



# **European Network of Public Employment Services**

## **PES Strategies and Activities on Skill Shortages**

A review of the responses to a survey of the Public  
Employment Services

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## Executive summary

This brief report summarises the views of twenty-six European Public Employment Services (PES) on a range of issues relating to skill shortages. These views were obtained from the PES through a survey conducted in April 2019. The survey was divided into four main sections: PES strategies on skill shortages; PES identification of skill shortages; PES activities to address skill shortages; cross-border issues and skill shortages. The main points to emerge from each section are summarised below.

All twenty-six PES who participated in the survey acknowledge that there are skill imbalances in their local labour market; roughly half of them characterise the imbalance as a shortage *only* issue, while the other half state that the imbalance is characterised by both shortage and surplus occupations.

There is a widespread appreciation among the European PES of the necessity of developing skills – including in particular skills which are in short supply. It is widely understood that a knowledge of skill imbalances in the labour market is essential to executing many of the core functions of the Public Employment Services such as counselling and career guidance and offering portfolios of active labour market measures which result in good employment outcomes for clients. A knowledge of skill shortages also provides the PES with an insight into how the world of work is changing.

Skill development is regularly discussed at senior management level and in formal meetings with the social partners in virtual every PES. In the case of most PES, the social partners are actively involved in seminars and presentations on skill imbalances and in promoting the activities of the PES.

However, within the overall skill development strategy, the utilisation of new technologies is limited. While the development of effective on-line vacancy databases is widespread, e-learning options and the application of on-line surveying techniques are used by less than half of the PES, while only seven PES are involved in 'mining' of vacancy databases. Only four PES use on-line employer skill portals.

Twenty PES cover the national labour market while another four only cover the regional labour market. A couple of PES point out that their labour market is not contiguous with the official NUT's nomenclatures. Two other PES say they cover other labour markets also, but they do not provide details. (See Table 3 in the annex).

The most widespread sources used by the PES to identify imbalances in the labour market is the registered jobseeker and vacancy databases and the shortage and surplus indicators they use is the ratio of jobseekers to vacancies for each occupation. While these databases do not include all occupations in the labour market, most of the PES also conduct their own surveys which provide them with information on other occupations and on new, emerging skill sets.

Most of the PES however are not directly involved in identifying skill imbalances in labour markets other than their own and consult the EURES database when they require this information. Their use of colleagues in PES offices abroad as a source of such information is limited.

Skill shortages are identified at least once a year for almost half the PES. Most of the PES also identify surpluses at both a national and regional level. The benefit of using the ratio of jobseekers to vacancies is that surplus occupations may be identified as easily as shortage occupations.

Most PES do not have their own methodologies for identifying how skills are changing; their response to questions on their usage of new technologies shows that they don't mine vacancy databases, which would provide them with information on the occupations which are becoming associated with new competences. Nevertheless, they are able to source this

information indirectly, mainly through consulting third-party studies on the impact of technology on skill formation and through their discussions with employers.

While many PES regularly map the occupation classification system using ESCO, only two PES stated that they use ESCO as their primary classification system.

The PES offer an impressive range of upskilling and other services, including both initial and continuous training in digital skills. However, the range of clients served by the PES is more limited. In general, the PES do not actively encourage those outside the labour force to participate on their courses, and they do not provide incentives specifically for them to do so. Similarly, the PES do not actively seek to attract migrants to the register and upskill them to work in shortage occupations, nor do they provide training in such skills in other, adjacent labour markets.

Many PES host recruitment fairs abroad, and most PES have a strong and robust relationship with EURES advisors who also attend recruitment fairs and seminars abroad and inform jobseekers of the employment opportunities in their countries.

But the overwhelming focus of the PES is on enhancing the employment prospects of those unemployed clients who register with them and are in receipt of unemployment payments. For many of the PES, this is their clear understanding of their primary role.

The focus of the PES on clients from their own country may be inadvertently reinforced by what the PES say are significant challenges in providing an effective service to migrants. The PES have observed that there are often communication difficulties with migrants and many PES are not able to classify the skills and qualifications of migrants and most of those that do classify their qualifications and skills, use their own methodologies to do so. The fact that a common European classification methodology is not being generally applied clearly affects the capacity of migrants to secure decent employment in whatever European Economic Area (EEA) country they reside in. The perception of most PES is that most jobseekers from abroad *do not* register with the PES.

In summary, the major strengths of the European Public Employment Services in terms of their capacity to effectively address skill imbalances in their labour markets are as follows:

- *A recognition by every PES that skill shortages exist in their labour market*
- *Widespread appreciation of the importance of skill development for the successful implementation of many of the core functions of the PES*
- *A strong institutional infrastructure informing PES of skill imbalances particularly involving regular and formal interaction with the social partners*
- *Extensive use of PES administrative data to create quantitative measures of the balance between skill supply and demand*
- *Extensive use of surveys on skill changes and skill shortages to augment the information derived from PES administrative data*
- *A wide range of services including upskilling, counselling and guidance to equip jobseekers with the knowledge and skills to pursue careers with good job prospects*
- *A strong involvement by the PES in sourcing skills abroad, particularly when the activities of EURES advisors are taken into account.*

The major weaknesses of the European PES in respect of their capacity to effectively address skill imbalances in their labour markets is as follows:

- *A limited focus on the identification of occupations which are in surplus*
- *A limited focus on exploring the potential of those outside the labour force to become a source of shortage-skills (e.g. women; discouraged workers)*
- *The absence of a common European methodology for classifying the skills and qualifications of jobseekers from abroad*

- *Limited direct<sup>2</sup> interaction between PES across frontiers specifically in terms of the exchange of information on skill imbalances*
- *Constraints on the capacity of the PES to mobilise asylum seekers as a potential source of shortage-skills owing to a wide variation in the legal status of asylum seekers across Europe*
- *Limited resources – particularly technical resources (e.g. IT; data analysts) – for extracting, analysing and presenting data on skill imbalances.*
- *Limited use of new technologies to provide comprehensive real time data on skill imbalances and to convey such data effectively to clients*
- *Limited adoption of ESCO as the primary classification system*

## Overall challenges and recommendations

The results of recent studies on skill shortages has demonstrated that most PES are capable of identifying skill shortages. Nevertheless, a number of PES during the completion of the questionnaire expressed concerns about their ability to produce sufficient information on the nature of skill shortages to enable them to design appropriate upskilling courses. For some PES, their legacy IT systems were not appropriate for this task and it may be significant in this context that their response to a question on their utilisation of new technology indicated that only a few PES use data mining techniques to extract detailed information on skill needs from vacancy databases (see Table 2 in the annex).

This issue merits further exploration. The results of the survey show that PES have very good access to sources of information on skill shortages. For example, in response to a number of questions on skill development strategies, the PES indicated that they have excellent formal relationships with the social partners and that the latter regularly discuss skill shortages with them and attend seminars and other events at which skill shortages are discussed.

The survey also indicates that there are de-facto bottlenecks to fostering more effective cooperation between PES across frontiers in the task of addressing skill imbalances. Among these bottlenecks is the fact that a common methodology is not being used to recognise the qualifications and skills of migrants, and the significant variation in the legal status of asylum seekers and non-EEA jobseekers which is a clear finding from this survey.

In the opinion of some PES, some of the skills which are in short supply are similar across the EEA. One implication of such a view is that there isn't in every case a ready-made supply of such skills in other EEA countries which can be accessed by the PES – to some extent at least, the skills have to be created through appropriate upskilling or sourced in non-EEA countries through the work permit system.

However, according to many PES, there are significant challenges to engaging in the level of upskilling which would be required to effectively address skill shortages. Among these challenges is a perceived lack of motivation among some of the registered unemployed and in some cases, a lack of the basic qualifications required to have a realistic possibility of upskilling to the level of technical expertise required in many of the shortage occupations.

While answering questions on the challenges they faced, some PES remarked that their perception of their core mandate is that they should focus primarily on providing services and supports for those on their register who were in receipt of unemployment payments. This issue merits further exploration as it might provide some insight into why for example so few PES are actively engaged in attracting persons from outside the labour force to their register.

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<sup>2</sup> A distinction is made here between the activities of EURES advisors and PES.

## Introduction

A total of thirty-two Public Employment Services (PES), consisting of the PES of twenty-seven Member States, the three regional PES of Belgium and the PES of Iceland and Norway were invited to respond to a questionnaire. The questionnaire consisted of thirty questions and was divided into four sections; each section contained questions about an important aspect of the relationship between the PES and the topic of skill shortages. The first section is on the strategic importance of skill development to the PES; the second section is on how PES identify skill imbalances; the third section is on the activities undertaken by the PES to address skill imbalances and the final section focuses on the cross border activities of the PES in relation to skill imbalances.

A total of twenty-six PES completed the questionnaire and also augmented their responses to specific questions with many comments of their own. The responses have generated a significant amount of quantitative and qualitative data which when combined, provides a detailed profile of the perceptions and activities of the PES on the issue of skill imbalances.

The structure of the report reflects the structure of the questionnaire. Each section contains a summary of each of the four sections of the questionnaire and the final section includes the conclusions and the recommendations.

A selection of tables displaying the responses to some of the questions in the questionnaire are shown in the annexes.

Before proceeding to the main text however, it is appropriate to provide a brief definition of shortages. There are two types of shortage alluded to in the text. The first is a skill shortage. For the purpose of this study, an occupation is considered to have a skill shortage if there are an insufficient number of jobseekers with the appropriate qualifications or level of experience or both to fill vacancies in that occupation during the reference period.

The second type of shortage is a labour shortage. An occupation is considered to be a labour shortage if there are a sufficient number of appropriately qualified jobseekers to fill the vacancies, but there are not a sufficient number of applicants who wish to work in the occupation. Typically, such occupations have a high rate of turnover because many workers find some aspects of the occupation (e.g. employment conditions; wages etc.) unattractive.

## 1. Strategic importance of skill development

This section of the questionnaire contained five questions which probed the views of the PES on their overall skill development strategy and their interaction with the social partners and their use of new technologies in their strategic approach to skill development generally and skill shortages in particular.

### 1.1 How PES characterise their national labour market

The PES were asked how they would characterise their labour market in terms of skill shortages and surpluses. A total of twelve PES described their labour market as being characterised by skill shortages, while a further fourteen described it as being characterised by **both** shortages and surpluses. Interestingly, none of the PES described their labour market as being characterised by surpluses only. This is despite the fact that some of the PES covered by the survey are located in Member States where the labour market was – at the time of the survey – still recording relatively high levels of unemployment.

### 1.2 Role of skill development in overall PES strategy

The PES were asked a number of questions on the role which skill development plays in their overall strategy and they were given a number of options which they could respond to concurrently (see Table 1 in annex). A total of twelve PES agreed that it was a priority activity in their annual planning, while a total of thirteen PES described it as a core component of the portfolio of training offered by them. Skill development was considered a critical item in discussion with the social partners by nine PES, while seven PES claimed that skill development enhanced the employment outcomes from their training courses. Surprisingly perhaps only one out of twenty-six PES agreed that skill shortages was used as a marketing tool for attracting jobseekers to the register. This is surprising because informing jobseekers that the PES offered training in skills which were in short supply in the economy would be expected to act as a magnet in drawing jobseekers to the PES.

It should be noted that in the comments section, two PES pointed out that providing skills training was not part of their official functions. To that extent, the total number of PES who were in a position to answer any of the questions specifically related to training was twenty-four rather than twenty-six.

### 1.3 The utilisation of new technologies in skill development

The development of on-line vacancy databases was by far the most extensive use of new technologies by the PES with twenty-two of the twenty-six PES responding positively to this question. The next most frequent use was in the provision of e-learning, which was provided by ten PES, and on-line surveying techniques which was undertaken by nine PES. Interestingly all of the PES who had on-line vacancy databases also provided e-learning facilities. However, the use of other technologies, such as for example 'mining' of vacancy databases and the use of employer skill portals<sup>3</sup> could be described as disappointing. A total of seven PES used data mining techniques for extracting information from vacancy databases, while only four PES had hosted an employer skill portal.

Overall, the impression provided by the responses to this question was that the European network of PES is not as yet capable of fully exploiting the potential of new technologies to systematically elicit information on the balance between skill demand and supply in their labour markets. None of twenty-six PES surveyed were utilising all five technologies mentioned in the questions, while only two of the PES used four technologies, and the

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<sup>3</sup> This is an on-line facility which employers may use to inform PES of the type of skills they have difficulty recruiting.

number hosting on-line vacancy databases is more than double the number using any other technology (see Table 2 in annex).

There were however a few notable exceptions, including the extensive purchasing of on-line databases for 'mining' purposes by one PES in particular. Indeed, the impression provided by the responses is of a small number of PES using highly sophisticated technologies, but that in most cases, the applications were limited to the operation of on-line vacancy databases and to a lesser extent, e-learning facilities.

#### **1.4 Skill development focus and interaction with the Social Partners**

The role of the social partners and their interaction with the PES was explored in a number of questions; the first of which considers how the focus of skill development is reflected in the interaction between the PES and the social partners.

On this issue, the response of the PES was very strong. A total of twenty PES stated that skill development is an ever-present item in formal<sup>4</sup> meetings arranged with employers and seventeen PES stated that this was the case also with formal meetings arranged with the trade unions.<sup>5</sup>

In contrast, informal meetings with the social partners which inter alia focus on skill development appear to be a much less frequent occurrence. A total of five PES stated that they have such meetings with employers while only two PES indicated that it has such informal meetings with the trade unions.

The strong relationship between most of the PES and the social partners which was evident in the responses to the previous question also emerges in the question on how the interaction between PES and the social partners is reflected in skill development strategies. The social partners regularly engage with a total of eighteen PES in skill development related events like job-fairs or relevant skill development seminars. More specifically, thirteen PES also stated that the social partners actively promote the skill development activities of the PES.

#### **1.5 Conclusion**

All twenty-six PES which participated in the survey stated that their labour market was characterised by skill shortages and a total of fourteen of these PES claimed that their labour market also featured skill surpluses. There is a strong relationship with the social partners in the case of the majority of PES and the latter take an active role in many of the skill related events hosted by the PES.

The utilisation of technology in skill development strategies however is limited and this may impose constraints on the extent to which the PES can both extract information on skill imbalances and convey that information to its clients.

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<sup>4</sup> In the questionnaire, formal meetings were described as meetings

<sup>5</sup> The pattern of responses shows that only in the case of one PES were the trade unions met formally on their own. In every other case, both the social partners attended the formal meetings.

## 2. Capacity of the PES to identify skill shortages

Using the responses from the questionnaire, this section explores the capacity of the PES to identify skill shortages, highlighting both the strengths and weaknesses in the current systems and their potential for improvement.

### 2.1 Role of skill identification

There was a very strong response from all twenty-six PES on the role which the identification of occupation related skill shortages plays in the services provided by the PES. It informs PES on the employment prospects associated with different skill set (24 PES); it forms the bedrock underpinning career guidance (24 PES); it helps the PES to understand the skill needs of employers (22 PES) and the impact of changes in the world of work on skill formation (22) and guides PES in their recruitment activity (20 PES). The impression given by the responses is that the European PES are highly appreciative of just how fundamental the identification of skills is to the effective execution of their core functions.

### 2.2 Coverage of the labour market

There was extensive coverage of both national and regional labour markets by the PES (see Table 3 in the annex); a total of twenty PES stated that they covered the national labour market while eighteen claimed that they covered the regional labour market; eight of these PES also covered NUTs3 regions. There were four PES who covered regional labour markets only – including two of the three Belgian regional PES. These regional PES are relatively autonomous. The remaining two PES classified their labour market as 'other' because it does not correspond exactly with the official nomenclatures. Two other PES stated that they *also* covered other labour markets in addition to the national labour market, but they did not elaborate.

### 2.3 Sources used to identify skill shortages nationally and abroad

The range of sources used by the PES to identify shortages was impressive (see Table 4 in the annex). A total of twenty-two out of twenty-six (85%) PES use the ratio of PES registered jobseekers to registered vacancies as a source. This is a useful source because in theory at least, it allows for the identification of surpluses also. But the limitation of this method is that it only covers the qualifications of jobseekers who are registered with the PES and the vacancies submitted to the PES by employers.

To counteract these limitations, sixteen PES conducted surveys of skill shortages while fourteen consulted third-party relevant research studies. Fourteen PES also used other PES administrative data sources – although these data sources were not specified.

Ten PES consulted work permits data in their assessment of skill shortages. Vacancies in newspapers and relevant magazines were also regularly reviewed by five PES, while a total of five PES also used the social insurance records. The latter are mainly used by the PES for measuring the transition rates into employment, but they can be used for skill identification by ranking their upskilling courses on the basis of the placement rates they achieved.<sup>6</sup>

Many PES use sources which were not included in the question options. These sources included skill barometers, expert interviews, extensive third-party surveys, and consultations with sectoral representative groups.

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<sup>6</sup> The difficulty however is that social insurance records don't provide details of the occupation of the employed, only the sector he/she is employed in. There is an assumption therefore implicit in this approach that the former trainee is using the skills he/she was trained in.

While the utilising of new technologies, such as scrapping job offers on the internet, were mentioned, they were less in evidence than third-party surveys and PES administrative data sources.

The overall impression is that the European PES place great importance on obtaining data on skill shortages and use a wide range of both quantitative and qualitative sources to elicit the most accurate and comprehensive data available.

A total of fourteen of the twenty-six PES surveyed stated that they did not identify skill shortages in foreign markets (see Table 5 in the annex). However, what they mean by this answer is that they do not use *their own sources* to make this identification – they make this identification indirectly. Thus, fourteen of the PES said that they consulted the EURES database to learn about skill shortages in other countries<sup>7</sup>.

In addition to the EURES database, the other data sources used to identify skill shortages abroad include consulting relevant third-party studies (9 PES) and intriguingly, other PES colleagues in offices abroad (7 PES) (see Table 5 in the annex).

The main sources explicitly mentioned in the comments section on identifying skill shortages in foreign labour markets included the Skills Panorama website, foreign EURES advisors and EU studies on skill shortages.<sup>8</sup>

With regard to the frequency of identifying skill shortages, a total of twelve of the twenty-six PES surveyed identify skill shortages periodically, while a further nine do it at least once a year. The remaining five PES ticked the 'other' box without specifying the actual frequency.

The PES were also asked to what extent they were able to identify changing skills (see Table 6 in the annex). Only three PES stated that they are unable to identify new or changing skills. In contrast, seventeen PES said they used studies on the impact of new technologies to elicit information on this issue, while fifteen stated that they derived this information from surveys they conducted. Thirteen PES stated that they consulted relevant studies, while fourteen said that they attended relevant seminars and presentations. Employers were a source of this information for thirteen PES, while six PES stated that they derived this information from mining vacancy databases.<sup>9</sup>

In the comments section, many PES also referred to other methodologies. A number of PES mentioned consultative forums such as 'Round Table' and 'employer sectoral bodies' as acting as conduits for this type of information. To conclude, a total of twenty-three out of twenty-six PES are in a position to identify changing skill requirements using a wide range of both quantitative and qualitative information.

## 2.5 Sources used to identify skill surpluses nationally and abroad

The PES were asked if they had any role in the identification of occupations which were in surplus. A total of eighteen<sup>10</sup> PES stated that they regularly identify occupations which are in surplus in the national labour market and fourteen PES identified surpluses in the regional labour market. Two PES also stated that they identified surplus occupations in other countries.

<sup>7</sup> In addition, two of the fourteen PES who stated that they didn't identify skills abroad said that they used EURES to identify skills in other countries.

<sup>8</sup> The Skills Panorama website integrates in a single portal information and data on skills. Available at: <https://skillspanorama.cedefop.europa.eu/en>

<sup>9</sup> This is one less than the number of PES who stated they used vacancy mining techniques in the question on the use of new technologies in the Strategy section.

<sup>10</sup> This is also the exact number of PES who identified surplus occupations in the report 'A comparison of shortage and surplus occupations based on data from the PES and the LFS; ICON Institute; February 2018'.

A total of eight PES did not identify occupations which are in surplus. The reasons offered varied; lack of available data was a concern for one of the PES; the focus of two PES was exclusively on shortage occupations while for two PES the issue was not relevant. For one PES, the over-riding issue was one of labour shortages rather than skill shortages or surpluses, while two PES did not provide a reason.

## 2.6 The relationship between PES and ESCO system of classification

By far the most common relationship between the PES and the new ESCO system of classification is mapping the ESCO system to the classification used by the PES. This is the current position regarding twelve PES. A total of eight PES stated that they intend to introduce ESCO in the next twelve months, but three replied that this was not their intention. One PES stated that the question was not relevant to them but did not elaborate. Only two PES are currently using ESCO as their primary occupation classification system.

## 2.7 Challenges in identifying skill shortages

The main challenges according to the PES is the lack of a sophisticated IT infrastructure which is compounding the many other difficulties in receiving reliable, concrete data on which skills are in short supply.

## 2.8 Conclusion

Virtually all PES regularly identify skill shortages and – to a somewhat lesser extent – skill surpluses. They use a wide range of quantitative and qualitative data for this purpose but the ratio of registered jobseekers to registered vacancies is by far the most widely used methodology. While this data is limited in that it only includes the occupations of the jobseekers and the vacancies which are registered with the PES, most of the PES also conduct skill surveys which broaden the range of occupations which become part of their analyses of imbalances. They also regularly consult third party studies of imbalances in their labour market.<sup>11</sup>

However, while most PES do succeed in producing lists of skill shortages for the annual studies on skill shortages and surpluses commissioned by the Commission, the comments of many of the PES regarding their own systems reveal that there are many problems with the current systems. For some, their legacy IT systems are not appropriate for efficiently identifying labour imbalances; for others it is difficult to systematically extract relevant and reliable, detailed data from their notified vacancies database. One PES probably summed up the current situation best in its comments that it is difficult to identify the precise skills required in a concrete work situation.

In addition, eight PES do not identify occupations in surplus, and in the case of one PES, the predominant imbalance was a labour shortage rather than a skill shortage or surplus.

The role of the PES in identifying skill imbalances in adjacent labour markets is also quite limited, as is their use of ESCO as their *primary* skill classification system.

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<sup>11</sup> It was notable that in the list of skill shortages submitted by the PES in studies in 2016; 2017 and 2018, many occupations which are not generally associated with PES registered jobseekers or vacancies such as doctors and network professionals were included on most of the lists.

### 3. PES activities to address skill imbalances

The PES were asked a wide range of questions on the activities they engage in to address skill imbalances in their labour market. A summary of their responses to these questions is given below.

#### 3.1 Activities designed to address skill imbalances

Most of the PES offer upskilling courses to a very wide range of clients in the skills which are considered to be in short supply. The clients include the unemployed (22 PES), formerly inactive jobseekers (17 PES), employed (13 PES) and companies (12 PES). The PES also actively incorporate their knowledge of skill shortages into their counselling sessions (21 PES) and their career guidance offerings (15 PES). The PES also seek out on-the-job training facilities for upskilling in these skills (19 PES).

Interestingly the only areas where upskilling was relatively absent from the network of PES was in providing upskilling for skill shortages in foreign labour markets and in providing upskilling courses abroad for skill shortages in their own labour market. In both these cases, only four and three PES respectively said that they have offered upskilling courses. This rather low response suggests that as yet the European network of PES has not engaged to any meaningful extent in cross-border activities in respect of upskilling jobseekers in skills which are in shortage. This is true in respect of upskilling their own jobseekers in the skills which are in short supply in adjacent foreign labour markets, and also in upskilling jobseekers in these adjacent labour markets as a potential source of supply of the skills which are in short supply in their own national labour market.

#### 3.2 The utilisation of technology to inform jobseekers of skill shortages

The PES were asked specifically about the extent of their usage of technology in three areas: firstly producing employment skills indices on-line<sup>12</sup>; secondly marketing courses in skills which are considered in short supply on-line and thirdly utilising social media to advise on careers, especially careers associated with occupations which are considered to be in short supply.

A total of ten PES answered positively in regard to the first, second and third activities while nine PES stated that they used other technologies although they did not specify the type of technology. The link between the answers is interesting; quite a few PES utilised technology for *only* one of these three activities; four PES *only* engaged in the creation of employment indices while two PES *only* engaged in marketing activities on-line.<sup>13</sup> Of the PES who used social media to advertise upskilling courses, two did not engage in either of the other two activities.

Thus, the use of these technologies was not very extensive. The impression given by the pattern of responses – when combined with the responses to other questions on technology – indicate that as yet new technologies are not widely used across a range of different activities. This issue is addressed further in the conclusions and recommendations.

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<sup>12</sup> It was specifically emphasised in the questionnaire that the indices should describe employment prospects associate with occupations.

<sup>13</sup> It should be emphasised, however, that marketing activities can cover a range of very different media. A number of PES made the point that their use of technology for marketing was customised; for example, Facebook was used to target young people.

### 3.3 PES provision of training in digital skills

Virtually all (22 PES)<sup>14</sup> the PES surveyed provide basic digital training in for example the European Computer Driving License (EDCL) (see Table 9 in the annex). Seventeen PES also offer continuous training in a range of digital skills, while thirteen PES provide digital skills training remotely<sup>15</sup>. Interestingly, only seven PES offered conversion courses<sup>16</sup> in digital skills – it may be the case that this activity is more prominent in the education institutions. In general, the upskilling courses in digital skills were available to all unemployed jobseekers; only two PES stated that some of their digital training courses were reserved for women, while three stated that they also offered digital training specifically for vulnerable groups.

A number of PES pointed out that digital training was offered in libraries and other Government and non-Government agencies. Such training was often an agreed component of an individual's upskilling plan, and as such could be provided by another agency.

### 3.4 Increasing skill supply; attracting persons outside the labour force

One of the widely used strategies to increase the supply of persons qualified to work in shortage occupations is to attract persons from outside the labour force. Consequently, this issue is explored with the PES in the survey (see Tables 7, 7a and 8 in the annex). A total of twelve PES stated that they did actively seek to attract people from outside the labour force<sup>17</sup>. However, thirteen also said that they did not engage in such activity while one PES was unsure of the actual situation.

Of those PES who do not seek to attract inactive people to the register, one stated it was a problem of limited resources while another stated that it did not have the outreach facilities to engage with such people, although it did state that it offered flexible training courses from time to time to encourage such people to engage in up-skilling.

However, the reason proffered by most PES was that it simply was not their core function or mandate. Their priority was providing relevant services for the unemployed jobseekers who were registered with them.

The PES who responded positively to this question were asked what activities they engaged in to attract such people. Visits to schools to advise young people on the type of careers associated with shortage occupations figured prominently with seven PES engaged in this activity on a regular basis, while seven PES hosted regular recruitment fairs in the regions. Only three PES actively targeted women outside the labour force while only one PES actively targeted retirees (see Table 7a in the annex).

The PES were also asked if they provided supports specifically to attract inactive persons to upskilling courses over and above what registrants usually received (see Table 8 in the annex). Exactly half of the twenty-six PES replied that they did not offer such 'customised' supports, while half claimed that they did so, two of whom did not specify the nature of the supports. Of those that did identify the supports, five said they offered training allowances; three child-minding facilities; four flexible course delivery times; three mobility supports and four acclimatising courses. The provision of targeted supports to attract

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<sup>14</sup> As already stated, two of the twenty-five PES are not responsible for the provision of training, so in effect twenty-four of twenty six PES provide basic digital training.

<sup>15</sup> This is a higher figure than the nine who utilise e-learning technologies.

<sup>16</sup> In the questionnaire, the definition of reskilling given to respondents was 'reskilling occurs when the participant has a job or qualification or both but wishes to pursue an alternative career. Such courses are often called conversion courses'.

<sup>17</sup> The question specifically instanced women, retired persons and discouraged workers.

inactive persons to the register is clearly quite limited, especially supports targeted at women in the home.

### **3.5 Challenges in providing activities to address skill shortages**

The PES were asked to list the challenges which they encountered in providing activities to address skill shortages. There was a high degree of overlap between the responses from different PES. Lack of motivation and interest among many unemployed registrants was mentioned by several PES. It was pointed out by some PES that upskilling for skill shortages often required a minimum level of qualifications which many registered jobseekers do not possess. A lack of proficiency in the native language was also alluded to in this context.

The mandate of the PES was also mentioned by some PES as constraining the PES to focus primarily on offering services to persons in receipt of unemployment payments who were registered with them.

A number of PES also referred to the difficulties of constantly keeping up-to-date with the changing skill requirements of their labour market. While they sought to maintain the relevance of their upskilling offering by regularly consulting with employers and various sector representative groups, the view was expressed that some of the procedures involved in responding quickly to emerging shortages, such as the tendering process, was rather cumbersome. More agility and flexibility were required in the opinion of some PES to keep apace of changing market requirements.

## 4. The cross-border dimension to PES skill development

In this section, the potential for the PES to develop the skills of immigrants and returning jobseekers to improve the balance between skill supply and demand in their own labour markets is explored.

### 4.1 Registration of EEA nationals and asylum seekers

The impression of just over half of the PES (14) is that most jobseekers from other EEA countries do not register with the PES (see Tables 12 and 12a in annex). Only six PES were under the impression that they do, while another six stated that they did not know what the situation was. Interestingly, there was no geographic pattern evident in the responses.

Eight of the fourteen PES said that a reason why most jobseekers from other EEA countries might not register with the PES could be that they were not aware of the benefits to them of registering with the PES. A further three stated that they did not qualify for unemployment benefits, while three PES claim that they find jobs through other channels and three PES suggested that difficulties in communicating in the native language could be a factor.

A similar question was asked of asylum seekers and thirteen PES stated that they did not register with their PES while twelve stated they did register. One PES said that they did not know whether they registered or not.

Of the thirteen PES who said that asylum seekers did not register with their PES, just over half (7 PES) stated that they were prohibited from registering. A total of seven PES also stated that they did not qualify for unemployment payments<sup>18</sup>. Only one PES stated that they are unaware of the benefits of registering, and only one PES mentioned the difficulties in communicating in the native language.

This question generated a lot of comment because the legal intricacies entailed in being entitled to register varied greatly from country to country. In a number of countries, the asylum seeker had to acquire residency status to be permitted to engage in paid work and register with the PES, although voluntary work is allowed. In other cases, the asylum seeker could receive basic supports but not attend programmes or avail of PES services generally. In one country, the asylum seekers could register as a user – specifically to study the native language. The general impression given by the responses of the PES is that it is challenging to utilise asylum seekers as an additional potential supply of skilled jobseekers because their legal status is complex and varies significantly across the EEA.

### 4.2 PES recognition of qualifications obtained abroad

A significant challenge emerges from the fact that nine of twenty-six PES stated that they are not able to establish the qualifications and competences of jobseekers from abroad. Furthermore, only four PES were able to map their qualification to their own National Qualification Framework while two PES use the EU skills profile tool (see Table 10 in the annex).

Ten out of the twenty-six PES use their own methods to validate prior work experience and skills while one PES uses counselling to establish the qualifications of immigrants on the register. The fact that the PES in general do not apply a recognised cross-border methodology to establish the skills and qualifications profile of immigrants places a constraint on the extent to which the skills and competences of immigrants can be utilised in a systematic manner to enhance the balance between skill supply and demand across the EEA.

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<sup>18</sup> These seven included four of the seven who stated that they were prohibited.

### 4.3 Involvement of PES in recruiting shortage-skills from abroad

There is a considerable degree of activity regarding the involvement of the PES in sourcing shortage-skills from abroad. A total of fifteen of the twenty-six PES surveyed stated that they host recruitment fairs abroad, while fourteen PES also said that they advertised vacancies with their colleagues in PES offices abroad. There was a strong overlap between the PES who were engaged in both these activities.<sup>19</sup> Only six PES use other channels abroad to advertise vacancies (see Table 11 in the annex).

However, focusing on activity performed by the PES does not adequately convey the level of activity the PES is indirectly involved in through the EURES network. A total of six PES, who stated that they were not directly involved in sourcing skill abroad, referred to the activities of their EURES advisers who regularly attend recruitment fairs and relevant seminars abroad, informing jobseekers of employment opportunities in their labour market. When the activities of EURES advisers are taken into account, it presents a picture of quite strong involvement by the PES, directly or indirectly, in sourcing shortage-skills from abroad.

### 4.4 Situation where jobseekers outside of EEA are permitted to work

A total of fifteen PES stated that jobseekers who achieved asylum status are permitted to work, while thirteen said that those with family relatives already resident in the country would also be permitted to work. Twelve PES mentioned passing the labour market test, while in the case of eleven PES, a salary level above a specific threshold would also qualify a person for employment. Nine PES stated that persons involved in inter-companies transfers are also permitted to work.

The issue of labour market tests is explored further in the questionnaire. A total of thirteen of the twenty-six PES surveyed use labour market tests, while eight do not. Five PES said that they were unsure about the situation.

There was less information on the duration of the test, with just six PES able to specify the exact number, which was an average of five weeks.

### 4.5 Employers, PES and recruitment from abroad

The PES were asked about the recruitment practices of employers specifically regarding skilled and unskilled employment for jobseekers from the EEA and from non-EEA countries. The response indicates that the PES don't perceive a specific pattern; rather it depends on the circumstances. Thus, nine PES said that employers were interested in recruiting non-EEA jobseekers for both unskilled and skilled work, while five PES claimed that employers were more interested in recruiting jobseekers from non-EEA countries for unskilled work. Only four PES implied that employers are only interested in recruiting jobseekers from such countries for skilled work.

With regard to jobseekers from within the EEA, seven PES said that employers were interested in recruiting them for both unskilled and skilled work, but two PES stated that they were more interested in recruiting them for unskilled work, while five PES said that they were more interested in recruiting them for skilled work.

The PES were also asked about any activities they were engaged in to encourage employers to recruit from abroad, other than their involvement in administering the labour market test. Twenty PES stated that they are not involved in such activities. However, in the comments section, five of the remaining PES mentioned that they were involved in EURES while two of them also offered language training for jobseekers from abroad. However, these activities don't constitute direct and exclusive engagement with employers and

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<sup>19</sup> Specifically, eleven of the fourteen who advertise abroad also host recruitment fairs abroad.

therefore it can be concluded that only one PES - who stated that it offers to train foreign workers for employers – gave a positive response to the question.

#### **4.6 Challenges in utilising the skills of jobseekers from abroad**

One concern noted by some PES is that the same shortages seem to occur in different EEA labour markets. While this may be true of some occupations, and to this extent limit the extent to which surplus skills in one EEA labour market can be used to resolve shortage skills in another EEA labour market, recent studies of skill shortages in Europe show that there is some potential for matching skill demand and supply across frontiers.<sup>20</sup>

A second challenge according to the PES relates to the competences of the jobseekers themselves. A major difficulty which many migrants experience in attempting to access decent employment according to the PES is that they are not proficient in speaking the native language and some PES offer language training to address this problem.

The fact that a shared methodology is not being used to categorise the qualifications and experience of jobseekers from abroad is also a major constraint in developing an effective management system for utilising the skills of jobseekers from other EEA countries as a potential source of skill shortages.

Finally, the significant variation in the legal status of both jobseekers from other EEA countries and asylum seekers and, in the view of the PES, their lack of awareness of the services of the PES, are also factors which inhibit the further development of the labour market of the EEA as an effective source of matching skill supply and demand.

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<sup>20</sup> See page 30 for example in 'A comparison of shortage and surplus occupations based on an analysis of data from the PES and LFS; ICON: February 2017

## Conclusions and recommendations

### Conclusions

The responses to the questionnaire show that the European PES have a very strong appreciation of the importance of incorporating a knowledge of skill imbalances into all of their core functions from counselling and career guidance to the design and delivery of their portfolio of upskilling courses.

The methods which the PES use to identify skill imbalances are quite extensive, but the type of skills they identify are limited to the classification systems they use. Only two PES use the more nuanced ESCO system as their primary classification system to identify skills.

Answering to the questions concerning the main challenges which PES face<sup>21</sup>, some PES mentioned that they experienced difficulties in identifying the actual skills which were required in concrete work situations. A few PES also mentioned that in their view, their legacy IT systems were not appropriate for identifying skill shortages. It may be significant in this context that only a few PES applied data mining techniques to job descriptions in vacancy databases. As a key role for the PES is providing services to unemployed registrants, there may be less focus on identifying occupations which are in surplus, and indeed there may also be less emphasis on actively seeking other potential sources of shortage skills - specifically persons from outside the labour force.

Some PES expressed the view that many shortage occupations occur in most EEA labour markets. The findings of recent studies on skill shortages however show that while this assumption may be true of some occupations, it is certainly not the case for every occupation<sup>22</sup>. However, in so far as it is the case, it places the focus of resolving labour imbalances on a combination of upskilling jobseekers in the relevant shortage occupations and attracting persons from non-EEA countries using the work permits system.

In their comments on 'challenges', PES expressed the view that some of their registered unemployed often lack motivation, while others do not possess the level of qualifications necessary to realistically attain the level of technical expertise required for employment in many of the shortage occupations.

Thus, there are essentially two issues which are creating challenges for the PES in respect of their capacity to address skill shortages in their labour markets. The first is a technical one and reflects the lack of a systematic methodology for extracting information on shortage skills which is sufficiently detailed and specific to form the basis for effective upskilling programmes.

The second is their current focus on the registered unemployed as the primary focus for upskilling courses and the difficulties entailed in utilising them as a potential source for addressing skill shortages. According to some of the PES, the registered unemployed contain many jobseekers who lack motivation and in some cases, a level of qualification sufficient to successfully upskill to the level of expertise required in at least some shortage occupations.

### Recommendations

There is considerable merit in exploring the feasibility of utilising new technologies to systematically identify skill shortage occupations in real time and at a level of detail which is of practical use in the design of upskilling courses. The PES are in a unique position to contribute to the creation of such a methodology. The responses to this questionnaire have

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<sup>21</sup> Last question in Section 2, 3 and 4 of the questionnaire (question 14, 20 and 30 correspondingly).

<sup>22</sup> It is certainly the case that there are few if any countries which have surpluses of for example software engineers, or doctors and this had resulted in intense global competition for certain skills.

shown that most PES have a strong relationship with the social partners, and that skill shortages are a regular topic of conversation between them and the PES. Employers represent a crucial source of reliable intelligence on skill shortages, and significant benefits could be achieved by harnessing this intelligence in a systematic manner.

One of the additional advantages of such an initiative is that it could create a comprehensive source of administrative data to replace survey data, especially data from the European Labour Force Survey. Unfortunately, response rates associated with the latter are declining in many Member States and this has an impact in terms of increasing the values at which data is considered unreliable. This trend is likely to continue and in time it may make the identification of specific shortage skills problematic. Consequently, creating an alternative data source now based on administrative data is timely.

The second issue is perhaps best addressed through a mutual learning format. Based on the responses to the survey, there appears to be considerable variance in the range of clients served by the PES. The mutual learning format could provide a platform for an exchange of views between PES on the advantages and disadvantages of serving a broad range of clients, specifically from the perspective of the ability it gives the PES to contribute effectively to resolving skill imbalances. Such a discussion could also include the potential benefits of increasing cooperation between the PES and other agencies and institutions involved in education and training – specifically from the perspective of how such enhanced cooperation might increase the opportunities for PES involvement in addressing skill imbalances in their labour markets.

## Annex: selected tables

**Table 1. Role of skill development in overall strategy (more than one answer is possible)**

Role of skill development	Number of PES
Priority activity in annual planning	12
Core component of the portfolio of training offers	13
Critical agenda item in discussions with stakeholders	9
Major marketing tool for attracting jobseekers to register	1
Enhances employment outcomes for clients	7

**Table 2. Utilisation of technology for skill development (more than one answer is possible)**

Type of technology	Number of PES
Developed e-learning options for clients	10
Developed effective on-line vacancy databases	22
Engages in mining of vacancy databases	7
Developed on-line employer skill portals	4
Adopted on-line surveying techniques	9

**Table 3. Coverage of labour Markets (more than one answer is possible)**

Coverage of labour markets	Number of PES
National labour markets	20
Regional labour markets NUT's2; NUT's3	18
Other EEA	2
Non-EEA	0
Other labour markets (not specified)	4

**Table 4. Sources PES use to identify shortages and surpluses (more than one answer possible)**

Sources PES use	Number of PES
Ratio of registered jobseekers to registered vacancies	22
Other PES administrative data	14
National insurance data	5
PES surveys of shortages	16
Work permit data	10
Third party surveys and studies	14
Newspapers and magazines	5
Other sources	11

**Table 5. Sources PES use to identify shortages in labour markets abroad (more than one answer is possible)**

Sources PES use	Number of PES
Does not identify skill shortages in foreign labour markets	14
Consults relevant third-party studies and surveys	9
Consults colleagues in other PES offices abroad	7
Consults EURES database	14
Other sources	4

**Table 6. How PES identify new and emerging skills (more than one answer is possible)**

Methods used to identify new and emerging skills	Number of PES
Unable to identify new and changing skills	3
Informed by employers how skills are changing	13
Consults studies on impact of new technology	17
Consults third-party relevant research	13
PES attends relevant seminars	14
PES conducts surveys on changing skill requirements	15
PES 'mines' job-descriptions in vacancy databases	6
Other databases	4

**Table 7. Does PES actively attract persons from outside the labour force to the register?**

<b>PES actively attracts persons from outside the labour force</b>	<b>Number of PES</b>
Yes	12 (46%)
No	13 (50%)
Don't know	1 (4%)

**Table 7a. If yes; what methods do the PES use to attract persons from outside labour force (more than one answer is possible)**

<b>Methods used to attract persons from outside labour force</b>	<b>Number of PES</b>
Regularly hosts recruitment fairs nationally	5
Regularly hosts recruitment fairs regionally	7
Actively markets upskilling courses to women groups	3
Actively markets upskilling courses to retirees	1
Advises schools on careers associated with shortage skills	7
Other methods	3

**Table 8. Supports offered by PES to attract formerly inactive jobseekers (more than one answer is possible)**

<b>Supports offered to attract formerly inactive jobseekers</b>	<b>Number of PES</b>
Don't offer any supports	13
Training allowances	5
Child minding facilities	3
Flexible course delivery times	4
Nobility assistance for those from remote areas	3
Preparatory acclimatising training	4
Other supports	2

**Table 9. Provision of digital skill training (more than one answer is possible)**

<b>Provision of digital skills training</b>	<b>Number of PES</b>
Offers training in basic computer literacy (e.g. ECDL)	22
Offers continuous training in a range of digital skills	17
Offers training in digital skills remotely using e-learning	13
Offers training in digital skills specifically for women	2
Offers reskilling opportunities in digital skills	7
Offers training in digital skills for vulnerable groups	3
Other forms of digital training	5

**Table 10. Methods used by PES to establish quality of skills of jobseekers from abroad (more than one answer is possible)**

<b>Methods used by PES</b>	<b>Number of PES</b>
Unable to establish quality of skills of jobseekers from abroad	9
Identifies level concomitant with National Framework of Qualifications	4
Uses EU Skills Profile tool to identify quality of skills, competences	2
Uses own methodology to establish quality of skills, competences	10
Other methods	6

**Table 11. Recruitment of shortage skills abroad by PES (more than one answer is possible)**

<b>Recruitment of shortage skills abroad by PES</b>	<b>Number of PES</b>
Do not engage in such activities	4
Host recruitment fairs abroad	15
Advertise vacancies for shortage skills abroad in local PES	14
Advertise vacancies for shortage skills abroad through other media	6
Other activities	12

**Table 12. Impression of PES that most jobseekers from other EEA countries register**

<b>Impression that jobseekers from EEA register with PES</b>	<b>Number of PES</b>
Don't know	6 (23%)
No	14 (54%)
Yes	6 (23%)

**Table 12a If no, why is this the case (more than one answer is possible)?**

<b>Reasons for EEA jobseekers not registering with PES</b>	<b>Number of PES</b>
Unaware of benefits of registering with PES	8
Do not qualify for unemployment payments	3
Secure jobs through other channels	3
Difficulties in communicating in national language	3
Other reasons	0

## Annex: Questionnaire

### Survey on the capacity of the European Public Employment Services to address skill shortages

**This survey is conducted by the ICON-Institute, a supporting consultant of DG Employment, within the service contract for measures to enhance cooperation between Public Employment Services (PES), in particular services to implement a 'Benchlearning' concept within the PES Network.**

As the European economy continues to recover from the Great Recession, employers are reporting that they are experiencing difficulties filling vacancies because applicants do not possess the appropriate skills and qualifications. The PES Board during its meeting in Vienna in December 2018, discussed what the PES can do to tackle the skill shortage. The PES Board decided to launch a survey on the strategies which PES are deploying to respond to the shortages, and to share experiences on PES activities in this field and to foster exchange and mutual learning.

The information will form the basis for a report which will review the current strategies on skills matching being deployed by the PES, identify the strengths and weakness of those strategies and, where appropriate, make suggestions on how the strategy could be made more effective. The report will serve as input for the upcoming Working Group on skill shortages.

**Definitions and terminology:** There are essentially three different types of skills: soft skills, transversal skills and occupation-related skills. *Soft skills* include personal competences such as for example leadership, teamwork and initiative. *Transversal skills* include skills which are required across a wide range of different occupations such as computer literacy and language proficiency. *Occupation-related skills* refer to those technical skills which are associated with working in specific occupations.

While all three types of skills are required in many different occupations, for practical reasons this questionnaire focuses solely on PES strategies and activities related to occupation-related skill shortages. The development of the European Standard Classification of Occupations (ESCO) has offered the PES the possibility of defining skills in a more refined and comprehensive manner, and there is a question in the questionnaire on the extent to which the PES are currently utilising this classification system.

**Data protection:** The data will only be used in the context of the PES Network Work Programme 2019 and are accessible only to the consortium led by ICON-Institute implementing this programme. Your contact details are used to invite you to complete a survey which is a part of the annual research programme. Personal data will remain confidential and the project team is committed to ensure that all data provided will be used for the purpose of the survey only. The survey response data will be aggregated and anonymised.

While the questionnaire consists of 30 questions, it is easy to complete as 27 of these questions only involve ticking a box. There is also ample space provided for comments. In case you cannot provide an answer, feel free to use the "Other" option to provide an alternative answer and specify the details of your reply. You will be able to stop and save your replies at any time should you wish, and then return later to complete your answers using the same link as above. We would anticipate that completion of the questionnaire should take around 20 minutes.

**We kindly ask you to complete the questionnaire by Wednesday 10 April 2019.**  
Thank you in anticipation of your contribution.

If you have any questions about this survey, please do not hesitate to contact our team via e-mail: [PES-BL-team@icon-institute.de](mailto:PES-BL-team@icon-institute.de).

Fields marked with \* are mandatory.

### Section 1: Positioning the PES in a strategic context

This section explores the relative status which your PES attaches to the development of occupation-related skills, specifically those which are considered to be in short supply.

\* 1. Is your labour market characterised by: You may tick only one box.

- ☐ a. Skill shortage
- ☐ b. Skill surplus
- ☐ c. Skill shortage and surplus
- ☐ d. Skill shortages and surpluses are in balance

\* 2. What role does the development of occupation-related skills play in the overall strategy of your PES? You may tick more than one box.

- ☐ a. It is a priority activity in the annual planning of the PES
- ☐ b. It is a core component of the portfolio of training offered by the PES
- ☐ c. It is a critical agenda item in discussions with stakeholders especially employers
- ☐ d. It is a major marketing tool for attracting jobseekers to the PES register
- ☐ e. It enhances the employment outcomes from our training courses
- ☐ f. Other, please specify:

\* 3. How has your PES utilised new technologies – including Artificial Intelligence – in its skill development strategies? You may tick more than one box.

- ☐ a. PES has developed e-learning training options; thereby attracting new clients [1]
- ☐ b. PES developed an efficient, online vacancy database thereby attracting more vacancies [2]
- ☐ c. PES engaged in 'mining' of vacancy databases thereby identifying the skills required
- ☐ d. PES developed an online employers' skill portal, engaging employers in skill development
- ☐ e. PES has adopted online surveying techniques in seeking information on skill shortages
- ☐ f. Other examples; please specify:

[1] E-learning facilitates learning from home and allows those who work in the home (e.g. child-minders), or live in remote areas to engage in skill development.

[2] An online efficient vacancy registration system creates two positive results; it encourages more employers to use the PES vacancy system and more high-skilled jobseekers to register with the PES.

\* 4. How is your focus on skill development reflected in your interaction with the Social Partners? You may tick more than one box

- ☐ a. It is an ever-present agenda Item in regular formal <sup>[3]</sup> meetings arranged with employers
- ☐ b. It is an ever-present agenda item in regular formal meetings arranged with the Trade Unions <sup>[4]</sup>
- ☐ c. It is an agenda item in informal meetings arranged with employers
- ☐ d. It is an agenda item in informal meetings arranged with the Trade Unions
- ☐ e. Other ways; please specify:

\* 5. How is the PES interaction with the Social Partners reflected in its strategic skill development activities? You may tick more than one box.

- ☐ a. The Social Partners are represented on the Board/Management structure of the PES
- ☐ b. The Social Partners actively promote the skill development activities of the PES
- ☐ c. The Social Partners regularly engages with the PES in skill development related events (seminars; job fairs etc.)
- ☐ d. The Social Partners provide on-the-job training facilities for skill development
- ☐ e. Other activities; please specify:

<sup>[3]</sup> Formal engagement means that there are meetings held every year on specific dates with formal agendas, and chairpersons and secretarial assistance. Informal meetings are defined as ad-hoc.

<sup>[4]</sup> If both Social Partners generally attend formal or informal meetings, please tick both appropriate boxes.

## **Section 2: The Identification of Skill Shortages and Surpluses**

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This section focuses on how your PES attempts to identify occupation-related skill shortages. It is the largest section as the effectiveness of PES activities in addressing skill shortages is contingent on the quality of its skill shortage identification process.

\* 6. What role does the identification of occupation-related skills which are in short supply play in the overall strategy of your PES? You may tick more than one box.

- ☐ a. The identification of occupation skills does not play a role in PES strategy
- ☐ b. It informs PES on the type of skills training which will result in jobs.
- ☐ c. It enables jobseekers to be advised more effectively on job opportunities.
- ☐ d. It gives PES a better understanding of the skill needs of employers.
- ☐ e. It gives PES an insight into changes to the world of work.
- ☐ f. It informs PES about the needs of recruiting particular skills
- ☐ g. It enables PES to respond to requests from appropriate institutions (e.g. EU)
- ☐ h. Other roles; please specify:

\* 7. Which labour market(s) is covered in your skill identification methodology? You may tick more than one box.

- ☐ a. The national labour market
- ☐ b. The regional labour market: NUT's2
- ☐ b. The regional labour market: NUT's3
- ☐ c. Other EEA countries
- ☐ d. Non-EEA countries
- ☐ e. Other labour markets; please specify:

\* 8. What sources or indicators does your PES use to identify shortage occupations nationally? You may tick more than one box.

- ☐ a. Ratio of PES registered jobseekers to registered vacancies
- ☐ b. Other PES administrative data
- ☐ c. National social insurance records <sup>[5]</sup>
- ☐ d. PES surveys of skill shortages <sup>[6]</sup>
- ☐ e. Work Permit data
- ☐ f. Third-party studies/surveys <sup>[7]</sup>
- ☐ g. Newspaper reports; trade magazines etc. <sup>[8]</sup>
- ☐ h. Other sources/indicators; please specify:

<sup>[5]</sup> For example, employment data on former trainees from national social insurance records which indicate the relative demand for different skills

<sup>[6]</sup> For example, the annual skill shortage surveys conducted by the Swedish PES.

<sup>[7]</sup> For example the Danish Labour Market Balance Survey conducted by the Ministry

<sup>[8]</sup> For example, the systematic monitoring of vacancies in newspapers conducted by Norwegian PES

\* 9. What sources, if any, does your PES use to identify skill shortages in other countries? You may tick more than one box if Q9a does not apply.

- ☐ a. PES does not identify skill shortages in other countries
- ☐ b. PES consults relevant third-party surveys and studies of skill shortages
- ☐ c. PES consults with colleagues in PES offices abroad
- ☐ d. PES consults the EURES databases to identify particular skill shortages abroad.
- ☐ e. Other sources; please specify:

\* 10. Does your PES have any role in the identification of occupation-related skill surpluses? You may tick more than one box if 10d does not apply.

- ☐ a. PES regularly identifies occupations which are in surplus in the national labour market
- ☐ b. PES regularly identifies occupations which are in surplus in regional labour markets
- ☐ c. PES regularly identifies occupations which are in surplus in other countries
- ☐ d. PES does not identify occupations which are in surplus

\* If 10d applies, please explain why surplus occupations are not identified:

\* 11. How often does your PES identify shortage occupations? You may tick only one box.

- ☐ a. At least once a year
- ☐ b. Periodically
- ☐ c. Only when requested to do so by an appropriate institution
- ☐ d. Other; please specify:

12. Describe the relationship between your PES and the ESCO system of skill identification. Please tick one box only.

- ☐ a. PES intends to use ESCO to classify occupations within the next twelve months
- ☐ b. PES does not intend to use ESCO to classify occupations within the next twelve months
- ☐ c. PES already uses the ESCO system
- ☐ d. PES maps the classification system they use to the ESCO system

If you answered 12b, please explain why not

\* 13. Some skill shortages have arisen because the traditional skill-set is no longer adequate. How does PES identify these new skill requirements? (e.g. statistics knowledge for toolmakers) You may tick more than one box if 13a doesn't apply.

- ☐ a. PES is not able to identify how occupation-related skills are changing
- ☐ b. Employers regularly inform PES of how the skill profile of occupations are changing
- ☐ c. PES consults studies on how new technologies are impacting traditional skills
- ☐ d. PES consults studies on how changing lifestyles and demography [11] impact on skill needs
- ☐ e. PES management regularly attend seminars on the drivers of skill changes
- ☐ f. PES gathers information on skill changes through the surveys it conducts
- ☐ g. Other methods; please specify:

<sup>[11]</sup> An obvious example is the aging of the European population which is giving rise to a demand for age-related caring professions

<sup>[12]</sup> Data analytics has made it possible to identify the frequency with which certain 'competences' are associated with certain occupations in vacancy databases. See for example the article by Vladimir Kvetan, which is published on the Skills Panorama Website, and which explains CEDEFOP's approach to mining of large European vacancy databases.

14. Please outline the main challenges which your PES has in developing quality data on skill shortages and how PES might successfully address these challenges:

### Section 3: Activities provided by the PES to support skill development

This section focuses on the range of activities provided by the PES to address the issue of skill shortages. It explores the incidence of initial training, continuing training, and its relationship with different clients from unemployment jobseekers and inactive to employed individuals, companies and persons outside the labour force.

\* 15. How is the PES knowledge of skill shortages reflected in its activities? [13] You may tick more than one box

- ☐ a. PES offers upskilling courses to unemployed jobseekers in these skills
- ☐ b. PES offers upskilling courses to formerly inactive <sup>[14]</sup> jobseekers in these skills
- ☐ c. PES offers companies upskilling courses in these skills <sup>[15]</sup>
- ☐ d. PES offers upskilling courses in these skills to employed individuals <sup>[16]</sup>
- ☐ e. PES offers upskilling courses to unemployed jobseekers to meet shortages abroad
- ☐ f. PES offers upskilling courses abroad (e.g. language training) for jobseekers <sup>[17]</sup>
- ☐ g. PES incorporates this knowledge in its counselling services
- ☐ h. PES incorporates this knowledge in its career guidance services <sup>[18]</sup>
- ☐ i. PES seeks offers from employers for on-the-job training for jobseekers in these skills
- ☐ j. Other activities; please specify:

<sup>[13]</sup> While it is stated in the introduction that transversal skills will not be covered in this questionnaire, an exception is being made in this case because language training may be an important component of any strategy which is designed to utilise the skills of jobseekers from abroad to combat skill shortages.

<sup>[14]</sup> These are current jobseekers who were not in the labour force prior to registration

<sup>[15]</sup> In general, companies would be expected to pay a fee for the provision of upskilling by the PES

<sup>[16]</sup> In some PES, these participate on courses primarily for the unemployed but on a fee-paying basis.

<sup>[17]</sup> Typically, such training is offered before the jobseekers commence employment in the destination country

<sup>[18]</sup> If the PES does not have a career guidance function, please insert N/A in box.

\* 16. To what extent has the PES utilised new technology to inform jobseekers and/or inactive persons of skill shortages? You may tick more than one box.

- ☐ a. PES created skills employment indices on websites <sup>[19]</sup>
- ☐ b. PES marketed upskilling courses in shortage occupations online
- ☐ c. PES utilised social media to advise on careers associated with shortage occupations
- ☐ d. Other; please specify:

<sup>[19]</sup> The data on the website should not simply describe the level of employment in different occupations, but it should give an indication of the relative demand for different occupation related skills either by using trend data or other means. The 'Career Directions' website of Ireland provides a quantitative indicator of relative demand for different occupations.

\* 17. Please describe your PES provision of training in digital skills. You may tick more than one box.

- ☐ a. PES offers training to jobseekers in basic computer literacy (e.g. ECDL courses)
- ☐ b. PES offers continuous training opportunities in a range of digital skills
- ☐ c. PES offers opportunities to training in digital skills remotely using e-learning
- ☐ d. PES offers training in digital skills specifically to women
- ☐ e. PES offers opportunities to reskill in digital skills <sup>[20]</sup>
- ☐ f. PES offers training in digital skills to vulnerable groups (e.g. immigrants).
- ☐ g. Other forms of digital skills training. Please specify:

<sup>[20]</sup> Reskilling occurs when the participant has a job or a qualification or both but wishes to pursue a different career. Such courses are often referred to as 'conversion' courses.

\* 18. Does your PES actively attempt to attract persons from outside the labour force (women in the home; retired persons; discouraged workers etc...) to register for such courses?

- ☐ Yes
- ☐ No
- ☐ Don't know

\* If No, please specify:

\* 18. (continuation) If yes; how does your PES attempt to attract such people to the register? You may tick more than one box.

- ☐ a. PES regularly hosts recruitment fairs nationally
- ☐ b. PES regularly hosts recruitment fairs in the regions
- ☐ c. PES actively markets upskilling courses to women's groups
- ☐ d. PES actively markets upskilling courses to retirement groups.
- ☐ e. PES regularly contacts schools to advise on careers associated with shortage occupations
- ☐ f. Other relevant activities. Please specify:

\* 19. What additional supports <sup>[21]</sup>, if any, does PES offer to persuade non-registrants to participate on skill development courses? You may tick more than one box.

- ☐ a. PES does not offer any supports
- ☐ b. Training allowances
- ☐ c. Child-minding facilities
- ☐ d. Flexible course delivery times
- ☐ e. Mobility assistance for participants from remote areas
- ☐ f. Preparatory (acclimatising) training <sup>[22]</sup>
- ☐ g. Other supports; please specify:

<sup>[21]</sup> By additional supports is meant supports which PES registrants in general do not receive.

<sup>[22]</sup> Persons who were out of the labour force for a protracted period and PES offer a short pre-training induction course so that they may gradually acclimatise to the world of training and work experience

20. Please outline the main challenges which your PES has in providing the range of upskilling courses required to solve the skill shortages in your country <sup>[23]</sup> and how your PES is addressing these challenges

<sup>[23]</sup> The type of challenges could include 'many skill shortages require degree qualifications'.

#### Section 4: Recruiting and providing skill development for jobseekers from abroad

This section focuses on how the PES utilises the potential of workers from abroad – including returning nationals – to assist in resolving the skill shortage challenge in your country and the difficulties involved in attracting such workers and providing them with the appropriate skills.

21. Is it your impression <sup>[24]</sup> that most jobseekers from other EEA countries register with your PES?

- ☐ Yes
- ☐ No
- ☐ Don't know

<sup>[24]</sup> In the absence of studies on this issue, we must rely on the impressions of PES practitioners

21. (continuation) If no, why in your opinion is this the case? You may tick more than one box

- ☐ a. Such workers from abroad are unaware of the potential benefits of registration with PES
- ☐ b. Such workers from abroad <sup>[25]</sup> do not qualify for unemployment payments.
- ☐ c. Such workers find jobs through other channels
- ☐ d. Many workers from abroad have difficulty communicating in the national language
- ☐ e. Other reasons; please specify:

<sup>[25]</sup> This issue does not affect returning nationals and there is a question (Q26) on does the PES target them

\* 22. Do Asylum Seekers generally register with your PES?

- ☐ Yes
- ☐ No
- ☐ Don't know

\* 22. (continuation) If no, why in your opinion is this the case? You may tick more than one box

- ☐ a. Asylum Seekers are prohibited from registering with the PES <sup>[26]</sup>
- ☐ b. Asylum Seekers cannot qualify for unemployment payments
- ☐ c. Asylum Seekers are unaware of the benefits of registering with the PES
- ☐ d. Asylum seekers have difficulty communicating in the national language
- ☐ e. Other reasons; please specify:

<sup>[26]</sup> This prohibition usually applies when Asylum Seekers are not allowed work while seeking asylum

\* 23. What supports are available to jobseekers from other EEA countries who register with your PES? You may tick more than one box

- ☐ a. PES does not provide supports customised to the needs of jobseekers from EEA countries
- ☐ b. PES offers language training to jobseekers from EEA countries <sup>[27]</sup>
- ☐ c. PES offers family supports to jobseekers from EEA countries
- ☐ d. PES offers mobility supports <sup>[28]</sup> to jobseekers from EEA countries
- ☐ e. Other supports; please specify:

<sup>[27]</sup> While the questionnaire in general does not focus on transversal skills, an exception is made about the provision of language training in this context'

<sup>[28]</sup> This may take the form of specific transport or allowances to purchase transport

\* 24. How does your PES establish the quality of the skills and competences of jobseekers from other countries?

- ☐ a. PES is not able to adequately establish the skills levels of migrants on their register
- ☐ b. PES identifies the appropriate level on the NQF <sup>[29]</sup> concomitant with their qualifications
- ☐ c. PES uses EU Skills Profile Tool for third country nationals
- ☐ d. PES uses its own tools to validate prior experience and skills
- ☐ e. Other methods; please specify:

<sup>[29]</sup> The NQF is the National Qualifications Framework of the relevant host country.

\* 25. Describe how your PES actively seeks to recruit persons from abroad with shortage skills <sup>[30]</sup>. You may tick more than one box if Q25a does not apply.

- ☐ a. The PES does not engage in such activities.
- ☐ b. The PES hosts recruitment fairs abroad
- ☐ c. The PES advertises difficult to fill vacancies with PES in other countries
- ☐ d. The PES advertises these vacancies abroad through other media
- ☐ e. Other methods used by PES; please specify:

<sup>[30]</sup> These activities should be separate from the PES processing of work permits (see Q27)

26. In your country, under what circumstances are jobseekers from non-EEA countries – other than Asylum Seekers - permitted to take offers of employment? Tick more than one box if needed.

- ☐ a. We don't know the answer
- ☐ b. Never
- ☐ c. If the salary associated with the vacancy is above a certain threshold
- ☐ d. If the vacancy is part of an inter-company transfer arrangement
- ☐ e. If the vacancy has successfully passed the labour market test
- ☐ f. If the migrant has been granted asylum status
- ☐ g. If the migrant is a family relative of a citizen
- ☐ h. Other; please specify:

\* 27. Does your PES operate a labour market test or EU Blue Card system for the issuing of work permits to jobseekers from non-EEA countries?

- ☐ Yes
- ☐ No
- ☐ Don't know

27a. If yes, how long in months is your labour market test? Please Insert a number in the box.

\* 27b. Are only vacancies in certain occupations eligible for a work permit or Blue Card?

- ☐ Yes
- ☐ No
- ☐ Don't know

\* 27c. Are only vacancies in certain sectors eligible for a work permit or Blue Card?

- ☐ Yes
- ☐ No
- ☐ Don't know

27d. Other restrictions; please specify:

\* 28. In the experience of your PES, are employers more interested in recruiting jobseekers from abroad in the following categories? You may tick more than one box.

- ☐ a. Jobseekers from other EEA countries for unskilled work <sup>[31]</sup>
- ☐ b. Jobseekers from other EEA countries for skilled work
- ☐ c. Jobseekers from non-EEA countries for unskilled work
- ☐ d. Jobseekers from non-EEA countries for skilled work
- ☐ e. Don't know

<sup>[31]</sup> As stated in the introduction, for the purposes of this questionnaire, unskilled work is associated with elementary occupations and ISCED education levels 0-2. The defining characteristic of unskilled work is that there are few if any barriers to entry into such occupations. Examples include basic waiters, bar staff, labourers, shop assistants and general cleaners.

29. What activities –other than the processing of work permits– do PES engage in to encourage employers to recruit jobseekers from abroad? You may tick more than one box.

- ☐ a. PES does not engage in such activities
- ☐ b. PES offers subsidies to employers for recruiting jobseekers from abroad with specific skills
- ☐ c. PES offers to train workers from abroad in the specific skills requested by employers
- ☐ d. Other; please specify

30. Please outline the main challenges which your PES has in utilising migrant workers to help resolve the skill shortage situation in your country and the actions which PES need to take to address these challenges.

Please include any further comments you consider relevant to the issues addressed in this questionnaire in the text box below.

Thank you very much for your assistance in completing this questionnaire.

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