



**PACT FOR
SKILLS**

THE USE OF SKILLS INTELLIGENCE TOOLS TO DEFINE UPSKILLING AND RESKILLING ACTIONS

Thematic Seminar | 6th of December 2023

The European Commission organised its second thematic seminar as part of a series of events for Pact for Skills members to discuss key topics, share their experiences, and showcase good practices with the Pact for Skills community. The thematic seminar provided Pact members with knowledge built outside of the Pact and gave them the space to engage in a broader discussion on up- and reskilling.

Key messages

This seminar looked at the topic of skills intelligence and how Pact for Skills members can benefit from producing or using skills intelligence to define up- and reskilling actions, addressing questions such as: *How can skills intelligence tools be used to define up- and reskilling actions? What types of skill intelligence tools are available? What are the challenges and what are the key factors for successfully producing or using skills intelligence?*

Regular use of detailed and granular skills intelligence on current and future skills supply and demand can support the activities of Pact members in designing and implementing up- and reskilling actions. Producing and using skills intelligence is seen as an essential enabler of successful up- and reskilling, which explains its position as a key principle of the Pact for Skills. Recent years have seen an unprecedented surge of data related to skills, including EU skills intelligence tools and datasets, national-level resources and resources offered by private stakeholders.

This thematic seminar presented a selection of available skills intelligence tools, including EU-level tools, national-level tools and tools of private providers. However, certain challenges to produce and use skills intelligence still persist. In particular, skills intelligence needs to take into account the needs of stakeholders in the skills ecosystems, sectors and regions respectively. Pact members can be central actors in producing such tailored skills intelligence. In addition, Pact for Skills members, including companies, social partners, policy-makers, the Public Employment Services, and education and training providers need to (be able to) effectively use existing information in designing and implementing their up- and reskilling actions. Skills Intelligence can for example facilitate decisions concerning the training to provide to their workers by companies, the design of projects to access funding, curricula development, and the number of necessary training places. This event developed a broader understanding of the challenges and success factors connected to the production and use of skills intelligence and thereby supported Pact members in achieving these goals.

Is your organisation interested in establishing a skills partnership? The Pact for Skills can support you:

The **PfS Support Services** can offer tailored support to develop skills partnerships including agreements, networking, actions, and showcasing impact. Expressions of interest can be sent to PactforSkillsPartnerships@ecorys.com

The [Guidance Handbook: introducing and setting up skills partnerships](#) offers support to develop impactful and sustainable skills partnerships.

Keynote address

Why are skills intelligence tools important for defining upskilling and reskilling actions? What are the opportunities and limits of different approaches?

Jiri Branka from **Cedefop (the European Centre for the Development of Vocational Training)** held a keynote address on the importance of skills intelligence tools for upskilling and reskilling as well as the opportunities and limits of different approaches. In general, skills intelligence can be defined as “identifying, collecting, analysing, synthesising and presenting quantitative or qualitative information on skills and labour market” (e.g. skill supply and demand and anticipating skill needs)¹. It can for example be used to identify key trends and demands in the labour market; assess, anticipate and forecast skill needs; address skill gaps and mismatches; adapt provision of education and training accordingly; and provide relevant educational and career guidance and counselling.

However, there are several challenges involved in generating skills intelligence. Skills intelligence has to fulfil several key criteria, including **timeliness** (i.e. relevance of gathered information at a specific point in time), **representativeness** (i.e. use reliable methods and data), **detailedness** (i.e. a sufficient granularity to enable practical applications), **affordability** (to generate information in the required scale and frequency) as well as a **sufficient level of skills** on the side of the researchers carrying out the skills intelligence exercises. Different skills intelligence approaches with different strengths and weaknesses were presented, for example intelligence based on **online job advertisements** (which do not necessarily equal employment trends nor vacancies), **skills forecasts** (which are dependent on past trends but can very well be used for scenario modelling), and **skills surveys** (which are subjective assessments of workers or firms, but can very well capture job context, quality and skills utilisation).

The keynote also included an **outlook on past and future employment trends** and skills demands across the EU, highlighting for example the rise of public services and the high-tech sector in terms of employment share, and the shrinking of employment in the primary and secondary sector, as well as the projection that existing jobs are becoming more skills intensive until 2035. To conclude, the keynote presenter gave an outlook on **recent and forthcoming Cedefop publications and tools**, which can be accessed [here](#).

Presentations on available skills intelligence tools

Jiri Branka from **Cedefop** subsequently guided the audience through the various skills intelligence tools available on Cedefop's [website](#). This included available skills forecasts, Cedefop's skills OVATE (based on online job advertisements), the European skills and jobs survey, the Matching Skills

¹ See Cedefop. Terminology of European education and training policy. Skills intelligence <https://www.cedefop.europa.eu/en/tools/vet-glossary>

Database as well as the European Skills Index. Furthermore, an outlook and live demonstration of a forthcoming skills intelligence tool by Cedefop was provided, which will take into account multiple qualitative and quantitative data sources and will be uploaded to Cedefop's webpage in early 2024.

In the Q&A following the session, additional details concerning Cedefop's available resources were discussed. The keynote speaker highlighted for example the used definitions of high, medium and low skills when analysing online job advertisements, for example the ESCO framework following the European Skills and Jobs Survey Model (the methodological note of which can be accessed [here](#)). The speaker highlighted that participants of the event can also request more fine-grained sectoral data from Cedefop based on the European Skills and Jobs Survey.

Ummuhan Bardak presented the skills intelligence activities of the **ETF (European Training Foundation)**, thereby providing similar information and often using the same tools as Cedefop, but for **ETF-partner countries (non-EU member countries)**. She emphasized that the focus of ETF's **Skills Lab** is on **policy-oriented research** sparking opportunities for policy learning and policy advice upon demand of the national authorities in the partner countries. Thereby, ETF provides regular and in-depth analysis of changing skills demands in transitional and developing countries, producing not only new evidence but also new methodological tools and disseminating the findings in the partner countries. The presentation showed the **challenges of not only producing skills intelligence but also putting existing intelligence to good use** and effectively supporting policy- and decision makers, highlighting problems in data quality (results too general), problems in the dissemination of results (language too technical, inconsistency with policy cycles), limited involvement and cooperation of national-level actors, as well as scattered responsibilities among national-level institutions. Several ETF sectoral studies² as well as the ETF's Skills Anticipation and Matching e-toolkit (**SAM**) were presented. The subsequent Q&A showed great interest among participants in the activities of the ETF, therefore establishing contacts for potential expert exchanges between ETF and participants.

Looking for a project partner? Check the Electronic Platform for Adult Learning in Europe (EPALE)

The [EPALE platform](#) provides a space for stakeholders across Europe to access resources, and exchange and discuss ideas on adult learning. For example, the [EPALE Communities of Practice](#) offer a space to share project ideas with other adult learning professionals. Furthermore, the [Partner Search](#) tool can help you find organisations who are interested in collaborating with you on projects. You can also register your own organisation to post partner finding announcements, and allow other users to reach out to you to share opportunities for cooperation.

² [The future skill needs in the Egyptian energy sector | ETF \(europa.eu\)](#); [The future skill needs in the construction sector in Armenia – Country report | ETF \(europa.eu\)](#); [Future of skills: Energy sector in Albania | ETF \(europa.eu\)](#); [Future of skills: Energy sector in Tunisia | ETF \(europa.eu\)](#); [The future of skills: A case study of the automotive sector in Turkey | ETF \(europa.eu\)](#); [The future of skills: A case study of the agri-food sector in Morocco | ETF \(europa.eu\)](#); [future_of_skills_agri-tech_sector_in_israel.pdf \(europa.eu\)](#)

Kasper Kok from **Textkernel** presented an overview of leading skills intelligence tools offered by private providers. He emphasized that skills intelligence cannot only support decision-making at the level of the **population** (e.g. which skill gaps will appear in the labour market?) as mentioned by previous presenters, but also at the levels of the **employee** (e.g. which job can I have in 5 years?) and the **organization** (e.g. which skills does the organization need?). For all of these levels, a variety of different skills intelligence tools exist on the marketplace. While many providers (Textkernel, Daxtra or Rchilli) do not only offer raw data (e.g. from assessments, surveys, texts) but also clean, aggregate, and contextualize this information, some available tools go beyond and support the creation of policies and investment targets based upon data (HRForecast, Techwolf, eightfold.ai, Beamery, Lightcast, TalentNeuron, Jobfeed). In the Q&A, participants inquired about Textkernel's skills taxonomy, which is built upon existing taxonomies of customers and is attentive to skills not yet included in widespread taxonomies as ESCO. Also different use cases of Textkernel's Jobfeed tool were presented, with its use for skills forecasting demonstrated [here](#).

Finally, **Martin Noack** from **Bertelsmann Stiftung** presented the German Jobmonitor tool that builds upon Textkernel's Online Job Advertisements data. Jobmonitor is designed to recognize challenges on the labour market and **provide up-to-date regional data to help orient regional stakeholders in (adult) education regarding development of training offers**. Jobmonitor provides information on transversal competences, using an adapted ESCO model of transversal skills and competences. The tool also allows to **look at skills gaps in terms of partial qualifications**. In Germany, partial qualifications split VET professions into smaller parts, all of which need to be able to be trained individually. A main advantage of using partial qualification is that not the whole VET programs need to be undertaken by the training participants, but only those partial qualifications that the individuals are lacking. Jobmonitor data shows that in low skilled jobs, individuals have an average of 1.5 partial qualifications, indicating that the dichotomous system of unskilled/skilled does not apply in practice. As a training provider you can **use Jobmonitor to look at the partial qualifications in demand in your area and tailor your offers accordingly**. The Q&A further revolved around the topic of partial qualifications (which is linked to the concept of micro-credentials), emphasizing that right now, partial qualifications are not yet normalized and standardized in Germany, but different systems of modularizing VET professions are piloted: ETAPP organized by the Employer associations, Chancen Nutzen set up by the Chambers of Industry and Commerce, and MyTQ which is organised by BBB (a large adult education provider association). The Jobmonitor currently uses the MyTQ modules.

The production and use of skill intelligence tools by Pact for Skills members

The thematic seminar also offered an opportunity for Pact for Skills members to demonstrate their best practices for producing and using skills intelligence tools and thereby learn from each other.

Marek Spanyolik, representing the Pact for Skills large-scale skills partnership **Automotive Skills Alliance**, presented skills intelligence produced as part of the ALBATTTS blueprint project and how it was subsequently used to guide up- and reskilling. Skills intelligence was produced on a fine-grained level across the whole value chain of the battery sector, based upon multiple different qualitative and quantitative methods (surveys, workshops, desk research). Building on this intelligence, state of the art job roles and education programs in the batteries sector were developed. For example, 26 **ALLBATTTS Skills Cards** were produced in Higher Education and VET, describing job roles, cross-sectoral competences, sector specific competences, transversal competences and academic competences. Combining the results of the ALLBATTTS and the DRIVES blueprint projects, [online courses](#) and an [online database](#) giving an overview of job roles and available training courses have been developed. As discussed in the Q&A, Skills Cards are used by national-level stakeholders, for example working together with national stakeholder in Finland to implement the job roles across the whole educational system, or cooperating with national projects in the Czech Republic using the findings of ALLBATTTS to help defining national-level occupations (battery technician).

Diana Marcello from **the Italian Association of Chambers of Commerce (Unioncamere)** presented the **Excelsior project**, a collaboration with the Italian Ministry of Labor and the National Agency for Active Labour Policies (ANPAL). Since the 1990s, the project turned out to become one of the main sources of Italian labour market forecasts and was integrated into the official Italian National Statistical Program (PSN). It provides detailed information about companies' occupational needs based upon a survey carried out among a sample of companies of the Business Register of the Italian Chambers of Commerce integrated with administrative information of the National Social Security Institute (INPS). It is currently used to **support policy-making as well as the further development of the training system and improves the matching between labour supply and demand**. The excelsior dashboard can be accessed [here](#). As clarified in the Q&A, Excelsior feeds back into the VET system, for example supporting the development of curricula and certification schemes for VET providers (e.g. in Tourism, Mechatronics). Also, students can access the information to guide their educational choices.

Finally, **Conal Markey** and **Josh Tarr** from **Workday** presented their company's solutions for using skills intelligence to guide hiring and up- and reskilling. Workday provides an Open Skills Intelligence Platform based on Workday data as well as third party sources. Via its **Skills Cloud** based on industry and public skills taxonomies and further tailored by data from Workday's customers, workers can display their skills acquired through work history, feedback, gigs, learning, projects and certifications on their own profiles. Machine learning and AI capabilities are used identify which skills exist within the organization and which skills are missing, suggesting skills to individual workers based on their job roles and profiles in Workday's **Career Hub**. The Skills Cloud continues to evolve based on input from Workday's customers across the globe and the rich datasets available from the 35 million workers managed by Workday.

Key messages from the plenary discussion

Moderated by Simon Broek, an expert on skills policy from Ockham-IPS, the panel discussion among the speakers of the event revolved around the main challenges and success factors of producing skills intelligence. Jiri Branka emphasized the often-underestimated challenge of having **sufficient resources**. In short, while it may be relatively easily possible to develop skills intelligence, keeping it updated and useful poses a significant challenge. Both Simon Broek and Kasper Kok emphasized that the **type of skills intelligence needed is highly dependent on the foreseen use case**. Some situations may require a broad population-level understanding, such as the need for more green skills to guide policy decisions, while others demand extremely detailed, lower-level information for specific clients. Martin Noack emphasized the **need to focus on a regional level, where training providers are located**. He also stressed the importance of a **good communication strategy** to promote skills intelligence tools, acknowledging the difficulty of communicating uncertainties and ensuring the plausibility of conclusions. Ummuhan Bardak and Diana Marcello highlighted the **lack of coordination among different national-level institutions and stakeholders, each possessing bits of intelligence**. Communicating, translating, and combining available information for decision-makers were identified as central challenges. Josh Tarr and Conal Markey highlighted the challenges practitioners face due to the **amount and complex nature of available data**. There is a need to figure out how to bring diverse sources together, with initiatives like the Pact for Skills aiming to facilitate this conversation.

Finally, panellists discussed what type of skills are currently most relevant, and what type of courses are needed to align outcomes of skills systems with available intelligence. All of the panellists agreed that the topic of **transversal skills** is essential, however, methods to develop and validate transversal skills remain challenging. Ummuhan Bardak highlighted the challenge of developing a common understanding of transversal skills and methods for their validation, as they are often seen as personality traits and sometimes already covered in general education. Martin Noack mentioned the Erasmus+ Transval approach to validating transversal skills through self-assessments, supervisor ratings and colleague ratings as one potential way forward. Conal Markey emphasized that formal certification does not necessarily need to be a focus. He mentioned Workday's approach of highlighting demonstrations of these skills through daily interactions and feedback from peers. Finally, also the audience mentioned relevant initiatives connected to transversal skills, including EntreComp, GreenComp, and the ETF/JRC Scaffold card game project to support teaching and promote the development of transversal skills.