CAREER PATHWAYS

Career Pathways Transforming Complex Labour Market Insights into Practical Educational Tools

Co-funded by the
Erasmus+ Programme
of the European Union

Authors; Attwell, G., Batsi, Z., Bekiaridis, G., Chronopoulos, A., Correia, F., Cruz. S., de Freitas, D.V.F., Dias, A., Guimarães, M., Karadog, A.M.G., Karatasouli, D., Lessa, T., Louleli, N., Neves, M., Núñez, A.L.

Introduction to Career Pathways

The Career Pathways initiative addresses the critical sectoral priority of aligning vocational education and training (VET) with labour market needs. It aims to identify current and future skills demands across various occupations and provide career pathways to training and employment for adults, including those who are unemployed or at risk of unemployment. It includes providing comprehensive data for employers, policymakers, planners, and VET providers on skills and training needs in national and regional markets. By offering timely labour market data, it supports the development of training pathways for individuals seeking new skills and employment. Importantly, it enhances the capacity of VET providers to adapt their programs to meet emerging labour market requirements by developing new educational and training opportunities. Additionally, it introduces innovative tools for both individuals seeking training and VET providers. This need for such tools was highlighted by the Cedefop conference, "Getting the Future Right – Towards Smarter and People-Centred Skills Intelligence," where participants identified the lack of actionable labour market intelligence as the primary barrier to adapting VET to labour market needs. The project aims to identify training pathways and labour market needs at local and regional levels, involving application partners and associate partners from VET providers in designing, developing, and piloting these tools.

Career Pathways also drives innovation in VET by using data derived from web scraping job advertisements, providing timely and relevant intelligence on local labour markets. Another innovative aspect is the use of digital technologies, allowing job seekers to use ESCO to identify the skills required for new occupations and access local and regional training opportunities through career pathways. Addressing digital transformation, Career Pathways leverages labour market intelligence to help adults identify new opportunities for skilled occupational employment through VET. It supports VET organisations in using digital tools to develop new programs and meet the demand for emerging skills. The project includes training for career and employment professionals in integrating digital tools into their work, enhancing the capacity of VET and employment organisations to respond to rapidly changing labour markets. This includes addressing new skill requirements arising from the challenges

of COVID-19, AI, and automation, with a particular focus on the emerging needs of the green economy.

The advancement of digital technologies, including AI, machine learning, and automation, combined with new work organisation methods, has wide-ranging economic and societal implications. Concurrently, the shift towards sustainable and green economies is reshaping labour market demand and supply. These twin transitions—digital and green—are driving significant structural changes in labour markets, fundamentally altering the skills requirements of many jobs. As a result, existing workers will need to acquire new skills, and new pathways must be established for those seeking skilled employment. Education and training providers require timely information on future demand to align their offerings effectively.

Robust and actionable labour market and skills intelligence serve as a compass for developing effective skills and productivity policies. In response, the Career Pathways project has developed innovative tools to provide access to the labour market and skills intelligence for job seekers, those looking for training, education and training providers, employers, and regional policymakers. Developed by a European research team, the project addresses the need for career pathways for those seeking to develop skills for future employment and supports VET organisations in offering new learning opportunities. It also addresses the need identified by Cedefop for new tools to aid career and employment professionals in supporting adults. Significant skills shortages are emerging in European countries, while lower-skilled workers face increasing difficulty in finding jobs. There is a clear demand for new skills, but traditional skills anticipation systems are too slow to keep up with the rapid pace of change, and vocational education and training often lags in providing the necessary opportunities.

The Career Pathways project has developed a comprehensive portal that aggregates several tools, including:

Career Pathway Labour Market and Skills Data Hub:

Provides data for employers, policymakers, planners, and VET providers on skills and training demand in national and regional markets. It leverages Cedefop Skills OVATE data to deliver near real-time insights into skill demands.

Career Pathways Professional Experience Space:

Designed for professionals in career development and guidance, Public Employment Services, and VET. This space offers information on Career Pathways tools, their application in professional practice, and guidance on interpreting and utilising the data effectively.

Online Skills Mapping Tool:

Offers detailed information about career pathways, links to relevant courses, and resources for individuals to build their Skills Profile for chosen occupations and store their results in the My Skills section.

Explore Career Pathways:

Allows users to investigate linked skills and find courses to support their career journeys.

Career Pathways Learning Units:

Each unit includes learning objectives, activities, questions for reflection, and a self-assessment quiz to facilitate continuous learning.

By integrating these tools, the Career Pathways project aims to bridge the gap between current labour market needs and available skills, ensuring that individuals and organisations can adapt and thrive in a rapidly evolving economic landscape.

Career Pathways and Skills Intelligence

The Challenge for Skills and Jobs

Labour markets across Europe, and in the wider world have become increasingly unstable in recent years. In part this is due to the financial crisis of 2008 and subsequent recession in many countries. It is also a reflection of the twin challenges of digitalisation and climate change. These pressures are resulting in a profound change in labour market and skills

demand and in the location of jobs and employment. In general, there is a move towards higher level skill and knowledge needed while automation has until recently mainly impacted on lower skilled jobs. At the same time climate change - or rather the attempt to ameliorate climate change – has led to the development of new occupations and new skill needs within occupations. For instance, the EU's focus on environmental sustainability significantly impacts the construction sector, responsible for a considerable portion of the EU's total waste generation and carbon emissions. Projects like Renovation Wave and the Circular Economy Plan are driving the need for skills in areas such as sustainable design, renovation, new materials, and technologies. This shift necessitates a workforce skilled in these new methods and approaches.

The Focus on Skills

The changes in the labour market have led to an increased focus on skills and on understanding the changes in skill demand. Older assumptions about attempting to balance demand and supply for skills and competences are being questioned. Also challenged are the decades-long increases in the number of young people pursuing higher education. Young people may be put off higher education by the cost, at the same time vocational education and training courses are increasingly seen as providing better access to the labour market. Some employers are moving towards assessing job candidates based on their skills rather than on college degrees or other, more conventional credentials. The role of the CV / traditional application form at the initial stage of the application process for graduate / internship / apprenticeship roles is being reduced with some employers putting candidates through a bespoke strengths-based assessment, designed to explore how individuals would act in work-based scenarios. This is accompanied by an increased focus on capabilities: a shift towards behavioural competence components that include aptitudes, motives, and personality traits ranging from creativity to social capabilities.

Artificial intelligence and the future of employment

At the same time there is an intense debate over the impact of Artificial Intelligence (AI) on future employment. It is important to remember that artificial Intelligence and automation are not new. But the debate has become more fraught following the development of Generative AI, based on Large Language Models (LLMs).

Although there may be an easy consensus that Generative AI is leading to enhanced demand for occupations like data scientist, the potential impact of AI on employment is strongly contested. On the one hand it is said by some that the introduction of a new technology has led to new job demand replacing or surpassing the numbers of those jobs destroyed. On the other side it is said there is no automatic guarantee of this. One reason that the Generative AI jobs debate may be so intense is that it is thought that Gen AI may result in the loss of higher paid and higher skilled jobs, rather than just affecting low skilled work.

A recent report by IPPR (2024) on the impact of AI on jobs in the UK identified two key stages of generative AI adoption: the first wave, which is here and now, and a second wave in which companies will integrate existing AI technologies further and more deeply into their processes. IPPR analysis of 22,000 tasks in the UK economy, covering every type of job, found that 11 per cent of tasks done by workers are already exposed to in the first wave. It identified 'routine cognitive' tasks (such as database management) and 'organisational and strategic' tasks (such as scheduling or inventory management) as most exposed to generative AI, which can both read and create text, software code and data. However, this could increase to AI doing 59 percent of tasks in the second wave. This would also impact non-routine cognitive tasks (such as creating and maintaining databases) and would affect increasingly higher earning jobs. It says that back-office, entry level and part time jobs are at the highest risk of being disrupted during the first wave. These include secretarial, customer service and administrative roles. The report identified roles that we often associate as requiring 'the human touch', such as Teachers and Psychologists, as being some of the most exposed to AI technology. In the research undertaken to produce the IPPR report many individuals were found to be worried about the impact that Gen AI could have on their careers - 54% of those surveyed. In the worst-case scenario – full displacement: all jobs at risk are replaced by AI, with 7.9 million job losses and no GDP gains. In a central scenario: 4.4 million jobs disappear, but with economic gains of 6.3 percent of GDP (£144bn per year). In the best-case

scenario – full augmentation: all jobs at risk are augmented to adapt to AI, instead of replaced, leading to no job losses and an economic boost of 13 per cent to GDP.

How 'exposed' some jobs might be to GenAI technology in comparison to others, raises the important question of how we encourage and support students and young professionals to consider their future career development in the context of rapid technological change? How do we communicate the changes impacting the world of work and support young people to reflect on what this might mean for them as they move through their journey of life. learning and work? But of course, it is not just young people who are being challenged by technological change. Even if jobs are not being threatened, the changing skills due to climate change and augmentation for AI means workers in many occupations will require retraining. An open question remains as to who is going to provide this training. Since the banking collapse in the first decade of this century, there has been an ongoing decline in the provision of training for those at work. In terms of social inclusion and social equity, the provision of free and flexible ongoing training is a key question. And for careers advisers and education and training providers the issue once more is financial but also an issue of what courses they should provide and how they should provide them and ensure that teachers and trainers themselves have the skills and knowledge for such programmes. One approach to these questions being advocated by the Learning Pathways project is enhanced skills intelligence at a regional and sectoral level. To achieve this, it is essential to establish strong connections between VET and broader policy areas such as economic, social, environmental, and migration policies (Cedefop, 2021). This integration requires reliable data on current and future trends to inform decision-making. However, the mere availability of data, statistics, and indicators is not sufficient. Given the dynamic and complex nature of today's labour markets and overarching megatrends, there is a profound need for expert analysis and interpretation of this data.

Such expertise is crucial to convert information into actionable insights. These insights can then assist VET providers and Planners, Sectors and Industries, Policy Makers and VET teachers and trainers in effectively navigating and adapting to these transitions. The emphasis is on not just collecting data but also on its meaningful interpretation to guide policy and practice in a way that is responsive to the rapidly evolving economic and social landscapes. This approach ensures that the development of skills and vocational training is aligned with the real-time needs of the labour market and societal changes, thereby fostering a workforce that is resilient, adaptable, and future-ready.

Skills intelligence

The European Centre for the Development of Vocation Training, Cedefop, defines skills intelligence as the outcome of an expert-driven process of identifying, analysing, synthesising and presenting quantitative and/or qualitative information on skills and labour market (Cedefop, 2023).

Skills intelligence, they say, helps translate megatrends and aspirations of key stakeholders at national, regional, local and sectoral level into labour market trends and skill needs. It is recognised that no single skills anticipation approach, method, or tool can sufficiently capture and comprehensively anticipate labour market needs and skill trends and skill needs. It is essential for shaping feedback loops that effectively transmit labour market signals to education and training systems. The European Commission underlines the importance of timely and relevant skills intelligence for renewing and up- dating VET curricula and programmes.

To be trusted, relevant and usable for policy and in practice, multi-level stakeholder involvement in skills anticipation is seen as crucial. To be effective, skills intelligence needs to consider skills demand and supply. While skills intelligence has always had a wide range of potential beneficiaries, the focus is shifting from developing evidence for experts and policy makers towards shaping and disseminating user-centred information that translates trends and policy aims into actionable learning and skills matching opportunities. Skills governance – the 'process of involving stakeholders from the public, private and third sector, from different economic sectors and geographic units, in generating, disseminating and using skills intelligence to steer policies aimed at balancing skill supply and demand, and to establish a basis for stimulating economic development via targeted investments in skills development'.

Skills governance can also help identify bottlenecks, potential accelerators, and improvement opportunities in national, regional or sectoral skills governance approaches.

Career Pathways and Skills Intelligence

The Careers Pathways project was designed to address the challenge of how best to make the most of evolving skills intelligence in a rapidly changing world and how such intelligence can be accessed. The Career Pathways project set out to develop and test new tools, providing access to the labour market and skills intelligence to job seekers, those looking for training, education and training providers, employers and for regional policymakers. Working in three European regions – north Portugal, Attica in Greece and the Basque Country in Spain, the project aimed at providing labour market intelligence that can assist VET providers in offering training in skills presently and in the future in demand in their region. Finally, it had the objective of providing tools that can assist careers and employment advisers in offering advice and assistance to adults seeking new jobs and skills.

To do this, the project would analyse present and future skills demands in different occupations; develop careers pathways to training and employment for unemployed people and those at risk of unemployment; provide data for employers, policymakers, planners and vocational education and training providers on skills and training demand related to national and regional markets and train career advisors in institutions and Public Employment Services in using the Career Pathway tools. Although the project partners recognised that the scale of ambition needed to be managed and in that respect each region would focus on one occupations area: in Basque manufacturing, in north Portugal the textile industry and in Attika tourism and hospitality. Regional meetings were organised bringing together the different stakeholders for a Skills Intelligence Alliance.

The Career Pathways Skills Intelligence Hub

One key to developing a Skills Intelligence approach is that it should be data driven and should be able to bring together and link up different data streams and services. To achieve this the Careers Pathways project has developed an online hub including spaces and tools for Job Seekers and Professionals as well as a Professional Development space. The focus for skills Intelligence is the space for professionals. This includes a series of dashboards based on Cedefop Skills-OVATE to find out about labour market demand for different sectors and occupations, skills demand and trends. In this section you can find insights into the current job market and the skills sought by employers in different regions.

It also includes a section on the green economy and occupations based on data sourced from the US O*Net service. The approach involves two primary dimensions: categorization based on the characteristics of green occupations, specifically focusing on Green Increased Demand, Green Enhanced Skills, and Green New and Emerging categories, and segmentation by economic sectors.

Online Job Advertisements

The Cedefop Skills-OVATE data is based on Online Job Advertisements (OJAs). These adverts provide detailed information on skills required by employers, offering a more up-to-date and granular view compared to traditional surveys. By analysing online job advertisements, researchers and policymakers can understand the changing composition of job tasks and skills over time, assess the impact of automation and artificial intelligence on employment, and monitor trends in labour markets at regional and subpopulation levels (JRC, undated)). However, JRC research shows how online job ads data is skewed towards white-collar professional occupations (Macias and Sostero, 2024), which are relatively better represented in their numbers and in their variety of skills and tasks, relative to less qualified occupations.

The big advantage of OJAs is that they can give access to detailed near real time Labour Market data. Traditionally Skills forecasting has been based on survey data which is time consuming to collect and analyse. The difficulty is that even with advanced visualisation tools such as the Cedefop dashboards OJA data (as with other more traditional data sources) requires skills in interpretation. Many potential user groups – such as careers professionals may not have experience in this area. For that purpose, the Careers Pathways project has developed a series of Open Educational Resources on using Labour Market Information and Intelligence as part of career guidance practice. The project has also produced text-based reports on LMI in each of the three project regions, developed from Skills-OVATE data on the hypothesis that this may provide an easier pathway towards understanding the data.

Labour Market Intelligence: Potentials and Barriers

At the time of writing, the Career Pathways portal is being evaluated with a variety of users in the three project regions. However, both the potential of the portal and barriers and weaknesses are already becoming apparent. The original idea of Learning Pathways was to integrate different data sources to provide actionable labour market intelligence for different user groups including job seekers, learners, educational providers and careers professionals. The portal provides data and applications for all these groups but there are limitations in data interoperability. The Learning Pathways project was denied access to the European ERES job vacancy database as it is only accessible to national Public Employment Services. Plans to integrate Europass in the portal were thwarted as API access was limited due to concerns over data privacy and security.

And although ESCO provides a well-developed API to occupational profiles and the skills and knowledge associated with different occupations, the sheer amount of data becomes a problem in deciding what and how to display it. If an occupation has 40 or more associated skills with no weightings, how can we integrate that in an application for people seeking new jobs.

There is currently no agreed standard for Green occupations and Green Skills. ESCO have undertaken some research and development activities in this area but have not produced usable data. O*NET in the USA have developed extensive lists of Green Jobs but this is based on outdated research and the O*NET classification of occupations differs from that of the USA especially in new occupations.

There are more serious data and interoperability issues when it comes to courses and career pathways, both central to the project. There is a need for new curricula that are consistent and standardised across various regions or countries, while still allowing for local adaptations. This harmonisation would ensure that skills and qualifications gained are recognized and valued across different geographical areas. It is important that curricula that can quickly adapt to changing labour market demands. This involves integrating real-time data and forecasts about industry trends, job requirements, and technological advancements into the curriculum design process. At the same time, it requires that curricula are transparent in objectives and outcomes. There is an emergent European standard for this. The European

Learning Model (ELM) provides a machine readable standard for course descriptions and the European Digital Credentials for Learning (EDC) provides an infrastructure for building and issuing credentials and qualifications. This is a very promising but also slow development. And once again access to the infrastructure is limited to European member State governments. Despite these restrictions we have adopted the standard for course descriptions and developed exemplary implementations in the project regions. For describing courses of occupational progression (pathways), we aimed to produce a data-driven model. However, due to insufficient course data, we had to rely on an expert model once again, which provided demonstrators.
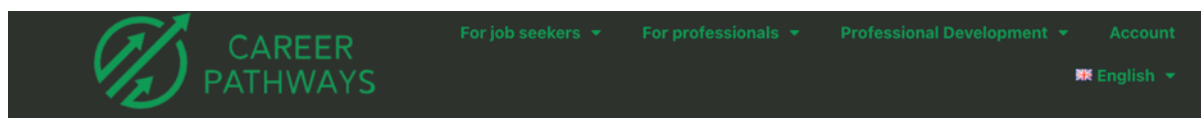
Skills Intelligence: Where next?

Career Pathways in both an ambitious and experimental project aiming to develop a data driven approach to skills intelligence in different regions and sectors. It has shown the potential of such an approach particularly in developing green and digital skills and updating Vocational Education and Training to adapt to the new and emergent skills required in the labour market. However, it has also revealed the barriers to such an approach and the need for access to data and protocols and the adoption of standards at a European level.

The Career Pathways Platform

Introduction

The Career Pathways platform stands as a transformative tool for educators, students, professionals, and organisations navigating the rapidly evolving labour market. Built on the principle that career development is an ongoing and dynamic journey, the platform equips users with the resources, skills, and strategic insights needed to navigate a world where technological advancements, globalisation, and sustainability are reshaping industries.
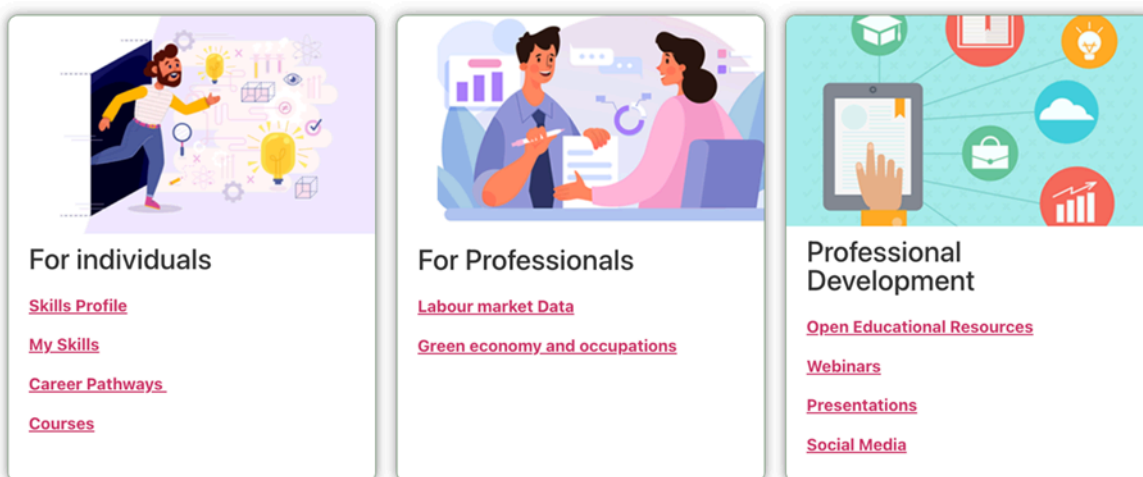

The Changing Landscape of the Labour Market

The labour market is in a state of flux, driven by technological innovations and the transition towards a green economy. These changes demand a workforce that is both skilled and adaptable. Traditional career paths are becoming less defined, with individuals expected to

engage in continuous learning to maintain their competitive edge. The platform acknowledges this shift, offering a structured environment where users can build the skills required to navigate these new challenges and opportunities.

Career Pathways Platform in practice

The Career Pathways platform aims to help individuals manage their careers by providing tools that foster skills development, professional growth, and informed decision-making. Users have access to resources that enable them to identify and acquire skills aligned with their career goals. In addition to this, the platform offers insights into labour market trends, salary data, and emerging roles, particularly within the burgeoning green economy. It also supports lifelong learning through a range of courses, webinars, and open educational resources (OER), making professional development accessible to all.

One of the most practical features for individuals is the "Skills Profile" tool. This digital portfolio allows users to document their competencies, continuously update their skill sets, and identify areas for growth. By searching for specific occupations, users can discover the relevant skills for various job roles and assess their proficiency using a standardised rating system. The platform's integration with ESCO (European Skills, Competences, Qualifications, and Occupations) ensures that users' skills align with market demands across Europe, enhancing international recognition and mobility.

For professionals, the platform offers critical labour market data, enabling users to make informed decisions about career advancements and transitions. The platform's toolkit guides users in navigating labour market data dashboards, offering step-by-step tutorials on how to practically apply the information. Additionally, the focus on the green economy equips users with insights into sustainable jobs and practices, positioning them to succeed in a world increasingly shaped by environmental considerations.

The platform's emphasis on professional development is evident through its comprehensive library of Open Educational Resources (OER). These materials provide free access to high-quality educational content, supporting users in staying updated on industry trends, the impact of AI on jobs, labour market information, and green job roles. By using these

resources, individuals can sharpen their skills and knowledge, ensuring that they remain competitive in their chosen fields.

The platform's "Career Pathways" section maps out clear progression routes in various industries such as hospitality, textiles, and manufacturing. These pathways are visually represented through engaging infographics, making it easier for users to visualise their career trajectories and understand the steps required to advance from entry-level to expert roles. Furthermore, there is a strong emphasis on green jobs within these industries, highlighting opportunities for individuals to transition into roles that promote sustainability and environmental responsibility.

For educators and careers counsellors, the Career Pathways platform serves as an invaluable tool. The platform's dashboards provide detailed labour market insights that can be used to guide students or clients in their career planning. By understanding which sectors are experiencing high demand for certain skills and occupations, counsellors can offer data-driven advice that helps individuals align their professional development with market needs and educators can incorporate these insights into their curricula, ensuring that students are well-prepared to enter industries that are in need of their talents.

The "Courses" section of the platform further supports individuals in their professional development by offering a wide range of educational programs. Users can filter courses by their European Qualifications Framework (EQF) level, location, and duration, making it easy to find programs that meet their specific needs. Whether they are looking to transition into a new career or advance in their current field, the platform's filtering options ensure that users can find courses that match their qualifications and schedules.

In addition to the educational tools, the platform also features a robust "Labour Market Data" section, which provides detailed dashboards on job demand, sectors, skills, and regional employment trends. Through these dashboards, users can explore how different occupations and skills are in demand across various European regions. This information is critical for professionals seeking to make informed decisions about their career trajectories, relocation, or further training.

The "Green Economy and Occupations" section provides insights into jobs that are increasingly in demand due to the global shift towards a greener economy. Jobs in sectors such as renewable energy, eco-friendly construction, and green technology are highlighted,
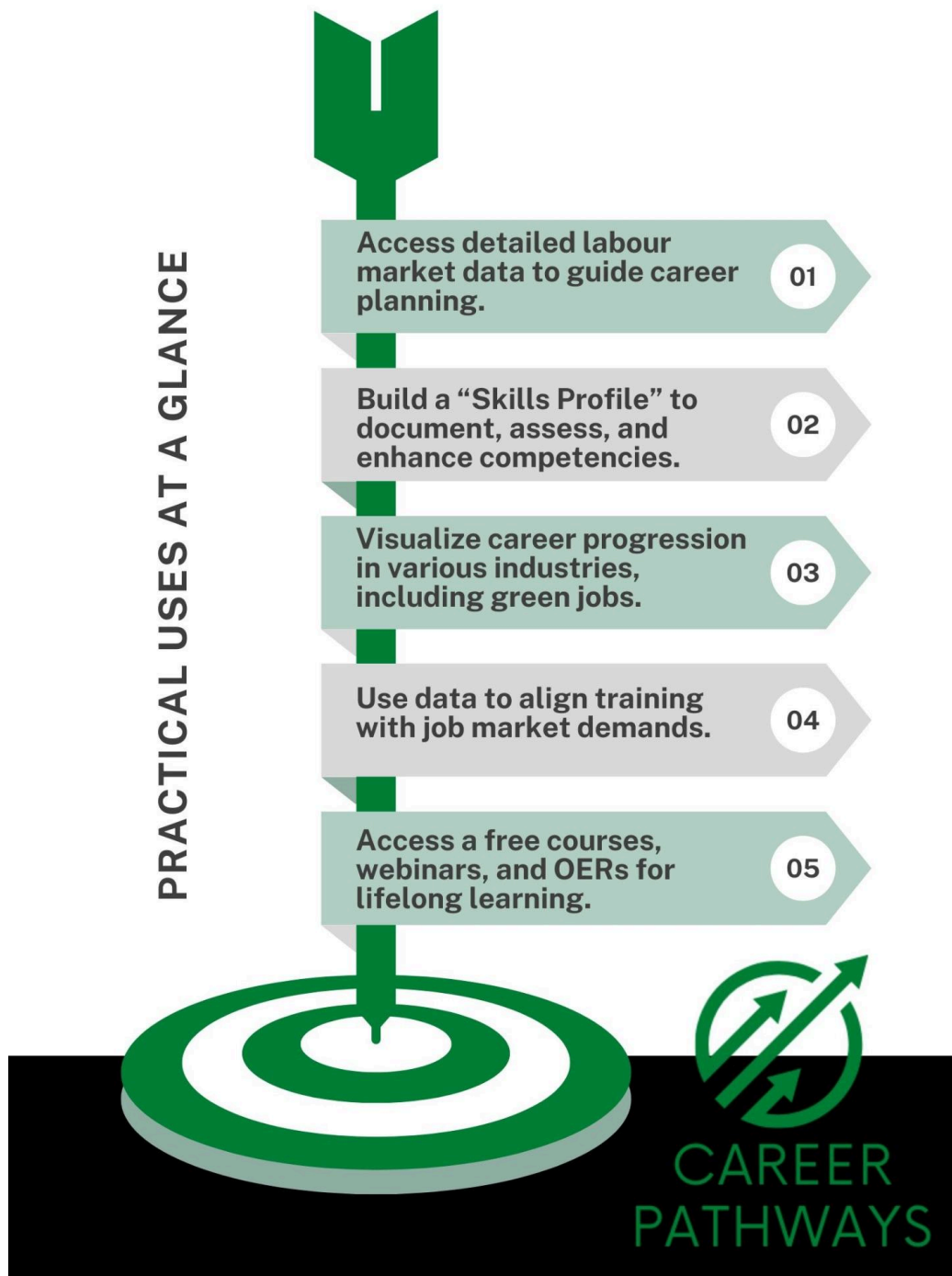
along with the skills required to excel in these roles. For job seekers, professionals transitioning into green roles, and policymakers, this section offers valuable information on the growing importance of sustainability in the labour market.

The platform's "Open Educational Resources" section is particularly beneficial for those seeking flexible learning options. Covering topics from AI's impact on jobs to using labour market information effectively, these resources are structured to help users achieve specific learning outcomes. For educators and trainers, these materials can be integrated into their teaching, providing students with access to cutting-edge knowledge and skills.

Finally, the platform's "Webinars and Presentations" feature offers interactive learning experiences, allowing users to stay informed about industry developments and engage with experts in their fields. Whether used for professional development or as teaching aids, these webinars enhance learning by providing real-world insights into emerging trends, technologies, and best practices.

The Career Pathways platform is a strategic resource, helping bridge the gap between skills and career opportunities in a world where change is constant. Through its comprehensive tools, resources, and data-driven insights, the platform empowers individuals to take control of their career paths, supports professionals in their growth, and aids organisations in building adaptable and future-ready workforces.

Practical Uses at a glance:

PRACTICAL USES AT A GLANCE

Access detailed labour market data to guide career planning. 01

Build a "Skills Profile" to document, assess, and enhance competencies. 02

Visualize career progression in various industries, including green jobs. 03

Use data to align training with job market demands. 04

Access a free courses, webinars, and OERs for lifelong learning. 05

CAREER PATHWAYS

The Career Pathways Experience

Portugal

Historical Framework

The Portuguese Textile Industry has centuries of existence in Portugal, gaining particular importance from the beginning of the 20th century, with the development of large companies in Vale do Ave, oriented towards trade with the former Portuguese colonies, in the 1960s and 70s with the expansion of the market to several European countries, with special emphasis in the United Kingdom, France and Germany, which determined the development of new subsectors, such as knitwear and clothing.

With the decolonization, which followed the Revolution of April 25, 1974, the Textile and Clothing Industry redirected exports to Europe and the United States, giving rise to a boom, essentially in the region of Vale do Ave and of Cávado.

This reality remained practically unchanged until the beginning of this century, when, due to several competitive shocks, of great impact, it was forced to make profound changes in the industry profile and development model.

The entry of China in 2001, associated with other factors, led to the rise of a giant player that caused a huge crisis.

The adoption of the euro as the single currency of a group of European Union countries, including Portugal, in 2002 and the enlargement of the EU to Eastern Europe, in 2004, to several countries that had important ranks, added more competitive pressure on the Textile Industry suffered with the impact of total trade liberalisation.

The international economic and financial crisis, resulting from the North American "subprime" crisis, quickly spread throughout the world, causing a decline in the global consumption of textile and clothing products, which Portugal did not escape, presenting the worst series indicators in the last 20 years, culminated in a long penalising period for the entire industry, in which many companies were unable to survive and those that prevailed had to redefine themselves with other drives.

From 2009 onwards, the Textile Industry began a solid and sustained recovery, having grown 36% and 44% in turnover and exports and achieved absolute records in sales abroad, in 2017 and 2018, gaining more stabilisation and employment growth, with 138 000 workers.

The latest figures for the textile and clothing sector in Portugal, released at the beginning of 2023, reveal a remarkable 5% increase in the value of exports compared to the same period in 2022.

Towards the future The Portuguese textile industry, historically marked by ups and downs, is at an unprecedented stage of maturity. The creation of private labels has emerged as a shrewd tactic for companies to consolidate their global presence. The future of the textile industry in Portugal depends on the ability to adapt to market trends, highlighting the importance of design thinking. Efficient planning, centred on understanding the consumer, competition and distribution strategies, is essential to sustaining recognition and visibility on the international stage.

The State Of The Art Of The Sector In Portugal

Nowadays, the Portuguese textile industry is a successful international case study, an example of how a traditional industry in a developed country can survive and prosper, changing its strategy based on technological innovation, design and fashion, customer service and expansion into traditional markets, with a focus on more valued and emerging segments.

Around 70% of the Textile Industry's production is, today, dedicated to exports, which grew 5 points from 2009 to 2018, a remarkable feat considering the economic crisis that affected the country continuously between 2011 and 2014, after the financial rescue of "Troika", forcing companies to find alternatives to the drop in domestic consumption.

The export value chain is more significant considering many companies that are integrated into it, through the supply of intermediate materials and final products, such as spinning mills, weaving mills, finishing processes, laundries and printing shops, among other providers of essential services to the complete and dynamic functioning of the textile cluster.

Textile in Portugal represents the largest European textile region, offering a natural cluster, made up of numerous companies, characterised by speed, flexibility, innovation and intensive service, which act in complementarity and synergistically take advantage of these

characteristics, in a limited territory, served by excellent infrastructures and by a scientific-technological system.

We can consider this model as an integrated and dynamic system, which articulates a diverse, adaptable, resilient, complementary and synergistic business fabric, the growing existence of specialised "stakeholders", in which industry 4.0, the digitalization of operations, communication and sales, as well as a productive activity linked to equipment and software, a scientific and technological support subsystem, capable of transferring knowledge and adding value, made up of Universities and Technological Centres.

Textile Challenges And Opportunities

The development dynamics are related to production capacity and technology, fundamental to the competitiveness of companies, added by the modernity of industrial infrastructures, the type of equipment and their transformation capacity to satisfy the markets.

The modernization of production technologies implies investment options in new equipment and/or support infrastructures to meet the needs and create advantages in the markets and training people to fit the challenges of new digital technologies. We are talking about the digitalization of industrial processes that integrate the new management philosophy, "Industry 4.0" and new forms of communication and sales (e-commerce) and the use of social networks to promote the offer. The degree of technological maturity required by "Industry 4.0" forces us to rethink the business organisation as a whole, which implies different forms of business management, new skills, to guarantee the conditions of competitiveness that will increasingly depend on organisational maturity to integrate this type of technologies into production and marketing processes, where industrial automation, the internet of things, additive manufacturing, cloud computing, mobile internet, sensors and actuators and computational modelling and simulation are a fact.

Investment in R&D (Innovation & Technological Development) has been evolving very positively, especially in the technical textiles segment, which shows a high quality and efficient positioning in the international context.

The importance of such projects is felt in the number of patent applications. According to Eurostat data, the sector represents around half of the 10% of the number of patent

applications referring to the heading, "other manufacturing industries", which denotes a good level of intensity, but still far from metallurgy sectors, the manufacture of electrical or computer equipment for communications and electronic products.

The circular economy (CE) emerges as a guideline to reduce the consumption of natural resources, meet needs through the recovery and transformation of waste and the need to modify industrial processes that generate waste and behaviours that are harmful to the environment, with the challenge of eco-efficiency being an investment factor and which is reflected in the competitiveness of the offer.

Textile Industry is historically a sector with strong impacts on the consumption of natural resources, energy, water and pollution. The evolution at the national level has been remarkable. The digital transformation process and the development of new technologies and virtual processes make it possible to act on these factors in a very significant way, through production that generates less waste and defects, using clean energy, biodegradable and reusable materials following circular economy principles. (EC).

New technologies are also making it possible to create ecological fibres and yarns, as an alternative to the intensive use of cotton and petroleum-based fibres, which use agricultural waste and unused products.

The concern and contribution to reducing environmental impacts and promoting sustainability concerns and concepts must be part of the skills of professionals in the Industrial sector.

In this context, national and European public policies have been oriented towards supporting investment in new technologies, especially in industrial companies, based on the following development axes:

• Invest in technological innovation with massive use of digital economy tools to obtain competitiveness gains on a global scale;

• Promote business sustainability with the development of the digital economy and the circular economy to ensure advantages in productivity and eco-efficiency;

• Invest in the qualification of HR to provide skills suitable for economic development.

In other words, the support aims to create structural conditions to promote the necessary investment to improve the competitiveness of supply through digitalization, people training and environmental efficiency.

The textile sector's strategic aim is to develop, attract and retain talent in strategic knowledge-intensive areas for the sector with an emphasis on virtual and lean manufacturing, use of new materials and biotechnologies, 3D modelling, product engineering, fibres, processes, design and new communication channels and as a strategy it aims to attract and retain talent based on the reorganisation of work according to the value chain guided by automation and technological integration under the philosophy of lean production and the principles of Industry 4.0.

The profile and level of qualification of HR are fundamental in assessing the potential of "know-how" skills, specialisation and the organisational structure of companies. Diagnosing existing competences, HR upskilling and reskilling training needs is essential for the sector to guide expansion and investment policies to ensure the adequate development of activities and skills essential to improving the competitiveness of the offer.

Currently, the sector is facing a major labour shortage crisis. The reasons are due to the level of attractiveness of the sector among young technicians and in general among the public with a medium-high level of academic training.

However, recruitment difficulties occur at practically all levels (technical staff, intermediate staff, and workers in general) whether for administrative, commercial or manufacturing positions.

It is a fact that Textile has difficulties in attracting young staff and retaining talents who are more likely to embrace service-related professions that allow them to more quickly obtain status and more attractive remuneration.

There is a very high percentage of HR with basic education in industrial activities, the result of years of educational policies that resulted in low levels of academic training among the active population. The situation has been progressively changing, due to the mandatory increase in the minimum education level to 12 years.

To build "qualified employment", workers with higher qualifications are needed, with the potential to acquire skills necessary to improve professional performance and deal with digital technologies. However, it is necessary for professional education to create responses to the needs of companies, especially at the level of middle and intermediate staff, to evolve in terms of articulating demand, and to bring together academic training curricula and training needs to ensure easy integration and good professional performance.

Implementing The Project Locally

The Career Pathways Project's greatest impact was at regional level in Portugal, as a result of the involvement of local and regional decision-makers, who saw the platform as a window of opportunity for developing and empowering people and managing careers.

CIM do AVE – The Intermunicipal Commission, which brings together eight municipalities in the AVE Valley Region, responsible for Portugal's high productivity and exports, showed interest in adapting the platform to the region's needs and implementing it as a tool of excellence for professional training needs and career development.

Following the first meeting of the Monitoring Committee of the Erasmus+ project "Career Pathways", held last March, in which we had the participation of the representatives from companies, employment agencies, career guidance, universities, and VET associations, FORAVE organised, in cooperation with TecMinho, the second working session, which aimed to present the progress already made on the "My Career Pathways Web Portal", based on the project objectives and the feedback obtained from the members of Monitoring Committees in each partner country.

The webinar took place on the 28th November and the main topics covered were the "My Career Pathways Web Portal", the new features implemented in 2023, the provision of data on jobs and skills by sector and geographical area based on online job advertisements by region in the 28 European countries, and the consultation and debate on new features to be created.

In general, the Monitoring Committee considered the platform a very useful tool for career guidance and was very clear about the functionalities they expected from it, giving important inputs related to attractiveness, agility, and AI transformational power on the achievements of the several tools that will be created for job seekers and career advisors, as well as specific training.

As an immediate result of the meeting, FORAVE and TecMinho were invited by the Education Municipality office to make a presentation of the Career Pathways platform, to a group of experts that is in charge of working on the new VET Training Diagnosis for the Local Education and Training Network.

In this project, several tools will be developed based on data and information from open databases, which analyse the current labour market situation, and the present and future skills requirements in different jobs; provide career pathways to training and employment for unemployed and people at risk of unemployment; provide data to employers, policymakers, managers and vocational education and training providers on skills and training demands related to national and regional markets, and train career advisors from public employment services in the use of the digital tools developed.

Spain

Historical Framework Of Industry In Spain

In recent decades, the industry in Spain has undergone significant transformations. Spain's entry into the European Economic Community in 1986 was a turning point that facilitated access to new markets and European structural funds, helping to modernise the economy. After a turbulent transition, during the 1990s and 2000s, the Spanish industry experienced significant growth, especially in sectors such as automotive, electronics, and aerospace, with Globalization and the opening of international markets favouring exports and foreign investment. The global financial crisis of 2008 severely affected the Spanish industry, with a notable decrease in production and employment. However, the industry gradually began to recover thanks to exports and diversification into high-tech sectors.

The results of these restructuring efforts have been mixed but generally positive. In recent years, the Spanish industry has been characterised by a strong focus on digitalization and sustainability. The transition towards a green economy and the adoption of advanced technologies, such as artificial intelligence (AI) and robotics, are key drivers of this transformation. The digital transformation of Spanish industry is a priority, with significant investments in digital infrastructure and innovation. The implementation of the Recovery and Resilience Plan (RRP) is set to underpin investment growth, particularly in digital technologies. This includes the development of smart factories, the use of big data analytics, and the integration of the Internet of Things (IoT) in manufacturing processes. Sustainability is another critical focus and Spain is committed to reducing its carbon footprint and increasing the use of renewable energy sources. The industrial sector is adopting more sustainable practices, such as energy-efficient production methods and the circular economy, which emphasises recycling and reducing waste.

Challenges And Opportunities

The main challenges facing industrial policy in Spain, as addressed in the Recovery, Transformation, and Resilience Plan, include promoting the modernization and productivity of the Spanish industry-services ecosystem through the digitalization of the value chain, boosting competitiveness, and improving energy efficiency in strategic sectors. There is a need to incorporate more efficient technologies and support the energy reform process to achieve the set goals for 2050, involving the modernization and transformation of

energy-intensive companies in sectors such as aluminium, steel, ceramics, and cement. The digitization process is leading to the convergence of traditional productive sectors, creating a new ecosystem of industry-services with highly productive value chains and international competitiveness, aiming to accelerate digital adoption and innovation throughout the value chain through flagship projects.

At the same time, the Plan acknowledges the importance of workers acquiring new skills to address the challenges of ecological transition and digital transformation in the industry. The need for workers to acquire specific competencies required by the ecological transition is highlighted, implying an adaptation and updating of labour skills to meet the demands of an industrial environment in constant evolution. Acquiring new skills is crucial to boost productivity, competitiveness, and resilience of the workforce in the context of the industrial and digital transformation taking place in Spain. Future workers will require a diverse set of skills, including proficiency in using digital tools, understanding data analytics, and adapting to new technologies. They must also be adaptable and flexible, quickly learning new skills, adapting to changing work environments, and being flexible in roles and tasks. Critical thinking is essential for analysing information, solving complex problems, and making informed decisions, while creativity and innovation are crucial for generating new ideas and contributing to industry advancements. Additionally, sustainability awareness is important for understanding environmental impact, promoting sustainable practices, and contributing to eco-friendly initiatives. Effective collaboration and communication skills are necessary for working in teams, communicating clearly, and collaborating with diverse stakeholders.

According to the General Guidelines of the New Spanish Industrial Policy 2030, Spanish industry has a range of opportunities for future growth and development. Embracing innovation and efficiency can enhance the competitiveness of Spanish companies both domestically and internationally. The rapid advancement of digital technologies offers a chance to transform the industrial landscape, particularly for small and medium enterprises looking to adapt to increased global competition. Furthermore, the transition towards a more sustainable and circular economic model presents opportunities for Spanish industries to capitalise on eco-friendly practices and products. By leveraging these opportunities, Spanish industries can not only drive economic growth but also foster job creation and quality employment. Additionally, investing in STEM disciplines and fostering public-private collaborations in this area can further enhance the industry's potential for growth and innovation.

Sustainability Of The Sector

Policy makers have highlighted the importance of ecological sustainability and the transition towards a more circular economic model with a low or zero environmental footprint. The concept of "eco innovation" is underscored as a key element for transitioning towards a circular and low-carbon economy. Eco Innovation is seen as a solution to environmental challenges, aiming to maximise the utilisation of materials, reduce waste generation, and contribute to the development of eco-friendly technologies. The concept of eco innovation is closely linked to the promotion of a more sustainable economic model that is respectful of the environment and aligned with international commitments on decarbonization and environmental protection .

Furthermore, the promotion of a circular economy is identified as a significant solution in the realm of sustainability. This approach aims to maintain products, components, and materials at their highest levels of use, and once they become waste, to maximise the utilisation of materials by reintegrating them into production cycles. The ecological transition proposal for the Spanish industry includes several specific initiatives aimed at achieving sustainability and aligning with the European Green Deal and the European Industrial Strategy such as the Spanish Industrial Boost Strategy 2030, Program for Boosting Industrial Competitiveness and Sustainability, Strategic Projects for Industrial Transition (PERTES) or Policy of Waste and Promotion of the Circular Economy among others.

1st Community Event

On May 24th, 2023, UPV and Pontydysgu partners hosted the inaugural Community Event for the Career Pathways project. The primary objective of this gathering was to address the current and future skill needs of the productive sector and to critically evaluate how a project like Career Pathways could help both VET schools and companies adapt to the evolving demands of the labour market. A key question was posed: How can Career Pathways provide the information necessary to align skills demand and training through its various tools? The guest panel, proposed by the partners, aimed to reflect the interdependence between education, research, and industry as they adapt to the evolving skill demands driven by the green and technological transitions.

Before delving into the features of the Career Pathways platform, a brief contextualization of the new forms of work and work organisation introduced by the green and technological transitions was provided. While today's workforce already needs new skills, the future workers will require new training plans to meet the demands of a continuously changing labour market. Career Pathways was presented as the set of tools to access information about the labour market and the required skills, not only for job seekers and those seeking training but also for providers and policymakers.

After a brief presentation of the tools, the panel quickly focused on labour market data, noting that while OVATE skills data is crucial for planning, it remains too complex to extract and interpret. The attendees emphasised that, due to the complexity of the data, there would be a need to organise and present it in a comprehensible format to make it more accessible and useful. The discussion also underscored the importance of considering the work of both public institutions and private organisations, especially in the collection and processing of labour market information (LMI). For instance, Lanbide (Basque employment service) surveys VET and university graduates to gather data on their training and employment outcomes. It was also revealed that data is usually organised by sectors, with organisations like Distrito Talento performing community mappings. Additionally, ConfeBask, the Basque Business Confederation, publishes important reports and studies that help in understanding

employment and qualification needs. The variety of organisations, data gathering methodologies, and processing procedures highlighted the need for a unified approach to data classification. Some experts suggested transforming ESCO/ISCO classifications using ATENEO or utilising SEPE's (Public Service of Employment) table of correspondences.

The presentation of the competency-based CV offered an opportunity to gather feedback on how the ESCO classification relates to helping attendees navigate the labour market in terms of skills. Experts stressed the importance of envisioning the future student in these terms. For example, what digital skills should a cook possess? This involves reviewing the digital skills framework and considering both regional and international perspectives. However, although these international benchmarks can be valuable, experts emphasised even more the importance of focusing on regional or local levels to accurately understand the economic and educational demands of the municipality, province or Autonomous Community. This approach highlights the need for relevant institutions in the Basque region involved in innovation in VET and employment to actively participate in this transition. It also affects how LMI should be collected or managed. Engaging with local employers is crucial for identifying evolving skill demands and effectively defining and utilising pertinent data.

As mentioned, the Competency-based CV tool is closely linked with Career Pathways and Training Itineraries. Experts highlighted the necessity for teachers and counsellors to have

tools for analysing attendees' skills to determine training needs. In this regard, the classification criteria of the Basque Institute of Future Learning in Vocational Training could be valuable for the project. According to Tknika (a Basque applied research centre for VET), the most relevant sectors in the Basque Country include Advanced Manufacturing, Biosciences, Energy, Digital and Connected Factory, Health, and Autonomous Robotics—areas significantly impacted by both transitions.

2nd Community Event

In November 2023, colleagues from the UPV celebrated the second online Community Event. More than 20 VET professionals from the Basque Country, including vocational training teachers and Lanbide staff (Basque service of employment), participated in this session. The dynamics of the event would not change compared to the previous one, this time focusing both on the future possibility of testing the tool in an educational environment and exploring a possible partnership with Lanbide. As in the previous venue, we delved into the significant changes taking place in the labour market, driven by the green and digital transitions, as well the shifts towards new forms of work and organisation. We highlighted the consequences of these changes, including a lack of information and insecurity, a shortage of workers, and the urgent need for many individuals to acquire new skills. Considering the results of the previous Event, we formulated three key questions to discuss with the attendees: How can we take advantage of or present LMI data in a simpler or more appropriate way? What other data could be of interest? What are the current needs of industry and companies and how are VET schools adjusting to them? Thus, we discussed the need for a supportive network to assist in tracing and validating career trajectories, understanding how competencies and qualifications are obtained, particularly for green jobs, and connecting with others who can provide assistance. Lastly, we raised questions about how to effectively present labour market data and align vocational education and training with the current needs of industries and companies.
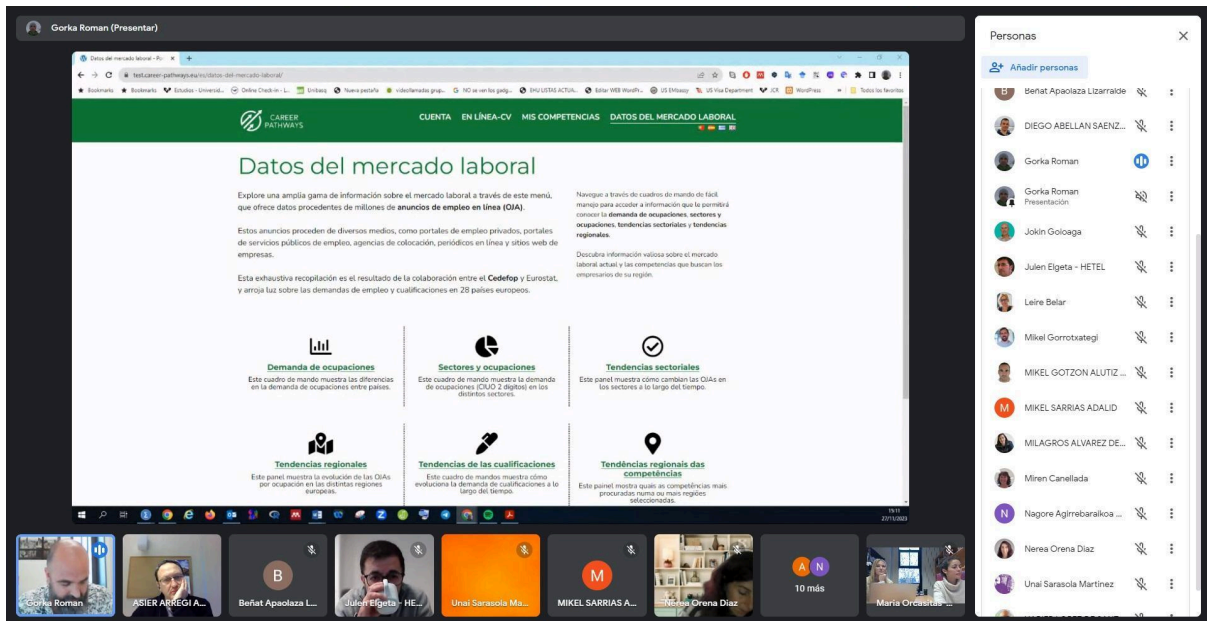
Most attendees showed great interest in learning about the uses and opportunities offered by the tool, considering it very useful for their students. Several participants offered to test the tool with their students and provide feedback on potential improvements. Although some feedback has already been received, further research was needed for more refined testing of the tool (which eventually took place during our national workshops). Lanbide staff also expressed strong interest in participating in the project, finding the potential to combine their vocational training course information with the tool particularly intriguing. Further study is required to determine how access to Lanbide courses could be integrated into the tool.

National Workshops

The UPV partners conducted three workshops in May across four VET schools located throughout the Basque Country. The purpose of these events was to rigorously test an already functional Platform with adult students (job seeking individuals) and teachers or counsellors from VET schools (professionals). To ensure a representative sample of the Basque context, sessions were held across various advanced training programs, including laboratory, electromechanical, and computer science fields. The first sessions were conducted at the Don Bosco public centre, in Errenteria (electromechanics, welding, administration). Back in Bizkaia province, two exercises were carried out at Politeknika Txorierri (electronics) and at

the VET Calasanz centre. Finally, the third session was held at the Eguibide centres in Vitoria-Gasteiz, Araba (computer science, pneumatics and social integration).

The structure of the workshops consisted of a brief presentation of the project, starting with its relevance, as well as how its objectives intersected with the interests and needs of students and VET experts. Immediately afterward, the testing of the platform commenced in accordance with its prescribed sequence. The researcher provided instructions on how to use the tool, after which participants had the opportunity to interact with it. For UPV partners, it was crucial to guide testers in navigating the platform while also allowing for independent exploration to evaluate its interactivity. Concurrently, users were encouraged to complete a survey while exploring the platform to ensure that the feedback accurately reflected their real experience.

Students had the chance to create their own competency-based online CVs, reflecting their self-assessed competencies based on work experience and academic knowledge. The My Skills section allowed users to update their skills in line with their professional aspirations and academic capabilities. Furthermore, by identifying both their skills gaps and strengths, testers explored potential career paths in both green and traditional industries. Finally, the Courses section provided training programs adjusted to the self-identified skill gaps in the online CV. The regional orientation of these workshops will provide students with a wide range of courses available in their municipalities or provinces.

Students generally found the tool helpful in identifying job opportunities. Many of them indicated that the tool provided relevant job listings and useful insights into potential career paths. In this fashion, attendees reported that the tool effectively helped them understand the necessary skills and competencies for their professional development. This includes both hard and soft skills relevant to their career paths. Nevertheless,when it came to likelihood of recommendation, the responses varied. A significant number of users indicate they would

probably or very likely recommend the tool to friends. This suggests a generally positive reception but highlights areas for improvement to increase the recommendation rate, like making the platform more engaging and interactive or showcasing success stories and testimonials from users who have benefited from the tool.

At the same time, VET experts tested the LMI tools based on the Online Job Applications collected by CEDEFOP. The UPV partners prioritised the use of sections with regional data to align with the objectives of the Basque industry and education sector. Attendees studied the potential that LMI could offer in terms of orientation and curricula planning. However, experts highlighted the necessity to provide a clearer presentation of the data. Although Green economy and occupations was an opportunity to publicise the possible job opportunities for green career pathways, it will be necessary to find a source of European orientation to approach the context of application of the portal. The last part of the session was reserved for Open Educational Resources. Among all the proposals, the "AI and the Future of Jobs" drew some of the experts' attention, who stretched the importance of adding AI related contents to the school curricula.

The Career Pathways Community Events in the Basque Country have served to prepare the various economic agents, public institutions, educational centres and academic institutions for the training challenges to which the Basque economy is already undergoing. Career Pathways can act as the link between these agents, on whose coordination the adaptability of the workforce to technological and ecological transitions depends.

Greece

Historical Framework Of Hospitality In Greece

In ancient Greece, hospitality towards foreigners, known as "xenos", was esteemed as a great honour. According to the Homeric epic poems, extending hospitality was a sacred practice, backed by the gods Xenios Zeus and Athina of Xenia. Ancient Greeks held an ethical responsibility to offer the best possible hospitality. Though Sparta had a differing mentality, offering hospitality only to renowned and honourable foreigners. Despite this, the ethos of hospitality persisted through the ages, influencing modern Greek hospitality practices.

The hospitality industry in Greece has evolved significantly over the last 100 years, shaped by the nation's rich cultural heritage, natural beauty, and pivotal historical events. In the early 20th century, Greece's tourism was largely limited to wealthy European travellers, drawn by its ancient ruins and classical heritage. However, the sector was relatively underdeveloped, with limited infrastructure and a focus on small guesthouses and family-run accommodations.

Following World War II and the Greek Civil War (1946–1949), Greece began to rebuild its economy, and the hospitality industry started to modernise. The 1960s and 1970s marked a turning point, as Greece became a popular destination for mass tourism, particularly among Europeans. During this period, the Greek government heavily invested in infrastructure development, including airports, hotels, and roads, to accommodate a growing influx of tourists. Iconic destinations like Athens, Crete, Rhodes, and the Cyclades islands—especially Mykonos and Santorini—rose in prominence.

The 1980s and 1990s saw further expansion, with Greece benefiting from its integration into the European Union, which led to increased funding and tourism development initiatives. The 2004 Athens Olympic Games were a catalyst for significant upgrades in hospitality services and urban infrastructure, placing Greece on the global stage.

Over the last two decades, the Greek hospitality industry has focused on diversifying its offerings. Sustainable tourism, boutique hotels, and experiential travel have become key trends, as the country looks to attract a more upscale and eco-conscious traveller base. This shift has been supported by investments in luxury accommodations, wellness tourism, and initiatives to promote Greece's natural and cultural heritage beyond the summer season. Despite challenges such as economic crises and the COVID-19 pandemic, the hospitality

industry remains a cornerstone of the Greek economy, deeply intertwined with its history and culture.

Hospitality In Greece Today

The hospitality sector in Greece is in a state of recovery and adaptation after facing several challenges in recent years. Despite the impacts of the economic crisis, the COVID-19 pandemic, and other factors, Greece remains a popular tourist destination with a rich cultural, historical, and natural offering.

Economically, tourism continues to be a significant driver for the Greek economy, generating employment and contributing significantly to the country's GDP. Capital investments in Greek hospitality have seen strong support from both foreign and domestic investors in recent years, even in the middle of the challenges of the pandemic. This reflects a high level of confidence in the resilience and growth prospects of Greek tourism. Landmark projects are currently underway, and a recent report by Deloitte has identified Greece as one of the top ten investment destinations for hospitality in Europe.

According to the World Travel & Tourism Council (WTTC), capital investment in Greek tourism reached approximately €3.1 billion in 2017. This figure is estimated to have increased by 3.6% in 2018 and is projected to grow by an average of 5.1% annually over the next decade, reaching €5.5 billion by 2028.

Greece is becoming increasingly popular as a global tourist destination, attracting attention from hospitality investors and renowned hotel brands due to its high-quality tourism offerings. In 2022, net Foreign Direct Investment (FDI) in real estate amounted to €2 billion, representing 27.3% of total net FDI in Greece.

It is noteworthy that while capital investment in tourism in 2018 was still 55% below the record levels seen in 2008, projected investment for 2028 is expected to increase by approximately 60% compared to 2018. This indicates significant potential for further investments in the tourism industry.

Although absolute capital investment in tourism experienced a significant decline over the past decade, its contribution to total investment is on the rise, underscoring the strength and potential of Greek hospitality. Despite the challenges, the hospitality sector in Greece demonstrates resilience and adaptability, with a focus on sustainable recovery and the promotion of quality and diversified tourism.

Tourism Recovery

Moreover, the European Bank for Reconstruction and Development (EBRD) and the World Tourism Organization (UNWTO) joined forces with the Ministry of Tourism of Greece to support the country's tourism recovery. Four key projects focused on economic recovery, marketing, and institutional strengthening were executed and completed. These projects included measuring the impact of COVID-19 on tourism and preparing a tracking guide, developing a roadmap to support micro, small, and medium-sized tourism enterprises (MSMEs), updating the tourism marketing strategy, and creating a crisis tourism management plan.

As a result of these efforts, the country has managed to maintain and increase the contribution of tourism to its national economy and has been among the first to reopen its doors to international visitors post-pandemic.

In the future, the Ministry of Tourism of Greece will continue to closely monitor the behavior of the tourism sector and systematically respond to any crises that may arise. The EBRD and UNWTO will continue to support the Greek tourism sector through targeted investments and financing aimed at promoting sustainable and inclusive tourism, as well as developing projects to strengthen local destinations.

Challenges and Opportunities

The Greek hospitality sector faces several significant challenges, including the climate crisis, energy transition, and a shortage of staff, as noted by Alexandros Vassilikos, President of the Hellenic Chamber of Hotels (HCH).

The climate crisis poses a threat with rising temperatures and extreme weather events, requiring the industry to adopt more sustainable practices. The transition to renewable energy, while essential, has high costs and needs infrastructure upgrades. Additionally, the sector struggles with a shortage of skilled labor and the need for ongoing training. Seasonality leads to revenue fluctuations and job insecurity, while intense international competition demands constant innovation and high service standards. Economic uncertainty adds another layer of complexity, affecting tourist spending and investment stability, making cost management a persistent challenge.

In the Greek hospitality sector, qualifications of personnel have become increasingly essential in maintaining high service standards and competitiveness. Greece's hospitality industry has been recovering robustly from the pandemic, with a significant surge in tourism and hotel development projects. However, the sector faces challenges such as staff shortages and rising operational costs, which underscore the need for well-qualified personnel.

The qualifications typically required in the Greek hospitality industry include a mix of theoretical and practical training. Institutions such as the Confederation of Tourism and Hospitality (CTH) provide structured programs that cover essential skills for various roles within the sector, from culinary arts to hotel management. Additionally, professional training programs emphasise the importance of customer service, management skills, and operational efficiency to meet the industry's demands for high-quality service and value.

The demand for qualified personnel is driven by the industry's growth and the increasing expectations of international visitors. In response, many Greek hospitality enterprises have invested in training and development programs to ensure their staff can deliver exceptional service, which is crucial for maintaining Greece's reputation as a top tourist destination.

Despite these issues, Vassilikos emphasised the importance of cooperation and expertise in addressing these challenges effectively. Greek tourism has demonstrated resilience and competitiveness, playing a pivotal role in the country's economy, especially during times of economic crisis and the recent pandemic.

Greece has significant potential for growth in its tourism sector, particularly in developing cruise and sea tourism to meet international standards. According to the Hellenic Ports Association (ELIME), port calls by cruise ships more than doubled to over 4,600 in 2022,

marking a 20% increase over 2019 and a 131% increase over 2021. In total, 48 Greek ports welcomed almost 4.6 million cruise ship visitors.

There is also a big opportunity to expand into alternative forms of tourism, including sports tourism, medical tourism, agritourism, religious tourism, and cultural tourism, which align with global trends and have the potential to thrive.

Despite its geographical remoteness, Greece's rich cultural and natural offerings provide a unique advantage that can attract diverse tourist segments. By capitalising on these opportunities and addressing current challenges, Greece can improve its competitiveness and brand recognition in the global tourism market.

Technological developments in the sector

The integration of technological innovations is poised to revolutionise the tourism landscape in Greece. With a strategic focus on digitalization, entrepreneurship and digital transformation, Greece is set to embark on a journey towards improved competitiveness and efficiency in its tourism sector. These initiatives aim to promote the development and adoption of cutting-edge technologies, promising improved destination management, improved customer experiences and streamlined operational processes across the entire tourism value chain.

Organization of a Travel tech Adventure:

it has been identified as a priority in Greece's New Tourism Policy. This event aims to bring together industry leaders, innovators, and entrepreneurs to discuss and promote the adoption of emerging technologies in the tourism sector.

Opening of an Innovation Hub in Greece:

Greece has strong interest in developing the startup ecosystem, so the opening of an "Innovation Hub" in the country is planned. This innovation hub will serve as a centre to promote collaboration among startups, investors, educational institutions and established companies, with the goal of driving innovation and entrepreneurship across various sectors, including tourism.

Organisation of UNWTO Masterclasses with Google / Amadeus:

The World Tourism Organization (UNWTO) plans to organise masterclasses in collaboration with Google and Amadeus. These masterclasses will offer training and resources on topics related to data analysis for better tourism decision-making, as well as the effective use of Google tools to promote tourist destinations more efficiently.

Sustainability of the sector

Sustainable tourism development and improvement of key tourism segments are key priorities according to the New Tourism Policy. These segments include sun and sea, cultural tourism, gastronomy and wine tourism, conferences, well-being and medical, cruise tourism, religious tourism, sports tourism, and rural tourism.

These are some of the initiatives regarding the promotion of a sustainable tourism development and improvement:

Meetings industry:

this refers to the sector involved in organising meetings, conferences, conventions, and exhibitions. Offering Masterclasses delivered by ICCA (International Congress and Convention Association) would provide educational opportunities for professionals in this field, improving their skills and knowledge.

Coastal/Maritime tourism:

this sector focuses on tourism activities related to coastal areas and maritime environments. Greece is leading Member States in researching this type of tourism, indicating its commitment to understanding and developing strategies for coastal and maritime destinations.

Wine Tourism:

wine tourism involves visiting vineyards, wineries, and wine-producing regions for wine tastings, tours, and cultural experiences related to winemaking. Greece is prioritising the promotion of wine tourism through initiatives such as creating a new

wine tourism portal, improving the Wine Tourism Seal, establishing a National Wine Tourism Council, and organising wine tourism conferences across the country.

UNWTO Rural Tourism Development Programme - Best Tourism Villages of the World:

this program, led by the United Nations World Tourism Organization (UNWTO), aims to promote rural tourism development and recognize outstanding tourism villages worldwide. It includes initiatives such as providing an International Label for recognized villages, offering a Tourism Villages Upgrade Programme, and establishing a network of Best Tourism Villages. Greece participated in this program by submitting applications for recognition, aiming to highlight its rural tourism destinations.

Valuable insights from the Career Pathways Experience in Greece

Introduction

The Career Pathways project embarked on a journey to revitalise the Greek tourism sector by encouraging dialogue among partners and stakeholders. Through a series of community events and pilot workshops, valuable insights were shared to educators and young professionals, paving the way for informed improvements in the relationship between Vocational Training and the labour market.

1st Community Event

The stage for this interesting experience was set during the 1st Community event in May of 2023. Starting by engaging discussions with professionals from various sectors in the Greek industry, the event aimed to bring forth and emphasise the need for a career progression framework, directly and indirectly linking education with labour market needs. After the initial presentation of the project's platform and tools, an interactive dialogue began – discerning the continuous evolving needs of the labour market, exploring potential career trajectories, as well as identifying and further cultivating relevant skills sets aligned with European standards. During the event, discussions ranged from the need for standardised

study programs to the incorporation of green skills training, underscoring the importance of clear guidelines in regards to industry demands. Moreover, professionals advocated for the need to 'weigh' different skills, taking in account their relevance across different roles, giving particular emphasis to the tourism landscape by having hands-on experience and practical training alongside formal education programs. Supporting the need for a more structured educational system and clearer pathways for new and emerging professionals, experts also deliberated on the challenges of aligning these study programs with different industry demands. A final reflection included the exploration of new avenues: the support and inclusion of micro-credentials to boost skills acquisition and accreditation processes. Participants also discussed the significance of informed career choices and lifelong learning, highlighting the importance of a support system structured around helping individuals in navigating their own career pathways using valuable and beneficial tools. The discussions also shed light to the multiple challenges faced by the Greek tourism industry, such as concerns about the quality of work or youth aspirations for opportunities abroad.

Another topic touched on the event was the entrepreneurial mindset. In support of green skills training, participants concluded that there is a growing need for eco-friendly initiatives. This requires different business actions in order to navigate through and combat market complexities. Suggestions for solutions were numerous, ranging from the participation of young professionals in entrepreneurship programs or their involvement in incubators, underscoring the importance of sustainability in the Greek industry.

The discussion was not limited to skills enhancement, but also touched upon gender issues and leadership positions, with experts giving emphasis on training and mentoring in order to empower and prepare more women to excel in these roles. Multiple challenges offer multiple opportunities for growth and innovative solutions; a selection of them was presented in the 'My Career Pathways' portal and also through different digital platforms dedicated to skills assessment and professional development. Experts mentioned the Greek tourist industry's need for the development of more diverse paths, beyond the traditional roles and skills sets, emphasising the importance of a more holistic approach to talent development and exploitation, also embracing the technological advancements to help these initiatives.

2nd Community Event

Building upon the success of the first event, the 2nd Community session took place in November of 2023, aiming to create a conversation circle about the evolution of the tourism sector in Greece, but also delving deeper into its digital transformation. The 2nd Community event also served as a platform showcasing the results of the Career Pathways project so far, and received feedback from more industry experts. The central discussion point evolved around the digital tools developed to contribute to the skills adaptation of young professionals, but also to ease their entry into the labour market. Experts provided feedback on the web portal's tools and functionalities, suggesting improvements such as streamlining categories and tools to provide better user experience and enhance platform utility, incorporating EQF (European Qualification Framework) levels to provide clarity based on skills and not educational level, and prioritising the development and enhancement of essential skills required for the desired roles according to labour market data. A significant mention in this section was the inclusion of possible degree requirements, including its clear indication on each pathway and from which level it is needed. The 'Online job adverts' built on information gathered from jobs classified by sector were also discussed, promoting the idea of adding job listings from several positions in the tourism, public and private sectors, but also showcasing the new integrated aspects and overall progress of the tool.

National Workshops

Three online workshops were conducted in April of 2024. The online events focused on the engagement of young professionals, unemployed adults and VET (Vocational Education and Training) providers and staff with the 'My Career Pathways Web portal', the overall functionality of the project's platform and its associated tools. The primary objective of these workshops was to demonstrate to participants how to use LMI (Labour Market Intelligence) data and tools, in order to enhance their professional development and overall teaching and learning practices.

In the first workshop participated the Public Thematic School of Higher Vocational Training of Egaleo , while the subsequent event involved the Higher School of Tourism Education of Crete. The third workshop session was conducted with the participation of the VET Centre of Central Greece in Macedonia. After the introductions and initial presentation of the project and its objectives, the events focused on the dissemination of the platform and its tools, which aim to support the professional career paths of both students and educators. After a

detailed presentation of the platform, participants were invited to interact with the online portal, exploring potential employment avenues aligned with their skill sets using LMI tools. The sessions were also included a section during which the participants learned how to create and refine their own digital CVs based on their existing experiences, while leveraging the ESCO (European Skills, Competences, Qualifications and Occupations) framework, which facilitated the comparison between job opportunities within the "green" job sector. Subsequently, attendees were taught how to adjust their skills levels using the 'My Skills' tool and identify additional competencies necessary for their desired roles. Moreover, participants saw how to navigate labour market data: this included research based on specific employment sectors and broader market trends, using filters by country and region. Following this comprehensive introduction to the platform and its functionalities, students (and professionals) were encouraged to actively explore it, create their own digital CVs, adjust their skills levels and access pertinent labour market data, tailored to their career interests. Based on feedback surveys that were distributed post-event, both young professionals and educators reached a consensus regarding the efficacy of developing an online CV as the most effective and efficient tool. This approach offered individuals the opportunity to seamlessly generate a polished, professional document, even without prior experience. In the end, participants expressed their satisfaction for the overall platform and the LMI tools, particularly appreciating the swift assessment of their skills, their development level and the real-time updates provided. This feature rendered the platform an engaging means for conducting comprehensive evaluations of job requirements and qualifications leading towards employment opportunities.

These community events and online workshops have been instrumental in addressing the evolving needs of the Greek industry and empowering young professionals and educators in navigating their career paths. The discussions that took place, emphasised the importance of aligning education with labour market demands, embracing sustainability and fostering a more inclusive and diversified talent development approach. The feedback from industry experts has provided important insights for enhancing the project's platform and its tools, emphasising the need for clarity, user experience and skill-based navigation. As we move forward, it is clear that the project's impact in supporting career progression and skills development is resonating amongst participants, fostering a sense of confidence in navigating the ever changing job landscape in Europe, and more particularly in Greece.

Conclusions

Where it all started

When the research team initially carried out the needs analysis for this project a growing share of workers were already engaged in atypical forms of employment, including part-time, temporary, fixed-term, casual, seasonal work, platform-based jobs, and self-employment. This shift, combined with an increasing number of labour market transitions over the course of one's career, placed many individuals at risk of not receiving adequate employer-supported training. The rapid evolution of the labour market, driven by AI, automation, and other changes, made it clear that both unemployed individuals and those in vulnerable jobs needed greater access to labour market intelligence.

At the time, it was becoming evident that workers required insights into new skills and job opportunities, as well as access to relevant training programs. Many workers needed to upskill or retrain to meet the demands of these emerging roles, and there was a pressing need for clear skills pathways for those seeking employment in more skilled occupations. Educational and training providers also faced the challenge of needing timely information on future workforce demands. The availability of reliable and actionable labour market intelligence was crucial for guiding the development of effective skills policies and improving overall workforce productivity.

During the course of the project the European labour market has continued to evolve, influenced by both the aftermath of the COVID-19 pandemic and ongoing economic shifts. One of the most notable changes has been the solidification of remote and hybrid work models, which became a permanent fixture in many industries, especially in white-collar jobs. This shift has prompted employers to invest in digital infrastructure and upskill their workforce to adapt to new technologies and flexible work environments.

At the same time, labour shortages have intensified, particularly in sectors such as healthcare, logistics, technology, and hospitality. The pandemic-related disruptions, coupled with ageing populations and changing migration patterns, have exacerbated these shortages. Brexit has also played a role in limiting labour mobility, affecting industries reliant on cross-border workers.

The drive toward a greener economy has accelerated, with an increasing focus on green jobs in renewable energy, sustainable construction, and eco-friendly industries. European governments and businesses are emphasising sustainability, prompting a surge in demand for workers with green skills, and reskilling initiatives have become essential.

Additionally, inflation, rising energy costs, and the war in Ukraine have created new economic pressures, impacting job growth and creating instability in certain sectors. Overall, while the labour market has seen recovery and growth, it remains marked by ongoing structural changes, skills mismatches, and the need for greater adaptability in response to global challenges.

Progress

Over the course of the project, Career Pathways has achieved significant progress in supporting the alignment of vocational education and training (VET) with the evolving needs of the labour market. Through the development of innovative digital tools and resources, the project has enabled individuals, VET providers, and policymakers to access real-time labour market intelligence and skills data in an easy to understand way.

The project created a platform offering a range of tools, including a Skills Profile, Career Pathways, and an Online Skills Mapping Tool, which allow users to track and develop their skills, find relevant training opportunities, and identify career prospects in emerging fields, such as the green economy.

There is also the Labour Market Intelligence Hub, which uses data from Cedefop Skills OVATE and online job advertisements to provide real-time insights into the labour market. This information is crucial for job seekers, educators, and career professionals, enabling them to focus on in-demand skills across different European regions. In addressing the digital and green transitions reshaping industries, the platform equips users with the knowledge and training needed for roles in sectors like renewable energy, artificial intelligence (AI), automation, and sustainability.

The project also empowers VET providers and policymakers to adapt their curricula to meet the demands of these emerging sectors. Additionally, it has provided career professionals

with tools to offer better career guidance by incorporating labour market data into their counselling. The platform fosters continuous learning and professional development through its comprehensive library of Open Educational Resources (OER), webinars, and interactive presentations. These resources help users stay informed about industry trends and new developments while enhancing their knowledge and skills.

Career pathways infographics offer clear progression routes in industries such as hospitality, textiles, and manufacturing. These pathways help users visualise their career trajectories and access relevant training programs based on their skills and career goals.

Furthermore, the project has successfully addressed local and regional employment needs by working in key regions such as northern Portugal, the Basque Country, and Attica, a summary of the findings from each setting follows. By tailoring tools to specific labour market challenges and skill shortages, the project ensures a localised approach to workforce development.

Career Pathways in our partner countries

Portugal

The Portuguese textile industry has a long history, gaining prominence in the early 20th century through trade with colonies and later with European countries. The industry faced significant challenges in the early 21st century, particularly with the rise of Chinese competition, the adoption of the euro, and economic crises. However, from 2009 onwards, the industry rebounded, showing steady growth in exports and employment. Today, the sector is a model for adapting through technological innovation, design, and customer service. The Portuguese textile industry has embraced Industry 4.0, digital transformation, and the circular economy, positioning itself for future success with a focus on eco-friendly practices and digital technologies. Despite labour shortages, the sector is investing in R&D and training to ensure its sustainability and global competitiveness. The Career Pathways project in Portugal has been instrumental in developing tools to help workers, jobseekers, and policymakers access labour market intelligence and skills data, particularly in the textile sector. Regional adoption of the platform by local authorities highlights its potential for workforce development.

Spain

Spain's industrial sector has undergone significant transformations, particularly after its entry into the European Economic Community in 1986, which modernised the economy and boosted exports. The global financial crisis of 2008 hit the industry hard, but a recovery followed, driven by exports and digital transformation. Today, Spain's industrial policy focuses on sustainability, digitization, and modernization, particularly in sectors like automotive, aerospace, and energy. The transition to a green economy and the adoption of advanced technologies like AI and robotics are reshaping the labour market, requiring workers to develop new skills for ecological and digital transitions. The Spanish government's Recovery, Transformation, and Resilience Plan supports these changes, emphasising the importance of acquiring new skills and enhancing competitiveness. The Career Pathways project has been pivotal in supporting vocational education and training (VET) in Spain, helping workers and students align their skills with the evolving demands of the industrial sector.

Greece

Greece's hospitality industry has long been a vital part of its economy, attracting global tourists with its rich cultural heritage and natural beauty. Over the last century, the sector has evolved from a focus on small guesthouses to a diverse offering of luxury resorts, sustainable tourism, and experiential travel. Despite challenges such as the COVID-19 pandemic and economic crises, Greek hospitality has remained resilient. Recent investments in infrastructure, digital transformation, and sustainable practices are helping the industry adapt to modern demands. The Career Pathways project in Greece has supported the tourism sector by providing tools that align vocational education with industry needs. Through workshops and community events, the platform has been introduced to young professionals and educators, helping them develop the skills necessary for success in a rapidly changing labour market. Emphasising sustainability, digital transformation, and gender inclusivity, the project has highlighted the importance of lifelong learning and skills development in the tourism industry.

Transferrable Findings

The findings from the project provide valuable insights that can be adapted and transferred to other countries, especially those facing similar situations in their labour markets and industries.

Develop Vocational Education and Training (VET) Systems Aligned with Industry Needs

Spain's emphasis on aligning vocational education with the needs of emerging green and digital industries is a model that can be replicated. VET systems that respond to labour market changes by using the real-time labour market intelligence (LMI) and skill forecasting tools provided by the project can be developed anywhere where the data is available. By offering career pathways based on industry demands, countries can help workers and students acquire the skills needed for high-growth sectors like renewable energy, AI, and advanced manufacturing.

Focus on Green Skills and Sustainability

The growing focus on green jobs in all three countries highlights the importance of preparing the workforce for the transition to a green economy. Countries with developing industries or those facing environmental challenges can benefit from embedding sustainability into career pathways, much like the Portuguese and Greek models. Governments should incentivize green practices, eco-friendly technologies, and sustainable tourism, while education providers integrate green skills training into their curricula.

Enhance Workforce Resilience Through Lifelong Learning

Lifelong learning has become a cornerstone of adapting to the rapidly changing labour market, particularly in Spain and Greece, where reskilling and upskilling are vital for workers. Other countries can adopt similar strategies by promoting continuous education and

creating accessible online platforms that provide career guidance, skills assessments, and training opportunities. Public-private partnerships can play a crucial role in driving this change.

Leverage Digital Tools for Career Planning

The Career Pathways platform's ability to provide labour market data and career tools in Portugal, Spain, and Greece can be replicated globally. By developing national or regional platforms that offer career guidance, skills assessment, and job market information, countries can empower individuals to make informed career decisions. Integrating digital tools for creating competency-based CVs and tracking skill gaps ensures that jobseekers and students have access to the resources they need.

Future Pathways

Future recommendations for research and projects interested in furthering the Career Pathways work on integrating labour market insights into vocational educational contexts;

Develop More Comprehensive Pathways for Emerging Sectors

While the platform currently focuses on key sectors like hospitality, textiles, and manufacturing, expanding its reach into more emerging industries, particularly those tied to the green economy and digital transformation, will be crucial. Developing detailed pathways for high-growth sectors such as renewable energy, AI, data science, cybersecurity, and advanced manufacturing will ensure that the platform remains relevant and forward-thinking in response to labour market evolution. These pathways should also reflect the interdisciplinary nature of new roles, encouraging flexible skill-building across sectors.

Strengthen Collaboration with Employers and Industry Stakeholders

A recommendation for future projects is to enhance collaboration with employers and industry stakeholders in defining training needs and creating pathways. Engaging employers in the design of training programs ensures that VET courses remain relevant to actual job market needs. Industry involvement can also lead to more work-based learning opportunities, apprenticeships, and mentoring for students and job seekers, helping them transition smoothly from education to employment.

Promote the Use of Micro-Credentials and Flexible Learning Models

As the labour market continues to demand new skills, the use of micro-credentials and modular courses will become increasingly important. Encouraging VET providers to integrate short courses, certifications, and flexible learning models into their curricula will allow learners to quickly gain the competencies required by employers. The Career Pathways platform could play a key role in connecting learners to these flexible options, offering personalised learning plans that align with individual career goals and labour market data.

CAREER PATHWAYS

Project Partners

TECMINHO
UNIVERSIDADE DO MINHO INTERFACE

Συνεργασία
Ενεργών Πολιτών

eman ta zabal zazu
Universidad
del País Vasco
Euskal Herriko
Unibertsitatea

idec

PONTYDYSGU

escola profissional
FORAVE