The European Chips Skills Academy (ECSA or ECS-Academy) is a dynamic and forward-looking project supported by the European Union through the **Erasmus+ program**. Operating within the framework of the "Alliances for Sectoral Cooperation on Skills", ECSA's consortium is on a strategic four-year mission to address the pressing challenges faced by the microelectronics industry on the road towards the digital transition in Europe.

ECSA's goal is ambitious yet straightforward: to bridge the gap between education and industry and foster innovative programs that confront this challenge head on. How? By establishing a robust platform for dialogue, strategic planning, and decisive action in the realms of **skills development, skills anticipation, upskilling, and reskilling** of the workforce.

The project intends to enhance innovation and fortify the overall resilience of the microelectronics sector in Europe. As we strive to make a lasting impact, we intend to grow a premier alliance that can endure beyond the lifetime of the project to continue to transform challenges into opportunities for growth and success.

ECSA is deeply committed to making a significant contribution to the European Union's objectives for a seamless digital transition because, let's face it, there's no digital without chips!

Why a European Chips Skills Academy?

The ECS-Academy aligns closely with the latest European policy developments and objectives and, with partners from across Europe, is well-placed to respond to dynamic needs around the continent.

On one front, the EU is propelling itself towards a **digitally transformed era**, marked by ambitious long-term targets and by the vision of a more prosperous and resilient Europe. Simultaneously, official EU policy documents, industry reports, and technical market analyses point towards a concerning trend in the microelectronics industry. The sector, both in Europe and globally, struggles with the **challenge of sourcing a skilled workforce**, leading to a worldwide "talent war" as all corners of the globe seek out the trained professionals needed for this innovative and expanding sector.

The increasing demand for engineers and technicians is evident as vacancies multiply, underpinned in part by the continuous stream of technological advancement. To navigate this landscape successfully, constant upskilling (and reskilling!) in areas such as R&D, design, manufacturing, artificial intelligence (AI) ethics, cybersecurity, and energy efficiency is crucial.

Aware of these challenges, the EU Commission launched a series of initiatives, above all the "Microelectronics Pact for Skills" (2020) and the "EU Chips Act" (2023) to embolden Europe's microelectronics ecosystem.

That is where the European Chips Skills Academy comes in!

Main Goals and Specific Objectives

The ECS-Academy is dedicated to providing skills anticipation backed by hard data, which will then inform initiatives around upskilling, reskilling, and matching. But that's not all – ECSA is also set to bring together a wide range of key players in the microelectronics ecosystem for the first time.

ECSA aspires to become the go-to hub for everything skills-related in the world of chips, shaping the future of education in the electronics and microelectronics space and opening new opportunities for collaboration between educational institutions at all level (secondary school, VET providers, and higher education) and industrial leaders.

More specifically, the consortium laid down *three different Main Goals*:

- Establish **innovative strategic approaches and cooperation** among education and industry in microelectronics for concrete skills development to implement the EU Skills Agenda for sustainable competitiveness, social fairness and resilience as well as the operational implementation of the Pact for Skills in microelectronics;
- **Bridge the gap between VET, HE and industry** for the emerging occupational profiles and renewed skills sets required in microelectronics;
- **Operationalise** in the context of microelectronics education and labour **the relevant EU tools** (EQF, ESCO, Europass, EQAVET) **and competence frameworks** (DigComp, EntreComp, GreenComp).

Building on these Main Goals, the ECSA pursues essentially *seven Specific Objectives*:

1. **Institutionalise the Pact for Skills for Microelectronics** through the establishment of the Secretariat, Educational Board and Knowledge and Innovation Community (KIC);
2. **Anticipate skills trends and needs** by constant monitoring and gauging industry dynamics;
3. **Formalise the educational and training mechanisms for microelectronics** through the establishment of the first-of-a-kind decentralised European Chips Skills Academy (ECS-Academy);
4. **Develop innovative teaching and learning methods, coupled with educational and training tools** that span across mobility, WBL and internship between education/training/industry;
5. **Adapt VET and HE provision to the skills needed** in microelectronics by designing and delivering cross-border sectorwide curricula;
6. **Boost innovation through the education/training/industry joint-development of training** curricula, also developing innovative approaches towards microcredentials;
7. **Sustain the innovation, competitiveness and growth of the microelectronics ecosystem** also by informing and shaping EU policies and initiatives in the long-term (i.e., 2028-2035).

The Project Workplan

The ESC-Academy is made up of seven Work Packages to be implemented in parallel throughout the project.

WP 1 – Management and Coordination of the Academy

There's nothing more important than a strong foundation! The main goal of WP1 is to guarantee the effective management of the overall project. WP1 ensures the smart implementation of all activities, as well as the fruitful collaboration among partners and the adherence to the EU Commission's requirements for financial and technical reporting.

Lead partner: SEMI Europe.

WP 2 – Governance, Strategic Institution and Network Building

WP2 is the hub for the operationalization of the Pact for Skills, defining all preliminary and operational aspects of the Secretariat, the Educational Board, and the European Chips Skills Alliance. At the same time, WP2 is the perfect opportunity to expand the Pact for Skills through the definition of a long-term strategy for partnership building and sustainability, coupled with the adoption of a comprehensive Action Plan.

Lead partner: SEMI Europe with co-leads Silicon Saxony and AENEAS.

WP 3 – European Chips Skills Academy

Welcome to WP3, the engine driving the implementation of the Pact for Skills! Here, the consortium will validate in real operational settings the decentralized pan-European ECS-Academy, unleashing a set of exciting activities to engage with students. As one concrete example, WP3 will present an innovative **Summer School** as a deep dive into the intricate microelectronics galaxy. But that's not all – ECSA is putting the spotlight on learners by recruiting passionate **Student Ambassadors**. They'll not only bring the Academy's activities to the students' community but also support the consortium in understanding and connecting with students' needs and expectations. And yet, these are just a few of the exciting initiatives that will find space within WP3!

Lead partner: TU Graz.

WP 4 – ECS-Academy Digital Architecture: Online Learning Platform and Networking Space

WP4 is devoted to fully bringing the Academy into the digital era. This Work Package is on a mission to craft a dynamic and user-friendly digital structure to provide access to all initiatives created and presented by the Academy. This expansive platform will push the boundaries of conventional websites to establish a robust and impactful digital presence for the project. This will be accomplished through dedicated digital sections for each project's outputs, encompassing an e-Learning space, Job Fair & Career Expo, Internship Listings, and much more!

Lead partner: VSB-TUO in conjunction with Knolyx.

WP 5 – ECS-Academy Specialized Training

WP5 is the dynamic duo with WP3, as they both shape the heart of the ESC-Academy training courses. Initially, WP5 designs specific "*reactive response*" training content, incorporating

elements such as “Agile management” and “Digital Competences and Skills” (including “Remote Workforce Development”). This strategic response is designed to address the challenges posed by the pandemic and facilitate the digital transition. Then, partners join forces to develop training and curricula across three pivotal areas – Digital, Entrepreneurship, and Green skills – as part of the “*proactive response*” aimed to create training content tailored to emerging occupational profiles.

Lead partner: BME HU

WP 6 – Impact: Monitoring & Evaluation and Quality Assurance

WP6 is the vigilant eye of the ECS-Academy. Its goal is to carefully monitor all activities and results of the project, checking their quality and their alignment with the main goals of the project. Monitoring and Evaluation (M&E) efforts within WP6 result in (internal and external) Quality Assurance (QA) to ensure the relevance and timeliness of the ECS-Academy activities and results. Together, M&E and QA enable the consortium to measure the overall impact generated by ECSA.

Lead partner: CIMEA

WP 7 – Valorization: Dissemination + Exploitation of ECS-Academy

WP7 takes the lead in Dissemination and Exploitation activities. It is meant to ensure a continuous burst of promotion, sharing, and utilization of the project’s activities, outputs and Deliverables. The final goal? Maximize ECSA’s impact! Indeed, WP7 is all about ensuring its sustainability over time, transcending the project’s conclusion. WP7 is meant to make the Academy’s results not just accessible but an ongoing source of inspiration for everyone.

Lead partner: SEMI Europe

Partners

SEMI Europe

SEMI Europe, based in Berlin and Brussels, is the regional arm of the global microelectronics industry association SEMI. It serves 2,100+ organizations and 1.3 million professionals globally, working to advance the microelectronics ecosystem, address industry challenges, and engage stakeholders.

Technische Universität Dresden (TUD)

The German University of Excellence, TUD, spans a broad research spectrum, seamlessly integrating natural and engineering sciences with humanities and social sciences. Renowned for excellence in both teaching and research, TUD stands as a focal point for advancements in microelectronics.

Graz University of Technology (TU Graz)

TU Graz takes part in the project with the Institute of Electronics (IFE), one of the oldest academic research and educational laboratories in Austria, focusing on semiconductor technologies and leader in digital education and teaching.

Budapest University of Technology & Economics (BME)

BME participates with the Department of Electronics Technology (ETT) and, as a leading HEI in Hungary and Eastern Europe, it has consolidated experience in the development and delivery of high-quality industry based training solutions in microelectronics and in working with local and international stakeholders.

Technical University of Ostrava (VSB)

VSB is a leading Czech and European polytechnic with extensive experience in skills agenda projects that are focused on skills intelligence gathering and analysis, curricula development, education and training courses delivery.

Innovazione Apprendimento Lavoro Friuli Venezia Giulia (IAL-FVG)

IAL-FVG is a VET and employment service provider in North-East Italy with strong experience in the implementation of EU VET tools (Cedefop, ESCO, EQF, and more) and frameworks and in the design and delivery of specialised VET solutions.

Asociación Nacional de Centros con Certificados de Profesionalidad (ANCCP)

ANCCP represents the associated professional certificate centres, an entity accredited by the Ministry of Labor and Social Affairs of Spain. Through the Professional Certificate, ANCCP officially accredits professional skills and competences, promoting skills development and employability.

Interuniversity Microelectronics Centre (IMEC)

Often referred to as a global player and centre of excellence in the domain of microelectronics, IMEC is Europe's largest independent non-profit research centre on micro- & nano-electronics and digital technologies.

Tyndall National Institute (Tyndall)

The Tyndall National Institute at University College Cork (UCC) is one of Europe's leading research centres and Ireland's flagship institute in integrated ICT hardware and systems. Tyndall has extensive experience in developing and delivering high-quality training to meet industry and labour market needs.

Infineon Technologies Austria AG (Infineon)

Infineon Technologies Austria AG is a subsidiary of Infineon Technologies AG, a world-leading provider of semiconductor and system solutions, mainly focused on automotive and industrial electronics, communication and information technologies, IoT, sensor technology and security.

Melexis

Melexis, headquartered in Belgium, designs, develops and delivers innovative microelectronic solutions for different industrial applications.

Okmetic

Okmetic (Finland) is a globally operating high technology growth company and a market leader of high-performance silicon wafers. It also has a proven expertise in developing and delivering specialised training as well as in anticipating skills needs for the microelectronics ecosystem.

Silicon Saxony (SiSax)

SiSax is a NGO industry association located in Dresden, Germany with 400 members. As one of the largest microelectronics and IT clusters in Europe, SiSax facilitates the dialogue between manufacturers, suppliers, service providers, universities, research institutes, public institutions in Saxony and beyond.

Knolyx

Knolyx (Romania) is an SME with +10 years of international experience in ICT and software development with a focus on online and digital education. It brings to ECS-Academy its expertise in online learning platform development and its robust understanding of blended and online teaching/learning in complex environments.

DECISION

DECISION (France) is an independent SME consultancy with specific experience in socio-economic research and analysis. DECISION's field of analysis cover the whole electronics value chain and all the electronic applications (automotive, industrial & medical applications, and so on).

Information Centre on Academic Mobility and Equivalence (CIMEA)

CIMEA (Italy) is a leading expert in the field of (national and international) recognition of academic qualifications and has strong experience in certification, recognition, micro-credentials and European tools and frameworks for skills and competences.

Platform Talent voor Technologie (PTVT)

PTVT is a department of the "Stitching Platform Beta En Techniek"(PTB), an independent non-profit organisation created by the Dutch Ministries of Economy, Education and Social Affairs to implement the national STEM strategy. PTVT develops and delivers support to the Centres of Expertise in HE, VET and SME for digitalization, sustainability and inclusion.

Bios for social media

"#ECSA: Unlocking the power of Skills! 🚀 ECSA is an EU-funded project aimed at tackling the pressing challenges faced by the microelectronics sector in terms of skills shortages, polarization and mismatches." **(Potential bio for IG and X)**

"#ECSA is an EU-funded project on a strategic mission to address the pressing skills challenges faced by the microelectronics industry at the dawn of the digital transition. In the rapidly evolving landscape of digitalization in Europe, the microelectronics industry grapples with the need for a skilled workforce to drive innovation and competitiveness.

Over four year, the ECS-Academy's will strive precisely to make skills meet innovation and transform challenges into opportunities for growth and success!

The final goal? Establishing a robust platform for dialogue, strategic planning, and decisive action in the realms of **skills development, skills anticipation, upskilling, and reskilling** of the workforce in the microelectronics industry.

Follow our journey to empowering microelectronics… One skill at a time!" **(Potential bio for LinkedIn and YouTube)**

Hashtags

#ECSA

#ECSAcademy

#ErasmusPlus

#SkillsForChips

#ChipsSkills

#Upskilling #Reskilling #SkillsAnticipation

#SkillsInMicroelectronics

#DigitalTransformation

#MicroelectronicsRevolution

#PactForSkills

#WorkforceDevelopment

EUROPEAN CHIPS SKILLS ACADEMY

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