D3.4 – ECSA Operational Features and Tools

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1. Introduction

This deliverable describes the operational features of the European Chips Skills Alliance (the Alliance). The document includes operational tools, formal documentation, and describes the usage of EU tools, frameworks and relevant platforms. Further on, it suggests updates on occupational profiles on the topic of microelectronics in the ESCO database.

In deliverable "ECSA Institutional Arrangements (Governance and Function)" (project identifier D3.3), we describe the reasons for and benefits of developing a joint governance of the European Chips Skills Academy (ECSA), the European Chips Skills Alliance (Alliance) and the European Chips Diversity Alliance (ECDA). We refer to this joint structure as the Alliance throughout this deliverable.

1.1 Document Structure

This document is organised as follows: In section 2, we describe the operational features and the necessary documentation to formalise and run the Alliance. In section 3, we deal with all operational tools and frameworks, that support the Alliance. In section 4, we propose update on existing ESCO occupational profiles, mostly based on the trainings, that we propose in the ECSA project.

This document is strongly linked with deliverable "ECSA Institutional Arrangements (Governance and Functioning)" (project identifier D3.3), "ECS-Academy Educational and Pedagogical Aspects" (project identifier D3.5) and "ECS-Academy Implementation and Validation Plan" (project identifier D3.6) of the project proposal and focuses on the operational aspects to get the Alliance's governance model up and running.

1.2 Executive Summary

Purpose

This deliverable describes the operational features required to run the Alliance, including formal documents, EU tools, frameworks, and platforms. It complements deliverable "ECSA Institutional Arrangements (Governance and Functioning)" by showing how governance translates into day-to-day functioning.

Key Results

- **Formal Documentation**: Developed Terms of Reference, Code of Conduct (for members and students), Membership Agreement, and In-Kind Contribution Reporting Template.
- **Operational Tools**:
  - **EU Tools**: Europass (credentials), ESCO (skills framework), EQF, ECTS/ECVET.
  - **Alliance Platforms**: Learning & Networking Platform (by Knolyx) and Skills Hub (TU Ostrava), linking training to ESCO and Europass.
- **ESCO Profiles**: Proposes updates to semiconductor-related occupational profiles (e.g., Microelectronics Engineer, Smart Manufacturing Engineer).
- **Partner Practices**: Summarises experience with EU tools and partner platforms to ensure smooth adoption.
- **External Links**: Identifies synergies with CEDEFOP, EIT Digital, aCCCess initiative.

Next Steps

- Deploy the Terms of Reference and Membership Agreements in practice.
- Implement the in-kind contribution system and monitoring.
- Finalise integration of Skills Hub with Europass and ESCO.
- Submit ESCO profile updates for review and validation by the Commission.

2. Operational Features and Formal Documentation

In this section, we describe the formal documentation that is needed to operate the Alliance. The formal documentation consists of:

- The Terms of Reference (ToR),
- The Code of Conduct for Alliance members and students/learners and
- The Partnership Agreement.

This formal documentation is based on the governance model of the Alliance and its prerequisites, that we describe in deliverable D3.3 on "ECSA Institutional Arrangements (Governance and Functioning)".

2.1 Terms of Reference

The Terms of Reference (ToR) define the purpose, scope, structure and operational framework of the Alliance. The ToR set out the main guidelines and parameters how the Alliance works together and makes decisions. The ToR ensures that the Alliance can achieve its goals by defining clear processes.

In the ToR of the Alliance we specify:

- Purpose and Objectives: why the Alliance exists and what it aims to achieve.
- Scope: The boundaries of the work, including what is and isn't included.
- Governing Structure: the composition of the group, roles (such as leaders, management, members), and their responsibilities.
- Powers and Decision-Making: the authority of the group, how decisions are made, and who has voting rights.
- Membership: criteria and process for joining or leaving the group, the rights and obligations of different types of members.
- Meetings and Procedures: frequency and format of meetings, quorum and voting procedures, how records are kept.
- Reporting and Accountability: how the group reports on its work and to whom it is accountable.
- Duration and Review: how long the ToR is in effect and how and when it may be reviewed or updated.

We define the ToR in Appendix A – Terms of Reference.

2.2 Code of Conduct

The Code of Conduct outlines the expected standards of behaviour, ethical principles and responsibilities for members the Alliance.

It mainly serves the following purposes:

- It sets **clear expectations**, by defining acceptable and unacceptable behaviour and specifies how members should behave in different situations.
- It promotes **core values**, reinforces the Alliance's commitment to integrity, respect, inclusivity and professionalism.

- It supports a **positive environment**, helps to create a safe, collaborative and respectful atmosphere by establishing guidelines for interactions.
- It provides a **base for accountability**, by establishing a framework for addressing misconduct and resolving conflicts.

Essentially, the Code of Conduct should unite members around shared values, ensure fairness and respect, and maintain trust within and outside the organisation. We define the Code of Conduct in Appendix B – Code of Conduct.

2.3 Membership Agreement

A Membership Agreement formalises the collaboration between the Alliance and a partner organisation. It is needed to clearly define, guide, protect, and support collaborative actions between the Alliance and its members – ensuring mutual benefit, aligned goals, and a professional working relationship, without creating legal obligations or financial commitments.

The Membership Agreement serves the following purposes:

- It clarifies role and contribution, among the Alliance and its partners. It defines who is involved and what is agreed on and how the collaboration is working. The main goal is to ensure that both parties understand their responsibilities.
- The Alliance and the partners commit to the shared mission of tackling the skills and talent gaps in the semiconductor industry. The agreement provides a clear framework to collaborate and to align efforts in education, upskilling, and workforce development.
- The agreement enhances public visibility, legitimacy, and cross-promotion by granting mutual rights to use each other's logos and platforms for promotion.
- The agreement includes the most important terms of confidentiality, trademark usage, and non-discrimination, and therefore protects each party's intellectual property, brand, and sensitive information, while fostering a respectful and inclusive collaboration.
- The agreement serves as a foundation for future joint projects. It doesn't bind parties financially or legally, but it enables deeper cooperation or future detailed agreements.
- The agreement helps to prevent misunderstandings and defines mechanisms to resolve any issues in a constructive, good-faith manner, by formalising expectations and communication channels.
- The agreement allows either party to exit within a 30 days' notice, offering flexibility while still creating a structure for collaboration.

We provide the membership agreement template in Appendix C – Membership Agreement Template.

2.4 In-Kind Contributions Reporting Template

Besides the fee-based membership model, we explain an in-kind contribution membership model in deliverable "ECSA Institutional Arrangements (Governance and Functioning)" to partially or fully replace membership fees with in-kind contribution. We therefore describe this in-kind contribution model in the ToR and develop a reporting template to document in-kind contributions by members. We show this reporting template in Appendix D – ECSA In-Kind Contribution Reporting Template. This

template has to be filled by each member for each in-kind contribution and has to be signed and approved by the management director.

2.5 Code of Conduct for Students and Learners

In addition to the Code of Conduct for members of the alliance, we also define a Code of Conduct for students and learners in general. This Code of Conduct ensures a safe, respectful, and inclusive environment for all students and learners participating in Alliance activities, and upholds the values and mission of the Alliance.

The main purposes of the Code of Conduct for students and learners are to:

- Set clear expectations by **outlining acceptable and unacceptable behaviour** and by giving students guidance on how to act during events, trainings, and all related activities.
- **Promote a positive, safe, and inclusive environment** to create a respectful atmosphere for everyone.
- **Encourage ethical behaviour and integrity** of learners. Learners are expected to act honestly, avoid plagiarism and cheating.
- **Facilitate effective participation**. The code helps ensure students are prepared, engaged, and contribute constructively to group activities and discussions.

In summary, the Code of Conduct for Students and Learners provides the framework for a respectful, ethical, and effective learning environment, protecting both individuals and the community as a whole. We provide the full Code of Conduct in Appendix E – Code of Conduct for Students and Learners.

3. Operational Tools

In this section, we describe the tools and frameworks that we use to carry out the activities of the Alliance. On the one hand, we cover European Union (EU) tools and frameworks that we make use of. On the other hand, we describe platforms and frameworks that we (further) developed in the course of the project.

At the beginning of 2024, we asked the partners which tools they already know and would like to use in the Alliance, which should simplify the introduction as such. In this section, we therefore also summarise all responses of the consortium, but also other practical considerations.

3.1 EU Tools and Frameworks

The EU offers various tools to support the mission and goals of the Alliance. The following is a non-exhaustive list of tools and frameworks that we consider using in the Alliance:

- **Europass**

  Europass supports individuals in creating and sharing their CVs, cover letters and profiles. It assists the Europe-wide search for jobs and courses and makes competences and qualifications more transparent and comparable for employers and educational institutions across the EU. Europass aims to facilitate mobility for work and study by providing standardised digital tools and services for proving qualifications. Furthermore, Europass offers the European Digital Credentials (EDC) System. This system can be used to provide, share and store credentials in digital wallets.

  Within the Alliance, we plan to offer credentials to learners and students. At the moment, some countries (e.g. Spain) allow the issuing of micro-credentials only for higher education institutions (HEIs) but not for VET providers. To provide the possibility of issuing micro-credentials for VET as well, the Alliance can use the EDC System and connect it to the learning platform and the Skills Hub.

- **EURES**

  EURES (European Employment Services) is a Europe-wide network that promotes intra-European mobility in the labour market. The network's partners include public employment services, trade unions, and employers' organisations.

  In the Alliance, EURES can be used to promote job opportunities and internships to students and learners.

- **EQF (European Qualification Framework)**

  The EQF is a reference framework designed to make national qualifications more understandable across Europe. With eight defined levels based on learning outcomes, EQF helps compare education systems and facilitates lifelong learning.

  The Alliance uses to classify all developed trainings courses. These training courses range from EQF levels 3 to 8 (secondary school to PhD level) and can be filtered accordingly on the learning platform and the Skills Hub.

- **ESCO (European Skills, Competences and Occupations)**

ESCO is a classification system that categorizes jobs, knowledge, skills, and competencies relevant to the EU labor market and education sector. It functions as a "dictionary" for the description and identification of professions and abilities, aiming to improve mobility, job matching, and ensures a shared language for labour and education stakeholders.

Within the Alliance we use the ESCO framework to connect the developed trainings of the academy with knowledge, skills and competences of the ESCO database. Using the Skills Hub, which we explain in section 3.2.2, we can then link trainings with occupations in the ESCO database and vice-versa. Further on, in section 4, we propose updates on three occupational profiles, based mainly on missing but desired knowledge, skills, and competences in the training course descriptions.

- **ECTS (European Credit Transfer System), ECVET (European Credit System for Vocational Education and Training)**

  ECTS is a standardised system for accrediting and transferring academic credits across higher education institutions. It ensures that course workloads and student achievements are comparable and recognized across different countries, which is key for student mobility and mutual recognition. ECVET is the counterpart to ECTS in vocational education and training (VET).

  Within the Alliance, we use ECTS and ECVET, if applicable, to describe the workload of the trainings. If neither ECTS nor ECVET can provide for trainings, we use the number of learning hours to quantify learning effort.

- **EU Login**

  EU Login is the European Commission's secure authentication service that allows users to access a wide range of EU web services and platforms with a single digital identity. It ensures secure access for citizens, businesses, and institutions to official EU digital services, by either a two-factor login or the national electronic identity (eID).

  The EU Login could be used on the learning platforms and on the Skills Hub to provide a unified authentication service and eliminating the need to maintain separate login credentials.

- **EU Academy**

  The EU Academy is a free, online educational platform managed by the European Commission. It offers high-quality resources, online courses, and webinars directly developed by EU institutions to support the understanding and implementation of EU policies and improve professional skills in a variety of fields.

  Within the Alliance, we can link to the courses of the EU Academy, if applicable. However, we do not plan to host any courses on this platform, as we are developing our own learning platform with community and networking features within the ECSA project.

- **e-CF (European e-Competence Framework)**

  The e-CF is a standardized framework that defines and assesses ICT (Information and Communication Technology) competences in the labour market. It helps organisations, education providers, and professionals map, develop, and recognize digital skills in a clear and comparable way.

  The e-CF acts as a role model to develop and/or update ESCO profiles within the Alliance. We suggest some updates and new ESCO profiles in section 4.

In a questionnaire the consortium answered two questions (see Figure 1) on EU tools and frameworks:

- First, whether they agree that these EU tools and frameworks are beneficial to be used in the Alliance, and whether these tools can support its implementation (see first red/yellow column).
- Second, whether they have experience with these EU tools and frameworks (see blue column).

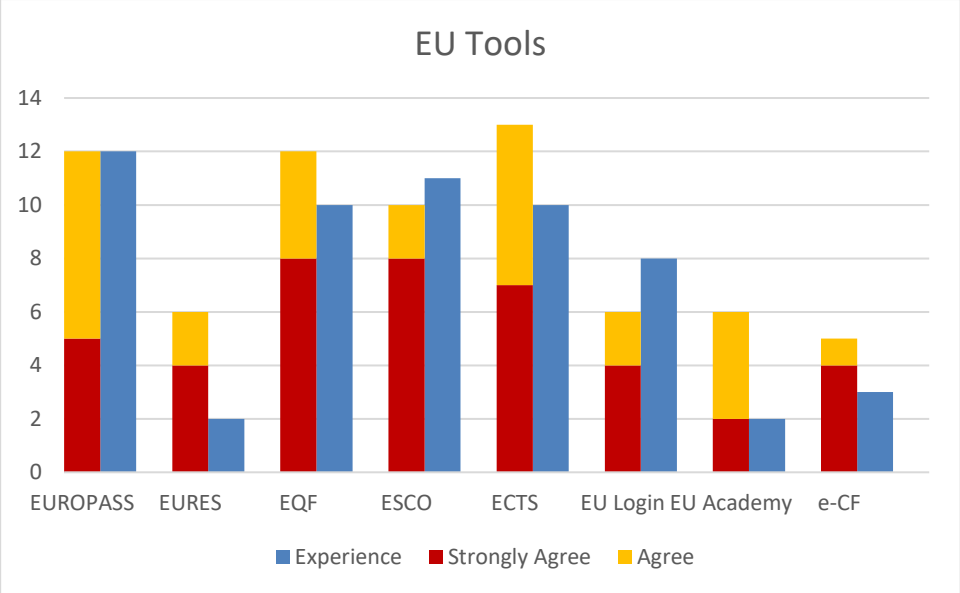

Figure 1: EU Tools and Frameworks, experience of partners and agreement to use in ECSA.

The partners strongly agreed that it would be very beneficial to use the Europass (including EDC) platform and the EQF, ESCO and ECTS frameworks within the Alliance. The questionnaire also showed that the consortium has the most experience with these tools and frameworks. As of these two reasons, we prioritise these tools and frameworks in the implementation of the project. However, if applicable we also introduce the other tools and frameworks in the Alliance.

3.2 Alliance Platforms

Within the project, we develop two platforms that support the Alliance's value propositions. One is the learning and networking platform, and the other is the Skills Hub. We provide more details on the platforms in deliverable “ECS-Academy digital architecture, website and Open Educational Resource (OER) Platform” (project identifier D4.1).

3.2.1 Learning and Networking Platform

The learning and networking platform[1] is mainly developed by partner Knolyx. This platform provides a learning management system (LMS) and expands it with networking features by enabling the creation of individual communities and forums. Furthermore, it offers feedback options, for example for courses validates, and issues certificates on successful completion of a course.

In the questionnaire (see Figure 2) among all consortium partners, it emerged that most partners have so far used either their own platform or another external platform to host their courses and trainings. Only a few partners use a massive open online course (MOOC) platform. Many partners would prefer to switch from external platforms to platforms of ECSA resp. the Alliance. However, some other partners would still like to continue using their own platform.

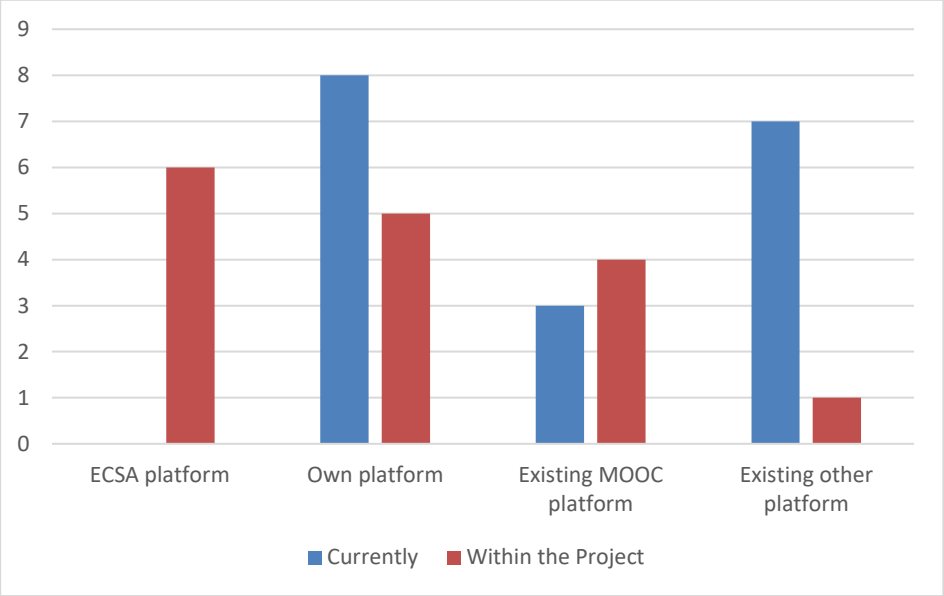

Figure 2: Platforms used by consortium partners to host courses before (currently) and within the project.

In order to meet the requirements of all partners, we have therefore also further developed the Skills Hub. This Skills Hub enables courses hosted at different locations to be linked accordingly. We describe the Skills Hub in the following section.

3.2.2 Skills Hub

The Skills Hub[2], previously known as the Skills Framework, was originally developed as part of the DRIVES[3] project by partner TU Ostrava. The Skills Hub acts as a database and links courses on numerous learning platforms and from many different of providers. Course creators can provide information on the course, such as title, abstract, delivery methods, requirements, EQF levels, ECTS/ECVET credits, etc. Additionally, course creators can link their courses to the ESCO knowledge, skills, and competences. The Skills Hub then links these to occupational profiles, and by that enables the connection to the Europass framework.

[1] https://learn.chipsacademy.eu/
[2] https://skills-hub.eu/
[3] https://www.project-drives.eu/

3.3 Further Institutions

In the following, we list other institutions that we can collaborate with and use as good practice examples.

- EIT (European Institute of Technology) Digital

  EIT Digital is a community that advances digital innovation and entrepreneurial talent throughout Europe. It connects over 300 organizations, including leading enterprises and universities, to support digital tech startups and educational initiatives. EIT Digital maintains a strong EU-wide network for digital growth and research.

  The EIT Digital serves as a model example for the Alliance, as it offers similar value propositions, but on the topic of digitalisation. It emphasises networking and community-building and offers training programmes and master classes.

- CEDEFOP (European Centre for the Development of Vocational Training)

  CEDEFOP is an EU agency that supports the development of vocational education and training (VET) policies. It assists policymakers and practitioners by providing comparative research, analysis, and data about VET, lifelong learning, and labour market trends in Europe.

  In the Alliance, we can collaborate with CEDEFOP in the creation of trainings on EQF 3-5, as well as in the skills monitoring to actively adapt to labour market trends in Europe.

- aCCCess (Uniting Europe's Chip Competence)

  aCCCess is a European initiative that aims to strengthen and connect centres of excellence for semiconductors across Europe. The focus is on improving collaboration between stakeholders in research, education, and industry, promoting knowledge exchange, and supporting continuing education opportunities in the field of microelectronics. By linking regional strengths and enabling shared access to infrastructure, aCCCess contributes to the development of a coordinated European approach to chip design, manufacturing, and innovation.

  For the alliance, aCCCess is an important partner for connecting with a network of centres of excellence and leveraging their capacities for joint competence development and knowledge transfer in the semiconductor sector.

4. Updates on ESCO Occupational Profiles

In this section, we propose updates on the ESCO Occupational Profiles that are related to the semiconductor industry. We recommend updates on the essential and optional knowledge, skills, and competences of existing occupations.

According to the specific conditions applying for the use of the ESCO service[4], we would like to point out that "this publication uses the ESCO classification of the European Commission".

4.1 What is an ESCO Occupational Profile?

ESCO stands for European Skills, Competences, Qualifications and Occupations, a Europe-wide classification system for occupations and the associated skills and knowledge. An ESCO occupational profile describes a profession (occupation) with a standardised title, alternative titles, a definition, and an assignment of relevant knowledge and skills. These knowledge, skills, and competences are divided into essential (indispensable) and optional (supplementary) categories. A knowledge entry in general is described using only a noun and an optional adjective. A skill or competence in the ESCO database is described using a verb and noun to highlight the application of the skill or competence.

For example, the profile "microelectronics engineer"[5] contains a description of the activity (design, development, and monitoring of the production of microelectronics components) as well as a list of essential knowledge, skills and competences such as "computer simulation" (knowledge), "test microelectronics" (skill/competence) and "design microelectronics" (skill/competence). Optionally, additional areas of knowledge, skills and competences are listed that can be beneficial for the role, e.g., knowledge of "integrated circuit types" or "semiconductors" in the case of the occupation "microelectronics engineer". These profiles serve as a reference for the labour market, education, and career counselling throughout Europe by creating a common understanding of which competencies are associated with a specific occupation. We also use this database in the Skills Hub, that we describe in section 3.2.2.

4.2 Why and How are ESCO Occupational Profiles Updated?

The world of work – especially in high-tech areas such as microelectronics – is constantly evolving. Therefore, existing ESCO profiles may contain gaps when new technologies or methods emerge. Proposing updates on the ESCO database can be done in various ways:

- **Supplementing existing profiles with existing ESCO skills/knowledge.**

  Here, we identify new relevant knowledge, skills, and competencies that already exist in the ESCO database but are not yet assigned to a microelectronics profile. These can then be added to the occupational profile as essential skill/knowledge or optional skill/knowledge. For example, for the Microelectronics Engineer, one could add the knowledge "six sigma methods" or the skill and competence "design power electronics".

- **Supplementing existing profiles with new skills/knowledge.**

  If new knowledge, skills, and competences, that are not yet in the ESCO catalog, emerge, we

[4] https://esco.ec.europa.eu/en/about-esco/faq?search=acknowledge
[5] http://data.europa.eu/esco/occupation/8c0f59c9-9a47-42e7-8287-aab19df4e6ab

propose new ESCO knowledge, skills, and competences to be added to the database. These can then also be added to the respective profiles. An example would be an emerging skill such as “design 3D-IC packaging” or “design quantum chips”. In such cases, we describe the new skill and propose to add it to the database and to link it to existing occupational profile.

- **Creating a completely new occupational profile.**

  If applicable, we propose new occupational profiles. However, this is less preferred as ESCO already defines a large number of occupations. Instead of defining a completely new occupation, we try to map special roles as sub-profiles or specializations within existing ESCO occupations (an example: instead of creating a new profession “EMC Engineer,” we would check whether we can supplement the aspects in the profile “Electromagnetic Engineer.”)

These updates ensure that the ESCO occupational profiles reflect the current and future competency needs of the industry.

In the former EU project, METIS, several new microelectronics occupational profiles were proposed and added to the ESCO database:

- Microelectronics Designer (2152.1.6)
- Microelectronics Engineer (2152.1.7)
- Microelectronics Materials Engineer (2152.1.8)
- Microelectronics Smart Manufacturing Engineer (2152.1.9)

These profiles have already been incorporated into ESCO version 1.2 (as of 2024).

4.3 (Partially) Missing Knowledge, Skills and Competences

Within this project, we propose updates on the ESCO occupational profiles mainly on the knowledge, skills, and competences that we teach in the training courses in WP5 and on the results of Skills Strategy conducted in WP3. The course providers associate each training course with knowledge, skills, and competences, preferably already existing in ESCO. However, there are some courses, where appropriate knowledge, skills, and competences are not or only partially present in ESCO. These knowledge, skills, and competences, that do not yet exist in ESCO represent a practical use case and provide good reasoning to add these missing skills into the ESCO database.

In Table 1, we list all courses from the reactive and proactive response of WP5, where the associated knowledge, skills and competences do not, or only partially match the ESCO database. We summarise and describe all (partially) missing skills in Appendix F – Suggested Knowledge, Skills and Competences from Training Courses. These knowledge, skills and competence entries are well suited for inclusion in the ESCO framework.

ID	Title
P03.02	EMC Workshop
P05.01	Introduction to Lean Six Sigma
P05.02	Management of Innovation Projects
P05.03	Digital Strategy and Competences
P05.04	Understanding Digital Transformation
P13.01	AENEAS Summer School

Table 1: List of courses, where knowledge, skills and competences partially match ESCO.

4.4 Updates of ESCO Profiles

In the following, we propose updates to the following existing ESCO occupational profiles of

- 2152.1.7 microelectronics engineer,
- 2152.1.10 microsystem engineer,
- 2152.1.9 microelectronics smart manufacturing engineer,
- 2512.4 software developer,
- 1330.7 ICT project manager.

Each Table contains suggestions on adding essential or optional knowledge respectively skills and competences. Entries that are marked with a (+) symbol mean, that this knowledge, skill or competence is not yet present in the ESCO database and would be needed to be added to the ESCO first.

2152.1.7 Microelectronics Engineer

Name	microelectronics engineer	**ID**	2152.1.7
Description	Microelectronics engineers design, develop, and supervise the production of small electronic devices and components such as micro-processors and integrated circuits.		
Proposed knowledge, skills and competences			
Essential skills and competences:		**Essential knowledge:**	
meet commitments develop improvements to the electrical systems		lithography (+) fabrication of semiconductor devices (+)	
Optional skills and competences:		**Optional knowledge:**	
produce sustainable products calibrate electronic instruments plan projects (+) initiate projects (+) apply EMI mitigation techniques (+) apply RF techniques in electronic measurements (+) interpret EMI emission plots (+)		electromagnetic compatibility (+) coupling mechanisms in EMI (+)	
Hierarchy			
2 Professionals 21 Science and engineering professionals215 Electrotechnology engineers 2152 Electronics engineers 2152.1 electronics engineers 2152.1.7 microelectronics engineer			

2152.1.9 Microelectronics Smart Manufacturing Engineer

Name	microelectronics smart manufacturing engineer	**ID**	2152.1.9
Description	Microelectronics smart manufacturing engineers design, plan and supervise the manufacturing and assembly of electronic devices and products, such as integrated circuits, automotive electronics or smartphones, in an Industry 4.0 compliant environment.		
Proposed knowledge, skills and competences			
Essential skills and competences:		**Essential knowledge:**	
identify suppliers develop methodologies for supplier evaluation process incident reports for prevention handle incidents complying with operational procedures		supplier management	
Optional skills and competences:		**Optional knowledge:**	
use sustainable materials and components		sustainable technologies sustainable Manufacturing	
Hierarchy			
1 Managers 13 Information and communications technology service managers 1330 Information and communications technology service managers 1330.7 ICT project manager			

2152.1.10 Microsystem Engineer

Name	microsystem engineer	**ID**	2152.1.10
Description	Microsystem engineers research, design, develop, and supervise the production of microelectromechanical systems (MEMS), which can be integrated in mechanical, optical, acoustic, and electronic products.		
Proposed knowledge, skills and competences			
Essential skills and competences:		**Essential knowledge:**	
Fabrication of Semiconductor Devices (+)		Lithography (+)	
Optional skills and competences:		**Optional knowledge:**	
package microelectromechanical systems Plan projects (+) Initiate projects (+)			
Hierarchy			
2 Professionals 21 Science and engineering professionals 215 Electrotechnology engineers 2152 Electronics engineers 2152.1 electronics engineers 2152.1.10 microsystem engineer			

2512.4 Software Developer

Name	software developer	**ID**	2512.4
Description	Software developers implement or program all kinds of software systems based on specifications and designs by using programming languages, tools, and platforms.		
Proposed knowledge, skills and competences			
Essential skills and competences:		**Essential knowledge:**	
Optional skills and competences:		**Optional knowledge:**	
Plan projects (+) Initiate projects (+) Identify digital transformation trends (+)		Digital transformation leadership (+)	
Hierarchy			
2 Professionals 25 Information and communications technology professionals 2512 Software developers 2512.4 software developer			

1330.7 ICT project manager

Name	ICT project manager	**ID**	1330.7
Description	ICT project managers schedule, control, and direct the resources, people, funding and facilities to achieve the objectives of ICT projects. They establish budgets and timelines, perform risk analysis and quality management, and complete project closure reports.		
Proposed knowledge, skills and competences			
Essential skills and competences:		**Essential knowledge:**	
Plan projects (+) Initiate projects (+) Identify digital transformation trends (+)		Digital transformation leadership (+) Fundamentals of digital transformation (+) Digital transformation process (+)	
Optional skills and competences:		**Optional knowledge:**	
develop green computing solutions		green computing Industry 5.0 (+)	
Hierarchy			
1 Managers 13 Information and communications technology service managers 1330 Information and communications technology service managers 1330.7 ICT project manager			

5. Conclusions and Next Steps

In this deliverable, we describe the operational features and tools that are necessary to establish and run the Alliance. This includes the formal documentation, with the Terms of Reference, Codes of Conduct for members and students/learners and partnership agreement templates. Further on, we describe which EU tools and frameworks we use and the learning and networking platforms that we develop and update to support the Alliance. Finally, we propose updates on semiconductor-related ESCO occupational profiles.

This deliverable, in conjunction with "ECSA Institutional Arrangements (Governance and Functioning)" (project identifier D3.3), fulfils the project milestone "ECS-Academy Governance and Functioning". Further on, this deliverable contributes to the KPI "ECS-Academy established with operational configuration of teaching, learning, professorships, WBL, mobility, etc."

The next step is the project milestone "Launch of ECS-Academy" in February 2026. The launch will be based on the operational features and tools described in this deliverable D3.4 and on the deliverables "ECSA Institutional Arrangements (Governance and Functioning)" (project identifier D3.3), "ECS-Academy Educational and Pedagogical Aspects" (project identifier D3.5) and "ECS-Academy Implementation and Validation Plan" (project identifier D3.6). After the launch, the operational features and tools will be thoroughly assessed and, if necessary, appropriate adjustments will be made to formal documentation and the used tools and frameworks.

Appendix A – Terms of Reference

Article 1: Definitions

The following definitions shall apply throughout this document:

- **Alliance/ECSA**: European Chips Skills Alliance.
- **(Alliance) Board**: The body responsible for operational decisions and oversight of the Alliance.
- **General Assembly**: The decision-making body comprising representatives of all Full Members.
- **Management Director**: The administrative and operational body of the Alliance.
- **Working Group (WG)**: A thematic group established to address specific focus areas of the Alliance.
- **(Full) Member**: A full member organization with voting rights.
- **Associated Member**: A participating organization without voting rights, generally with skills-related interests.
- **Conflict of Interest**: A situation where a Member or individual's actions or decisions could be influenced by personal interests conflicting with the Alliance's objectives.
- **Quorum**: The minimum number of members required to validate a meeting or vote.

All terms not expressly defined herein shall be understood in accordance with commonly accepted meanings in EU institutional and project contexts.

Article 2: Purpose and Activities

2.1 Statute

Convinced of the critical need to bridge the gap between education, industry, and policymakers in the microelectronics sector and improve collaboration between regions to support the cultivation of new talent, the purpose of the European Chips Skills Alliance, hereinafter also called Alliance, is to:

- Provide a unified voice for its members, particularly to collaborate with and inform the European Commission on talent and skills needs in the industry.
- Sustain and deepen the cooperation between Industry, VET, Higher Education Institutes, accreditation centers, social partners, and other interested stakeholders.
- Endorse and support the Pact for Skills Agenda.
- Act as a central meeting point for European projects to share knowledge and jointly work towards project goals.

2.2 Mandate

The activities of the Alliance are to:

- Increase the attractiveness of the semiconductor industry.
- Facilitate access to training and career opportunities in the sector for younger generations.
- Facilitate cross-border employability of jobseekers by establishing mutually recognized micro-

credentials.

- Act as a “discussion hub” which enables members to exchange on various topics and work on the collective goals and activities.
- Develop and execute training programs that support the harmonization of curricula across the sector and lower barriers to entry for new and returning learners.
- Establish and maintain a Skills Observatory to constantly analyze and monitor trends impacting the industry.
- Raise awareness of the talent and skills needs to policymakers and the public at large.
- Implement the principles of diversity, equity, and inclusivity into training activities and facilitate the inclusion of underrepresented groups.
- Assist National Competence Centers in providing training opportunities and resources for upskilling and connecting them with like-minded projects and organizations across Europe.
- Compare best practices from regions outside of the EU to those within the EU to identify potential initiatives to increase Europe’s capacity for attracting and retaining talent.

Article 3: Membership

3.1 Members and Associated Members

The Alliance has the following membership categories:

- Full Membership,
- Associated Membership.

The Full Members and Associated Members enjoy different rights and obligations.

Full Members

Full members of the Alliance must be stakeholders in the semiconductor and/or educational ecosystem; this may include but is not limited to industrial companies active in the supply chain, Higher Education Institutions (HEIs), Vocational Education and Training (VET) providers, research organizations, trade unions, STEM organizations and clusters. With a full membership, members can participate in all working groups and benefit from the results through early access. Full Members are entitled to vote at the general assemblies and can become part of the Alliance board.

Associated Members

The following entities may be accepted as Associated Members:

- Industry associations which do not represent the semiconductor ecosystem but are active in the realm of skills development.
- Small and Medium Enterprises (SMEs).
- Higher Education Institutions (HEIs).
- Vocational Education and Training (VET) providers.

Associated members have non-priority access to all working groups. Associated members are not

entitled to vote at the general assemblies and may not be part of the Alliance board.

3.2 Membership Fees

The Alliance applies a tiered, annual, fee-based membership model for Full Members, with the Associated Membership fee set at 5% of the Full Membership fee for a large enterprise.

Type of organisation	Full membership fee (relative)
Large enterprise/company (> 250 employees)	100%
Small and medium enterprise	50%
University and VET provider	30%
Research organisation	30%
Cluster	30%
Associated Membership	5%

The Full Membership fee for a large enterprise will be first determined by the Alliance Board and approved by the General Assembly based on financial requirements identified between the launch of the Alliance and the end of the funded project phase. All costs during this period are covered by the project, allowing for accurate financial modelling.

Fees are reviewed annually by the Alliance Board and may be updated following General Assembly approval to reflect operational requirements and economic conditions.

3.3 In-Kind Membership and Contribution Model

In exceptional cases, the Alliance Board may approve that a member's financial contribution be partially or fully replaced by documented in-kind contributions. To ensure fairness and active participation among all members, the Alliance establishes an in-kind contribution model, enabling members to partly or completely fulfil their membership status through documented, measurable in-kind efforts.

- Eligible in-kind contribution activities include, but are not limited to, those listed in D3.3, Appendix A. This list represents a rough estimate. The values can be adjusted by the Management Director according to the actual documented contribution.
- Membership statuses are linked to minimum annual in-kind credit thresholds:
    - A full membership for a large enterprise is equivalent to 100 credits per year. Other in-kind credit thresholds are linked in relation to the tiered fee-based membership model.
    - An associated membership is equivalent to 5 credits.
- Contributing members are required to document and provide a time estimate for each in-kind activity. This documentation is reviewed by the Management Director, who may adjust credit assignments.
- The in-kind contribution list and assigned credit values and thresholds are reviewed and updated annually by the Alliance Board, based on operational experience, and approved by the General Assembly.

3.4 Minimum number of Members

The Alliance has at least fifteen (15) Full members.

3.5 Admission

Each application for membership submitted through the dedicated sign-up form on the ECSA website[6] shall be reviewed by the Management Director against the eligibility criteria. The sign-up form includes the organization name, office location, areas of competences, type of organization, and contact details for the representative. The form also allows prospective Alliance members to indicate which Working Groups they would like to participate in. Upon preliminary admission, members are obliged to pay the annual membership fee, that applies to them. In exceptional cases, they may provide a plan on contributing in-kind, that needs to be approved by the Alliance Board. New Members and Associated Members are bound by the present Terms of Reference and may exercise the rights conferred to them immediately.

3.6 Termination

Each Member or Associated Member may terminate their membership at any time within a 30 days' notice by sending a registered letter addressed to the Board.

3.7 Member Responsibilities

All Members are expected to:

- Participate actively in meetings and Working Groups.
- Respect confidentiality and data protection protocols.
- Declare any conflicts of interest in advance.
- Promote the mission and activities of the Alliance.
- Pay yearly membership fees and/or provide the agreed-upon in-kind contributions

3.8 Code of Conduct

Members agree to the Code of Conduct to uphold respectful, inclusive, and professional behaviour in all Alliance-related activities and interactions. The Code of Conduct is defined in Appendix B – Code of Conduct.

Article 4. Governing bodies of the Alliance

The Alliance is composed of the following governing bodies:

- The Board and
- The General Assembly.

The Alliance benefits from the support of the following entities:

- The Management Team and
- The Working Groups.

[6] https://docs.google.com/forms/d/e/1FAIpQLScESClCRCJFrxF33q4oYz0CJ9QaYCyxA2yBAwVkSyITzJDcBA/viewform

Article 5. The Alliance Board

5.1 Members

The Alliance Board is responsible for operational decisions within the Alliance and is designed to work efficiently while representing all relevant stakeholders in the semiconductor ecosystem.

The Board shall consist of a maximum of ten (10) Alliance members, representing the diversity of the ecosystem as follows:

- One industry cluster organisation,
- Three industry partners, with preference for at least one Small or Medium Enterprise (SME),
- One research organisation,
- Two Higher Education Institutions (HEIs),
- One Vocational Education and Training (VET) provider,
- One soft skill/social partner,
- One competence center (network).

5.2 Powers

The Alliance Board has the power to perform all acts and take all decisions that are necessary or useful for the realisation of the object and the disinterested purpose of the Alliance, with the exception of strategic decisions for which the General Assembly has exclusive competence. The Board also has the authority to draw up Internal Rules.

The Board, in particular:

- Reports to the General Assembly.
- Sets the vision and strategic objectives of the Alliance.
- Provides guidelines and advice to the Management Director of the Alliance.
- Assures internal and external communications, including the attendance of external; events, such as official or informal meetings, conferences, forums, etc.
- May represent the Alliance in high-level stakeholder meetings.
- Participate in the selection of key topics for Working Groups, vision papers, and letters of interest.

5.3 Decision-Making

Each Board Member has one vote.

The quorum to conduct a Board meeting is at least two-thirds (2/3) of the Board Members present or represented.

Decisions of the Board shall be taken by at least two-thirds (2/3) of the Board Members present or represented.

A Board Member may be represented by another Board Member or by another person from their

organisation/company.

Decisions of the Board may also be taken by unanimous written agreement of all Board Members.

5.4 Meetings

The Board meets at least two (2) times per year. The meeting date and venue are decided by the Board.

Decisions adopted by the Board are recorded in minutes and shall be communicated to the members of the General Assembly within four weeks of the Board meeting.

Meetings of the Board may also be validly held by video or teleconference with an electronic means of communication provided by the Alliance. The means of communication provided must at least allow the participants to:

- Check the capacity and identity of the other participants.
- Take direct note, simultaneously and without interruption, of the deliberations of the meeting.
- To exercise their right to vote on all matters on which the Board is called upon to decide.
- Participate in the debate and ask questions.

The convocation of the Board shall include a clear and precise description of the procedures for remote participation.

Article 6. The General Assembly

6.1 Members

Each Member is represented in the General Assembly by an appointed representative. The representative should be empowered to make decisions on behalf of the Member company or institution.

Each Member has equal voting rights and equal powers as detailed in the present articles.

6.2 Powers

The General Assembly:

- Approves the long-term strategy of the Alliance.
- Reviews the achievements of the Alliance and may propose objectives for the coming year.
- Exchanges on industry trends and challenges affecting the microelectronics industry, emerging technologies, and forecasted skills needs.
- Creates and dissolves Working Groups.
- Approves modifications to the Articles of Association.

6.3 Voting rights and Decision-Making

Each Member has one vote.

Associated Members have no voting right. Associated Members will still have the opportunity to provide feedback on decisions taken by the members and participate in discussions of the General Assembly.

Decisions shall be taken by at least a two third (2/3) majority of the present or represented Members.

Abstentions and invalid votes shall not be counted.

6.4 Elections of the Working Group Leaders

Working Group Leaders are initially appointed to facilitate the activities of the Alliance at its outset.

Elections for Working Group Leaders are held at the first meeting of the General Assembly and all subsequent General Assembly meetings. The Alliance maintains the aim of gender balance amongst the Working Group Leaders and, as such, strives for at least two (2) Working Groups led by women.

Candidates for Working Group Leader must demonstrate their proficiency in the subject matter of their desired Working Group and submit their CV for evaluation by the Board and General Assembly. A call for candidates listing the eligibility requirements for candidacy will be published by the Management Director no later than one (1) month ahead of the General Assembly meeting.

Elections for Working Group Leaders shall be approved by at least a two third (2/3) majority of the present or represented Members.

Abstentions and invalid votes shall not be counted.

Working Group Leaders have a mandate of one (1) year, beginning on the first of January and terminating on the 31st of December. Working Group Leaders are not subject to term limits and may stand for election insofar as they meet the eligibility criteria set out in the call for candidates.

6.5 Meetings

The General Assembly meets once per calendar year to assess the activities of the previous year, approve the long-term strategy for the coming year, and to elect the Working Group Leads.

General Assembly members can be represented by any individual from their company or from another Member holding a proxy.

Decisions adopted by the General Assembly shall be recorded in meeting minutes, the Management Director provides a copy of the meeting minutes, including all decisions adopted therein, to the Members of the Alliance no later than four weeks following the General Assembly meeting.

Meetings of the General Assembly may also be validly held by video or teleconference with an electronic means of communication provided by the Alliance. The means of communication provided must at least allow the participants to:

- Check the capacity and identity of the other participants.
- Take direct note, simultaneously and without interruption, of the deliberations of the meeting.
- To exercise their right to vote on all matters on which the General Assembly is called upon to decide.
- Participate in the debate and ask questions.

The convocation of the General Assembly shall include a clear and precise description of the procedures for remote participation.

Article 7. The Management Director

7.1 Powers and Responsibilities

The Management Director acts as the implementing arm of the Alliance to carry out the day-to-day activities and operationalize the long-term strategic plan.

The Management Director has the capacity to:

- Engage with policy makers to represent the views of the Alliance and feed into the policymaking process with evidence-based, industry insights.
- Report on the activities of the Alliance to the Board.
- Build linkages between the activities of the Alliance, related European and national projects, and the national competence centers.
- Implement the policies of the Alliance as determined by the long-term strategy approved by the Board and General Assembly.
- Represent the Alliance at events and other high-level fora.
- Assist the Board in the definition of medium- and long-term strategies of the Alliance.
- Manage the day-to-day operation of the Alliance.
- Provide assistance to the Working Groups, such as by drafting documents or organizing meetings.
- Ensures regular communication on the activities of the Alliance to all Members, all internal and external communications, deliverables and positions of the Alliance are channelled through the Management Director.
- Coordinate the activities of the Working Groups in cooperation with the Working Group Leaders.

7.2 Location

The Alliance shall be based in Brussels, Belgium at the SEMI Europe office, Rue du Commerce 124. The Board is responsible for approving changes to the premises of the Alliance as proposed by the Management Director.

7.3 Daily Management

The Board delegates the internal day-today management of the Alliance, as well as the external representation relating to this day-to-day management, to the Management Director. The Board is responsible for the supervision of this daily management body.

7.4 Management Team

The Management Director is responsible for the efficient coordination of the various Working Groups in cooperation with the Working Group Leaders. For this purpose, the Management Director will convene the Management Team, consisting of the Working Group Leaders and the Management Director, on a bi-annual basis to receive updates on the activities of each Working Group and assist Leaders in planning upcoming activities to ensure they contribute to the attainment of the medium and long-term strategies. Ad hoc meetings may be organized at the request of the Management

Director.

Article 8. The Working Groups

8.1 Participation

The Working Groups are open for participation to all Members.

Where appropriate, the Lead of the Working Group may invite external experts to attend a meeting.

8.2 Powers

The General Assembly creates and dissolves Working Groups to help meet the objectives of the Alliance.

The Alliance Board approves the annual work programs of the Working Groups.

Decisions taken by unanimity in any Working Group within the limits of the powers granted to them shall not require the approval of the Board.

Each Working Group is entitled to create one or more subgroup(s) for specific tasks, projects, etc. The subgroup(s) report(s) to the corresponding Working Group(s).

The Working Groups of the Alliance are as follows:

- Skills Observatory (Skills WG): monitors skills trends and emerging job profiles in microelectronics by consulting a vast range of stakeholders. It collects and consolidates data from different sources to help quantify the talent gap in Europe.
- Diversity, Equity and Inclusion and Belonging (DEIB WG): ensures the compliance and adherence of the Alliance with the principles of diversity and equal and inclusive opportunities in the microelectronics industry. The group collaborates with national and the EU public authorities to provide recommendations on the promotion of STEM among women, raise the attractiveness and awareness of microelectronics jobs profiles and enhance employability.
- Training and Education (Edu WG): facilitates collaboration between the education and the world of work, to adapt the existing trainings and develop new modules based on the identified needs of the industrial partners. It helps to develop pilot programmes designed to strengthen the link between education and work such as work-based learning activities to support continuous learning and increased internship opportunities to streamline the transition from university to industry.

8.3 Decision-making and voting rights

Decisions in the Working Groups are taken consensually by the members present and represented.

8.4 Meetings

The Working Groups meet regularly, as defined by the Working Group Leader.

When there are no relevant issues justifying the organisation of Working Group meetings in a year, the Board shall reassess the situation of the concerned Working Group and, if necessary, propose its termination to the General Assembly.

8.5 Role of the Working Group Leader

The Working Group Leader facilitates and coordinates the work of the Group, in line with the Terms of

Reference and the work programme approved by the Board.

The Working Group Leader is a physical person and not a company. The Working Group Leader is elected intuitu personae.

If the Working Group Leader is no longer eligible or able to carry out their tasks during their term, the Board may appoint by unanimity another Working Group Leader for the remaining time of the mandate.

Article 9. Advisory Roles

The Alliance Board is supported by various advisory roles, that represent different types stakeholders.

The following groups can support and advise the Alliance Board:

- The **Pact for Skills Executive Board** is comprised of high-level (defined as CEO, Director, President, Vice-President, Professor, or related title subject to the Member's internal regulations) representatives of the respective member companies or institutions and provides strategic guidance to the Alliance Board. The Pact for Skills Board shall consist of a minimum of six (6) members with no more than two (2) representatives per country. In addition to geographic balance, the Pact for Skills Board should also aim to achieve a 50/50 gender balance as well as adequate representation of different sized enterprises (i.e., SMEs, large companies, etc.). A Pact for Skills Board Member is a physical person and not a company or institution.
- The **Educational Board** consists of at least ten (10) members from Higher Education Institutions (HEIs) and Vocational Education and Training (VET) providers. Members are chiefly responsible for providing strategic guidance on the development of educational materials and courses
- The **Industry & Research Representatives Board** consists of at least ten (10) members and advises on the interests of industry partners and research organizations. It plays a crucial role in shaping the Alliance's approach to networking, career guidance, and skills intelligence. By providing insights from industry and research perspectives, this advisory group ensures that the Alliance's activities remain relevant and responsive to sector developments.
- The **Student Representatives Board** consists of at least ten (10) student (ambassador) members and provides the Alliance Board with the student and learner perspective. It ensures that the Alliance stays connected with the student community and captures their needs and views.
- The **European Policy Makers Advisory Board** provides input and feedback from policy makers to the Alliance Board, ensuring that the Alliance can swiftly and effectively adapt to regulatory and policy changes at the European level.

Article 10. Financial Resources

ECSA may be financed and sustained through:

- EU project funding,
- Membership fees,
- Membership in-kind contributions,
- Public-private partnerships,

- Other grants and donations.

Annual financial planning and resource allocation decisions rest with the Alliance Board, with reporting to the General Assembly.

Article 11: Intellectual Property Rights

The ownership of the results and outcomes of the Alliance, including industrial and intellectual property rights, and the reports and documents related thereto, are vested in the name of the member. The member gives the Alliance the right to freely use these results, at their discretion, provided, that through this use they will not fail to fulfil their obligations in relation to confidentiality and the background of industrial and intellectual property rights.

Article 11: Intellectual Property Rights (IPR)

11.1 Ownership and Use of Contributions

Members contributing materials, documents, research, code, data, or other intellectual property ("Contributions") to the Alliance retain ownership of their respective intellectual property rights in those Contributions.

By submitting any Contribution to the Alliance (including Working Groups), the contributing Member grants the Alliance a worldwide, irrevocable, perpetual, non-exclusive, royalty-free license to use, reproduce, modify, distribute, and publicly display and perform the Contribution for the purposes of Alliance activities and dissemination.

Should joint works be created involving two or more Members and/or Alliance, such intellectual property shall be considered Joint IPR and be owned jointly by the contributors and the Alliance. Each joint owner is entitled to exercise all rights of ownership, unless otherwise agreed by written contract.

11.2 Alliance-Owned Intellectual Property

Materials, specifications, documents, or software developed by Alliance employees, contractors, or transferred to the Alliance become Alliance IPR, vested in the Alliance itself. The Alliance may freely use and publish such results, with Member rights to Alliance IPR determined by the Alliance Board.

11.3 Licensing and Access

Alliance IPR and Joint IPR may be licensed to Members and partners under terms specified by the Alliance Board, ensuring alignment with the Alliance's objectives of openness, innovation, and broad industry adoption.

11.4 Confidentiality and Data Protection

Members are expected to respect confidentiality regarding unpublished Alliance documents, specifications, and project materials unless specifically authorized for public release.

All Members shall comply with EU regulations regarding data protection for any confidential or proprietary information shared within the Alliance.

Article 12: Amendments and Review

This ToR document shall be reviewed every two (2) years or when significant changes arise.

Amendments require a two-thirds (2/3) vote of the Members present at a General Assembly.

Proposed amendments must be circulated at least 3 weeks in advance.

Article 13: Dissolution of the Alliance

The Alliance may be dissolved through a two-thirds (2/3) vote of all Full Members.

Upon dissolution, remaining assets or documents (if applicable) shall be audited and assigned based on agreements established at the time of dissolution or per the decision of the General Assembly.

These Terms of Reference are effective from the date of their adoption by the General Assembly and supersede any prior internal governance documents.

Appendix B – Code of Conduct

This Code of Conduct reflects the shared values and commitments essential for fulfilling the mission and activities of the European Chips Skills Alliance, resp. the Alliance. This Code of Conduct therefore ensures a collaborative, respectful, and inclusive environment for all members and stakeholders.

1. Commitment to Purpose and Activities

Support and Collaboration

Members commit to bridge education, industry, research and policymaking in the microelectronics sector. They actively promote unified communication with all relevant stakeholders, endorsing the Pact for Skills Agenda.

Inclusivity and Diversity

Members shall implement principles of diversity, equity, and inclusion (DEI) in all activities of the Alliance. This commitment includes supporting underrepresented groups and promoting equal opportunities across all objectives of the Alliance.

Collaboration and Sharing

Members agree to engage constructively as part of the Alliance, sharing knowledge, best practices, and resources to foster cooperation and to achieve the Alliance objectives.

2. Membership Responsibilities

Eligibility and Integrity

Members attest that they meet the eligibility criteria, and represent stakeholders involved in the semiconductor ecosystem. They behave to the highest ethical and professional standards.

Engagement and Contribution

Members shall participate actively in relevant Working Groups and Alliance activities, contributing expertise and resources to support joint activities, events and cross-sector collaboration.

Transparency and Communication

Members commit to timely and honest communication with the Management Director and other members. This includes providing accurate information during membership application and prompt notification of any changes, that could affect their status.

Respect and Professionalism

Members will maintain respectful behaviour towards all individuals within the Alliance. They foster a culture of collaboration, openness, and mutual respect.

3. Governance and Decision-Making

Respect for Processes

Members will adhere strictly to established governance procedures, including quorum and voting rules. They recognise decisions made by the Board and General Assembly as binding and legitimate.

Representation and Accountability

Representatives of the Board and the General Assembly shall act in good faith and with due diligence, when making decisions on behalf of their organizations, while being accountable to the Alliance.

Conflict of Interest

Members disclose any potential conflicts of interest and do not participate in decisions where personal or organisational interests could compromise impartiality or fairness.

4. Equality, Diversity, and Inclusion

Proactive Promotion

Members actively promote diversity, equity, inclusion, and belonging across all Alliance activities and interactions. This includes participation, leadership within Working Groups, and recruitment among others.

Inclusive Environment

All members foster an environment free from discrimination, harassment, or exclusionary behaviour and ensure equal access to opportunities and resources.

5. Confidentiality and Data Protection

Respect for Information

Members protect confidential information exchanged within the Alliance and comply with applicable data protection laws and use information only for authorised Alliance purposes.

Responsible Sharing

While fostering knowledge sharing, members shall recognise appropriate limits to disclosure, ensuring that no sensitive or proprietary information is improperly disseminated.

6. Meeting Conduct

Preparation and Participation

Members shall prepare adequately for meetings, attend punctually, contribute constructively to discussions, and respect diverse viewpoints.

Remote Participation

Members, who participate in meetings through electronic means, ensure that their identity and presence are verifiable and adhere to protocols to facilitate effective communication and voting.

Documentation

Members support transparent documentation of decisions and commitments, and ensure minutes and records are accurate and disseminated promptly.

7. Compliance and Accountability

Adherence to Articles

Members agree to comply fully with the Terms of Reference, and this Code of Conduct. Violations may result in review or termination of membership.

Resolution of Issues

Members seek to address and resolve misunderstandings or disputes amicably through appropriate Alliance channels. They prioritise constructive dialogue and adhere to agreed principles.

Continuous Improvement

Members commit to ongoing reflection and improvement of their engagement and contributions, and support the Alliance's evolving mission and strategic goals.

8. Leadership and Role Models

Exemplary Behavior

Board members, Working Group Leaders, and the Management Director staff demonstrate the highest standards of ethical conduct, inclusivity, and professional behaviour. All members inspire trust and cooperation within the Alliance.

Support and Mentorship

Leaders actively support the development of talent within the Alliance, promote capacity building, mentorship, and the empower diverse voices.

Appendix C – Membership Agreement Template

MEMBERSHIP AGREEMENT

between

The European Chips Skills Alliance

and

ORGANISATION NAME

1. This Membership Agreement recognises and affirms that
   a. the **European Chips Skills Alliance** (the Alliance), hereby represented by the Management Director, NAME and SURNAME from ORGANISATION NAME, and
   b. **ORGANISATION NAME** (the member), hereby represented by NAME,

   desire to develop a cooperation agreement, whereby the two parties can engage in collaborative initiatives for workforce and skills development, fostering synergies and joint efforts to tackle the skills and talent gaps in the semiconductor sector.

   The collaborating partners will pursue **opportunities for cooperation,** which may include:

   a) Participating to each other's events such as webinars, conferences, and career fairs to enhance visibility and engagement for both Parties;
   b) Promoting each other's skills-related initiatives, events, and programs through their respective communication channels;
   c) Facilitating collaboration and synergies between their respective initiatives in the areas of skills development, upskilling, reskilling, and training;
   d) Supporting each other's efforts in skills intelligence by sharing insights, data, and best practices on current and future talent needs in the semiconductor and microelectronics sectors;
   e) Facilitating the creation of new connections and synergies within their respective networks to foster innovation and capacity building.
2. By signing this Membership Agreement, the two parties obtain the following rights:
   a. The **Alliance** may use the member logo in activities and publications relevant to the content of this Agreement, **and vice versa**.
   b. The **Alliance** is allowed to reference the member training platform and virtual worlds, to promote their training offering, **and vice versa**.
3. The parties agree to designate the following persons as focal points for any administrative aspects of this Membership Agreement (and provide written notice of any changes to the designated contact person):
   a. For the **Alliance**:
      Name: NAME and SURNAME
      Role: Management Director
      Organisation: ORGANISATION NAME
      Email: EMAIL
   b. For **MEMBER**:
      Name: NAME and SURNAME
      Role: ROLE
      Organisation: ORGANISATION NAME
      Email: EMAIL

4. This Partnership Agreement does not establish a legal partnership, joint venture, employment relationship, or relationship of agency between the Parties, nor binds the Parties to any financial commitment.

5. Both parties acknowledge that the terms and conditions for a specific collaborative activity, including but not limited to financial, administrative, intellectual property and legal terms, should such a need arise, shall be set out in written agreements, separate from this document, to be signed by authorised representatives of the Parties.

6. Activities will be carried out without disclosure of either Party's confidential or proprietary information to the other Party or to third parties. Should it become necessary for the Parties to disclose confidential or proprietary information, the providing Party will notify the receiving Party in advance in writing, and the Parties will agree on reasonable terms for the protection of such information. Any confidential information disclosed hereunder will be clearly marked or promptly disclosed in writing as 'Confidential'. Any confidential information disclosed orally and/or visually shall be confirmed as 'Confidential' in writing within thirty days after the date of oral and/or visual disclosure.

7. No person should be excluded from activities under this Partnership Agreement on the basis of race, colour, gender, national origin, age, religion, genetic information, disability, veteran's status, sexual orientation, gender identity, or gender expression.

8. Each Party may not use the logo, registered or unregistered trademark, design or crest of the other Party outside the scope of the present document or in any way that would damage or bring into disrepute the name, image or reputation of the other Party.

9. The Parties shall seek to resolve any dispute that arises out of this Partnership Agreement via good faith discussions with a view to maintaining the relationship of the Parties going forward.

10. Termination or expiry of this Agreement shall not affect any separate written agreement between the Parties, which shall be governed in accordance with its terms.

11. The term of this Agreement commences on DATE and remains in force and effect until the ECSA project reaches its official ending date, unless it is earlier terminated by either Party, with written notice. This Agreement may be renewed for subsequent periods by both Parties, with written communication.

Signed for and on behalf of the **Alliance**	Signed for and on behalf of **PARTNER**
_____	_____
Name: NAME and SURNAME **Organisation:** ORGANISATION NAME **Role:** Management Director **Email:** EMAIL	**Name:** NAME and SURNAME **Organisation:** ORGANISATION NAME **Role:** ROLE **Email:** EMAIL

Appendix D – ECSA In-Kind Contribution Reporting Template

Member Organization:

[Name of your organization]

Contributor Name:

[Full name of the individual who performed/contributed]

Role/Position:

[Title or function within the organization/project/Alliance]

Date(s) of Contribution:

[Start date – End date, or single date]

Description of Contribution:

[Brief narrative outlining: activity performed, objective, context, and outcome]

Working Group:

[Specify the working group, if applicable]

Estimated Time Invested (hours):

[Number of hours spent]

Supporting Documentation:

[List attached supporting materials, e.g., agendas, presentations, event reports, material produced. Attach files as required.]

Credit Value Claimed:

[Refer to the List of Eligible In-Kind Contributions for guidance; input estimated credit(s) claimed]

Verification / Endorsement (optional):

[Confirmation by the Management Director]

Additional Comments:

[Any further information or clarifications]

Submission Guidance

- Complete one form for each distinct in-kind contribution.
- Submit your report(s) to the Management Director by [quarterly deadline or as required].
- Ensure all claims are accurate and supported by relevant documentation.

Appendix E – Code of Conduct for Students and Learners

Purpose

This Code of Conduct for Students and Learners ensures, that participants of ECSA activities ensure a safe, respectful, and inclusive environment and uphold the values and mission of the Alliance.

1. Respect, Inclusion, and Diversity

Treat all participants, trainers, and staff with respect, fairness, and courtesy.

Embrace diversity: Value differences in culture, background, perspective, and experience.

Inclusive behavior is expected: Do not engage in discrimination, harassment, bullying, or exclusion based on race, gender, age, nationality, ability, sexual orientation, religion, or any other protected characteristic.

Language: Use considerate and professional language at all times.

2. Engagement and Participation

Be actively involved in all trainings, workshops, and events; contribute positively to group activities and discussions.

Attend punctually and come prepared to participate as required.

Respect trainers, guest speakers, and peers, allowing everyone the opportunity to speak and share.

3. Integrity and Honesty

Submit only your own work and do not plagiarize or cheat in assessments or collaborative tasks.

Acknowledge sources properly when using ideas or materials produced by others.

Report concerns: If you observe improper conduct or safety risks, notify a responsible adult, trainer, or Alliance staff member.

4. Use of Resources and Property

Treat all equipment (online or offline), facilities, and materials with care and according to instructions provided.

Respect the privacy and confidentiality of other participants, including refraining from recording or sharing content without consent.

5. Online Conduct

Behave courteously in virtual settings: Use designated platforms as intended and adhere to the event's digital etiquette.

Protect your own and others' privacy: Do not share personal information or event access links without permission.

6. Health, Safety, and Wellbeing

Observe all safety instructions at in-person events and notify organizers about potential hazards.

Support a positive learning environment by ensuring that all participants feel welcomed and safe.

Do not use, possess, or be under the influence of alcohol or illegal substances during Alliance activities.

7. Consequences and Accountability

Breaches of this Code may result in warnings, exclusion from specific activities, or removal from the program.

Serious violations may be reported to a participant's home institution or legal authorities if legally required.

8. Support and Guidance

Ask for help when needed. The Alliance is committed to supporting your learning journey.

Speak up respectfully if you witness or experience behaviour that does not meet this standard.

By participating in ECSA events and training, all students and learners agree to uphold this Code of Conduct and contribute to a positive, inclusive, and ethical community.

If you have any questions or concerns regarding this Code of Conduct, please contact the Management Director or your event coordinator.

Appendix F – Suggested Knowledge, Skills and Competences from Training Courses

In this appendix we summarise and suggest knowledge, skills and competences to be added to ESCO. We derive these knowledge, skills and competences from the training courses developed in WP5 and use these entries in the proposed updates of ESCO occupational profiles in section 4.4.

In the following table we propose

- the new knowledge, skill or competence name,
- partially suitable ESCO matches,
- a description,
- the type of entry, (K for knowledge, S for skill/competence) and
- the course, that this knowledge, skill or competence is taught.

Name	ESCO-Match	Description	Type	Course
Electromagnetic Compatibility Adapted from: Overall course P03.02	**Missing**	Ability of electronic devices and systems to function properly in their electromagnetic environment without causing or suffering interference.	K	P03.02
Coupling mechanisms in EMI	**Partial**: 'calibrate instruments', 'model electromagnetic products'	Capacitive, inductive, radiative, and conductive coupling paths causing electromagnetic interference in circuits and systems.	K	P03.02
Apply EMI mitigation techniques Adapted from: EMI Mitigation Techniques	**Partial**: 'model electromagnetic products'	Apply shielding, filtering, grounding, and layout strategies to reduce electromagnetic interference in electronic systems.	S	P03.02
Apply RF techniques in electronic measurements Adapted from: Characterization Using Bias Tees	**Missing**	Use bias tees in RF and analog measurement setups to apply DC bias while analyzing voltage-dependent electronic behavior.	S	P03.02
Interpret EMI emission plots Adapted from: EMI Emission Plot Interpretation	**Missing**	Analyze spectrum analyzer plots to identify emissions that exceed limits or indicate faulty shielding or grounding.	S	P03.02

Name	ESCO-Match	Description	Type	Course
Innovation Management Systems	**Partial**: innovation processes, project management	Frameworks and tools to systematically manage innovation processes within an organization.	K	P05.02
Identify project opportunities Adapted from: Project Identification	**Partial:** risk identification, create project specifications	Identify and define new project opportunities, assessing feasibility and alignment with strategic goals.	S	P05.02
Initiate Projects Adapted from: Project Initiation	**Missing**	Launch and define a new project, including goals, stakeholders, scope, and resource planning.	S	P05.02
Plan Projects Adapted from: Project Design	**Missing**	Plan the structure, timeline, and resource needs of a project during its design phase.	S	P05.02
Fundamentals of Digital Transformation	**Partial**: 'project management principles'	Core concepts, drivers, and implications of digital transformation across sectors.	K	P05.03
Digital Transformation Leadership	**Partial**: 'provide leadership'	Key aspects of leadership during digital transformation.	K	P05.03
Implement digital Strategies Adapted from: Digital Strategy Implementation	**Missing**	Apply tools and methods to put digital strategies into practice.	S	P05.03
Identify digital transformation trends Adapted from: Digital Transformation Trends	**Missing**	Identify and assess current trends shaping digital transformation, such as AI, IoT, automation, and datafication.	S	P05.04
Digital Transformation Process	**Missing**	The typical process stages of digital transformation in organizations, from strategy to implementation.	K	P05.04
Industry 5.0	**Missing**	The concept of Industry 5.0, which focuses on human-centric, resilient, and sustainable production systems.	K	P05.04

Name	ESCO-Match	Description	Type	Course
Apply continuous improvement maturity model Adapted from: Continuous Improvement Maturity Model	**Partial**: 'continuous improvement philosophies', 'ict process quality models'	Understand and apply structured maturity models (e.g. CIMM) that assess organizational progress in continuous improvement practices.	S	P05.01