EVEN CLOSER

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Forging Europe's Circular Value Chain for Semiconductors.

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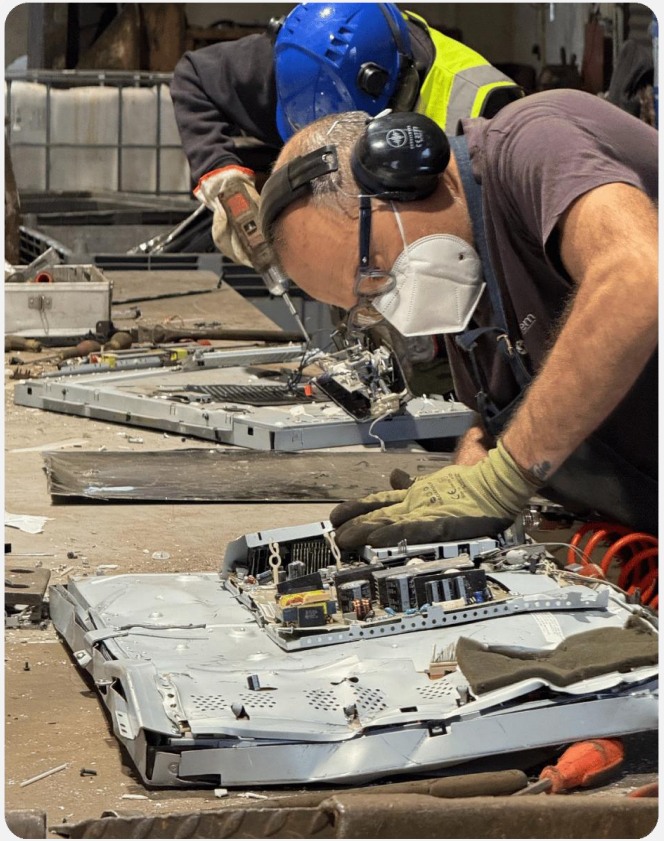
19/05/2026

Brussels



UNIVERSITÀ DELLA CALABRIA

MALTACCELERATE

Co-funded by the European Union

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Europe’s Critical Dependency on Semiconductor Raw Materials

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The current geopolitical crisis enlightens the risk of a strong dependence of strategic materials from Third Countries.

23 out of 127 monitored semiconductor products are at risk of import disruption. The EU is the 4th largest semiconductor market globally with only 10.6% market share.” - JRC 2025.

Key Materials at Risk

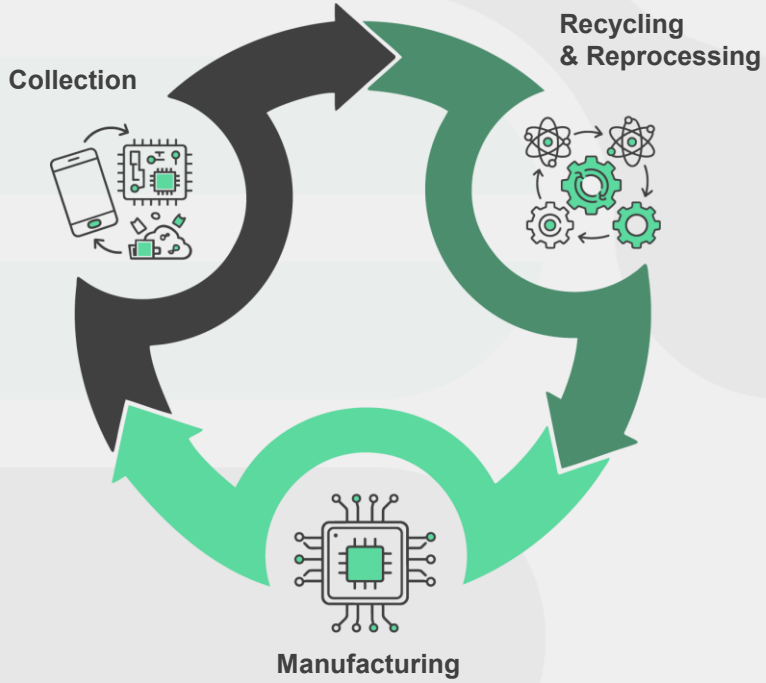
Overwhelmingly imported from the Far East and USA.

- Si — Silicon (Si)
- Ga — Gallium (Ga)
- In — Indium (In)
- Ge — Germanium (Ge)

The Consequence

A vulnerable supply chain for strategic sectors: automotive, aerospace, defence, renewable energy, health, and computing.

Our Mission:
To Build a Pan-European Circular Supply Chain



Project Vision

EVEN CLOSER establishes a pan-European network to efficiently collect, recycle, and reprocess semiconductor components from e-waste and industrial waste.

General Objective

- To recover and reuse secondary semiconductor raw materials for the manufacturing of chips and related products.
- To integrate less developed regions into this strategic value chain, rebuilding lost technological know-how in Europe.

Synergy: The project builds upon and integrates with the I3 project CLOSER, amplifying collective impact and ensuring cost efficiency.

A Pan-European Alliance for a Circular Future

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44

Partners

A diverse consortium of universities, research organizations, industry leaders, SMEs, and regional authorities.

Coordiantor

UNIVERSITA DELLA CALABRIA (Unical), Italy.

Duration

Starting 1 November 2026 – Ending 1 November 2029

Focus

A strategic effort to connect innovation hubs with less developed regions to ensure inclusive growth and knowledge transfer.

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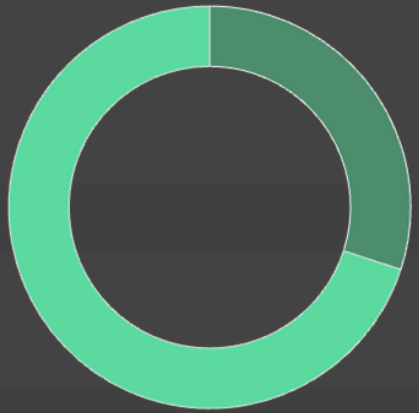

Overrall Budget
14.286.057,57 €

- Project partners' own funds: 4.285.817,60 €
- EU Contribution: 10.000.239,97 €

Our Strategic Framework: Four Pillars for Impact

01

Pillar 1
Forging the Foundation

Securing a Resilient Feedstock

02

Pillar 2
Manufacturing The Future

Pioneering Circular Technologies

03

Pillar 3
Building the Ecosystem

Activating Market, Policy & Logistics

04

Pillar 4
Amplifying the Impact

Driving Synergy, Skills & Scale

Our strategy organizes **9 Work Packages** into a cohesive vision,
transforming a project plan into an engine for European industrial leadership

Pillar 1: Forging the Foundation

Securing a Resilient Feedstock

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Strategic Goal: Systematically map, collect, and prepare semiconductor-rich e-waste to fuel the entire circular value chain. (Corresponds to WP2)

Mapping & Tracking

• **Geospatial Mapping**
Identify 50 semiconductors rich waste streams across: Calabria, Sicily, Slovakia, Western Finland, East Netherlands, Azores Islands and Aruba.

• **Digital Tracking**
Integrate an open-source Digital Product Passport (DPP) solution into the CYRKL Marketplace (Europe's largest recycling platform with 20,000+ companies) for enhanced material tracking and ESG compliance.

Digital Tracking

10 kg/hr → 50 kg/hr

Increased feedstock processing

>95% accuracy

AI-powered sorting

>300Kg of waste

Semicon-rich waste from mapped areas pre-processed for refinement.

Sorting & Processing

• **Repair & Refurbishment**
Establish local hubs to repair and refurbish electronics, extending product life and creating community value.

Pillar 2: Manufacturing the Future (1/2)

Pioneering Circular Technologies

Strategic Goal: Develop and scale pilot processes to transform waste into high-value materials and components. (Corresponds #212529)

Reinventing PCBs (WP3)

Establish circular remanufacturing lines for Printed Circuit Boards (PCBs).

- Retro-engineering and Remanufacture Automotive PCBs
- Assemble high quality PCBs using circular silicon diodes and other recycled material.

Ga, In, Ge Refinement (WP4)

Enable high yield industrial recovery of **Ga**, **Ge**, and **In** through an optimized and scalable low-acidity hydrometallurgical process (1000 L capacity)

Replication Model: Design mobile, containerized recovery units for deployment in remote locations like the Azores and Aruba.

Pillar 2: Manufacturing the Future (2/2)

Pioneering Circular Technologies

Strategic Goal: Master the recovery and production of high-purity silicon, the bedrock of the microelectronics industry.

PV Panel Recycling (WP5)

Objective: Create an end-to-end recycling system for end-of-life photovoltaic (PV) panels.

>99.6%
material recovery

>99.5%
pure silicon powder

Major Investment: Establish the Calabria PV Recycling Hub, the most advanced PV recycling pilot plant in the EU Mediterranean region.

High-Purity Silicon Devices (WP6)

Objective: Establish an innovative, closed-loop production framework for EU-made Silicon Diodes.

9N–10N

(99.9999999% – 99.99999999%) ultra-pure polysilicon produced using an adapted Siemens process.

New Capacity: Establish a small-scale production facility in Latvia for monocrystalline silicon.

Pillar 3: Building the Ecosystem

Activating Market, Policy & Logistics

Strategic Goal: Create the supportive conditions for a circular economy to flourish, recognizing that technology alone is not enough.

Market Activation: The Circular Kickstart (WP7)

Objective: Accelerate high-potential startups to fuel the circular electronics value chain.

45 startups

selected, mentored, and scaled over 3 years through three thematic cohorts focused on data, materials, and green chemistry.

Policy & Logistics Enablement (WP8)

Objective: Design and implement the physical and regulatory infrastructure for industrial scale-up.

Run a Policy Lab to co-create solutions with policymakers, identify regulatory and permitting barriers, and test new legal and permitting approaches through regulatory sandboxes.

Establish **Calabria as a logistics hub** for the European circular semiconductor value chain.

Pillar 4: Amplifying the Impact

Driving Synergy, Skills & Scale

Strategic Goal: Ensure the project is managed for success, its knowledge is widely disseminated, and its impact endures beyond the 36-month timeline.

Knowledge & Skills (WP9)

- **Skills Development**
  Launch a Massive Open Online Course (MOOC) on semiconductor recycling to build a skilled European workforce.

- **Knowledge Dissemination**
  Disseminate project insights, results, and best practices through LinkedIn and periodic newsletters, ensuring broad visibility, stakeholder engagement, and long-term impact beyond the project duration.

Commercialization & Collaboration (WP9)

- **Commercialization**

  ≥€26 million

  Execute a stakeholder-driven fundraising strategy to secure at least €26 million in signed or ready-to-sign contracts for SMEs in the consortium.

- **EU Collaboration**
  Foster collaboration with Green Deal and Chips for Europe projects through joint workshops and innovative networking events.

The EVEN CLOSER Legacy

A Blueprint for European Strategic Autonomy with Long-term Impact

A Resilient Supply Chain

Creating a robust, pan-European circular value chain that reduces reliance on third countries for critical semiconductor materials.

A Replicable Model

Establishing a proven framework for technology, policy, and investment that can be replicated across other critical sectors and regions.

An Innovation Ecosystem

Nurturing a new generation of European companies and a skilled workforce ready to lead the global circular economy.

EVEN CLOSER is not just a project; it is a strategic investment in Europe's industrial future, turning today's waste into tomorrow's technological sovereignty.

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Thank you for your attention.

https://evencloser.eu/

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