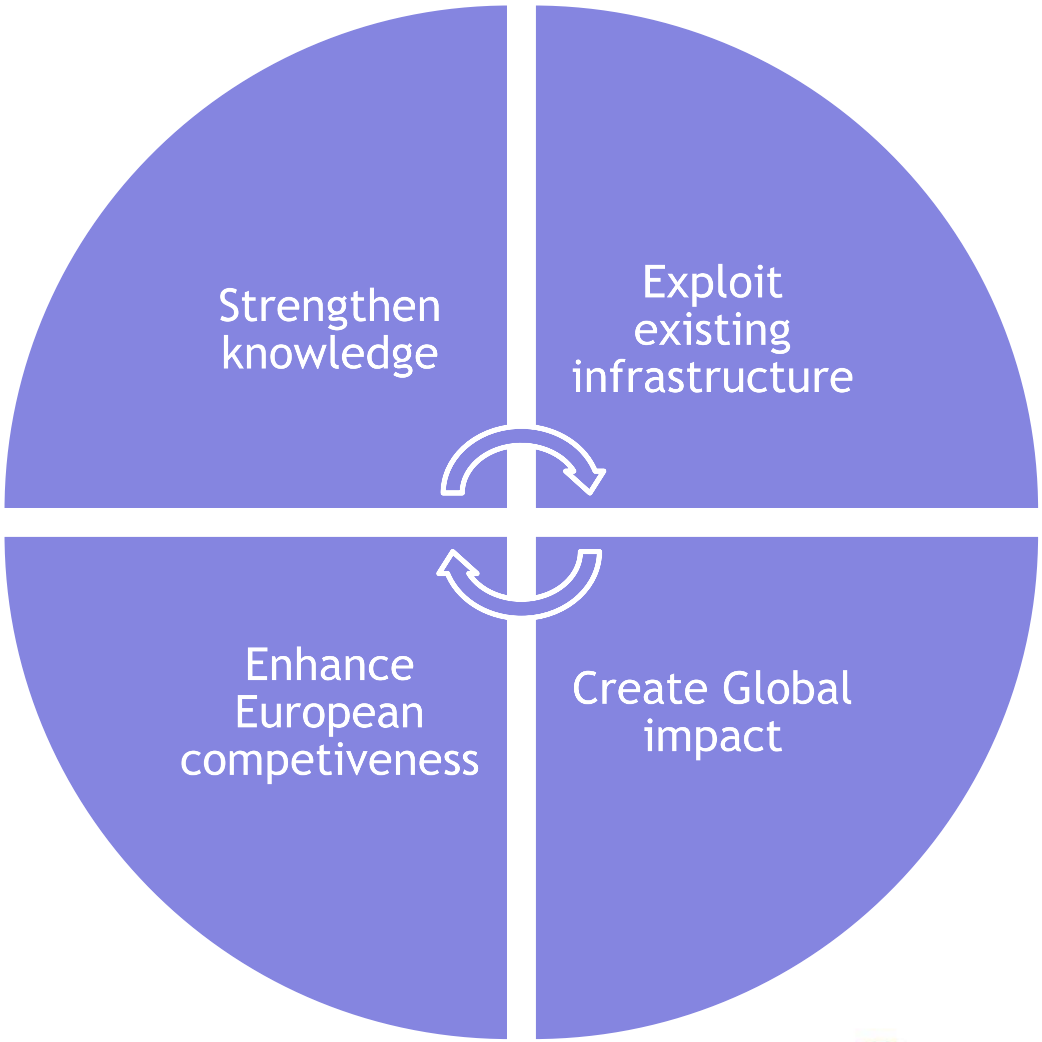
ASCENT Impacts



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ASCENT Impact: Knowledge

Strengthen knowledge

- Share best scientific & technological practice
- Form a knowledge and innovation hub
- Train new researchers on advanced technologies
- Enable researchers to realise innovative ideas at forefront of technology
- Enable development of new technologies and shared methodologies
- Allow design and modelling community to benchmark their new developments against state-of-the-art technology
- Share knowledge as results will be fully communicated to wider community

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Tyndall National Institute imec cea leti

ASCENT Impact: Exploit existing Infrastructure

Exploit existing infrastructure

- Exploit over €2billion capital investment
- Avoid duplication of expensive infrastructure
- Enable international collaboration in advanced technologies
- Build networking activities within nanoelectronics community
- Assemble critical mass of people, knowledge and investment in nanoelectronics

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ASCENT Impact: Enhance Competiveness

Enhance European competiveness

- Keeps Europe at forefront in device modelling and design
- Accelerates technology development through creation of an innovation ecosystem
- Strengthens European competiveness and opportunities for growth
- Attracts and maintain advanced modelling, design and device manufacturing in Europe
- Enables delivery of first-mover advantage in this domain

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ASCENT Impact 4: Global Impact

Create Global impact

- Globally unique opportunity
- Ambition to maintain world leadership in this domain
- World-wide dissemination policy to academic, industrial and general public communities

Easy Access

Sign Up

- Free sign up as member
- Discuss with coordinator / technical POC

Apply

- Apply for access to data, chips or equipment
- Selection Panel decides on access

Access

- Access world-leading nanoelectronics technology
- Contribute to Joint Research Activities

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Access Team will Support You:

Overall Access Team Objectives:

- Define an easy access model for the User Community
- Generate data libraries, test-chips, equipment access capability
- Establish access route through single point of contact
- Establish & manage Selection Process
- Provide logistical support for virtual and transnational access
- Manage User reports and User feedback
- Analyse user profiles, requirements, outputs and impacts

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Support offered

Dedicated Access team:

- Maintain portfolio of all data/facilities available for access
- Engage with external Users both technically and for admin
- Manage application process
- Liaise with the Selection Panel
- Manage access logistics
- Manage User reports, analyse outputs

Provide high quality scientific environment:

- World-leading facilities in partner sites
- World-leading experts involved both in User and Provider communities
- Access strengthened through Workshops and feedback mechanism

Experience of offering Access:

- Involved in many EU programmes involving access
- 10 years managing national programme in Ireland (NAP)

Next step

We will follow up with all registered attendees after the Workshop and invite you to sign up as members of ASCENT

www.ascent.network

or email

or phone

Paul Roseingrave: +353-21-2346168

and join with us in this exciting opportunity for nanoelectronics research

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