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Cluster report

Care and welfare

Third Reporting Period – D15b

Project coordinator name:	Erasmus University Rotterdam
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1. Introduction

1.1 Introduction of the EurOccupations project

How do occupations compare across countries? How can problems of incomparability of occupations be tackled? To answer these questions, 10 European universities and research institutes have joined their efforts to develop a European occupations database.

The EU funded project 'EurOccupations' aims to build a publicly available occupations database with approximately 1,600 most frequent occupations in 8 large EU member states (United Kingdom, Germany, France, Spain, Poland, Belgium, the Netherlands and Italy). The occupations cover the whole range of industries: varying from care & welfare to technology & manufacturing, from service occupations to agriculture & fishing, etc.

For all 1,600 occupations, the EurOccupations database includes occupational titles, ISCO-codes and educational levels. In addition, the database contains information about distribution of gender, education and age groups in each country for aggregate groups of occupations.

Expert research

For a selection of 150 key occupations¹, the EurOccupations database additionally includes information on skill levels, occupational content, occupational requirements and relevant social stratification measures. The information for these occupational dimensions was gathered through an expert research, in which occupational experts were asked to judge occupations of their expertise on these dimensions by means of an Internet enquiry.

Expert definition:

Experts are expected to have knowledge about occupations or groups of occupations within the countries involved in EurOccupations.

Experts are: representatives of employers' or employees' organisations, professional organisations, interest groups, vocational training bodies or knowledge centres, supervisors, researchers in the field of occupations (either from universities or from statistical offices), informants from a wide variety of branches of industry, vocational advisors, HRD professionals etc.

¹ Information was gathered for 10 additional key occupations as well. However, the EurOccupations team actively recruited experts for 150 'core' key occupations (not for the 10 additional occupations). As a consequence, information about these 10 additional occupations may be lacking.

In addition: occupational workers enquiry

Additionally, occupational workers were also asked to complete an Internet enquiry for these 150 key occupations. This so called 'occupational worker enquiry' included questions that can be answered by practitioners and focused on the actual education levels of occupational workers (and how these relate to occupational requirements).

Clusters of occupations

In order to structure and streamline the development of the EurOccupations database, the occupation database is organised along the lines of eight clusters of occupations. The clusters of occupations are divided as follows:

Table 1 Overview of the division of 8 clusters of occupations

Cluster title
1. Care & welfare
2. Construction & cars
3. Education, research & personnel
4. Information, communication, finance & legal
5. Manufacturing: food, metal, oil, gas & mining
6. Clerks, staff, management & army/police
7. Trade & agriculture
8. Transport, logistics, travel & cleaning/garbage

1.2 Introduction of the cluster 'Care and Welfare'

For a selection of 21 key occupations from the cluster 'Care & Welfare', detailed information was gathered on skill levels, occupational content etc.

We divided the selected care and welfare cluster key occupations into four areas of work:

- Caring and nursing personnel
- Outliers
- Welfare
- Applied general and technical medicine

1.3 Table of key occupations according to the area of work

Cluster 'Care & Welfare'	
Area of work	Key Occupations
Caring and nursing personnel	<ul style="list-style-type: none"> • Carer for the disabled • Carer for the elderly • Personal carer in private homes • Personal carer in an institution for the elderly • Personal carer in an institution for the handicapped • Charge nurse • Hospital nurse • Nursing aid
Welfare	<ul style="list-style-type: none"> • Community or social service worker
Outliers	<ul style="list-style-type: none"> • Ambulance attendant • Health service manager
Applied general and technical medicine	<ul style="list-style-type: none"> • Dental hygienist • Dental prosthesis technician • Dietician • General practitioner GP • Medical laboratory technician • Midwifery professional • Optician • Physician assistant • Scanning equipment operator • Surgeon

1.4 List of all care and welfare key occupations in alphabetical order

Care and welfare
1. Ambulance attendant
2. Carer for the disabled
3. Carer for the elderly
4. Charge nurse
5. Community or social service worker
6. Dental hygienist
7. Dental prosthesis technician
8. Dietician
9. General practitioner GP
10. Health service manager
11. Hospital nurse
12. Medical laboratory technician
13. Midwifery professional
14. Nursing aid
15. Optician
16. Personal carer in an institution for the elderly
17. Personal carer in an institution for the handicapped
18. Personal carer in private homes
19. Physician assistant
20. Scanning equipment operator
21. Surgeon

2. Data collection

2.1 The EurOccupations data collection

As was mentioned earlier, an expert research was conducted in order to gather the relevant occupational information for our 150 key occupations². In this expert research, experts were asked to judge these key occupations on the relevant dimensions by means of an Internet enquiry.

Expert definition:

Experts are expected to have knowledge about occupations or groups of occupations within the countries involved in EurOccupations.

Experts are: representatives of employers' or employees' organisations, professional organisations, interest groups, vocational training bodies or knowledge centres, supervisors, researchers in the field of occupations (either from universities or from statistical offices), informants from a wide variety of branches of industry, vocational advisors, HRD professionals etc.

Expert Internet enquiry

Experts were asked to complete two types of Internet enquiries:

- **The occupation expert enquiry for 150 key occupations**

In this enquiry, questions were asked about skill levels, occupational content and relevant social stratification measures. The occupation questionnaire is included in Appendix B.

For each key occupation, unique task descriptions (10-12 tasks) were included in the questionnaire. These task descriptions have been developed by means of international desk research, following standardised EurOccupations procedures (see procedures expert data collection available on: <http://www.euroccupations.org/main/researchlab/deliverablesyr1>). Experts were asked to judge these tasks on frequency and importance. We aimed to have at least 2 completed expert questionnaires for each key occupation in each country. For some key occupations, only one or even no expert questionnaires were completed. For these key occupations, information was collected using different sources (see occupational worker enquiry and partner questionnaire, described below).

- **The education expert enquiry for 1,432 occupations³**

In this enquiry, experts were asked to provide the required educational level for a number of occupations in the area(s) of work of their expertise (random selection of occupations from the area of work). The education expert questionnaire is included in Appendix C.

² Information was gathered for 10 additional key occupations as well. However, the EurOccupations team actively recruited experts for 150 'core' key occupations (not for the 10 additional occupations). As a consequence, information about these 10 additional occupations may be lacking.

³ The education expert enquiry was based on the draft version of the extended list of occupations (containing 1,432 occupations). The final extended list of occupations contains 1,600 occupations.

2.1.1 Expert recruitment activities

In each of the countries, EurOccupations partners recruited experts by undertaking various actions (following the EurOccupations procedures for expert recruitment). The main expert recruitment activities included:

- Asking (inter)national **expert organisations** (e.g., employer organisations, knowledge centres, education institutes) to assist in recruiting experts in their networks, e.g. by contacting relevant experts, placing banners on their website, publish articles in their journals (e.g., using the text from the EurOccupations flyer). Additionally, representatives of expert organisations were also asked to complete the web enquiry themselves.
- Asking **individual experts** to join the EurOccupations expert network and complete the questionnaires (in person, by phone, e-mail, mailings, etc.).
- Sending **letters to relevant (expert) organisations** to ask for their cooperation.
- Subscribing experts to the **EurOccupations newsletter**.
- Publishing **articles** in relevant journals (e.g., using the text from the EurOccupations flyer).
- Attending conferences, workshops, seminars etc. to distribute information about EurOccupations (presentations, distributing flyers etc.).
- Publishing **banners** on relevant websites.

The most efficient way to approach experts and expert organisations differs between the participating countries. Therefore, the focus of expert recruitment activities differed between the countries.

Expert recruitment France (Céreq)

Céreq (the French centre on Education, training and employment) is placed under the aegis of both the French ministry of education and the French ministry of employment. This allowed it to organise institutional partnership in order to involve experts:

- In the Ministry of Education, during some sectoral meetings called "Commissions professionnelles consultatives", associating social partners and experts in vocational fields of all economical sectors,
- In the Ministry of Employment, also during some sectoral meetings associating social partners and experts, and when associating the specialists having taken part to the last French dictionary of occupations, called the ROME (Répertoire Opérationnel des emplois et des métiers).

Then, it has associated both representatives from its statistical databases system (INSEE, Institut national de la statistique et des études économiques) and from its labor market analysis (DARES, Délégation générale à l'emploi et à la formation professionnelle), in the EurOccupations Steering Committee. Thus, many colleagues have accepted direct or phone interviews (for researchers located all around France) that were later keyboarded or captured in the computer.

Céreq also possesses interesting databases, such as a unique dictionary of industry representatives associated to the French MEDEF (Mouvement des entreprises de France), the biggest

employer organisation. It has used all its details for all economic sectors, from A to Z (aeronautics to civil engineering). They were usually reached first by telephone, then by e-mail, and it was all the more successful because many professional contacts were already well known from Céreq, and they had already heard about the Céreq role in France.

Céreq has also organised direct communication during some meetings (at the Ministry of Education and during internal meetings of its own experts), as well as two institutional communication through its publications such as the monthly "Céreq Bref", issued in 6.000 copies, and then published online⁴. It has also associated all its sectoral experts employed as "Chargés d'études" (researchers), coming from sociological or economical backgrounds but specialised in the various economical sectors and French occupations. Then, some more experts could be found during the EurOccupations international meeting organised in Marseilles, at Céreq's city location, that represented a great opportunity and was very well organised by the Dutch coordinator (especially the Erasmus University of Rotterdam and AO Consult).

The answering rate of experts is a witness of the success of the operation: 345, properly balanced between the 164 benchmarked occupations.

Expert recruitment United Kingdom (IER, University of Warwick)

Intensive efforts in the early stage of recruitment to attract experts in relevant organisations directly by email (sent from Professor Peter Elias' email address) proved largely ineffective, probably because of the high volume of email traffic that such recipients receive and the tendency of busy individuals to delete without reading any emails from individuals that they do not recognise. The decision was therefore made to adopt a more personal approach:

- in line with previous practice, relevant websites were explored in order to identify, where possible, appropriate individuals to contact;
- a telephone call to the identified experts was then made to seek their cooperation;
- a follow-up email was sent giving standard information, appropriately amended for individual circumstances and containing direct links to the online questionnaire for specific occupations.

This strategy was more effective, although response rates remained variable.

Organisations targeted

- A key focus for recruitment was the Sector Skills Council (SSC) relevant to each of the occupations. In some cases IER colleagues were able to recommend individuals in those Councils. Some SSCs responded directly, or recommended other useful contacts able to respond for a particular occupation in the sector.

⁴ - Translation of the EurOccupations flyer and dissemination with the project coasters.
- 2 Céreq Bref articles (mentioned in the previous dissemination reports);
- 1 Céreq electronic letter, September 2009: some issues about the EurOccupations meeting that hold in Marseilles in April 2009.

- For health-related occupations approaches were made to relevant sections within the UK National Health Service.
- Where appropriate, contact was with professional or trade associations.
- Professional contacts of the staff of the Institute for Employment Research were exploited, along with partner organisations in other projects conducted by the IER.
- The University of Warwick proved a useful source of experts across a range of the benchmarked occupations. Departments approached included: the Finance Office, Personnel Office and other central administrative functions; Sports Centre; Department of Psychology; Warwick Conferences; Estates Office.
- Contact was made with some lecturing staff in Colleges of Further Education involved in sectoral training programmes.

Other recruitment measures

- Dissemination of information about the project, via distribution of flyers, the EurOccupations banner and some text on the IER website, and a workshop organised in IER, were all aimed at promoting participation in the expert enquiry.
- Where continued difficulty was encountered in achieving expert recruitment via organisations as described in the previous sections, personal contacts with individuals working in an occupation were used in a few instances.
- For around 15 occupations where potential respondents were unable or reluctant to complete the questionnaire online, pre-completed questionnaires were sent to them for comment and amendment, and were then submitted from IER.
- Paper copies of the questionnaire were offered in one or two cases, but this approach did not work.
- Finally, the IER EurOccupations team completed partner questionnaires based on desk research and validated, where possible, by occupational experts.

Expert recruitment Germany (AWWW GmbH)

The main expert recruitment activities in Germany included:

- Setting up particular EurOccupations **web-sites** both in German and in English on the two main web-sites of the AWWW GmbH (awww.de / awww.eu).
- Placing information on EurOccupations and links to the online questionnaire on six thematic web-sites maintained by the AWWW GmbH.
- Asking **German expert organisations** (e.g., trade unions, employer organisations, chambers of commerce, ministries, research institutes, knowledge centres, education institutes) to assist in recruiting experts in their networks, e.g. by contacting relevant experts, placing banners on their website. Additionally, representatives of expert organisations were also asked to complete the web enquiry themselves.
- Asking **individual experts** to join the EurOccupations expert network and complete the questionnaires (in person, by phone, e-mail, mailings, etc.).

- Sending **letters to relevant (expert) organisations** to ask for their cooperation.
- Sending **e-mails to relevant (expert) organisations** to ask for their cooperation. The e-mails included the relevant direct links to the according occupations covered by the organisation, links to the AWWW GmbH web-sites, and the EurOccupations flyer as PDF attachment.
- Attending conferences, workshops, seminars etc. to distribute information about EurOccupations (presentations, distributing flyers etc.).

Expert recruitment The Netherlands (AIAS and AO Consult)

In order to recruit sufficient experts to complete our expert web survey, we undertook different types of actions:

- We approached expert organisations (e.g., knowledge centres, branch organisations, large companies, vocational advice agencies). We found these organisations within our network of organisations or through the Internet. We contacted these organisations by telephone and organised a personal meeting with a representative to discuss how they could assist us in recruiting experts in their networks. Usually, these organisations asked employees, members or external contacts to complete EurOccupations questionnaires (occupation questionnaire and education questionnaire). In addition, some organisations placed a banner on their website including a link to our questionnaire (depending on the type of website visitors) and/or published articles in their newsletter or journal. In some cases, organisations also placed banners on their website linking to the occupational worker survey. If the response stayed behind, we contacted organisations again to ask whether they could undertake additional action in order to obtain a sufficient number of completed questionnaires. In total, we organised personal meetings with 47 representatives of expert organisations and additionally had telephone contact with 66 representatives.
- We asked individual experts to complete the questionnaires by telephone, e-mail or in person. For instance, we asked network contacts, colleagues, acquaintances, friends or family who are experts on specific occupations to complete questionnaires. All employees of Arbeid Opleidingen Consult mobilised their network in order to recruit as many experts as possible.
- We sent a large mailing to 430 expert organisations in November 2007, including a letter asking them to participate in our data collection and a number of flyers and business cards.
- We sent a large mailing to 68 occupation advisors in February 2008, including a letter asking them to participate in our data collection and a number of flyers and business cards.
- We presented the EurOccupations project at 9 conferences and (expert) meetings, asking participants to complete questionnaires about the occupations of their expertise.
- We sent a press release to 71 specialist journals.
- We placed EurOccupations-banners on our website (www.aiconsult.nl).
- Paper copies of the questionnaire were offered to experts upon request.
- Finally, partner questionnaires were completed based on desk research and validated, where possible, by occupational experts.

Expert recruitment Spain (CIREM)

- Introduction of information and invitation to participate (with a banner in order to facilitate it) in the web of CIREM Foundation. And also in the review "Herramientas", of the Foundation.
- Two great mailings (of about 500 e-mails in April and 200 in October 2008, and others little).
- Relations with the National Institute of Qualifications, in order to invite its expert teams to participate. The contacts included several meetings and the delivery of reports and flyers.
- Contacts and invitations with occasion of a National Conference on the occupations of the cluster on Education (in Madrid, April 2008), and the Marseille Conference (May 2008).
- Information and invitation to about 120 experts: directly, by telephone and by e-mail. Since November 2008 we have even helped about 15 experts in wide occupations fields to record the answers.

Expert recruitment Belgium (HIVA, Katholieke Universiteit Leuven)

For Belgium, complementary to the general recruitment strategy, following recruitment actions were taken.

- Professional organizations were contacted, and asked if they had some sort of communication to their members. Were they had one, we tried to have information on Eurooccupations included. E.g.: the Association of engineers publish a magazine, and included a small article and a call for experts. The meteorologists put information and a call for experts on their website.
- Intermediate organizations on the labor market were contacted, mainly employment agencies. For example, the Flemish government employment agency (VDAB) have a special research cell on occupational and competency profiles (VDAB – COBRA). This team agreed to input their knowledge in our project, and also helped us finding other people at VDAB with a broad knowledge on certain occupations.
- As a part of the Flemish social and economic council (SERV), the Flanders Technology Foundation (STV) has a team of people working around occupational and competency profiles. SERV agreed to input their knowledge into our project as well, by filling out questionnaires on over 40 occupations.
- Contact was established with the National Statistics office, which was in a review phase of the NOC. A mutual trade of knowledge and ideas has been established since then.
- We presented the project to the point of support concerning Work and Social economy, which supplies end-users with information on labor market topics (in a broad sense) and have done important work on the harmonization of socio-economic administrative data, including occupation.
- Trade union involvement came about through the reactions of numerous trade unionists that reacted to the first calls for experts in the project, and direct contact with the information departments of the major trade unions.

- We attended to job-information fares on a regular basis, to get in contact with people promoting or informing about certain occupations.
- We screened which international professional organizations were based in Brussels, and visited some of them who reacted to our mails on the project. This resulted, a.o. in the cooperation of the European Accountants Federation.
- We had topics on occupational harmonization put on the topic list for the master dissertations at the University⁵.

Expert recruitment Poland (Poznan University of Economics)

The main expert recruitment activities in Poland included:

- preparing the contact list which included 717 organisations,
- sending e-mails to the expert organisations from the mailing list (January 2008), asking them to participate in data collection,
- phones and e-mails to the employees of Labour Ministry and National Statistic Office, who were involved in preparation of actual Polish occupational classification,
- phones, e-mails and meetings with members of Polish Human Resources Association (PSZK) to promote the idea of EurOccupations project among employees of HR departments and consulting company owners,
- contacts with employees organisations (Business Centre Club – BCC) and trade unions representatives (NSZZ Solidarnosc), asking them to participate in the project,
- inviting University employees, through the mailing list, to get interested in the project,
- asking individual experts (using network of personal contacts) to complete the questionnaires(by telephone, in person or e-mailing them direct link to specific expert questionnaire),
- EurOccupations presentations during Polish Human Resources Association (PSZK) meetings and seminars at the Poznan University of Economics,
- flyers dissemination at the trade union meetings and at the different conferences,
- banners and links at the web pages of expert organisations and at the professional portals,
- interview in regional Poznan TV,
- cooperation with HR Students Association at the Poznan University of Economics,
- looking for the additional funds to support the EurOccupations project that enabled to hire the pollsters - after the bureaucratic procedure we got the money from Polish government. In November 2008 we hired the pollsters to gather the expert questionnaires (paper version). Pollsters hired in Poznan, contacted individual experts and organizations in Poland, conducted the interviews (during the interview questionnaires were completed) and transferred the answers to the questionnaires at the web. This method enabled us to gather more than 300 questionnaires.
- We found that the most successful method of expert recruiting were: contacts with individual experts by sending them links to the selected questionnaires and cooperation with pollsters, who reached the experts asking them to fill in the paper questionnaires.

⁵ However, no student picked up the topic (so far).

2.1.2 Additional data collection

Occupational worker enquiry

Additionally, occupational workers were also consulted in order to gather additional occupation information and to obtain insight in differences between actual and required educational levels. The occupational worker questionnaire is included in Appendix D. The occupational workers were recruited by means of weblinks on the WageIndicator websites (see www.WageIndicator.org) and additional recruitment activities by the EurOccupations partners.

In case of the care and welfare cluster 408 respondents filled in the occupational workers enquiry. The number of respondents varied greatly among the participating countries. The country with the most occupational workers enquiry respondents is the Netherlands (40 respondents), followed by Belgium (33 respondents) and Germany (32 respondents). The least number of respondents filled in the enquiry in France (1 respondent). Number of respondents in the other countries oscillated between these benchmarks. These numbers implicate that the responses did not cover all the occupations therefore this source did not provide sufficient data to back up the expert data analysis.

Unfortunately the contribution of the occupational workers enquiry is too unsubstantial and uneven to add to the overall care and welfare cluster report. For our aims here, regrettably it does not serve as a reliable and comparable source.

Partner questionnaire

For occupations for which it was extremely difficult to recruit experts to complete occupation questionnaires, our national EurOccupations partners completed a partner questionnaire (see Appendix E). They completed this questionnaire based on desk research. If possible, experts were asked to validate the answers.

2.2 Expert response rates for the cluster 'Care and Welfare'

Only countries with present Internet enquiry expert responses for the key occupations are mentioned in the table.⁶

In alphabetical order.

n/a=not available (indicated that the occupation does not exist in the respective country)

Occupation	BE	ES	FR	DE	NL	PO	UK	Total
Ambulance attendant	0	2	2	2	1	3	1	11
Carer for the disabled	2	3	1	2	2	7	2	19
Carer for the elderly	3	2	2	5	2	5	0	19
Charge nurse	0	2	2	3	2	7	0	16
Community or social service worker	4	2	2	3	5	7	0	23
Dental hygienist	0	3	n/a	0	1	3	1	8
Dental prosthesis technician	1	0	2	1	4	3	0	11
Dietician	3	3	2	3	11	4	0	26
General practitioner GP	1	2	3	3	4	3	1	17
Health service manager	0	2	2	2	1	1	1	9
Hospital nurse	2	5	5	9	4	14	1	40
Medical laboratory technician	2	2	2	2	5	1	0	14
Midwifery professional	2	2	4	4	10	7	4	33
Nursing aid	1	2	2	1	2	4	0	12
Optician	0	2	2	1	3	3	0	11
Personal carer in private homes	3	2	3	2	3	3	0	16
Personal carer in an institution for the elderly	5	2	2	2	3	3	0	17
Personal carer in an institution for the handicapped	0	2	4	2	3	3	0	14
Physician assistant	0	2	n/a	3	2	3	2	12
Scanning equipment operator	2	3	3	2	4	1	0	15
Surgeon	0	2	2	5	4	3	0	16
Total	31	47	47	57	76	88	13	359

⁶ We mention in detail only the expert response rates as the number of responses of the occupational workers and partner enquiry were not numerous.

3. Analyses EurOccupations data 'Care and Welfare'

As a reference we created a file depicting respective tasks, educational levels and other requirements...etc for the 21 occupations. Each occupation discussed in this section contains a hyperlink which leads you to the respective section of the frequencies expert data file.

Furthermore we make some general comments on the occupation itself (using expert and partner enquiry data), but issues connected to education, tasks themselves or other problems are discussed in other sections below.

In appendix A of this cluster report you can find the tables with frequency tables of the responses from the second part of the enquiry on an aggregate level (area of work).

3.1 Occupation Ambulance attendant

There were 11 expert responses in the enquiry originating from the Netherlands, France, Poland, Spain Germany and the UK. The title proves to be a bit misleading in the enquiry since there are several occupations with different qualifications which participate in the urgent medicine (outside the hospital) such as ambulance driver or the paramedic. The countries informed us that the standards for this occupation keep changing almost every year. This issue is further discusses in chapter 6.

Other feature is the (possible) privatisation of the mobile emergency unit of the hospital trend, so there is possible move of this occupation from the public to the private sector.

One expert expects that the educational requirements of this occupation are going to rise, the rest things that they are going to stay the same. As far as the size of this occupation is concerned the experts predict stability or increase in size.

For more details please consult the data analysis [output file](#)⁷.

3.2 Occupation Carer for the disabled

There were 19 expert responses in the enquiry originating from all participating countries. As it is going to be mentioned in chapter 6; countries (among them Germany and the UK) mention that the client and location specification of the occupation does not apply to the situation in their countries; therefore they suggest one occupation of the carer, since there is a great task overlap. However, this might also depend on the institutional environment of the respective country (size of the institutions, privatization, subsidies...etc.)

As far as the content change of the occupation is concerned, experts predict major professionalisation and increase in skills and autonomy with decrease of the supervision; which also results in increase of the educational requirements. The experts agree that there will definitely be an increase in the size of this occupation due to the demographic changes in the European Union.

For more details please consult the data analysis [output file](#)⁸.

⁷ http://www.uva-aias.net/uploaded_files/regular/frequencies.xls#AmbulanceAttendant

3.3 Occupation Carer for the elderly

There were 19 expert responses in the enquiry originating from all participating countries. As it is going to be mentioned in chapter 6; countries (among them Germany and the UK) mention that the client and location specification of the occupation does not apply to the situation in their countries; therefore they suggest one occupation of the carer, since there is a great task overlap. However, this might also depend on the institutional environment of the respective country (size of the institutions, privatization, subsidies...etc.)

As far as the occupational change is concerned, the experts mention the flexibility and taking on more responsibilities as main factors. French, German and Dutch experts predict that the educational requirements are going to rise on the grounds of medical/technical progress. There is an almost unanimous agreement among the experts that the size of this occupation is going to rise.

For more details please consult the data analysis [output file](#)⁹.

3.4 Occupation Charge nurse

There were 16 expert responses in the enquiry originating from the Netherlands, France, Poland, Germany and Spain. As far as the content change of the occupation is concerned the experts stress mainly the shift towards managerial and financial tasks. Polish experts also mention the role of privatization in the health care and its possible influence on the managerial layer of the health care professionals in a hospital.

As far as educational requirements are concerned experts agree that they will rise; manager skills course will be required according to the Dutch experts. Polish experts mention a master programme for charge nurses. French and Spanish experts predict the increase in size of this occupation; Dutch and German experts predict stability in size and the Polish expert the decline in size.

For more details please consult the data analysis [output file](#)¹⁰.

3.5 Community or social service worker

There were 23 expert responses in the enquiry originating from all participating countries but the UK. As far as the content change of the occupation is concerned the experts mention that forms of work will change drastically; project work will play a major role as well as protocolisation and rise in complexity of the occupation. As far as the educational requirements are concerned the experts mention the rise in competencies as well as an increase in legal knowledge and further education in form of certification. Almost all experts agree that the size of the occupation will rise.

For more details please consult the data analysis [output file](#)¹¹.

⁸ http://www.uva-aias.net/uploaded_files/regular/frequencies.xls#CarerDisabled

⁹ http://www.uva-aias.net/uploaded_files/regular/frequencies.xls#CarerElderly

¹⁰ http://www.uva-aias.net/uploaded_files/regular/frequencies.xls#ChargeNurse

¹¹ http://www.uva-aias.net/uploaded_files/regular/frequencies.xls#CommSocServWorker

3.6 Dental hygienist

There were 8 expert responses in the enquiry originating from Spain, the Netherlands, Poland and the UK. This occupation does not exist in France. There is very little data available for this occupation to draw any conclusions. Experts from Spain, the Netherlands and Poland agree that the size of the occupation will rise. This occupation does not have evenly spread tradition or importance among the participating countries.

For more details please consult the data analysis [output file](#)¹².

3.7 Dental prosthesis technician

There were 11 expert responses in the enquiry originating from Belgium, France, Germany, the Netherlands and Poland. The experts agree that the content of the occupation is going to change according to the evolution in the technical/materials size of this occupation. Experts mostly agree that the size of this occupation is going to rise.

For more details please consult the data analysis [output file](#)¹³.

3.8 Dietician

There were 26 expert responses in the enquiry originating from all participating countries but the UK. As far as the content change of the occupation is concerned the experts mention a possible shift towards entrepreneurship of the people performing this occupation. The educational requirements are going to rise as well according to the experts. Most of the experts responded that the size of the occupation is going to grow.

For more details please consult the data analysis [output file](#)¹⁴.

3.9 General practitioner GP

There were 17 expert responses originating from all of the participating countries. As far as the content change of the occupation is concerned the experts point out the evolution of the group practices and management of the chronically ill patients (who were traditionally managed by the hospitals before). As far as the educational requirements are concerned, according to the experts there will be more stress on competency-based curriculum and training after obtaining the medical degree. There is almost half/half agreement among the experts that the size of the occupation will remain stable or increases respectively.

For more details please consult the data analysis [output file](#)¹⁵.

¹² http://www.uva-aias.net/uploaded_files/regular/frequencies.xls#DentHygienist

¹³ http://www.uva-aias.net/uploaded_files/regular/frequencies.xls#DentProstTech

¹⁴ http://www.uva-aias.net/uploaded_files/regular/frequencies.xls#Dietician

¹⁵ http://www.uva-aias.net/uploaded_files/regular/frequencies.xls#GP

3.10 Health service manager

There were 9 expert responses in the enquiry originating from all participating countries but Belgium. There is very little data available for this occupation to draw any conclusions. Perhaps the occupational title has to be further specified which department is being managed so that the tasks are assigned to it accordingly. Experts agree however that the size of this occupation is going to grow.

For more details please consult the data analysis [output file](#)¹⁶.

3.11 Hospital nurse

There were 40 expert responses in the enquiry originating from all the participating countries. As far as the content change of the occupation is concerned, the experts mention the involvement of technology in the occupation as well as more specialisation in the workplace. The educational requirements are going to rise. Most of the experts agree that the size of this occupation is going to grow.

For more details please consult the data analysis [output file](#)¹⁷.

3.12 Medical laboratory technician

There were 14 expert responses in the enquiry originating from all the participating countries but the UK. The changes in this occupation will be connected to the medical changes and innovation, as well as automatisation. Most experts point out that the size of the occupation will remain the same, only few think that it will grow.

For more details please consult the data analysis [output file](#)¹⁸.

3.13 Midwifery professional

There were 33 expert responses in the enquiry originating from all participating countries. The experts mention among the content changes of this occupation mainly the importance of the psycho-social guidance of pregnant women together with rise in autonomy and staying in touch with medical progress. In the Netherlands and Germany the educational requirements have been set higher to the university level. The Dutch experts mention specifically academisation of this occupation. As far as the size of the occupation is concerned, the experts do not agree on decline, stabilization or growth of the occupation. This might be connected with different position of the midwifery professional in the respective countries; the Netherlands being the clear outlier in this case.

¹⁶ http://www.uva-aias.net/uploaded_files/regular/frequencies.xls#HealthServMngr

¹⁷ http://www.uva-aias.net/uploaded_files/regular/frequencies.xls#HospitalNurse

¹⁸ http://www.uva-aias.net/uploaded_files/regular/frequencies.xls#MedLabTech

For more details please consult the data analysis [output file](#)¹⁹.

3.14 Nursing aid

There were 12 expert responses in the enquiry originating from all participating countries but the UK. The experts mention as far as the content change of the occupation is concerned that the difference between the less and more complex tasks performed will grow. As far as the educational requirements change is concerned, the German experts point out that the theoretical knowledge will deepen and perhaps the duration of the studies will be prolonged. Most experts agree that the size of this occupation will grow.

For more details please consult the data analysis [output file](#)²⁰.

3.15 Optician

There were 11 expert responses in the enquiry originating from all participating countries but Belgium and the UK. There is very little data available for this occupation to draw any conclusions, however most experts agree that the size of this occupation is going to grow.

For more details please consult the data analysis [output file](#)²¹.

3.16 Personal carer in private homes

There were 16 responses in the enquiry originating from all participating countries but the UK. As it is going to be mentioned in chapter 6; countries (among them Germany and the UK) mention that the client and location specification of the occupation does not apply to the situation in their countries; therefore they suggest one occupation of the carer, since there is a great task overlap. However, this might also depend on the institutional environment of the respective country (size of the institutions, privatization, subsidies...etc.)

Most of the experts agree that the size of this occupation is going to grow.

For more details please consult the data analysis [output file](#)²².

3.17 Personal carer in an institution for the elderly

There were 17 responses in the enquiry originating from all participating countries but the UK. As it is going to be mentioned in chapter 6; countries (among them Germany and the UK) mention that the client and location specification of the occupation does not apply to the situation in their countries; therefore they suggest one occupation of the carer, since there is a great task overlap. However, this might also depend on the institutional environment of the respective country (size of the institutions, privatization, subsidies...etc.)

¹⁹ http://www.uva-aias.net/uploaded_files/regular/frequencies.xls#MidwiferyProf

²⁰ http://www.uva-aias.net/uploaded_files/regular/frequencies.xls#NursingAid

²¹ http://www.uva-aias.net/uploaded_files/regular/frequencies.xls#Optician

²² http://www.uva-aias.net/uploaded_files/regular/frequencies.xls#PerscarerPrivateHomes

The experts mention as far as the content change of the occupation is concerned that it will get more complex. The experts also agree that the size of this occupation is going to grow.

For more details please consult the data analysis [output file](#)²³.

3.18 Personal carer in an institution for the handicapped

There were 14 expert responses in the enquiry originating from all participating countries but Belgium and the UK. As it is going to be mentioned in chapter 6; countries (among them Germany and the UK) mention that the client and location specification of the occupation does not apply to the situation in their countries; therefore they suggest one occupation of the carer, since there is a great task overlap. However, this might also depend on the institutional environment of the respective country (size of the institutions, privatization, subsidies...etc.)

The experts point out that the size of this occupation is going to grow.

For more details please consult the data analysis [output file](#)²⁴.

3.19 Physician assistant

There were 12 expert responses in the enquiry originating from Spain, Germany, the Netherlands, Poland and the UK. This occupation does not exist in France. As far as change of content of this occupation is concerned, the experts mention broadening of the scope of practice (to include surgery and prescription rights). Experts from the UK mention minor modifications in competence and curriculum framework. Most experts agree that this occupation size is going to grow.

For more details please consult the data analysis [output file](#)²⁵.

3.20 Scanning equipment operator

There were 15 expert responses in the enquiry originating from all participating countries but the UK. As far as the content changes of the occupation are concerned the experts mention mainly adaptation to technological changes and therefore the curriculum has to react to these changes and include them as well. Most experts agree that the size of this occupation is going to rise.

For more details please consult the data analysis [output file](#)²⁶.

3.21 Surgeon

There were 16 expert responses in the enquiry originating from all participating countries but Belgium and the UK. As far as the changes in the content of the occupation are concerned the experts mention further specialization and with it connected/used techniques (also use of technologies). The

²³ http://www.uva-aias.net/uploaded_files/regular/frequencies.xls#PersCarerInstElderly

²⁴ http://www.uva-ias.net/uploaded_files/regular/frequencies.xls#PersCarerInstHandicapped

²⁵ http://www.uva-aias.net/uploaded_files/regular/frequencies.xls#PhysAsisstant

²⁶ http://www.uva-aias.net/uploaded_files/regular/frequencies.xls#ScanEquipOperator

curriculum will be, according to the experts, more competencies-oriented. Experts consider this occupation to be rather stable in size, although some experts expect it to grow.

For more details please consult the data analysis [output file](#)²⁷.

4. Revisions of the EurOccupations task descriptions

This section of the cluster report reports on by experts suggested task descriptions revision, language issues and additions to the task list of the respective occupations.

Ambulance attendant

- Task 7 to restrain and shackle violent patients seems to be controversial in several countries. It should be removed from the task list.
- To be added as a new task: "Keep in regular contact with the emergency dispatch centre"

Carer for the disabled

- It is suggested to use the term "person with a disability" instead of the "patient"
- Task 4 "Administer medication..." there needs to be a specification added that the carer can perform this task only with a special agreement or can only monitor whether medication has been given to the person with a disability by other medical staff
- To be added as a new task: "Get to know individual clients and be aware of their interests and needs"
- In France: for activity 8, to replace "Envisage les soins individualisés appropriés" with "Envisage l'aide individualisée appropriée"

Carer for the elderly

- Task 4 "Administer medication..." there needs to be a specification added that the carer can perform this task only with a special agreement or can only monitor whether medication has been given to the person with a disability by other medical staff
- To be added as a new task: "Get to know individual clients and be aware of their interests and needs"

Charge nurse

- To be added as a new task: "Participate in staff recruitment and organise staff training"
- To be added as a new task: "Participate in evaluation and review of policies and procedures"
- To be added as a new task: "Evaluate the quality of the health care given by the nursing personnel"

²⁷ http://www.uva-aias.net/uploaded_files/regular/frequencies.xls#Surgeon

- Task 1 in the Dutch version: "Ziekenhuispersoneel" should be replaced by "Verpleegkundigen and Verzorgenden"
- Tasks which concern direct dealing with the patient (e.g. Tasks 2,6,8,9) are rather done by the hospital nurses than the charge nurse who has got more of a managerial function; one should consider their removal from the task list

Community or social service worker

- To be added as a new task: "Arrange children to be resettled with foster parents or in children's home if necessary"
- To be added as a new task: "Keep case records and prepare reports"
- To be added as a new task: "Support clients into employment"
- In French translation the word "person" should be used instead of "patient"

Dental hygienist

- No revision is suggested

Dental prosthesis technician

- To be added as a new task: "Apply computer-assisting milling techniques e.g. artificial synthetic roots for implants of titanium blanks"
- To be added as a new task: "Advice dentist in regard of materials as well as the technological and static options of planned dental prosthetics"
- To be added as a new task: "Service and maintain devices and tools"

Dietician

- Addition to task 2: "...develop and implement dietary care plans for individuals and institutions (e.g. hospital kitchens)"
- To be added as a new task: "Motivate and coach clients with eating disorders"

General practitioner GP

- Remove task 9: Report births, deaths...
- To be added as a new task: "Make home visits and emergency home visits"
- To be added as a new task: "Treat and coach patients with chronic and frequently multiple, complex illnesses"
- To be added as a new task: "Manage patients' prevention (e.g. vaccination)"
- To be added as a new task: "Write recommendation documents patient's state of health (e.g. for performance of a job; driver's licence; spa treatment...etc)"

Health service manager

- To be added as a new task: "Negotiate and manage contracts"

- Addition to task 5: "...develop and implement new policies to improve health service delivery and make sure government guidelines are followed"
- Revision of task 8: "Liaise and negotiate with medical and non-medical staff internally"

Hospital nurse

- Add "inhalation" to task 5
- Add "assist with daily care" to task 8
- To be added as a new task: "Participate in professional development activities"
- To be added as a new task: "Attend meetings"
- To be added as a new task: "Contribute actively to the common goals of the ward; coordinate tasks in a multidisciplinary team"

Medical laboratory technician

- To be added as a new task: "Work according to standardised protocols"
- To be added as a new task: "Participate in experimental research trials"

Midwifery professional

- Add to task 6: "...support and ease the transition into parenthood"
- To be added as a new task: "Contribute to scientific research"
- Task 3 (prescribe medicine) is controversial as midwives are not allowed to do so in every country (e.g. Germany)

Nursing aid

- Remove task 3 from the list
- To be added as a new task: "Escort patients between hospital departments"
- To be added as a new task: "Talk with patients to make them feel less lonely or anxious"
- Add to task 6: "...help patients to the toilet, give out and collect bedpans"
- Add to task 8: "...distribute and serve food"
- Add to task 11: "...make sure supplies and equipment are in place"

Optician

- To be added as a new task: "Handle administration of the shop (book keeping, staff management...etc)"
- To be added as a new task: "Calculate distances and angles in relation to types of lens and client measurements"
- Task 3 should be rephrased: "Present the frames to clients and help them to choose the right pair"
- Task 5 should be rephrased: "Advise and sell clients frames, lenses and other optical products"
- Join tasks 4 and 6 e.g. into "Fit spectacles, contact lenses and other optical products"

- Task 10 should be rephrased: "Adjust and maintain optical devices and measuring instruments like lenses, microscopes, binoculars, hygrometers, thermometers"

Personal carer in private homes

- Task 4 "Administer medication..." there needs to be a specification added that the carer can perform this task only with a special agreement or can only monitor whether medication has been given to the person with a disability by other medical staff
- Task 11: Omit "health"
- France suggests to remove task 12
- To be added as a new task: "Get to know individual clients and be aware of their interests and needs"
- It is suggested to use the term "client" instead of the "patient"
- Task 1: Omit the "at home"
- Join task 3 and 4 into one single task: "Monitor client's health and assist in taking medication"

Personal carer in an institution for the elderly

- To be added as a new task: "Get to know individual clients and be aware of their interests and needs"
- It is suggested to use the term "elderly person" instead of the "patient"
- Task 4 "Administer medication..." there needs to be a specification added that the carer can perform this task only with a special agreement or can only monitor whether medication has been given to the person with a disability by other medical staff
- Task 1: omit 'in a day care institution or a residential institution'
- Join task 3 and 4 into one single task: "Monitor client's health and assist in taking medication"
- Task 6: Add "help families adjust to new caring responsibilities", omit "bedside"
- Task 11: omit "health"

Personal carer in an institution for the handicapped

- To be added as a new task: "Get to know individual clients and be aware of their interests and needs"
- It is suggested to use the term "person with a disability" instead of the "patient"
- Task 4 "Administer medication..." there needs to be a specification added that the carer can perform this task only with a special agreement or can only monitor whether medication has been given to the person with a disability by other medical staff
- Task 1: omit "in care or residential institutions"
- Join task 3 and 4 into one single task: "Monitor client's health and assist in taking medication"
- Task 6: Add "...help families adjust to new caring responsibilities", omit "bedside"

- Task 11: omit "health"

Physician assistant

- Rephrase task 3: "Answer phones and patient questions in the context of providing care to the patient, not in an administrative capacity"
- Task 10 currently not applicable in the UK
- Add to task 5: "...take a complete and/or focused medical history as appropriate to the patient and their situation"
- Add to task 1: "...perform focused or complete physical examination"
- Rephrase task 2: "Order and interpret diagnostic tests"
- Add to task 4: "...develop Differential diagnosis"
- Add to task 7: "...develop treatment and management plans appropriate to patient's problem"
- To be added as a new task: "Arrange that medication and materials are present and ready for use"
- To be added as a new task: "Perform administration of the surgery"

Scanning equipment operator

- To be added as a new task: "Verify identity of patient and make sure necessary preparations have been made for the examination"
- Add to task 4: Operate x-ray/scanning equipment
- To be added as a new task: "Apply interventional and minimal-invasive radiological methods, e.g. vessel puncture re-canalising methods (PTA, Lyse, fragmentation, stent, embolisation)"
- To be added as a new task: "Conduct respectively initiate measurements and examination; apply ionising radiation"
- To be added as a new task: "Perform on-call duty in the hospital"
- France points out that tasks 6 and 7 are forbidden.

Surgeon

- To be added as a new task: "Train junior doctors and carry out research"
- Task 6: The word "residents" should be removed
- Add to Task 1: "make a diagnosis" and "confer with multidisciplinary team about patients"
- Add to task 10: "...establish documentation for external quality control and participate in internal quality management"
- To be added as a new task: "Take care of his professional development and up-to-date knowledge"
- To be added as a new task: "Monitor patients after an operation, e.g. make ward rounds"
- To be added as a new task: "Arrange for any necessary x-rays or other tests and interpret results"

5. Required national educational levels

5.1 Overview

As far as the required national educational levels are concerned the expert enquiry data shows the following:

1. There is a clear occupational ladder with General Practitioner and Surgeon being the highest qualified.
2. There are cross-country differences for particular occupations.
3. There are within country differences (Non-agreement among respondents in one country about the required educational level and also different demands to the same occupation within countries)

The below mentioned points depict and try to answer the unusual spread of cross/within a country educational level entry requirements differences.

- The ambulance attendant has a very low ISCED score according to Dutch experts (ISCED 0) compared to the experts from the other countries.

The lowest ISCED level could be explained that in some countries the occupation embraces only the driving task whereas in some other countries they also have a medical function as well.

- The carer for the disabled has an ISCED score 3 – 4 according to the Belgian experts. This is much higher than reported for the other countries (ISCED 1-2)

This is very likely connected to the organisation of the health care system in the particular countries. In those countries where there are particular hospitals or organisations for disabled persons there is also description of the occupation at a higher qualification level.

- The midwifery professional has an ISCED score 1 according to the German experts. Experts from the other countries say that this occupation has a mean ISCED of 4 – 5.

The answer from Germany is probably wrong; it must be a misunderstanding of the question.

- The nursing aid has an ISCED score 1 for Poland and UK, while the score for the Netherlands is higher. Do you think this resembles the reality?

Figures for the Netherlands are higher because when it exists it won't be unqualified whereas in Poland and UK it is very likely unqualified work.

- The personal carer in private homes has an ISCED score 0, 1, or 3 according to Dutch experts. Do you think this is accurate? Belgian experts say this occupation has an ISCED score 3 or 5, which is higher than reported in other countries.

When the personal carer is exercising cleaning or household work or doing shopping not related to the physical of the patients involved, the work is less qualified and the ISCED score is therefore lower.

- The physician assistant has an ISCED score 0 or 3 according to Dutch experts.

0 ISCED score is obviously wrong.

- The scanning equipment operator scores for the Netherlands much lower on the ISCED scale than the other countries do. Is this correct?

There might be a misunderstanding of the occupation since in the Netherlands there is also the occupation "Radiologisch laborant" which has got a lower ISCED level than the "Radioloog".

5.2 Table with the required educational level expert responses taken from the expert enquiry

The table below provides the ISCED-requirements for each of the occupations under analysis in the various countries, the table has been prepared by our colleagues, Joyce Jacobs and kea Tijdens.

		Country							
Occupation	ISCED	BE	DE	ES	FR	NL	PL	UK	Total
Ambulance attendant	0					1			1
	1							1	1
	2				1				1
	3		2					1	3
Ambulance attendant Total			2		1	1		2	6

		Country							
Occupation	ISCED	BE	DE	ES	FR	NL	PL	UK	Total
Carer for the disabled	1			2		1		1	4
	2				1				1
	3	1							1

	4	1							1
Carer for the disabled									
Total		2	2	1	1			1	7

		Country							
Occupation	ISCED	BE	DE	ES	FR	NL	PL	UK	Total
Carer for the elderly	0					1			1
	1							1	1
	2				1	1			2
	3	1	1		1	1	1		5
	4	1							1
5		1							1
Carer for the elderly Total		2	2		2	3	1	1	11

		Country							
Occupation	ISCED	BE	DE	ES	FR	NL	PL	UK	Total
Charge nurse	3		1				1		2
	4				2		1	1	4
	5					3	1		4
Charge nurse Total			1		2	3	3	1	10

		Country							
Occupation	ISCED	BE	DE	ES	FR	NL	PL	UK	Total
Community or social service worker	4						2		2
	5	3		1		4		1	9
Community or social service worker Total		3		1		4	2	1	11

		Country							
Occupation	ISCED	BE	DE	ES	FR	NL	PL	UK	Total
Dental prosthesis technician	3	1	1		1	2		1	6
Dental prosthesis technician Total		1	1		1	2		1	6

		Country							
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Occupation	ISCED	BE	DE	ES	FR	NL	PL	UK	Total
Dietician	1					1			1
	3	1				1			2
	5				2	7		1	10
Dietician Total		1			2	9		1	13

		Country								
Occupation	ISCED	BE	DE	ES	FR	NL	PL	UK	Total	
General Practitioner GP	5		2			4		1	7	
	6				2	2			4	
General Practitioner GP Total			2		2	6		1	11	

		Country								
Occupation	ISCED	BE	DE	ES	FR	NL	PL	UK	Total	
Health service manager	3				1			1	2	
	4				4		1		5	
	5	1		1		1		1	4	
	6				1				1	
Health service manager Total		1		1	6	1	1	2	12	

		Country								
Occupation	ISCED	BE	DE	ES	FR	NL	PL	UK	Total	
Hospital nurse	1							1	1	
	2					1			1	
	3		3			2	3		8	
	4	1			2		1	1	5	
	5				3	2			5	
Hospital nurse Total		1	3		5	5	4	2	20	

		Country								
Occupation	ISCED	BE	DE	ES	FR	NL	PL	UK	Total	
Medical laboratory technician	0					1			1	
	2		1						1	
	3		1			4		1	6	
	5	1			2				3	

Medical laboratory technician										
Total		1	2		2	5		1		11

		Country								
Occupation	ISCED	BE	DE	ES	FR	NL	PL	UK	Total	
Midwifery professional	1		1						1	
	3					1			1	
	4				1				1	
	5	1				3			4	
	6				2				2	
Midwifery professional Total		1	1		3	4			9	

		Country								
Occupation	ISCED	BE	DE	ES	FR	NL	PL	UK	Total	
Nursing aid	1						1	1	2	
	2					1			1	
	3					2			2	
	5					2			2	
Nursing aid Total						5	1	1	7	

		Country								
Occupation	ISCED	BE	DE	ES	FR	NL	PL	UK	Total	
Optician	3		1			3		1	5	
	5				2				2	
Optician Total			1		2	3		1	7	

		Country								
Occupation	ISCED	BE	DE	ES	FR	NL	PL	UK	Total	
Personal carer in an institution for the elderly	3	1							1	
	5		1						1	
Personal carer in an institution for the elderly Total		1	1						2	

		Country								
Occupation	ISCED	BE	DE	ES	FR	NL	PL	UK	Total	

Personal carer in an institution for the handicapped	3	1	1	1					3
Personal carer in an institution for the handicapped Total		1		1		1			3

		Country							
Occupation	ISCED	BE	DE	ES	FR	NL	PL	UK	Total
Personal carer in private homes	0					1			1
	1					1		1	2
	2				2				2
	3	1	1			2	1		5
	5	1							1
Personal carer in private homes Total		2	1		2	4	1	1	11

		Country							
Occupation	ISCED	BE	DE	ES	FR	NL	PL	UK	Total
Personal carer instit elderly	1							1	1
	3	2	2		2	2			8
Personal carer instit elderly Total		2	2		2	2		1	9

		Country							
Occupation	ISCED	BE	DE	ES	FR	NL	PL	UK	Total
Personal carer instit handicapped	0					1			1
	1							1	1
	2				1				1
	3				2	2			4
Personal carer instit handicapped Total					3	3		1	7

		Country							
Occupation	ISCED	BE	DE	ES	FR	NL	PL	UK	Total
Physician assistant	0					1			1
	3		1			2			3
Physician assistant Total			1			3			4

		Country							
Occupation	ISCED	BE	DE	ES	FR	NL	PL	UK	Total
Scanning equipment operator	0					1			1
	2				1				1
	3					2			2
	4				1				1
	5	1	2		1			1	5
	6	1							1
Scanning equipment operator Total		2	2		3	3		1	11

		Country							
Occupation	ISCED	BE	DE	ES	FR	NL	PL	UK	Total
Surgeon	0					1			1
	5		1			3		1	5
	6				2	1			3
Surgeon Total			1		2	5		1	9

Care & Welfare Total		21	23	4	41	72	14	21	196
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6. Problematic occupations

The below comments to the respective occupations were made by gathering information from the open boxes of the expert occupational enquiry.

Ambulance attendant

The experts/partners, especially from the UK and Germany, point out that one should be careful with selecting the tasks and defining this occupation since there is the ambulance attendant who drives the car only (and in case of France needs a special driver's license issued by the "Prefecture") and then the paramedic who is responsible for the medical care. Experts/partners from the UK make us aware that there is an ongoing major work force review where a new emergency care assistant post will be introduced. Experts/partners from Poland mention that the standards for this occupation change quite frequently (on a yearly basis). Having mentioned the above once should clearly follow up the developments in regards to the change of standards and emerging of new sub-occupations of this occupation.

All carers/personal carers

According to the experts/partners, in case of the carers and personal carers at different locations, there is a substantial task overlap.

German experts/partners point out that the occupation of carer for the disabled (Behindertenpflger/in) does not exist there. The tasks are performed either by the carer for the elderly or other care personnel in an institution. The occupation of "Heilerziehungspflegerin" is mentioned who looks after the mentally handicapped clients.

German and UK experts/partners agree that there is a task overlap and in their cases the location where the occupation is performed does not play any importance. They suggest a unified occupation of the carer where the duties would vary from care assistant to senior care assistant where also some managerial skills would be involved.

What also greatly affects these occupations is the institutional setting in the respective country. The Netherlands is in this case the outlier, because there are big caring institutions (usually) subsidized by the state, whereas in other countries it might be a more privatized sector with several smaller institutions.

Experts/partners from most of the participating countries point out that the carers are not allowed to give medication to clients/patients, they only check whether the medicine has been given to the clients/patients by other qualified health care personnel. French experts/partners mention that in some cases (with special permission) also the carers might give medicine to clients/patients.

Charge nurse

Experts/partners stress the clear shift of this occupation towards the managerial level, especially in regards to personnel/department management and budgeting.

Community or social service worker

UK experts/partners point out that there is a conflict in the occupational title; "Community worker" is an associate professional occupation in the UK, whereas "Social worker" is a professional one; therefore they also suggest using the title "Social worker". Since the response rate for this occupation is not numerous it would be of importance whether this is not the case also in the other participating countries.

Dental hygienist

French experts/partners point out that this occupation does not exist in France. The Dutch experts/partners suggest that the "Wet Big" should be considered since in the Netherlands the dental hygienist got more competencies (e.g. is now allowed to treat caries).

Dietician

German experts/partners mention that tasks of a dietician are changing based on brief assignments in hospitals and health resorts to a different area. Problematic is that for a self-employment in this occupation no recognition as healthcare professional is foreseen as for example in the case of physiotherapist or speech therapists. This comment urges to further research how the decision to be self-employed in this occupation affects the position of the person in the health care sector.

General practitioner GP

The UK experts/partners stress the increased management of patients who were previously managed by hospitals (e.g. patients with chronic diseases)

The Dutch experts/partners mention that not all tasks from the task list are part of the occupation and one should consult the competency profile following this link: http://www2.eur.nl/fqg/hag/huisartsopleiding/1.2_prc.20Competentieprofiel_prc.20van_prc.20de_prc.20Huisarts.pdf and stress should be clearly given on continuity of care. However the Netherlands is an outlier with more competencies compared to the other countries.

German experts also stress that in their country the general practitioner is the standard contact point for any diseases and that they refer patients to specialist for particular diseases. They consider the task list clumsy and insufficient. However in the case of the general practitioner it will be difficult to put together 10 tasks which would fit the specifics of all participating countries considering the major differences in regards to the occupation among them.

Health service manager

The Dutch experts/partners mention that there are various managerial functions within health care (e.g. medical manager hospital, psychiatric hospital etc). Tasks vary depending on the specific function. It should be investigated further and perhaps create a competencies profile rather than a task list with highly specific task which would not fit the general occupation.

Hospital nurse

All experts/partners agree that this occupation is in need of an unified European educational level. At the moment the competencies differ among the countries resulting in many comments about the tasks. Overall the duties of a hospital nurse are almost impossible to merge into only 10 tasks.

Dutch experts/partners ask for competency profile check and one should put the focus more on interaction with other medical professionals.

German experts/partners mention that the occupation is described too unbalanced. Missing in particular are tasks of care, prophylaxis, aftercare subsequent to operations, observations of patients and required mental commitment.

The occupation of hospital nurse needs clearly further research.

Medical laboratory technician

Most experts/partners point out that there will be a change in qualification requirements; which will rise.

Midwife

Since the style of care of the pregnant women and giving birth management differs across the countries, so does the occupation of the midwife as well. The Netherlands is a clear outlier in this case where the profession training will soon go up to the master level and midwives have a greater autonomy than in other countries.

Nursing aid

German experts/partners suggest increased theoretical instructions and possibly an extension of the duration of training.

Optician

The UK experts/partners point out that the occupational title "Optician" is too vague; the correct one here is "Dispensing optician". They do not examine eyes or prescribe lenses (which Ophthalmic opticians do). There should be clear difference made between these two occupations.

Physician assistant

The UK experts/partners make us aware that there may be minimal modification to the competence and curriculum framework or by the Higher Education Institutions currently running courses; for example, including pediatrics or surgery training.

German experts/partners point out that in the tasks list there are various tasks described which in Germany may exclusively be performed by doctors. Unfortunately they do not mention concrete examples.

Scanning equipment operator

German experts/partners suggest that the task lists captures the tasks of scanning equipment operator insufficiently. The entire job description is described far too simple.

The Dutch experts suggest that the task list should be updated according to: www.collegeziekenhuisopleidingen.nl. On the top they stress the high degree of autonomy within that profession in the Netherlands. Communication in mono or multi-disciplinary teams is considered important for the occupation.

Both the UK and the Netherlands mention that they have an occupation with fewer competencies attached to this occupation. In the case of the UK it is "Radiography assistant" and in the case of the Netherlands it is "Radiologisch laborant"

Surgeon

Experts/partners point out that surgeon is a very general term and mostly surgeon specialize further, so the task list depends then on the specialization. In case one wants to keep the general profile than the occupational title should be changed to "General surgeon".

7. Proposed revisions for the EurOccupations extended list of occupations

7.1 Changes in occupational structure in the extended and key list

Ambulance attendant

- At present in the UK, there are Ambulance Care Assistants who perform only pre-planned patient transportation and Ambulance Technicians who are also in emergency transportation. Please note that there is an ongoing major work force review, where a new Emergency Care Assistant post is introduced.

Scanning equipment operator

- In the UK there is also the occupation "Radiography assistant" - some tasks may be performed by the assistants rather than the radiographers themselves. Radiographers only assist doctors in tasks 6 and 7.
- In the Netherlands there is a similar situation with "Radioloog" who has got higher level competencies than "Radiologisch laborant".

7.2 Adjustments in occupational titles in the extended and key list per country

Midwifery professional

- UK adjust occupational title to "Midwife"

Carer for the disabled

- UK adjust occupational title to "Carer"
- DE adjust occupational title to "Heilerziehungspfleger/in"

Carer for the elderly

- UK adjust occupational title to "Carer"
- DE adjust occupational title to "Alterpfleger(in)"

Personal carer in an institution for the elderly

- UK adjust occupational title to "Carer"
- DE adjust occupational title to "Alterpfleger(in)"

Personal carer in an institution for the handicapped

- UK adjust occupational title to "Carer"
- DE adjust occupational title to "Heilerziehungspfleger/in"

Personal carer in private homes

- UK adjust occupational title to "Carer"
- DE adjust occupational title to "Alterpfleger(in)"

Community or social service worker

- UK adjust occupational title to "Social worker"

Medical laboratory technician

- DE adjust occupational title to "Medizinisch-technische/r Assistant/in"

Physician assistant

- DE adjust occupational title to "Medizinische/r Fachangestellte/r"

General practitioner GP

- UK adjust the occupational title to "General practitioner"

Nursing aid

- FR change occupational title to "Aide soignante"
- UK change occupational title to "Nursing assistant"

Optician

- DE adjust occupational title to "Augenoptiker/in"
- UK adjust occupational title to "Dispensing optician"

Ambulance attendant

- UK adjust occupational title to "Ambulance technician"

Surgeon

- adjust occupational title to "General surgeon"

Scanning equipment operator

- UK adjust occupational title to "Diagnostic radiographer"

- **Conclusions and discussion**

This paper shows the results of our endeavour to evaluate 22 occupations in the care and welfare cluster with expert data that have been gathered with help of an internet inquiry. We distinguished between four sub-categories that have been dealt with in this report (section one).

Next to this report we have composed a data-file with all tables concerning the full expert responses per participating country for each of the occupation. In annex a we present a table with frequency tables of the responses from the second part of the expert care and welfare occupational enquiry.

The results of this study are –admittedly– somewhat mixed given the relative low response rate, especially from particular countries in the research project. This is not the place to speculate about the reasons for the moderate reply, in spite of our substantial efforts (as described in section two) to present the research project in seminars and conferences, the use of flyers and brochures, and continuous attempts to directly write and contact experts to invite them to full participation. Expert knowledge is beyond doubt organized in different ways in each of the participating countries, which we must understand from the perspective of the substantial country differences in the role and position of various associational networks and industrial relations patterns. Further study will reveal the importance of IT-access and knowledge dissemination in this respect.

When comparing our results with the task list which we have composed on the basis of our web-inquiry on occupational databases in various parts of the Western world (including the Australia, Canada and the USA) (see Brngalova and Van der Meer, 2007), we have come across a number of interesting observations. In this respect our instrument has been helpful. We arrive at four final conclusions:

First, ‘care’ appears to be something substantially different than ‘welfare’. Here we must conclude that the welfare occupations have been somewhat understudied in this project. Therefore, further study of welfare occupations is necessary given the continuous changes and reforms in welfare in about all the participating countries, which leads to a ongoing redefinition of tasks and roles for social workers and related professionals and street level bureaucrats.

Second, the care sector is of without doubt of utmost importance in all countries. Almost everywhere labour markets in health care are growing in size due to the ageing of societies, blurring boundaries between formal and informal care networks, and the introduction of new technological innovations. In most countries health care is deeply influenced by changing governance practices, processes of liberalization

and marketization and substantial budget retrenchments given the need to restrict public expenditure. In some countries large public and private sectors co-exist, but the impact of that on the occupations under analysis appeared difficult to establish.

Third, education in care is legally required, formally laid down in governmental jurisdiction, and registered for particular staff members. The qualification levels are especially elevated for hospital and paramedical staff. In the caring occupations more less qualified and unskilled labour exists in the entry portals to the care sector, but not in all countries (section 5).

Fourth, the internet inquiry has been useful in gathering feedback on the task list, especially with respect to the importance and frequencies of particular tasks and the current trends and developments at the level of the occupation. These comments allow us to adjust the task list and update the names and labels of particular occupations in our occupational structure (section 6 and 7).



Appendix A Additional analyses EurOccupations data 'Care and Welfare'

A.1 Table with frequency tables of the responses from the second part of the expert care and welfare occupational enquiry on the level of area of work "care, children and welfare"

Frequency Percent Col Pct	Number of supervised people by COUNTRY								
	L66bis	COUNTRY							Total
		UK	Belgium	Spain	France	Germany	Netherlands	Poland	
None	12	11	2	7	4	17	5	58	
	9.45 80.00	8.66 78.57	1.57 9.09	5.51 70.00	3.15 22.22	13.39 65.38	3.94 22.73	45.67	
1-10	2	3	20	2	14	9	10	60	
	1.57 13.33	2.36 21.43	15.75 90.91	1.57 20.00	11.02 77.78	7.09 34.62	7.87 45.45	47.24	
11-100	1	0	0	1	0	0	6	8	
	0.79 6.67	0.00 0.00	0.00 0.00	0.79 10.00	0.00 0.00	0.00 0.00	4.72 27.27	6.30	
>100	0	0	0	0	0	0	1	1	
	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.79 4.55	0.79	
Total	15	14	22	10	18	26	22	127	
	11.81	11.02	17.32	7.87	14.17	20.47	17.32	100.00	

Frequency Percent Col Pct	Occurrence of coaching or training of co-workers by COUNTRY								
	L67bis	COUNTRY							Total
		UK	Belgium	Spain	France	Germany	Netherlands	Poland	
Regularly	4	3	2	4	10	19	8	50	
	2.94 26.67	2.21 21.43	1.47 8.33	2.94 50.00	7.35 55.56	13.97 63.33	5.88 29.63	36.76	
Occasionally	1	10	19	2	5	9	15	61	
	0.74 6.67	7.35 71.43	13.97 79.17	1.47 25.00	3.68 27.78	6.62 30.00	11.03 55.56	44.85	
Never	0	1	2	2	0	1	0	6	
	0.00 0.00	0.74 7.14	1.47 8.33	1.47 25.00	0.00 0.00	0.74 3.33	0.00 0.00	4.41	
It varies	10	0	1	0	3	1	4	19	
	7.35	0.00	0.74	0.00	2.21	0.74	2.94	13.97	

	66.67	0.00	4.17	0.00	16.67	3.33	14.81	
Total	15	14	24	8	18	30	27	136
	11.03	10.29	17.65	5.88	13.24	22.06	19.85	100.00

Frequency Percent Col Pct	Physical effort by COUNTRY							
	L68bis	COUNTRY						Total
		UK	Belgium	Spain	France	Germany	Netherlands	
Not at all	3	4	4	3	5	7	3	29
	2.04	2.72	2.72	2.04	3.40	4.76	2.04	19.73
	20.00	28.57	16.67	20.00	29.41	22.58	9.68	
Some	10	4	12	7	9	13	6	61
	6.80	2.72	8.16	4.76	6.12	8.84	4.08	41.50
	66.67	28.57	50.00	46.67	52.94	41.94	19.35	
Much	2	6	8	5	3	11	22	57
	1.36	4.08	5.44	3.40	2.04	7.48	14.97	38.78
	13.33	42.86	33.33	33.33	17.65	35.48	70.97	
Total	15	14	24	15	17	31	31	147
	10.20	9.52	16.33	10.20	11.56	21.09	21.09	100.00

Frequency Percent Col Pct	Mental effort by COUNTRY							
	L69bis	COUNTRY						Total
		UK	Belgium	Spain	France	Germany	Netherlands	
Not at all	0	1	0	0	1	0	0	2
	0.00	0.70	0.00	0.00	0.70	0.00	0.00	1.40
	0.00	7.14	0.00	0.00	5.56	0.00	0.00	
Some	8	2	21	6	1	9	2	49
	5.59	1.40	14.69	4.20	0.70	6.29	1.40	34.27
	53.33	14.29	87.50	40.00	5.56	34.62	6.45	
Much	7	11	3	9	16	17	29	92
	4.90	7.69	2.10	6.29	11.19	11.89	20.28	64.34
	46.67	78.57	12.50	60.00	88.89	65.38	93.55	
Total	15	14	24	15	18	26	31	143
	10.49	9.79	16.78	10.49	12.59	18.18	21.68	100.00

Frequency	Involvement of organising by COUNTRY							
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Percent Col Pct	L70bis	COUNTRY							Total
		UK	Belgium	Spain	France	Germany	Netherlands	Poland	
	Yes (Staff)	0	0	0	0	3	5	1	9
		0.00	0.00	0.00	0.00	2.31	3.85	0.77	6.92
		0.00	0.00	0.00	0.00	17.65	20.00	3.70	
	Yes (Material)	3	3	9	3	3	9	15	45
		2.31	2.31	6.92	2.31	2.31	6.92	11.54	34.62
		20.00	21.43	39.13	33.33	17.65	36.00	55.56	
	Yes (Staff+Material)	4	11	0	3	10	9	11	48
		3.08	8.46	0.00	2.31	7.69	6.92	8.46	36.92
		26.67	78.57	0.00	33.33	58.82	36.00	40.74	
	No	8	0	14	3	1	2	0	28
		6.15	0.00	10.77	2.31	0.77	1.54	0.00	21.54
		53.33	0.00	60.87	33.33	5.88	8.00	0.00	
	Total	15	14	23	9	17	25	27	130
		11.54	10.77	17.69	6.92	13.08	19.23	20.77	100.00

Frequency Percent Col Pct	Use of computers by COUNTRY								
	L71bis	COUNTRY							Total
		UK	Belgium	Spain	France	Germany	Netherlands	Poland	
	Not at all	7	3	9	8	2	5	5	39
		5.00	2.14	6.43	5.71	1.43	3.57	3.57	27.86
		50.00	21.43	37.50	53.33	11.11	18.52	17.86	
	Routine	6	11	15	7	14	17	18	88
		4.29	7.86	10.71	5.00	10.00	12.14	12.86	62.86
		42.86	78.57	62.50	46.67	77.78	62.96	64.29	
	Complex	1	0	0	0	2	5	5	13
		0.71	0.00	0.00	0.00	1.43	3.57	3.57	9.29
		7.14	0.00	0.00	0.00	11.11	18.52	17.86	
	Total	14	14	24	15	18	27	28	140
		10.00	10.00	17.14	10.71	12.86	19.29	20.00	100.00

Frequency Percent Col Pct	Readiness for the occupation by COUNTRY								
	L82bis	COUNTRY							Total
		UK	Belgium	Spain	France	Germany	Netherlands	Poland	
	Immediately	8	12	21	14	12	23	14	104

	5.80 61.54	8.70 85.71	15.22 87.50	10.14 93.33	8.70 70.59	16.67 88.46	10.14 48.28	75.36
Via in-company training	0 0.00 0.00	1 0.72 7.14	1 0.72 4.17	1 0.72 6.67	1 0.72 5.88	0 0.00 0.00	0 0.00 0.00	4 2.90
Via apprenticeship	1 0.72 7.69	1 0.72 7.14	0 0.00 0.00	0 0.00 0.00	1 0.72 5.88	1 0.72 3.85	13 9.42 44.83	17 12.32
Other	4 2.90 30.77	0 0.00 0.00	2 1.45 8.33	0 0.00 0.00	3 2.17 17.65	2 1.45 7.69	2 1.45 6.90	13 9.42
Total	13 9.42	14 10.14	24 17.39	15 10.87	17 12.32	26 18.84	29 21.01	138 100.00

Frequency Percent Col Pct	Time needed to become competent in the occupation by COUNTRY							
	L84bis	COUNTRY						Total
		UK	Belgium	Spain	France	Germany	Netherlands	
Up to 1 week	0 0.00 0.00	2 1.65 15.38	0 0.00 0.00	0 0.00 0.00	1 0.83 5.88	7 5.79 33.33	0 0.00 0.00	10 8.26
1 week-1 month	5 4.13 38.46	1 0.83 7.69	8 6.61 34.78	1 0.83 25.00	0 0.00 0.00	3 2.48 14.29	4 3.31 13.33	22 18.18
1-3 months	0 0.00 0.00	4 3.31 30.77	11 9.09 47.83	2 1.65 50.00	1 0.83 5.88	1 0.83 4.76	3 2.48 10.00	22 18.18
3-6 months	1 0.83 7.69	2 1.65 15.38	2 1.65 8.70	0 0.00 0.00	1 0.83 5.88	1 0.83 4.76	6 4.96 20.00	13 10.74
6 months - 1 year	1 0.83 7.69	3 2.48 23.08	2 1.65 8.70	0 0.00 0.00	2 1.65 11.76	5 4.13 23.81	10 8.26 33.33	23 19.01
1-5 years	5 4.13 38.46	1 0.83 7.69	0 0.00 0.00	1 0.83 25.00	11 9.09 64.71	2 1.65 9.52	4 3.31 13.33	24 19.83
>5 years	1 0.83 7.69	0 0.00 0.00	0 0.00 0.00	0 0.00 0.00	1 0.83 5.88	2 1.65 9.52	3 2.48 10.00	7 5.79
Total	13 10.74	13 10.74	23 19.01	4 3.31	17 14.05	21 17.36	30 24.79	121 100.00

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Frequency	Level of knowledge of the occupation by COUNTRY								
	L104bis	COUNTRY						Total	
		UK	Belgium	Spain	France	Germany	Netherlands		Poland
Percent Col Pct	Basic general	0	0	1	0	0	0	0	1
		0.00	0.00	1.96	0.00	0.00	0.00	0.00	1.96
		0.00	0.00	11.11	0.00	0.00	0.00	0.00	0.00
	Basic factual	7	1	1	0	0	1	0	10
		13.73	1.96	1.96	0.00	0.00	1.96	0.00	19.61
		63.64	8.33	11.11	0.00	0.00	10.00	0.00	0.00
	Knowledge of facts...	0	0	6	1	0	5	0	12
		0.00	0.00	11.76	1.96	0.00	9.80	0.00	23.53
		0.00	0.00	66.67	33.33	0.00	50.00	0.00	0.00
	Theoretical knowledge in broad context	1	1	1	1	1	1	1	7
		1.96	1.96	1.96	1.96	1.96	1.96	1.96	13.73
		9.09	8.33	11.11	33.33	33.33	10.00	33.33	0.00
	Comprehensive knowledge	2	5	0	1	0	1	0	9
		3.92	9.80	0.00	1.96	0.00	1.96	0.00	17.65
		18.18	41.67	0.00	33.33	0.00	10.00	0.00	0.00
	Advanced knowledge	0	4	0	0	2	0	1	7
		0.00	7.84	0.00	0.00	3.92	0.00	1.96	13.73
		0.00	33.33	0.00	0.00	66.67	0.00	33.33	0.00
	Highly specialised knowledge	1	1	0	0	0	2	0	4
		1.96	1.96	0.00	0.00	0.00	3.92	0.00	7.84
		9.09	8.33	0.00	0.00	0.00	20.00	0.00	0.00
	Knowledge at the highest level	0	0	0	0	0	0	1	1
		0.00	0.00	0.00	0.00	0.00	0.00	1.96	1.96
		0.00	0.00	0.00	0.00	0.00	0.00	33.33	0.00
	Total	11	12	9	3	3	10	3	51
		21.57	23.53	17.65	5.88	5.88	19.61	5.88	100.00

Frequency	Skill level of the occupation by COUNTRY								
	L105bis	COUNTRY						Total	
		UK	Belgium	Spain	France	Germany	Netherlands		Poland
Percent Col Pct	Basic skills	5	0	0	0	0	0	0	5
		10.20	0.00	0.00	0.00	0.00	0.00	0.00	10.20
		45.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Basic cognitive&practical skills	2 4.08 18.18	1 2.04 9.09	3 6.12 33.33	2 4.08 66.67	0 0.00 0.00	4 8.16 44.44	0 0.00 0.00	12 24.49
Skills to apply basic methods	0 0.00 0.00	5 10.20 45.45	4 8.16 44.44	0 0.00 0.00	1 2.04 33.33	2 4.08 22.22	2 4.08 66.67	14 28.57
Skills to generate solutions	1 2.04 9.09	0 0.00 0.00	1 2.04 11.11	1 2.04 33.33	0 0.00 0.00	1 2.04 11.11	0 0.00 0.00	4 8.16
Skills to develop creative solutions	2 4.08 18.18	1 2.04 9.09	0 0.00 0.00	0 0.00 0.00	0 0.00 0.00	0 0.00 0.00	1 2.04 33.33	4 8.16
Advanced skills	0 0.00 0.00	4 8.16 36.36	0 0.00 0.00	0 0.00 0.00	2 4.08 66.67	2 4.08 22.22	0 0.00 0.00	8 16.33
Specialised skills	1 2.04 9.09	0 0.00 0.00	1 2.04 11.11	0 0.00 0.00	0 0.00 0.00	0 0.00 0.00	0 0.00 0.00	2 4.08
Total	11 22.45	11 22.45	9 18.37	3 6.12	3 6.12	9 18.37	3 6.12	49 100.00

Frequency Percent Col Pct	Level of responsibility and autonomy of the occupation by COUNTRY							
	L106bis	COUNTRY						Total
		UK	Belgium	Spain	France	Germany	Netherlands	
Under supervision with autonomy	6 19.35 66.67	0 0.00 0.00	1 3.23 11.11	1 3.23 50.00	0 0.00 0.00	1 3.23 20.00	0 0.00 0.00	9 29.03
Taking responsibility for complex tasks	3 9.68 33.33	3 9.68 100.00	8 25.81 88.89	1 3.23 50.00	1 3.23 100.00	4 12.90 80.00	2 6.45 100.00	22 70.97
Total	9 29.03	3 9.68	9 29.03	2 6.45	1 3.23	5 16.13	2 6.45	31 100.00

Frequency Percent Col Pct	Occupation performed in small organisations and firms by COUNTRY							
	L112_1	COUNTRY						Total
		UK	Belgium	Spain	France	Germany	Netherlands	
Yes	11	10	1	14	11	36	46	129

	5.98 73.33	5.43 58.82	0.54 4.35	7.61 87.50	5.98 50.00	19.57 85.71	25.00 93.88	70.11
No	4 2.17 26.67	7 3.80 41.18	22 11.96 95.65	2 1.09 12.50	11 5.98 50.00	6 3.26 14.29	3 1.63 6.12	55 29.89
Total	15 8.15	17 9.24	23 12.50	16 8.70	22 11.96	42 22.83	49 26.63	184 100.00

Frequency Percent Col Pct	Occupation performed in medium-sized organisations and firms by COUNTRY							
	L112_2	COUNTRY						Total
		UK	Belgium	Spain	France	Germany	Netherlands	
Yes	4 2.17 26.67	9 4.89 52.94	11 5.98 47.83	11 5.98 68.75	18 9.78 81.82	29 15.76 69.05	30 16.30 61.22	112 60.87
No	11 5.98 73.33	8 4.35 47.06	12 6.52 52.17	5 2.72 31.25	4 2.17 18.18	13 7.07 30.95	19 10.33 38.78	72 39.13
Total	15 8.15	17 9.24	23 12.50	16 8.70	22 11.96	42 22.83	49 26.63	184 100.00

Frequency Percent Col Pct	Occupation performed in large organisations and firms by COUNTRY							
	L112_3	COUNTRY						Total
		UK	Belgium	Spain	France	Germany	Netherlands	
Yes	4 2.17 26.67	15 8.15 88.24	19 10.33 82.61	14 7.61 87.50	19 10.33 86.36	33 17.93 78.57	43 23.37 87.76	147 79.89
No	11 5.98 73.33	2 1.09 11.76	4 2.17 17.39	2 1.09 12.50	3 1.63 13.64	9 4.89 21.43	6 3.26 12.24	37 20.11
Total	15 8.15	17 9.24	23 12.50	16 8.70	22 11.96	42 22.83	49 26.63	184 100.00

Frequency Percent Col Pct	No knowledge of the size of organisations/firms where the occupation is performed by COUNTRY							
	L112_4	COUNTRY						Total
		UK	Belgium	Spain	France	Germany	Netherlands	

Yes	14	17	23	10	20	38	45	167
	7.61	9.24	12.50	5.43	10.87	20.65	24.46	90.76
	93.33	100.00	100.00	62.50	90.91	90.48	91.84	
No	1	0	0	6	2	4	4	17
	0.54	0.00	0.00	3.26	1.09	2.17	2.17	9.24
	6.67	0.00	0.00	37.50	9.09	9.52	8.16	
Total	15	17	23	16	22	42	49	184
	8.15	9.24	12.50	8.70	11.96	22.83	26.63	100.00

Frequency Percent Col Pct	Type of sector where the occupation is carried out by COUNTRY							
	L113	COUNTRY						Total
		UK	Belgium	Spain	France	Germany	Netherlands	
Public	4	2	1	1	8	8	19	43
	2.82	1.41	0.70	0.70	5.63	5.63	13.38	30.28
	26.67	15.38	4.55	7.14	42.11	27.59	63.33	
Private	0	4	4	0	1	6	0	15
	0.00	2.82	2.82	0.00	0.70	4.23	0.00	10.56
	0.00	30.77	18.18	0.00	5.26	20.69	0.00	
Both	11	7	17	13	8	10	11	77
	7.75	4.93	11.97	9.15	5.63	7.04	7.75	54.23
	73.33	53.85	77.27	92.86	42.11	34.48	36.67	
Don't know	0	0	0	0	2	5	0	7
	0.00	0.00	0.00	0.00	1.41	3.52	0.00	4.93
	0.00	0.00	0.00	0.00	10.53	17.24	0.00	
Total	15	13	22	14	19	29	30	142
	10.56	9.15	15.49	9.86	13.38	20.42	21.13	100.00

A.2 Table with frequency tables of the responses from the second part of the expert care and welfare occupational enquiry on the level of area of work "health care, paramedics, laboratory"

Frequency Percent Col Pct	Number of supervised people by COUNTRY							
	L66bis	COUNTRY						Total
		UK	Belgium	Spain	France	Germany	Netherlands	
None	4	1	0	2	6	11	5	29
	3.33	0.83	0.00	1.67	5.00	9.17	4.17	24.17
	28.57	25.00	0.00	50.00	35.29	50.00	15.63	
1-10	9	2	23	1	4	7	22	68
	7.50	1.67	19.17	0.83	3.33	5.83	18.33	56.67
	64.29	50.00	85.19	25.00	23.53	31.82	68.75	
11-100	0	1	1	1	7	4	1	15
	0.00	0.83	0.83	0.83	5.83	3.33	0.83	12.50
	0.00	25.00	3.70	25.00	41.18	18.18	3.13	
>100	1	0	3	0	0	0	4	8
	0.83	0.00	2.50	0.00	0.00	0.00	3.33	6.67
	7.14	0.00	11.11	0.00	0.00	0.00	12.50	
Total	14	4	27	4	17	22	32	120
	11.67	3.33	22.50	3.33	14.17	18.33	26.67	100.00

Frequency Percent Col Pct	Occurrence of coaching or training of co-workers by COUNTRY							
	L67bis	COUNTRY						Total
		UK	Belgium	Spain	France	Germany	Netherlands	
Regularly	3	1	1	5	13	13	9	45
	2.31	0.77	0.77	3.85	10.00	10.00	6.92	34.62
	23.08	25.00	3.70	100.00	76.47	40.63	28.13	
Occasionally	3	2	25	0	3	11	15	59
	2.31	1.54	19.23	0.00	2.31	8.46	11.54	45.38
	23.08	50.00	92.59	0.00	17.65	34.38	46.88	
Never	0	1	1	0	0	6	2	10
	0.00	0.77	0.77	0.00	0.00	4.62	1.54	7.69
	0.00	25.00	3.70	0.00	0.00	18.75	6.25	
It varies	7	0	0	0	1	2	6	16
	5.38	0.00	0.00	0.00	0.77	1.54	4.62	12.31
	53.85	0.00	0.00	0.00	5.88	6.25	18.75	
Total	13	4	27	5	17	32	32	130

	10.00	3.08	20.77	3.85	13.08	24.62	24.62	100.00
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Frequency Percent Col Pct	Physical effort by COUNTRY							
	L68bis	COUNTRY						Total
		UK	Belgium	Spain	France	Germany	Netherlands	
Not at all	4	0	8	3	0	12	1	28
	2.82	0.00	5.63	2.11	0.00	8.45	0.70	19.72
	28.57	0.00	29.63	21.43	0.00	37.50	3.13	
Some	9	1	14	6	6	12	15	63
	6.34	0.70	9.86	4.23	4.23	8.45	10.56	44.37
	64.29	25.00	51.85	42.86	31.58	37.50	46.88	
Much	1	3	5	5	13	8	16	51
	0.70	2.11	3.52	3.52	9.15	5.63	11.27	35.92
	7.14	75.00	18.52	35.71	68.42	25.00	50.00	
Total	14	4	27	14	19	32	32	142
	9.86	2.82	19.01	9.86	13.38	22.54	22.54	100.00

Frequency Percent Col Pct	Mental effort by COUNTRY							
		COUNTRY						Total
		UK	Belgium	Spain	France	Germany	Netherlands	
Not at all	0	0	0	0	0	1	0	1
	0.00	0.00	0.00	0.00	0.00	0.77	0.00	0.77
	0.00	0.00	0.00	0.00	0.00	4.35	0.00	
Some	6	0	20	3	1	6	9	45
	4.62	0.00	15.38	2.31	0.77	4.62	6.92	34.62
	42.86	0.00	76.92	25.00	5.56	26.09	27.27	
Much	8	4	6	9	17	16	24	84
	6.15	3.08	4.62	6.92	13.08	12.31	18.46	64.62
	57.14	100.00	23.08	75.00	94.44	69.57	72.73	
Total	14	4	26	12	18	23	33	130
	10.77	3.08	20.00	9.23	13.85	17.69	25.38	100.00

Frequency Percent Col Pct	Involvement of organising by COUNTRY							
	L70bis	COUNTRY						Total
		UK	Belgium	Spain	France	Germany	Netherlands	

Yes (Staff)	4	0	0	0	0	2	1	7
	2.99	0.00	0.00	0.00	0.00	1.49	0.75	5.22
	30.77	0.00	0.00	0.00	0.00	8.00	3.13	
Yes (Material)	4	1	14	6	4	2	9	40
	2.99	0.75	10.45	4.48	2.99	1.49	6.72	29.85
	30.77	25.00	51.85	42.86	21.05	8.00	28.13	
Yes (Staff+Material)	5	3	7	7	15	19	17	73
	3.73	2.24	5.22	5.22	11.19	14.18	12.69	54.48
	38.46	75.00	25.93	50.00	78.95	76.00	53.13	
No	0	0	6	1	0	2	5	14
	0.00	0.00	4.48	0.75	0.00	1.49	3.73	10.45
	0.00	0.00	22.22	7.14	0.00	8.00	15.63	
Total	13	4	27	14	19	25	32	134
	9.70	2.99	20.15	10.45	14.18	18.66	23.88	100.00

Frequency Percent Col Pct	Use of computers by COUNTRY							
	L71bis	COUNTRY						Total
		UK	Belgium	Spain	France	Germany	Netherlands	
Not at all	3	0	0	2	1	1	4	11
	2.27	0.00	0.00	1.52	0.76	0.76	3.03	8.33
	21.43	0.00	0.00	15.38	5.26	4.55	12.12	
Routine	10	3	25	7	12	10	13	80
	7.58	2.27	18.94	5.30	9.09	7.58	9.85	60.61
	71.43	75.00	92.59	53.85	63.16	45.45	39.39	
Complex	1	1	2	4	6	11	15	40
	0.76	0.76	1.52	3.03	4.55	8.33	11.36	30.30
	7.14	25.00	7.41	30.77	31.58	50.00	45.45	
Advanced	0	0	0	0	0	0	1	1
	0.00	0.00	0.00	0.00	0.00	0.00	0.76	0.76
	0.00	0.00	0.00	0.00	0.00	0.00	3.03	
Total	14	4	27	13	19	22	33	132
	10.61	3.03	20.45	9.85	14.39	16.67	25.00	100.00

Frequency Percent Col Pct	Readiness for the occupation by COUNTRY							
	L82bis	COUNTRY						Total
		UK	Belgium	Spain	France	Germany	Netherlands	
Immediately	5	3	20	12	12	11	22	85

	3.94 35.71	2.36 75.00	15.75 80.00	9.45 100.00	9.45 63.16	8.66 50.00	17.32 70.97	66.93
Via in-company training	0 0.00 0.00	0 0.00 0.00	2 1.57 8.00	0 0.00 0.00	5 3.94 26.32	6 4.72 27.27	0 0.00 0.00	13 10.24
Via apprenticeship	0 0.00 0.00	0 0.00 0.00	0 0.00 0.00	0 0.00 0.00	1 0.79 5.26	1 0.79 4.55	9 7.09 29.03	11 8.66
Other	9 7.09 64.29	1 0.79 25.00	3 2.36 12.00	0 0.00 0.00	1 0.79 5.26	4 3.15 18.18	0 0.00 0.00	18 14.17
Total	14 11.02	4 3.15	25 19.69	12 9.45	19 14.96	22 17.32	31 24.41	127 100.00

Frequency Percent Col Pct	Time needed to become competent in the occupation by COUNTRY								
	L84bis	COUNTRY						Total	
		UK	Belgium	Spain	France	Germany	Netherlands		Poland
Up to 1 week	0 0.00 0.00	1 0.85 25.00	0 0.00 0.00	0 0.00 0.00	0 0.00 0.00	0 0.00 0.00	6 5.13 33.33	3 2.56 9.68	10 8.55
1 week-1 month	0 0.00 0.00	1 0.85 25.00	9 7.69 33.33	0 0.00 0.00	0 0.00 0.00	0 0.00 0.00	0 0.00 0.00	1 0.85 3.23	11 9.40
1-3 months	1 0.85 7.14	0 0.00 0.00	11 9.40 40.74	0 0.00 0.00	1 0.85 5.26	1 0.85 5.56	1 0.85 5.56	3 2.56 9.68	17 14.53
3-6 months	0 0.00 0.00	1 0.85 25.00	3 2.56 11.11	3 2.56 75.00	5 4.27 26.32	3 2.56 16.67	3 2.56 16.67	3 2.56 9.68	18 15.38
6 months - 1 year	4 3.42 28.57	1 0.85 25.00	1 0.85 3.70	0 0.00 0.00	4 3.42 21.05	5 4.27 27.78	5 4.27 27.78	7 5.98 22.58	22 18.80
1-5 years	5 4.27 35.71	0 0.00 0.00	2 1.71 7.41	1 0.85 25.00	8 6.84 42.11	2 1.71 11.11	2 1.71 11.11	10 8.55 32.26	28 23.93
>5 years	4 3.42 28.57	0 0.00 0.00	1 0.85 3.70	0 0.00 0.00	1 0.85 5.26	1 0.85 5.56	1 0.85 5.56	4 3.42 12.90	11 9.40
Total	14 11.97	4 3.42	27 23.08	4 3.42	19 16.24	18 15.38	18 15.38	31 26.50	117 100.00

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Frequency Percent Col Pct	Level of knowledge of the occupation by COUNTRY								Total	
	L104bis	COUNTRY						Poland		
		UK	Belgium	Spain	France	Germany	Netherlands			
Basic factual	2 5.71 18.18	0 0.00 0.00	0 0.00 0.00	0 0.00 0.00	0 0.00 0.00	0 0.00 0.00	0 0.00 0.00	0 0.00 0.00	2 5.71	
Knowledge of facts...	2 5.71 18.18	0 0.00 0.00	3 8.57 60.00	0 0.00 0.00	0 0.00 0.00	0 0.00 0.00	0 0.00 0.00	1 2.86 14.29	6 17.14	
Theoretical knowledge in broad context	3 8.57 27.27	0 0.00 0.00	1 2.86 20.00	0 0.00 0.00	0 0.00 0.00	0 0.00 0.00	0 0.00 0.00	3 8.57 42.86	7 20.00	
Comprehensive knowledge	2 5.71 18.18	1 2.86 33.33	0 0.00 0.00	1 2.86 100.00	2 5.71 100.00	3 8.57 50.00	0 0.00 0.00	0 0.00 0.00	9 25.71	
Advanced knowledge	1 2.86 9.09	2 5.71 66.67	0 0.00 0.00	0 0.00 0.00	0 0.00 0.00	0 0.00 0.00	1 2.86 16.67	3 8.57 42.86	7 20.00	
Highly specialised knowledge	1 2.86 9.09	0 0.00 0.00	1 2.86 20.00	0 0.00 0.00	0 0.00 0.00	0 0.00 0.00	2 5.71 33.33	0 0.00 0.00	4 11.43	
Total	11 31.43	3 8.57	5 14.29	1 2.86	2 5.71	6 17.14	7 20.00	35 100.00		

Frequency Percent Col Pct	Skill level of the occupation by COUNTRY								Total	
	L105bis	COUNTRY						Poland		
		UK	Belgium	Spain	France	Germany	Netherlands			
Basic skills	1 2.94 9.09	0 0.00 0.00	0 0.00 0.00	0 0.00 0.00	0 0.00 0.00	0 0.00 0.00	0 0.00 0.00	0 0.00 0.00	1 2.94	
Basic cognitive&practical skills	1 2.94 9.09	0 0.00 0.00	0 0.00 0.00	0 0.00 0.00	0 0.00 0.00	0 0.00 0.00	0 0.00 0.00	0 0.00 0.00	1 2.94	
Skills to apply basic methods	2 5.88 18.18	0 0.00 0.00	3 8.82 60.00	1 2.94 100.00	1 2.94 50.00	1 2.94 16.67	1 2.94 16.67	5 14.71 83.33	13 38.24	

Skills to generate solutions	3	2	2	0	1	1	1	10
	8.82	5.88	5.88	0.00	2.94	2.94	2.94	29.41
	27.27	66.67	40.00	0.00	50.00	16.67	16.67	
Skills to develop creative solutions	1	0	0	0	0	0	0	1
	2.94	0.00	0.00	0.00	0.00	0.00	0.00	2.94
	9.09	0.00	0.00	0.00	0.00	0.00	0.00	
Advanced skills	2	1	0	0	0	1	0	4
	5.88	2.94	0.00	0.00	0.00	2.94	0.00	11.76
	18.18	33.33	0.00	0.00	0.00	16.67	0.00	
Specialised skills	1	0	0	0	0	3	0	4
	2.94	0.00	0.00	0.00	0.00	8.82	0.00	11.76
	9.09	0.00	0.00	0.00	0.00	50.00	0.00	
Total	11	3	5	1	2	6	6	34
	32.35	8.82	14.71	2.94	5.88	17.65	17.65	100.00

Frequency Percent Col Pct	Level of responsibility and autonomy of the occupation by COUNTRY							
	L106bis	COUNTRY						Total
		UK	Belgium	Spain	France	Germany	Netherlands	
Working under direct supervision	1	0	0	0	0	0	0	1
	7.69	0.00	0.00	0.00	0.00	0.00	0.00	7.69
	33.33	0.00	0.00	.	.	.	0.00	
Under supervision with autonomy	1	0	0	0	0	0	0	1
	7.69	0.00	0.00	0.00	0.00	0.00	0.00	7.69
	33.33	0.00	0.00	.	.	.	0.00	
Taking responsibility for complex tasks	1	1	4	0	0	0	5	11
	7.69	7.69	30.77	0.00	0.00	0.00	38.46	84.62
	33.33	100.00	100.00	.	.	.	100.00	
Total	3	1	4	0	0	0	5	13
	23.08	7.69	30.77	0.00	0.00	0.00	38.46	100.00

Frequency Percent Col Pct	Occupation performed in small organisations and firms by COUNTRY							
	L112_1	COUNTRY						Total
		UK	Belgium	Spain	France	Germany	Netherlands	
Yes	12	2	10	15	19	30	40	128
	7.06	1.18	5.88	8.82	11.18	17.65	23.53	75.29
	80.00	50.00	37.04	88.24	90.48	78.95	83.33	
No	3	2	17	2	2	8	8	42

	1.76 20.00	1.18 50.00	10.00 62.96	1.18 11.76	1.18 9.52	4.71 21.05	4.71 16.67	24.71
Total	15	4	27	17	21	38	48	170
	8.82	2.35	15.88	10.00	12.35	22.35	28.24	100.00

Frequency Percent Col Pct	Occupation performed in medium-sized organisations and firms by COUNTRY							
	L112_2	COUNTRY						Total
		UK	Belgium	Spain	France	Germany	Netherlands	
Yes	3	1	5	10	16	35	45	115
	1.76 20.00	0.59 25.00	2.94 18.52	5.88 58.82	9.41 76.19	20.59 92.11	26.47 93.75	67.65
No	12	3	22	7	5	3	3	55
	7.06 80.00	1.76 75.00	12.94 81.48	4.12 41.18	2.94 23.81	1.76 7.89	1.76 6.25	32.35
Total	15	4	27	17	21	38	48	170
	8.82	2.35	15.88	10.00	12.35	22.35	28.24	100.00

Frequency Percent Col Pct	Occupation performed in large organisations and firms by COUNTRY							
	L112_3	COUNTRY						Total
		UK	Belgium	Spain	France	Germany	Netherlands	
Yes	5	2	5	12	8	26	31	89
	2.94 33.33	1.18 50.00	2.94 18.52	7.06 70.59	4.71 38.10	15.29 68.42	18.24 64.58	52.35
No	10	2	22	5	13	12	17	81
	5.88 66.67	1.18 50.00	12.94 81.48	2.94 29.41	7.65 61.90	7.06 31.58	10.00 35.42	47.65
Total	15	4	27	17	21	38	48	170
	8.82	2.35	15.88	10.00	12.35	22.35	28.24	100.00

Frequency Percent Col Pct	No knowledge of the size of organisations/firms where the occupation is performed by COUNTRY							
	L112_4	COUNTRY						Total
		UK	Belgium	Spain	France	Germany	Netherlands	
Yes	15	4	27	13	21	38	44	162
	8.82 100.00	2.35 100.00	15.88 100.00	7.65 76.47	12.35 100.00	22.35 100.00	25.88 91.67	95.29

No	0	0	0	4	0	0	4	8
	0.00	0.00	0.00	2.35	0.00	0.00	2.35	4.71
	0.00	0.00	0.00	23.53	0.00	0.00	8.33	
Total	15	4	27	17	21	38	48	170
	8.82	2.35	15.88	10.00	12.35	22.35	28.24	100.00

Frequency Percent Col Pct	Type of sector where the occupation is carried out by COUNTRY							
	L113	COUNTRY						Total
		UK	Belgium	Spain	France	Germany	Netherlands	
Public	4	0	0	1	7	9	14	35
	2.96	0.00	0.00	0.74	5.19	6.67	10.37	25.93
	28.57	0.00	0.00	6.67	36.84	39.13	42.42	
Private	1	3	3	2	2	7	6	24
	0.74	2.22	2.22	1.48	1.48	5.19	4.44	17.78
	7.14	75.00	11.11	13.33	10.53	30.43	18.18	
Both	9	1	24	12	10	6	13	75
	6.67	0.74	17.78	8.89	7.41	4.44	9.63	55.56
	64.29	25.00	88.89	80.00	52.63	26.09	39.39	
Don't know	0	0	0	0	0	1	0	1
	0.00	0.00	0.00	0.00	0.00	0.74	0.00	0.74
	0.00	0.00	0.00	0.00	0.00	4.35	0.00	
Total	14	4	27	15	19	23	33	135
	10.37	2.96	20.00	11.11	14.07	17.04	24.44	100.00



Appendix B Occupation questionnaire for experts

EXPERT QUESTIONNAIRE KEY OCCUPATION [OCCUPATIONAL TITLE]

This questionnaire includes questions on the content of the occupation [insert occupational title]. Some questions might be difficult to answer. If you do not know the answer to certain questions, you can mark the box 'I don't know'.

Short description of the occupation

[Insert short description]

1. Do you currently work in this occupation?

Yes

No

2. If any, what alternative job titles are used in your country for [insert occupational title] (max. of 3 job titles, please include those most frequently used)?

- 1.....
- 2.....
- 3.....

Below, the main tasks of this occupation are suggested. Please note that these task descriptions are preliminary. They are based on international desk research. You are more than welcome to provide comments and suggestions to revise the task list.

Suggested tasks:

1. [Insert task 1]
2. [Insert task 2]
3. [Insert task 3]
4. [Insert task 4]
5. [Insert task 5]
6. [Insert task 6]
7. [Insert task 7]
8. [Insert task 8]
9. [Insert task 9]
10. [Insert task 10]
11. [Insert task 11]
12. [Insert task 12]

3. Are any key tasks missing in the task list?

- 1.....
- 2.....
- 3.....

Room for comments on the task list

.....

.....

.....

.....

.....

.....

4. Could you indicate for each of the tasks how frequently the task is performed (never or on a daily, weekly, monthly or yearly basis)?

	Never	Yearly	Monthly	Weekly	Daily	I don't know
1. [Insert task 1]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. [Insert task 2]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. [Insert task 3]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. [Insert task 4]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. [Insert task 5]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. [Insert task 6]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. [Insert task 7]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. [Insert task 8]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. [Insert task 9]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. [Insert task 10]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. [Insert task 11]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. [Insert task 12]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

5. How important is competent performance of this task in this occupation?

	Not at all important	Of some importance	Of major importance	I don't know
1. [Insert task 1]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. [Insert task 2]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. [Insert task 3]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. [Insert task 4]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. [Insert task 5]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. [Insert task 6]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. [Insert task 7]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. [Insert task 8]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. [Insert task 9]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. [Insert task 10]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. [Insert task 11]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. [Insert task 12]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

6. What is the required educational entry level for this occupation in your country? Please note that the required educational entry level may differ from the average educational level of the people working in an occupation. We ask you to tick the required educational entry level. You can mark more than 1 box.

<input type="checkbox"/> [insert country-specific education categories]
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>

7a. Are there additional formal or legal requirements for this occupation?

Yes, namely:

- diploma (full educational programme) → *question 7b*
- certification (training / course) → *question 7c*
- working according to a professional code or protocol → *question 7d*
- other, please specify → *question 7e*

No → *question 8*

I don't know

7b. How are the additional diploma requirements established/laid down?

collective labour agreement

law/legal requirement

federal government

branch of industry

other, please specify.....

I don't know

7c. How are the additional certification (training/course) requirements established/laid down?

collective labour agreement

law/legal requirement

federal government

branch of industry

other, please specify.....

I don't know

7d. How are the additional professional code or protocol requirements established/laid down?

collective labour agreement

law/legal requirement

federal government

branch of industry

other, please specify.....

I don't know

7e. How are the additional other requirements established/laid down?

collective labour agreement

law/legal requirement

federal government

branch of industry

other, please specify.....

I don't know

8. We want to know more about the transferability of skills. Therefore, we would like to know the relevance of the competencies mentioned below for this occupation.²⁸

	Not at all important	Of some importance	Of major importance	I don't know
A Initiating action	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B Instructing co-workers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C Supervising	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
D Co-operating with colleagues	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
E Communicating	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
F Relating and networking	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
G Negotiating	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
H Reporting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I Applying know-how, professional expertise	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
J Problem solving	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
K Developing new procedures and working methods	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
L Forming strategies	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
M Planning and organising	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
N Following instructions and procedures	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
O Dealing with contingencies	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
P Coping with stressful situations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q Commercial thinking	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

9. Do you expect the size of this occupation (how many people are working in the occupation) to decline, increase or remain stable in the next 5 years?

<input type="checkbox"/> Declining occupation size <input type="checkbox"/> Stable occupation size <input type="checkbox"/> Increasing occupation size <input type="checkbox"/> I don't know

²⁸ The list of competencies is based on the SHL Competency Framework (Bartram, D. (2005). The great eight competencies: A criterion-centric approach to validation. *Journal of Applied Psychology*, 90 (6): 1185-1203).

PART 2 EXPERT QUESTIONNAIRE (OPTIONAL)

11. How many subordinates do people working in this occupation, in general, formally supervise (*EXCLUDING* the coaching of less experienced co-workers, students or trainees)?

- none
- 1 – 10 employees
- 11 – 100 employees
- > 100 employees
- I don't know

12. How often does the work involve coaching or training of less experienced co-workers, students or trainees (*EXCLUDING* the subordinates that are formally supervised)?

- Regularly
- Occasionally
- Never
- It varies
- I don't know

13. How much physical effort is generally required in this occupation?

- Not at all
- Some
- Much
- I don't know

14. How much mental effort is generally required in this occupation?

- Not at all
- Some
- Much
- I don't know

15. Is organising part of the work in this occupation?

- Yes, it involves the organisation of personnel/staff
- Yes, it involves the organisation of equipment/material
- Yes, it involves the organisation of both personnel/staff and equipment/material
- No
- I don't know

16. Which of these categories best describes the use of computers required in this occupation?

- Not at all
- Routine (e.g., word processing, spreadsheets and/or e-mail)
- Complex (e.g., for gathering/analysing information, design)
- Advanced (e.g., programming, IT development)
- I don't know

17. When can people start working in this occupation?

- Immediately after completing formal education
- Via in-company dual-learning trajectories after completing formal education
- Via apprenticeships
- Other, namely.....
- I don't know

18. How long does it generally take, after completing the required formal education, to become competent in this occupation?

- | | |
|---|--|
| <input type="checkbox"/> Up to 1 week | <input type="checkbox"/> 6 months – 1 year |
| <input type="checkbox"/> 1 week – 1 month | <input type="checkbox"/> 1 – 5 years |
| <input type="checkbox"/> 1 – 3 months | <input type="checkbox"/> ≥ 5 years |
| <input type="checkbox"/> 3 – 6 months | <input type="checkbox"/> I don't know |

19. How often do people working in this occupation have to update their knowledge and skills?

- Never
- Yearly
- Monthly
- Weekly
- Daily
- I don't know

20. Are you familiar with the European Qualification Framework?

- Yes → go to question 21
- No → go to question 24

21. Which of the following descriptions characterises the level of knowledge of this occupation best?²⁹ **Tick one box only.** *If you do not know the answer to this question, you can select the box 'I don't know'.*

This occupation requires:

- ... basic general knowledge
- ... basic factual knowledge of a field of work
- ... knowledge of facts, principles, processes and general concepts, in a field of work
- ... factual and theoretical knowledge in broad contexts within a field of work
- ... comprehensive, specialised, factual and theoretical knowledge within a field of work and an awareness of the boundaries of that knowledge
- ... advanced knowledge of a field of work, involving a critical understanding of theories and principles
- ... highly specialised knowledge of a field of work and critical awareness of knowledge issues in a field and at the interface between different fields
- ... knowledge at the most advanced frontier of a field of work and at the interface between fields
- I don't know

22. Which of the following descriptions characterises the skill level of this occupation best?³⁰ **Tick one box only.** *If you do not know the answer to this question, you can select the box 'I don't know'.*

Definition:

Cognitive skills: use of logical, intuitive and creative thinking

Practical skills: involving manual dexterity and the use of methods, materials, tools and instruments

This occupation requires:

- ... basic skills required to carry out simple tasks
- ... basic cognitive and practical skills required to use relevant information in order to carry out tasks and to solve routine problems using simple rules and tools
- ... a range of cognitive and practical skills required to accomplish tasks and solve problems by selecting and applying basic methods, tools, materials and information
- ... a range of cognitive and practical skills required to generate solutions to specific problems in a field of work
- ... a comprehensive range of cognitive and practical skills required to develop creative solutions to abstract problems
- ... advanced skills, demonstrating mastery and innovation, required to solve complex and unpredictable problems in a specialised field of work
- ... specialised problem-solving skills required in research and/or innovation in order to develop new knowledge and procedures and to integrate knowledge from different fields
- ... the most advanced and specialised skills and techniques, including synthesis and evaluation, required to solve critical problems in research and/or innovation and to extend and redefine existing knowledge or professional practice

²⁹ This question is based on the European Qualification Framework.

³⁰ This question is based on the European Qualification Framework.

I don't know

23. Which of the following descriptions characterises the level of responsibility and autonomy of this occupation best?³¹ Tick one box only. If you do not know the answer to this question, you can select the box 'I don't know'.

This occupation involves:

- ... working under direct supervision in a structured context
- ... working under supervision with some autonomy
- ... taking responsibility for completion of tasks and adapting own behaviour to circumstances in solving problems
- ... exercising self-management within the guidelines of work contexts that are usually predictable, but are subject to change and supervising the routine work of others, taking some responsibility for the evaluation and improvement of work activities
- ... exercising management and supervision in work contexts where there is unpredictable change and review and develop performance of self and others
- ... managing complex technical or professional activities or projects, taking responsibility for decision-making in unpredictable work contexts and taking responsibility for managing professional development of individuals and groups
- ... managing and transforming work contexts that are complex, unpredictable and require new strategic approaches and taking responsibility for contributing to professional knowledge and practice and/or for reviewing the strategic performance of teams
- ... demonstrating substantial authority, innovation, autonomy, scholarly and professional integrity and sustained commitment to the development of new ideas or processes at the forefront of work contexts including research
- I don't know

We now want to ask some questions about expected changes and developments in the occupation.

24. Do you expect the content of this occupation to change within the next 5 years?

- Yes, in the following way:.....
.....
- No
- I don't know

25. Do you expect the educational requirements for this occupation to change within the next 5 years?

- Yes, in the following way:
.....
- No
- I don't know

³¹ This question is based on the European Qualification Framework.



Appendix C Education questionnaire for experts

EXPERT QUESTIONNAIRE EDUCATIONAL REQUIREMENTS

This questionnaire includes question on the educational requirements of occupations. Earlier, you have indicated your areas of expertise.

1. For how many occupations in your area(s) of expertise are you willing to indicate the required educational entry level?

- 5
- 10
- 15
- 20
- 25

Experts will answer the question below for a random selection of occupations in their area(s) of work, the number based on their answer to the question above.

2. What is the required educational entry level for these occupations in your country? Please note that the required educational entry level may differ from the average educational level of the people working in an occupation. We ask you to tick the required educational entry level.

COUNTRY SPECIFIC CODING SHEET

Thanks very much for your time and effort!!!



Appendix D Occupational workers questionnaire

QUESTIONNAIRE '[occupational title]' FOR OCCUPATIONAL WORKERS

YOUR OCCUPATION [OCCUPATIONAL TITLE]

Below, a number of tasks of your occupation are suggested. Please note that these task descriptions are preliminary. They are based on international desk research. You are more than welcome to provide comments and suggestions to revise the task list.

Suggested tasks:

Insert task 1
Insert task 2
Insert task 3
Insert task 4
Insert task 5
Insert task 6
Insert task 7
Insert task 8
Insert task 9
Insert task 10

1. Are any key tasks missing in the task list?

1.....
2.....
3.....
If respondents add tasks in this question, these tasks will automatically be included in questions 2, 3 and 4.

Room for comments on the task list

.....
.....
.....
.....
.....
.....
.....
.....

2. Could you indicate for each of the tasks how frequently the task is performed (never or on a daily, weekly, monthly or yearly basis)?

	Never	Yearly	Monthly	Weekly	Daily	I don't know
16. [Insert task 1]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17. [Insert task 2]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18. [Insert task 3]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19. [Insert task 4]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20. [Insert task 5]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21. [Insert task 6]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22. [Insert task 7]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
23. [Insert task 8]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
24. [Insert task 9]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
25. [Insert task 10]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
26. [Insert task 11]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
27. [Insert task 12]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
28.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
29.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
30.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3. How important is competent performance of this task in this occupation?

	Not at all important	Of some importance	Of major importance	I don't know
16. [Insert task 1]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17. [Insert task 2]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18. [Insert task 3]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19. [Insert task 4]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20. [Insert task 5]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21. [Insert task 6]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22. [Insert task 7]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
23. [Insert task 8]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
24. [Insert task 9]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
25. [Insert task 10]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
26. [Insert task 11]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
27. [Insert task 12]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
28.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
29.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
30.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

.....				
-------	--	--	--	--

4. Is the task mainly performed under direct supervision of others or autonomous?

	Mainly under direct supervision	Mainly <i>not</i> under direct supervision	I don't know
1. [Insert task 1]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. [Insert task 2]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. [Insert task 3]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. [Insert task 4]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. [Insert task 5]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. [Insert task 6]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. [Insert task 7]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. [Insert task 8]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. [Insert task 9]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. [Insert task 10]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. [Insert task 11]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. [Insert task 12]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

5. What is your educational level?

<input type="checkbox"/> COUNTRY SPECIFIC CODING SHEET (NB DIFFERENT CODING SHEET THAN EXPERT WEBSURVEY!!)
--

6. Does your education level match the required education level?

<input type="checkbox"/> Yes → go to question 9
<input type="checkbox"/> No → go to question 7
<input type="checkbox"/> I don't know → go to question 8

7. What is the required educational entry level for this occupation in this country? You can mark more than 1 box.

COUNTRY SPECIFIC CODING SHEET REQUIRED EDUCATION (NB SAME CODING SHEET AS EXPERT WEBSURVEY!!)

8. Do you consider yourself under- or overqualified for the job?

<input type="checkbox"/> I am underqualified for the job
<input type="checkbox"/> I am overqualified for the job

I don't know

9. How important is labour experience for adequate performance of your job?

- Not at all important
 Of some importance
 Of major importance
 I don't know

10. Do you expect the content of this occupation to change within the next 5 years?

- Yes, in the following way:.....
 No
 I don't know

YOUR CAREER

11. What year did you start your first job?

..... (year)

12. How many times have you changed your employer since (including temporary jobs and self-employment)?

- Never
 1-2 times
 3-4 times
 5-6 times
 7 times or more
 I don't know

13. In which year did you join your current employer or did you start your business? If the name of your company has changed, please include the period of time you spent with the company also when its name was different.

..... (year)

We are interested in your working conditions and the nature of your employment relationship. Therefore, we would like to ask you the following questions.

14. In your job, do you mainly work in a team or mainly individually?

- Mainly in a team
 Mainly individually
 It varies

15. Are you an employee or self-employed?

Employee
 Self-employed

16. How are you paid?

Monthly salary plus performance
 Monthly salary only
 Weekly wage
 Hourly paid
 Piecework
 Other, namely.....

17. Do you have a pay scale with increments, either automatic or performance related?

Yes
 No
 I don't know

18. If you want to quit your job, how much notice do you have?

None
 Less than 1 week
 1 week or over but less than 1 month
 1 month or more but less than 3 months
 3 months or more
 I don't know

19. Who decides what time you start and leave work?

My supervisor decides
 I decide without limitations
 I decide with limitations

20. Do you have opportunities for promotion or career developments either within your organisation or by changing employer?

Yes
 No
 I don't know

GENERAL

21. What is your year of birth?

19.....

22. What is your gender?



<input type="checkbox"/> Male <input type="checkbox"/> Female
--

23. Do you have any additional comments?

.....

24. A number of prizes is offered in a drawing among the participants of this survey. Do you want to be enrolled in this drawing?

<input type="checkbox"/> Yes, e-mail address:..... <input type="checkbox"/> No

Thanks very much for your time and effort!!!





Appendix E Partner occupation questionnaire

PARTNER QUESTIONNAIRE KEY OCCUPATION [OCCUPATIONAL TITLE]

This questionnaire includes questions on the content of the occupation [insert occupational title]. Some questions might be difficult to answer. If you do not know the answer to certain questions, you can mark the box 'I don't know'.

Short description of the occupation

[Insert short description]

1. If any, what alternative job titles are used in your country for [insert occupational title] (max. of 3 job titles, please include those most frequently used)?

- 1.....
- 2.....
- 3.....

Below, the main tasks of this occupation are suggested. Please note that these task descriptions are preliminary. They are based on international desk research. You are more than welcome to provide comments and suggestions to revise the task list.

Suggested tasks:

- 13. [Insert task 1]
- 14. [Insert task 2]
- 15. [Insert task 3]
- 16. [Insert task 4]
- 17. [Insert task 5]
- 18. [Insert task 6]
- 19. [Insert task 7]
- 20. [Insert task 8]
- 21. [Insert task 9]
- 22. [Insert task 10]
- 23. [Insert task 11]
- 24. [Insert task 12]

2. Are any key tasks missing in the task list?

- 1.....
- 2.....
- 3.....

Room for comments on the task list

.....

.....

.....

.....

.....

3. Could you indicate for each of the tasks how frequently the task is performed (never or on a daily, weekly, monthly or yearly basis)?

	Never	Yearly	Monthly	Weekly	Daily	I don't know
31. [Insert task 1]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
32. [Insert task 2]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
33. [Insert task 3]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
34. [Insert task 4]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
35. [Insert task 5]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
36. [Insert task 6]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
37. [Insert task 7]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
38. [Insert task 8]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
39. [Insert task 9]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
40. [Insert task 10]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
41. [Insert task 11]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
42. [Insert task 12]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
43.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
44.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
45.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

4. How important is competent performance of this task in this occupation?

	Not at all important	Of some importance	Of major importance	I don't know
31. [Insert task 1]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
32. [Insert task 2]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
33. [Insert task 3]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
34. [Insert task 4]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
35. [Insert task 5]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
36. [Insert task 6]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
37. [Insert task 7]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
38. [Insert task 8]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
39. [Insert task 9]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
40. [Insert task 10]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

41. [Insert task 11]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
42. [Insert task 12]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
43.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
44.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
45.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

5. How many subordinates do people working in this occupation, in general, formally supervise (*EXCLUDING* the coaching of less experienced co-workers, students or trainees)?

- none
- 1 – 10 employees
- 11 – 100 employees
- > 100 employees
- I don't know

6. How often does the work involve coaching or training of less experienced co-workers, students or trainees (*EXCLUDING* the subordinates that are formally supervised)?

- Regularly
- Occasionally
- Never
- It varies
- I don't know

7. How much physical effort is generally required in this occupation?

- Not at all
- Some
- Much
- I don't know

8. How much mental effort is generally required in this occupation?

- Not at all
- Some
- Much
- I don't know

9. Is organising part of the work in this occupation?

- Yes, it involves the organisation of personnel/staff
- Yes, it involves the organisation of equipment/material
- Yes, it involves the organisation of both personnel/staff and equipment/material

- No
 I don't know

10 Which of these categories best describes the use of computers required in this occupation?

- Not at all
 Routine (e.g., word processing, spreadsheets and/or e-mail)
 Complex (e.g., for gathering/analysing information, design)
 Advanced (e.g., programming, IT development)
 I don't know

11 What is the required educational entry level for this occupation in your country? Please note that the required educational entry level may differ from the average educational level of the people working in an occupation. We ask you to tick the required educational entry level. You can mark more than 1 box.

- [insert country-specific education categories]

12a Are there additional formal or legal requirements for this occupation?

- Yes, namely:
 diploma (full educational programme) → question 12b
 certification (training / course) → question 12c
 working according to a professional code or protocol → question 12d
 other, please specify → question 12e
 No → question 13
 I don't know

12b How are the additional diploma requirements established/laid down?

- collective labour agreement
 law/legal requirement
 federal government
 branch of industry
 other, please specify.....
 I don't know



12c How are the additional certification (training/course) requirements established/laid down?

collective labour agreement
 law/legal requirement
 federal government
 branch of industry
 other, please specify.....
 I don't know

12d How are the additional professional code or protocol requirements established/laid down?

collective labour agreement
 law/legal requirement
 federal government
 branch of industry
 other, please specify.....
 I don't know

12e How are the additional other requirements established/laid down?

collective labour agreement
 law/legal requirement
 federal government
 branch of industry
 other, please specify.....
 I don't know

13 When can people start working in this occupation?

Immediately after completing formal education
 Via in-company dual-learning trajectories after completing formal education
 Via apprenticeships
 Other, namely.....
 I don't know

14 How long does it generally take, after completing the required formal education, to become competent in this occupation?

<input type="checkbox"/> Up to 1 week	<input type="checkbox"/> 6 months – 1 year
<input type="checkbox"/> 1 week – 1 month	<input type="checkbox"/> 1 – 5 years
<input type="checkbox"/> 1 – 3 months	<input type="checkbox"/> ≥ 5 years
<input type="checkbox"/> 3 – 6 months	<input type="checkbox"/> I don't know

15 How often do people working in this occupation have to update their knowledge and skills?

- Never
- Yearly
- Monthly
- Weekly
- Daily
- I don't know

16 We want to know more about the transferability of skills. Therefore, we would like to know the relevance of the competencies mentioned below for this occupation.³²

	Not at all important	Of some importance	Of major importance	I don't know
A Initiating action	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B Instructing co-workers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C Supervising	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
D Co-operating with colleagues	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
E Communicating	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
F Relating and networking	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
G Negotiating	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
H Reporting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I Applying know-how, professional expertise	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
J Problem solving	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
K Developing new procedures and working methods	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
L Forming strategies	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
M Planning and organising	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
N Following instructions and procedures	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
O Dealing with contingencies	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
P Coping with stressful situations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q Commercial thinking	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

17 Are you familiar with the European Qualification Framework?

- Yes → go to question 18
- No → go to question 21

³² The list of competencies is based on the SHL Competency Framework (Bartram, D. (2005). The great eight competencies: A criterion-centric approach to validation. *Journal of Applied Psychology*, 90 (6): 1185-1203).

18 Which of the following descriptions characterises the level of knowledge of this occupation best?³³ **Tick one box only.** *If you do not know the answer to this question, you can select the box 'I don't know'.*

This occupation requires:

- ... basic general knowledge
- ... basic factual knowledge of a field of work
- ... knowledge of facts, principles, processes and general concepts, in a field of work
- ... factual and theoretical knowledge in broad contexts within a field of work
- ... comprehensive, specialised, factual and theoretical knowledge within a field of work and an awareness of the boundaries of that knowledge
- ... advanced knowledge of a field of work, involving a critical understanding of theories and principles
- ... highly specialised knowledge of a field of work and critical awareness of knowledge issues in a field and at the interface between different fields
- ... knowledge at the most advanced frontier of a field of work and at the interface between fields
- I don't know

19 Which of the following descriptions characterises the skill level of this occupation best?³⁴ **Tick one box only.** *If you do not know the answer to this question, you can select the box 'I don't know'.*

Definition:

Cognitive skills: use of logical, intuitive and creative thinking

Practical skills: involving manual dexterity and the use of methods, materials, tools and instruments

This occupation requires:

- ... basic skills required to carry out simple tasks
- ... basic cognitive and practical skills required to use relevant information in order to carry out tasks and to solve routine problems using simple rules and tools
- ... a range of cognitive and practical skills required to accomplish tasks and solve problems by selecting and applying basic methods, tools, materials and information
- ... a range of cognitive and practical skills required to generate solutions to specific problems in a field of work
- ... a comprehensive range of cognitive and practical skills required to develop creative solutions to abstract problems
- ... advanced skills, demonstrating mastery and innovation, required to solve complex and unpredictable problems in a specialised field of work
- ... specialised problem-solving skills required in research and/or innovation in order to develop new knowledge and procedures and to integrate knowledge from different fields
- ... the most advanced and specialised skills and techniques, including synthesis and evaluation, required to solve critical problems in research and/or innovation and to extend and redefine existing knowledge or professional practice

³³ This question is based on the European Qualification Framework.

³⁴ This question is based on the European Qualification Framework.

I don't know

20 Which of the following descriptions characterises the level of responsibility and autonomy of this occupation best?³⁵ Tick one box only. *If you do not know the answer to this question, you can select the box 'I don't know'.*

This occupation involves:

- ... working under direct supervision in a structured context
- ... working under supervision with some autonomy
- ... taking responsibility for completion of tasks and adapting own behaviour to circumstances in solving problems
- ... exercising self-management within the guidelines of work contexts that are usually predictable, but are subject to change and supervising the routine work of others, taking some responsibility for the evaluation and improvement of work activities
- ... exercising management and supervision in work contexts where there is unpredictable change and review and develop performance of self and others
- ... managing complex technical or professional activities or projects, taking responsibility for decision-making in unpredictable work contexts and taking responsibility for managing professional development of individuals and groups
- ... managing and transforming work contexts that are complex, unpredictable and require new strategic approaches and taking responsibility for contributing to professional knowledge and practice and/or for reviewing the strategic performance of teams
- ... demonstrating substantial authority, innovation, autonomy, scholarly and professional integrity and sustained commitment to the development of new ideas or processes at the forefront of work contexts including research
- I don't know

We now want to ask some questions about expected changes and developments in the occupation.

21 Do you expect the content of this occupation to change within the next 5 years?

- Yes, in the following way:.....
.....
- No
- I don't know

22 Do you expect the educational requirements for this occupation to change within the next 5 years?

- Yes, in the following way:
.....
- No
- I don't know

³⁵ This question is based on the European Qualification Framework.

