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Procedures expert data collection

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Author of this report: Judith de Ruijter, Esther de Ruijter (AO Consult) Kea Tijdens,
Joyce Jacobs, Marijke Veldhoen (Erasmus University
Rotterdam)

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Introduction

This document describes the procedures of the expert data collection in the EurOccupations project. The EU funded project 'EurOccupations' aims to build a detailed European occupations database in order to facilitate researchers and policy makers to obtain insight in how occupations compare across countries and how problems of incomparability of occupations can be tackled. This occupations database will include occupation information for approximately 1,500 detailed occupations in 8 European member states (United Kingdom, Germany, France, Spain, Poland, Belgium, the Netherlands and Italy). For all 1.500 occupations, the database will include occupational titles, ISCO-codes, as well as information about distribution of gender, education and age groups in each country for aggregate groups of occupations.

For a selection of 150 key occupations in 7 countries (all countries except Italy), the EurOccupations database will additionally include information on skill levels, occupational content and relevant social stratification measures. The information for these occupational dimensions is gathered through *an expert research, in which occupational experts are asked to judge a number of key occupations on these dimensions*. These experts are, for example, 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. This manual describes the procedures for this expert data collection.

Chapter 1 of this manual describes, in short, the expert research as well as the main objectives of the eight expert groups that are formed along the lines of 8 clusters of occupations. We chose to work with these eight expert groups in order to streamline the expert data collection. Chapter 2 sketches the tasks and responsibilities of the partners involved in the EurOccupations project in their different roles (cluster coordinator, national coordinator, project partner). Chapter 3 describes the procedures for the expert data collection. Finally, in chapter 4, some general topics are discussed (tips, tricks, questions).

In the appendix, the following documents are provided:

- (a) The responsibilities of each project partner in detail;
- (b) The procedures for the task descriptions;
- (c) The education coding sheet, including instructions to provide education categories in each country.

1. The expert research in short

In the EurOccupations expert research, experts in the seven participating countries will be asked to assess key occupations on relevant dimensions (De Ruijter, De Ruijter & Veldhoen 2007). Experts with (substantial) knowledge on (groups of) occupations will be invited to participate in this expert research. These type of experts can judge different occupations with a certain distance while at the same time having relative much knowledge on the specific content of occupations.

Expert definition:

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

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 data collection

In order to structure and streamline the expert data collection, eight expert groups are formed. These expert groups are organised along the lines of relevant clusters of occupations, corresponding to the division of labour in contemporary industrialised societies. One expert group per cluster of occupations will be formed (8 expert groups in total), namely:

1. expert group for administration, legal and clerical occupations;
2. expert group for care (including childcare) and welfare occupations;
3. expert group for construction, crafts (incl. artist) and trade, agriculture, nature and fishing (incl. animal care);
4. expert group for education, research and personnel occupations;
5. expert group for manufacturing-A occupations (cars, mechanics, technicians, engineers & food manufacturing);
6. expert group for manufacturing-B occupations (industrial production, manufacture, metal & plastics & oil, gas, mining, utilities);
7. expert group for information, communication and finance occupations;
8. expert group for transport, logistics and travel occupations.

Each of these cross-national expert groups will include experts from the 7 countries, i.e. experts from the UK, Germany, France, Spain, Poland, Belgium and the Netherlands.

In sum, the main objectives of these expert groups are:

- to build a network of experts with regard to occupational structures for the specific cluster of occupations;
- to describe job content for the key occupations (a total number of 150 key occupations, evenly distributed amongst the different clusters of occupations);
- to check job content, skill levels, required competencies for these key occupations, using existing data sources and by consulting experts using standardised questionnaires;
- to organise expert sessions to discuss the preparations;
- to prepare the 5-digit ISCO and ISCED classification for the occupations in the cluster.

We distinguish two roles of the project partners in the expert data collection, namely:

- the role of cluster coordinator;
- the role of national coordinator.

Cluster coordinators and national coordinators:

Cluster coordinators are responsible for the management of the expert research in the expert group of their cluster of occupations in all 7 countries.

National coordinators are responsible for the expert data collection for all expert groups in their country.

2. Division of tasks and responsibilities

This chapter describes the division of tasks and responsibilities in the expert research of:

1. all project partners;
2. cluster coordinators;
3. national coordinators;
4. the Dutch project team;
5. the Polish project team.

1. All project partners

Tasks and responsibilities all project partners:

This includes: AOC, AWWW GmbH, CEREQ, CIREM, EUR, KU Leuven, PUE, UVA, Warwick.

- recruit experts to participate in the expert research, i.e. build a network of experts with regard to occupational structures for all clusters of occupations;
- contribute to the organisation of the international expert conference in 2008.

2. Cluster coordinators

The cluster coordinators are responsible for the management of the expert research in the expert group of their cluster of occupations in all 7 countries. The table below provides an overview of the division of clusters among the cluster coordinators in the expert research.

Cluster title	Cluster coordinator
1. Administration, legal, clerical occupations	Warwick
2. Care (including childcare), welfare occupations	UVA, AIAS
3. Construction, crafts (incl. artist) and trade, agriculture, nature & fishing (incl. animal care)	AO Consult
4. Education, research, personnel occupations	CIREM
5. Manufacturing-A occupations (cars, mechanics, technicians, engineers & food manufacturing)	Warwick
6. Manufacturing-B occupations (industrial production, manufacture, metal & plastics & oil, gas, mining, utilities)	PUE
7. Information, communication, finance occupations	KU Leuven
8. Transport, logistics, travel occupations	Warwick

Tasks and responsibilities cluster coordinators:

This includes: AOC, CIREM, KU Leuven, PUE, UVA, Warwick.

- select key occupations for your cluster of occupations, in close collaboration with the Dutch project team.
- describe tasks for key occupations:
 - write task descriptions for the key occupations in your specific cluster of

- occupations, using the standardised procedure;
- send the task descriptions to all national coordinators and ask them to check the descriptions on validity for their country;
- send the task descriptions to the Dutch project team for the check on international validity and consistency;
- if necessary, suggest required adjustments in the extended list of occupations.
- manage expert data collection:
 - ensure that a sufficient number of experts web questionnaires is completed (minimum number of 5 completed web surveys per key occupation);
 - regularly check the number of completed web questionnaires per key occupation as well as the heterogeneity of the variables;
 - if necessary, contact national coordinators to actively recruit more experts to complete questionnaires on key occupations. Additionally, the cluster coordinators may decide, in collaboration with national coordinators, to organise (national) video-/web-conference sessions to discuss 'problematic' occupations;
 - if necessary, suggest required adjustments in the extended list of occupations.
- gather some additional (cross-national) benchmark information, using the "questionnaire key occupation" for cluster coordinators.
- contribute to the organisation of the international expert conference in 2008:
 - propose (when appropriate) a conference session for certain 'problematic' occupations in your cluster of occupations;
 - invite relevant experts to participate, in collaboration with the Dutch project team;
 - prepare and chair relevant sessions;
 - write a report on relevant findings for your cluster of occupations.
- analyse and report on the findings of the expert data collection for your cluster of occupations:
 - analyse the dataset provided by the Dutch project team;
 - identify (groups of) problematic occupations in the cluster and describe why these occupations are problematic (e.g., blurred occupations, level of aggregation, synonyms, high (generalised) heterogeneity);
 - based on the analyses and the results of the international expert conference (see step 7), write a report on the findings of the expert group, describing the occupational structure for your cluster of occupations;
 - assign, for all occupations in your cluster of occupations, the required national levels of education;
 - based on the findings, propose revisions of the extended list for your cluster of occupations.

3. National coordinators

The national coordinators are responsible for the expert data collection for all expert groups in their country. The table below provides an overview of the national coordinators in the expert research.

Country	National coordinator
Belgium	KU Leuven

France	CEREQ
Germany	AWWW GmbH
Netherlands	AO Consult
Poland	PUE
Spain	CIREM
United Kingdom	Warwick

Tasks and responsibilities national coordinators:

This includes: AOC, AWWW GmbH, CEREQ, CIREM, KU Leuven, PUE, Warwick.

- check the task descriptions for the 150 key occupations on validity for your country.
- translate the 150 task descriptions and web questionnaires.
- conduct national expert data collection (web survey) – experts:
 - actively recruit experts to complete web questionnaires on the 150 key occupations (a minimum number of 5 experts per key occupation per country is required);
 - if necessary, organise national video-/web-conference sessions to discuss ‘problematic’ occupations, in collaboration with the cluster coordinator;
 - coordinate data collection for experts who do not have access to the Internet, using paper versions of the questionnaires.
- conduct expert data collection (web survey) – occupational workers:
 - ask relevant organisations (e.g., unions, employer organisations, interest groups) to publish a web-link on their websites to the EurOccupations website with the request for occupational workers to complete a questionnaire.
- contribute to the organisation of the international expert conference in 2008:
 - invite relevant experts from your country to participate, in collaboration with the Dutch project team and the cluster coordinators.
- report on the findings of the expert data collection per country, based on the 8 cluster reports as provided by the cluster coordinators.

4. The Dutch project team

Tasks and responsibilities Dutch project team:

This includes: AOC, EUR.

- propose a selection of key occupations for each cluster of occupations.
- describe tasks for key occupations:
 - check task descriptions on international validity and consistency.
- manage the expert data collection (web survey) in cooperation with the cluster coordinators:
 - provide the cluster coordinators with web survey data for their cluster on a regular basis (e.g., monthly).
- coordinate the organisation of the international expert conference in 2008.
- analyse and report on the findings of the expert data collection:
 - provide the following measures to the cluster coordinators (in an SPSS-file), based on analyses of the expert data:

- the average expert score for each variable for each country;
- the heterogeneity in expert judgements for each variable for each country;
- the generalised variance for each variable (this variable will capture the overall heterogeneity across the 7 countries and allows us to distinguish between 'stable', 'internationally comparable' occupations and occupations that vary greatly between countries with respect to, for example, skill level and required competencies).

5. The Polish project team

Tasks and responsibilities Polish team:

This includes: PUE.

- pay particular attention to the Polish occupational structures, because it is less published about and less compared to other national occupational structures.

3. Expert group procedures

The following steps will be taken in the expert data collection:

Step	Activity	Period	Who?
1	Recruiting experts	February 2007 – February 2008	All project partners
2	Selection of key occupations	February- March 2007	Dutch project team, cluster coordinators
3	Description of tasks for key occupations	March – April 2007	Cluster coordinators, Dutch project team
4	Translation of task descriptions and web questionnaires	April – May 2007	National coordinators
5a	Managing expert data collection (web survey)	May 2007 – January 2008	Cluster coordinators, Dutch project team
5b	Expert data collection (web survey) – experts	May 2007 – January 2008	National coordinators
5c	Expert data collection (web survey) – occupational workers	May 2007 – January 2008	National coordinators
6	Gathering some additional benchmark information	Before February 2008	Cluster coordinators
7	Organisation of international expert conference March 2008	September 2007 - March 2008	All project partners
8	Analysing and reporting on the findings of the expert data collection per cluster of occupations	February – April 2008	Cluster coordinators, Dutch project team
9	Reporting on the findings of the expert data collection per country	May 2008	National coordinators

Step 1. Recruiting experts

All project partners (February 2007 – February 2008)

Recruit as many experts as possible in your country. Keep in mind that **a minimum number of 5 experts per key occupation per country** is required in order to obtain reliable results (of course, experts often have expertise on one or (preferably) more groups of occupations and can thus cover more than one key occupation). Do not forget to recruit experts amongst your colleagues.

Ask experts to complete the expert registration forms on our website (www.eurooccupations.org). For experts without access to Internet, paper registration forms (and paper expert questionnaires, see step 5) can be provided. Once completed, experts can send/give the completed form to the national coordinator, who fills in the expert registration form on-line (www.eurooccupations.org).

Joint responsibility

In order to build the expert network, all partners are expected to ask a large number of possible

experts in their network to join the expert network (in person, by phone, e-mail, etc.).

There are also some 'tools' for expert recruitment. For example, you can distribute EurOccupations flyers amongst possible experts, disseminate these flyers at conferences you attend, publish articles on EurOccupations in relevant journals, distribute newsletters etc.

Stimulating experts to cooperate

Since we rely heavily on the expertise of our experts for our data collection, it must be attractive for experts to cooperate. We can do this by offering experts (additional to, of course, free access to the occupations database) a written report on the occupational structure within the specific cluster of occupations and – if necessary – compensation for their costs.

Confidentiality of expert information

All partners will have to take into account that expert information is personal and of confidential nature. We will, however, include a question in the expert registration form whether the expert wishes that his/her expert information is handled confidentially or whether they want to be publicly known for being an expert in the EurOccupations network. In the latter case, we might for example ask experts to participate in interviews to be published in our newsletter or on our website.

Relevant EurOccupations formats:

- flyer;
- business cards with website address;
- standard article text for publication/dissemination activities;
- expert registration form (on-line, paper version also available).

Step 2. Selection of key occupations

Dutch project team, in cooperation with cluster coordinators (February- March 2007)

The 150 key occupations will be selected from the extended list using several criteria.

The selection will be made by the Dutch project team, in close collaboration with each cluster coordinator.

For each of the 8 clusters, 15-20 key occupations will be selected. The selection should include:

- the most frequent occupations (i.e., volume argument);
- occupations of varying skill levels;
- occupations of varying gender composition (male-dominated, mixed, female-dominated occupations);
- 'new' occupations;
- blurred occupations (e.g., managers).

If possible, the selection should also include occupations for which policy makers have a need for comparable, international data.

Step 3. Description of tasks for key occupations

Cluster coordinators, Dutch project team (March – April 2007)

Each cluster coordinator (WP leaders of WP 3 - 11) will write the task descriptions for the key occupations in their specific cluster of occupations, using the standardised EurOccupations task format. In order to synchronise the task descriptions of the different cluster coordinators and to come to comparable task descriptions, **the task descriptions must be written in the following way¹:**

1. gather cross-national information on relevant tasks for this occupation from **(at least) five sources. Please include information from at least the following sources:**

- O*net (<http://online.onetcenter.org/>);
- <http://www.workfutures.bc.ca/> (Canadian site in French and English);
- <http://rome.anpe.net/> (French site);
- <http://www.sueddeutsche.de/> (German site);
- <http://www.careervoyages.gov/retail-main.cfm> (UK site).

You can additionally include information from other sources, such as:

- occupation websites such as <http://www.myfuture.edu.au/>, (Australian site), <http://cobra.vdab.be/cobra/> (Belgian site), <http://www.beroepsrisico.nl/> (Dutch site). **If you have additional suggestions for sources of information on task profiles, please let us know!**
- competency profiles;
- findings from previous research;
- websites of, for example, employer organisations, unions, knowledge centres.

Of course, you can also consult experts.

2. include the information from the sources in a task document for the key occupation. **Use the format as included in Appendix B as a basis for this document. Please include correct references to the sources of information!**
3. compare the list of relevant tasks from the different sources (if you cannot understand the information from sources in other languages, please ask the national coordinators to check whether the information from these sources is consistent **IN STEP 6**), pay special attention to the usability of the information for the task description and the level of aggregation in which the tasks are described when comparing the sources. What information applies to the specific occupation under study, what information applies to other occupations? For example, certain tasks from the sources used in the example describing the 'telecommunication equipment repairer and installer' were not included in the task description since these were tasks of a higher level occupation in the telecommunication area (see Appendix D);
4. also note relevant information from the sources on related occupations (see, for example, the overview of related occupations in the search results of websites such as O*net);
5. try to combine the information from the three sources into a description of (preferably) 10 tasks² and a short, general description of the occupation (max. 1 or 2 sentences that summarise the core of the occupation). If necessary, consult experts. Where adequate and suitable, use the O*net information as the starting point for this description of tasks. When describing the tasks:
 - please use the enclosed format for the task description (see Appendix A);

¹ The presented guidelines are partly based on the guidelines for the description of tasks in O*net (O*net, 2002)

² Of course, if it is not feasible to identify 10 tasks (by splitting up or clustering task information), fewer tasks might suffice. In other cases, it might be necessary to describe more than 10 tasks.

- use the present tense and a direct style to describe tasks, for example 'manage and maintain schedules';
- try to prevent using enumerations, since there is a risk of incompleteness and information might be aged quite soon (bad example: 'assemble and secure pipes, tubes, fittings, and related equipment, according to specifications, by welding, brazing, cementing, soldering, and threading joints', good example: 'assemble and secure pipes, tubes, fittings, and related equipment, according to specifications, by using techniques such as welding, brazing, cementing, soldering, or threading joints');
- try to sketch the context of the specific occupation, e.g. by including examples that illustrate the task;
- use up-to-date examples and avoid mentioning too specific software and machines (f.e.: instead of 'manage and maintain schedules using MS Outlook' use 'manage and maintain schedules');
- use easy, straight-forward language, try to avoid very specific jargon and being pompous in task descriptions;
- use, where possible, 20 or fewer words for the tasks to keep them from being too complex;
- do not include tasks that are conditional, for example 'climb poles and ladders, use truck-mounted booms, and enter areas such as manholes and cable vaults, in order to install, maintain, or inspect equipment' in the task profile of a telecommunication equipment repairer and installer is not a task in itself but is conditional for other tasks (such as 'inspect equipment on a regular basis in order to ensure proper functioning');
- refer to sources in a correct manner.

6. Please send the task documents for the key occupations in your cluster of occupations to all national coordinators and ask them to check the descriptions. If necessary (f.e. if you do not understand the occupation information in French or Polish), ask them to pay special attention to how the information from their national sources relates to the proposed list of tasks. These task documents include: the proposed list of tasks, a list of related occupations, a short, general description of the occupation (1 or 2 sentences), the information from the (minimum number of 5) sources including correct references. Use the standardised format (see Appendix A).

Finally, you should send the task descriptions to the Dutch project team. The task descriptions will be checked on international validity and consistency.

If it appears to be necessary to adjust the extended list based on the results of the task description (e.g., when occupations are in fact synonyms or if an occupation comprises several occupations), please suggest required adjustments in the extended list of occupations. E-mail these suggestions to Kea Tijdens (K.G.Tijdens@uva.nl) and Joyce Jacobs (J.Jacobs@uva.nl).

Relevant EurOccupations formats:

- standardised task format;
- examples of task descriptions.

Step 4. Translation of task descriptions and web questionnaires

National coordinators (March – May 2007)

Since the expert web questionnaires will be provided in national languages, each national coordinator should translate all task descriptions and the web questionnaires (expert and occupational worker questionnaire) in their own language. **Pay special attention to the education question** in the questionnaire: include the correct educational categories in your country (please use enough detail so that later recoding into ISCED and CASMINX educational categories is possible!).

E-mail the 150 translated task descriptions and 2 translated web questionnaires to Marijke Veldhoen (vanblitterswijk@fsw.eur.nl), so that they can be included in the web survey.

Relevant EurOccupations formats:

- task descriptions 150 key occupations;
- web questionnaire experts;
- web questionnaire occupational workers.

Step 5a. Managing expert data collection (web survey)

Cluster coordinators, Dutch project team (May 2007 – January 2008)

The cluster coordinators have to ensure that a sufficient number of experts in the 7 countries complete the web questionnaires on all key occupations in their cluster. **A minimum number of 5 experts per key occupation per country** is required in order to obtain reliable results. For occupations with high heterogeneity (in case there is much disagreement among experts), more expert judgments are desirable.

The cluster coordinators will regularly check the number of completed web questionnaires per key occupation as well as the heterogeneity of the variables (disagreement between experts). The Dutch project team will provide the cluster coordinators with web survey data for their cluster on a regular basis (e.g., monthly), starting May 2007. If these data indicate that: (a) there are not enough completed questionnaires, or (b) there is high heterogeneity, **the cluster coordinators have to contact national coordinators to actively recruit more experts to complete questionnaires on the key occupation.** Additionally, the cluster coordinators may decide, in collaboration with the national coordinators and the Dutch project team, to organise (national) video-/web-/meeting expert sessions to discuss 'problematic' occupations.

If it appears to be necessary to adjust the extended list based on the expert data collection, please suggest required adjustments in the extended list of occupations. E-mail these suggestions to Kea Tijdens (K.G.Tijdens@uva.nl) and Joyce Jacobs (J.Jacobs@uva.nl).

Step 5b. Expert data collection (web survey) – experts

National coordinators (May 2007 – January 2008)

During the expert data collection, the national coordinators actively recruit experts to complete web questionnaires on the 150 key occupations (see also step 1). Please ensure that as many experts as possible complete the web questionnaire(s). Keep in mind that **a minimum number of 5 experts per key occupation per country** is required in order to obtain reliable results.

If the cluster coordinator signals that additional data is required (see step 5a.), the national coordinators should undertake immediate action (recruit additional experts). Additionally, the national coordinators may, in collaboration with cluster coordinators and the Dutch project team, decide to organise national video-/web-/meeting expert sessions to discuss 'problematic' occupations.

If experts do not have access to Internet, print the questionnaire for relevant key occupation(s). Ask them to complete more than 1 (preferably 5) paper questionnaires on key occupations in which they are (moderate) experts. These completed questionnaires can be sent to the following address:

Erasmus University Rotterdam
FSW/Sociology
Marijke Veldhoen-van Blitterswijk
Woudestein, M6-10
Postbus 1738
3000 DR Rotterdam
The Netherlands

Relevant EurOccupations formats:

- flyer;
- business cards with website address;
- web questionnaire experts.

Step 5c. Expert data collection (web survey) – occupational workers ***National coordinators (May 2007 – January 2008)***

Additionally, occupational workers can complete the web survey on www.eurooccupations.org. Ask relevant organisations (e.g., unions, employer organisations, interest groups) to publish a web-link on their websites to the EurOccupations website with the request for occupational workers to complete a questionnaire. Additionally, the WageIndicator websites in the 8 countries (also including Italy) will publish calls asking occupational workers to complete a web questionnaire.

In order to trigger occupational workers to complete a web survey, a number of prizes can be offered in a drawing for prizes among the participating occupational workers.

Relevant EurOccupations formats:

- flyer;
- business cards with website address;
- web questionnaire occupational workers.

Step 6. Gathering some additional benchmark information

Cluster coordinators (before February 2008)

Using desk research, Internet research and consultation of relevant cross-national experts, gather some additional (cross-national) information on the key occupations in your cluster, using the "questionnaire key occupation" for cluster coordinators. This questionnaire includes the following three questions:

- What type of work is performed in the occupation (production, non-production)?
- Is there relevant European-level legislation that applies for this occupation?
- Are there any agreements or regulations that recognise qualifications from other countries for this occupation?

Relevant EurOccupations formats:

- "questionnaire key occupation" for cluster coordinators.

Step 7. Organisation of an international expert conference March 2008

All project partners (September 2007 - March 2008)

An international expert conference will be organised in 2008, in which cross-national experts will participate (e.g. NSI's, Cedefop, ETF, other relevant European organisations). The goal of the international expert conference is to gain further insight in similarities and differences in the relevant occupational and educational structures in the 7 countries and to discuss certain problematic cases.

Conference sessions will be organised in which the following topics will be addressed:

- the occupational structure in clusters of occupations (extended list);
- the educational structure in clusters of occupations;
- certain 'problematic' occupations (e.g., blurred occupations, high (generalised) heterogeneity).

The cluster coordinators:

- propose (when appropriate) a conference session for certain 'problematic' occupations in their cluster of occupations;
- invite relevant experts to participate, in collaboration with the Dutch project team;
- prepare and chair relevant sessions;
- write a report on relevant findings for their cluster of occupations.

The national coordinators:

- invite relevant experts from their country to participate, in collaboration with the Dutch project team and the cluster coordinators.

Step 8. Analysing and reporting on the findings of the expert data collection per cluster of occupations

Cluster coordinators, Dutch project team (February - April 2008)

In February 2008, the Dutch project team will provide the following measures to the cluster coordinators (in an SPSS-file), based on analyses of the expert data:

- the average expert score for each variable for each country;
- the heterogeneity in expert judgements for each variable for each country;
- the generalised variance for each variable (this variable will capture the overall heterogeneity across the 7 countries and allows us to distinguish between 'stable', 'internationally comparable' occupations and occupations that vary greatly between countries with respect to, for example, skill level and required competencies).

All data, including the expert data, will be handed over to the EU (part of reporting on EurOccupations to the EU).

The cluster coordinators:

- analyse the dataset provided by the Dutch project team;
- identify (groups of) problematic occupations in the cluster and describe why these occupations are problematic (e.g., blurred occupations, level of aggregation, synonyms, high (generalised) heterogeneity);
- based on the analyses and the results of the international expert conference (see step 7), write a report on the findings of the expert group, describing the occupational structure for their cluster of occupations;
- assign, for **all** occupations in the cluster of occupations, the required national levels of education;
- based on the findings, propose revisions of the extended list for their cluster of occupations.

Step 9. Reporting on the findings of the expert data collection per country

National coordinators (May 2008)

Based on the analyses and reports of the cluster coordinators (see step 8), the national coordinators summarise the main findings for their country in a national report. In the national report, attention should be paid to all clusters of occupations.

4. Tips, tricks, questions

As we all learn from experiences, it might be a good idea to share 'tips and tricks'. For example: how can we trigger experts to participate in the expert research, what are good and reliable sources of information for the task descriptions etc.?

The Dutch project team will gather these 'tips and tricks', and will keep them up-to-date. These will be mailed to all partners on a regular basis.

For any questions or remarks concerning the expert data collection, please contact Judith or Esther de Ruijter (j.de.ruijter@aoconsult.nl, e.de.ruijter@aoconsult.nl, phone: +31 (0)13 5300402).

References

De Ruijter, J., De Ruijter, E. & Veldhoen, M. (2007). EurOccupations: Measuring occupational skill levels and occupational content in the EU. Deliverable of EU-project EurOccupations. Rotterdam: Erasmus University Rotterdam.

Appendix A Responsibilities of each project partner

In the EurOccupations expert research, each project partner fulfills one or more roles, associated with a number of tasks and responsibilities. In this document, the responsibilities of all project partners in the expert research are summarised.

Project partners always have at least one of the following responsibilities:

6. general responsibilities of **all project partners**;
7. responsibilities of **cluster coordinators**;
8. responsibilities of **national coordinators**;
9. additional responsibilities of **national project teams**.

The following steps will be taken in the expert data collection:

Step	Activity	Period	Who?
1	Recruiting experts	February 2007 – February 2008	All project partners
2	Selection of key occupations	February- March 2007	Dutch project team, cluster coordinators
3	Description of tasks for key occupations	March – April 2007	Cluster coordinators, Dutch project team
4	Translation of task descriptions and web questionnaires	April – May 2007	National coordinators
5a	Managing expert data collection (web survey)	May 2007 – January 2008	Cluster coordinators, Dutch project team
5b	Expert data collection (web survey) – experts	May 2007 – January 2008	National coordinators
5c	Expert data collection (web survey) – occupational workers	May 2007 – January 2008	National coordinators
6	Gathering some additional key information	Before February 2008	Cluster coordinators
7	Organisation of international expert conference March 2008	September 2007 - March 2008	All project partners
8	Analysing and reporting on the findings of the expert data collection per cluster of occupations	February – April 2008	Cluster coordinators, Dutch project team
9	Reporting on the findings of the expert data collection per country	May 2008	National coordinators

The responsibilities of the project partners are presented in the following order:

1. EUR
2. AOC
3. KU Leuven
4. Warwick
5. AIAS
6. PUE
7. CIREM
8. CEREQ
9. AWWW GmbH

1. EUR

Roles EUR in expert data collection:

- Project partner/Dutch project team:
 1. WP2, WP3, WP6, WP 3 – 10;
 2. 15,5 person months;
 3. Deliverables: D5, D7-14, D32, D33, D34.

Tasks and responsibilities EUR:

As project partner:

- recruit experts to participate in the expert research, i.e. build a network of experts with regard to occupational structures for all clusters of occupations;
- support AIAS en AOC as cluster coordinators of WP3 and WP6.
- contribute to the organisation of the international expert conference in 2008.

As Dutch project team:

- propose a selection of key occupations for each cluster of occupations.
- describe tasks for key occupations:
 - check task descriptions on international validity and consistency.
- manage the expert data collection (web survey) in cooperation with the cluster coordinators:
 - provide the cluster coordinators with web survey data for their cluster on a regular basis (e.g., monthly).
- coordinate the organisation of the international expert conference in 2008.
- analyse and report on the findings of the expert data collection:
 - provide the following measures to the cluster coordinators (in an SPSS-file), based on analyses of the expert data:
 - the average expert score for each variable for each country;
 - the heterogeneity in expert judgements for each variable for each country;
 - the generalised variance for each variable (this variable will capture the overall heterogeneity across the 7 countries and allows us to distinguish between 'stable', 'internationally comparable' occupations and occupations that vary greatly between countries with respect to, for example, skill level and required competencies).

2. AOC

Roles AOC in expert data collection:

- Project partner/Dutch project team:
 1. WP 2, WP 3 – 10;
 2. 24,5 person months;
 3. Deliverables: D4, D6, D32, D33.
- Cluster coordinator construction, crafts and trade occupations:
 1. WP 6;
 2. 2,4 person months;
 3. Deliverables: D18.
- National coordinator the Netherlands:
 1. WP 3 – 10;
 2. 6,4 person months;
 3. Deliverables: D7-D14.

Tasks and responsibilities AOC:

As project partner:

- recruit experts to participate in the expert research, i.e. build a network of experts with regard to occupational structures for all clusters of occupations;
- contribute to the organisation of the international expert conference in 2008.

As cluster coordinator (for 1 cluster of occupations):

- select key occupations for your cluster of occupations, in close collaboration with the Dutch project team.
- describe tasks for key occupations:
 - write task descriptions for the key occupations in your specific cluster of occupations, using the standardised procedure;
 - send the task descriptions to all national coordinators and ask them to check the descriptions on validity for their country;
 - send the task descriptions to the Dutch project team for the check on international validity and consistency;
 - if necessary, suggest required adjustments in the extended list of occupations.
- manage expert data collection:
 - ensure that a sufficient number of experts web questionnaires is completed (minimum number of 5 completed web surveys per key occupation);
 - regularly check the number of completed web questionnaires per key occupation as well as the heterogeneity of the variables;
 - if necessary, contact national coordinators to actively recruit more experts to complete questionnaires on key occupations. Additionally, the cluster coordinators may decide, in collaboration with national coordinators, to organise (national) video-/web-conference sessions to discuss 'problematic' occupations;
 - if necessary, suggest required adjustments in the extended list of occupations.
- gather some additional (cross-national) key information, using the "questionnaire key occupation" for cluster coordinators.
- contribute to the organisation of the international expert conference in 2008:

- propose (when appropriate) a conference session for certain 'problematic' occupations in your cluster of occupations;
- invite relevant experts to participate, in collaboration with the Dutch project team;
- prepare and chair relevant sessions;
- write a report on relevant findings for your cluster of occupations.
- analyse and report on the findings of the expert data collection for your cluster of occupations:
 - analyse the dataset provided by the Dutch project team;
 - identify (groups of) problematic occupations in the cluster and describe why these occupations are problematic (e.g., blurred occupations, level of aggregation, synonyms, high (generalised) heterogeneity);
 - based on the analyses and the results of the international expert conference (see step 7), write a report on the findings of the expert group, describing the occupational structure for your cluster of occupations;
 - assign, for all occupations in your cluster of occupations, the required national levels of education;
 - based on the findings, propose revisions of the extended list for your cluster of occupations.

As national coordinator the Netherlands:

- check the task descriptions for the 150 key occupations on validity for the Netherlands.
- translate the 150 task descriptions and web questionnaires.
- conduct national expert data collection (web survey) – experts:
 - actively recruit experts to complete web questionnaires on the 150 key occupations (a minimum number of 5 experts per key occupation per country is required);
 - if necessary, organise national video-/web-conference sessions to discuss 'problematic' occupations, in collaboration with the cluster coordinator;
 - coordinate data collection for experts who do not have access to the Internet, using paper versions of the questionnaires.
- conduct expert data collection (web survey) – occupational workers:
 - ask relevant organisations (e.g., unions, employer organisations, interest groups) to publish a web-link on their websites to the EurOccupations website with the request for occupational workers to complete a questionnaire.
- contribute to the organisation of the international expert conference in 2008:
 - invite relevant experts from the Netherlands to participate, in collaboration with the Dutch project team and the cluster coordinators.
 - report on the findings of the expert data collection per country, based on the 8 cluster reports as provided by the cluster coordinators.

As Dutch project team:

- propose a selection of key occupations for each cluster of occupations.
- describe tasks for key occupations:
 - check task descriptions on international validity and consistency.
- manage the expert data collection (web survey) in cooperation with the cluster coordinators:
 - provide the cluster coordinators with web survey data for their cluster on a regular

basis (e.g., monthly).

- coordinate the organisation of the international expert conference in 2008.
- analyse and report on the findings of the expert data collection:
 - provide the following measures to the cluster coordinators (in an SPSS-file), based on analyses of the expert data:
 - the average expert score for each variable for each country;
 - the heterogeneity in expert judgements for each variable for each country;
 - the generalised variance for each variable (this variable will capture the overall heterogeneity across the 7 countries and allows us to distinguish between 'stable', 'internationally comparable' occupations and occupations that vary greatly between countries with respect to, for example, skill level and required competencies).

3. KU Leuven

Roles KU Leuven in expert data collection:

- Project partner:
 1. WP 2;
 2. 1 person month;
 3. Deliverables: D4, D33.
- Cluster coordinator information, communication, finance occupations:
 1. WP 5;
 2. 3,4 person months;
 3. Deliverables: D17.
- National coordinator Belgium:
 1. WP 3 – 10;
 2. 6,4 person months;
 3. Deliverables: D7-D14.

Tasks and responsibilities KU Leuven:

As project partner:

- recruit experts to participate in the expert research, i.e. build a network of experts with regard to occupational structures for all clusters of occupations;
- contribute to the organisation of the international expert conference in 2008.

As cluster coordinator (for 1 cluster of occupations):

- select key occupations for your cluster of occupations, in close collaboration with the Dutch project team.
- describe tasks for key occupations:
 - write task descriptions for the key occupations in your specific cluster of occupations, using the standardised procedure;
 - send the task descriptions to all national coordinators and ask them to check the descriptions on validity for their country;
 - send the task descriptions to the Dutch project team for the check on international validity and consistency;
 - if necessary, suggest required adjustments in the extended list of occupations.
- manage expert data collection:
 - ensure that a sufficient number of experts web questionnaires is completed (minimum number of 5 completed web surveys per key occupation);
 - regularly check the number of completed web questionnaires per key occupation as well as the heterogeneity of the variables;
 - if necessary, contact national coordinators to actively recruit more experts to complete questionnaires on key occupations. Additionally, the cluster coordinators may decide, in collaboration with national coordinators, to organise (national) video-/web-conference sessions to discuss 'problematic' occupations;
 - if necessary, suggest required adjustments in the extended list of occupations.
- gather some additional (cross-national) key information, using the "questionnaire key occupation" for cluster coordinators.
- contribute to the organisation of the international expert conference in 2008:

- propose (when appropriate) a conference session for certain 'problematic' occupations in your cluster of occupations;
- invite relevant experts to participate, in collaboration with the Dutch project team;
- prepare and chair relevant sessions;
- write a report on relevant findings for your cluster of occupations.
- analyse and report on the findings of the expert data collection for your cluster of occupations:
 - analyse the dataset provided by the Dutch project team;
 - identify (groups of) problematic occupations in the cluster and describe why these occupations are problematic (e.g., blurred occupations, level of aggregation, synonyms, high (generalised) heterogeneity);
 - based on the analyses and the results of the international expert conference (see step 7), write a report on the findings of the expert group, describing the occupational structure for your cluster of occupations;
 - assign, for all occupations in your cluster of occupations, the required national levels of education;
 - based on the findings, propose revisions of the extended list for your cluster of occupations.

As national coordinator Belgium:

- check the task descriptions for the 150 key occupations on validity for Belgium.
- translate the 150 task descriptions and web questionnaires.
- conduct national expert data collection (web survey) – experts:
 - actively recruit experts to complete web questionnaires on the 150 key occupations (a minimum number of 5 experts per key occupation per country is required);
 - if necessary, organise national video-/web-conference sessions to discuss 'problematic' occupations, in collaboration with the cluster coordinator;
 - coordinate data collection for experts who do not have access to the Internet, using paper versions of the questionnaires.
- conduct expert data collection (web survey) – occupational workers:
 - ask relevant organisations (e.g., unions, employer organisations, interest groups) to publish a web-link on their websites to the EurOccupations website with the request for occupational workers to complete a questionnaire.
- contribute to the organisation of the international expert conference in 2008:
 - invite relevant experts from Belgium to participate, in collaboration with the Dutch project team and the cluster coordinators.
 - report on the findings of the expert data collection per country, based on the 8 cluster reports as provided by the cluster coordinators.

4. Warwick

Roles Warwick in expert data collection:

- Project partner;
 1. WP 2;
 2. 4 person months;
 3. Deliverables: D4, D33.
- Cluster coordinator transport, logistics, travel occupations:
 1. WP 8;
 2. 2,9 person months;
 3. Deliverables: D20.
- Cluster coordinator manufacturing-A occupations (cars, mechanics, technicians, engineers & food manufacturing);
 1. WP 9;
 2. 2,9 person months;
 3. Deliverables: D21.
- Cluster coordinator administration, legal, clerical occupations;
 1. WP 10;
 2. 2,9 person months;
 3. Deliverables: D22.
- National coordinator United Kingdom:
 1. WP 3 – 10;
 2. 6,4 person months;
 3. Deliverables: D7-D14.

Tasks and responsibilities Warwick:

As project partner:

- recruit experts to participate in the expert research, i.e. build a network of experts with regard to occupational structures for all clusters of occupations;
- contribute to the organisation of the international expert conference in 2008.

As cluster coordinator (for 3 clusters of occupations):

- select key occupations for your cluster of occupations, in close collaboration with the Dutch project team.
- describe tasks for key occupations:
 - write task descriptions for the key occupations in your specific cluster of occupations, using the standardised procedure;
 - send the task descriptions to all national coordinators and ask them to check the descriptions on validity for their country;
 - send the task descriptions to the Dutch project team for the check on international validity and consistency;
 - if necessary, suggest required adjustments in the extended list of occupations.
- manage expert data collection:
 - ensure that a sufficient number of experts web questionnaires is completed (minimum number of 5 completed web surveys per key occupation);
 - regularly check the number of completed web questionnaires per key occupation as

- well as the heterogeneity of the variables;
 - if necessary, contact national coordinators to actively recruit more experts to complete questionnaires on key occupations. Additionally, the cluster coordinators may decide, in collaboration with national coordinators, to organise (national) video-/web-conference sessions to discuss 'problematic' occupations;
 - if necessary, suggest required adjustments in the extended list of occupations.
- gather some additional (cross-national) key information, using the "questionnaire key occupation" for cluster coordinators.
- contribute to the organisation of the international expert conference in 2008:
 - propose (when appropriate) a conference session for certain 'problematic' occupations in your cluster of occupations;
 - invite relevant experts to participate, in collaboration with the Dutch project team;
 - prepare and chair relevant sessions;
 - write a report on relevant findings for your cluster of occupations.
- analyse and report on the findings of the expert data collection for your cluster of occupations:
 - analyse the dataset provided by the Dutch project team;
 - identify (groups of) problematic occupations in the cluster and describe why these occupations are problematic (e.g., blurred occupations, level of aggregation, synonyms, high (generalised) heterogeneity);
 - based on the analyses and the results of the international expert conference (see step 7), write a report on the findings of the expert group, describing the occupational structure for your cluster of occupations;
 - assign, for all occupations in your cluster of occupations, the required national levels of education;
 - based on the findings, propose revisions of the extended list for your cluster of occupations.

As national coordinator United Kingdom:

- check the task descriptions for the 150 key occupations on validity for the UK.
- translate the 150 task descriptions and web questionnaires.
- conduct national expert data collection (web survey) – experts:
 - actively recruit experts to complete web questionnaires on the 150 key occupations (a minimum number of 5 experts per key occupation per country is required);
 - if necessary, organise national video-/web-conference sessions to discuss 'problematic' occupations, in collaboration with the cluster coordinator;
 - coordinate data collection for experts who do not have access to the Internet, using paper versions of the questionnaires.
- conduct expert data collection (web survey) – occupational workers:
 - ask relevant organisations (e.g., unions, employer organisations, interest groups) to publish a web-link on their websites to the EurOccupations website with the request for occupational workers to complete a questionnaire.
- contribute to the organisation of the international expert conference in 2008:
 - invite relevant experts from the UK to participate, in collaboration with the Dutch project team and the cluster coordinators.
 - report on the findings of the expert data collection per country, based on the 8

cluster reports as provided by the cluster coordinators.

5. AIAS

Roles AIAS in expert data collection:

- Project partner:
 1. WP 2;
 2. 1,4 person months;
 3. Deliverables: D4, D33.
- Cluster coordinator care (incl. childcare), welfare occupations:
 1. WP 3;
 2. 3,2 person months;
 3. Deliverables: D15.

Tasks and responsibilities AIAS:

As project partner:

- recruit experts to participate in the expert research, i.e. build a network of experts with regard to occupational structures for all clusters of occupations;
- contribute to the organisation of the international expert conference in 2008.

As cluster coordinator (for 1 cluster of occupations):

- select key occupations for your cluster of occupations, in close collaboration with the Dutch project team.
- describe tasks for key occupations:
 - write task descriptions for the key occupations in your specific cluster of occupations, using the standardised procedure;
 - send the task descriptions to all national coordinators and ask them to check the descriptions on validity for their country;
 - send the task descriptions to the Dutch project team for the check on international validity and consistency;
 - if necessary, suggest required adjustments in the extended list of occupations.
- manage expert data collection:
 - ensure that a sufficient number of experts web questionnaires is completed (minimum number of 5 completed web surveys per key occupation);
 - regularly check the number of completed web questionnaires per key occupation as well as the heterogeneity of the variables;
 - if necessary, contact national coordinators to actively recruit more experts to complete questionnaires on key occupations. Additionally, the cluster coordinators may decide, in collaboration with national coordinators, to organise (national) video-/web-conference sessions to discuss 'problematic' occupations;
 - if necessary, suggest required adjustments in the extended list of occupations.
- gather some additional (cross-national) key information, using the "questionnaire key occupation" for cluster coordinators.
- contribute to the organisation of the international expert conference in 2008:
 - propose (when appropriate) a conference session for certain 'problematic' occupations in your cluster of occupations;
 - invite relevant experts to participate, in collaboration with the Dutch project team;
 - prepare and chair relevant sessions;

- write a report on relevant findings for your cluster of occupations.
- analyse and report on the findings of the expert data collection for your cluster of occupations:
 - analyse the dataset provided by the Dutch project team;
 - identify (groups of) problematic occupations in the cluster and describe why these occupations are problematic (e.g., blurred occupations, level of aggregation, synonyms, high (generalised) heterogeneity);
 - based on the analyses and the results of the international expert conference (see step 7), write a report on the findings of the expert group, describing the occupational structure for your cluster of occupations;
 - assign, for all occupations in your cluster of occupations, the required national levels of education;
 - based on the findings, propose revisions of the extended list for your cluster of occupations.

6. PUE

Roles PUE in expert data collection:

- Project partner:
 1. WP 2;
 2. 1 person month;
 3. Deliverables: D4, D33.
- Cluster coordinator manufacturing-B occupations (industrial production, manufacture, metal & plastics & oil, gas, mining, utilities):
 1. WP 7;
 2. 3,4 person months;
 3. Deliverables: D19.
- National coordinator Poland/additional activities as Polish project team:
 1. WP 3 – 10;
 2. 24 person months;
 3. Deliverables: D7-D14.

Tasks and responsibilities PUE:

As project partner:

- recruit experts to participate in the expert research, i.e. build a network of experts with regard to occupational structures for all clusters of occupations;
- contribute to the organisation of the international expert conference in 2008.

As cluster coordinator (for 1 cluster of occupations):

- select key occupations for your cluster of occupations, in close collaboration with the Dutch project team.
- describe tasks for key occupations:
 - write task descriptions for the key occupations in your specific cluster of occupations, using the standardised procedure;
 - send the task descriptions to all national coordinators and ask them to check the descriptions on validity for their country;
 - send the task descriptions to the Dutch project team for the check on international validity and consistency;
 - if necessary, suggest required adjustments in the extended list of occupations.
- manage expert data collection:
 - ensure that a sufficient number of experts web questionnaires is completed (minimum number of 5 completed web surveys per key occupation);
 - regularly check the number of completed web questionnaires per key occupation as well as the heterogeneity of the variables;
 - if necessary, contact national coordinators to actively recruit more experts to complete questionnaires on key occupations. Additionally, the cluster coordinators may decide, in collaboration with national coordinators, to organise (national) video-/web-conference sessions to discuss 'problematic' occupations;
 - if necessary, suggest required adjustments in the extended list of occupations.
- gather some additional (cross-national) key information, using the "questionnaire key occupation" for cluster coordinators.

- contribute to the organisation of the international expert conference in 2008:
 - propose (when appropriate) a conference session for certain 'problematic' occupations in your cluster of occupations;
 - invite relevant experts to participate, in collaboration with the Dutch project team;
 - prepare and chair relevant sessions;
 - write a report on relevant findings for your cluster of occupations.
- analyse and report on the findings of the expert data collection for your cluster of occupations:
 - analyse the dataset provided by the Dutch project team;
 - identify (groups of) problematic occupations in the cluster and describe why these occupations are problematic (e.g., blurred occupations, level of aggregation, synonyms, high (generalised) heterogeneity);
 - based on the analyses and the results of the international expert conference (see step 7), write a report on the findings of the expert group, describing the occupational structure for your cluster of occupations;
 - assign, for all occupations in your cluster of occupations, the required national levels of education;
 - based on the findings, propose revisions of the extended list for your cluster of occupations.

As national coordinator Poland:

- check the task descriptions for the 150 key occupations on validity for Poland.
- translate the 150 task descriptions and web questionnaires.
- conduct national expert data collection (web survey) – experts:
 - actively recruit experts to complete web questionnaires on the 150 key occupations (a minimum number of 5 experts per key occupation per country is required);
 - if necessary, organise national video-/web-conference sessions to discuss 'problematic' occupations, in collaboration with the cluster coordinator;
 - coordinate data collection for experts who do not have access to the Internet, using paper versions of the questionnaires.
- conduct expert data collection (web survey) – occupational workers:
 - ask relevant organisations (e.g., unions, employer organisations, interest groups) to publish a web-link on their websites to the EurOccupations website with the request for occupational workers to complete a questionnaire.
- contribute to the organisation of the international expert conference in 2008:
 - invite relevant experts from Poland to participate, in collaboration with the Dutch project team and the cluster coordinators.
 - report on the findings of the expert data collection per country, based on the 8 cluster reports as provided by the cluster coordinators.

As Polish project team:

- pay particular attention to the Polish occupational structures, because it is less published about and less compared to other national occupational structures.

7. CIREM

Roles CIREM in expert data collection:

- Project partner:
 1. WP 2;
 2. 1 person month;
 3. Deliverables: D4, D33.
- Cluster coordinator education, research, personnel occupations:
 1. WP 4;
 2. 3,4 person months;
 3. Deliverables: D16.
- National coordinator Spain:
 1. WP 3 – 10;
 2. 6,4 person months;
 3. Deliverables: D7-D14.

Tasks and responsibilities CIREM:

As project partner:

- recruit experts to participate in the expert research, i.e. build a network of experts with regard to occupational structures for all clusters of occupations;
- contribute to the organisation of the international expert conference in 2008.

As cluster coordinator (for 1 cluster of occupations):

- select key occupations for your cluster of occupations, in close collaboration with the Dutch project team.
- describe tasks for key occupations:
 - write task descriptions for the key occupations in your specific cluster of occupations, using the standardised procedure;
 - send the task descriptions to all national coordinators and ask them to check the descriptions on validity for their country;
 - send the task descriptions to the Dutch project team for the check on international validity and consistency;
 - if necessary, suggest required adjustments in the extended list of occupations.
- manage expert data collection:
 - ensure that a sufficient number of experts web questionnaires is completed (minimum number of 5 completed web surveys per key occupation);
 - regularly check the number of completed web questionnaires per key occupation as well as the heterogeneity of the variables;
 - if necessary, contact national coordinators to actively recruit more experts to complete questionnaires on key occupations. Additionally, the cluster coordinators may decide, in collaboration with national coordinators, to organise (national) video-/web-conference sessions to discuss 'problematic' occupations;
 - if necessary, suggest required adjustments in the extended list of occupations.
- gather some additional (cross-national) key information, using the "questionnaire key occupation" for cluster coordinators.
- contribute to the organisation of the international expert conference in 2008:

- propose (when appropriate) a conference session for certain 'problematic' occupations in your cluster of occupations;
- invite relevant experts to participate, in collaboration with the Dutch project team;
- prepare and chair relevant sessions;
- write a report on relevant findings for your cluster of occupations.
- analyse and report on the findings of the expert data collection for your cluster of occupations:
 - analyse the dataset provided by the Dutch project team;
 - identify (groups of) problematic occupations in the cluster and describe why these occupations are problematic (e.g., blurred occupations, level of aggregation, synonyms, high (generalised) heterogeneity);
 - based on the analyses and the results of the international expert conference (see step 7), write a report on the findings of the expert group, describing the occupational structure for your cluster of occupations;
 - assign, for all occupations in your cluster of occupations, the required national levels of education;
 - based on the findings, propose revisions of the extended list for your cluster of occupations.

As national coordinator Spain:

- check the task descriptions for the 150 key occupations on validity for Spain.
- translate the 150 task descriptions and web questionnaires.
- conduct national expert data collection (web survey) – experts:
 - actively recruit experts to complete web questionnaires on the 150 key occupations (a minimum number of 5 experts per key occupation per country is required);
 - if necessary, organise national video-/web-conference sessions to discuss 'problematic' occupations, in collaboration with the cluster coordinator;
 - coordinate data collection for experts who do not have access to the Internet, using paper versions of the questionnaires.
- conduct expert data collection (web survey) – occupational workers:
 - ask relevant organisations (e.g., unions, employer organisations, interest groups) to publish a web-link on their websites to the EurOccupations website with the request for occupational workers to complete a questionnaire.
- contribute to the organisation of the international expert conference in 2008:
 - invite relevant experts from Spain to participate, in collaboration with the Dutch project team and the cluster coordinators.
 - report on the findings of the expert data collection per country, based on the 8 cluster reports as provided by the cluster coordinators.

8. CEREQ

Roles CEREQ in expert data collection:

- Project partner:
 1. WP 2;
 2. 1 person month;
 3. Deliverables: D4, D33.
- National coordinator France:
 1. WP 3 – 10;
 2. 6,4 person months;
 3. Deliverables: D7-D14.

Tasks and responsibilities CEREQ:

As project partner:

- recruit experts to participate in the expert research, i.e. build a network of experts with regard to occupational structures for all clusters of occupations;
- contribute to the organisation of the international expert conference in 2008.

As national coordinator France:

- check the task descriptions for the 150 key occupations on validity for France.
- translate the 150 task descriptions and web questionnaires.
- conduct national expert data collection (web survey) – experts:
 - actively recruit experts to complete web questionnaires on the 150 key occupations (a minimum number of 5 experts per key occupation per country is required);
 - if necessary, organise national video-/web-conference sessions to discuss 'problematic' occupations, in collaboration with the cluster coordinator;
 - coordinate data collection for experts who do not have access to the Internet, using paper versions of the questionnaires.
- conduct expert data collection (web survey) – occupational workers:
 - ask relevant organisations (e.g., unions, employer organisations, interest groups) to publish a web-link on their websites to the EurOccupations website with the request for occupational workers to complete a questionnaire.
- contribute to the organisation of the international expert conference in 2008:
 - invite relevant experts from France to participate, in collaboration with the Dutch project team and the cluster coordinators.
 - report on the findings of the expert data collection per country, based on the 8 cluster reports as provided by the cluster coordinators.

9. AWWW GmbH

Roles AWWW GmbH in expert data collection:

- Project partner:
 1. WP 2;
 2. 1 person month;
 3. Deliverables: D4, D33.
- National coordinator Germany:
 1. WP 3 – 10;
 2. 6,4 person months;
 3. Deliverables: D7-D14.

Tasks and responsibilities AWWW GmbH:

As project partner:

- recruit experts to participate in the expert research, i.e. build a network of experts with regard to occupational structures for all clusters of occupations;
- contribute to the organisation of the international expert conference in 2008.

As national coordinator Germany:

- check the task descriptions for the 150 key occupations on validity for Germany.
- translate the 150 task descriptions and web questionnaires.
- conduct national expert data collection (web survey) – experts:
 - actively recruit experts to complete web questionnaires on the 150 key occupations (a minimum number of 5 experts per key occupation per country is required);
 - if necessary, organise national video-/web-conference sessions to discuss 'problematic' occupations, in collaboration with the cluster coordinator;
 - coordinate data collection for experts who do not have access to the Internet, using paper versions of the questionnaires.
- conduct expert data collection (web survey) – occupational workers:
 - ask relevant organisations (e.g., unions, employer organisations, interest groups) to publish a web-link on their websites to the EurOccupations website with the request for occupational workers to complete a questionnaire.
- contribute to the organisation of the international expert conference in 2008:
 - invite relevant experts from Germany to participate, in collaboration with the Dutch project team and the cluster coordinators.
 - report on the findings of the expert data collection per country, based on the 8 cluster reports as provided by the cluster coordinators.

Appendix B Procedures task descriptions

In the EurOccupations project, we aim to describe 150 key occupations in more detail. Relevant information is gathered in our expert research. A first important step in this expert research is the description of tasks for each of the 150 key occupations. These tasks are then included in the expert questionnaires, in which experts are asked to score these tasks on frequency and importance.

Each cluster coordinator (WP leaders of WP 3 - 11) will write the task descriptions for the key occupations in their specific cluster of occupations. The number of key occupations per cluster of occupations varies roughly between 16 – 25 occupations. Table 1 presents the cluster coordinators that are responsible for writing the task descriptions.

Table 1 Overview of cluster coordinators for the 8 clusters of occupations

Cluster title	Cluster co-ordinator	No. of key occupations
1. Care & welfare	AIAS	22
2. Construction & cars	AO Consult	25
3. Education, research & personnel	CIREM	17
4. Information, communication, finance & legal	K.U. Leuven	20
5. Manufacturing: food, metal, oil, gas & mining	P.U.E.	21
6. Clerks, staff, management & army/police	Warwick	19
7. Trade & agriculture	Warwick	22
8. Transport, logistics, travel & cleaning/garbage	Warwick	16

In order to synchronise the task descriptions of the different cluster coordinators and to come to comparable task descriptions, we propose to follow a standardised procedure in the description of tasks:³

- gather cross-national information on relevant tasks for this occupation from **(at least) five sources. Please include information from at least the following sources:**

- O*net (<http://online.onetcenter.org/>);
- <http://www.workfutures.bc.ca/> (Canadian site in French and English);
- <http://rome.anpe.net/> (French site);
- <http://infobub.arbeitsagentur.de/berufe/index.jsp> or <http://www.bibb.de/de/26171.htm> (German site);
- <http://www.careervoyages.gov/retail-main.cfm> (UK site).

You can additionally include information from other sources, such as:

- occupation websites such as <http://www.myfuture.edu.au/>, (Australian site), <http://cobra.vdab.be/cobra/> (Belgian site), <http://www.beroepsrisico.nl/> (Dutch site), www.statistics.gov.uk/methods_quality/ns_sec/downloads/SOC2000_Vol1_V5.pdf

³ For some examples of task descriptions, see Appendix.

(UK), UK Government website 'Directgov Jobseekers' by the Department for Work and Pensions (jobseekers.direct.gov.uk); www2.inem.es/sggfo/formacion ocupacional (Spanish website). ***If you have additional suggestions for sources of information on task profiles, please let us know!***

- competency profiles;
- findings from previous research;
- websites of, for example, employer organisations, unions, knowledge centres.

Of course, you can also consult experts.

PLEASE NOTE THAT THE ENCLOSED EXAMPLES IN APPENDIX B-D OF THIS DOCUMENT INCLUDE ONLY 3 SOURCES. THIS IS AN EXAMPLE, IN YOUR DESCRIPTION: PLEASE USE FIVE SOURCES!!!

8. include the information from the sources in a task document for the key occupation. ***Use the format as included in Appendix A as a basis for this document. Please include correct references to the sources of information!***
9. compare the list of relevant tasks from the different sources (if you cannot understand the information from sources in other languages, please ask the national coordinators to check whether the information from these sources is consistent ***IN STEP 6***), pay special attention to the usability of the information for the task description and the level of aggregation in which the tasks are described when comparing the sources. What information applies to the specific occupation under study, what information applies to other occupations? For example, certain tasks from the sources used in the example describing the 'telecommunication equipment repairer and installer' were not included in the task description since these were tasks of a higher level occupation in the telecommunication area (see Appendix D);
10. also note relevant information from the sources on related occupations (see, for example, the overview of related occupations in the search results of websites such as O*net);
11. try to combine the information from the sources into a description of (preferably) 10 tasks⁴ and a short, general description of the occupation (max. 1 or 2 sentences that summarise the core of the occupation). If necessary, consult experts. Where adequate and suitable, use the O*net information as the starting point for this description of tasks. When describing the tasks:
 - please use the enclosed format for the task description (see Appendix A);
 - use the present tense and a direct style to describe tasks, for example 'manage and maintain schedules';
 - try to prevent using enumerations, since there is a risk of incompleteness and information might be aged quite soon (bad example: 'assemble and secure pipes, tubes, fittings, and related equipment, according to specifications, by welding, brazing, cementing, soldering, and threading joints', good example: 'assemble and secure pipes, tubes, fittings, and related equipment, according to specifications, by using techniques such as welding, brazing, cementing, soldering, or threading joints');
 - try to sketch the context of the specific occupation, e.g. by including examples that illustrate the task;

⁴ Of course, if it is not feasible to identify 10 tasks (by splitting up or clustering task information), fewer tasks might suffice. In other cases, it might be necessary to describe more tasks.

- use up-to-date examples and avoid mentioning too specific software and machines (f.e.: instead of 'manage and maintain schedules using MS Outlook' use 'manage and maintain schedules');
- use easy, straight-forward language, try to avoid very specific jargon and being pompous in task descriptions;
- use, where possible, 20 or fewer words for the tasks to keep them from being too complex;
- do not include tasks that are conditional, for example 'climb poles and ladders, use truck-mounted booms, and enter areas such as manholes and cable vaults, in order to install, maintain, or inspect equipment' in the task profile of a telecommunication equipment repairer and installer is not a task in itself but is conditional for other tasks (such as 'inspect equipment on a regular basis in order to ensure proper functioning');
- refer to sources in a correct manner.

12. Please send the task documents for the key occupations in your cluster of occupations to all national coordinators and ask them to check the descriptions. If necessary (f.e. if you do not understand the occupation information in French or Polish), ask them to pay special attention to how the information from their national sources relates to the proposed list of tasks. These task documents include: the proposed list of tasks, a list of related occupations, a short, general description of the occupation (1 or 2 sentences), the information from the (minimum number of 5) sources including correct references. Use the standardised format (see Appendix A).

Table 2 Overview of national coordinators for the 7 participating countries

Country	National coordinator
Belgium	KU Leuven
France	CEREQ
Germany	AWWW GmbH
Netherlands	AO Consult
Poland	PUE
Spain	CIREM
United Kingdom	Warwick

EurOccupations format task description

Task description 'occupation' (*masterlist: ISCO-CODE, OCCUPATION*)

Author:

Synonyms:

Related occupations:

Short description:

Max 1 or 2 sentences summarising the occupation

1. Findings from desk- and Internet research

Source 1: (reference)

Description of relevant information from source 1.

Source 2: (reference)

Description of relevant information from source 2.

Source 3: (reference)

Description of relevant information from source 3.

Source 4: (reference)

Description of relevant information from source 4.

Source 5: (reference)

Description of relevant information from source 5.

Source X: (reference)

Description of relevant information from source X.

2. Combining the information from the various sources into a task list

Summary of the considerations, choices and arguments made in the process to come to the list of 10 tasks.

3. Tasks `occupation`

Overview of (preferably 10) tasks

Appendix C Measuring education in the EurOccupations web survey

In order to obtain correct measures of the education variable in the different countries, we need information that can be included in the web survey for:

- a. Experts;
- b. Occupational workers.

A. Expert questionnaire

TO DO:

Please complete the table below and indicate:

- the relevant educational categories in your own language *that can be copied into the expert web survey*. This list has to cover the major national educational categories.
- the associated ISCED code (see for an explanation of the ISCED categories the Appendix of this paper).
- the associated CASMINX code (see for an explanation of the ISCED categories the Appendix of this paper).
- the orientation of the education (general/prevocational/vocational)
- the normal years of schooling/training associated with this educational category.

Educational category for <u>expert</u> web survey	Associated ISCED code	Associated CASMINX code	Orientation (general/prevocational/vocational)	Normal years of schooling associated with the educational category (<u>total educational track</u>)
			o	

B. Occupational worker questionnaire

TO DO:

Please complete the table below and indicate:

- the relevant educational categories in your own language *that can be copied into the occupational worker web survey*. This list has to cover the major national educational categories that are recognisable for workers, ***i.e. also including 'old' educational categories!!!***
- the associated ISCED code (see for an explanation of the ISCED categories the Appendix of this paper).
- the associated CASMINX code (see for an explanation of the ISCED categories the Appendix of this paper).
- the orientation of the education (general/prevocational/vocational)
- the normal years of schooling/training associated with this educational category.

Educational category for <u>occupational worker</u> web survey	Associated ISCED code	Associated CASMINX code	Orientation (general/prevocational/vocational)	Normal years of schooling associated with the educational category (<u>total</u> educational track)
			o	

APPENDIX

ISCED and CASMINX education codes

Table 1 ISCED education categories

Education categories according to ISCED	ISCED code
Education at the primary level	1
Education at the lower secondary level	2
Education at the upper secondary level	3
Education at the tertiary level, first stage, of a type that does not lead to a university degree or equivalent	4
Education at the tertiary level, first stage, of a type that does lead to a university degree or equivalent	5
Education at the tertiary level, second stage, of a type that leads to a post-graduate university degree or equivalent	6

Table 2 CASMINX education categories

CASMINX education categories	CASMINX code
Elementary	
Minimum, compulsory general elementary certificate	1b
Minimum, compulsory general education plus basic vocational qualification	1c
Secondary	
Advanced vocational qualification or <u>intermediate</u> general education plus vocational qualification	2a
<u>Intermediate</u> academic or general qualification	2b
<u>Full</u> general maturity secondary certificate	2cG
<u>Full</u> vocational maturity secondary certificate	2cV
Tertiary	

Lower tertiary certificate (general),, of a type that does not lead to a university degree or equivalent	3aG
Lower tertiary certificate (vocational), of a type that does not lead to a university degree or equivalent	3aV
Higher tertiary certificate (university degree or above)	3b