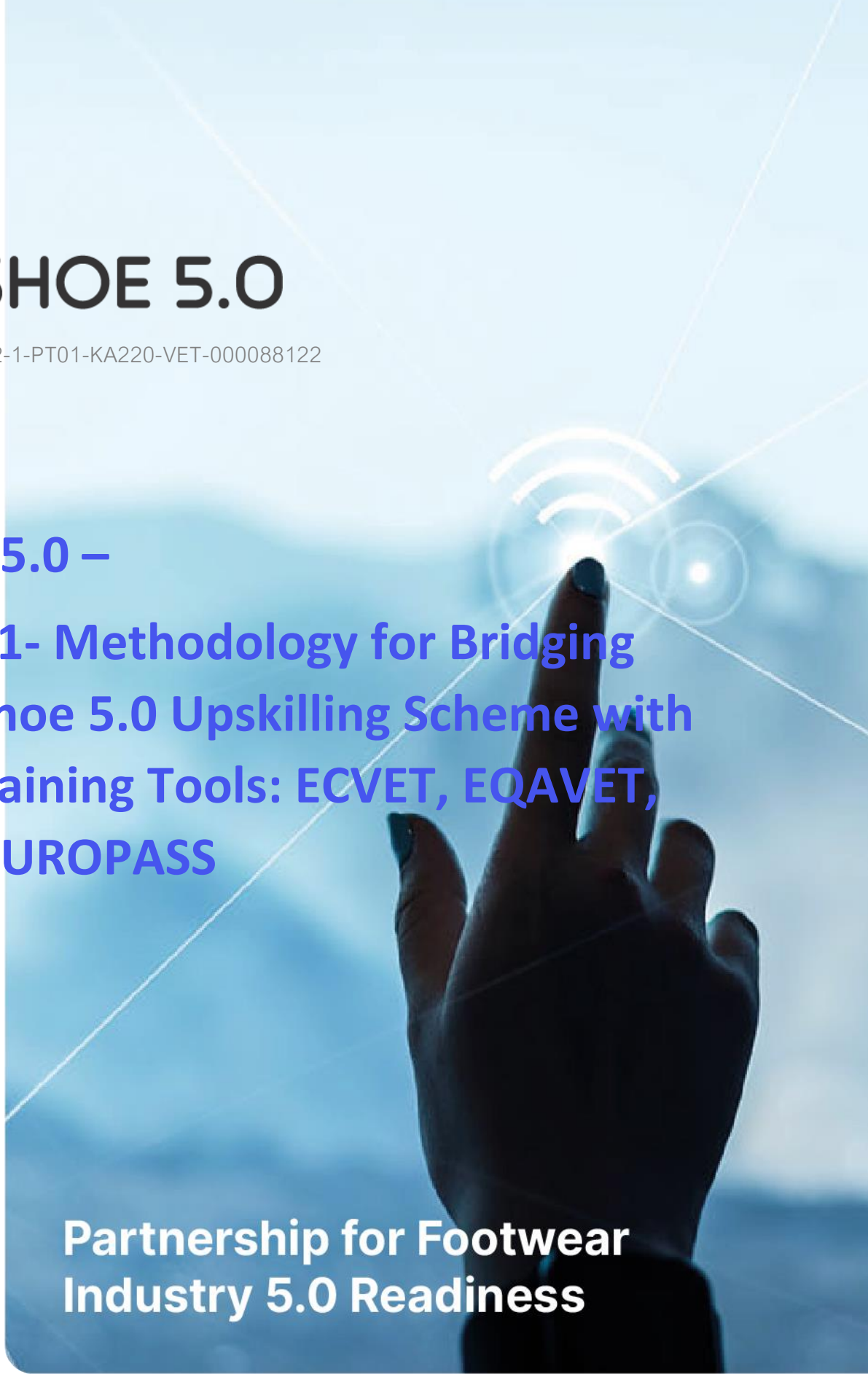
SHOE 5.0

2022-1-PT01-KA220-VET-000088122

Shoe 5.0 –

WP5.1- Methodology for Bridging the Shoe 5.0 Upskilling Scheme with EU Training Tools: ECVET, EQAVET, and EUROPASS



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Content

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1. Introduction

1.1. Overview of the Shoe 5.0 project

The Shoe 5.0 – Partnership for Footwear Industry 5.0 Readiness project is an Erasmus+ co-funded project that aims to prepare the EU footwear sector to embrace the transition challenge to a **sustainable**, **human-centric**, and **resilient** industry**, transcending efficiency and productivity** objectives and allying benefits for industry, workers, and society.

With the aim of **introducing and applying** the **assumptions of Industry 5.0** to the European Footwear Sector and in line with the **EU Skills Pact for the Textile, Clothing, Leather and Footwear Sectors (EU TCLF Skills Pact)**, the Shoe 5.0 project seeks to **equip workers, managers, and training providers** with the **skills required to integrate advanced technologies and processes,** while at the same time generating value for companies, supporting workers' development, and contributing to social and environmental responsibility.

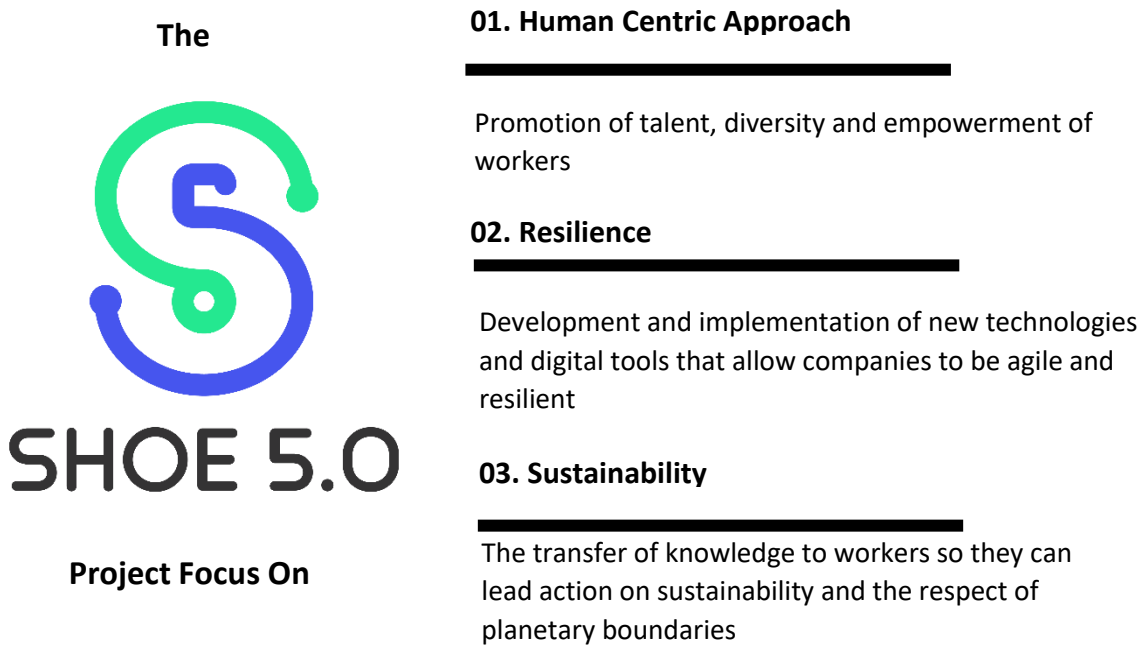

Figure 1 - Shoe 5.0 Project Focus

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Shoe 5.0 intends to take an **additional step towards the digital transformation of footwear Vocational Education and Training (VET)** in Europe. To achieve this, the project **particularly targets two main audiences**, which are directly involved in its activities.

01. Footwear Workforce

Includes current footwear workers and managers in footwear and leather good companies.

02. VET Teachers, Trainers

Coaches and respective stakeholders from other related industries, such as leather goods, footwear components, etc.

Figure 2 - Shoe 5.0 Main Audiences

These groups represent the **key actors of the footwear ecosystem** and will **directly benefit from the project's outputs.** By involving both the **workforce and the training community,** as well as **SMEs and wider stakeholders**, Shoe 5.0 ensures that its **actions generate a broad and lasting impact,** paving the way for the development of concrete tools, training resources and collaborative activities.

To achieve its objectives — namely to **support the transition of the footwear sector towards a sustainable, digital and human-centric industry** — the Shoe 5.0 project proposes an **ICT-based, multi-level and tailor-made upskilling and reskilling scheme**, supported by **innovative tools and content.** This scheme is grounded in a **self-awareness skills scanning tool**, which allows companies and workers to **identify competences and gaps**, and to design personalised learning pathways. By implementing the principles of Industry 5.0, the project aims to make footwear factories places where **creativity, technology and talent converge**, offering a more human and personalised working experience.

Within this framework, Shoe 5.0 delivers the **Study on Industry 5.0 applied to the footwear industry in Europe**, the definition of **new professional profiles,** the design of **personalised training pathways**, the development of a **self-awareness skills scanning tool**, and the **Shoe 5.0 Toolkit** — a comprehensive training package organised into **15 Units of Learning Outcomes (ULOs), each comprising 3–4 lessons (micro-contents), videos, infographics and augmented reality activities.** To ensure that these solutions are closely aligned with sectoral needs, the project promoted **several interactive moments** with its target groups, including **focus groups**, **questionnaires, collaborative workshops, awareness sessions and pilot trainings.** All these

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outputs, together with the dissemination actions, are integrated in a structured 36-month work programme:

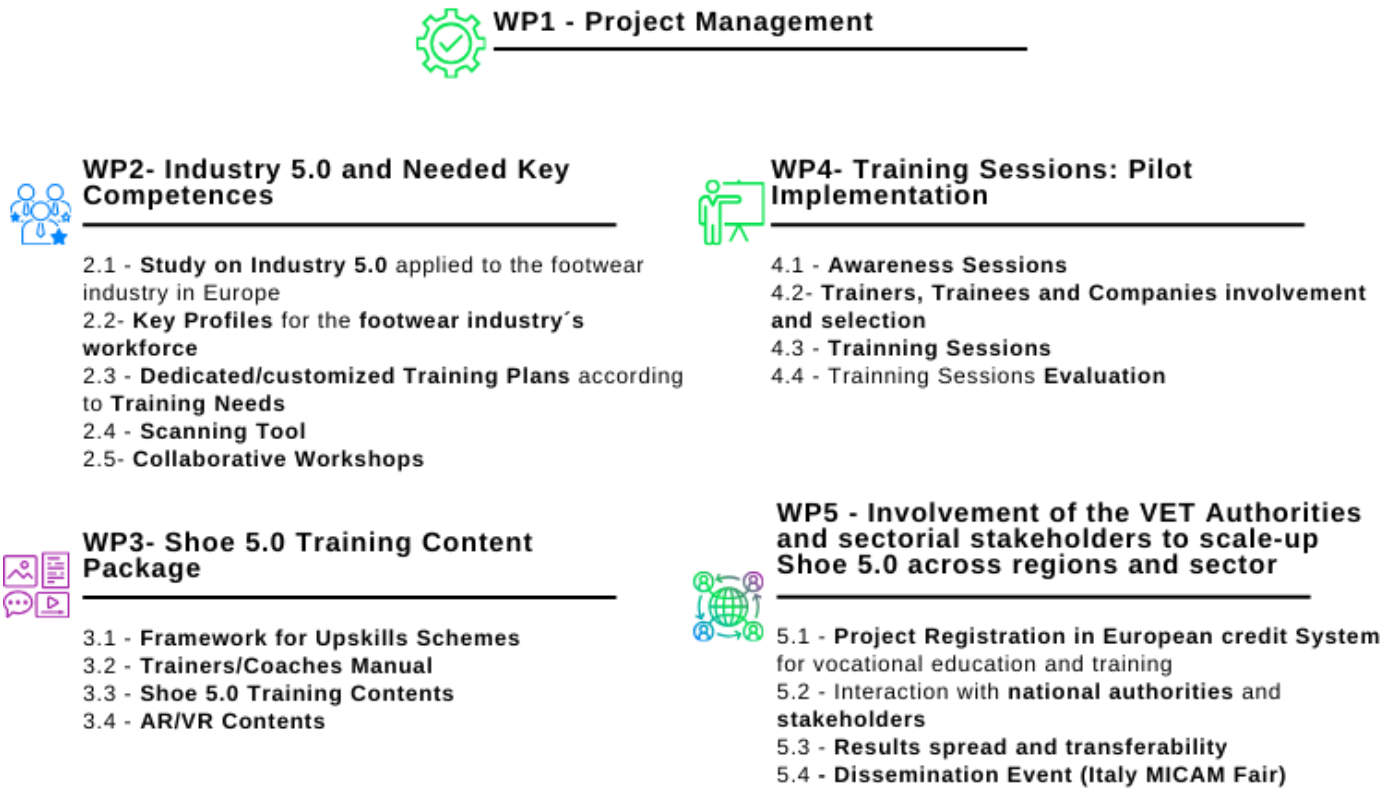

Figure 3 - Shoe 5.0 Project Work Programme

The Shoe 5.0 partnership brings together **seven organisations** from Portugal, Spain, Italy, Belgium and Romania, representing a **wide range of expertise from technology centres, universities, industry federations, SMEs and training providers:**

Capital Humano
EDIT VALUE, Lda (PT)

CTCP- Centro Tecnológico do Calçado (PT)

CTCR- Centro Tecnológico del Calzado de La Rioja (ES)

POLICALZ - POLITECNICO CALZATURIERO SCARL (IT)

CEC - European Footwear Confederation (BE)

ByAr - Embracegadget, Lda (PT)

TUIASI - Universitatea Tehnica Gheorghe Asachi Din Iasi (RO)

Figure 4- Shoe 5.0 Project Consortium

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This **multidisciplinarity and diversity of perspectives** contribute to a **comprehensive and transversal project,** representative of the European footwear ecosystem as a whole. It ensures that the results are not only innovative and relevant, but also transferable across different national contexts, strengthening the impact and sustainability of Shoe 5.0.

1.2. Importance of alignment with EU tools for recognition and mobility

The **effectiveness of the Shoe 5.0 project depends not only on the quality of its training resources** but also on their **ability to be recognised, compared and transferred across Europe.** For this reason, the project **aligns its outputs with key European instruments** that promote **transparency, quality and mobility in vocational education and training (VET).** Among the most relevant are the **European Qualifications Framework (EQF),** the **European Credit System for Vocational Education and Training (ECVET**) and the **European Quality Assurance in Vocational Education and Training (EQAVET).** These tools offer a common language for describing qualifications, skills, and learning outcomes, thereby facilitating the comparability and transferability of competences across borders (European Commission, 2008).

The **European Qualifications Framework (EQF)** is a reference tool with **eight levels** that **categorize qualifications based on learning outcomes.** These levels describe what a person knows, understands, and is able to do upon completion of a learning process, emphasizing the **results of learning rather than just the learning process itself.**

This approach makes it possible to **compare qualifications across countries and systems**, independently of the learning pathway followed. By situating Shoe 5.0 training outcomes within EQF levels (notably levels 5 and 6), the project ensures that learners and employers can clearly understand the **scope, complexity, depth and value** of the competences acquired, reinforcing their recognition both nationally and internationally.

The **European Credit System for Vocational Education and Training (ECVET)** is an instrument designed to facilitate the **recognition, accumulation and transfer of learning outcomes** across different countries and institutions. By providing a common framework to describe and validate skills and knowledge acquired in diverse VET contexts, ECVET enhances the **portability of qualifications** and supports the mobility of learners.

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Within the Shoe 5.0 project, the use of ECVET principles ensures that units of learning outcomes developed in the training package can be **assessed, validated and combined towards recognized qualifications**, regardless of whether they were acquired through formal training modules, workplace experiences or mobility abroad. The **integration with ECVET facilitates the accumulation and transfer of learning credits across institutions and nations, thereby enhancing flexibility for learners** (CEDEFOP, 2023). This is particularly valuable for those engaged in **lifelong or non-linear education pathways**, including migrants, refugees or adults returning to education, as it gives real value to fragmented or informal learning experiences and integrates them into a structured professional qualification process.

The **EQAVET framework** focuses on establishing and maintaining **quality assurance in VET provision** across Europe. It is built on a continuous improvement cycle — planning, implementation, evaluation and review — and supported by a set of quality indicators and descriptors that allow institutions to monitor progress and outcomes. **EQAVET ensures that training schemes uphold a high standard of quality through clearly defined indicators and stakeholder feedback**, making the results transparent and comparable across Member States. Beyond ensuring consistency, EQAVET fosters **mutual trust and transparency** between countries and providers, facilitating the recognition of competences and qualifications across borders. By adopting EQAVET principles, the Shoe 5.0 project ensures that its training offer is not only innovative but also **reliable, transparent and continuously improved**, which strengthens the credibility of its outputs and their acceptance throughout Europe.

Together, these instruments act as a **European reference system** that guarantees **transparency, comparability and trust in VET**. For Shoe 5.0 project, this alignment means that its training package and training pathways can be recognised across borders, thus enhancing the mobility of workers and learners, and increasing the visibility and impact of the project at European level. Importantly, it also enhances the credibility and value of the micro-credentials awarded, ensuring that the competences acquired through Shoe 5.0 have concrete recognition in the European labour market.

This approach directly supports broader EU policy frameworks such as the **European Skills Agenda** and the Council Recommendation on **vocational education and training** for **sustainable competitiveness, social fairness and resilience** (Council of the European Union, 2020), which call for more **learner-centred, inclusive and interoperable VET systems**. It is also consistent with the forthcoming Union of Skills (2025–2030), which foresees, among other measures, the development of a new EU VET strategy to make vocational education and training more

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attractive, innovative and inclusive, as well as the facilitation of **free movement of knowledge and skilled people** through the simplification of recognition procedures across Member States.

In this sense, aligning with EU tools underpins the **relevance, quality and cross-border recognition of the Shoe 5.0 initiative**, while fostering professional mobility, lifelong learning opportunities and greater cohesion within the European VET landscape.

In summary, Shoe 5.0 positions itself as a **strategic initiative to support the European footwear sector** in its transition towards a **sustainable, digital and human-centric future.** By combining **innovative training resources, diagnostic tools and collaborative activities** with the structured recognition offered by EU frameworks such as EQF, ECVET and EQAVET, the project ensures that its outputs are not only innovative, but also credible, transferable and aligned with European priorities. This dual focus — on pedagogical innovation and institutional recognition — maximises the project's impact, enabling workers, trainers and companies to benefit from concrete opportunities for upskilling, mobility and professional growth across Europe.

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2. Mapping the Shoe 5.0 upskilling scheme to ECVET principles

The European Credit System for Vocational Education and Training (ECVET) supports the **transfer**, **recognition**, and **accumulation of learning outcomes** across formal, non-formal, and informal learning contexts. ECVET supports **transparency** and **comparability of qualifications**, thereby fostering learner mobility and lifelong learning opportunities within the European Qualifications Framework (EQF).

To ensure the Shoe 5.0 Upskilling Scheme aligns with the ECVET framework, this section outlines the systematic mapping of the project's structure to ECVET components, including:

- **Units of Competences (UC)** and/or **Units of Learning Outcomes (ULOs)**
- **Credit allocation**
- Implementation of consistent **assessment and validation methods**
- **The recognition of informal learning.**

Furthermore, as mentioned above, ECVET emphasizes the importance of recognizing learning acquired not only in formal training pathways but also through **non-formal and informal learning experiences**, which are particularly relevant for upskilling in fast-changing sectors such as footwear and fashion manufacturing. This mapping exercise thus ensures that Shoe 5.0 does not only respond to industry-specific needs for innovation and sustainability but also integrates into the broader European VET landscape, enhancing transferability and transparency for learners and employers alike.

By embedding these ECVET principles, the Shoe 5.0 Upskilling Scheme contributes to:

- Strengthening the **European dimension** of vocational training in the footwear sector
- Supporting the **mobility** of learners and workers within the EU
- Facilitating the **recognition of prior learning** (RPL)
- Ensuring a **competence-based approach** consistent with the EQF and the European Skills Agenda.

This systematic mapping provides a robust methodological foundation for implementation, allowing the project to serve as a transferable model of sectoral upskilling aligned with European policy frameworks.

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2.1 Description of learning outcomes

The Shoe 5.0 project has developed a modularised training framework comprised of **15 Units of Competence/Units of Learning Outcomes (UC/ULOs).** Each UC/ULO is clearly defined with:

- Unit title and description
- Learning objectives
- Learning outcomes in terms of knowledge, skills, and competences
- EQF reference level (typically EQF 5 or 6)
- Associated workload and assessment methodology

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UNIT of COMPETENCE No.1 TITLE: Management of Human Resources for Industry 5.0 Developer partner: Edit Value	
Description:	Society 5.0 is essentially marked by the positioning of human beings at the centre of innovation and technological transformation. The implementation of Industry 5.0 and its premises brings with it numerous challenges, particularly in the area of people management. Managing increasingly diverse workforces, which now include robots and cobots, dispersed teams and candidates in an increasingly volatile job market, requires more and more practices and processes that enable efficient management of work teams. This unit aims to provide participants with knowledge of the new guidelines for managing people and teams and how to strengthen the organizational culture and environment. It is important to align people with the values and culture of the organization, so that they are more prone to change and the volatility that companies are subject to in the external environment. For this reason, the unit also focuses on developing the most relevant transversal skills in the job market and how to enhance them: communication, problem-solving, emotional intelligence, among others.
Keywords:	Human Resources Management, Industry 5.0 Human Resources Management, Communication, Emotional Intelligence, Problem Solving, Digital Skills Management, Leadership
EQF/NQF level: *(pre requirements)*	5 or 6, according to the requirements of national catalogues of qualifications
Learning Objectives:	• Understand the principles of Industry 5.0 and its impact on people management; • Learn how to deal with specific people management challenges in Industry 5.0; • Explore how technology can improve human resource management; • Develop effective communication skills with different interlocutors;

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	• Understand the dimensions and competences of emotional management in the workplace; • Identify problems and understand how to solve them; • Increasing "emotional literacy"; • Improving leadership skills in a paradigm shift context.
Learning Outcomes: *(Knowledge and Skills)*	**Knowledge:** • Principles of Industry 5.0 and their impact on people management; • Human Resources Manager Skills within the Industry 5.0 framework; • Communication and Empathy as the foundations of all relationships; • Identification, understanding and management of Emotions of Self and Others; • Identification and Definition of Problem-Solving Strategies; • Leadership strategies adapted to Industry 5.0. **Skills:** • Team management; • Communicate effectively with different interlocutors; • Manage emotions; • Solving problems; • Manage the change from manual to virtual work environments; • Manage different skills and expertise; • Conflict resolution and employee relations competencies; • Positive leadership.
Assessment methods *(test quizzes, exercises and/or project works)*	• AR challenge- Complete Sentences
Training materials:	• PPT presentations • Explanatory video • Infographic • AR contents

This structure directly corresponds to the ECVET requirement of defining Units of Learning Outcomes that are assessable and transferable. Each ULO serves as an independent learning unit that **can be recognised in different learning contexts and institutions**. The learning outcomes **have been validated through industry stakeholders' engagement** (focus groups, collaborative workshops, expert panels) and are mapped to occupational profiles that reflect the competencies required in Footwear Industry 5.0. Each of these ULOs has the following supporting materials:

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- **Explanatory video**– the videos, created with Artificial Intelligence, aim to present each ULO and briefly cover the content addressed within them. There is a video for each ULO.
- **Infographic** – Schematic visual representations of the ULOs' content. There is an infographic per ULO.
- **4/5 presentations** (the number varies depending on the number of lessons) – with a theoretical exposition of the content.
- **Knowledge validation exercises** – At the end of each ULO, users will have exercises to validate the knowledge they have acquired. These exercises include Augmented Reality for a more immersive and realistic experience.

2.2 Credit allocation

The **micro-credential system** adopted within the Shoe 5.0 training framework promotes the use of credit points as a transparent measure of learning achievements. In line with **ECVET** and **EQF** principles, credit allocation is based on a combination of **workload, learning outcomes, and assessment criteria**. This ensures that credits not only quantify the time invested by the learner but also reflect the competences actually acquired.

In the Shoe 5.0 training framework:

- Each Unit of Competence/Unit of Learning Outcomes (UC/ULO) is associated with **4 micro-credentials**, corresponding to approximately **100 hours of learning** (including structured training, guided self-study, and assessment).

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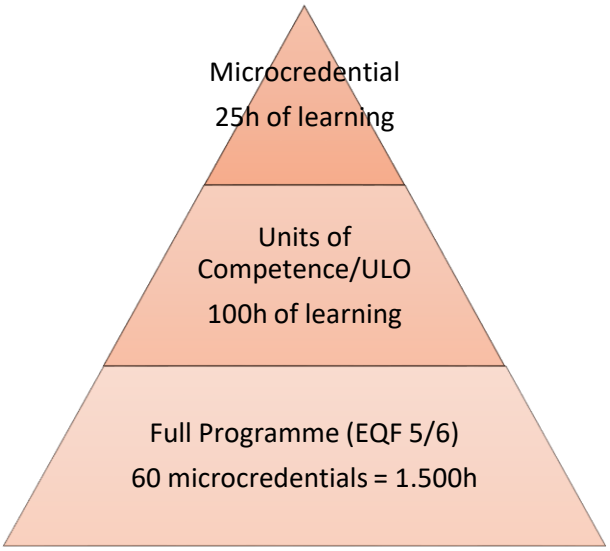
- Each **micro-credential is worth 25 hours** of learning, aligning with the principles of modular accumulation.
- The **full programme** is composed of **60 micro-credentials**, adding up to **1,500 hours in total**, which corresponds to the workload typically associated with an **EQF Level 5–6 qualification**.

This allocation method offers several advantages:

- It supports **progressive learning pathways**, enabling learners to build their competence step by step.
- It enhances **flexibility and personalization**, as participants may accumulate credits according to their individual profile, specialization, or mobility opportunities.
- It facilitates **future integration with national and European credit systems**, strengthening the recognition and portability of qualifications across countries and sectors.



By embedding a clear and transparent credit system, the Shoe 5.0 framework aligns with European standards while responding to the footwear sector's demand for **flexible, modular, and industry-driven upskilling opportunities**.

2.3 Assessment and validation

The **ECVET** (European Credit System for Vocational Education and Training) framework establishes precise **requirements for assessing and validating** learners' acquisition of specific learning outcomes. Within the **Shoe 5.0 project**, this principle is rigorously applied to ensure

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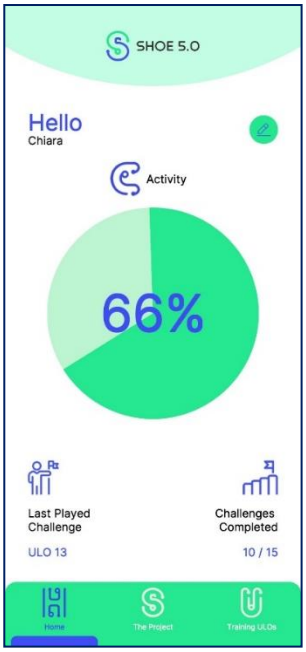
that the knowledge, skills, and competences (KSCs) acquired by learners are accurately measured and recognised.

Shoe 5.0 training schemes adopt a comprehensive and diversified approach to assessment that is tailored to the specific **Units of Competence (UC)** / **Unit Learning Outcomes (ULO)** indicated in its curriculum. This multi-modal assessment strategy includes:

- **Formative and summative evaluation:** Formative assessments are ongoing checks that provide feedback and guide learners throughout their training journey. In contrast, summative assessments evaluate the cumulative knowledge and skills that have been acquired at the end of a learning unit. These evaluations are designed to monitor progress and ensure that learners meet the expected standards.



- AR tools to **assess knowledge and practical skills:** To assess the content covered in the ULOs, challenges were designed using Augmented Reality. Given the project's focus on advanced shoe manufacturing and digitalisation, practical skills are assessed through Augmented Reality (AR) technologies. These immersive tools enable learners to engage in some exercises and challenges.

The result has been the development of an **App** in which learners could experience an immersive assessment of the knowledge and skills acquired using the ULOs.

By accessing the App, learners will be able to **discover more about the Project**, to **check their training progress** and to **play the challenges** which complete the path of each ULO.

Once the user access to "Training ULOs" he/she will be able to choose the challenges corresponding to the ULOs already completed:

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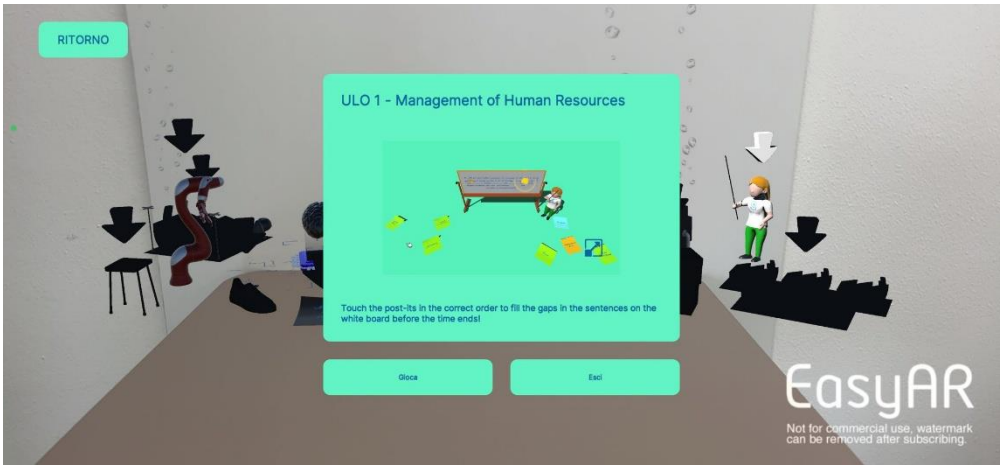

Each ULO corresponds to a **single tailored challenge** which will be an important instrument to sum up the main concepts of the different lessons and to verify if the learner has understood the fundamental knowledge and skills.

In the asynchronous model of learning, the trainers and tutors/coaches could develop other forms of assessments, such as:

- **Quizzes and written tests:** To verify theoretical knowledge underpinning practical skills, the project incorporates quizzes and written assessments aligned with each UC/ULO. These tests provide measurable data on learners' comprehension and retention of essential concepts.
- **Project-based learning assessments:** Emphasising real-world application, Shoe 5.0 integrates project-based study cases where learners could design, develop, and manage shoe production processes or innovations. These projects require learners to demonstrate problem-solving abilities, technical proficiency, and collaborative skills reflective of actual industry demands.

All assessment activities within Shoe 5.0 are **competence-based**, meaning they **reflect authentic workplace** scenarios and directly relate to the learning outcomes established in each UC/ULO. This alignment ensures that what is assessed is relevant and transferable to professional contexts in the shoe manufacturing sector.

Upon successful completion of each unit, learners receive a **certificate of achievement** issued by the project consortium. This certificate serves as recognition of the learner's attainment of the defined knowledge, skills, and competences, thereby facilitating mobility and employability across European partner countries.

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SHOE 5.0

ERASMUS+ SHOE 5.0

SHOE 5.0 - PARTNERSHIP FOR FOOTWEAR INDUSTRY 5.0 READINESS

(REF: 2022-1-PT01-KA220-VET-000088122)

CERTIFICATE OF ATTENDANCE

We certify that

Name Surname

Successfully finished the e-learning module **ULO 1 - Management of Human Resources for Industry 5.0**

Conclusion date **2025-04-17**

Duration (hours) **125**

28 of August of 2025

(Generated electronically requires neither a signature nor a stamp)

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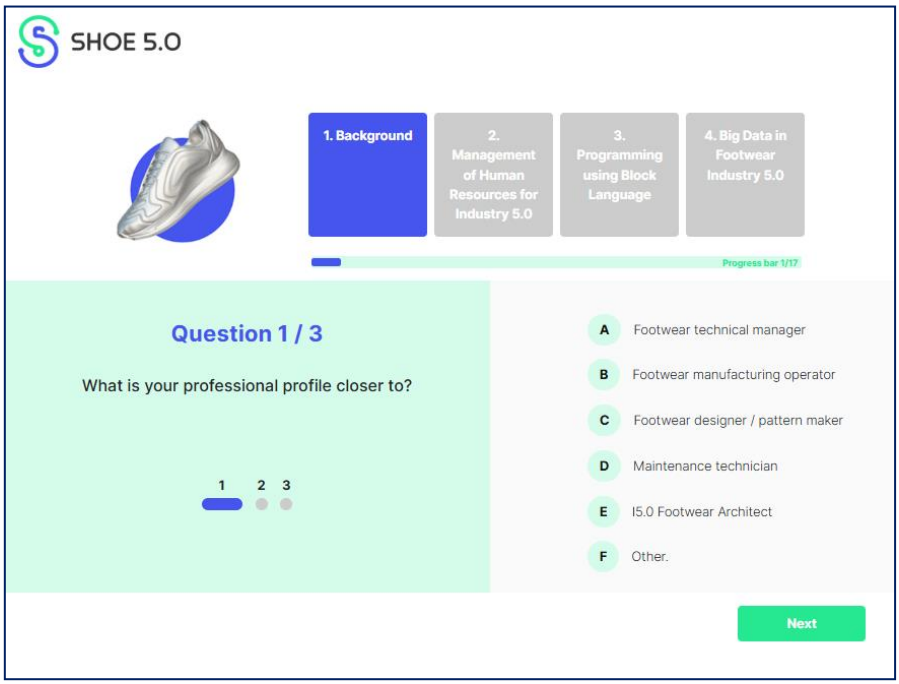
To maintain **consistency and transparency** in assessment across diverse national contexts, the Shoe 5.0 project also provides comprehensive **trainer manuals** that detail assessment procedures and criteria. Additionally, it uses **common evaluation rubrics** to standardize grading and feedback and employs **digital certification templates** that ensure uniform documentation of learner achievements. This harmonized approach supports mutual recognition of qualifications and contributes to the overall quality assurance of the project's training programs.

2.4 Recognition of non-formal and informal learning

Shoe 5.0 places strong emphasis on **inclusivity** and **adaptability,** particularly for **disadvantaged and vulnerable groups** such as migrants, refugees, the unemployed, etc. The footwear industry, like many other sectors, is undergoing **rapid digital and technological transformation.** Without tailored support, many individuals may struggle to keep pace with these changes. The Shoe 5.0 approach recognizes this risk and therefore ensures that all learners—regardless of background, educational level, or prior experience—are given equitable opportunities to access training and to build meaningful career pathways.

To support this mission, the project consortium developed **a Scanning Tool**, available on the project website at https://shoe50.eu/scanningtool/default, which enables learners to self-assess their existing competencies.



Key features include:

- **A skills diagnostic questionnaire** mapped to the 15 UC/ULOs, allowing learners to identify their baseline competencies.
- **A visual skill profile (spiderweb diagram)** highlighting areas of strength and improvement, making skills gaps more tangible and easier to communicate.

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- **A suggested personalised training pathway** dynamically generated based on prior knowledge, individual aspirations, and career objectives.

Beyond its diagnostic function, the tool contributes significantly to **validation of prior learning (VPL)**—whether non-formal (e.g., workplace learning) or informal (e.g., everyday problem-solving skills)—thus preventing duplication of training and shortening the upskilling journey. This is fully aligned with the **ECVET approach**, which promotes learner-centred flexibility and recognises learning outcomes across borders.

The Scanning Tool also strengthens **mobility and transferability of skills** by making prior achievements transparent and formally acknowledged. For example:

- A **refugee with prior manufacturing experience** can demonstrate their knowledge of assembly processes and directly enter more advanced modules, rather than repeating basics.
- An **unemployed individual retraining for the footwear sector** can identify transferable digital skills (e.g., CAD software use) and focus only on areas where reskilling is necessary.
- A **migrant worker** can use the visual profile to communicate competencies clearly to employers or training providers, facilitating smoother integration into the labour market.

By combining inclusivity, personalisation, and formal recognition of informal learning, the Shoe 5.0 Scanning Tool not only supports disadvantaged groups but also creates **a more efficient and motivating training experience for all learners**.

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3. Integrating EQAVET for Quality Assurance

The European Quality Assurance in Vocational Education and Training (EQAVET) framework provides a **structured approach** to **ensure** and **improve** the **quality of vocational education and training systems.** It emphasises continuous improvement through a quality assurance cycle of planning, implementation, evaluation, and review. The Shoe 5.0 project incorporates EQAVET principles into the development, delivery, and evaluation of its upskilling schemes to reinforce credibility, transparency, and alignment with European standards.

3.1 Quality Assurance cycle in Shoe 5.0

The quality assurance process follows the **four-stage EQAVET cycle:**

This cycle ensures that Shoe 5.0 remains a **living system**—adaptive, responsive, and continually improving. The following interventions during project lifetime demonstrate this statement.

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A. Planning	B. Implementation
• Development of UC/ULOs based on labour market needs and technological trends in **the** footwear **i**ndustry • Definition of **L**earning **O**utcomes and assessment criteria for each training unit. • Stakeholder involvement in setting goals (industry partners, trainers, learners, and VET authorities).	• Delivery of training content through modular and digital learning platforms, including **an** AR application. • Trainer engagement using **highly quality** manuals and pedagogical methodologies. • Use of the Scanning Tool to guide learners through custom learning paths and monitor entry-level skills.
C. Evaluation	**D. Review**
• Ongoing collection of qualitative and quantitative data on learner progression, satisfaction, and assessment outcomes. • Trainer feedback reports, learner surveys, and peer reviews are conducted at unit and pathway levels. • Internal quality reviews at the consortium level to assess consistency across partner countries.	• Integration of evaluation results to refine UC/ULOs, update learning materials, and enhance the training methodology. • Validation workshops for quality reflection and adjustment, based on EQAVET indicators and national standards. • Revisions in scanning tools and unit descriptors to respond to evolving technological or policy changes.

3.2 Use of EQAVET indicators

To align with the EQAVET Recommendation (2019), **Shoe 5.0 uses key performance indicators that allow monitoring quality and effectiveness**, including:

EQAVET Indicator	Shoe 5.0 Application
Learner progression and attainment	Monitoring UC/ULO completion rates and certification outputs
Employability of graduates	Follow-up surveys with trained professionals and employer feedback
Utilisation of acquired skills at the workplace	Employer involvement in validation workshops and impact assessments

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Feedback from learners and VET providers	Structured feedback mechanisms built into the e-learning platform and training evaluations
Completion rate in VET programmes	Measurement of participation and drop-out rates via the e-learning platform
Mechanisms for stakeholder involvement	Regular consultation with industry partners, chambers of commerce, and national VET bodies

3.3 Ensuring cross-country quality coherence

Given the **transnational scope** of Shoe 5.0 consortium (Portugal, Spain, Romania, and Italy), EQAVET also guides the **harmonisation of standards** across diverse educational and institutional contexts:

- Development of common templates for UC/ULOs and micro-credentials.
- Shared assessment rubrics and trainer guidelines.
- Peer review exchanges and cross-national pilot testing of training materials.

This ensures that the training units **not only meet local needs** but also remain **transferable** and **recognisable** across the EU VET landscape.

3.4 Impact on vulnerable groups

By applying EQAVET, Shoe 5.0 ensures that its training is **inclusive**, **accessible,** and of **high quality**, particularly for disadvantaged groups:

- **Clear documentation** of outcomes helps validate informal learning.
- Assurance of pedagogical and technical quality encourages trust among refugees, migrants, and low-qualified learners.
- **Transparent processes** support public recognition and long-term employability.

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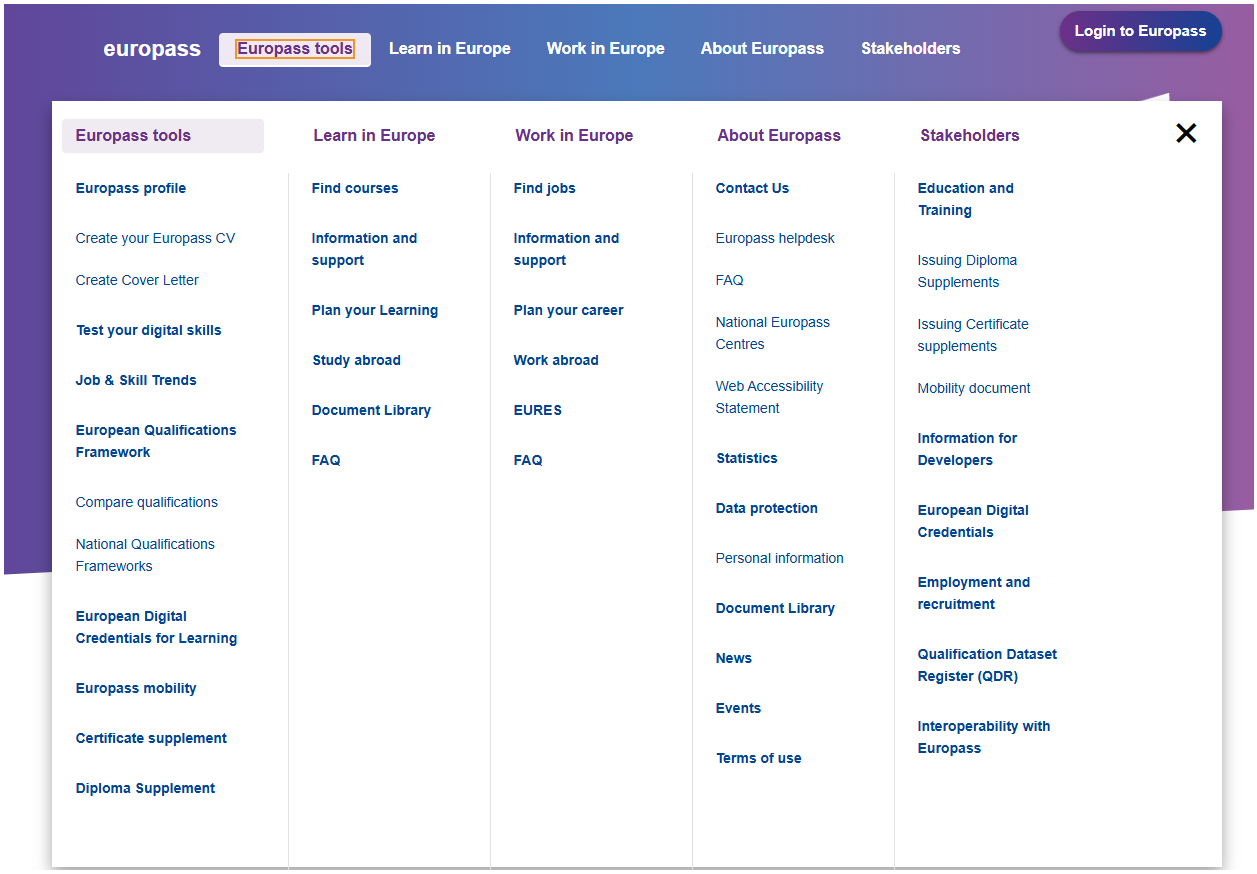
4. Bridging Shoe 5.0 curricula with the EUROPASS tool

4.1. What is Europass?

The Europass platform (https://europass.europa.eu/en) is developed and managed by the European Commission. It is a **free, secure**, and **multilingual online ecosystem** designed to **standardize** how skills and qualifications are **recorded, assessed, and shared across Europe.** By offering tools such as **customizable CVs**, **digital skills assessments**, and **structured supplements** (e.g., diploma and certificate supplements), Europass enhances the transparency and comparability of qualifications across the EU.

The Europass platform provides a suite of **interconnected tools**, structured in the following sections: *Europass Tools, Learn in Europe, Work in Europe, About Europass and Stakeholders,* as can be observed in the figure below.



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Europass integrates critical European frameworks such as the European Qualifications Framework (EQF, https://europass.europa.eu/en/europass-digital-tools/european-qualifications-framework) and the European Learning Model (ELM, https://europass.europa.eu/en/european-learning-model-stakeholders), ensuring **interoperable and multilingual representation of learning outcomes and credentials**. Through its tools, users can create a **comprehensive digital profile**—encompassing education, work experience, language and digital competences, project work, and more—that's easily shareable and reflects current standards. Relevant Europass tools and features are:

- **Europass Profile / CVs & Cover Letter**: Users can create a digital profile, generate CVs and cover letters, and share them easily
- **Digital Skills Self-Assessment:** Helps users measure digital competencies across five key areas and receive feedback
- **Labour Market. Job & Skill trends:** Offers insight into in-demand occupations and skills across EU countries
- **European Digital Credentials for Learning:** A system for issuing authentic, tamper-resistant digital certificates and diplomas

By standardising how individuals present their qualifications and skills, Europass **facilitates mobility, fosters cross-border recognition**, and **promotes employability**—empowering learners and workers to pursue opportunities confidently across Europe.

Europass also supports **career development** through **tailored suggestions for jobs and training**, **grounding employability in self-assessment metrics and real-time labor market insights**. Available in 31 languages, inclusive of accessibility features, and entirely free to use, the platform encourages lifelong engagement from diverse user groups—students, professionals, job seekers, and volunteers alike.

Europass Tools	Description	Functionality	Relevance for Shoe 5.0
Europass Profile, CVs & Cover letters **-Create the Europass profile:** https://europa.eu/europass/eportfolio/screen/profile-wizard?lang=en **-Create Europass CV**	A free, user-friendly online tool for creating a personal profile that can generate tailored CVs and cover letters.	Users can record their education, work experience, skills, and achievements in a structured format. The profile is linked to the **ESCO** (European Skills, Competences, Qualifications and Occupations) classification,	Trainees who follow the Shoe 5.0 training programs can showcase their new skills in a recognised EU-wide format, boosting visibility and mobility.

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https://europa.eu/europass/eportfolio/screen/cv-editor?lang=en&previous=https:%2F%2Feuropa.eu%2Feuropass%2Fen **-Create cover letters** https://europa.eu/europass/eportfolio/screen/cover-letter-editor?lang=en&previous=https:%2F%2Feuropa.eu%2Feuropass%2Fen		ensuring consistency across the EU labour market. CVs and cover letters can be easily recognised and shared with employers across Europe.	
Digital Skills Assessment Tool **Test your digital skills** https://europa.eu/europass/digitalskills/screen/home?referrer=epass&route=%2Fen	Empowers individuals to assess their digital competencies, taking control of their learning and career paths. Provides feedback on strengths and areas for improvement, and suggests learning opportunities.	Provides real-time labour market insights on occupations and skills in demand across EU countries. Guides job seekers and learners in identifying career opportunities and training paths, providing the support they need.	The Shoe 5.0 skills scanning tool can be mapped to these frameworks, enabling workers to benchmark their current competencies against EU standards.
European Digital Credentials for Learning (EDC) **Credentials for citizens** https://europa.eu/europass/digital-credentials/viewer/#/home **Credentials for issuer** https://europa.eu/europass/digital-credentials/issuer/#/home	The system for issuing secure, tamper-proof digital certificates, diplomas, and other credentials operates through a rigorous process. It involves the verification of the individual's digital skills and competencies, followed by the generation and issuance of the digital credential. This process ensures the authenticity and reliability of the credentials.	Credentials are machine-readable, portable, and verifiable across the EU. They can include detailed metadata (learning outcomes, workload, level, EQF alignment). Learners/trainees can store credentials directly in their **Europass wallet**.	Learners/trainees can receive digital credentials for completed modules, making their new skills easily recognised across Europe. Ensures long-term credibility of certifications, which is crucial for industry-wide recognition.
Labour Market and Learning Opportunities (Trends) **Transmit the Europass CV to the EURES job-portal** https://europass.europa.eu/en/sending-your-europass-cv-eures **Europass mobility** https://europass.europa.eu/en/work-europe/mobility **Job and skills trends**	Europass integrates information on **labour market trends**, skills demand, and available learning opportunities.	Based on collaboration with Cedefop, ESCO, and Eurostat data. Provides insights into which sectors are growing, what skills are most requested, and where training opportunities exist. The trends tool can help anticipate future skill needs in the footwear	Allows project stakeholders to align training offers with evolving labour market needs. Helps VET providers and policy makers ensure curricula match future demand in various areas of Industry 5.0

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https://europa.eu/europass/eportfolio/screen/skills-intelligence?lang=en		sector, ensuring training remains relevant and forward-looking.	

4.2. What is the purpose of bridging Shoe 5.0 with the Europass tools?

This section outlines how the **Shoe 5.0 training framework** can be effectively bridged with the **Europass tools** to ensure transparency, transferability, and exploitation of the project's outputs in European education, mobility, and employment contexts.

To bridge Shoe 5.0 with Europass, we need to clearly articulate how the project's outputs (curriculum based on learning outcomes, micro-credentials, training pathways) can be mapped and integrated into the Europass ecosystem, which includes CV, Skills Profile, Digital Credentials, and Learning Pathways.

4.2.1. Promote transparency and transferability of the Shoe 5.0

The Shoe 5.0 project has developed a modularized training framework composed of **15 Units of Competence/Units of Learning Outcomes (UC/ULOs)**. Each UC/ULO is clearly defined, validated by industry stakeholders, and mapped to occupational profiles relevant to the footwear sector. Moreover, each UC/ULO can be issued as a **Europass Digital Credential**. These credentials describe the skill, level, and assessment method, ensuring recognition in other EU education/training contexts.

The Shoe 5.0 curriculum, with its modular structure, aligns directly with the Europass principles of transparency and transferability across EU countries:

- **Transparency**: UC/ULOs are described in terms of Knowledge, Skills, and Competencies. This approach aligns directly with the Europass taxonomy and allows learners to record achievements in their Europass CVs and Skills Profiles.
- **Transferability**: By adhering to EQAVET principles, the **UC/ULOs** can be transferred and recognized across various EU training systems. For example, learners who acquire competencies in one country can have them validated in another.

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4.2.2. Support various training schemes for upskilling, reskilling, and micro-credentialing

Shoe 5.0 offers a flexible training model, enabling personalized pathways for lifelong learning, which may consist of:

Upskilling and reskilling: Europass can capture progress along these pathways, making it easier for professionals to demonstrate career advancement or role transitions. The project defines five tailored training pathways linked to key professional profiles for:

- ***Footwear Technical Manager***
- ***Footwear Manufacturing Operator***
- ***Footwear Designer/Pattern Maker***
- ***Maintenance Technician***
- ***i5.0 Footwear Architect***

Micro-credentialing: Partial achievements can be integrated through **Europass Digital Credentials**, allowing learners to showcase competencies without waiting for completion of a full qualification. This supports EU priorities on flexible, learner-centred education. This Europass tool ensures Shoe 5.0 learning outcomes are interoperable with national qualification systems, securing their place in the broader European qualification framework.

Customised training enables learners to build a portfolio that reflects individually selected UC/ULOs. For example, a learner may combine UC/ULO 3 (Big Data in Footwear Industry 5.0) and UC/ULO 13 (Circular Design, Smart Materials and innovative Processes) to highlight expertise in both digital and sustainability domains.

4.2.2. Make training outputs fully exploitable in EU mobility and employment contexts

For the Shoe 5.0 outputs to have maximum impact, they must be integrated into Europass to support mobility, employment readiness, and labour market matching.

Education and training mobility: Learners/trainees register and access the Shoe 5.0 e-course platform at https://shoe50.eu/course/about/. After completing a micro-credential via the online platform, they receive a certificate that can be stored in their individual **Europass Digital Wallet**, ensuring recognition during Erasmus+ exchanges, cross-border apprenticeships, and mobility projects.

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- **Employment readiness**: By embedding Shoe 5.0 UC/ULOs into the Europass CV and Skills Profile, learners present their skills in a standardised format understood by employers throughout the EU. This improves clarity and comparability of competencies in recruitment.
- **Labour market matching**: Linking Shoe 5.0 micro-credentials with **ESCO (European Skills, Competences, Qualifications, and Occupations)** allows direct alignment with job offers published on the **EURES job portal**, increasing employability across borders.

4.3 Europass-aligned learning outcome entries (Annex 1)

The Europass Learning Outcomes are typically expressed using three **key reference European tools**:

- The **European Qualifications Framework (EQF)** describes the EQF Levels 1–8, based on **knowledge, skills, and responsibility/autonomy.** This description helps make the 15 microcredentials developed in the Shoe 5.0 project comparable across countries.
- The **European Learning Model (ELM)** is a metadata schema used by Europass to describe learning opportunities and credentials. It includes the following sections: Learning Outcomes, Workload (ECTS or hours), Mode of learning, and Links to qualifications.
- **ESCO (European Skills, Competences, Qualifications & Occupations)** is a multilingual classification of skills and occupations. It ensures that the designed learning outcomes are linked to standardised EU skills terminology.

Annex 1 presents the fiches for aligning the 15 micro-credentials with Europass, which will ensure transparency, recognition, and easier integration into European frameworks.

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5. Conclusion

Shoe 5.0 is an Erasmus+ initiative that addresses the transformation of the European footwear sector in line with the principles of **Industry 5.0**, focusing on digitalisation, sustainability, resilience, human-centric innovation.

The project has developed a Training Programme with 15 **Units of Learning Outcomes (ULOs)** designed to provide workers, students, and SMEs with the knowledge and skills required to adapt to new business models, emerging technologies, and sustainable practices. These ULOs are flexible, modular, and easily adaptable to different training contexts, supporting both initial education and continuing vocational training. In addition, the project has developed an app with educational games in connection to the training programme, a training needs scanning tools enabling personalised training plans and a training manual for trainers enabling them to support trainees.

The alignment of Shoe 5.0 with key European instruments for recognition and mobility, namely the European Qualifications Framework (EQF), the European Credit System for Vocational Education and Training (ECVET), the European Quality Assurance in Vocational Education and Training (EQAVET), and the Europass platform, plays a decisive role in enhancing the visibility, credibility, and transferability of the project's outputs.

The **EQF** is a reference framework with eight levels that describe qualifications in terms of learning outcomes, what learners know, understand, and are able to do. By situating Shoe 5.0 Units of Learning Outcomes (ULOs) at EQF levels 5 and 6, the project ensures that competences are described in a transparent and standardised manner. This enhances **visibility**, as learners' achievements can be more easily understood and compared by employers, training providers, and policy makers across different countries.

The **ECVET** system facilitates the recognition, accumulation, and transfer of learning outcomes gained in different contexts, whether formal, non-formal, or informal. In Shoe 5.0, ULOs are designed as **modular and credit-based units** that can be recognized individually and linked to **micro-credentials**. This approach supports **transferability**, as learners can demonstrate and carry their achievements across institutions and borders. It also provides flexibility for companies and workers seeking targeted reskilling or upskilling opportunities, without the obligation to pursue a full formal qualification.

The **EQAVET** framework establishes quality assurance principles for VET provision at European level, based on a continuous improvement cycle of planning, implementation, evaluation, and review. By embedding EQAVET, Shoe 5.0 ensures that its training resources are reliable, transparent, and consistent across partner countries. This enhances **credibility**, as stakeholders can trust that the competences certified by Shoe 5.0 meet recognized quality standards and are relevant to industry needs.

Finally, the **Europass platform** standardises the way in which skills and qualifications are recorded and presented across Europe. Through Europass profiles, CVs, and Digital Credentials, Shoe 5.0 learners can showcase their competences in a format recognised throughout the EU labour market. This further increases **visibility** and **employability**, while ensuring that qualifications are interoperable with European skills and job-matching systems such as ESCO and EURES.

Overall, the systematic alignment with EU recognition and mobility tools ensures that Shoe 5.0 training resources are not only innovative and sector-specific but also transparent, trusted and portable across Europe. This maximises their impact on learners, training providers and employers, while contributing to a more cohesive and competitive European VET ecosystem.

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ANNEX 1- **EUROPASS Learning Outcome Entry**

Section	Details
Title	**Management of Human Resources for Industry 5.0**
EQF Level	Level 5-6
Description	This unit examines how Society 5.0 and Industry 5.0 prioritize people at the heart of innovation, underscoring the need for innovative approaches to managing diverse, tech-integrated, and dispersed teams in a rapidly evolving job market.
Learning Outcomes	After completing this unit, learners will be able to: ✓ Understand the principles of Industry 5.0 and its impact on people management ✓ Address key challenges in managing people in the Industry 5.0 context ✓ Use technology to enhance human resource practices ✓ Communicate effectively with diverse stakeholders ✓ Apply emotional intelligence in workplace interactions ✓ Identify and solve problems efficiently ✓ Strengthen emotional literacy ✓ Enhance leadership skills in times of change
Skills developed	• Team management • Communicate effectively with different interlocutors • Manage emotions • Solving problems • Manage the change from manual to virtual work environments • Manage different skills and expertise • Conflict resolution and employee relations competencies; • Positive leadership
Knowledge acquired	• Principles of Industry 5.0 and their impact on people management • Human resources manager skills within the Industry 5.0 framework • Communication and empathy as the foundations of all relationships • Identification, understanding and management of emotions of self and others • Identification and definition of problem-solving strategies • Leadership strategies adapted to Industry 5.0
Assessment methods	• Augmented reality (AR)-enhanced “challenge” quiz • Project work • Practical demonstration and case studies
Duration (Hours)	20 learning hours (estimated)
Learning Setting	Blended: Online modules with video, interactive presentations, AR tool; face-to-face workshops; self-assessment tasks
Validation Evidence	• Completion badge /certificate • Augmented Reality (AR) quiz score • Learner portfolio and prototypes
Reference Frameworks	• **ESCO Skills**: Human resources management, performance diagnosis, training needs analysis, change management, emotional intelligence, well-being management • **ESCO Occupations**: 1212.2- Human resources manager, 1321.2.3- Operations manager, 1321.2.1.4- Footwear technical manager
Language(s)	English, Romanian, Spanish, Portuguese, Italian

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Section	Details
Title	**Programming Using Block Language**
EQF Level	Level 5-6
Description	This unit introduces block-based programming as an accessible and powerful tool for enhancing automation, customization, and efficiency in the footwear industry, even for professionals without prior coding experience.
Learning Outcomes	After completing this unit, learners will be able to: ✓ Understand fundamental programming concepts such as variables, loops, and conditionals ✓ Use block-based programming platforms like Scratch, Blockly, or Snap ✓ Assemble and apply code blocks to create functional programs ✓ Control motors and sensors for precise movement in footwear production ✓ Program robots and automated machines for manufacturing tasks ✓ Integrate sensors to improve quality and efficiency in production ✓ Identify and fix programming errors through effective debugging ✓ Apply programming to optimize manufacturing processes ✓ Follow advancements in block-based programming to drive innovation in footwear production
Skills developed	• Logical thinking for structured problem-solving • Creativity in designing interactive and visual elements • Problem-solving through algorithm creation and debugging • Foundational computational skills and understanding of programming • Collaboration on shared programming projects • Enhanced mathematical skills through applied concepts • Communication of ideas via visual projects and storytelling • Algorithmic thinking for efficient task breakdown and solution design
Knowledge acquired	• Control structures (loops, conditionals) for managing program flow • Use of variables and data types to store and process information • Event handling and object manipulation within programming environments • Sequential programming to execute ordered actions effectively • Code debugging techniques to identify and fix errors • Programming for hardware interaction with sensors, actuators, and devices
Assessment methods	• Augmented reality (AR)-enhanced “challenge” quiz • Project work • Practical demonstration and case studies
Duration (Hours)	20 learning hours (estimated)
Learning Setting	Blended: Online modules with video, interactive presentations, AR tool; face-to-face workshops; self-assessment tasks
Validation Evidence	• Completion badge /certificate • Augmented Reality (AR) quiz score • Learner portfolio and prototypes
Reference Frameworks	• **ESCO Skills**: Block-based programming, basic programming, coding, algorithm design, debugging, computational thinking • **ESCO Occupations**: 2512.4- Software developer, 8156.2.2 - Footwear maintenance technician
Language(s)	English, Romanian, Spanish, Portuguese, Italian

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Title	Big Data in Footwear Industry 5.0
EQF Level	Level 5-6
Description	This unit introduces the fundamentals of big data analytics and its role in transforming raw data into valuable insights for informed decision-making. Applied to the footwear industry, big data supports trend detection, sustainability assessment, process optimization, and smarter supply chain and maintenance management.
Learning Outcomes	After completing this unit, learners will be able to: ✓ Understand the role of big data in Industry 5.0 and the footwear sector ✓ Assess the impact of big data use in footwear ✓ Apply big data tools in design and business operations ✓ Evaluate how big data supports sustainable production ✓ Formulate data-driven decision-making strategies
Skills developed	• Collecting and managing big data • Making informed decisions using data insights • Applying data trends in footwear design • Creating data-driven business strategies
Knowledge acquired	• Fundamentals of big data analytics in Industry 5.0 and footwear • Data-driven assessment of sustainability in footwear manufacturing • Trend and consumer insight analysis through big data • Big data applications in material selection for footwear
Assessment methods	• Augmented reality (AR)-enhanced “challenge” quiz • Project work • Practical demonstration and case studies
Duration (Hours)	20 learning hours (estimated)
Learning Setting	Blended: Online modules with video, interactive presentations, AR tool; face-to-face workshops; self-assessment tasks
Validation Evidence	• Completion badge /certificate • Augmented Reality (AR) quiz score • Learner portfolio and prototypes
Reference Frameworks	• **ESCO Skills**: Big data analysis, data management, statistical modelling, predictive analytics • **ESCO Occupations**: 2511.3 - Data analyst, 2511.20 - Data engineer, 3119.6 - Footwear product developer, 2149.18 - Innovation engineer, 8156.2.2 - Footwear maintenance technician, 1321.2.1.4- Footwear technical manager
Language(s)	English, Romanian, Spanish, Portuguese, Italian

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Section	Details
Title	**Networking and Coworking**
EQF Level	Level 5-6
Description	With the implementation of Industry 5.0 in industries, new working realities emerge. Networking and coworking are gaining new impetus in what are an increasingly virtual and collaborative reality. The aim of this unit is to raise awareness of these new terms, provide information on their main advantages and provide methods, strategies and tools for their implementation. For a clearer and more practical view of implementing these assumptions, this course also includes an analysis of best practices in companies and how they have been carried out.
Learning Outcomes	After completing this unit, learners will be able to: ✓ Master the coworking and networking concepts ✓ Identify and understand coworking and networking strategies in the context of Industry 5.0 ✓ Understand the power of relationships ✓ Identify the best meeting practices in the context of Industry 5.0 and reproduce them
Skills developed	• Enhancing the company brand among internal and external stakeholders; • Coworking spaces between humans and robots • Working in an organised way to manage personal and team plans; • Developing effective meeting skills
Knowledge acquired	• Networking concept • Coworking concept • Networking and coworking strategies • Positive professional relationships • Efficient meeting methods
Assessment methods	• Augmented reality (AR)-enhanced “challenge” quiz • Project work • Practical demonstration and case studies
Duration (Hours)	20 learning hours (estimated)
Learning Setting	Blended: Online modules with video, interactive presentations, AR tool; face-to-face workshops; self-assessment tasks
Validation Evidence	• Completion badge /certificate • Augmented Reality (AR) quiz score • Learner portfolio and prototypes
Reference Frameworks	• **ESCO Skills**: Networking, collaboration, digital communication tools, stakeholder engagement, workshop facilitation, coworking coordination • **ESCO Occupations**: 2432.5 - Community manager, 1321.2.1.4- Footwear technical manager, 2163.1.3.2 - Footwear designer, 8156.2.2 - Footwear maintenance technician
Language(s)	English, Romanian, Spanish, Portuguese, Italian

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Section	Details
Title	**Product Traceability and Supply Chain for Industry 5.0**
EQF Level	Level 5-6
Description	This unit explores the role of product traceability and supply chain management in advancing sustainability within the footwear industry, with a focus on Industry 5.0. Emphasising the use of RFID technology, students will learn how data-driven tracking systems support circular practices, reduce waste, and improve the transparency and efficiency of material use from production to recycling.
Learning Outcomes	After completing this unit, learners will be able to: ✓ Optimise supply chain efficiency to reduce costs and lead times ✓ Apply sustainable practices by tracking and recycling materials ✓ Minimise waste in footwear production ✓ Ensure compliance with environmental standards ✓ Enhance supply chain transparency and customer trust ✓ Develop technical skills for traceability and supply chain tools ✓ Integrate emerging technologies in footwear logistics ✓ Support CSR through sustainable supply chain strategies
Skills developed	• Implementing product traceability systems with RFID • Optimising supply chain processes in footwear production • Applying sustainable and recycling practices • Integrating Industry 5.0 technologies like IoT and AI • Managing waste and surplus materials to reduce impact • Making data-driven decisions for efficient, sustainable operations
Knowledge acquired	• RFID technology for product and material tracking • Traceability systems and tools, including software and sensors • Footwear supply chain management from procurement to distribution • Principles of environmental sustainability in the footwear sector • Environmental regulations and industry compliance • Data analysis for interpreting traceability information • Technological trends and Industry 5.0 applications in footwear
Assessment methods	• Augmented reality (AR)-enhanced “challenge” quiz • Project work • Practical demonstration and case studies
Duration (Hours)	20 learning hours (estimated)
Learning Setting	Blended: Online modules with video, interactive presentations, AR tool; face-to-face workshops; self-assessment tasks
Validation Evidence	• Completion badge /certificate • Augmented Reality (AR) quiz score • Learner portfolio and prototypes
Reference Frameworks	• **ESCO Skills**: Supply chain management, implement traceability systems, RFID / barcode data capture, process monitoring, risk management, circular economy understanding • **ESCO Occupations**: 1324.8- Supply chain manager, 2149.2.6 - Logistics engineer, 3119.6 - Footwear product developer, 2149.18 - Innovation engineer, 1321.2.1.4- Footwear technical manager, 2163.1.3.2 - Footwear designer
Language(s)	English, Romanian, Spanish, Portuguese, Italian

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Section	Details
Title	**Artificial Intelligence (AI) in the Footwear Industry 5.0**
EQF Level	Level 5-6
Description	This unit introduces learners to the foundational concepts, tools, and applications of Artificial Intelligence in the context of footwear design, production, and business modelling within Industry 5.0.
Learning Outcomes	After completing this unit, learners will be able to: ✓ Understand the principles of AI ✓ Identify key AI applications in design, production, and business ✓ Apply AI tools in footwear prototyping ✓ Integrate AI into manufacturing and decision-making processes
Skills developed	• Use AI-driven design tools for 3D prototyping • Analyze consumer data using AI tools • Optimize production using predictive AI systems • Integrate AI with AR/VR in product design
Knowledge acquired	• AI principles and relevance to Industry 5.0 • Application of AI in logistics, forecasting, and sustainability • AI tools in 3D modelling and smart manufacturing • AI-enhanced consumer behaviour analysis
Assessment methods	• Augmented reality (AR)-enhanced “challenge” quiz • Project work • Practical demonstration and case studies
Duration (Hours)	20 learning hours (estimated)
Learning Setting	Blended: Online modules with video, interactive presentations, AR tool; face-to-face workshops; self-assessment tasks
Validation Evidence	• Completion badge /certificate • Augmented Reality (AR) quiz score • Learner portfolio and prototypes
Reference Frameworks	• **ESCO Skills**: Artificial Intelligence, AI application design, data analysis, principles of artificial intelligence • **ESCO Occupations**: 2511.11 - Artificial intelligence engineer, 3119.6 - Footwear product developer, 2149.18 - Innovation engineer, 2163.1.3.2 - Footwear designer
Language(s)	English, Romanian, Spanish, Portuguese, Italian

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Section	Details
Title	**Manufacturing i5.0**
EQF Level	Level 5-6
Description	This unit focuses on the technologies enabling Manufacturing 5.0 in the shop floor for the footwear industry. It shows the advantages of using advanced technologies for manufacturing, including collaborative robots, the concepts of lean robotics, supported by digitalization in the world of connected devices. It will enable users to understand and apply these concepts, embracing the Industry 5.0 principles.
Learning Outcomes	After completing this unit, learners will be able to: ✓ Understand the key concepts of manufacturing 5.0 ✓ Explain the benefits of using advanced technologies in manufacturing ✓ Apply advanced technologies to improve the efficiency, sustainability, and flexibility of manufacturing processes ✓ Understand how working effectively with robots and other automated systems com benefit the industry ✓ Apply the concepts of energy efficiency to manufacturing ✓ Develop skills needed to lead the transition to manufacturing 5.0
Skills developed	• Apply advanced technologies to enhance manufacturing efficiency, sustainability, and adaptability • Operate and collaborate with robotic and automated systems • Develop and implement Industry 5.0 manufacturing solutions
Knowledge acquired	• History and evolution of manufacturing • Key technologies of manufacturing 5.0 • Benefits of using advanced technologies in manufacturing • Challenges of implementing manufacturing 5.0
Assessment methods	• Augmented reality (AR)-enhanced “challenge” quiz • Project work • Practical demonstration and case studies
Duration (Hours)	20 learning hours (estimated)
Learning Setting	Blended: Online modules with video, interactive presentations, AR tool; face-to-face workshops; self-assessment tasks
Validation Evidence	• Completion badge /certificate • Augmented Reality (AR) quiz score • Learner portfolio and prototypes
Reference Frameworks	• **ESCO Skills**: Footwear manufacturing technology, lean manufacturing, sustainable manufacturing, human-machine collaboration, digital twin operation, process optimization, quality control • **ESCO Occupations**: 2511.11 - Artificial intelligence engineer, 1321.2.1.4- Footwear technical manager, 8156.2 - Footwear production machine operator, 8156.2.2 - Footwear maintenance technician, 3119.6 - Footwear product developer, 2149.18 - Innovation engineer
Language(s)	English, Romanian, Spanish, Portuguese, Italian

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Section	Details
Title	**Co-innovation 5.0**
EQF Level	Level 5-6
Description	This unit aims to integrate several forms of innovation based on cooperation and foster co-innovation strategies in SMEs of traditional sectors, namely footwear, textile, wood and furniture/upholstery, logistics, chemistry, etc., thus facilitating the digital and green transformation of companies and businesses toward the objectives of Industry 5.0.
Learning Outcomes	After completing this unit, learners will be able to: ✓ Understand the different conceptual definitions round co-innovation: open innovation, co-creation, coopetition, and co-innovation ✓ Understand the interest and benefits of the co-innovation ✓ Give examples of different practices in different sectors ✓ Identify and use open-source resources ✓ Identify collaboration challenges between companies, sectors, and industries ✓ Learn about collaborative tools and techniques, and know how to apply them to different objectives
Skills developed	• Distinguish between key co-innovation concepts: open innovation, co-creation, coopetition, and co-innovation • Utilize open-source resources effectively • Identify collaboration challenges and shared needs across sectors in line with Industry 5.0 goals • Apply appropriate collaborative tools and techniques to specific innovation objectives • Design and manage project frameworks for implementing co-innovation methodologies in Industry 5.0 contexts
Knowledge acquired	• Conceptual and practical definition around co-innovation: open innovation, co-creation, coopetition, co-innovation • Open-source resources • Potential collaboration challenges between companies, sectors, industries • Collaboration tools and techniques
Assessment methods	• Augmented reality (AR)-enhanced “challenge” quiz • Project work • Practical demonstration and case studies
Duration (Hours)	20 learning hours (estimated)
Learning Setting	Blended: Online modules with video, interactive presentations, AR tool; face-to-face workshops; self-assessment tasks
Validation Evidence	• Completion badge /certificate • Augmented Reality (AR) quiz score • Learner portfolio and prototypes
Reference Frameworks	• **ESCO Skills**: Co-creation, design thinking, collaboration, project management, social innovation, user-centered design • **ESCO Occupations**: 3119.6 - Footwear product developer, 2149.18 - Innovation engineer, 1223.2 - Research and development manager, 2163.1.3.2 - Footwear designer, 7536.2.3 - Footwear CAD patternmaker
Language(s)	English, Romanian, Spanish, Portuguese, Italian

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Section	Details
Title	**Corporate Social Responsibility for Footwear Industry 5.0**
EQF Level	Level 5-6
Description	This unit focuses on integrating Corporate Social Responsibility (CSR) principles within the context of Industry 5.0, specifically tailored for the footwear industry. It explores the concepts of openness, transparency, and ethics in the context of business operations, supply chains, and stakeholder engagement. The unit equips learners with the knowledge and skills necessary to align modern manufacturing processes with ethical and sustainable practices, fostering responsible innovation and value creation.
Learning Outcomes	After completing this unit, learners will be able to: ✓ Understand the principles and significance of CSR within the context of Industry 5.0 and the footwear industry ✓ Analyze the ethical implications of Industry 5.0 technologies in the footwear sector ✓ Implement transparency measures in supply chains and business practices ✓ Evaluate the role of openness and collaboration in driving responsible innovation ✓ Develop strategies for integrating ethical considerations into decision-making processes
Skills developed	• Assess and address ethical dilemmas arising from Industry 5.0 technologies in the footwear industry • Implement transparency measures • Foster collaborative relationships with stakeholders for responsible innovation • Devise strategies to integrate ethics and sustainability into business decision-making
Knowledge acquired	• CSR principles and their application in Industry 5.0 within the footwear sector • Ethical challenges and opportunities posed by advanced technologies in footwear manufacturing • Transparency frameworks, reporting standards, and their relevance • Openness and collaboration as drivers of innovation and sustainable practices
Assessment methods	• Augmented reality (AR)-enhanced “challenge” quiz • Project work • Practical demonstration and case studies
Duration (Hours)	20 learning hours (estimated)
Learning Setting	Blended: Online modules with video, interactive presentations, AR tool; face-to-face workshops; self-assessment tasks
Validation Evidence	• Completion badge /certificate • Augmented Reality (AR) quiz score • Learner portfolio and prototypes
Reference Frameworks	• **ESCO Skills**: policy analysis, environmental policy, government policy, ethical sourcing, environmental impact assessment, stakeholder consultation, reporting, social innovation, sustainable manufacturing • **ESCO Occupations**: 1219.2- Corporate social responsibility manager, 1213.8 - Sustainability manager, 3119.6 - Footwear product developer, 1321.2.1.4- Footwear technical manager
Language(s)	English, Romanian, Spanish, Portuguese, Italian

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Section	Details
Title	**Ergonomics and Digital Anthropology**
EQF Level	Level 5-6
Description	This unit explores the dynamic intersection of ergonomic principles and digital anthropology within the context of Industry 5.0 in the footwear industry. This unit equips learners with the knowledge and practical insights to optimize workplace design, foster human-centred digital environments, and promote occupational health and safety in the footwear manufacturing industry.
Learning Outcomes	After completing this unit, learners will be able to: ✓ Understand the principles of ergonomics and their relevance in the footwear manufacturing context ✓ Identify ergonomic factors that impact footwear production and evaluate their effects on worker well-being ✓ Apply digital anthropology concepts to analyses work-related digital interactions in footwear manufacturing ✓ Integrate digital tools and technologies with ergonomic practices to create human-centred work environments
Skills developed	• Evaluate ergonomic factors in the manufacturing context and propose effective workplace design modifications • Analyze work-related digital interactions and identify opportunities for enhancing worker safety and well-being • Integrate digital technologies with ergonomic practices to create optimal work environments • Develop and implement ergonomic and digital anthropology policies
Knowledge acquired	• Ergonomic principles and their applicability in footwear manufacturing • How digital anthropology can enhance safety and efficiency in the footwear production process • The effects of digital practices on occupational health and safety within the industry • Ergonomic factors and solutions in footwear manufacturing • Policy implementation to establish a culture of occupational health and safety
Assessment methods	• Augmented reality (AR)-enhanced “challenge” quiz • Project work • Practical demonstration and case studies
Duration (Hours)	20 learning hours (estimated)
Learning Setting	Blended: Online modules with video, interactive presentations, AR tool; face-to-face workshops; self-assessment tasks
Validation Evidence	• Completion badge /certificate • Augmented Reality (AR) quiz score • Learner portfolio and prototypes
Reference Frameworks	• **ESCO Skills**: Work ergonomically, ergonomic assessment, human–computer interaction, user observation and cultural analysis, anthropological research, inclusive design • **ESCO Occupations**: 2263.3.1- Ergonomist, 2632.1- Anthropologist, 1321.2.1.4- Footwear technical manager, 8156.2 - Footwear production machine operator, 8156.2.2 - Footwear maintenance technician
Language(s)	English, Romanian, Spanish, Portuguese, Italian

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Section	Details
Title	**Bio-inspired Materials and Technologies**
EQF Level	Level 5-6
Description	This unit explores the integration of bio-inspired materials and technologies in the footwear industry, focusing on sustainable design and nature-driven innovation. Students will examine concepts such as biomimicry, self-healing materials, embedded sensors, and advanced manufacturing techniques like 3D printing to create adaptive, eco-friendly footwear solutions.
Learning Outcomes	After completing this unit, learners will be able to: ✓ Define bio-inspired materials and biomimetic design in footwear ✓ Identify their sustainability and performance benefits ✓ Analyze current trends, applications, and biomimicry principles in footwear design ✓ Evaluate innovative materials (self-healing, lightweight, recyclable, waste-based, bio-based) ✓ Apply biomimetic strategies to footwear components using advanced manufacturing such as 3D printing
Skills developed	• Analyze and critically evaluate the benefits and limitations of bio-inspired materials in footwear design and production • Apply biomimetic design principles to create innovative footwear components, considering different structural and functional requirements • Design and prototype bio-inspired footwear components using advanced manufacturing techniques like 3D printing • Integrate sustainable and bio-based materials into footwear design, considering environmental and ethical considerations
Knowledge acquired	• Definitions, benefits, and current trends of bio-inspired materials in the footwear industry • Biomimetic design principles and strategies derived from nature's biodiversity • Various bio-inspired materials' properties, including self-healing, lightweight, recyclability, and waste utilization • Bio-based materials and their application in different footwear components • Advanced manufacturing techniques, such as 3D printing and additive manufacturing, for bio-inspired footwear production
Assessment methods	• Augmented reality (AR)-enhanced “challenge” quiz • Project work • Practical demonstration and case studies
Duration (Hours)	20 learning hours (estimated)
Learning Setting	Blended: Online modules with video, interactive presentations, AR tool; face-to-face workshops; self-assessment tasks
Validation Evidence	• Completion badge /certificate • Augmented Reality (AR) quiz score • Learner portfolio and prototypes
Reference Frameworks	• **ESCO Skills**: Advanced materials, biomimicry, materials engineering, footwear materials, innovation in material science, sustainable materials • **ESCO Occupations**: 2149.11- Materials engineer, 3119.6 - Footwear product developer, 2149.18 - Innovation engineer, 2163.1.3.2 - Footwear designer, 7536.2.3 - Footwear CAD patternmaker, 1223.2 - Research and development manager
Language(s)	English, Romanian, Spanish, Portuguese, Italian

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Section	Details
Title	**Wellbeing in Industry 5.0**
EQF Level	Level 5-6
Description	This unit aims to explain the concept of wellbeing in the workplace, covering the 3 dimensions inherent to it, physical, emotional and psychological wellbeing, as well as exploring some of the nuances associated with each and how to boost wellbeing in the workplace for more motivation, happiness and greater productivity.
Learning Outcomes	After completing this unit, learners will be able to: ✓ Understand the concept and dimensions of wellbeing at work ✓ Identify and implement measures to promote wellbeing at work in the context of Industry 5.0 ✓ Promote safe and inclusive workplaces ✓ Master personal protective equipment ✓ Identify occupational diseases, understand which ones apply to the footwear sector and know to act in their prevention ✓ Understand the PERMA model and how to implement it in order to increase happiness at work ✓ Understand the concept of emotional wellbeing and how to promote it as managers and human resources managers
Skills developed	• Promotion and dissemination of wellbeing at work in its three dimensions: physical wellbeing, psychological wellbeing and emotional wellbeing
Knowledge acquired	• Wellbeing concept • Safe and inclusive work environment • Personal protective equipment • Occupational disease • Psychological wellbeing concept • PERMA model • Emotional wellbeing concept
Assessment methods	• Augmented reality (AR)-enhanced “challenge” quiz • Project work • Practical demonstration and case studies
Duration (Hours)	20 learning hours (estimated)
Learning Setting	Blended: Online modules with video, interactive presentations, AR tool; face-to-face workshops; self-assessment tasks
Validation Evidence	• Completion badge /certificate • Augmented Reality (AR) quiz score • Learner portfolio and prototypes
Reference Frameworks	• **ESCO Skills**: Workplace wellbeing, risk management, emotional intelligence, occupational health, mental health, promote health • **ESCO Occupations**: 2149.10 - Health and safety engineer, 1213.7 - Health, safety and environmental manager, 3119.6 - Footwear product developer, 1321.2.1.4- Footwear technical manager, 8156.2 - Footwear production machine operator
Language(s)	English, Romanian, Spanish, Portuguese, Italian

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Section	Details
Title	**Circular Design, Smart Materials and Innovative Processes in Footwear Industry 5.0**
EQF Level	Level 5-6
Description	This unit sparks from the recognition of the large environmental impact of the footwear industry. Currently, many consumers, but above all, consumers present an important lack of knowledge and capabilities about how to properly manage shoes' disposal, recycling and re-use. Improving sustainable circular design will affect not only footwear production but also the overall impact of the industry on the environment by enhancing sustainability and innovation.
Learning Outcomes	After completing this unit, learners will be able to: ✓ Understand the environmental impact of footwear production and its link to climate change ✓ Define Circular Design and its influence on sustainable footwear ✓ Identify benefits of shoe recycling, reuse, and disposal awareness ✓ Analyze trends and future applications of Smart Materials in design and production ✓ Explore innovative processes such as 3D printing and AR/VR in footwear manufacturing
Skills developed	• Analyze and critically evaluate the environmental impact of footwear industry • Analyze and critically evaluate the benefits and limitations of Circular Design in footwear design and production • Analyze and critically evaluate the benefits and limitations of Smart Materials in footwear design and production • Design and prototype more sustainable footwear components using advanced manufacturing techniques like 3D printing • Design and prototype more sustainable footwear components using innovative processes like AR/VR
Knowledge acquired	• Environmental impact of the footwear industry and the life cycle of footwear products • Definitions, benefits, and challenges of Circular Design in footwear production • Benefits and challenges of introducing smart material in footwear production • Possible use of innovative processes in the footwear industry • Use of 3D and 2D models in footwear design, prototyping and production • Use of Augmented Reality (AR) and Virtual Reality (VR) in footwear design and prototyping
Assessment methods	• Augmented reality (AR)-enhanced "challenge" quiz • Project work • Practical demonstration and case studies
Duration (Hours)	20 learning hours (estimated)
Learning Setting	Blended: Online modules with video, interactive presentations, AR tool; face-to-face workshops; self-assessment tasks
Validation Evidence	• Completion badge /certificate • Augmented Reality (AR) quiz score • Learner portfolio and prototypes
Reference Frameworks	• **ESCO Skills**: Circular design principles, advanced materials, lifecycle analysis, footwear manufacturing technology, innovative manufacturing techniques, sustainability management, sustainable manufacturing • **ESCO Occupations**: 2149.2.4- Design engineer, 2163.1.3.2- Footwear designer, 3119.6- Footwear product developer, 2149.11- Materials engineer, 3119.6 - Footwear product developer, 2149.18 - Innovation engineer, 1213.8 - Sustainability manager
Language(s)	English, Romanian, Spanish, Portuguese, Italian

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Section	Details
Title	**Management for Technological Changes**
EQF Level	Level 5-6
Description	This unit prepares leaders in the footwear industry to manage technological change and drive digital transformation in the context of Industry 5.0. Through practical strategies, case studies, and insights into advanced technologies such as AI, IoT, and automation, participants will acquire the skills to enhance innovation, sustainability, and competitiveness in a rapidly evolving market.
Learning Outcomes	After completing this unit, learners will be able to: ✓ Understand the role of technological change management in Industry 5.0 within the footwear sector ✓ Identify opportunities and challenges related to digital transformation in footwear ✓ Assess technological needs and lead the implementation of smart solutions (e.g., IoT, intelligent systems) ✓ Analyze case studies of successful Industry 5.0 adoption in footwear companies ✓ Apply strategies for change management and cross-functional team leadership ✓ Foster a culture of innovation to support sustainable, technology-driven growth
Skills developed	• Lead and manage technological change effectively • Assess and match technology solutions to business needs • Guide digital transformation and adopt smart systems • Analyze Industry 5.0 opportunities and challenges strategically • Apply insights from real-world case studies • Promote innovation and build multidisciplinary teams
Knowledge acquired	• Key technologies in footwear manufacturing and marketing • Principles and impact of Industry 5.0 • Fundamentals of digital transformation and project management • Methods for assessing technological needs in footwear companies • IoT applications for supply chain optimization • Best practices from Industry 5.0 leaders in footwear • Role of advanced tech in boosting global competitiveness
Assessment methods	• Augmented reality (AR)-enhanced “challenge” quiz • Project work • Practical demonstration and case studies
Duration (Hours)	20 learning hours (estimated)
Learning Setting	Blended: Online modules with video, interactive presentations, AR tool; face-to-face workshops; self-assessment tasks
Validation Evidence	• Completion badge /certificate • Augmented Reality (AR) quiz score • Learner portfolio and prototypes
Reference Frameworks	• **ESCO Skills**: Change management, digital transformation of industrial processes, Internet of Things, analyses the need for technical resources, technology adoption support, develop investigation strategy • **ESCO Occupations**: 1330.1.1.1 - Digital transformation manager, 3119.6 - Footwear product developer, 1321.2.1.4- Footwear production manager, 2149.18 - Innovation engineer, 1321.2.1.4- Footwear technical manager; 8156.2 - Footwear production machine operator, 2163.1.3.2 - Footwear designer, 7536.2.3 - Footwear CAD patternmaker
Language(s)	English, Romanian, Spanish, Portuguese, Italian

Section	Details

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Title	**Ultra and Mass Customisation**
EQF Level	Level 5-6
Description	This unit focuses on the technologies enabling mass and ultra-customisation for the footwear industry. It shows the advantages, challenges, and opportunities of the use of customisation in the industry. It will enable users to understand and apply these concepts, embracing the Industry 5.0 objectives.
Learning Outcomes	After completing this unit, learners will be able to: ✓ Understand the concept of product ultra-customisation ✓ Explain the benefits of product ultra-customisation for the footwear industry ✓ Identify the key technologies that are used in product ultra-customisation ✓ Apply product ultra-customisation techniques to the design and production of footwear products ✓ Be able to explore advanced technologies such as 3D printing, robotics, and artificial intelligence ✓ Develop the skills needed to lead the implementation of product ultra-customisation in the footwear industry
Skills developed	• Apply ultra-customisation techniques in footwear design and production • Use advanced technologies (e.g., 3D printing, robotics, AI) for customisation • Develop and implement tailored customisation solutions
Knowledge acquired	• Evolution and principles of ultra-customisation and mass-customisation • Core technologies enabling product ultra-customisation • Benefits and challenges of implementing ultra-customisation in footwear
Assessment methods	• Augmented reality (AR)-enhanced “challenge” quiz • Project work • Practical demonstration and case studies
Duration (Hours)	20 learning hours (estimated)
Learning Setting	Blended: Online modules with video, interactive presentations, AR tool; face-to-face workshops; self-assessment tasks
Validation Evidence	• Completion badge /certificate • Augmented Reality (AR) quiz score • Learner portfolio and prototypes
Reference Frameworks	• **ESCO Skills**: Mass customisation, additive manufacturing, 3D printing process, customised products, customisation technologies, planning production processes, digital design tools (CAD), customer needs, development process • **ESCO Occupations**: 3119.6 - Footwear product developer, 2163.1.3.2 - Footwear designer, 7536.2.2 - Footwear 3D developer, 7536.2.3 - Footwear CAD patternmaker, 1321.2.1.4 - Footwear production manager
Language(s)	English, Romanian, Spanish, Portuguese, Italian

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