Chips Joint Undertaking

European Chips Initiative & Chips JU Calls

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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

Aeneas

EPoSS. European Association on Smart Systems Integration

INSIDE Industry Association

Private Members
Industry Associations

European Commission

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

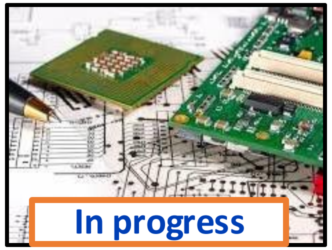
Competence centres

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


30 centres

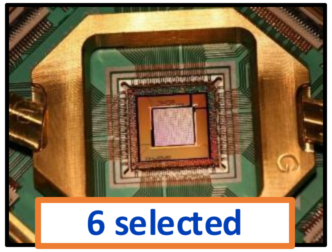
Design Platform

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

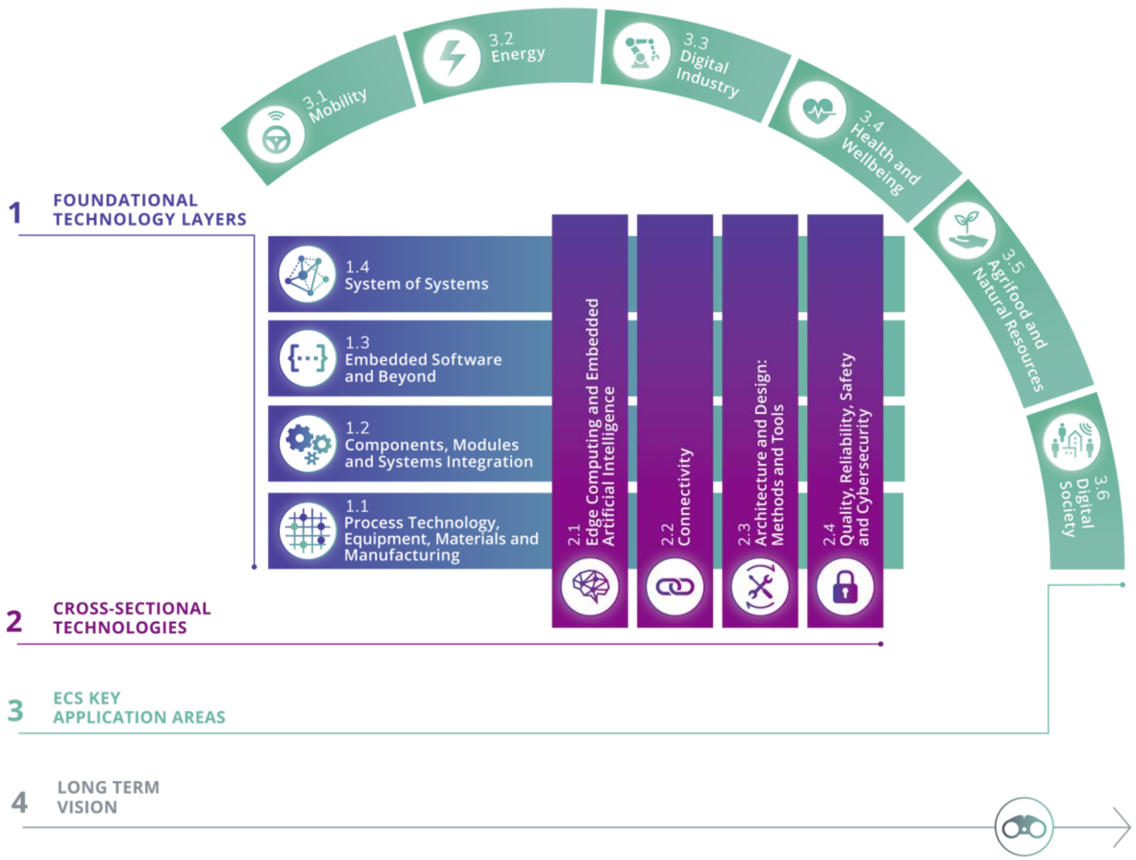

In progress

Quantum chips

Technology and engineering capacities for accelerating innovative development of quantum chips


6 selected

ELECTRONIC COMPONENTS AND SYSTEMS


1 FOUNDATIONAL TECHNOLOGY LAYERS
- 1.4 System of Systems
- 1.3 Embedded Software and Beyond
- 1.2 Components, Modules and Systems Integration
- 1.1 Process Technology, Equipment, Materials and Manufacturing

2 CROSS-SECTIONAL TECHNOLOGIES
- 2.1 Edge Computing and Embedded Artificial Intelligence
- 2.2 Connectivity
- 2.3 Architecture and Design: Methods and Tools
- 2.4 Quality, Reliability, Safety and Cybersecurity

3 ECS KEY APPLICATION AREAS
- 3.1 Mobility
- 3.2 Energy
- 3.3 Digital Industry
- 3.4 Health and Wellbeing
- 3.5 Agrifood and Natural Resources
- 3.6 Digital Society

4 LONG TERM VISION

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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

FAMES
Fully Depleted Silicon on Insulator 7nm

APECS
Heterogeneous system integration and assembly

WBG
Wide Bandgap Semiconductors

PIXEurope
Advanced Photonic Integrated Circuits

Design Platform

EuroCDP

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

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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

© aCCCess project

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.

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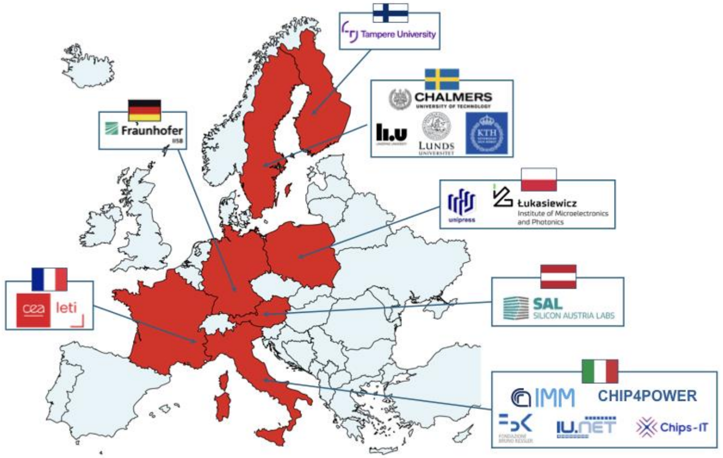
Spotlight on Italy: Pilot Lines

- **Italy** hosts a major part of the **Wide-Bandgap Semiconductors Pilot Line**, led by Chip4Power consortium
- **Coordinated by CNR**
- **~€180 M** in EU funds and substantial national investments
- Leveraging Catania's existing semiconductor ecosystem
- It will offer European companies (including Italian SMEs) a local facility to prototype and test power devices on 200mm wafers, accelerating innovation without relying on overseas fabs

WBG Wide Band Gap
future power electronics



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

PIX·Europe

POLITECNICO
MILANO 1863

FONDAZIONE
BRUNO KESSLER

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Spotlight on Italy: CADETTI

Training & Skills

SME & Startup support

Access to European pilot lines

Connected to EU network

Chips-IT

Strategic importance: Italy plugged into Europe’s semiconductor ecosystem

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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
SUPREME (Superconducting)	UNINA, FBK	Fabrication & cryo-testing of superconducting qubits
P4Q (Photonic)	Leonardo	Quantum PIC design, PDK development
SPINS (Semiconducting/Spin Qubits)	NQSTI	Si/SiGe qubit fabrication, cryo-CMOS control
DIREQT (Diamond)	CNR, UNITO, INRIM, FBK	Diamond growth, NV device integration, pilot line lead
Q-PLANET (Neutral Atoms)	INRIM, SAES, POLIMI, CNR	Atom trapping, laser control, packaging
CHAMP-ION (Trapped Ions)	INRIM, UNIPD	Ion-trap chip fabrication, packaging, PDKs

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ECS Programme Overview

189M
In EU funding (2025)

792
Beneficiaries in 2024

24%
SME participants (2024)

50+
Patents filed in 2024

2
Avg. per project

Scale of Investment:

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

Chips JU

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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
	Total	**199**

Appendix 8

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**
TOTAL		**215**

Spotlight: 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).

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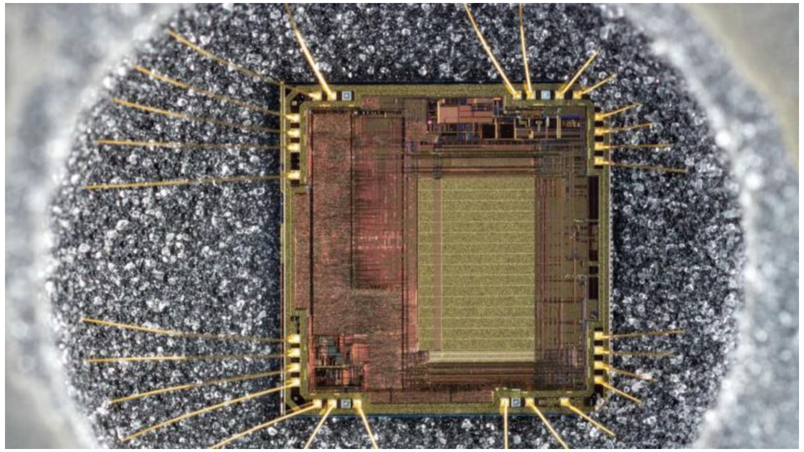
Spotlight: Politecnico di Torino



- **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**

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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

3rd
In the number of proposals

4th
In the number of beneficiaries

6th
In total EU funding

1sh
In number of experts

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

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EFECS 2026

📍 Venue tbc

📅 Early December

📌 Stay tuned!

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Thank You

www.chips-ju.europa.eu

Chips_JU

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