



# Chips Joint Undertaking

## European Chips Initiative & Chips JU Calls

**Jari Kinaret**, Chips JU Executive Director

**Chips JU 2026 Information Day**

**Rome, 23 February 2026**



Co-funded by  
the European Union



# A one-of-a-kind Partnership for Europe's Chips Industry

- Chips JU is a tri-partite public-private partnership, established in 2023, as a successor to Key Digital Technologies JU (KDT JU) to advance nano-electronic chip technologies in Europe
- Funded by the European Union, Participating States, and Private Members

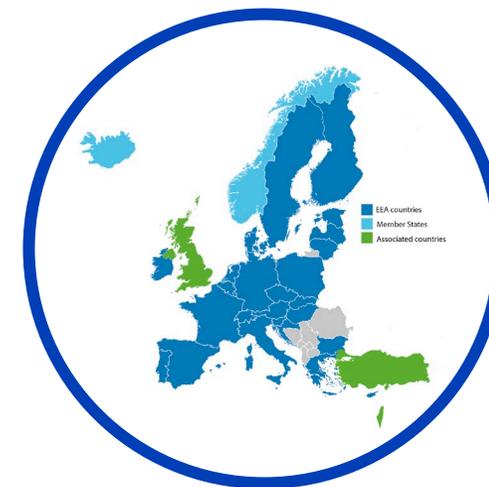
## CHIPS JU TRI-PARTITE STRUCTURE



**Private Members**  
Industry Associations



**European Union**  
European Commission



**Public Authorities**  
Participating States

# What Chips JU Enables

## Pilot lines

Prototyping of validated designs  
Testing of equipment  
Validation of process flows



5 launched

## Competence centres

Access to technical expertise, helping companies to approach and improve design capabilities and developing skills



30 centres

## Design Platform

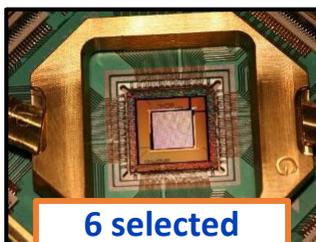
Help designing semiconductor devices, via access to Electronic Design Automation tools and IP libraries



In progress

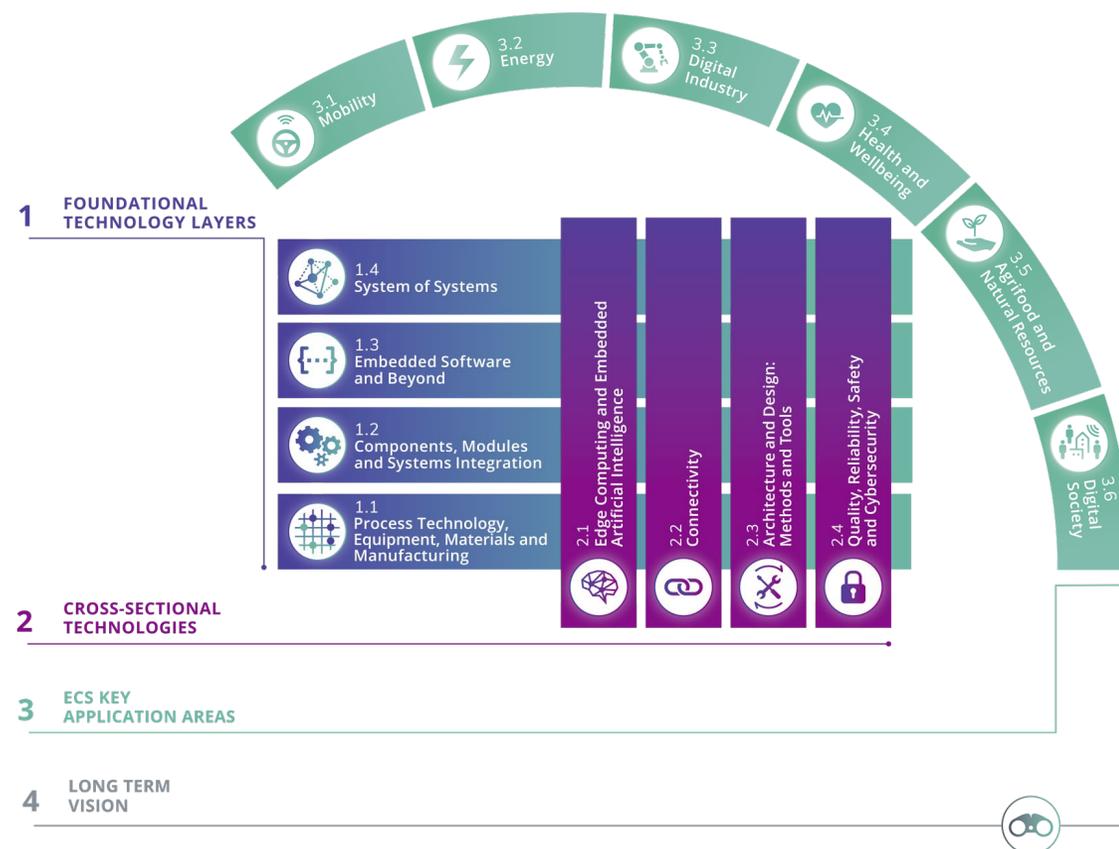
## Quantum chips

Technology and engineering capacities for accelerating innovative development of quantum chips



6 selected

## ELECTRONIC COMPONENTS AND SYSTEMS



# Pilot Lines - Cutting-edge facilities

## Accelerating industrial uptake of new technologies

Chips JU supports five **pilot lines**, accelerating development, testing, and scaling of semiconductor innovations (quantum pilot lines currently under evaluation). These facilities help bridge the gap between research and mass production.

### NanoIC

Sub-2nm System-on-Chip



NanoIC

### FAMES

Fully Depleted Silicon  
on Insulator 7nm



### APECS

Heterogeneous system  
integration and assembly



### WBG

Wide Bandgap Semiconductors



### PIXEurope

Advanced Photonic  
Integrated Circuits



# Design Platform



## Key features:

- Access to EDA tools, IP libraries, and Process Design Kits (PDKs)
- Cloud-based infrastructure for collaborative design  
Integration with pilot lines for seamless lab-to-fab transition
- Support for SMEs, start-ups, academia, and industry



**Total EU funding** commitment of roughly €250–300 M so far (2024–2029), mix of Digital Europe Programme (DEP) and Horizon Europe budgets



## EuroCDP

# Competence Centres

30 Centres across Europe  
(27 MS + 2 extra in BE/ES + 1 in NO)

Support technology transfer, training  
& access to advanced infrastructure

Together form the European  
network (aCCcess)

**€2.1M EU funding for Italy's  
Competence Centre CADETTI**



# Chips JU Quantum Actions

- **Superconducting qubits** - quantum computing hardware using superconducting circuits
- **Photonic quantum chips** - using light for quantum communication & computing
- **Semiconducting qubits** - e.g. silicon spin qubits
- **Diamond-based quantum devices** - NV centers in diamond for sensing and computing
- **Neutral-atom quantum technology** - arrays of trapped neutral atoms for computing/simulation
- **Trapped-ion quantum chips** - high-quality trapped ion systems for quantum computing

**150 M€**  
in EU grants

**300 M€**  
total

They aim to create Europe's first stable, industrially scalable quantum chip fabrication capabilities – addressing **quantum sensing, communication, and computing** applications.





# Spotlight on Italy: Pilot Lines

▶ 20 partners across 11 countries, with a total budget of €380 M (50% EU & 50% national funding agencies)

▶ Italian partners are Politecnico di Milano & Fondazione Bruno Kessler

▶ Leading research institutions in photonics

▶ Italian researchers can access the platform via these institutes, and any unique capabilities at Polimi/FBK (e.g., specific testbeds or fabrication processes) can be offered through the PIXEurope network



# Spotlight on Italy: CADETTI



Training & Skills



SME & Startup support



Access to European pilot lines



Connected to EU network



Strategic importance: Italy plugged into Europe's semiconductor ecosystem

# Italy's involvement in Quantum Actions

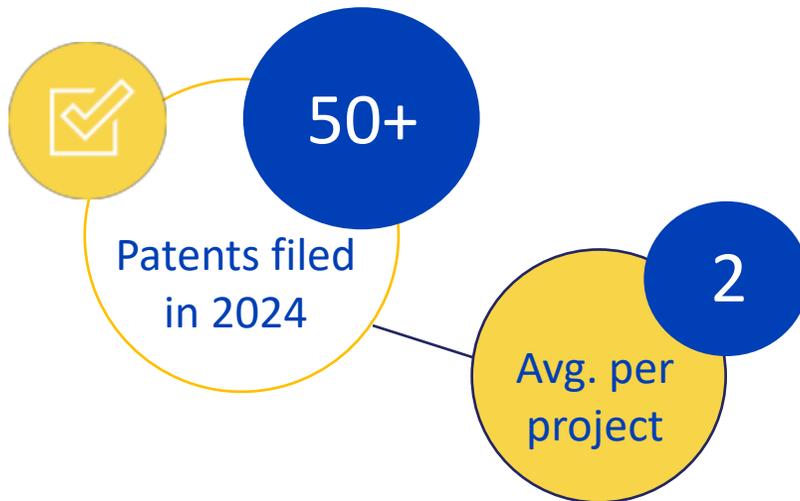
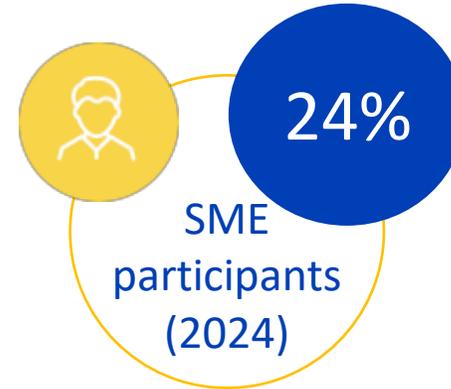
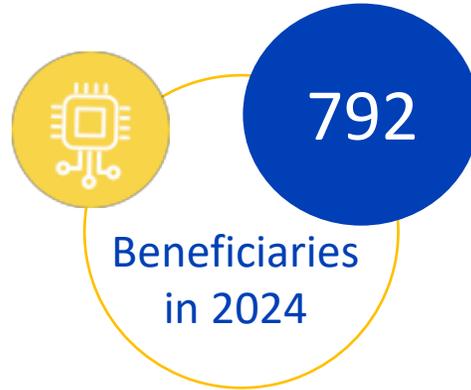


Italy is a key contributor to all 6 Quantum Actions under the Chips for Europe Initiative

- ▶ Italy hosts infrastructure in **Padua, Milan, Naples, Trento**
- ▶ National co-funding from **MUR & MIMIT (~€8–10M)**
- ▶ Strong alignment with **Italy's National Quantum Strategy**

Quantum Action	Italian Partners	Role & Contribution
<b>SUPREME</b> (Superconducting)	INFN, CNR-IFN	Fabrication & cryo-testing of superconducting qubits
<b>P4Q</b> (Photonic)	Politecnico di Milano	Quantum PIC design, PDK development
<b>SPINS</b> (Semiconducting/Spin Qubits)	CNR-IMM, Univ. of Padua	Si/SiGe qubit fabrication, cryo-CMOS control
<b>DIREQT</b> (Diamond)	CNR (Coordinator), Polimi, Element Six IT	Diamond growth, NV device integration, pilot line lead
<b>Q-PLANET</b> (Neutral Atoms)	INFN Naples, Univ. of Naples, CNR-INO, Quantum Technologies srl	Atom trapping, laser control, packaging
<b>CHAMP-ION</b> (Trapped Ions)	FBK, INFN Trieste, QTI srl	Ion-trap chip fabrication, packaging, PDKs

# ECS Programme Overview



## Scale of Investment:

- ~€1B in R&I grants (2023–2025)
- Complements Chips for Europe infrastructure investments

# 2026 Calls: What's coming?

Calls close on 7 July except the global calls close on 7 May and the SDV call closes on 3 March

## WORK PROGRAMME 2026

Largely approved Dec 2025

2 topics pending: AI Chips, one Skills topic (expected to be approved this week)

## 200 M € EU funding for ECS R&I

- Global IA & RIA (bottom-up)
- SDV IA (AI-assisted tools for automotive)
- 3 Resilience IAs: Medical, Photonics, Power
- 6G Front-End Module RIA
- International collaboration RIA
- 2 CSAs: SDV platform coordination and supply chain resilience

## Chips for Europe Initiative Actions

- 2 Quantum topic: chips design and quantum enabling technologies (RIA), second call for DETs (tbc), 3 skills calls (hubs of excellence, pilot federation, chip design), AI chips call, joint call with Japan



## 4 ECS CALLS 2026

Action	Topic	EU indicative budget (M€)
HORIZON-JU-Chips-2026-1-IA	IA Global call according to SRIA 2026	40
HORIZON-JU-Chips-2026-FT1-IA	IA Resilience call reinforcing Europe's strength in power electronics	20
HORIZON-JU-Chips-2026-FT2-IA	IA Resilience call reinforcing Europe's strength in photonics	20
HORIZON-JU-Chips-2026-FT3-IA	IA Resilience call reinforcing Europe's strength in health	20
HORIZON-JU-Chips-2026-IA-FT4	AI-assisted Methods and Tools for Software-Defined Vehicle Engineering Automation	20
HORIZON-JU-Chips-2026-1-RIA	Global call according to SRIA 2026 (RIA)	50
HORIZON-JU-Chips-2026-2-RIA	RIA Resilience call reinforcing Europe's strength in 6G radio communication systems	20
HORIZON-JU-Chips-2026-3-RIA	Call with Digital Partnership and TTC countries	5
HORIZON-JU-Chips-2026-CSA	Supply chain resilience (CSA)	2
HORIZON-JU-Chips-2026-SDV-CSA	Coordination of the European software-defined vehicle platform	2
	<b>Total</b>	<b>199</b>

# ACTIVITIES 2026 CHIPS FOR EUROPE INITIATIVE

HE ACTIONS		
Call Activities		
Topic	Description	Indicative EU budget M€
HORIZON-JU-CHIPS-2026-QUANTUM-1-RIA	Quantum Chips Design: Driving Europe's Quantum Design Ecosystem and Enabling Quantum Design Tools Innovation	30
HORIZON-JU-CHIPS-2026-QUANTUM-2-RIA	Quantum Chips: Enabling Technologies	20
Other Activities		
DEP ACTIONS		
Call Activities		
Topic	Description	Indicative EU budget M€
DIGITAL-JU-Chips-2026-DET-CSA-	Call for Design Enablement Teams	5
DIGITAL-Chips-2026-SG-SKILLS-HoE	Skills Hubs of Excellence	20
DIGITAL-Chips-2026-SG-SKILLS-PF	Pilot Federation	10
DIGITAL-Chips-2026-CSA-SKILLS-SCD	Stimulation of Chip Design	15
DIGITAL-JU-Chips-2026-SG-JAPAN	International collaboration - Joint call EU and Japan on semiconductors	15
Other Activities		
DIGITAL-Chips-2026-GfP-AI-DP	AI chips and systems for EU compute infrastructure	100
<b>TOTAL</b>		<b>215</b>

# Spotlight: STMicroelectronics



STMicroelectronics



- ▶ **Largest Italian participant** in Chips JU & KDT projects
- ▶ **17 projects to date** (KDT/Chips era)
- ▶ **EU contribution: €6.3 M**
- ▶ **ST's projects span multiple strategic areas** (Power Electronics, Edge AI & Processors, Advances Sensors & Photonics)

## Impact for Italy

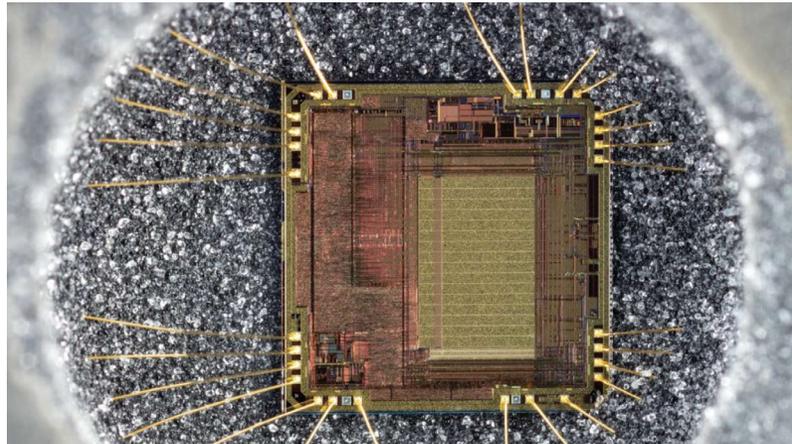
ST's participation helps anchor high-value R&D in its Italian sites (Agrate, Catania, etc.), engages its engineers in European collaborations, and allows Italian SMEs in ST's supply chain to join these projects. ST also co-leads one of the first pilot lines (more next).



# Spotlight: Politecnico di Torino



**Politecnico  
di Torino**  
International  
University



- ▶ **Leading academic partner in Chips JU projects**
- ▶ **Involved in 14 projects (e.g., EV & Power: TRANSFORM, AI: AI4DI)**
- ▶ **Total project costs (Politecnico share): ~€7 M**
- ▶ **EU contribution: €3.5 M**
- ▶ **Politecnico contributions span Automotive & Power Electronics, Cyber-Physical Systems & AI, Quantum and beyond**
- ▶ **Room for growth – there are opportunities to increase academic engagement**



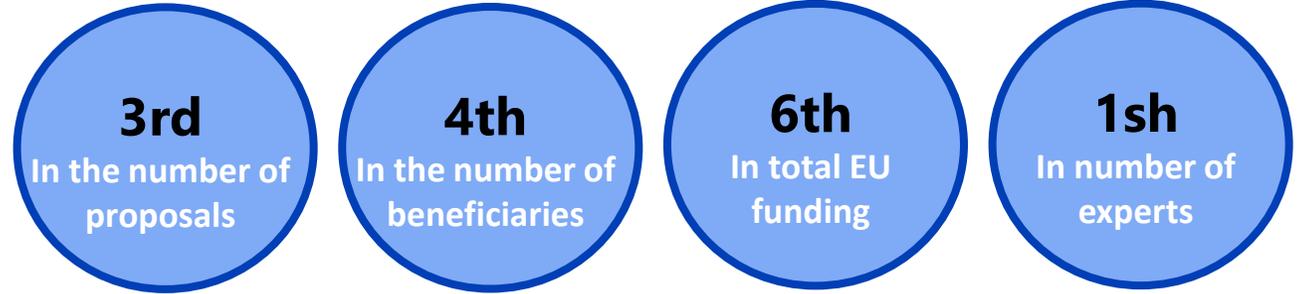
# Italy's ecosystem momentum

## Frequent collaboration with:

- CEA-Leti (FR)
- Fraunhofer (DE)
- imec (BE)
- ICFO (ES)
- Tyndall (IE)
- Strong links via CADETTI and CNR-led PL

## How to engage?

- Join Chips JU calls (R&I and deployment actions)
- Connect through CADETTI
- Partner with Italian and EU leaders in PLs and Design Platform



## Why does it matter to Italy?

- ▶ Leverages EU + national + industry co-investment
- ▶ Direct access to EU pilot lines & design tools
- ▶ Boosts skills and innovation in photonics, power and AI chips
- ▶ Anchors Italy in Europe's semiconductor sovereignty strategy

# EF ECS 2026



Venue tbc



Early December



Stay tuned!



# Thank You



[www.chips-ju.europa.eu](http://www.chips-ju.europa.eu)



Chips\_JU

**Jari Kinaret**

Chips Joint Undertaking