

Learning outcomes



LEARNING ON PUBLIC
PROCUREMENT OF INNOVATIVE
SOLUTIONS IN HABITAT AND E-HEALTH

IO1-A4

LEARNING OUTCOMES



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FOREWORD

The Europe 2020 Strategy sets a target of 3% of the EU's GDP to be invested in R&D by 2020. In this way, innovation has been incorporated into the new European Public Procurement Directives approved on 26th February 2014¹ as a new public policy, at the same level as the social and environmental policy, which should be promoted through contractual instruments.

The new directives open up a number of opportunities for Public Procurement of Innovation, while maintaining the basic requirements of competition, transparency, equal treatment and compliance with EU state aid rules.

For that reason, **the main objective of the HAePPI project is to develop a new learning curriculum on PPI in line with the needs of habitat and eHealth SMEs.** An innovative and open resource programme of vocational education and training, which will provide an adapted curriculum to equip professionals with the specific, basic and transversal skills currently required for the public procurement of innovation.

To reach the main objective, different activities are going to be carried out:

1. Learning outcomes definition based on a complete analysis of current best practices on PPI and SMEs' needs
2. Joint Curriculum definition
3. Development of the training materials with interactive tools
4. Complete learning evaluation on a developed online e-learning platform

In order to achieve such purposes, a Strategic Partnership has put 6 entities together from different countries and expertise in the different fields of the proposed project: two Universities with high expertise in public procurement policies (UNIZAR and ULO); two clusters from different sectors, habitat and eHealth (AMUEBLA and iVITA); a Technology Park and a business organisation expert in innovation management (STP); and coordinated by a regional authority and procuring authority of health technology, North Denmark Region (NDR), through the innovation unit in the health area (Idéklinikken).

Although a HAePPI training course will be launched for the habitat and eHealth sectors, the final beneficiaries of the results will be a great number of SMEs and public institutions around Europe, which will lead to a high impact on European economy.

¹ Directives 2014/23/EU; 2014/24/EU, and 2014/25/EU

1. INTRODUCTION

The aim of this report is to formulate the necessary learning outcomes, in the form of knowledge, skills, and competences, to be covered in the future HAePPI training programme. Defined learning outcomes are based on the previous reports on knowledge needs² and on endorsement of the researched needs and gaps³, and will be the main pillar of the Joint Curriculum, to be developed in the following phase (IO2) of the HAePPI project.

This report was developed in the framework of HAePPI (www.haeppi-project.eu), an Erasmus+ EU founded project aiming to develop a new learning curriculum on PPI in line with the needs of habitat and eHealth SMEs. The training course is expected to be ready by May 2022.

This report is the final result of the first work package of HAePPI project and establishes the main pillars to design the future HAePPI Joint Curriculum.

² HAePPI project (2020). Gaps and needs on Public Procurement of Innovation for SMEs.

³ HAePPI project (2020). Endorsement of the researched needs and gaps.

2. LEARNING OUTCOMES

2.1 Concept of learning outcomes

Learning outcomes, according to the Recommendations on the European Qualifications Framework – EQF⁴, state what a learner is expected to know, be able to do and understand at the end of a learning process or sequence. The way such outcomes are defined orients future training and learning, and will influence the quality and relevance of the future training. *Learning outcomes* will be the base of the future Joint Curriculum, they do not represent outcomes of learning, but desired targets. Therefore, learning outcomes will be used to define the curriculum and assessment specifications in a second step.

The European Centre for the Development of Vocational Training, CEDEFOP, has defined learning outcomes as *sets of knowledge, skills and/or competences that an individual has acquired and/or is able to demonstrate after completion of a learning process, either formal, non-formal or informal*⁵.

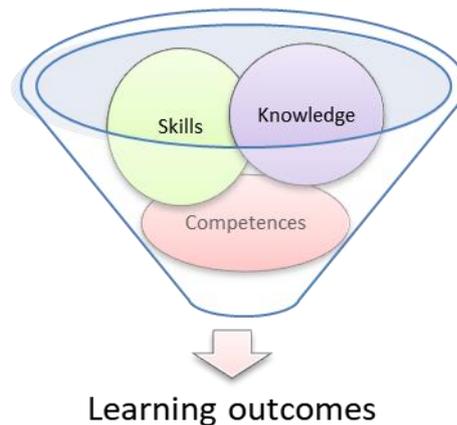


Figure 1. Learning outcomes definition

Based on this description, it is necessary to define learning outcomes by using the terms of *Knowledge, Skills and Competences* according to the Council Recommendation on the European Qualification Framework for lifelong learning⁶.

- **Knowledge** means the outcome of the assimilation of information through learning. Knowledge is the body of facts, principles, theories and practices that is related to a field of work or study. In the context of the EQF, knowledge is described as theoretical and/or factual.

⁴ Recommendation of the European Parliament and of the Council of 23 April 2008 on the establishment of the European Qualifications Framework for lifelong learning.

⁵ CEDEFOP (2014). *Terminology of European education and training policy: a selection of 130 key terms* (second edition). Luxembourg: Publications Office.

⁶ Council Recommendation of 22 May 2017 on the European Qualifications Framework for lifelong learning and repealing the recommendation of the European Parliament and of the Council of 23 April 2008 on the establishment of the European Qualifications Framework for lifelong learning.

- **Skills** means the ability to apply knowledge and use know-how to complete tasks and solve problems. In the context of the EQF, skills are described as cognitive (involving the use of logical, intuitive and creative thinking) or practical (involving manual dexterity and the use of methods, materials, tools and instruments).
- **Competences** means the proven ability to use knowledge, skills and personal, social and/or methodological abilities, in work or study situations and in professional and personal development.

2.2 Learning outcomes in HAePPI project

HAePPI project aims to develop a new training course on Public Procurement of Innovation (PPI) for Vocational Educational and Training (VET) learners, managers and workers of habitat and eHealth sectors. The proposed new Joint Curriculum will facilitate mobility of professionals in the habitat and eHealth sectors across Europe, recognition and certification of VET practices, and facilitate the transferability of Joint Curriculum among countries and VET and High Education institutions.

In this concept, learning outcomes for HAePPI Joint Curriculum are described in the way of knowledge (in terms of what the learner should know and understands at the end of the course), and skills, and competencies (in terms of what the learner should be able to do).

3. METHODOLOGY

Skills, Competences, Occupations, Knowledge and Qualifications are today defined by different national or international databases, such as ISCO, ISCED, DISCO, ESCO, DOT, O * NET or SOC, whose objective is to classify and standardize the different occupations existing in the market and relate them to their training needs and competences. However, the classification and standardization of occupations differs between such databases because they are not classified in the same way in all countries.

In addition, the academic literature on jobs and skills is extensive and covers many contributions on job creation, skills upgrading... among a wide range of different topics. Today, the employment structure is constantly changing and new jobs are emerging, such as those related with digitalization or sustainability, so literature and databases are constantly being updated.

In the case of HAePPI, it is important to take into account that the defined learning outcomes need to cover the gaps and needs of SMEs in relation with PPI by defining the necessary knowledge, skills and competences to be covered.

Gaps and needs were previously identified through a desk research and interviews with SMEs and public authorities' heads, and were validated through a survey with experts on public procurement. As a result, six main topics, with several subtopics, were identified as key gaps to be covered (figure 2), together with a recommendation on specific topics and aspects to be in focus and emphasised in the future HAePPI training.

Public procurement	PPI and PCP	Application process
<ul style="list-style-type: none"> •What is public procurement •Process to participate on public procurement •Types of tenders •Confidentiality of the administration •Payment: financial issues to take into account by SMEs 	<ul style="list-style-type: none"> •What is PPI and PCP? •Differences •Phases of PPI and PCP •Benefits for SMEs •Preliminary market consultation: what is and how to face it 	<ul style="list-style-type: none"> •How to face a tender: vocabulary and main sections •Key aspects to write a winning proposal •How to prepare requested documentation •Understand specifications and award criteria

Project management	Innovation management	Tender tracking and support
<ul style="list-style-type: none"> •How a SME can participate: bidder, subcontracting, and joint venture •Consortium and team management •IPR management •Exploitation of results 	<ul style="list-style-type: none"> •Co-creation: what is and how to interact with stakeholders? •Innovation management in companies •Design thinking for innovation •Business Plan for innovators 	<ul style="list-style-type: none"> •How to look for tenders: european/national registers? •Where to find guides and documents to support SMEs on public procurement •Possibilities of external support: who and what to expect

Figure 2. Gaps and needs on PPI for SMEs, classified in topics and subtopics

Based on these gaps, the steps mentioned below will be followed to define the learning outcomes of HAePPI:

1. Search in ESCO (the European Skills, Competences, Qualifications and Occupations database⁷) for those occupations potentially related with HAePPI training and analyze their skills and competences.
2. Map the identified skills and competences with the defined topics needs.
3. Defined for each topic the necessary knowledge, skills, and competences, that future students will have to acquire during HAePPI training to cover them, taking into account results of validation activity.

3.1 Introduction to ESCO

ESCO is the multilingual classification of European Skills, Competences, Qualifications and Occupations, that supports the Europe 2020 strategy and the New Skills Agenda for Europe.

The Commission services launched the project in 2010 with an open stakeholder consultation. DG Employment, Social Affairs and Inclusion manages the development and continuous updating of the ESCO classification. Currently, it is supported by stakeholders and by CEDEFOP.

⁷ <https://ec.europa.eu/esco/portal>

The ESCO classification identifies and categorises skills, competences, qualifications and occupations relevant for the EU labour market and education and training. It systematically shows the relationships between the different concepts. Its aim is to facilitate job mobility across Europe and therefore a more integrated and efficient labour market, by offering a “common language” on occupations and skills that can be used on education and training topics. Thus, ESCO has been developed in an open IT format, is available for use free of charge by everyone, and currently describes 2.942 occupations and 13.485 skills.

For the present work it has been used the last version available, ESCO v1.0.8, updated on August 2020.

4. DEFINED LEARNING OUTCOMES

4.1 Occupations related with HAePPI

Occupations related to HAePPI have been identified in the European ESCO database. For this task the project has used several key words, such as procurement, purchase, innovation, tender or project management.

In ESCO, each occupation is mapped to exactly one ISCO-08 code, the International Standard Classification of Occupations⁸. ISCO-08 can therefore be used as a hierarchical structure for the occupations pillar. Since ISCO is a statistical classification, its occupation groups do not overlap. Each ESCO occupation is therefore mapped to only one ISCO unit group. It follows from this structure, that ESCO occupation concepts can be equal to or narrower than ISCO unit groups, but not broader.

Hereafter a table listing the identified occupations that are related to some extent to HAePPI, and their description as it appears in ESCO.

Occupation	ISCO	Description
Business intelligence manager	2421.3	Business intelligence managers gain knowledge of the industry, the innovative processes therein, and contrast them with the operations of the company in order to improve them. They focus their analysis in the supply chain processes, warehouses, storage, and sales as to facilitate communication and revenue improvement.
Commercial sales representative	3322.1	Commercial sales representatives represent a company in selling and providing information on goods and services to businesses and organisations.
Corporate lawyer	2611.1.1	Corporate lawyers provide legal consulting services and representation to corporations and organisations. They give advice on matters relating to taxes, legal rights and patents, international trade, trademarks, and legal financial issues arising from operating a business.
ICT research manager	1223.2.2.1	ICT research managers plan, manage and monitor research activities and evaluate emerging trends in the information and communication technology field to assess their relevance. They also design and oversee staff training on the use of new technology and recommend ways to implement new products and solutions that will maximise benefits for the organisation.
Intellectual property consultant	3339.4	Intellectual property consultants provide advice on the usage of intellectual property assets such as patents, copyrights, and trademarks. They help clients to value, in monetary terms, intellectual property portfolios, to follow adequate legal procedures for protecting of such property, and to perform patent brokerage activities.
Legal administrative	3342.2	Legal administrative assistants carry out the daily administrative activities of firms, offices of notaries public, and companies. They perform activities

⁸ <https://www.ilo.org/public/english/bureau/stat/isco/isco08/>

assistant		such as writing mails, phone-answering and typing/keyboarding. They combine these activities with specific knowledge and understanding of the procedures and codes managed in legal business affairs.
Legal consultant	2619.5	Legal consultants advise a varied array of clients ranging from business, individuals, up to legal firms. They provide legal advisory outside courtrooms in relation to legal affairs which depend on the nature of the client. They advise in matters such as merging of multinationals, housing purchase, modification of contracts and its implications. They help clients in general to abide by the regulations and avoid committing illegal acts.
Project manager	1219.6	Project managers ensure that a project is completed on time, within budget, and that its objectives are met. They oversee the project, manage the team, ensure the most efficient resources are used and ensure that all parties involved are satisfied.
Public funding advisor	2412.9	Public funding advisors advise individuals and businesses about funding opportunities given by the government. They analyse the needs of clients, consult them on funds, grants and subsidies that apply to them and help with the application process. Public funding advisors also set up public grant administration in organisations.
Purchaser	3323.2	Purchasers select and purchase stock, materials, services or goods. They organise tender procedures and select suppliers.
Purchasing manager	1324.3.4.2	Purchasing managers are in charge of buying goods, equipment and services for their company, and try to ensure the most competitive prices. They are also responsible for negotiating contracts, reviewing the quality of products and analysing suppliers, and the use and resale of goods and services.
Research and development manager	1223.2	Research and development managers coordinate the efforts of scientists, academical researchers, product developers, and market researchers towards the creation of new products, the improvement of current ones or other research activities, including scientific research. They manage and plan research and development activities of an organisation, specify goals and budget requirements and manage the staff.
Strategic planning manager	1213.2.2	Strategic planning managers create, together with a team of managers, the strategic plans of the company as a whole, and provide coordination in the implementation per department. They help to interpret the overall plan and create a detailed plan for each one of the departments and branches. They ensure consistency in the implementation.

Table 1. ESCO' occupations related with HAePPI training

4.2 Identifying the necessary skills and competences

For each one of the previous selected occupations their related skills and competences have been analysed, and those that are considered to have a clear link with the future HAePPI training have been selected.

Tables 2 to 14 show all skills and competencies for each occupation. Selected ones as keys for HAePPI training are highlighted in bold font.

• **Business intelligence manager**

Essential skills and competencies	<ul style="list-style-type: none"> – advise on efficiency improvements – align efforts towards business development – analyse the context of an organisation – create a work atmosphere of continuous improvement – develop company strategies – develop revenue generation strategies – ensure compliance with policies – gather technical information – identify undetected organisational needs – implement strategic planning – improve business processes – integrate strategic foundation in daily performance 	<ul style="list-style-type: none"> – interpret business information – liaise with managers – manage business knowledge – manage project metrics – monitor company policy – perform business analysis – perform data analysis – provide improvement strategies – track key performance indicators
Optional skills and competencies	<ul style="list-style-type: none"> – advise on tax policy – analyse production processes for improvement – analyse supply chain strategies – deliver business research proposals – identify suppliers – keep updated on innovations in various business fields – make strategic business decisions 	<ul style="list-style-type: none"> – manage budgets – monitor customer behaviour – perform business research – perform market research – recommend product improvements – train employees – use consulting techniques

Table 2. Skills and competencies for business intelligence manager occupation

• **Commercial sales representative**

Essential skills and competencies	<ul style="list-style-type: none"> – advise on merchandise features – answer requests for quotation – apply technical communication skills – carry out sales analysis – communicate with customers – contact customers – demonstrate motivation for sales – demonstrate products' features – ensure compliance with legal requirements – ensure compliance with purchasing and contracting regulations – ensure customer focus – guarantee customer satisfaction – have computer literacy – implement customer follow-up 	<ul style="list-style-type: none"> – implement sales strategies – keep records of customer interaction – keep records on sales – maintain relationship with suppliers – produce sales reports – prospect new customers – prospect new regional contracts – record customers' personal data – respond to customers' inquiries – use customer relationship management software
Optional skills and competencies	<ul style="list-style-type: none"> – analyse consumer buying trends – apply social media marketing – deliver a sales pitch – develop media strategy – develop promotional tools – handle financial transactions – implement marketing strategies – issue sales invoices – monitor after sales records – monitor media industry research figures 	<ul style="list-style-type: none"> – perform media outlets research – process payments – provide advertisement samples – show diplomacy – speak different languages – stay up to date with social media – work with advertising professionals

Table 3. Skills and competencies for commercial sales representative occupation

• **Corporate lawyer**

Essential skills and competencies	<ul style="list-style-type: none"> – analyse enforceability – analyse legal evidence – compile legal documents – consult with business clients – develop professional network – identify clients' needs – interpret law – negotiate lawyer's fee 	<ul style="list-style-type: none"> – observe confidentiality – present arguments persuasively – present legal arguments – protect client interests – provide legal advice – respond to enquiries – use consulting techniques
Optional skills and competencies	<ul style="list-style-type: none"> – advise on legal compliance for participation in financial markets – analyse internal factors of companies – assess financial viability – detect financial crime – interpret financial statements – manage contract disputes 	<ul style="list-style-type: none"> – manage contracts – moderate in negotiations – negotiate in legal cases – provide legal advice on investments – represent clients in courts – trace financial transactions

Table 4. Skills and competencies for corporate lawyer occupation

• **ICT research manager**

Essential skills and competencies	<ul style="list-style-type: none"> – apply statistical analysis techniques – apply system organisational policies – conduct literature research – conduct qualitative research – conduct quantitative research – conduct scholarly research – innovate in ICT 	<ul style="list-style-type: none"> – manage ICT project – manage staff – monitor ICT research – monitor technology trends – plan research process – write research proposals
Optional skills and competencies	<ul style="list-style-type: none"> – apply reverse engineering – build business relationships – conduct research interview – coordinate technological activities – create solutions to problems – provide user documentation – report analysis results 	<ul style="list-style-type: none"> – execute ICT user research activities – execute analytical mathematical calculations – perform data mining – process data

Table 5. Skills and competencies for ICT research manager occupation

• **Intellectual property consultant**

Essential skills and competencies	<ul style="list-style-type: none"> – ensure law application – monitor legislation developments – present arguments persuasively 	<ul style="list-style-type: none"> – protect client interests – provide legal advice
Optional skills and competencies	<ul style="list-style-type: none"> – advise on licencing procedures – analyse big data – apply for patents – create patent draft – develop licensing agreements – handle conflicts 	<ul style="list-style-type: none"> – interpret law – negotiate in legal cases – present legal arguments – provide advice on inventions – provide advice on trademarks

Table 6. Skills and competencies for intellectual property consultant occupation

• **Legal administrative assistant**

Essential skills and competencies	<ul style="list-style-type: none"> – communicate by telephone – compile legal documents – manage personnel agenda – meet deadlines for preparing legal cases 	<ul style="list-style-type: none"> – observe confidentiality – perform clerical duties – perform office routine activities
Optional skills and competencies	<ul style="list-style-type: none"> – apply technical communication skills – brief court officials – decode handwritten texts – fix meetings – handle evidence – issue sales invoices 	<ul style="list-style-type: none"> – manage accounts – revise legal documents – study court hearings – translate keywords into full texts

Table 7. Skills and competencies for legal administrative assistant occupation

• **Legal consultant**

Essential skills and competencies	<ul style="list-style-type: none"> – advise on legal decisions – analyse enforceability – compile legal documents – ensure law application – identify clients' needs 	<ul style="list-style-type: none"> – interpret law – protect client interests – provide legal advice – use consulting techniques
Optional skills and competencies	<ul style="list-style-type: none"> – analyse internal factors of companies – analyse legal evidence – apply technical communication skills – consult with business clients – manage contract disputes – manage contracts 	<ul style="list-style-type: none"> – moderate in negotiations – negotiate in legal cases – observe confidentiality – present legal arguments – respond to enquiries

Table 8. Skills and competencies for legal consultant occupation

• **Project manager**

Essential skills and competencies	<ul style="list-style-type: none"> – apply conflict management – build business relationships – create project specifications – develop business plans – ensure compliance with legal requirements – ensure equipment availability – ensure equipment maintenance – establish daily priorities – estimate duration of work – follow company standards – identify legal requirements – liaise with managers – manage budgets – manage project information 	<ul style="list-style-type: none"> – manage logistics – manage staff – manage supplies – perform project management – perform resource planning – perform risk analysis – plan health and safety procedures – provide cost benefit analysis reports – strive for company growth – supervise daily information operations – train employees
Optional skills and competencies	<ul style="list-style-type: none"> – apply change management – control of expenses – create a financial report – maintain relationship with suppliers – maintain relationships with stakeholders – manage project metrics 	<ul style="list-style-type: none"> – manage standard enterprise resource planning system – negotiate with stakeholders – recruit employees – write work-related reports

Table 9. Skills and competencies for project manager occupation

• **Public funding advisor**

Essential skills and competencies	<ul style="list-style-type: none"> – advise on financial matters – analyse business objectives – analyse business requirements – identify clients' needs – inform on government funding 	<ul style="list-style-type: none"> – manage government funding – perform business analysis – use consulting techniques
Optional skills and competencies	<ul style="list-style-type: none"> – analyse external factors of companies – analyse internal factors of companies – apply for government funding – check official documents – create a financial plan – execute feasibility study – issue official documents 	<ul style="list-style-type: none"> – keep task records – manage government-funded programmes – observe confidentiality – prepare government funding dossiers – respond to enquiries

Table 10. Skills and competencies for public funding advisor occupation

• **Purchaser**

Essential skills and competencies	<ul style="list-style-type: none"> – apply procurement – assess supplier risks – compare contractors' bids – coordinate purchasing activities – ensure compliance with purchasing and contracting regulations – have computer literacy – identify suppliers – issue purchase orders 	<ul style="list-style-type: none"> – maintain relationship with customers – maintain relationship with suppliers – manage contracts – manage purchasing cycle – manage tender processes – speak different languages – track price trends
Optional skills and competencies	<ul style="list-style-type: none"> – analyse consumer buying trends – analyse logistic changes – analyse logistic needs – analyse supply chain strategies – conduct performance measurement 	<ul style="list-style-type: none"> – identify new business opportunities – negotiate sales contracts – report accounts of the professional activity

Table 11. Skills and competencies for purchaser occupation

• **Purchasing manager**

Essential skills and competencies	<ul style="list-style-type: none"> – analyse logistic changes – analyse supply chain strategies – analyse supply chain trends – assess supplier risks – coordinate purchasing activities – estimate costs of required supplies – follow company standards – identify suppliers – issue sales invoices – liaise with managers – maintain relationship with customers 	<ul style="list-style-type: none"> – maintain relationship with suppliers – manage budgets – manage contracts – manage inventory – negotiate buying conditions – negotiate sales contracts – order supplies – strive for company growth – study sales levels of products
Optional skills and competencies	<ul style="list-style-type: none"> – analyse consumer buying trends – attend trade fairs – calculate purchasing levels of raw materials – carry out statistical forecasts – ensure equipment availability – maintain contract administration – manage rented goods returns 	<ul style="list-style-type: none"> – manage staff – manage supplies – monitor stock level – promote sustainable management – recruit employees – track price trends – train employees

Table 12. Skills and competencies for purchasing manager occupation

• *Research and development manager*

Essential skills and competencies	<ul style="list-style-type: none"> – analyse business objectives – analyse external factors of companies – analyse internal factors of companies – assess the feasibility of implementing developments – carry out strategic research – identify new business opportunities – manage budgets – manage research and development projects 	<ul style="list-style-type: none"> – manage staff – perform market research – report analysis results – represent the organisation – seek innovation in current practices – work in an economically efficient manner
Optional skills and competencies	<ul style="list-style-type: none"> – analyse consumer buying trends – analyse economic trends – analyse financial risk – analyse market financial trends – analyse production processes for improvement – apply scientific methods – assist scientific research – collaborate with engineers – conduct research interview – contact scientists – create a financial plan – develop product design 	<ul style="list-style-type: none"> – develop product policies – ensure quality of final product – identify customer's needs – integrate shareholders' interests in business plans – interview people – keep up with trends – keep updated on innovations in various business fields – manage product testing – plan product management – provide improvement strategies

Table 13. Skills and competencies for research and development manager occupation

• *Strategic planning manager*

Essential skills and competencies	<ul style="list-style-type: none"> – advise on communication strategies – advise on efficiency improvements – apply strategic thinking – define organisational standards – develop business plans – develop company strategies – develop organisational policies – ensure compliance with policies – follow the statutory obligations – impart business plans to collaborators – implement operational business plans – implement strategic management – implement strategic planning 	<ul style="list-style-type: none"> – use different communication channels imprint visionary aspirations into the business management – integrate strategic foundation in daily performance – lead managers of company departments – liaise with managers – monitor company policy
Optional skills and competencies	<ul style="list-style-type: none"> – advise on financial matters – develop environmental policy – disseminate internal communications – evaluate performance of organisational collaborators – gather feedback from employees – get involved in the day-to-day operation of the company – identify undetected organisational needs 	<ul style="list-style-type: none"> – integrate headquarters' guidelines into local operations process commissioned instructions – promote organisational communication – provide feedback on job performance – revise drafts

Table 14. Skills and competencies for strategic planning manager occupation

4.3 Skills and competencies to cover gaps on PPI

Finally, table 15 below shows the list of 67 selected skills and competencies. The main criteria followed to perform this selection were: 1.) To cover all of the identified needs and gaps, in order to have a list of topics as wider as possible; and 2.) To select skills and competencies from all previously identify occupations.

Skills and competencies	Description
Advise on financial matters	Consult, advise, and propose solutions with regards to financial management such as acquiring new assets, incurring in investments, and tax efficiency methods.
Advise on legal compliance for participation in financial markets	Consult and provide guidance on the legal changes the company has to undergo in order to participate in the financial market such as writing dividend policies, defining the ownership and structure of the company, and the compliance with the standards set by organisms regulating the market the company is entering to.
Advise on licencing procedures	Advise individuals or organisations on the procedures involved in requesting a specific licence, instructing them on the necessary documentation, the application verification process, and licence eligibility.
Analyse business objectives	Study data according to business strategies and objectives and make both short-term and long-term strategic plans.
Analyse external factors of companies	Perform research and analysis of the external factor pertaining to companies such as consumers, position in the market, competitors, and political situation.
Analyse internal factors of companies	Research and understand various internal factors that influence the operation of companies such as its culture, strategic foundation, products, prices, and available resources.
Analyse supply chain strategies	Examine an organisation's planning details of production, their expected output units, quality, quantity, cost, time available and labour requirements. Provide suggestions in order to improve products, service quality and reduce costs.
Analyse supply chain trends	Analyse and make predictions about trends and evolutions in supply chain operations in relation to technology, efficiency systems, types of products shipped, and logistical requirements for shipments, in order to remain at the forefront of supply chain methodologies.
Apply change management	Manage development within an organisation by anticipating changes and making managerial decisions to ensure that the members involved are as less disturbed as possible.
Apply conflict management	Take ownership of the handling of all complaints and disputes showing empathy and understanding to achieve resolution. To be fully aware of all Social Responsibility protocols and procedures, and to be able to deal with a problem gambling situation in a professional manner with maturity and empathy.
Apply for government funding	Gather information on and apply for subsidies, grants, and other financing programmes provided by the government to small- and large-scale projects or organisations in various fields.
Apply procurement	Undertake ordering of services, equipment, goods or ingredients, compare costs and check the quality to ensure optimal payoff for the organisation
Apply strategic thinking	Apply generation and effective application of business insights and possible opportunities, in order to achieve competitive business advantage on a long-term basis.
Apply technical communication skills	Explain technical details to non-technical customers, stakeholders, or any other interested parties in a clear and concise manner.
Assess the feasibility of implementing developments	Study developments and innovation proposals in order to determine their applicability in the business and their feasibility of implementation from various fronts such as economic impact, business image, and consumer response.
Build business relationships	Establish a positive, long-term relationship between organisations and interested third parties such as suppliers, distributors, shareholders and other stakeholders in order to inform them of the organisation and its objectives.

Conduct literature research	Conduct a comprehensive and systematic research of information and publications on a specific topic. Present a comparative evaluative literature summary.
Conduct qualitative research	Gather relevant information by applying systematic methods, such as interviews, focus groups, text analysis, observations and case studies.
Conduct quantitative research	Execute a systematic empirical investigation of observable phenomena via statistical, mathematical or computational techniques.
Coordinate purchasing activities	Coordinate and manage procurement and renting processes including purchasing, renting, planning, tracking and reporting in a cost-efficient way on an organisational level.
Coordinate technological activities	Give instructions to colleagues and other cooperating parties in order to reach the desired outcome of a technological project or achieve set goals within an organisation dealing with technology.
Create project specifications	Define the workplan, duration, deliverables, resources and procedures a project has to follow to achieve its goals. Describe project goals, outcomes, results and implementation scenarios.
Create solutions to problems	Solve problems which arise in planning, prioritising, organising, directing/facilitating action and evaluating performance. Use systematic processes of collecting, analysing, and synthesising information to evaluate current practice and generate new understandings about practice.
Develop company strategies	Envision, plan, and develop strategies for companies and organisations aimed at achieving different purposes such as establishing new markets, refurbishing the equipment and machinery of a company, implementing pricing strategies, etc.
Ensure compliance with legal requirements	Guarantee compliance with established and applicable standards and legal requirements such as specifications, policies, standards or law for the goal that organisations aspire to achieve in their efforts.
Ensure compliance with policies	Ensure compliance with legislation and company procedures in respect of health and safety in the workplace and public areas. Ensure awareness and compliance with all company policies in relation to health and safety and equal opportunities in the workplace.
Ensure compliance with purchasing and contracting regulations	Implement and monitor company activities in compliance with legal contracting and purchasing legislations.
Ensure law application	Ensure the laws are followed, and where they are broken, that the correct measures are taken to ensure compliance to the law and law enforcement.
Estimate costs of required supplies	Try to value the amounts and costs of required supplies such as of food items and ingredients.
Gather technical information	Apply systematic research methods and communicate with relevant parties in order to find specific information and evaluate research results to assess the information's relevance, relating technical systems and developments.
Handle conflicts	Mediate in conflicts and tense situations by acting between parties, such as service users, important others like families, and institutions, striving to make an agreement, reconcile, and resolve problems.
Identify clients' needs	Identify the areas in which the client may require aid and investigate the possibilities for meeting those needs.
Identify legal requirements	Conduct research for applicable legal and normative procedures and standards, analyse and derive legal requirements that apply to the organisation, its policies and products.
Identify new business opportunities	Pursue potential customers or products in order to generate additional sales and ensure growth.
Inform on government funding	Give information to customers related to the grants and financing programmes attributed by the government for small and large-scale projects in various fields such as the promotion of renewable energies.
Innovate in ICT	Create and describe new original research and innovation ideas within the field of

	information and communication technologies, compare to the emerging technologies and trends and plan the development of new ideas.
Keep updated on innovations in various business fields	Be informed and acquainted with innovations and trends in different industrial and business fields for application in business development.
Keep up with trends	Monitor and follow new trends and developments in specific sectors.
Liaise with managers	Liaise with managers of other departments ensuring effective service and communication, i.e. sales, planning, purchasing, trading, distribution and technical.
Maintain contract administration	Keep contracts up to date and organise them according to a classification system for future consultation.
Maintain relationship with customers	Build a lasting and meaningful relationship with customers in order to ensure satisfaction and fidelity by providing accurate and friendly advice and support, by delivering quality products and services and by supplying after-sales information and service.
Manage budgets	Plan, monitor and report on the budget.
Manage contracts	Negotiate the terms, conditions, costs and other specifications of a contract while making sure they comply with legal requirements and are legally enforceable. Oversee the execution of the contract, agree on and document any changes.
Manage government funding	Monitor the budget received through government funding, and ensure there are enough resources to cover the costs and expenses of the organisation or project.
Manage government-funded programmes	Implement and monitor the development of projects subsidized by regional, national or European authorities.
Manage ICT project	Plan, organize, control and document procedures and resources, such as human capital, equipment and mastery, in order to achieve specific goals and objectives related to ICT systems, services or products, within specific constraints, such as scope, time, quality and budget.
Manage inventory	Control product inventory in balance of availability and storage costs.
Manage project metrics	Gather, report, analyse and create key metrics for a project to help measure its success.
Manage purchasing cycle	Oversee complete purchasing cycle, including generating requisitions, PO creation, PO follow-up, goods reception, and final payment actions.
Manage research and development projects	Plan, organise, direct and follow up on projects aimed at developing new products, implementing innovative services, or further developing existing ones.
Manage staff	Manage employees and subordinates, working in a team or individually, to maximise their performance and contribution. Schedule their work and activities, give instructions, motivate and direct the workers to meet the company objectives. Monitor and measure how an employee undertakes their responsibilities and how well these activities are executed. Identify areas for improvement and make suggestions to achieve this. Lead a group of people to help them achieve goals and maintain an effective working relationship among staff.
Manage tender processes	Organise the process of writing and designing proposals or bids for tenders.
Monitor ICT research	Survey and investigate recent trends and developments in ICT research. Observe and anticipate mastery evolution.
Monitor technology trends	Survey and investigate recent trends and developments in technology. Observe and anticipate their evolution, according to current or future market and business conditions.
Observe confidentiality	Observe the set of rules establishing the nondisclosure of information except to another authorised person.
Perform business analysis	Evaluate the condition of a business on its own and in relation to the competitive business domain, performing research, placing data in context of the business' needs and determining areas of opportunity.

Perform market research	Gather, assess and represent data about target market and customers in order to facilitate strategic development and feasibility studies. Identify market trends.
Perform project management	Manage and plan various resources, such as human resources, budget, deadline, results, and quality necessary for a specific project, and monitor the project's progress in order to achieve a specific goal within a set time and budget.
Plan research process	Outline the research methodologies and schedule in order to ensure that the research can be thoroughly and efficiently executed and that the objectives can be met in a timely manner.
Process payments	Accept payments such as cash, credit cards and debit cards. Handle reimbursement in case of returns or administer vouchers and marketing instruments such as bonus cards or membership cards. Pay attention to safety and the protection of personal data.
Prospect new regional contracts	Identify and win regional contracts/tenders for expanding stores.
Provide legal advice	Provide advice to clients in order to ensure that their actions are compliant with the law, as well as most beneficial for their situation and specific case, such as providing information, documentation, or advice on the course of action for a client should they want to take legal action or legal action is taken against them.
Revise legal documents	Read and interpret legal documents and proofs about happenings in relation with the legal case.
Seek innovation in current practices	Search for improvements and present innovative solutions, creativity and alternative thinking to develop new technologies, methods or ideas for and answers to work-related problems.
Strive for company growth	Develop strategies and plans aiming at achieving a sustained company growth, be the company self-owned or somebody else's. Strive with actions to increase revenues and positive cash flows.
Track key performance indicators	Identify the quantifiable measures that a company or industry uses to gauge or compare performance in terms of meeting their operational and strategic goals, using pre-set performance indicators.
Write research proposals	Synthesize and write proposals aiming to solve research problems. Draft the proposal baseline and objectives, the estimated budget, risks and impact. Document the advances and new developments on the relevant subject and field of study.
Write work-related reports	Compose work-related reports that support effective relationship management and a high standard of documentation and record keeping. Write and present results and conclusions in a clear and intelligible way so they are comprehensible to a non-expert audience.

Table 15. Skills and competencies for HAePPI training description

4.4 Mapping selected skills and competences with defined needs

Once the necessary skills and competences have been identified, it is necessary to select, map and group them into the six identified needs and gaps topics, in the form of knowledge, skills and competencies necessary to be covered for each of them.

First, it has been described for each topic the necessary knowledge that students will acquire to answer correctly to the previously identified needs and gaps.

Secondly, from the previous identified skills and competencies, the most accurate and relevant ones have been selected, taking into account results of the validation by experts on PPI.

Third, skills and competences have been grouped in the different topics taking into account their relation with the described knowledge and how they are complementary and supporter of it.

Public procurement

Knowledge

- Know the concept and key aspects of public procurement
- Understand the processes to participate in a public procurement procedure
- Know the different types of public procurement procedures and their phases
- Know and manage financial issues, regarding payments on public procurement contracts

Skills and competencies

- Apply for government funding
- Manage purchasing cycle

PPI, PCP & market consultation

Knowledge

- Know and differentiate between what is PPI and PCP
- Understand the phases of each process
- Identify the benefits of PPI and PCP for SMEs
- Know the concept of preliminary market consultation and how to participate

Skills and competencies

Same skills and competencies, as required to participate in public procurement processes, but adapted especially to PPI and PCP, including also the following skills:

- Apply technical communication skills
- Build business relationships
- Identify legal requirements

Tender application process

Knowledge

- Know the key vocabulary of a public tender
- Understand the main sections of a public tender
- Know the key aspects on how to participate in public tender
- Identify specifications and award criteria of a public tender

Skills and competencies

- Ensure compliance with purchasing and contracting regulations
- Gather technical information
- Identify clients' needs
- Manage tender processes

Project management

Knowledge

- Know the different options to participate in a public tender: bidder, subcontracting, and joint venture
- Know basic techniques of team management
- Know principles of Industrial Property Rights (IPR)
- Understand how to manage and monitor a project development once get a public contract

Skills and competencies

- Advise on licencing procedures
- Coordinate purchasing activities
- Handle conflicts
- Manage government funding
- Manage research and development projects
- Manage staff
- Observe confidentiality
- Track key performance indicators

Innovation management

Knowledge

- Know the principles of co-creation and how to interact with potential stakeholders
- Know how to manage innovation in SMEs
- Know the principles of design thinking

Skills and competencies

- Analyse business objectives
- Analyse external factors of companies
- Analyse internal factors of companies
- Apply strategic thinking
- Innovate in ICT
- Monitor technology trends

Tender tracking and support

Knowledge

- Know how to look for tenders and the main European/national registers
- Know where to find guides and documents to support SMEs on public procurement
- Understand the available possibilities of external support for a public procurement process
- Know principles of technological surveillance

Skills and competencies

- Identify new business opportunities
- Keep updated on innovations in various business fields
- Keep up with trends
- Manage inventory
- Prospect new regional contracts
- Seek innovation in current practices

Finally, taking into account the conclusions of the validation activity, it could be differentiated into two kind of training topics:

- Key training topics, with a high relevance in the future HAePPI training: Public procurement; PPI, PCP & market consultation; Tender application process.
- Training topics with a lower relevance: Project management; Innovation management; Tender tracking and support.

This topic classification should be implemented at the moment of describing and defining the final Joint Curriculum of HAePPI training.

5. CONCLUSIONS

Taking into account the occupations defined in ESCO as most related with HAePPI future training, their skills and competencies, and the identified needs and gaps on PPI for SMEs, the necessary learning outcomes has been defined, in the form of knowledge, skills and competencies, fulfilling the requirements of the European Qualifications Framework.

Learning outcomes describe what students are expected to know, be able to do and understand at the end of HAePPI training. Learning outcomes have been grouped into six main topics, covering the previously identified needs and gaps.

Topics have been classified by their relevance in the future HAePPI Joint Curriculum, and will be the pillar to draft and describe it in the next project step, taking into account the defined learning outcomes for each topic.

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