

Study on the Cost of Patenting

carried out by

Roland Berger Market Research

Introduction by European Patent Office

Motivation

The purpose of publishing an estimate of the cost of a European patent is to provide a simple quantitative barometer of the level and major components of that cost, with a view to providing information to the policy debate and applicants with an order of the cost they will incur. This cost estimate should identify the cost drivers as well as the share of the EPO in the total cost. However, in view of the diverse cost levels - field of technology, filing routes, patentee's strategy etc. - a single figure cannot give a reasonable estimate of the expected cost of a *particular* patent application.¹ Nevertheless, the figures should be informative enough for a newcomer to the EPO procedure to obtain a reasonable cost estimate.

In 2004, the EPO decided to update and complement former cost estimates. For that purpose, it commissioned a survey of applicants and attorneys which was carried out by **Roland Berger Market Research**. That approach guaranteed methodological quality and independence of the survey. Roland Berger queried applicants as well as attorneys and translation services and considered also certain cost components that had been omitted (at least explicitly) in earlier estimates, notably pre-filing costs and in-house costs.

On the basis of the Roland Berger survey, as well as of sources informing of the current EPO and national fees, the EPO has estimated both the cost of an average Euro-direct and Euro-PCT patent. (Link to the cost charts)

Figures in this introduction, however, refer to the Roland Berger study only, not to the estimates made by the EPO which differ from the study in that they reflect a slightly different cost concept and are also inflation-adjusted.

A survey of more than 250 companies

The study carried out by Roland Berger consists of a survey of 254 companies that have obtained patents by the EPO in 2002/3. The sample included 160 European, 43 US and 51 Japanese companies from all industries, including also 34 SMEs. Respondents were asked to evaluate the cost components of a typical and representative patent of theirs. This business survey was complemented by surveys of translation services and attorneys in order to cross-check the results. It turned out that results from these two smaller surveys are essentially consistent with the survey of patentees.

Major results of the survey

As reported by respondents, the typical Euro-direct patent has 10 claims on 3 pages, 11 pages of description and is validated in 6 countries. The total cost of obtaining a standard Euro-direct patent in 2003 was EUR 30 530 (pp. 97, 117), including:

¹ According to the survey reported below, the cost differs by more than 100% between the electronic engineering and biotechnology areas for instance.

- pre-filing expenditure excluding R&D (EUR 6 240),
- internal cost of processing (EUR 3 070),
- attorney fees (EUR 4 930),
- translation of application and claims (EUR 3 020),
- official EPO fees (EUR 3 410),
- validation (EUR 9 870).

The cost of a Euro-PCT patent was EUR 46 700 (p. 117). The difference with Euro-direct comes mainly from:

- higher translation cost due to a higher number of pages (18 pages description, 15 claims on 5 pages),
- supplementary official fees related to the international phase, and
- validation in a larger number of countries (8 instead of 6).

The cost of obtaining an EPO patent varies in several aspects:

Technology fields: the cost of biotechnology/pharmaceuticals patenting is around double the cost for patents in electrical engineering, essentially due to longer patents (more pages) and validation in more countries (p. 95).

Region of residence of the patentee: The cost for Japanese companies is higher than for others (about EUR 46 000 against EUR 40 000 for Europeans and EUR 39 000 for American companies, p.112).

Size. There is no statistically significant difference between the cost of European patents for large companies and SMEs (EUR 41 560 vs. EUR 39 580, p. 113).

Validation. The cost of validating an EPO patent in EPC member states varies from around EUR 3 000 (Finland, Sweden, Denmark, Portugal) to EUR 1000 - 1500 (Switzerland, Belgium, United Kingdom, Austria), with most large countries (Germany, France, Italy, Spain) being around EUR 2 000 (p. 107). Translation costs account for most of the differences. According to the survey of translation services, the cost of translating a model patent drafted in English varies from EUR 53 to EUR 75 per page (p. 141f).

Comparison with US and Japanese patents

A company from an EPC state will pay on average EUR 24 100 to have a Euro-direct patent granted and validated; a US company will pay EUR 10 250 to have a USPTO grant; a Japanese company will pay EUR 5 460 to have a JPO grant (p.129). Higher cost in Europe is due to the cost of translation at the processing stage and validation (not applicable to the US and Japan). Although they differ across patent offices, official fees play a minor role in the total difference: applicants' estimates are at EUR 3 470 at EPO, EUR 2 050 at USPTO and EUR 1 570 at JPO (p. 129).

Readers interested in the detailed results of the study carried out by Roland Berger Market Research, please refer to [the corresponding section in this document](#).

Study on the cost of patenting

– Final report –

Prepared for
the European Patent Office (EPO)

Munich, August 2004

Contents

Page

A. Preliminary remarks	4
1. Background and objectives of the study	5
2. Research topics	7
3. Target groups	11
4. Sample	12
5. Questionnaires	17
6. Survey method and data collection procedure	19
7. Data analysis	39
B. Results of the applicant survey	54
1. Company structure	55
2. Patent activities in general	62
3. Description of a representative EPO patent	73

Contents

Page

- 4. Pre-grant costs of an EPO patent 84
- 5. Post-grant costs of an EPO patent 102
- 6. Cost of obtaining patent protection in Europe – Representative patent 111
- 7. Cost of obtaining patent protection in the US and Japan 118
- 8. Total budget for patents and patent licenses 130

C. Results of the service provider survey 132

D. Comparison of applicant and service provider surveys 149

E. Summary and conclusion 154

Appendix I: Comments from respondents/applicants (selection) 168

Appendix II: Accompanying letters and questionnaires in English 174

Appendix III: List of extreme values for questions about cost 175

A. Preliminary remarks

1. Background and objectives of the study

The European Patent Office (EPO) grants European patents to the contracting states of the European Patent Convention (EPC) on the basis of a centralised procedure. Patent protection can be obtained in some or all of the EPC contracting states with a single application. In addition, the EPO acts as an international searching authority and a preliminary examining authority for international applications filed under the Patent Cooperation Treaty (PCT).

The European patent system was established to lower the cost of filing patent applications in several different European countries. However, in recent years, applicants have encountered a steady increase in costs – especially for translations, as many member states require the entire patent specification to be translated as soon as the European patent is separated into the individual national patents.

In 1995, the European Patent Office conducted an in-depth study of the cost of patenting in order to examine the costs applicants actually have to pay in order to receive patent protection through the European procedures. To supplement and update the information gained from that study, the European Patent Office commissioned a survey among a number of selected applicants and service providers in order to determine the current costs of patenting.

The aim of the current study is to create a solid basis for developing the European and international patent systems in line with the needs of users. For comparison purposes, questions on the cost of obtaining patent protection in the US and Japan have been added, as well as a complementary survey among service providers, such as European patent attorneys and patent translation services, which should also provide a means of cross-checking the results of the applicant survey.

2. Research topics

2.1 Applicants

The survey among patent applicants focuses on the following topics:

- **General information on patent activities**, such as
 - Existence of an intellectual property department
 - Number of patents granted in 2002 and 2003 through the different routes (Euro-PCT and Euro-direct)
 - Existence of an individual cost-accounting system to monitor patent applications
- **Description of a representative EPO patent** in terms of
 - Technological field
 - Typical route
 - Number of pages (EP specifications, descriptions, claims)
 - Number of claims
 - Typical language of filing
- **Pre-grant costs** of a representative EPO patent, such as
 - Pre-filing expenditure for preparing/drafting the first application
 - Cost of preparing and processing the EPO patent, from filing to grant, split by cost of in-house services and external costs

- **Post-grant costs** of a representative EPO patent, i.e. the cost of validating a patent in different selected countries
- **Cost of obtaining patent protection in the US and Japan**
 - Number of patents granted in the US and Japan (national phase using the PCT route for European applicants, and national patents for US or Japanese applicants, respectively)
 - Cost of preparing and processing a representative PCT/national patent in the US and/or Japan, split by cost of in-house services and external costs
- **Total budget for patents and patent licenses** in Europe in 2003
 - Expenditure on processing patent applications
 - Expenditure on handling litigation
 - Expenditure on negotiating and handling patent licensing
- **Comments** on the questionnaire
- **Statistics**, such as the company's technological field, number of employees and company age

2.2 Service providers

The survey among patent attorneys and patent translation services focuses on obtaining information about the **cost of a predefined model patent**.

For **patent attorneys**, the description of this model patent comprises features such as general assumptions, characteristics of the application and actions to be taken by the service provider.

Questions on the model patent cost relate to

- The **overall cost** of processing the model patent application following the two different routes
- A breakdown of costs according to the main activities, such as
 - **Prosecution of the application**
(drafting the application, producing a translation into English, French or German, processing the application)
 - **Post-grant phase**
(producing a translation into six given languages, filing translations with eight national patent offices, payment of renewal fees)

For **patent translation services**, the description of the model patent defines the content to be translated (description and claims), as well as the number of pages and words per page, with the original language being English.

They are then asked to specify the cost of translating the model patent into all languages of the member states of the European Patent Organisation. A differentiation is made between the translation of patent descriptions and the translation of claims.

For comparison reasons, an additional question is asked about the cost of translating the model patent specification with the original language being French or German instead of English.

3. Target groups

Applicant survey

The parent population for the survey comprises **patentees** in Europe, the US and Japan who were granted a patent by the EPO in 2002 and 2003. These are mainly companies from all industrial sectors, but the sample did also include other organisations and private inventors.

The target persons within the companies are the head or other qualified member of the intellectual property department, an in-house patent agent, a member of the R&D department or a member of the management.

Service provider survey

In order to complement the data gained from patentee companies, and to provide a means of cross-checking, the second target group for the study comprises service providers in Europe, such as

- **European patent attorneys** and
- **European patent translation services**

4. Sample

4.1 Applicants

All together, a total of **n = 253 interviews (net sample)** were conducted with **patentees**.

The net sample is intended to cover large companies/organisations, as well as small and medium-sized companies (SMEs). SMEs are defined as companies with less than 250 employees in their entire organisation world-wide.

In addition, the net sample is intended to represent the three regions of interest as follows:

- 60% interviews with patentees from Europe
- 25% interviews with patentees from the US
- 15% interviews with patentees from Japan

The **gross sample** containing applicant names and information from the EPO database was provided by the EPO. For this purpose, a simple random sample of grants that were published in 2002 or 2003 was drawn from the EPO database. The sample of grants – not applicants – has the effect of over-weighting large applicants in the sample, but obtaining a large coverage of the population of grants.

The gross sample contained a total of **1,837 applicant addresses**, and was stratified into the three regions, as well as smaller applicants (four grants or less in 2002 and 2003) and larger applicants (five grants or more) to increase the hit rate of SMEs. Within each group, the addresses were contacted in random order. However, preference was given to grantees with 100 grants or more.

During fieldwork, it appeared that many of the smaller applicants in terms of grants are, in fact, large companies/organisations in terms of number of employees. In addition, nearly all addresses from the gross sample were contacted. Therefore, the sample can be regarded as a **simple random sample drawn from grants** within the three regions.

The following tables show the **structure of the net sample**.

Net sample structure – Applicants (1)

Countries	Total	SMEs	Large companies
AT	3	1	2
BE	4	–	4
CH	13	2	11
D	67	8	59
DK	6	–	6
ES	2	–	2
FI	3	–	3
FR	17	2	15
IT	11	4	7
NL	7	–	7
SE	9	3	6
UK	17	9	8
Europe total	159 (63%)	29 (85%)	130 (59%)
US	43 (17%)	4 (12%)	39 (18%)
Japan	51 (20%)	1 (3%)	50 (23%)
TOTAL	253	34	219

Net sample structure – Applicants (2)

Number of EPO grants in 2002/2003 (EPO database)	Total	SMEs	Large companies
1 - 2	47 (19%)	27 (79%)	20 (9%)
3 - 4	26 (10%)	4 (12%)	22 (10%)
5 - 9	36 (14%)	2 (6%)	34 (16%)
10 - 29	64 (25%)	1 (3%)	63 (29%)
30 - 49	19 (8%)	–	19 (9%)
50 - 99	23 (9%)	–	23 (11%)
100 or more	38 (15%)	–	38 (17%)
Total	253	34	219

4.2 Service providers

The following numbers of interviews were conducted among service providers:

- **n = 8** interviews (net) with European patent attorneys
- **n = 7** interviews (net) with translation services

The EPO provided a list of 25 suitable European patent attorneys and 9 large translation services who are known to the EPO and located in several European countries. All addresses were **selected deliberately** and therefore are not to be regarded as a representative random sample.

The address lists contained mostly up-to-date contact data such as telephone and fax numbers. The European patent attorneys in question had already been informed about the survey by the EPO and had indicated their willingness to participate (pre-recruited addresses).

5. Questionnaires

For data collection, structured questionnaires reflecting the specific conditions of the different target groups and regions were used.

For the survey among **patentees**, the following three versions were applied:

Questionnaire for European applicants	<ul style="list-style-type: none"> Languages: English, German, French Additional questions on PCT patent grants in the US and Japan
Questionnaire for US applicants	<ul style="list-style-type: none"> Language: English Additional questions on national patent grants in the US
Questionnaire for Japanese applicants	<ul style="list-style-type: none"> Language: Japanese Additional questions on national patent grants in Japan

For the **service provider** survey, there were separate questionnaires for attorneys and translation services, all in English.

Each questionnaire was accompanied by an **official letter of recommendation from the EPO** in the relevant language, signed by the President of the EPO, to motivate respondents to participate. This letter contained information on the background of the study, the target group and data protection, and stated that the results would be published on the Internet.

In addition, a **cover letter from Roland Berger Market Research** provided information on the survey procedure.

The questionnaire for applicants was tested in 13 telephone **pre-test interviews** in European countries (using the English and German draft questionnaire), and simplified for the main part of the survey. As far as possible, the results of these pre-test interviews have been included in the analysis.

The letters and questionnaires in English are included in the appendix to this report.

6. Survey method and data collection procedure

Due to the complexity of the topic, respondents received the questionnaire in writing to enable them to look up the required figures. Therefore, data collection was done through a combination of **telephone and postal interviews** and consisted of the steps below, which are described on the following pages:

- (1) International research of current telephone numbers (patentees only)
- (2) Telephone contact interview
- (3) Main interview (by telephone or post)

6.1 International research of current telephone numbers

Due to the structure of the EPO database, it was necessary to complete the EPO addresses of patentees with updated telephone numbers. The following sources were used for this purpose:

- Updated address information already found and used for other surveys carried out on behalf of the EPO
- Internet search engines
- Special business pages on the Internet
- Websites of specific companies on the Internet
- Phone directories from the specific countries
- Foreign trade associations
- Directory enquiries

By these means, **a total of 1,568 out of 1,837 applicant addresses** could be found and therefore used for the survey: 42 addresses were identified as duplicates, and 227 telephone numbers could not be found at all (mainly those of private inventors) or turned out to be wrong.

6.2 Telephone contact interviews

In a subsequent step, telephone contact interviews were conducted with applicants or service providers whose address was found or provided by the EPO. The contact interviews consisted of the following steps:

- **Identifying a suitable target person** within the company/organisation who could answer the questions in the questionnaire
- **Introducing the survey** to the target person and requesting their participation
- **Recording the name and fax number** of the target person or recording their reason for declining, where applicable

In the US, in particular, this contact phase required considerable effort due to the extensive use of voice mailbox systems within US companies.

The cover letters were personalised and, together with the questionnaires, sent to the target persons by fax.

The main contacting phase for patentees started on 30 April 2004 in most countries, and on 11 May 2004 in Japan, due to a national holiday week. Contacting of service providers began on 19 May 2004 for patent attorneys and on 25 May 2004 for translation services.

6.3 Main interview (net sample)

Most questionnaires were completed by the target persons and sent back to Roland Berger Market Research by fax. Alternatively, the responses were sometimes collected in a follow-up telephone call.

The following measures were taken in order to achieve a high response rate and high response quality:

- Target persons that could not be reached were contacted several times; appointments were arranged for follow-up calls
- Follow-up phone calls were conducted
 - To remind the respondent about the questionnaire
 - To clarify questions and to help the respondent complete the questionnaire
 - To collect the responses by telephone, where appropriate

All contact interviews and, where applicable, main interviews were conducted **centrally from the call centre** of Roland Berger Market Research in Munich. This facilitated efficient and reliable survey coordination.

All the interviewers involved are either native speakers or speak the required languages fluently. Some of them have prior experience with patent-related topics and other EPO surveys. Prior to the start of the interview phase, all interviewers received a **detailed briefing** about the study and the content of the questionnaire to prepare them for any questions from the target persons.

All completed applicant interviews received by 14 June 2004 were included in the analysis. For service providers, all completed interviews received by 5 July 2004 were included.

The following tables show the gross number of addresses and the number of interviews per target group, as well as reasons for non-response.

Response rate – Applicants

Region	Addresses in gross sample	Addresses found	Addresses contacted	Number of losses	Number of refusals	Number of interviews
Europe	1,222	967	837	119	559	159
US	457	374	360	134	183	43
Japan	258	227	153	13	89	51
Total	1,837	1,568	1,350	266	831	253

Reasons for non-response – Applicants

Number of losses

	EP	US	JP
No patents granted	45	8	3
Mailbox system	32	109	-
Identical with another company	27	13	9
Company being restructured	6	1	-
Company never available	5	2	-
Language problems	2	1	
Company does not exist any more	1	-	1
Company has been bought up	1	-	-
Total	119	134	13

Number of refusals

	EP	US	JP
Contact never available	157	66	17
Did not fax back questionnaire despite promise to do so	144	42	31
No time	102	20	5
Not interested	41	12	15
Not possible to collect data	25	5	3
Company policy	13	12	5
Questionnaire was forwarded	13	3	-
Data too confidential	12	2	2
External attorney is in charge	12	2	1
No reason	8	2	-
Did not receive questionnaire despite repeated sending	7	6	2
Participating in other EPO surveys	4	1	-
Questionnaire too complicated	3	-	7
Other reasons	18	10	1
Total	559	183	89

Response rate and reasons for non-response – Service providers

Group	Addresses in gross sample	Number of questionnaires sent back	Number of analysable interviews
Patent attorneys	25	12	8
Translation services	9	7	7

Reasons for non-response

- Did not send back despite promise (6 attorneys)
- Contact never available (3 attorneys)
- Not interested/survey does not make sense (2 attorneys)
- No reason (1 attorney)
- Technical problems sending the fax (1 attorney)
- Normally no patent translations done (1 translation office)
- Company does not exist any more (1 translation office)

6.4 Experiences during fieldwork – Applicants

In general, applicant respondents tended to be open-minded concerning the survey. In some cases, the fact that the EPO was conducting a survey about costs was very much appreciated, as this seemed to be an important topic for applicants.

Nevertheless, many applicants found it too time-consuming to search for the data required, partly because they may have had to contact an external attorney for the details requested. So most patentee respondents were not able to answer all questions and left some questions blank.

The questionnaire required a very high level of commitment from the applicants contacted. It often took up to four hours or more for respondents to complete the form.

In a very few cases, the respondents were not able to understand English very well and the questionnaire was not available in their language (e.g. Italian). However, at least some figures could be collected with the help of the interviewer.

Problems in completing the questionnaire

In detail, applicants had the following **problems in completing the questionnaire**:

- Difficulty in creating an **average patent** (representative patent) because
 - The patent applications vary greatly
 - The respondent is a finance manager and does not know the technical details
- Difficulty in indicating the **number of pages and claims**, as it is not clear whether application or grant is meant
- Only a **few selected figures** were provided on the **cost of patenting** because
 - The data is confidential (e.g. in-house costs)
 - The data requested is handled by an external attorney
 - There are no records kept on some of the figures (e.g. in-house costs, pre-filing expenditures, official fees, validation)
 - It would take too much time to collect all the data
- Only **rough estimates** were given because no records of the data are kept (e.g. in-house costs)

Some **breakdowns of figures** are not available, for instance because there is only one invoice, or because it would be too complicated to break down the figures. In such cases, the following problems occurred:

- External pre-filing costs and external costs of preparing or processing the application are not recorded separately
- Internal and external costs cannot be separated
- Translation costs for validation are included in the translation costs of the application/claims because they are done at the same time (e.g. for US patent specifications)
- Pre-grant translation costs cannot be distinguished from validation costs
- Attorney costs are stated including translation costs
- Expenditure on litigation is part of the total budget for processing applications

Further problems occurred in relation to the cost-accounting system, the classification of regions in question 8b and the categories for employee numbers in questions S2a/S2b.

- It is not possible to differentiate the costs of **validation in the different countries**, one and the same budget is entered for all
- No information on **US/JP patents** could be provided because it takes too much time to collect the data
- Respondents had difficulties identifying a representative **Japanese PCT patent** relating to the same technological field as the EPO patent because other fields are more relevant in Japan
- No **total budget** was provided for **patents and patent licences** because
 - It takes too much time and effort to collect these figures
 - This information is confidential
 - After validation, the European patent costs can no longer be distinguished from other costs
 - No records are kept of these figures

6.5 Experience during fieldwork – Patent attorneys

Patent attorneys reacted ambivalently when asked to participate in the survey. For some, the questionnaire was no problem, and more or less a kind of quotation or tender.

However, although they had been pre-recruited by the EPO for that survey, several patent attorneys refused to participate, also after having received the questionnaire.

Some of the reasons mentioned were:

- Collecting answers for a European model patent does not make any sense because the real, individual cases vary too much
- The costs asked about do not depend on the number of pages or claims, but on too many other different parameters not specified (e.g. the complexity of the invention, the state of the art, co-operation of the inventor, knowledge of the attorney, etc.)
- The figures asked about are confidential and concern only the client and the attorney
- The costs charged by attorneys located in different countries vary too much and cannot be compared

Some of the respondents could provide only selected figures, such as the total cost or translation cost, or only ranges were provided. In addition, some needed several weeks to complete the form and send it back. Therefore, many reminder calls were necessary.

Remarks concerning the model patent

Several respondents who completed the form provided **specific comments on the model patent** as described in the questionnaire. In addition, some of them added restrictions or further details about their answers.

Model patent in general

From the point of view of patent attorneys, there is **no such thing as a "model patent"**:

- "For a small, not very complex mechanical invention, a 24-page description and 15 claims would be too much; for a complicated invention, e.g. in the field of biotechnology or telecommunications, this would be far too little."
- "Some inventions are easy to describe, some are much more difficult to describe."
- "Some inventions are closer to the prior art than others – it is more difficult to draft applications for the closer ones and to prosecute the application through to grant."
- "The bottom line is, 'You get what you pay for'."

In one case, the number of pages in the description was assumed to be lower than that indicated in the questionnaire.

Preparing and drafting a basic application

The **content and quality of the preparation** by the inventor has more impact on these costs than the number of pages or claims to be written. So these costs depend on ...

- The **complexity** of the case and the **technology** involved, i.e. the time spent preparing the application. This could vary from about 15 hours for a case in the field of mechanics, up to 40 to 60 hours for a biotechnology case
→ Some respondents could not provide any estimate, or provided only the cost per hour. One attorney assumed that the drafting could be done in 25 hours
- How much **information the inventor provides**. The costs are lower if the inventor has already prepared a draft description and carried out prior art searches, and has a good idea of what the invention is
- The number of **citations**
- The **importance** and urgency of the case
- The quality of the **explanation** of the invention provided by the applicant (examples, drawings, etc.)

Filing the application

The following **additional assumptions** were made for the cost provided:

- The original draft does **not need amending**: i.e. the inventor does not come up with improvements or changes; no supplementary documentation is obtained during the priority year; there is no need to translate the priority document back into the original language (if applicable)
- The form **designating the inventor** is filed at the same time as the application
- There is no need to file an **authorisation**, assuming that it has not been provided by the applicant
- The **official EPO fees are paid** on the application date
- The **priority document** and its translation are filed after the application

In addition, the question arose why the **PCT application** is not taken into account in the questionnaire. This is a significant expense for the inventor.

Reply to one official communication

Again, these costs depend on the **content**, which means they depend on

- The **time needed** to reply to the communication. If it raises a large number of difficult objections, the cost can be very high, and vice versa
 - The number of **citations** and whether they were known already
 - The **input** from the applicant/foreign representative
- Two respondents could not provide any estimate. One attorney assumed that 6 hours would be needed to draft the response

Approval of the text intended for grant

It is assumed that the text has been approved by the inventor, and no amendments are suggested by the examiner

Filing the translation of the claims

The cost of obtaining translations depends on who is in charge of the translation

Payment of renewal fees

In some cases, no answer was possible because renewal fees are processed by an agency

Post-grant phase

The cost of translation may vary depending on

- The technical field of the invention and the kind of text (e.g. chemical formulas, etc.)
- Who is used to prepare the translation
- Exchange rate fluctuations
- Other circumstances beyond the attorney's control

The following **additional assumptions** were made for the cost provided:

- If **France, Germany or Italy** were to be dropped as validation countries, the cost of translating the claims into French/German and for translating the full text for Switzerland would be higher
- The **specification** was already prepared for the national filing and no amendments are made, i.e. there is no need to produce a translation into the original language

One respondent could only provide the **charges of the local associate** for preparing and filing the translations and the charges of his own services separately.

In some cases, no answer was possible because other attorneys or agencies are in charge of this phase. Two respondents could provide only renewal fees including official fees. Those figures were excluded from the analysis.

6.6 Experience during fieldwork – Translation services

In most cases, translation services sent back their answers quickly and without any restrictions concerning the answers. In one case, the cost could be provided for one language only.

However, some translation services also criticised the model patent on the basis that the costs vary a lot according to the field of technology or the amount of special technical terminology needed.

One translation service added the following **further details**:

It is assumed that overall cost savings of 5% is likely in a document of the size described, due to

- Text segments with a match in the translation memory database
- Text segments repeated within the document
- Text segments consisting solely of text/items that do not require translating

It is also assumed that the original is provided in a fully editable format (e.g. Word) that can be typed over by the translator and processed with the translator's own software.

7. Data analysis

7.1 Data analysis for applicants

In general, many questionnaires provide useful, high-quality data on the cost of patenting. The data collected provide representative, high-quality results with a high level of significance and validity.

In order to ensure the international comparability and significance of the results, the following terms were complied with:

- Central monitoring of the translations of the questionnaires into the respective national languages by the EPO
- Pre-test interviews with the applicant questionnaire in German and English in several European countries
- Central interviewer briefing in order to ensure the same level of know-how among the interviewers in charge
- Field work conducted centrally from the call centre of Roland Berger Market Research in Munich
- Composition of a simple random gross sample (applicants) and realising a net sample representing the three regions in an appropriate ratio

- Survey of identical target groups in all countries, ensured through exact definition, sample plan and observance of regional quota criteria
- Central management, organisation and analysis of the study at Roland Berger Market Research in Munich
- Weighting of results according to the number of grants in 2002/2003 to compensate the over-weighting of large applicants in the gross sample
- Weighting of results according to the proportional share of regions in the population

However, the following **restrictions** apply:

- To some extent, there may still be misunderstandings of and overlaps between the figures provided; it is impossible to eliminate these in order to create precise figures
- There are many non-responses, with the result that many figures had to be estimated based on a small number of cases in the subsequent statistical analysis
- Due to the number of non-responses, the results exhibit a high level of variance
- Due to the total number of 253 interviews, some of the bases for subgroups are very low (below 20), which must be kept in mind for in-depth analyses. Such results can only be interpreted as tendencies

All completed questionnaires were **checked** for completeness and plausibility of responses. Questionnaires in which no indication of cost is given at all were excluded from the analysis. In cases where unclear or dubious answers were identified, the respondents were contacted again to clarify the questions when this was possible within the tight time frame.

Respondents were asked to indicate their costs in EUR, USD or JPY. However, some respondents from European countries such as the UK, Denmark and Switzerland indicated the cost in their national currencies.

Comparing the results for the different regions of interest, all costs have been **converted to EUR**, using the exchange rates of 15 May 2004. As the costs requested in the questionnaire refer to different years in the application procedure, there is a certain inherent inaccuracy, especially concerning cost estimates indicated in USD and JPY, due to currency fluctuations.

One applicant completed the questionnaire twice for two very different types of patents. For data entry, this questionnaire was regarded as two separate interviews. Therefore, the unweighted base given on each chart indicates a total of 254 interviews instead of 253. However, this is accounted for in the weighting procedure.

Data preparation involved the following steps:

- **Data imputation** to estimate missing cost values in order to create a stable database for further analyses
- **Weighting** of results in order to represent the population according to number of grants and region

In addition to this report, a **cost simulation tool** (Excel) is provided. This forms a separate and complementary part of this report.

Data preparation and the cost simulation tool are described further on the following pages.

Documentation of data preparation

Data preparation involves two steps – Missing value imputation and calculation of weights

Data preparation in two steps

1 Missing value imputation

- Missing values were calculated for Q. 8c (pre-filing cost), Q. 9 (processing cost), Q. 10 (validation cost) and Q. 12 (processing cost for US/JP patents)
- Due to a high number of missing values, values were **imputed in three steps**
 - A) For some questions, missing values were imputed by **region-specific linear regression models** based on the characteristics of the patent
 - B) In a second step, **means** were calculated for **specific technology areas and regions**
 - C) For the remaining missing values, **overall averages** were calculated

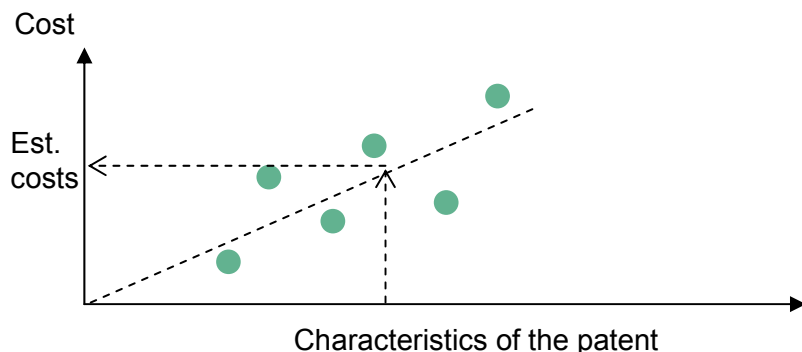
2 Calculation of weights

- Based on the weighting methodology used in the EPO Applicant Panel Study, **company-specific Poisson weights** were calculated
- In a subsequent step, the **ratios** of the Poisson weights to the actual number of EPO grants were calculated and normalised for each company in order to obtain case-specific weights
- To obtain total results representing the regional structure of the population, respective **regional weights** were implemented for EP/US/JP (structural weighting, see also page 56)

Some missing values were imputed by linear regression models – The rest were imputed based on specific averages

Missing value imputation: General description of the imputation process

Linear regression models



- Two conditions governed the regression models
 - The **correlation** between the characteristics of the patent and the cost data is significant (R^2 at least 0.6)
 - **Degrees of freedom** suitable (more than 10)
- The cost data were estimated based on the characteristics – negative imputed cost data were set back to missing

Averages

<i>APPR no.</i>	Cost data	Imputation	Imputed cost data
4711	1,000	→ 1,000	1,000
4712	--	750	750
4713	500	→ 500	500
Average	750	750	

- Most averages were **calculated** for **specific technologies and regions**
- The remaining missing values were imputed using **general region-specific averages**

The methodological approach used in the EPO Applicant Panel survey was used to weight the observations

Calculation of Poisson weights

$$q_i = \frac{A_i}{1 - e^{-n^+ \frac{A_i}{A}}}$$

- The individual Poisson weight q was calculated using the following assumptions:
 - A_i = Known number of **grants** in 2002 and 2003 of **specific** APPR
 - n^+ = Known **sample size** (3,000)
 - A = **Total** number of **grants** in 2002 and 2003
- All formulas were checked by comparing them with the appropriate EPO Applicant Panel 2003 file

In order to obtain representative results for the three regions, a case-specific regional weight was added

Calculation of case-specific grant and region weights

$$y_i = \left(\frac{q_i}{A_i} \right) \left(\frac{R_{di}}{R_{si}} \right) \left(\frac{n}{\sum_i \frac{q_i}{A_i}} \right)$$

The case-specific weight y_i was calculated as follows:

- q_i = Individual **Poisson weight** of **specific APPR**
- A_i = Known number of **grants** in 2002 and 2003 of **specific APPR**
- R_{di} = Share of applicants from the **region** to which the specific APPR belongs in the **EPO database** (see also page 56)
- R_{si} = Share of applicants from the **region** to which the specific APPR belongs in the **sample**
- n = Number of **cases** in the sample

Documentation of the cost simulation tool

The Excel tool facilitates calculation of the average cost of patenting for European patents

Functions of the cost simulation tool

- **Filter criteria** can be selected to **define company characteristics** for representative cost calculations
- Up to 19 countries can be selected for the **incorporation of country validation costs** in the total cost simulation
- For the companies that match the selected filter criteria, the **weighted average cost of patenting** will be calculated separately for
 - **Pre-filing expenditures:** In-house and external costs
 - **Patent processing:** In-house and external costs, further broken down by attorney fees and other external services, translation costs, EPO fees and, if relevant, official fees paid for the PCT international phase
 - Post-grant costs for country validations by country
- The **total cost will be calculated** with the appropriate **95% confidence interval**

Various filter criteria can be defined to analyse patenting costs for specific company characteristics and application processes

Defining company characteristics for model patent calculations

Filter criteria for cost of patenting simulation

Region	No filter
Who is dealing with patent application	No filter
Technological area of patent	No filter
Typical route taken	Euro-PCT
Language of filing	No filter
Number of pages in EP specifications	No filter
Number of pages (description)	No filter
Number of pages (claims)	No filter
Number of claims	No filter
Classification of company size	No filter

Countries for validation

- Austria
- Belgium
- Cyprus
- Denmark
- Finland
- France
- Germany
- Greece
- Ireland
- Italy
- Luxembourg
- Monaco
- Netherlands
- Portugal
- Spain
- Switzerland/Liechtenstein
- Sweden
- Turkey
- United Kingdom

Filter criteria for defining company characteristics for representative cost calculations

Selection for incorporating country validation costs in total cost calculations

Number of surveys matching filter criteria

128

Number of surveys that match the above selections

The weighted average costs of patenting are calculated for the companies that match the filter criteria

Screenshot of the cost simulation tool output (example for PCT as typical route taken)

Cost Simulation

Pre-filing expenditure per patent	[EUR]
Total cost of in-house services	4.185
Total external cost	4.944
Total pre-filing cost	9.129

Cost of processing per patent	[EUR]
Total cost of in-house services	5.684
Total external cost	16.311
Attorney fees and other external services	5.759
Translation of application and claims	3.946
Total official fees paid to the EPO	3.350
If PCT route: total official fees paid for the international phase	3.257
Total processing cost	21.996

Total cost (pre-filing, processing, country validation)	70.637
Lower Bound (95% confidence interval)	61.984
Upper Bound (95% confidence interval)	79.290

Post-grant cost for country validations	[EUR]
Austria	1.742
Belgium	1.421
Cyprus	1.703
Denmark	2.982
Finland	3.387
France	2.302
Germany	2.200
Greece	2.679
Ireland	1.060
Italy	2.264
Luxembourg	696
Monaco	753
Netherlands	2.451
Portugal	3.078
Spain	2.144
Switzerland/Liechtenstein	1.237
Sweden	3.666
Turkey	2.325
United Kingdom	1.423
Total country validation cost	39.512

The cost calculations are based on a subset of respondents and take into account case weightings and multiple answers

Rules and assumptions of cost calculation / simulation tool

- **Cost averages** are calculated on the **subset of 254 surveyed companies/cases** that match the selected filter criteria
- The selected set of **country validations** is assumed to be **independent from pre-filing and processing costs** – this takes into account the limited sample size when analysing different combinations of country validations
- The **total validation cost** might be **overestimated** because the synergy effects of specific country combinations have not been considered in detail
- The **calculation of the cost averages** incorporates the aforementioned **Poisson weights** and **regional weights**
- **Companies** that **responded with multiple answers** to the questions on filing responsibility and technological field of the patent are **considered in both subsets** when selecting the respective filter criteria

7.2 Data analysis for service providers

For service providers, each questionnaire was checked for plausibility, and comments provided by the respondents were integrated into the results to the greatest extent possible.

Data analysis for service providers was mainly done using average values. However, the results vary a lot according to the country of residence. In addition, there is a large degree of variability in patent applications which cannot be represented by asking for the cost of a model patent. Therefore, particularly attorneys based their answers on rough estimates.

Due to these restrictions, the sampling procedure and the small sample size, the results obtained from service providers can only be an indication of tendencies and must not be taken as statistically reliable or representative findings.

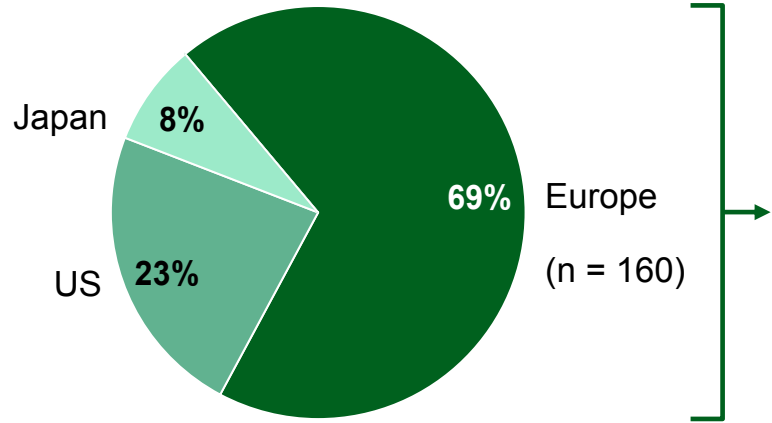
B. Results of the applicant survey

1. Company structure

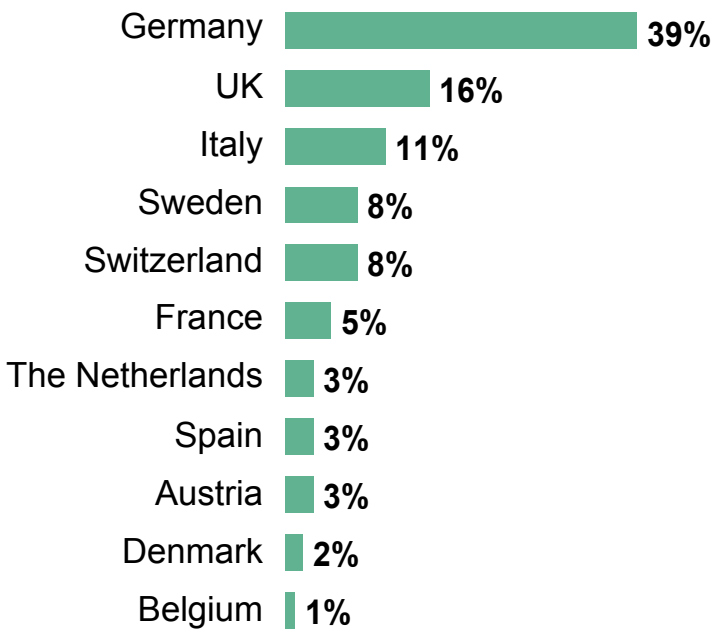
The weighted shares of regions represent the structure of the EPO grantee population

Location

Region (weighted)



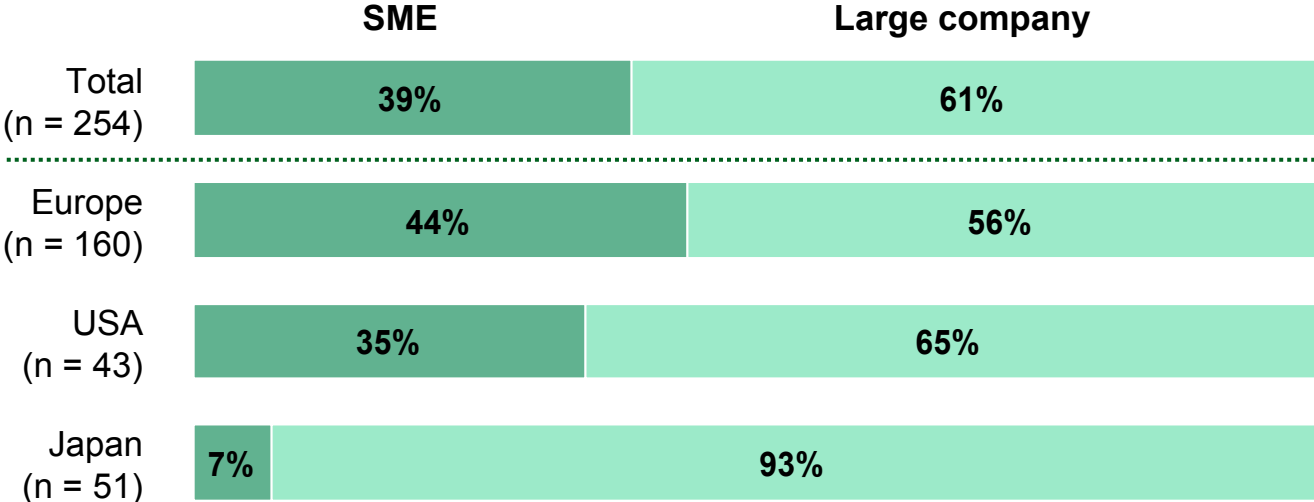
Europe: Country



Base: n = 254, all respondents, %
Information from the EPO database

Most small and medium-sized patentee companies are from Europe

Size of company or company group



Definitions

SME: Less than 250 employees in the whole group or, if no group, in the company

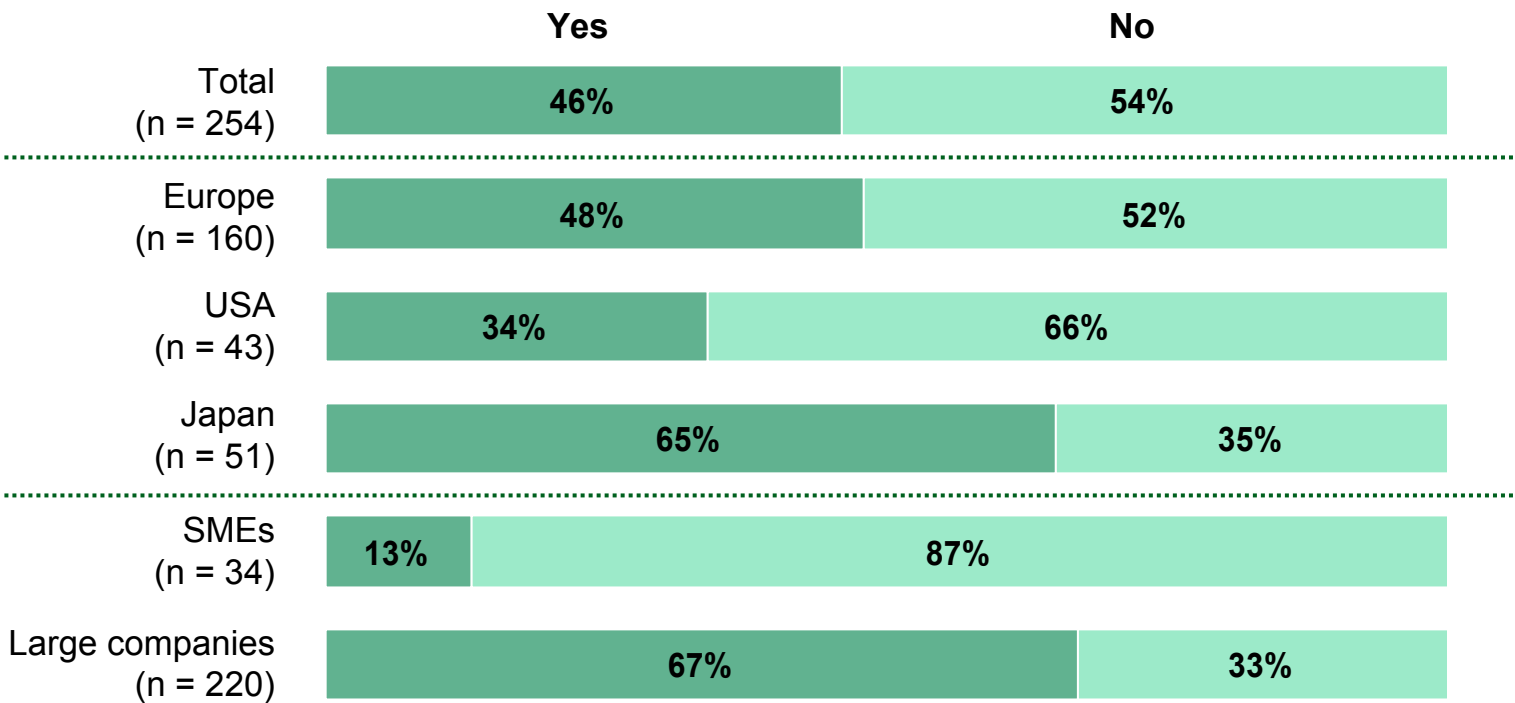
Large company: 250 or more employees in the whole group or, if no group, in the company

Base: n = 254, all respondents, %

Q. S2, S2a, S2b: Does your company belong to a national or international group of companies? How many employees does your group of

Nearly half of the target companies are part of a group of companies

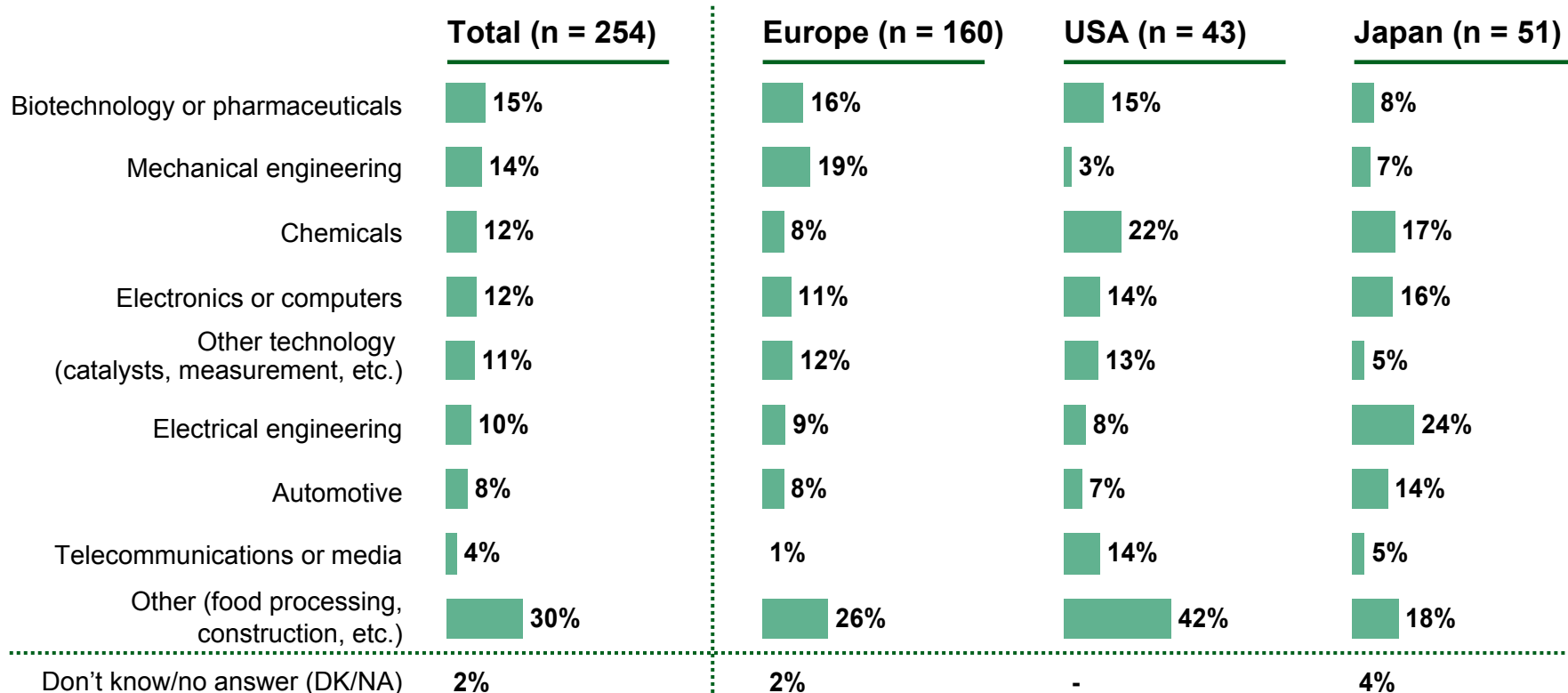
Group of companies



Base: n = 254, all respondents, %

The patentee companies cover a wide range of technologies

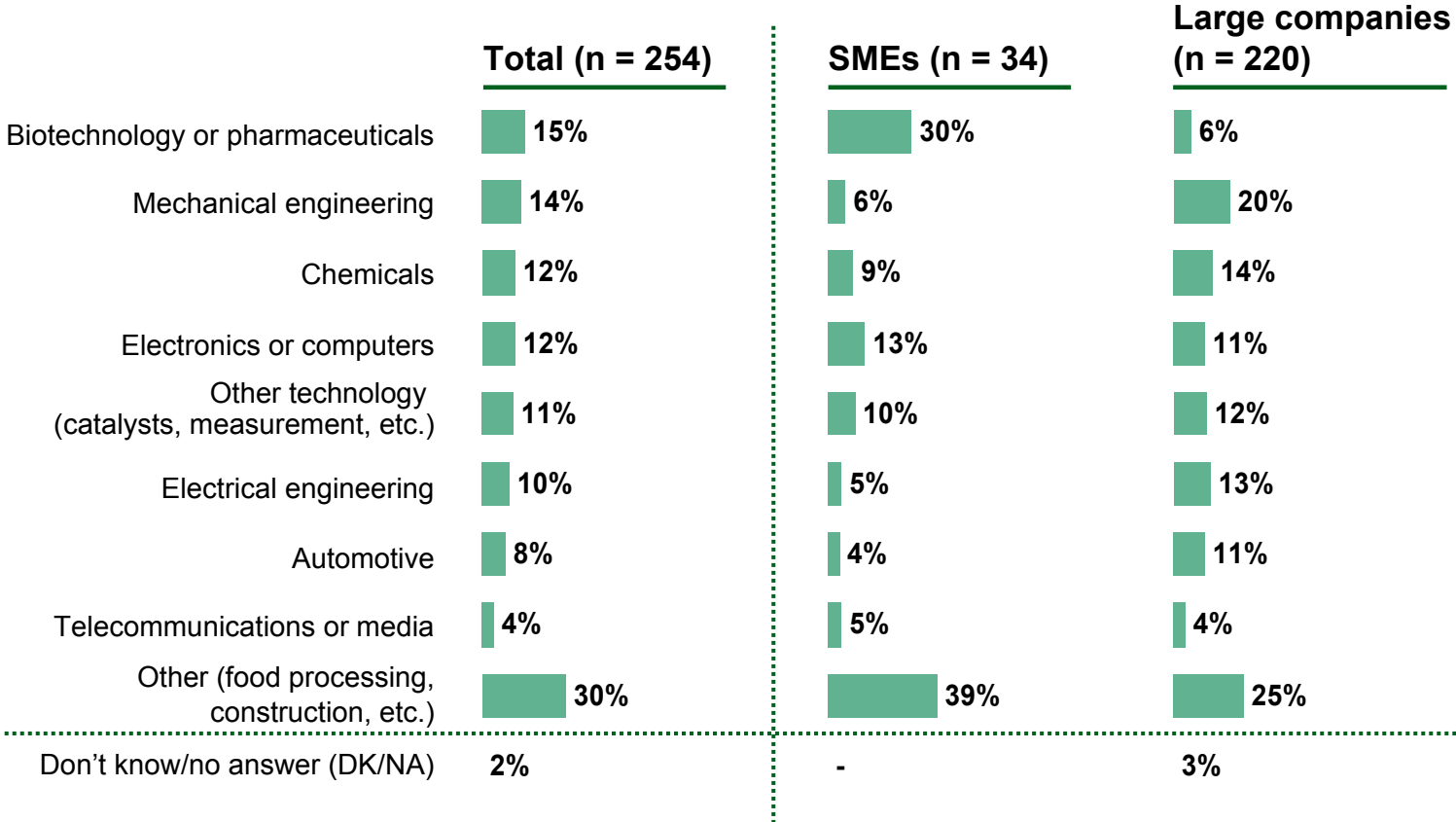
Technical field by region



Base: n = 254, all respondents, %, multiple answers possible

SMEs are often engaged in biotechnology or pharmaceuticals

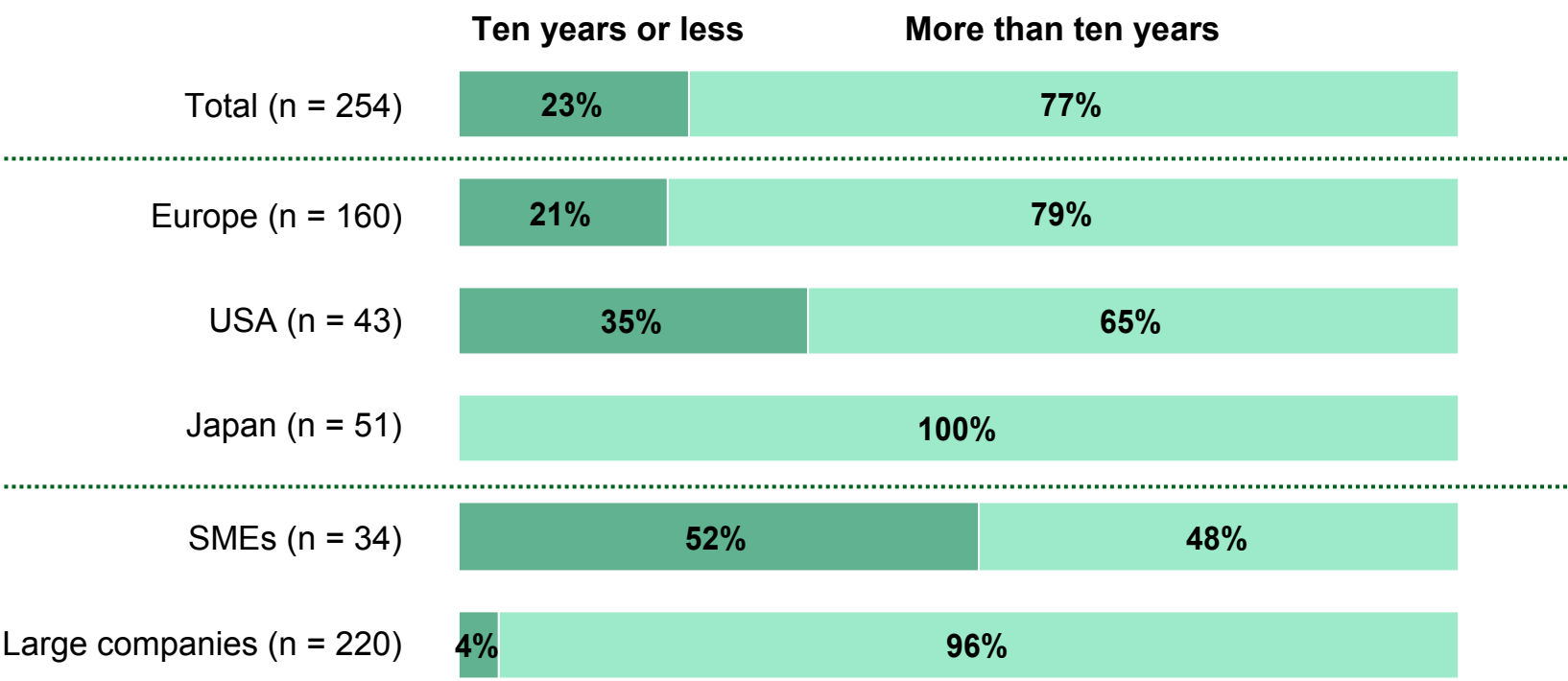
Technical field by company size



Base: n = 254, all respondents, %, multiple answers possible

Every second SME has existed for only ten years or less

Company age

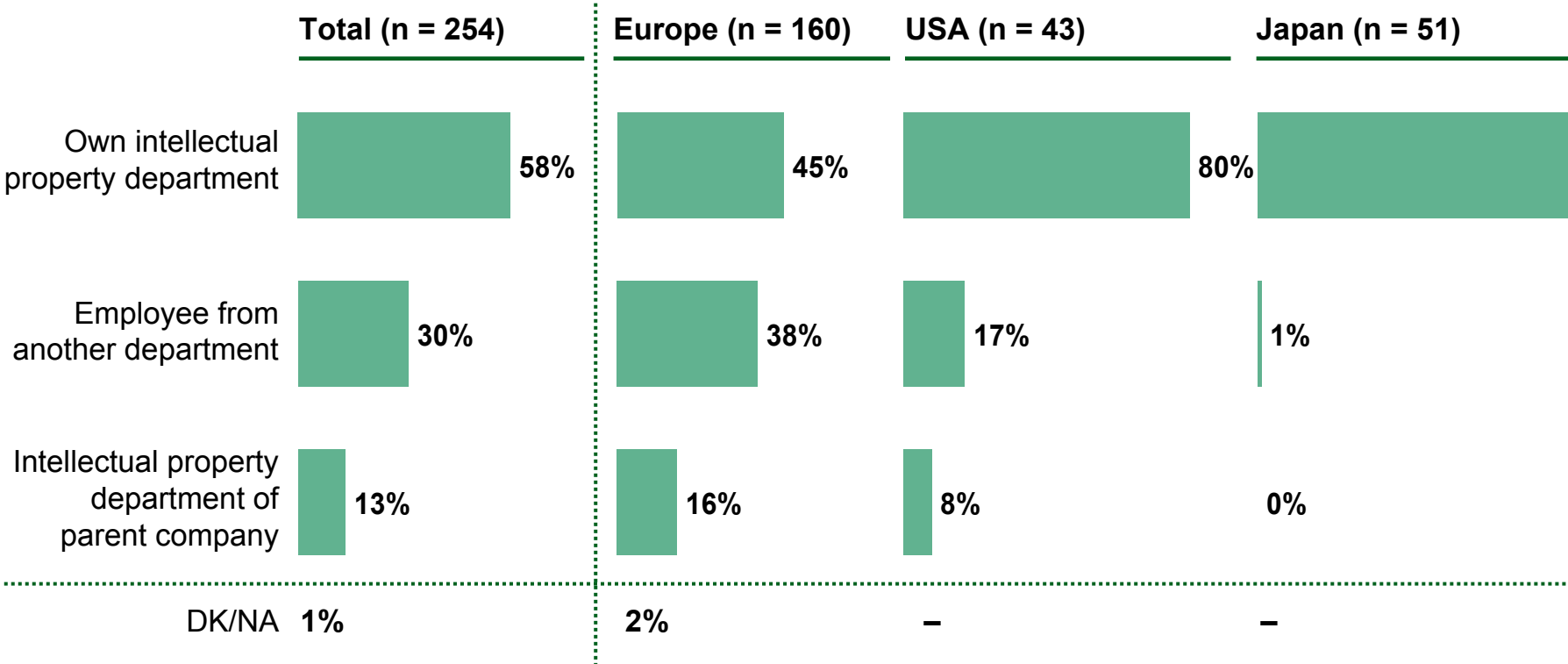


Base: n = 254, all respondents, %

2. Patent activities in general

Companies in the US and Japan mostly use their own IP departments

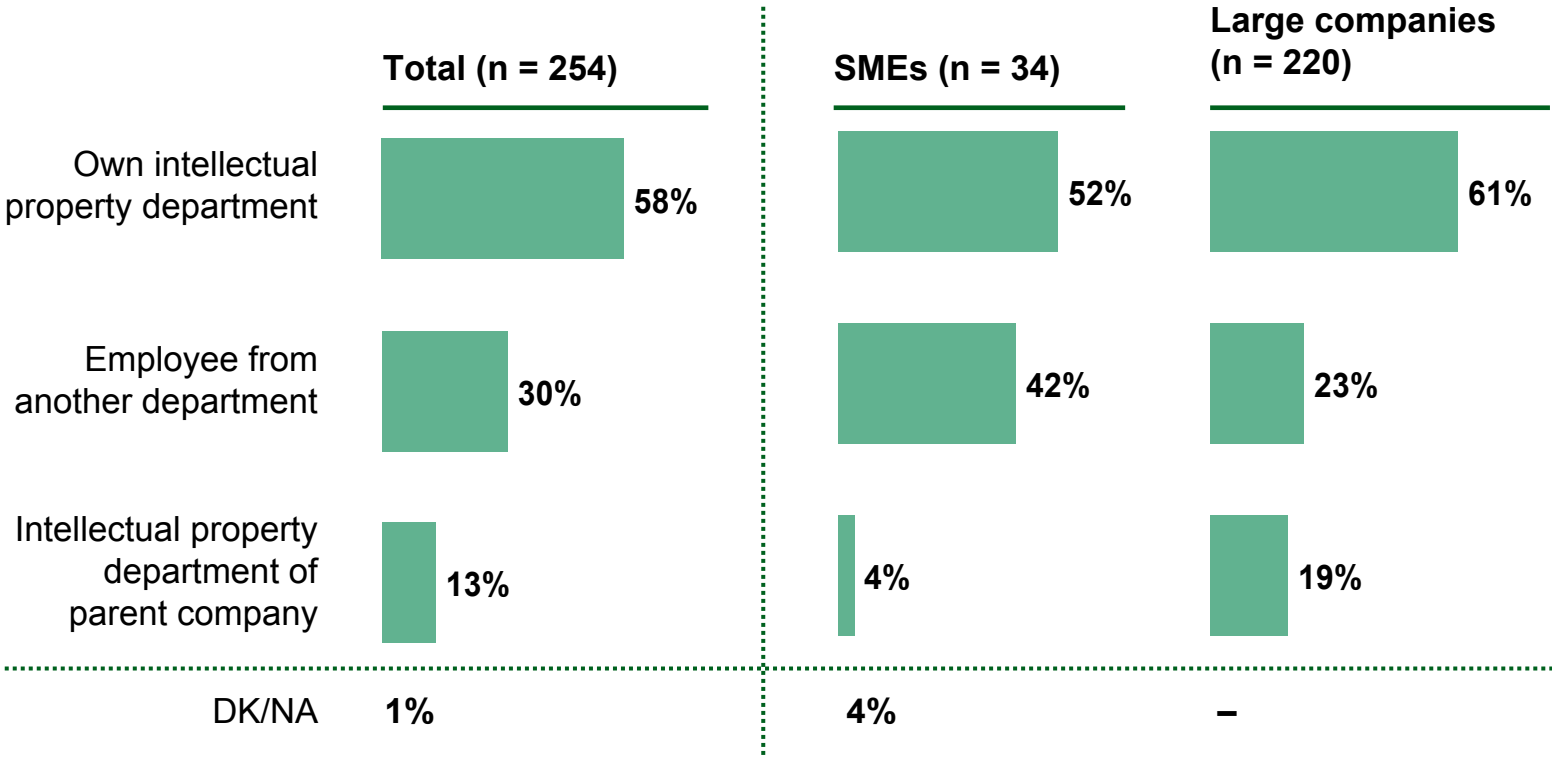
In charge of dealing with patents/agents by region



Base: n = 254, all respondents, %, multiple answers possible

One out of every two SMEs has its own IP department

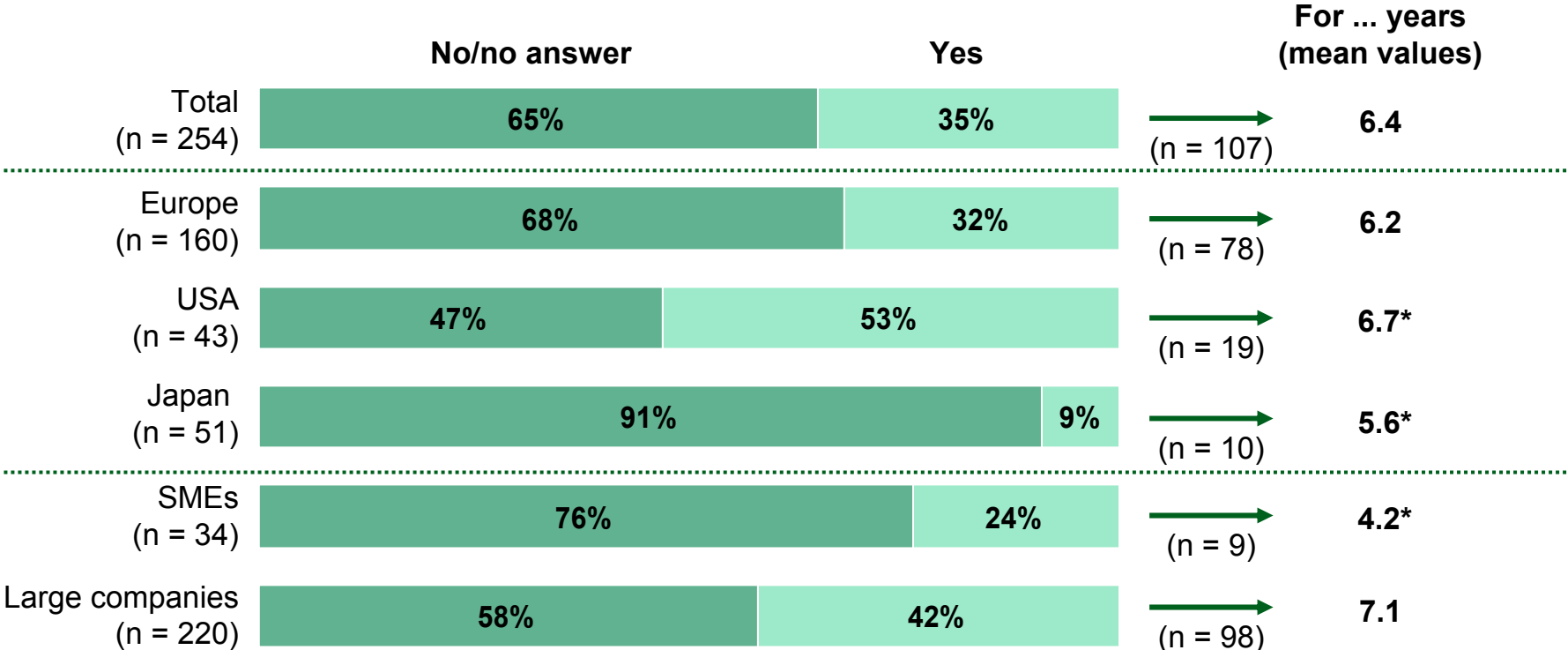
In charge of dealing with patents/agents by company size



Base: n = 254, all respondents, %, multiple answers possible

One third of the companies have been using an individual cost-accounting system for six years on average

Usage of individual cost-accounting system

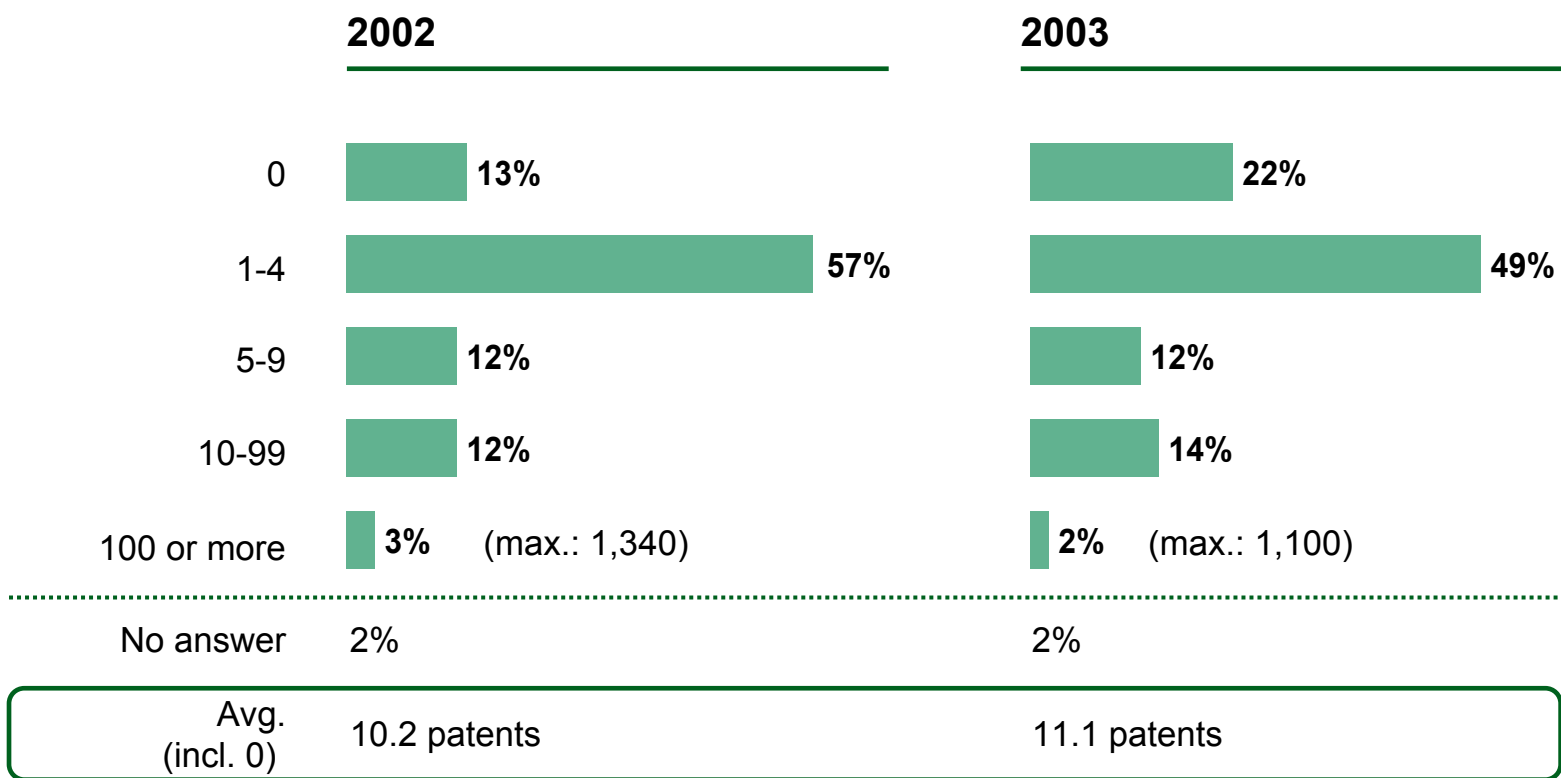


*) Small base for number of years, tendency only

Base: n = 254, all respondents; n = 107, all respondents who use an individual cost-accounting system, %, mean values

On average, the EPO granted 11 patents per company in 2003

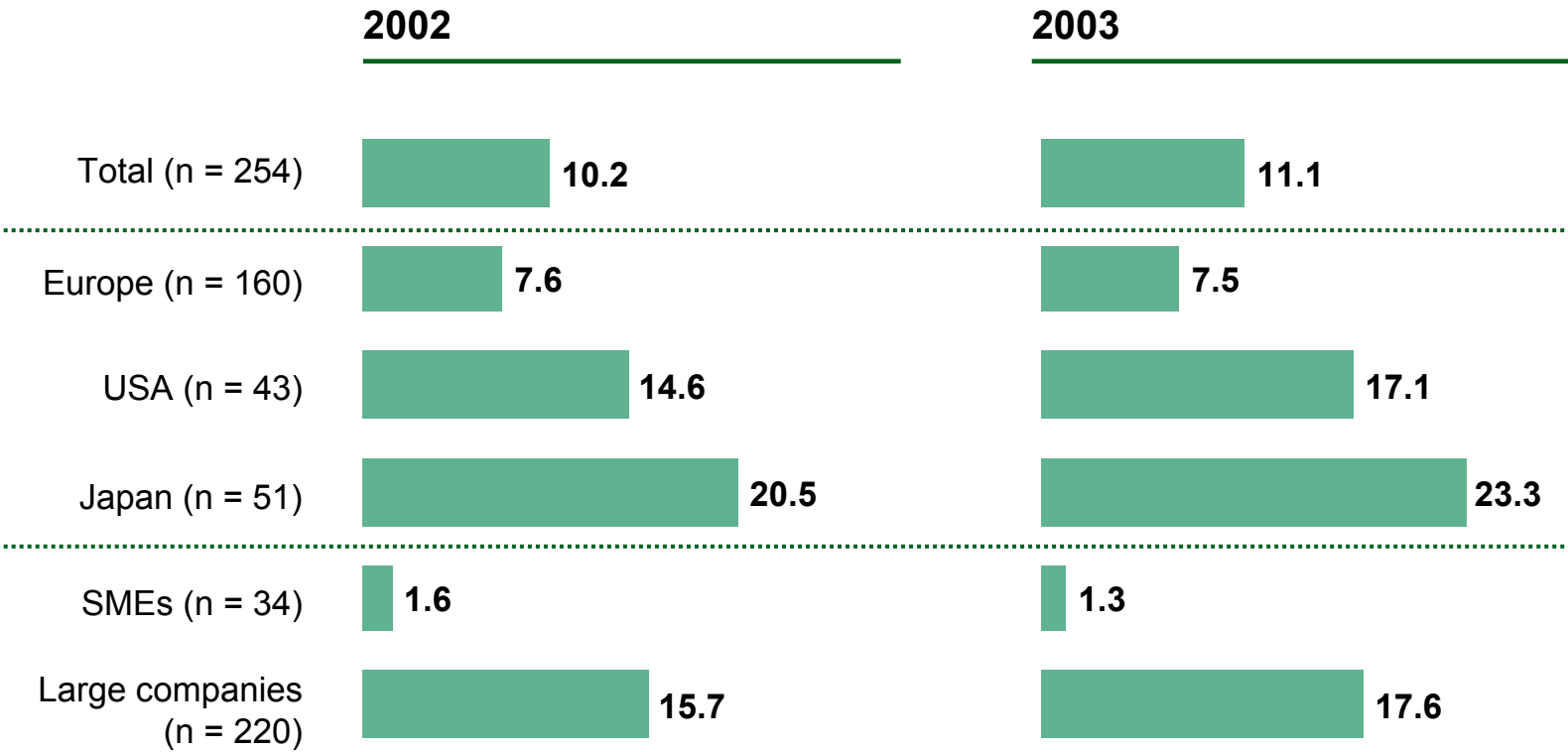
Total number of EPO patents granted in 2002/2003



Base: n = 254, all respondents, %, mean values

Japanese companies were granted more EPO patents than European and US companies

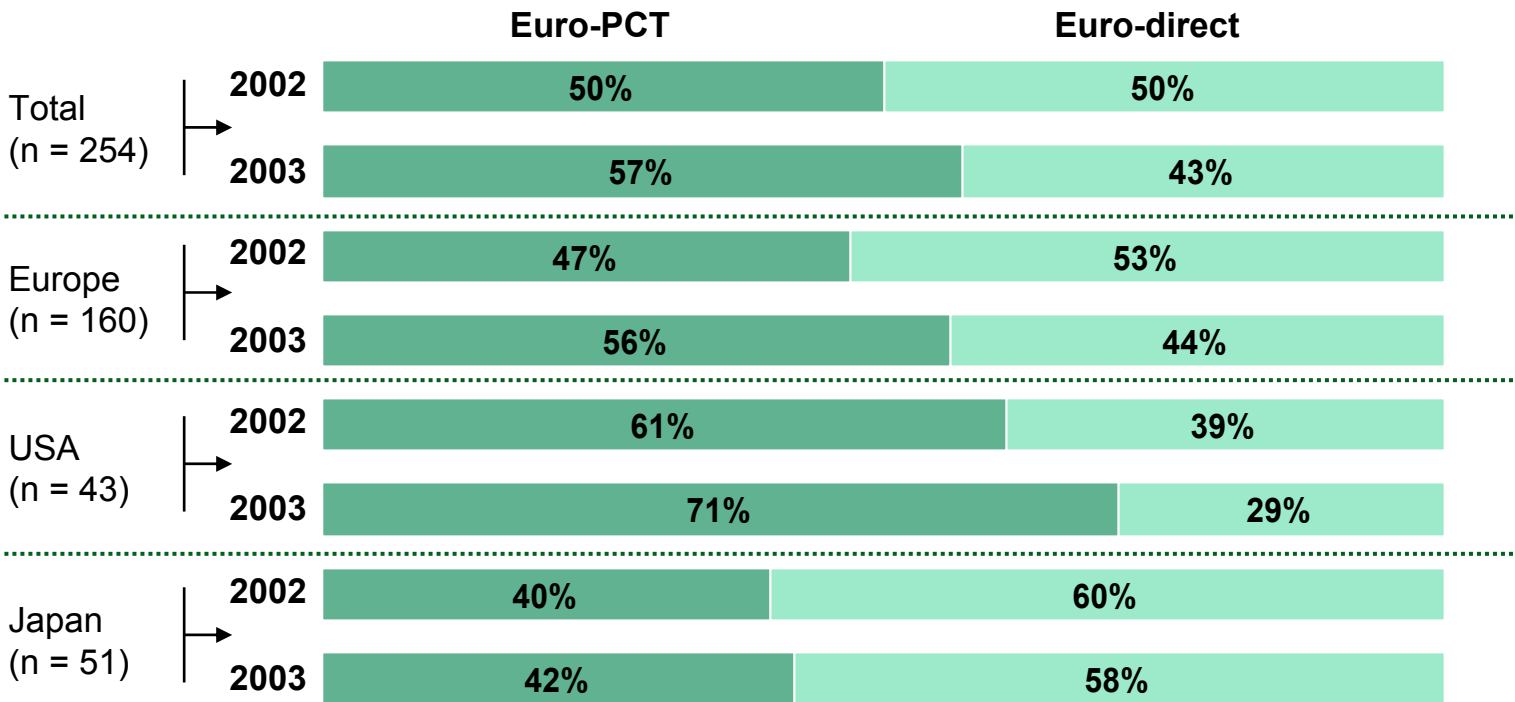
Number of EPO patents granted in 2002/2003 by region/company size



Base: n = 254, all respondents, mean values (incl. 0)

In terms of total EPO patents granted, the share of patents passing through the Euro-PCT route rose to 57% in 2003

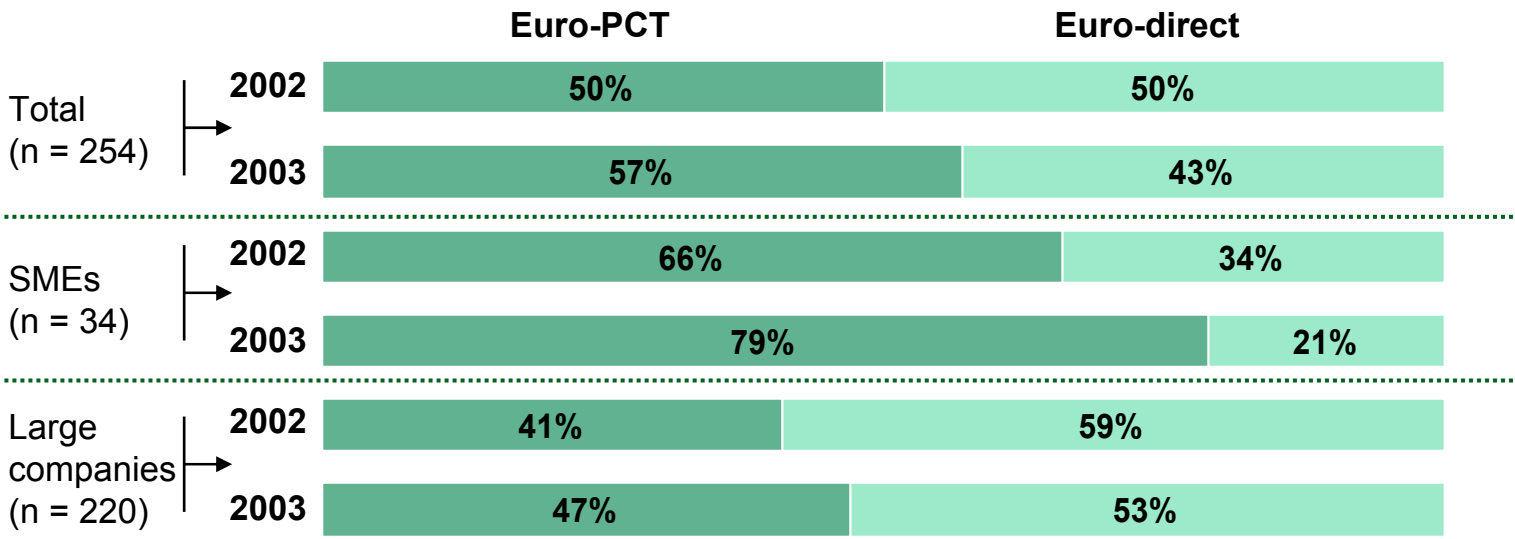
Routes of EPO patents granted in 2002/2003 by region [mean percentages of patents]



Base: n = 254, all respondents with patents granted in the respective year, mean values of percentage of patents

SMEs in particular choose the PCT route for their patents

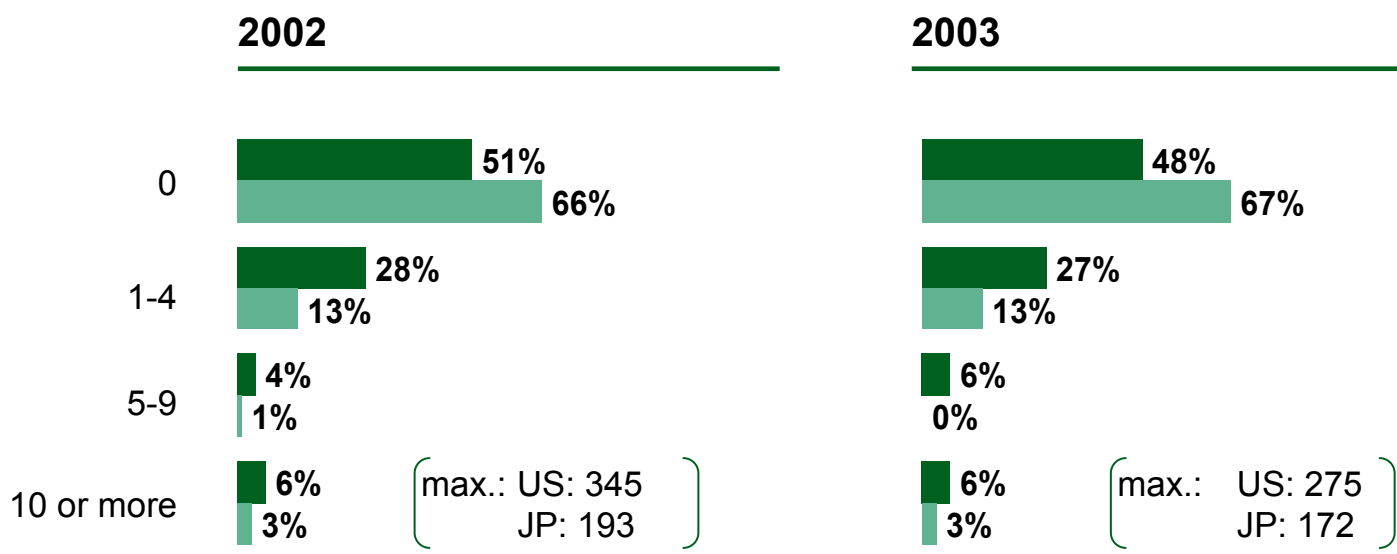
Routes of EPO patents granted in 2002/2003 by company size
[mean percentages of patents]



Base: n = 254, all respondents with patents granted in the respective year, mean values of percentage of patents

Significantly more PCT patents are granted to European companies in the US than in Japan

Number of PCT patents granted in the US and Japan in 2002/2003 – EP applicants



No answer 12% 14%
 17% 17%

Avg. (incl. 0)	US 3.2 PCT patents	US 3.2 PCT patents
	JP 0.9 PCT patents	JP 0.9 PCT patents

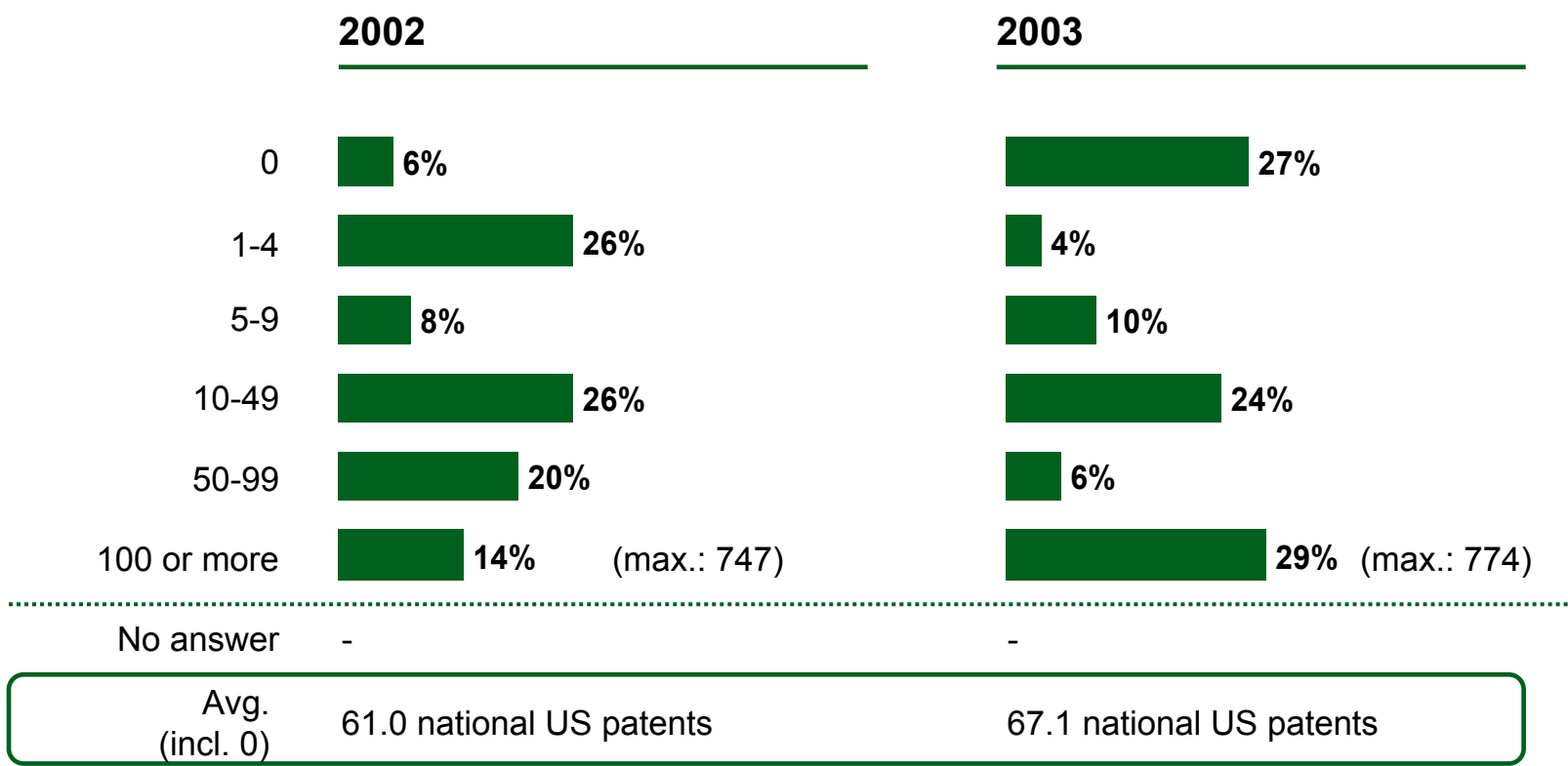
■ US ■ JP

Base: n = 160, all EP respondents, %, mean values

Q. 11: How many patents (national phase) were granted to your company in the US and Japan in 2002 and 2003 using the PCT

On average, 67 national US patents were granted to the US companies of the target group in 2003

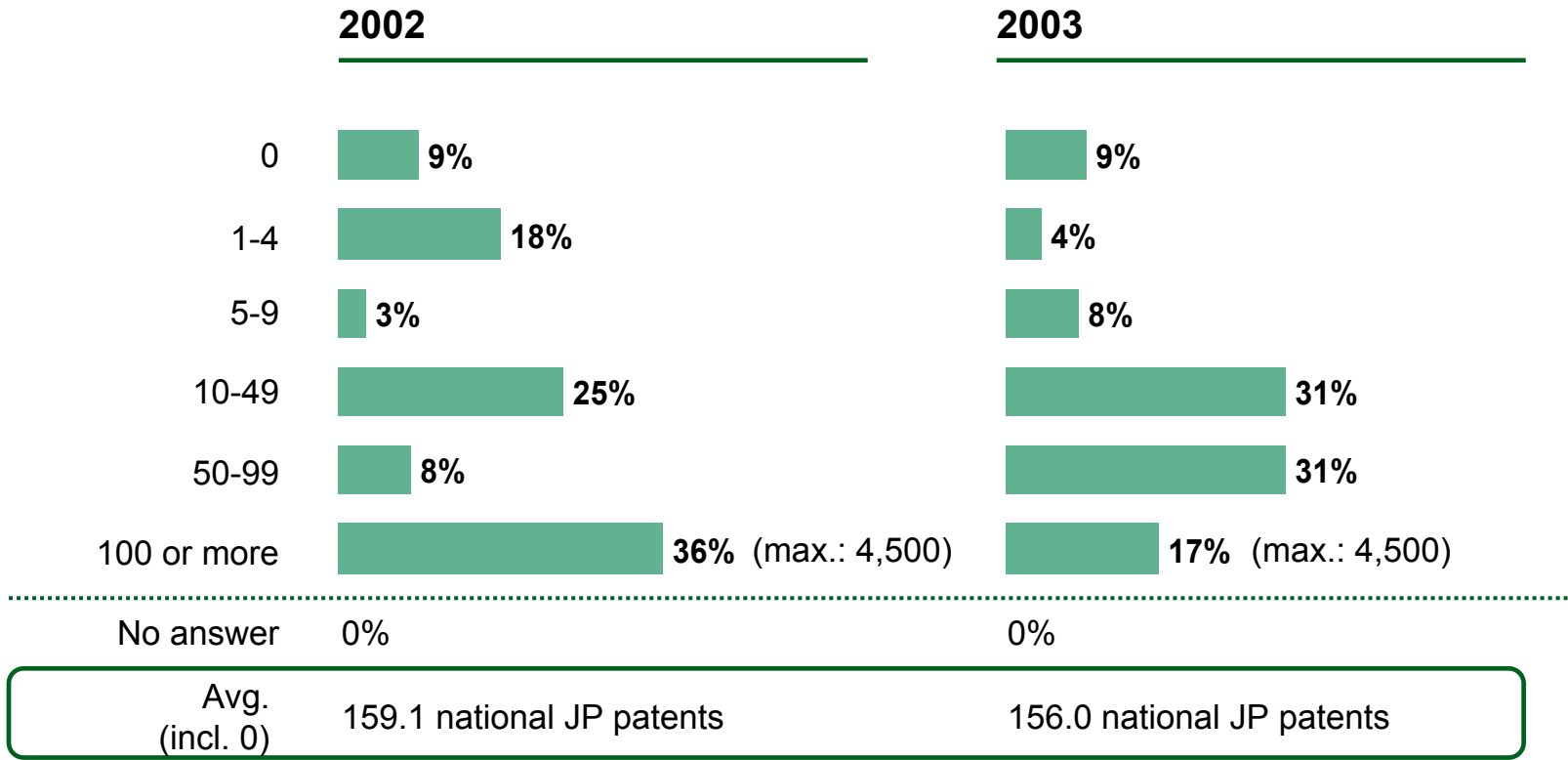
Number of national patents (excl. PCT) granted in the US in 2002/2003 – US applicants



Base: n = 43, all US respondents, %, mean values

On average, 156 national Japanese patents were granted to the JP companies of the target group in 2003

Number of national patents (excl. PCT) granted in Japan in 2002/2003 – JP applicants



Base: n = 51, all JP respondents, %, mean values

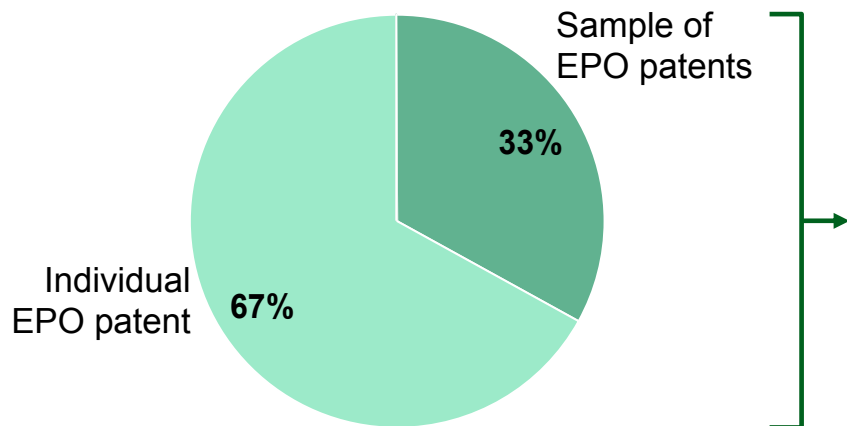
3. Description of a representative EPO patent

Some of the companies based their information on a sample of EPO patents

Basis for the representative EPO patent (weighted)

Individual patents vs. sample

Number of EPO patents in sample



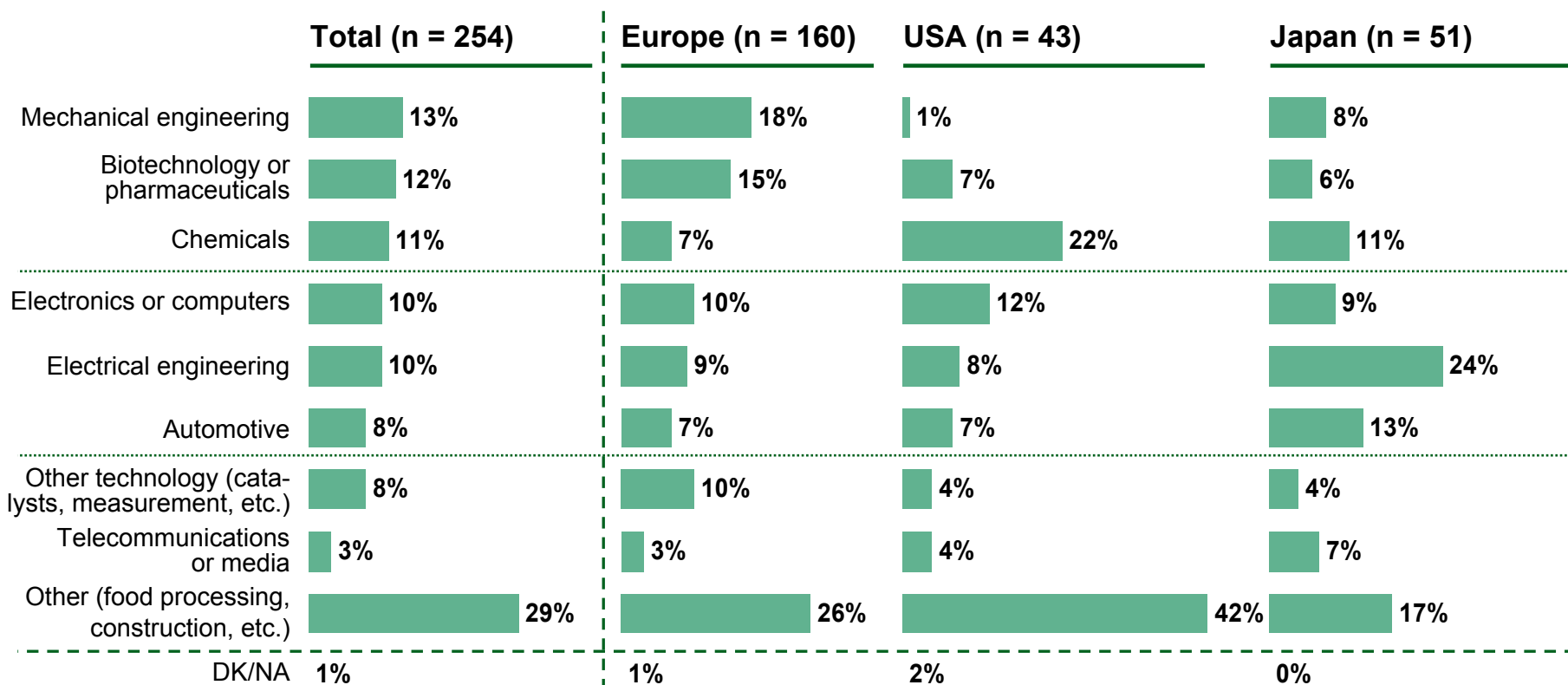
Avg.: 12 patents

Min.: 2 patents

Max.: 1,000 patents

The representative EPO patent often relates to the fields of engineering, biotechnology/pharmaceuticals and chemicals

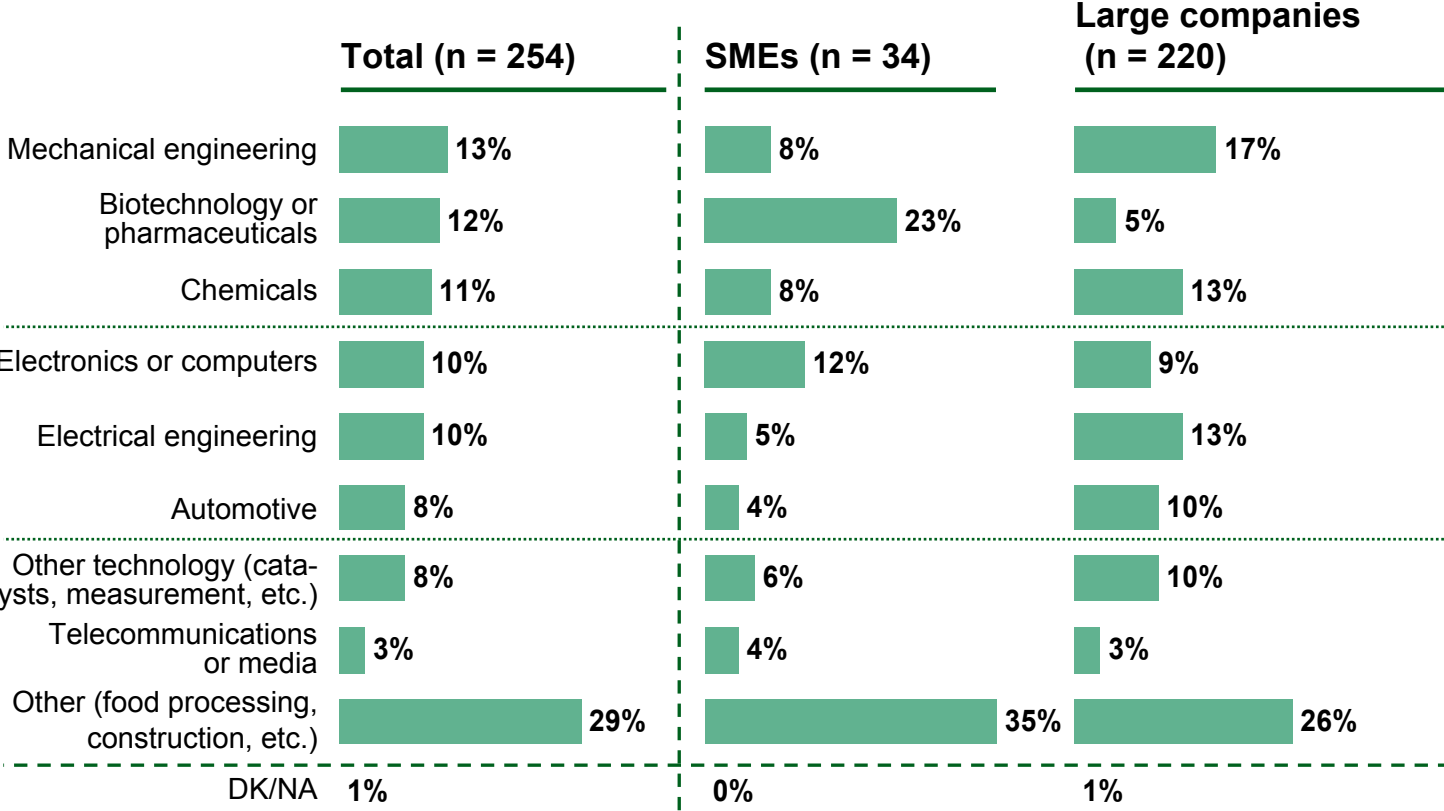
Technological area of representative EPO patent by region



Base: n = 254, all respondents, %, multiple answers possible

One in five SMEs provided information on an EPO patent in the field of biotech/pharma

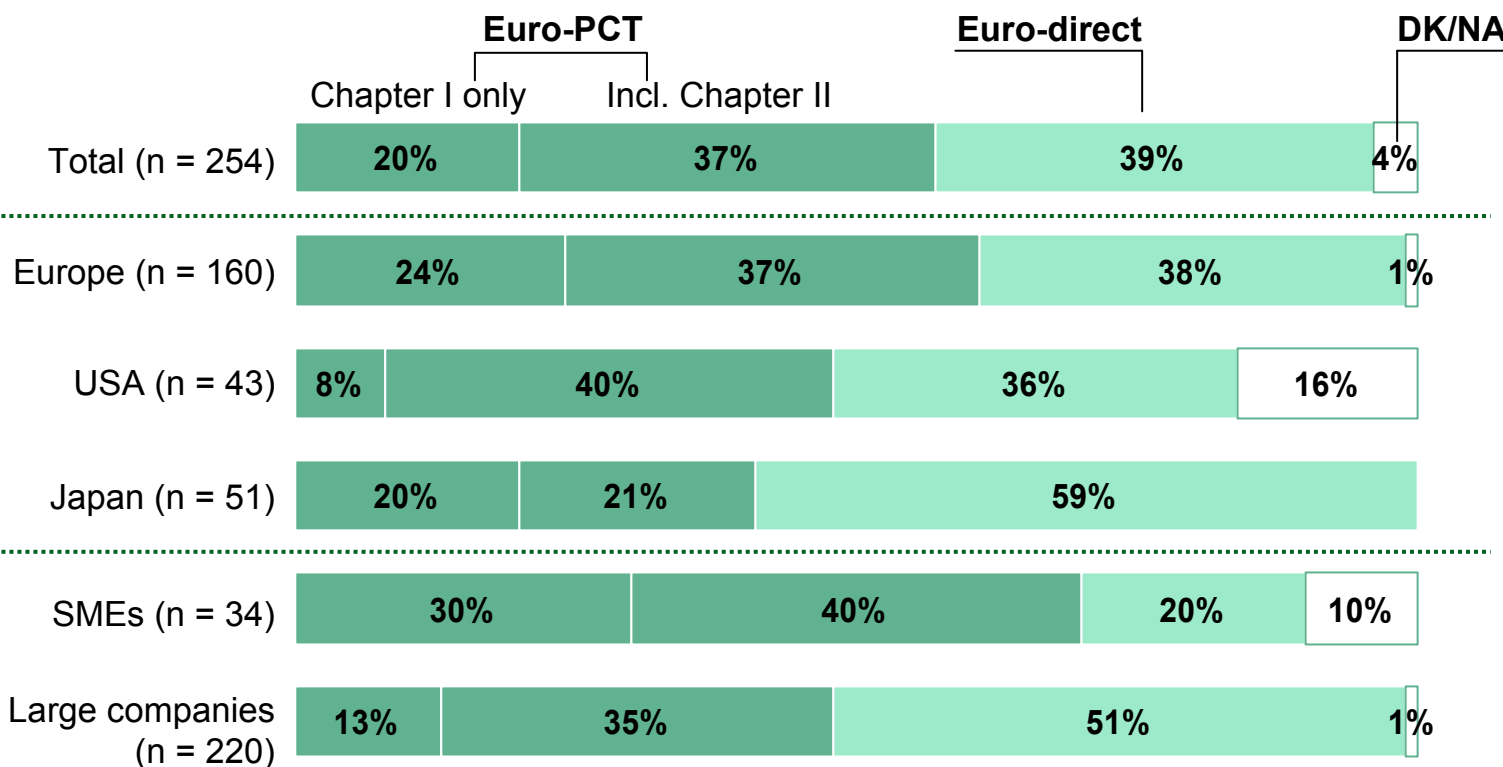
Technological area of representative EPO patent by company size



Base: n = 254, all respondents, %, multiple answers possible

More than half of the companies normally use the Euro-PCT route for their EPO patents

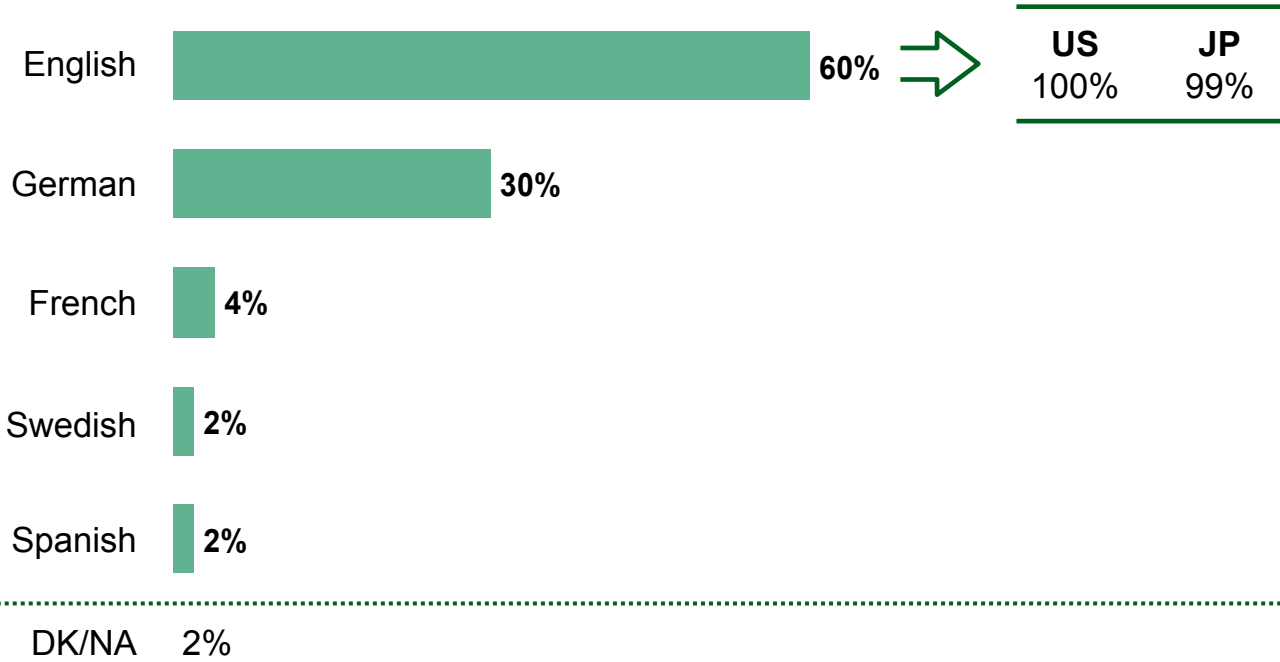
Typical route taken by EPO patents



Base: n = 254, all respondents, %

The typical original language of filing is English

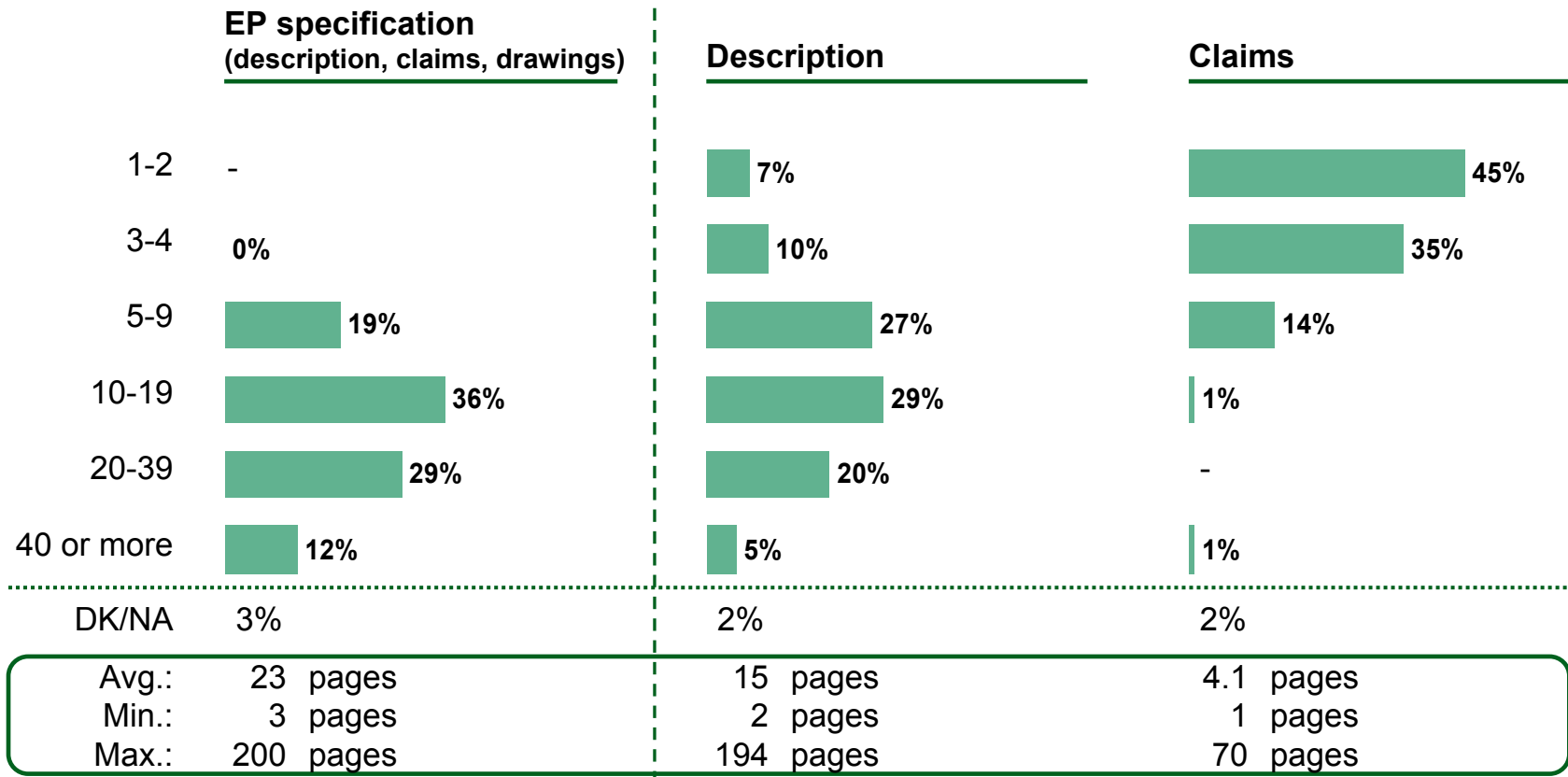
Typical original language of filing



Base: n = 254, all respondents, %

On average, the representative EPO patent covers a 15-page description and 4 pages of claims

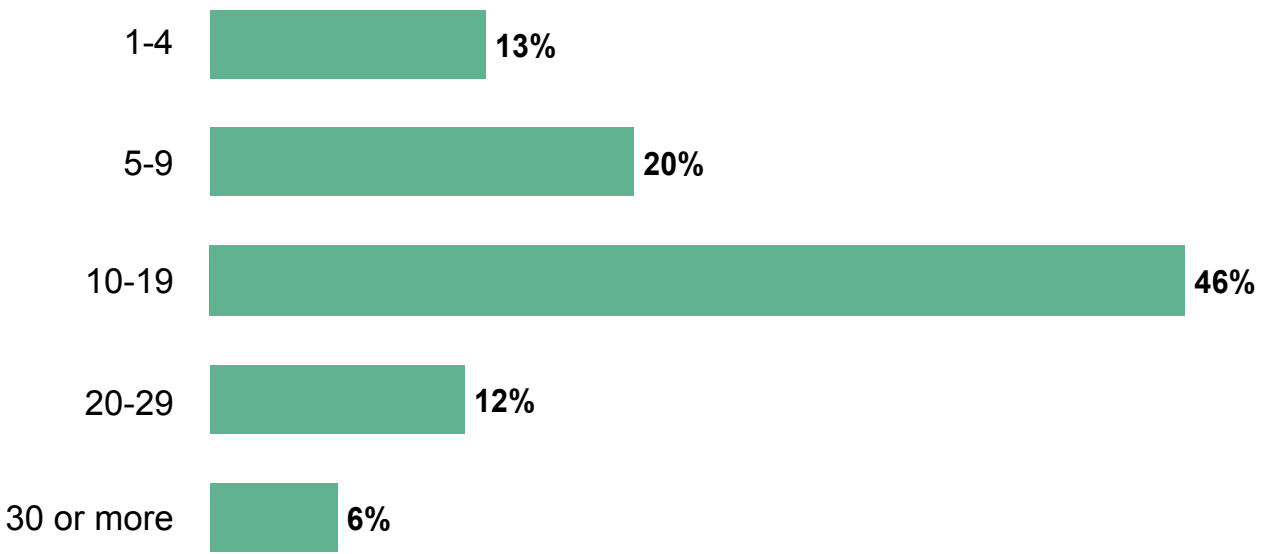
Total number of pages in the representative EPO patent



Base: n = 254, all respondents, %, mean values

On average, the representative EPO patent covers 13 claims

Total number of claims in the representative EPO patent



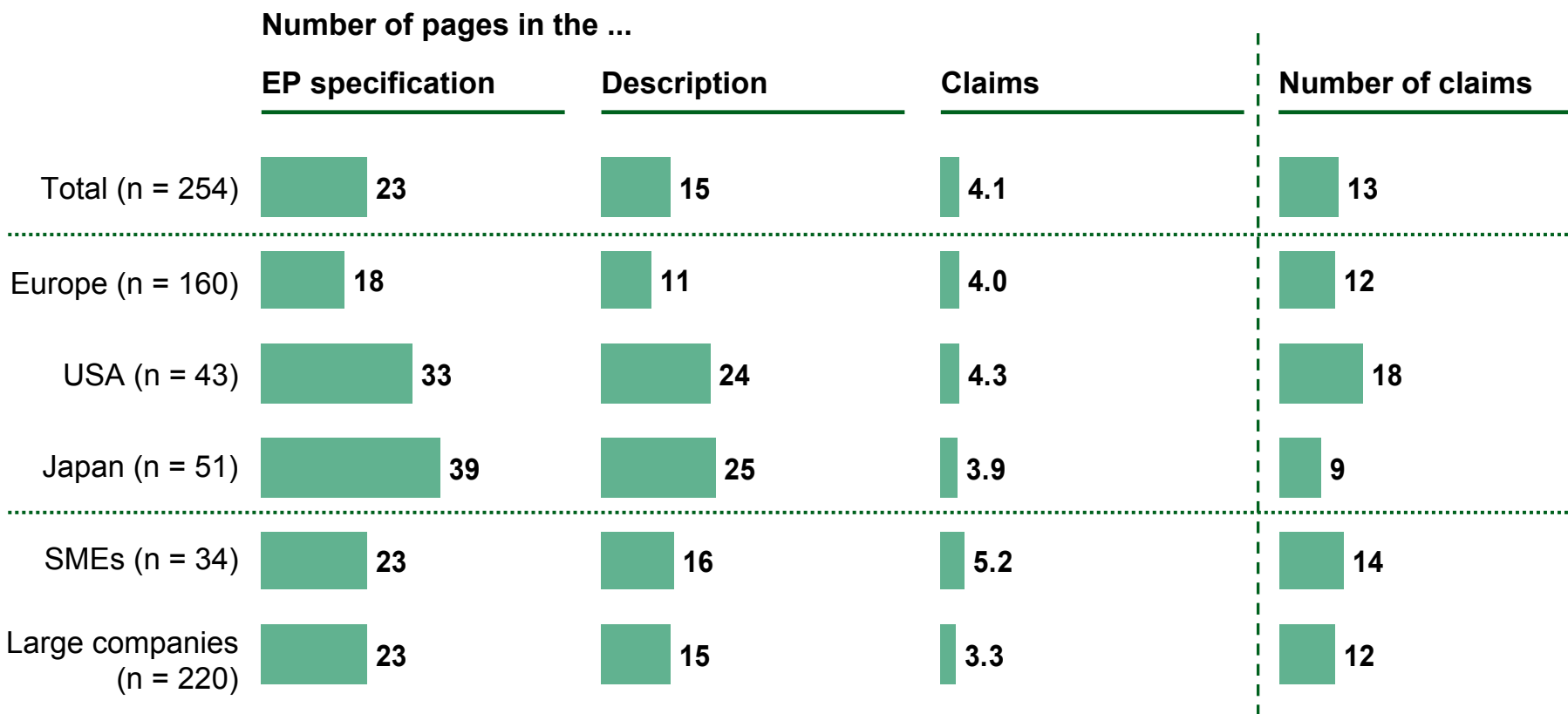
DK/NA 3%

Avg.:	13 claims
Min.:	1 claim
Max.:	48 claims

Base: n = 254, all respondents, %, mean values

The EP specifications of US and JP companies have more pages than those of EP companies

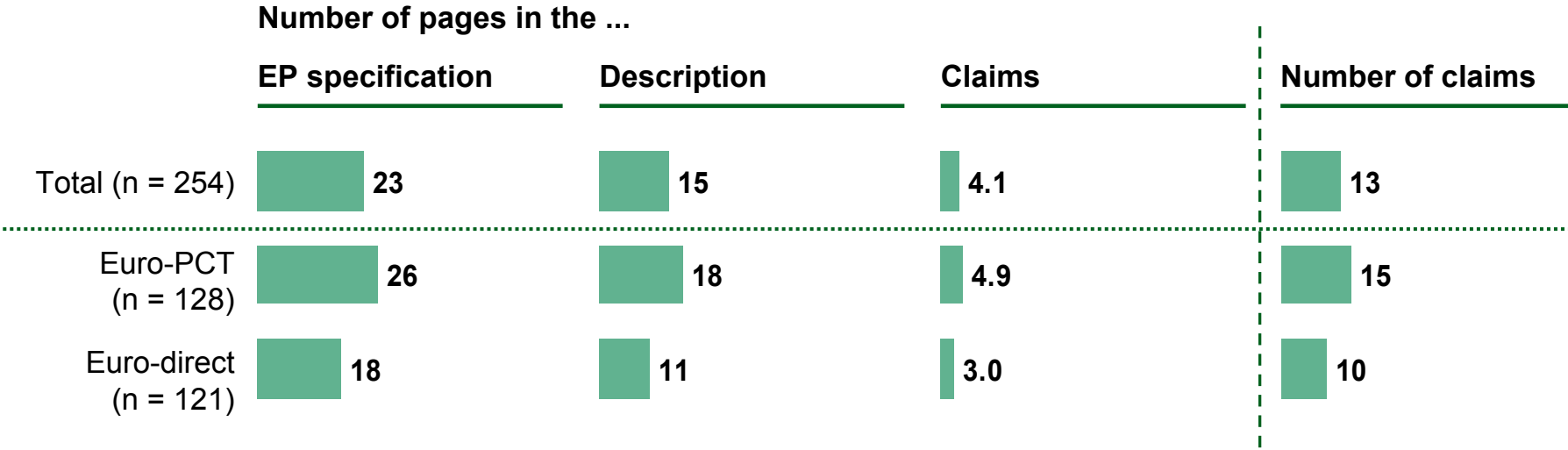
Scope of the representative EPO patent by region/company size



Base: n = 254, all respondents, mean values

Euro-PCT patents have a larger scope than Euro-direct patents in terms of the number of pages and claims

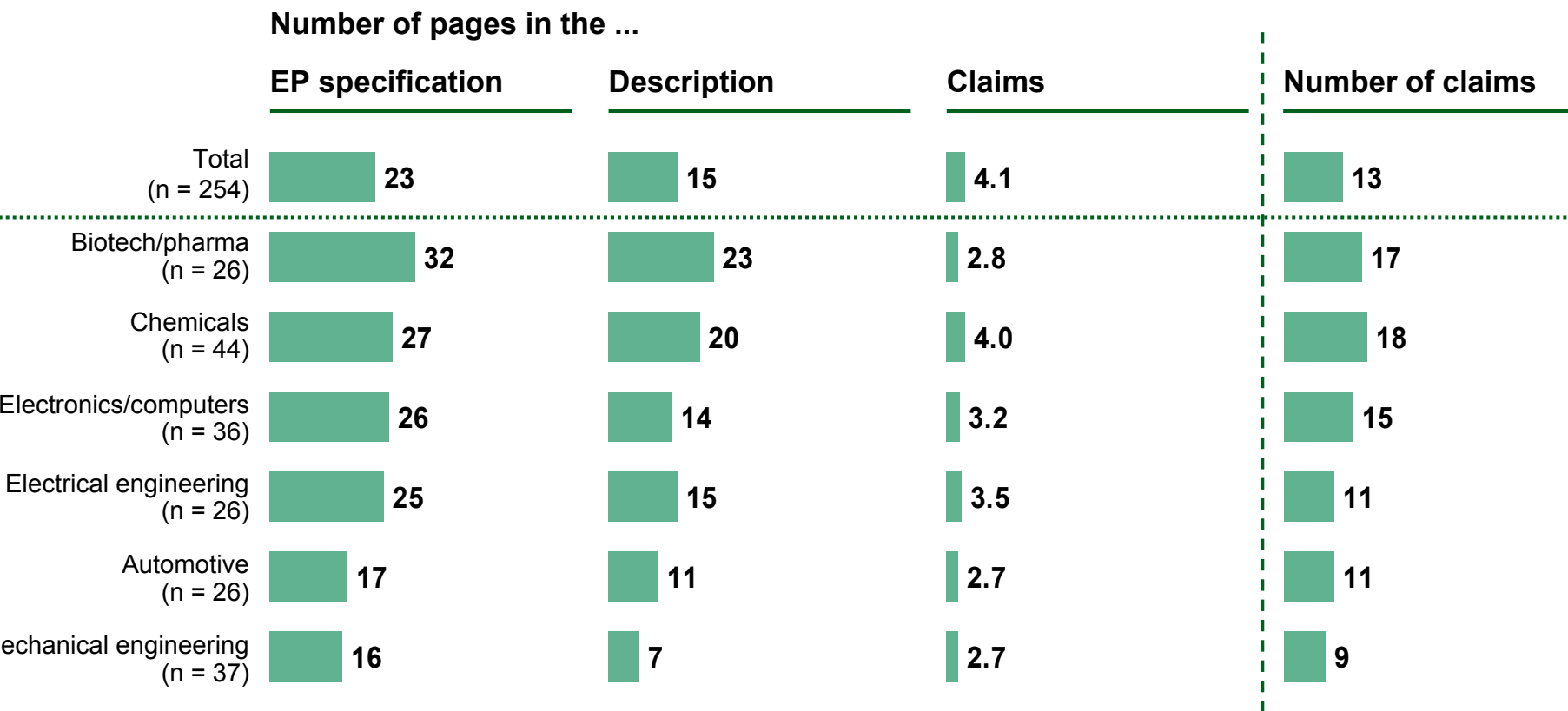
Scope of the representative EPO patent by route



Base: n = 254, all respondents, mean values

Biotech/pharma patents are the most comprehensive in terms of the total number of pages

Scope of the representative EPO patent by technology (selection)

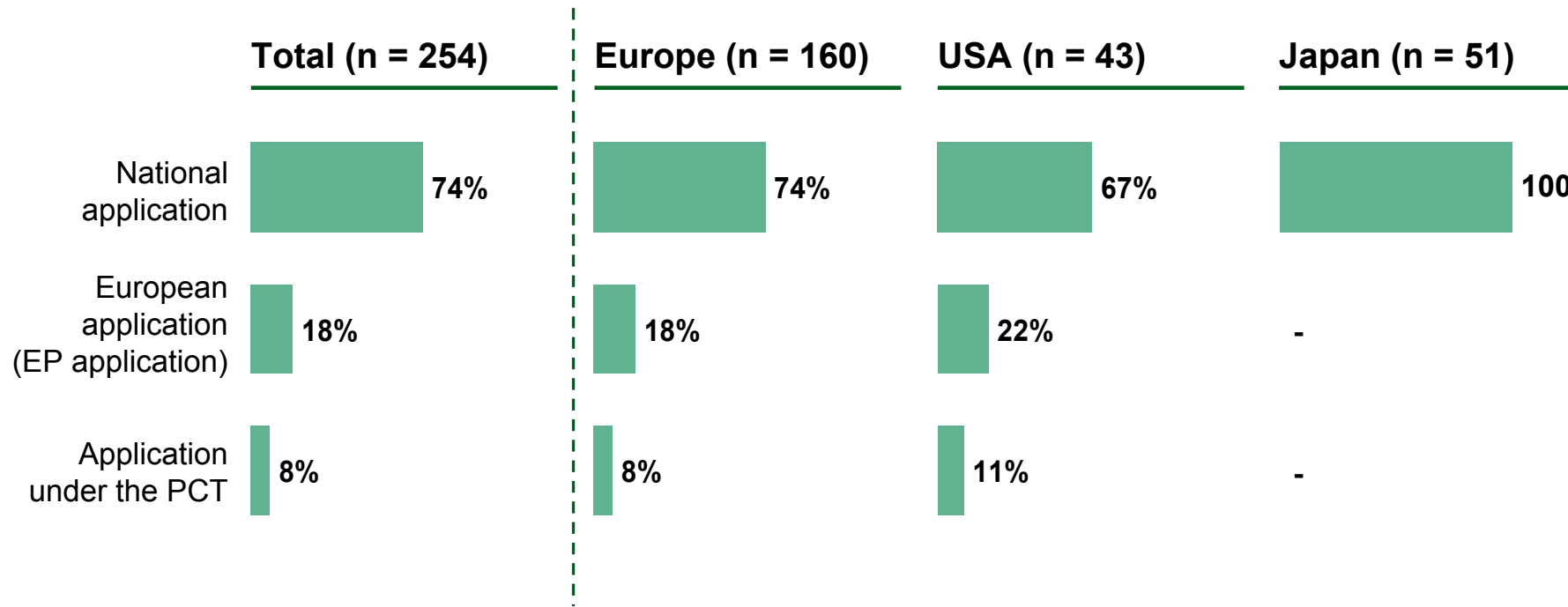


Base: n = 254, all respondents, mean values

4. Pre-grant costs of an EPO patent

One out of every four European companies uses the EP or the PCT procedure for the first filing

Procedure of first filing by region

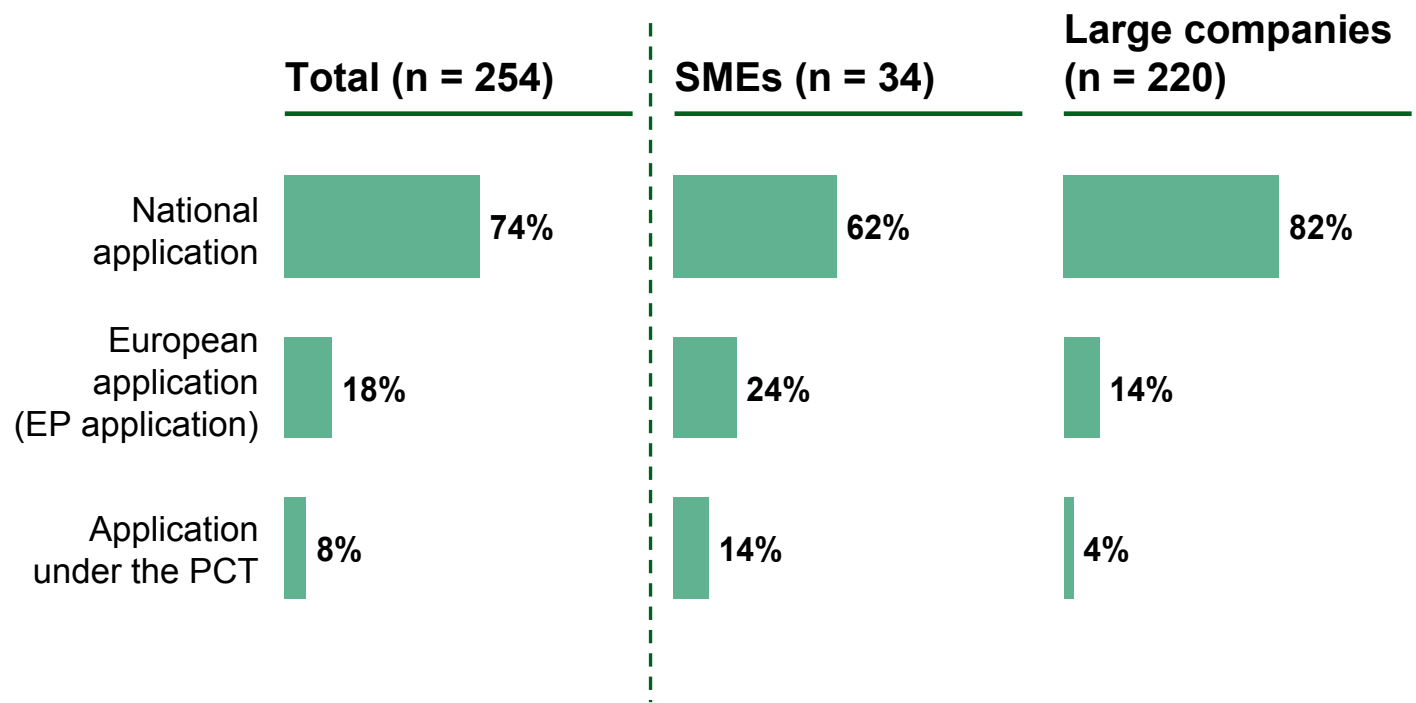


Base: n = 254, all respondents, %, multiple answers possible

Q. 8a/b: Which procedure do you typically use for the first filing (i.e. the application that confers a right of priority)? If first filing is

SMEs use the EP or PCT procedure for the first filing more often than large companies

Procedure of first filing by company size



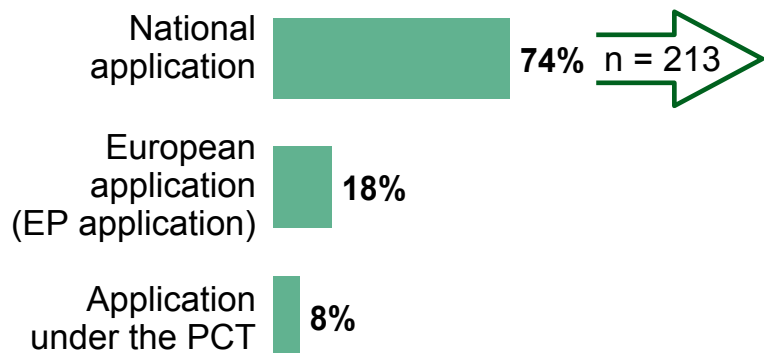
Base: n = 254, all respondents, %, multiple answers possible

Q. 8a/b: Which procedure do you typically use for the first filing (i.e. the application that confers a right of priority)? If first filing is

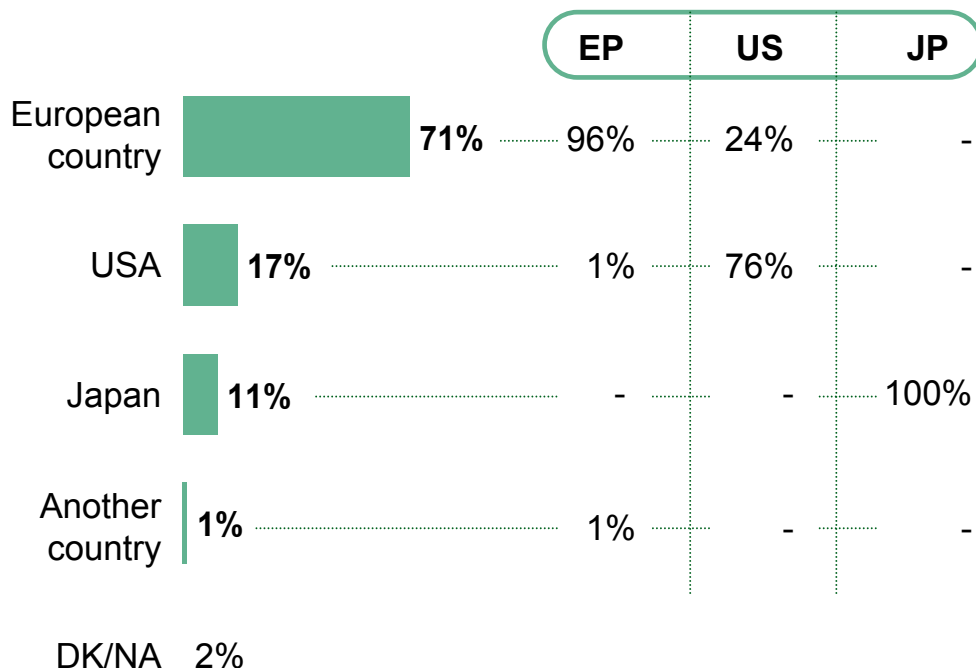
Most companies use the national application in their region of origin for first filings

Procedure of first filing – Total

Procedure



Country of national first filing

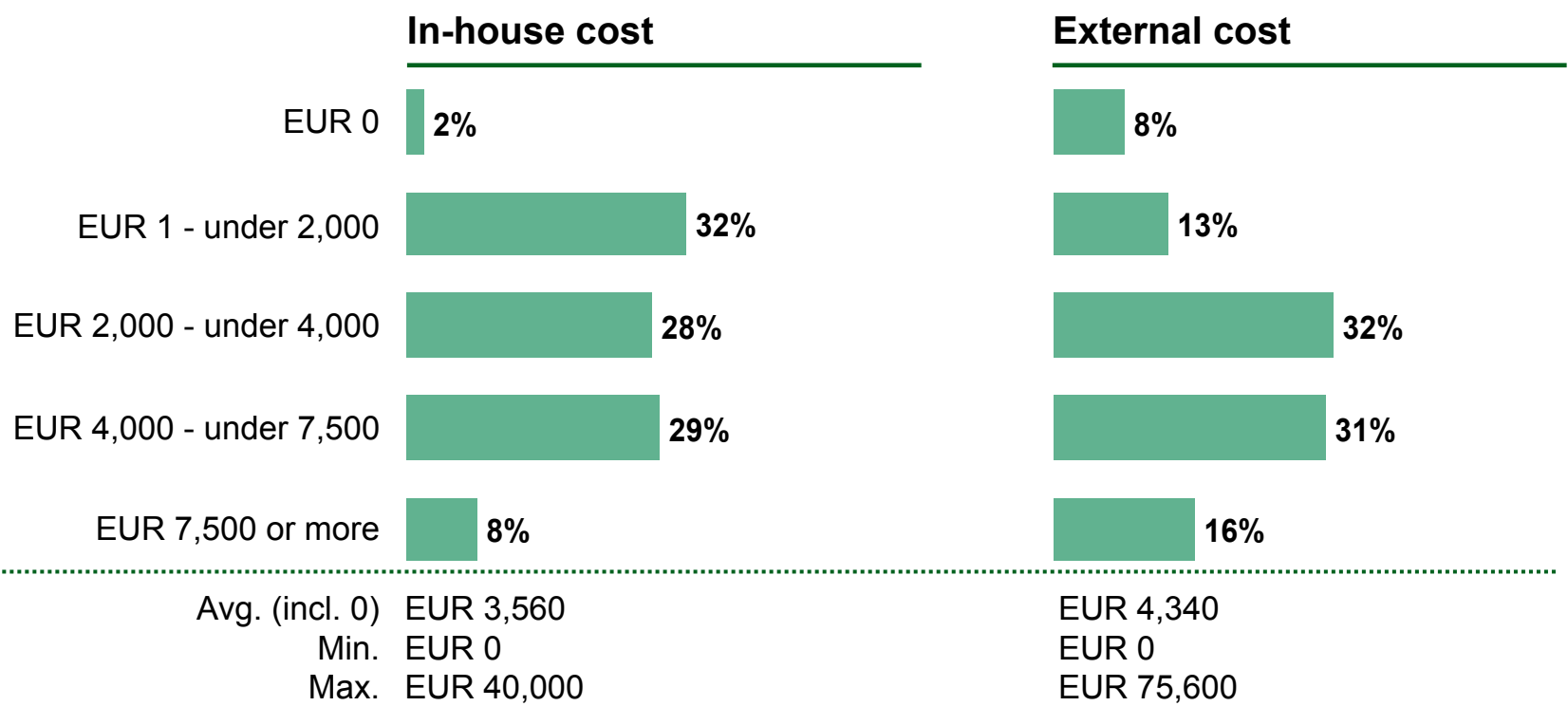


Base: n = 254, all respondents, %, multiple answers possible

Q. 8a/b: Which procedure do you typically use for the first filing (i.e. the application that confers a right of priority)? If first filing is

The external cost of preparing/drafting the first application is slightly higher than the corresponding internal cost

Total pre-filing expenditure per patent

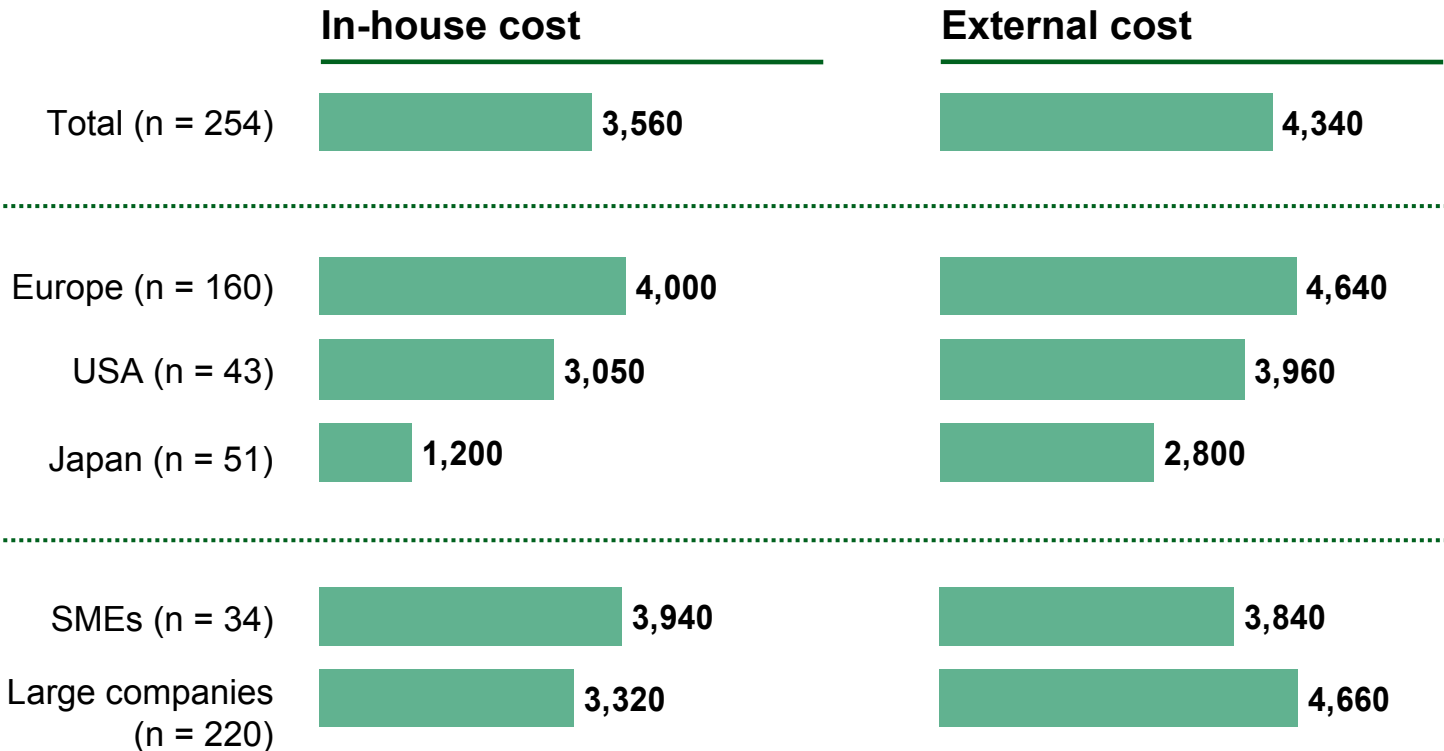


Base: n = 254, all respondents, %, mean values

Q. 8c: What is the total cost of preparing/drafting the first application (i.e. the cost of creating the documents, description, claims,

European companies indicate higher pre-filing costs than US and JP companies

Pre-filing expenditure per patent by region/company size [EUR]

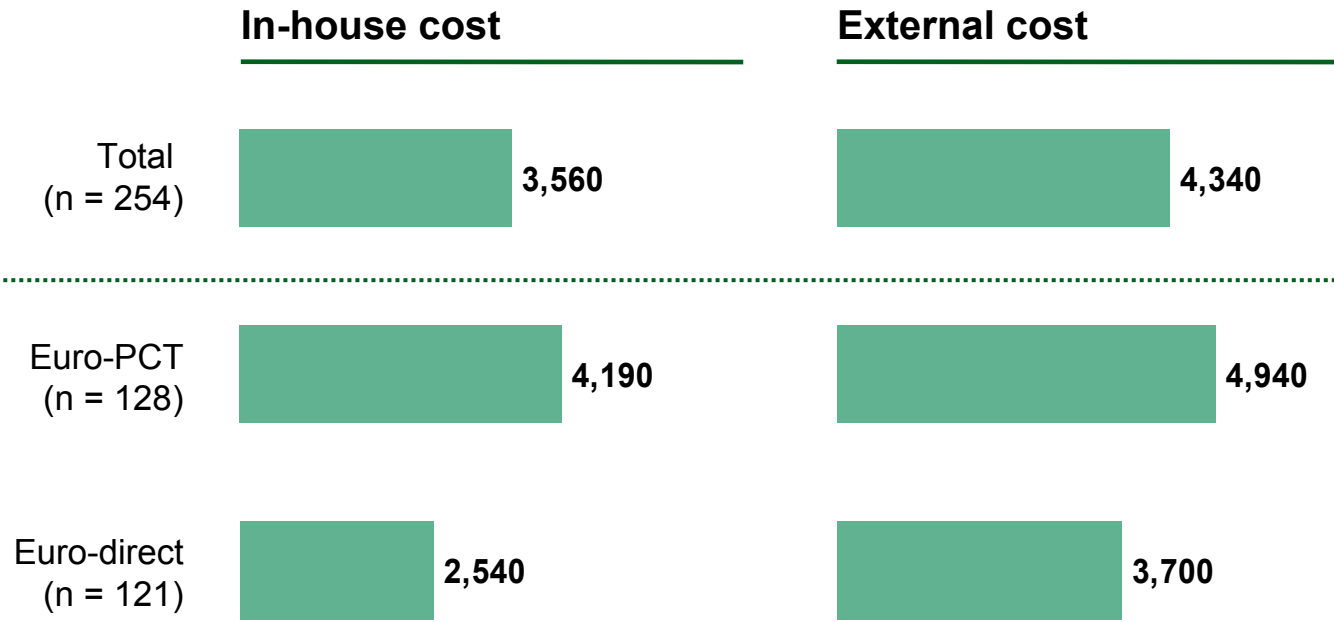


Base: n = 254, all respondents, mean values (incl. 0)

Q. 8c: What is the total cost of preparing/drafting the first application (i.e. the cost of creating the documents, description, claims,

Euro-PCT patents result in higher pre-filing expenditures than Euro-direct patents

Pre-filing expenditure per patent by route [EUR]

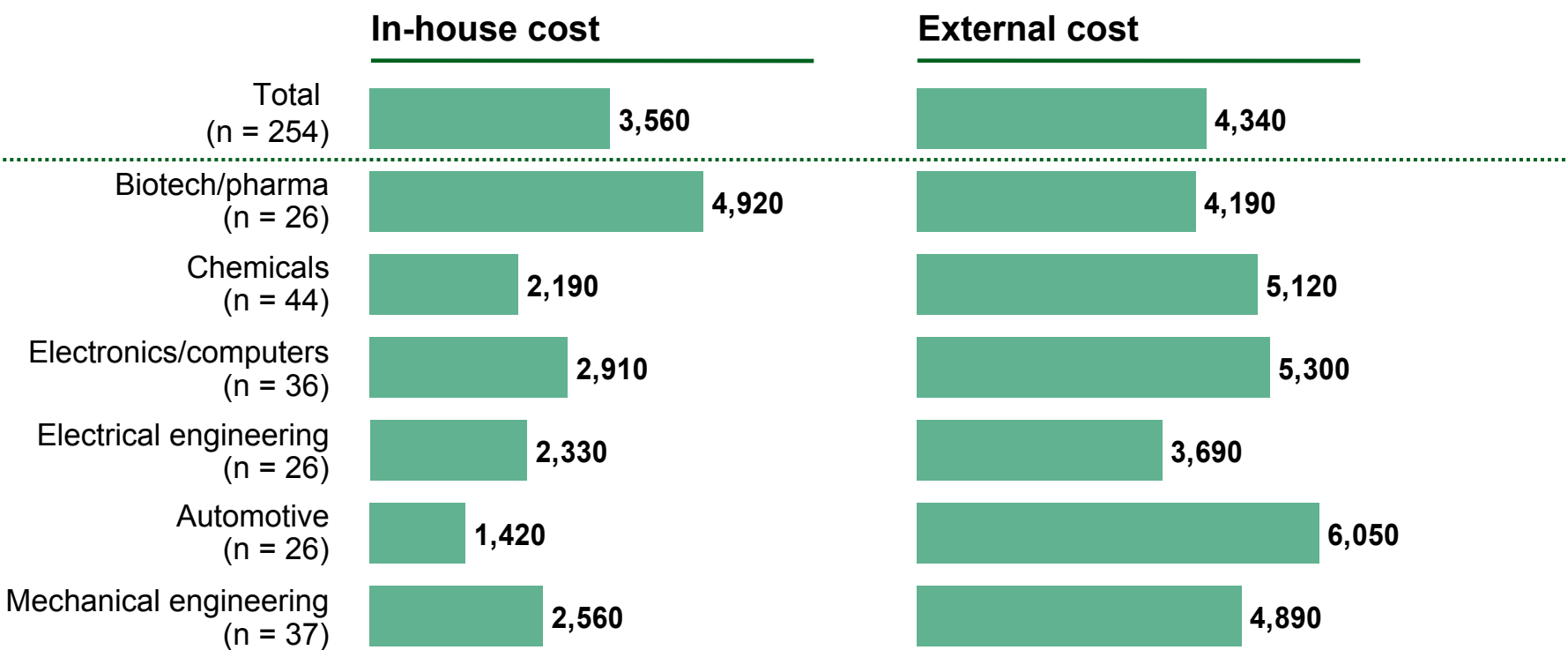


Base: n = 254, all respondents, mean values (incl. 0)

Q. 8c: What is the total cost of preparing/drafting the first application (i.e. the cost of creating the documents, description, claims,

Total pre-filing costs are highest for biotech/pharma patents

Pre-filing expenditure per patent by technology [EUR]

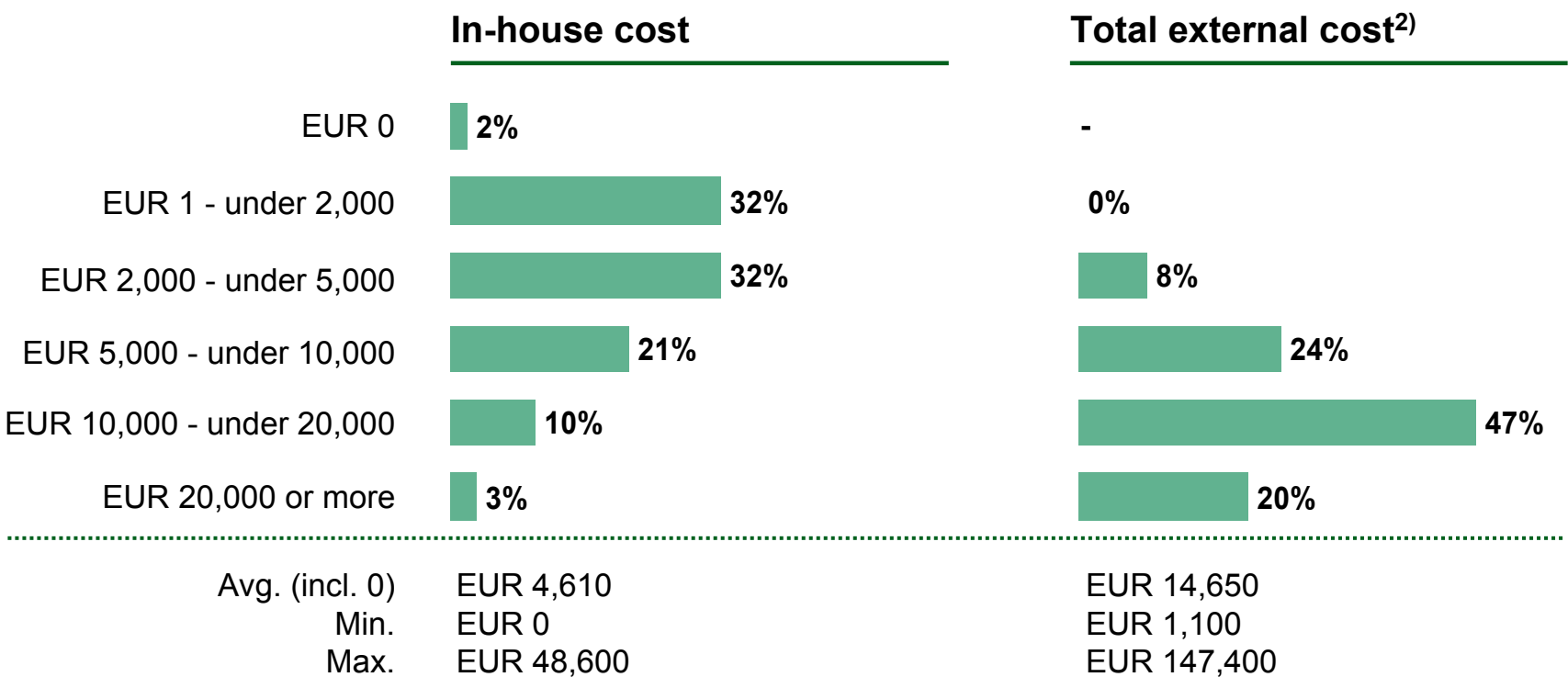


Base: n = 254, all respondents, mean values (incl. 0)

Q. 8c: What is the total cost of preparing/drafting the first application (i.e. the cost of creating the documents, description, claims,

The total external cost of preparing and processing an EPO patent averages nearly EUR 15,000

Total cost of processing per EPO patent¹⁾



1) If PCT: International and European phase

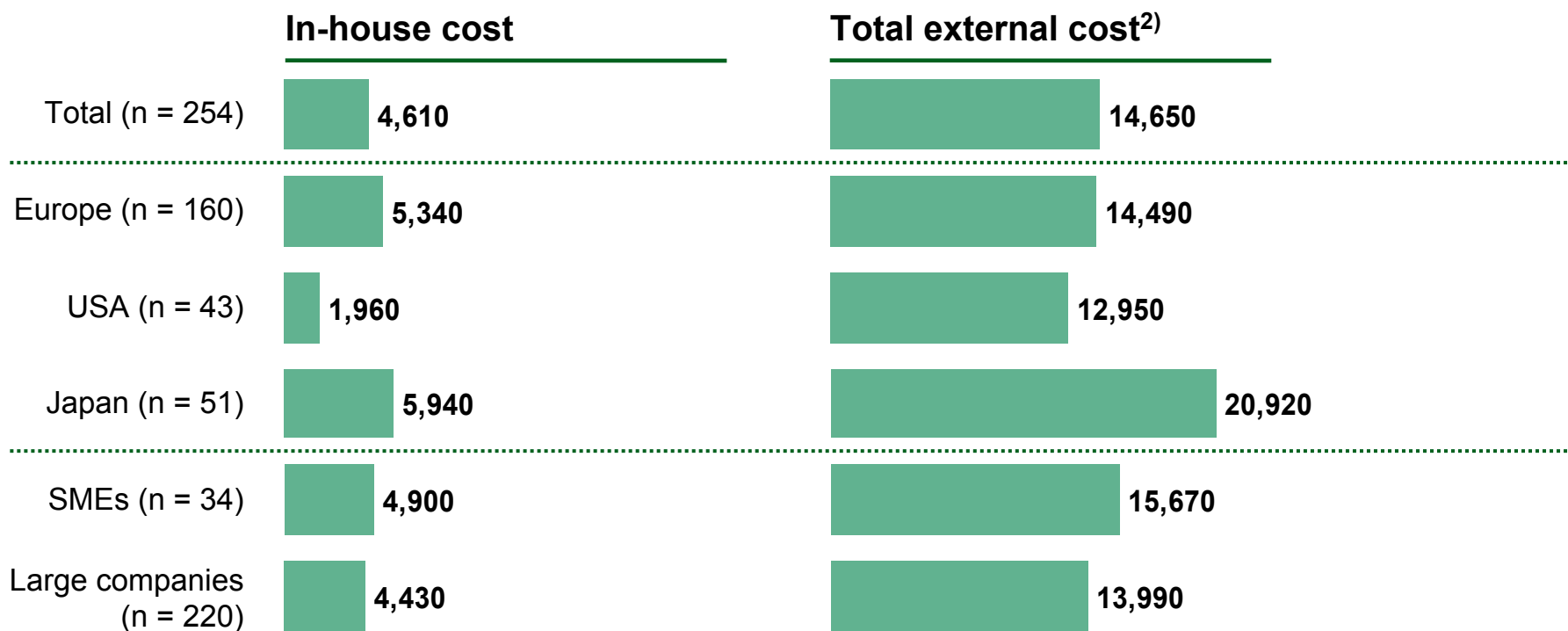
2) Attorney fees and other external costs, translation of application and claims (pre-grant), official EPO fees, official fees for international phase (PCT)

Base: n = 254, all respondents, %, mean values

Q. 9: What is the total cost of preparing and processing your representative EPO patent from filing to grant? Please give a

In-house costs for preparing and processing are lowest for US companies

Cost of processing per EPO patent¹⁾ by region/company size [EUR]



1) If PCT: International and European phase

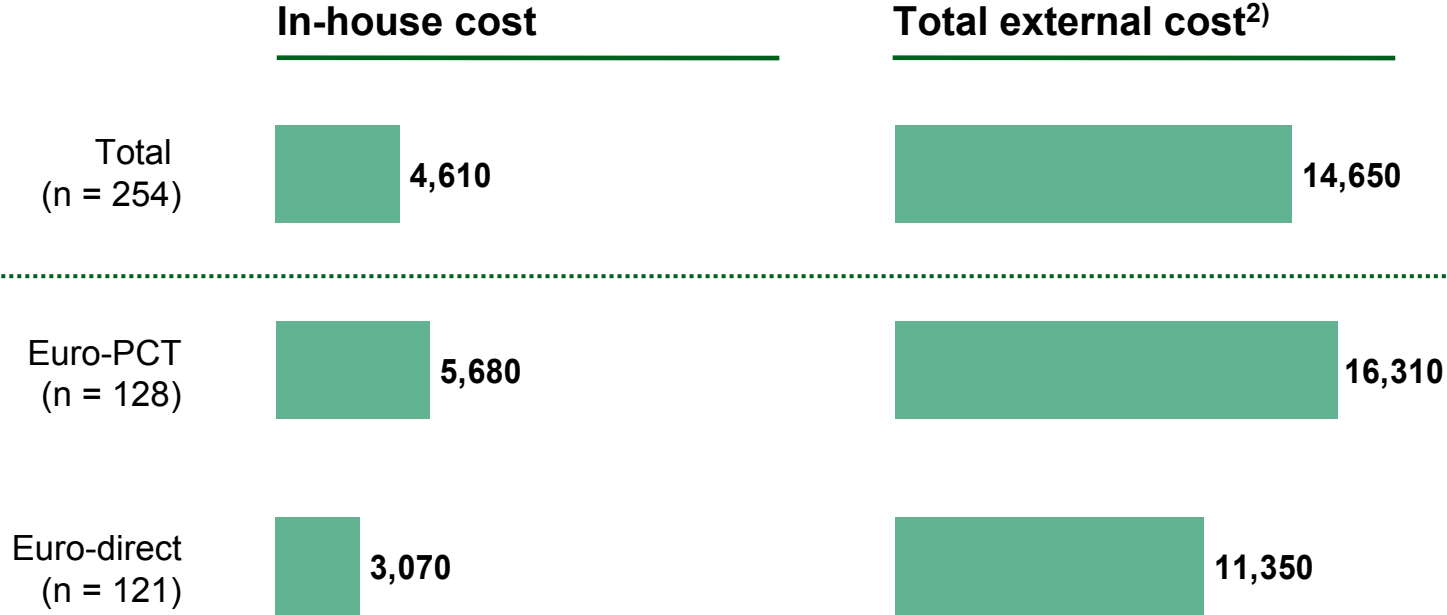
2) Attorney fees and other external costs, translation of application and claims (pre-grant), official EPO fees, official fees for international phase (PCT)

Base: n = 254, all respondents, mean values (incl. 0)

Q. 9: What is the total cost of preparing and processing your representative EPO patent from filing to grant? Please give a breakdown

Preparing and processing an EPO patent using the Euro-PCT route appears to be more cost intensive than using the Euro-direct route

Cost of processing per EPO patent¹⁾ by route [EUR]



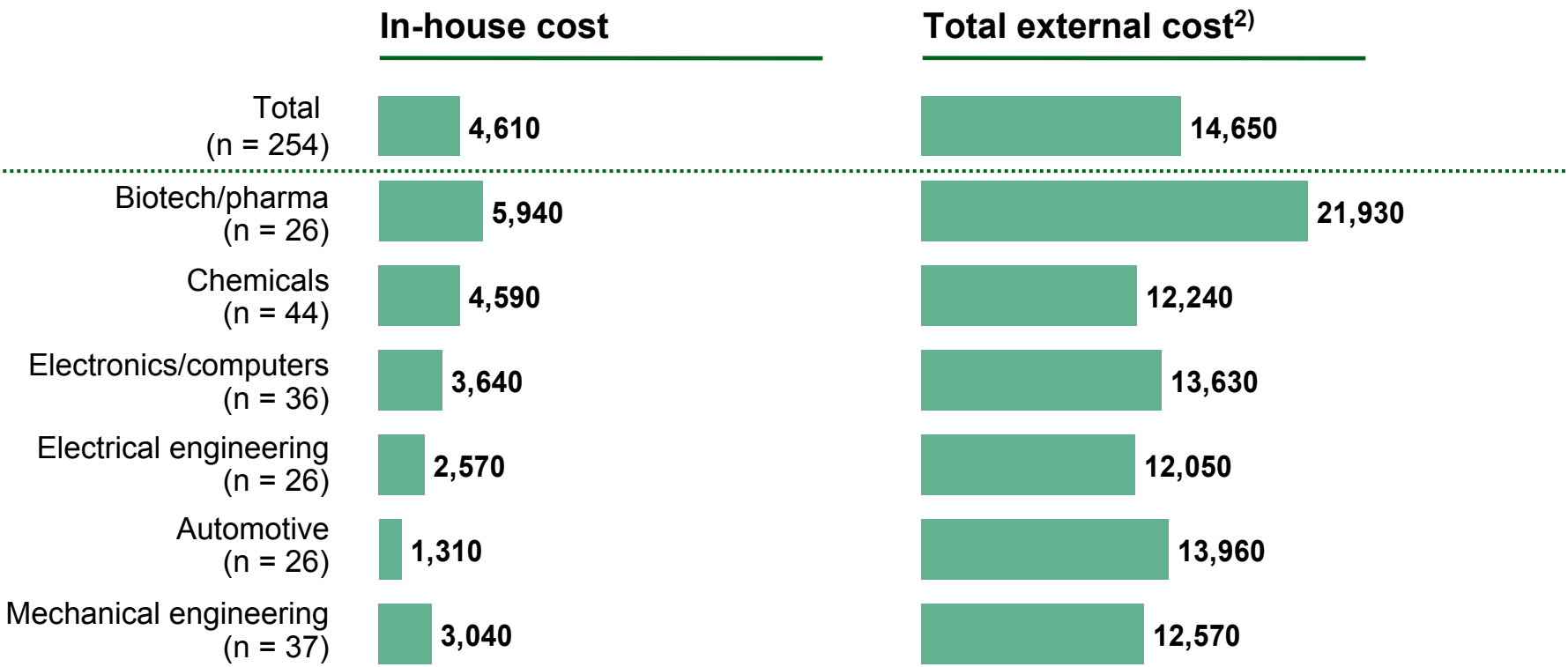
1) If PCT: International and European phase
 2) Attorney fees and other external costs, translation of application and claims (pre-grant), official EPO fees, official fees for international phase (PCT)

Base: n = 254, all respondents, mean values (incl. 0)

Q. 9: What is the total cost of preparing and processing your representative EPO patent from filing to grant? Please give a breakdown

At EUR 28,000 on average, preparing and processing a biotech/pharma EPO patent requires the highest budget

Cost of processing per EPO patent¹⁾ by technology [EUR]



1) If PCT: International and European phase

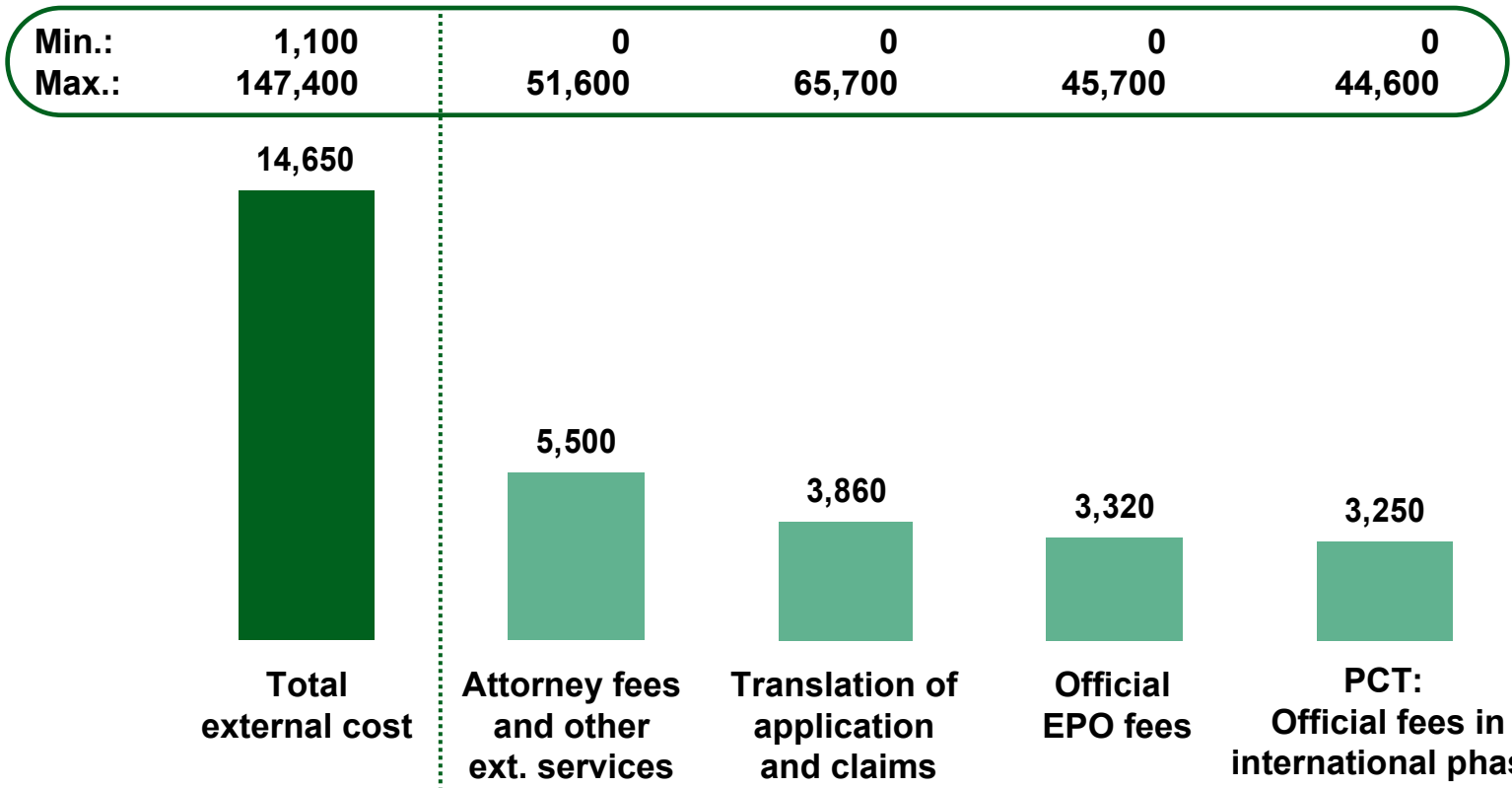
2) Attorney fees and other external costs, translation of application and claims (pre-grant), official EPO fees, official fees for international phase (PCT)

Base: n = 254, all respondents, mean values (incl. 0)

Q. 9: What is the total cost of preparing and processing your representative EPO patent from filing to grant? Please give a breakdown

Attorney fees and other external services account for one third of the total external cost

Total external cost of processing per EPO patent¹⁾ [EUR]



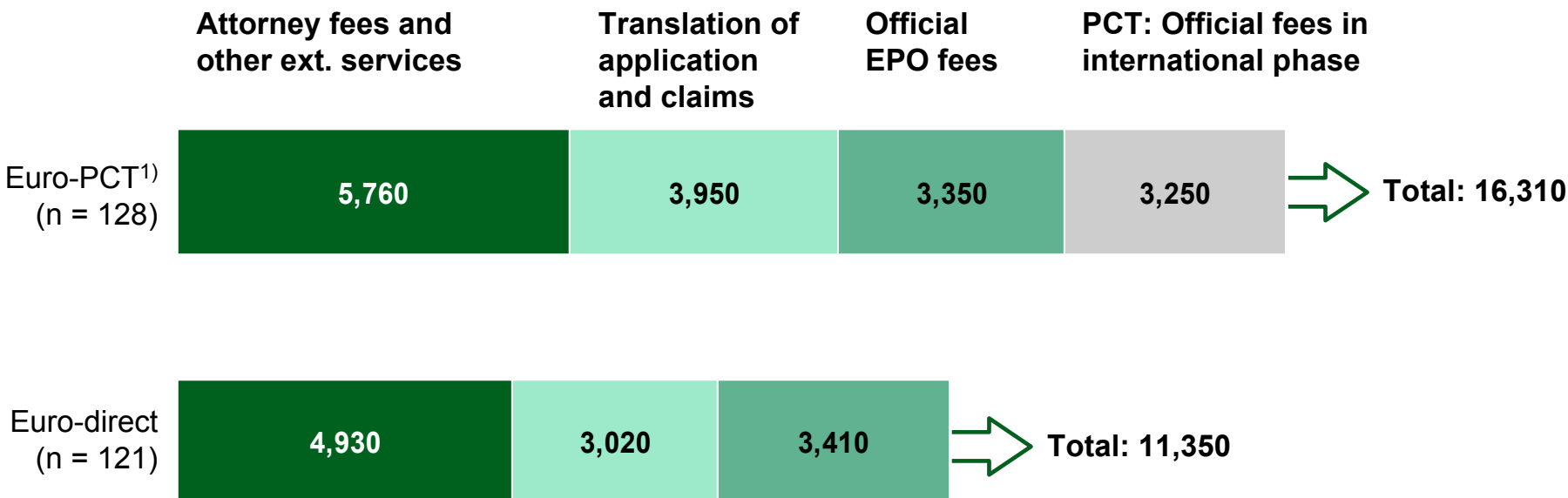
1) If PCT: International and European phase

Base: n = 254, all respondents, mean values (incl. 0)

Q. 9: What is the total cost of preparing and processing your representative EPO patent from filing to grant? Please give a breakdown

Euro-PCT patents require higher budgets for all external cost factors than Euro-direct patents

External cost of processing per EPO patent by route [EUR]



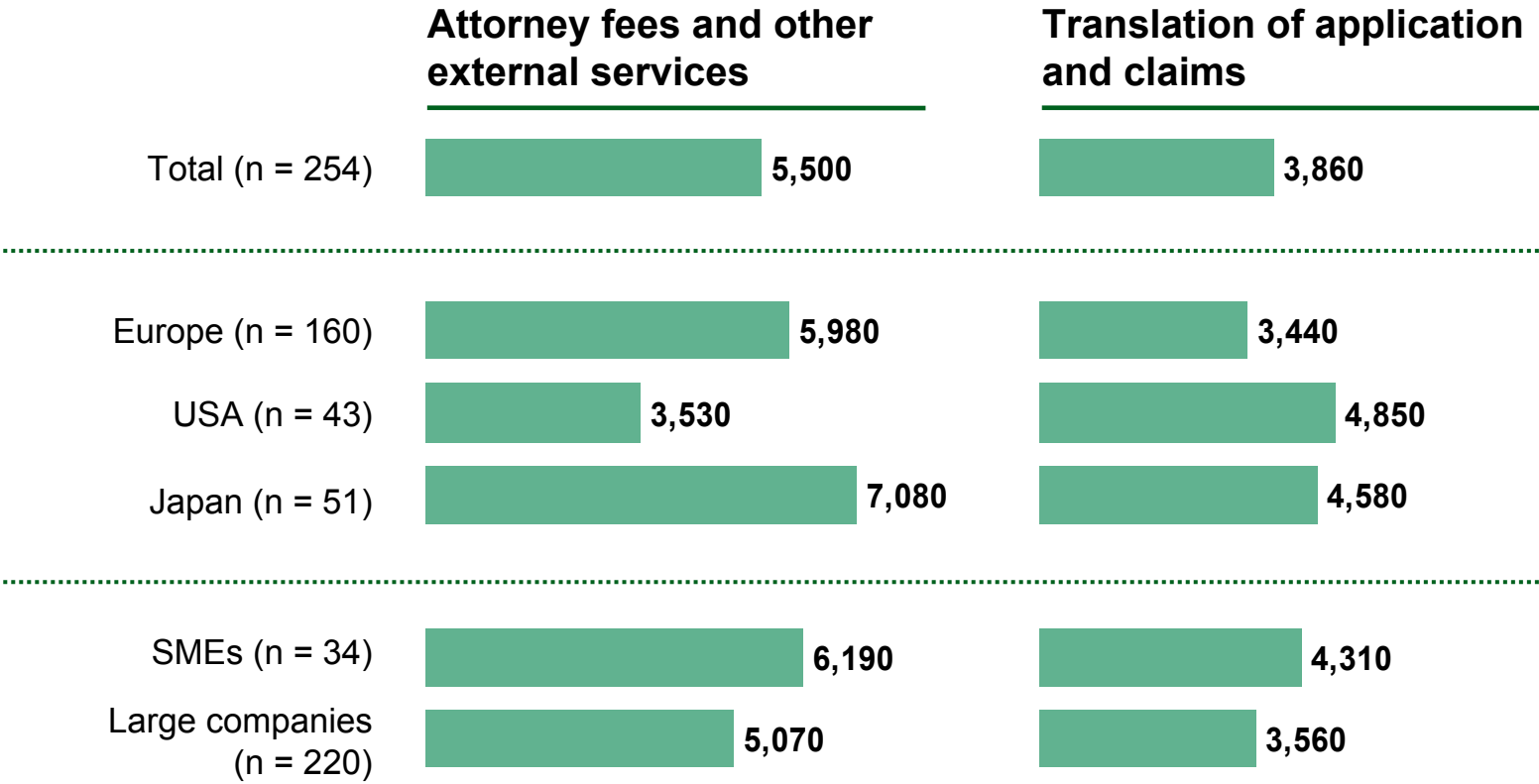
1) International and European phase

Base: n = 254, all respondents, mean values (incl. 0)

Q. 9: What is the total cost of preparing and processing your representative EPO patent from filing to grant? Please give a breakdown

On average, SMEs spend more money per patent on attorney and translation fees than large companies

External cost of processing per EPO patent¹⁾ by region/company size [EUR]



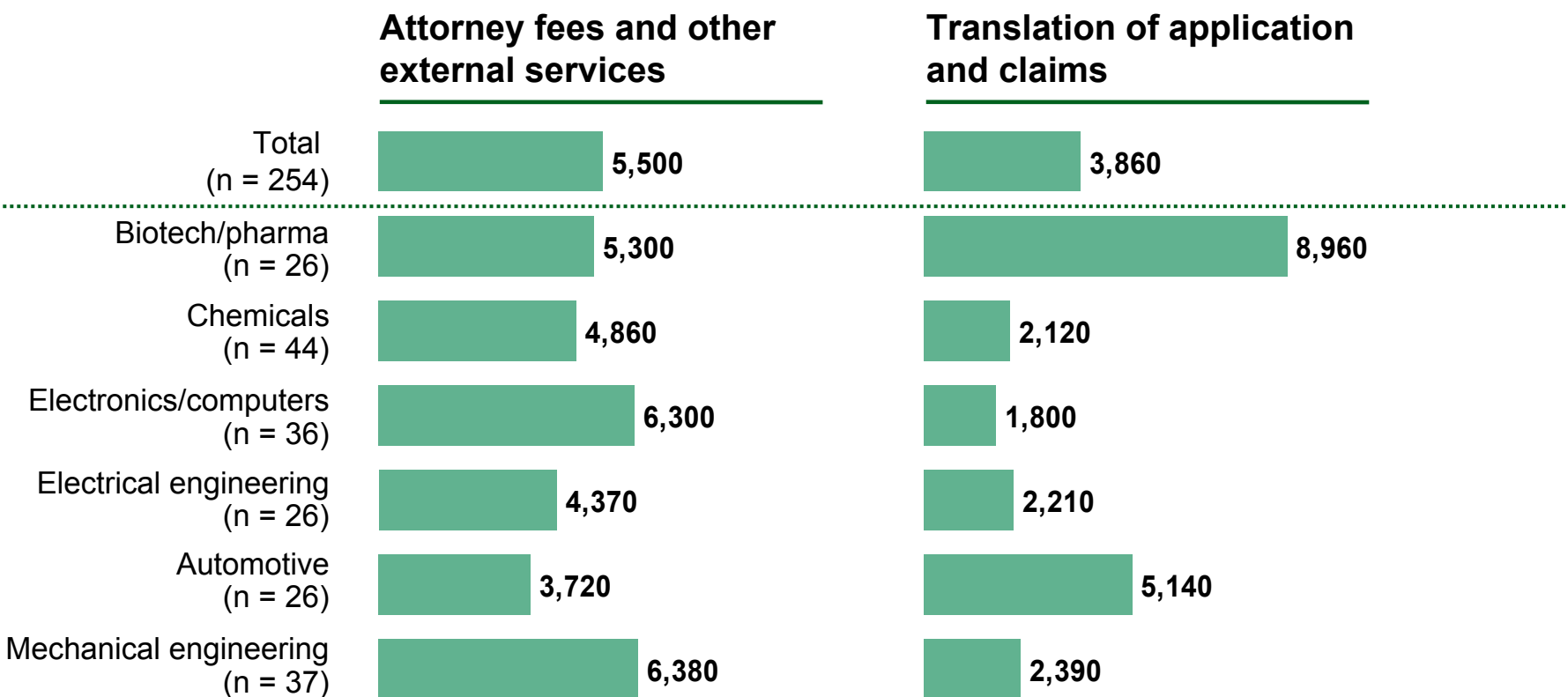
1) If PCT: International and European phase

Base: n = 254, all respondents, mean values (incl. 0)

Q. 9: What is the total cost of preparing and processing your representative EPO patent from filing to grant? Please give a breakdown

Depending on the scope of the patent, the translation of an EPO patent application in the field of biotech/pharma costs most

External cost of processing per EPO patent¹⁾ by technology [EUR]



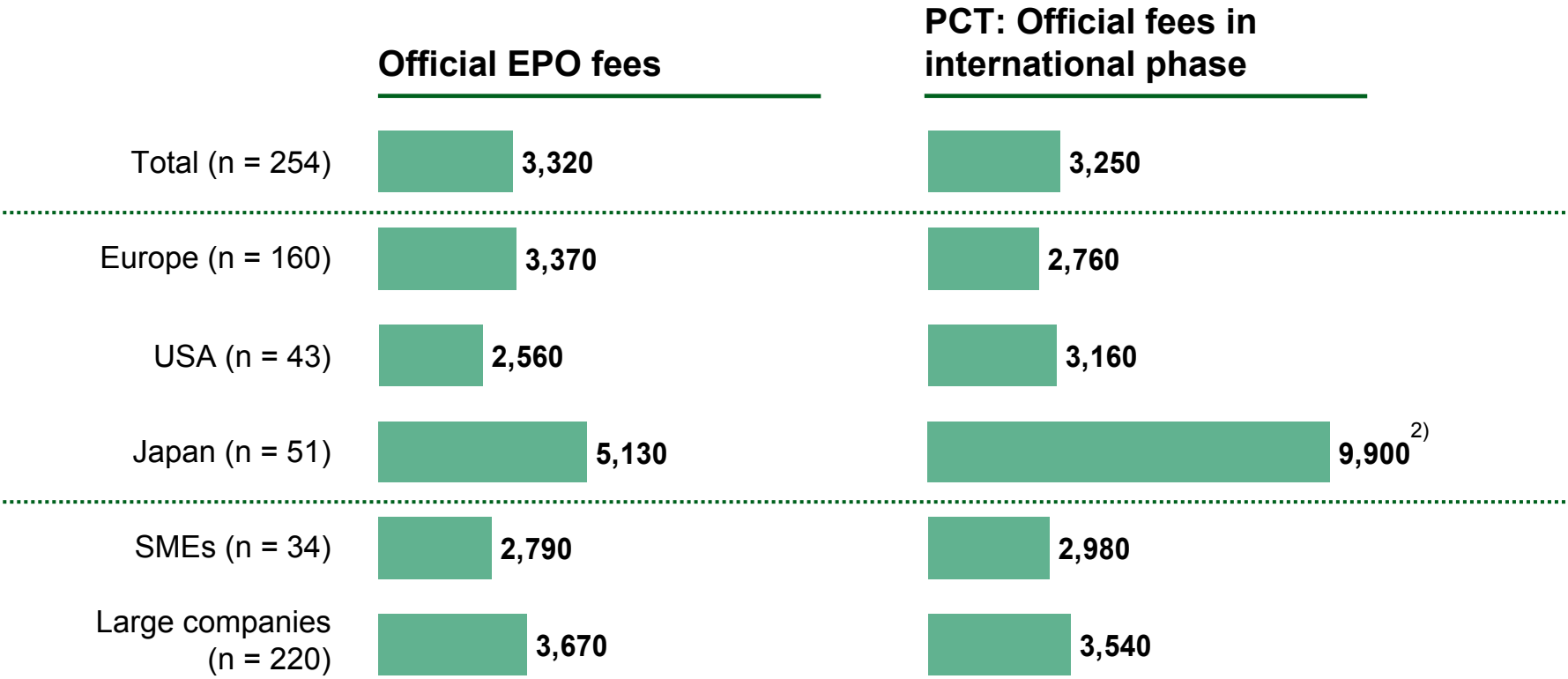
1) If PCT: International and European phase

Base: n = 254, all respondents, mean values (incl. 0)

Q. 9: What is the total cost of preparing and processing your representative EPO patent from filing to grant? Please give a breakdown

Large companies spend more on official fees per EPO patent than do SMEs

External cost of processing per EPO patent¹⁾ by region/company size [EUR]



1) If PCT: International and European phase

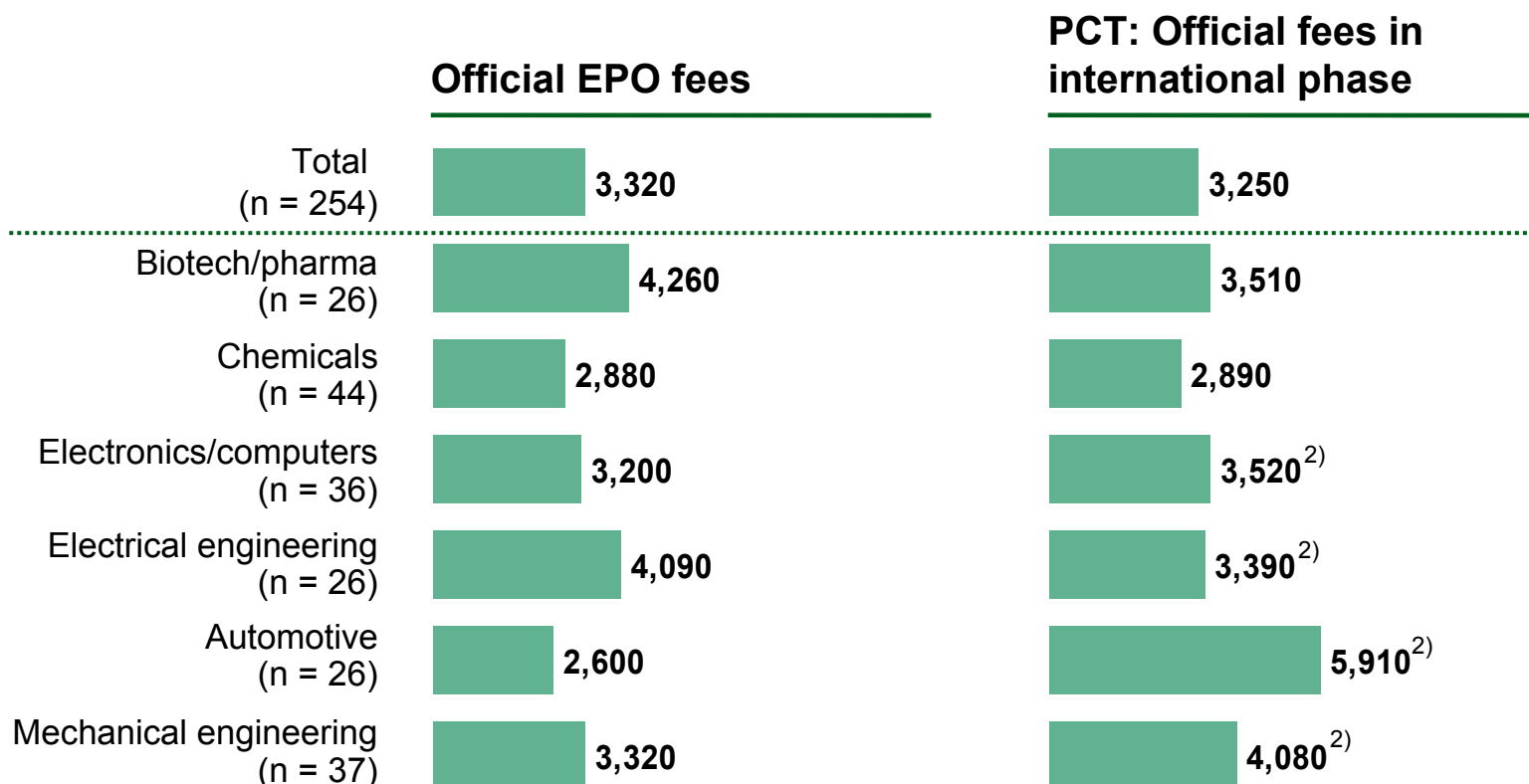
2) Small base for PCT official fees, only tendency

Base: n = 254, all respondents, mean values (incl. 0)

Q. 9: What is the total cost of preparing and processing your representative EPO patent from filing to grant? Please give a breakdown

The cost of EPO fees is below average for EPO patents in the fields of chemicals and automotive

External cost of processing per EPO patent¹⁾ by technology [EUR]



1) If PCT: International and European phase

2) Small base for PCT official fees, only tendency

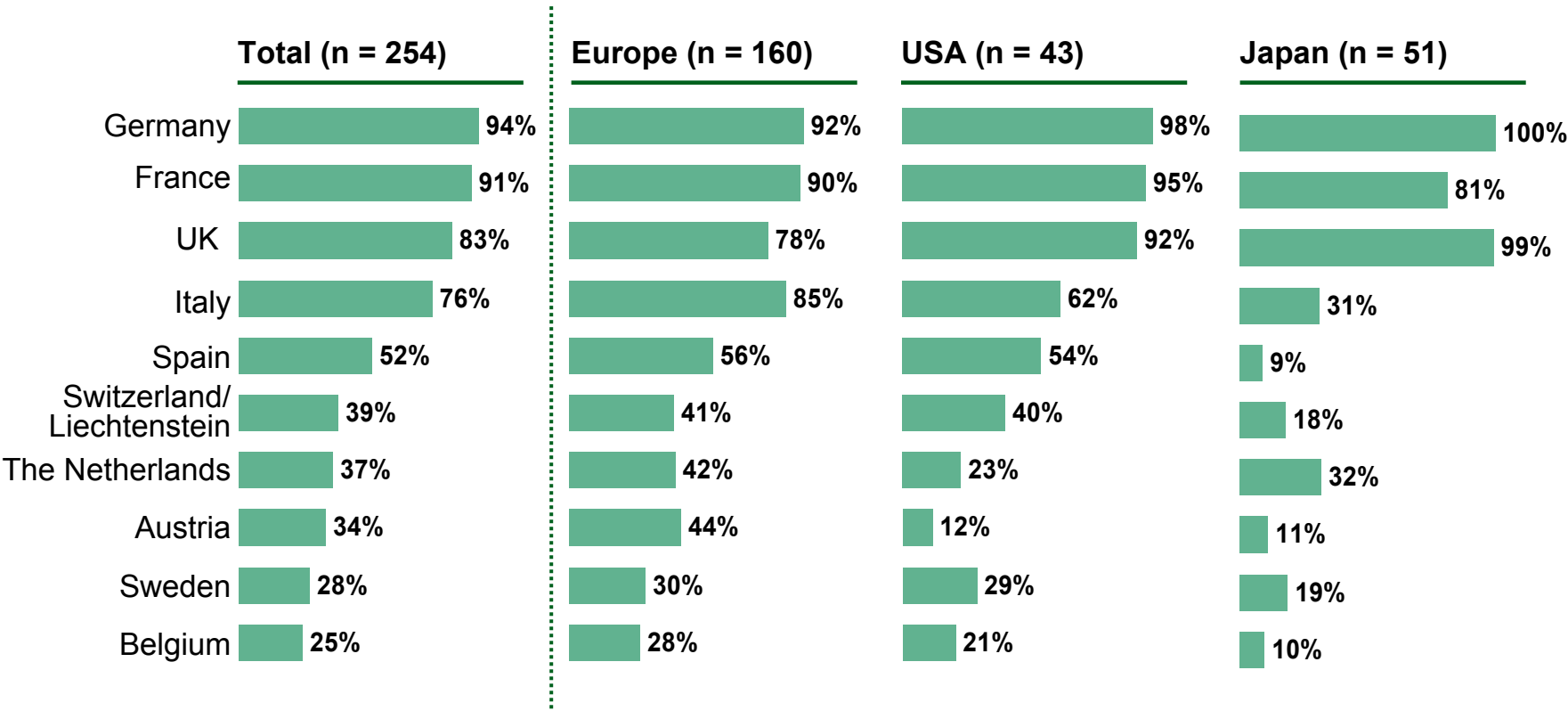
Base: n = 254, all respondents, mean values (incl. 0)

Q. 9: What is the total cost of preparing and processing your representative EPO patent from filing to grant? Please give a breakdown

5. Post-grant costs of an EPO patent

A representative EPO patent would mainly be validated in Germany, France, the UK and Italy

Validation countries for a representative EPO patent by region

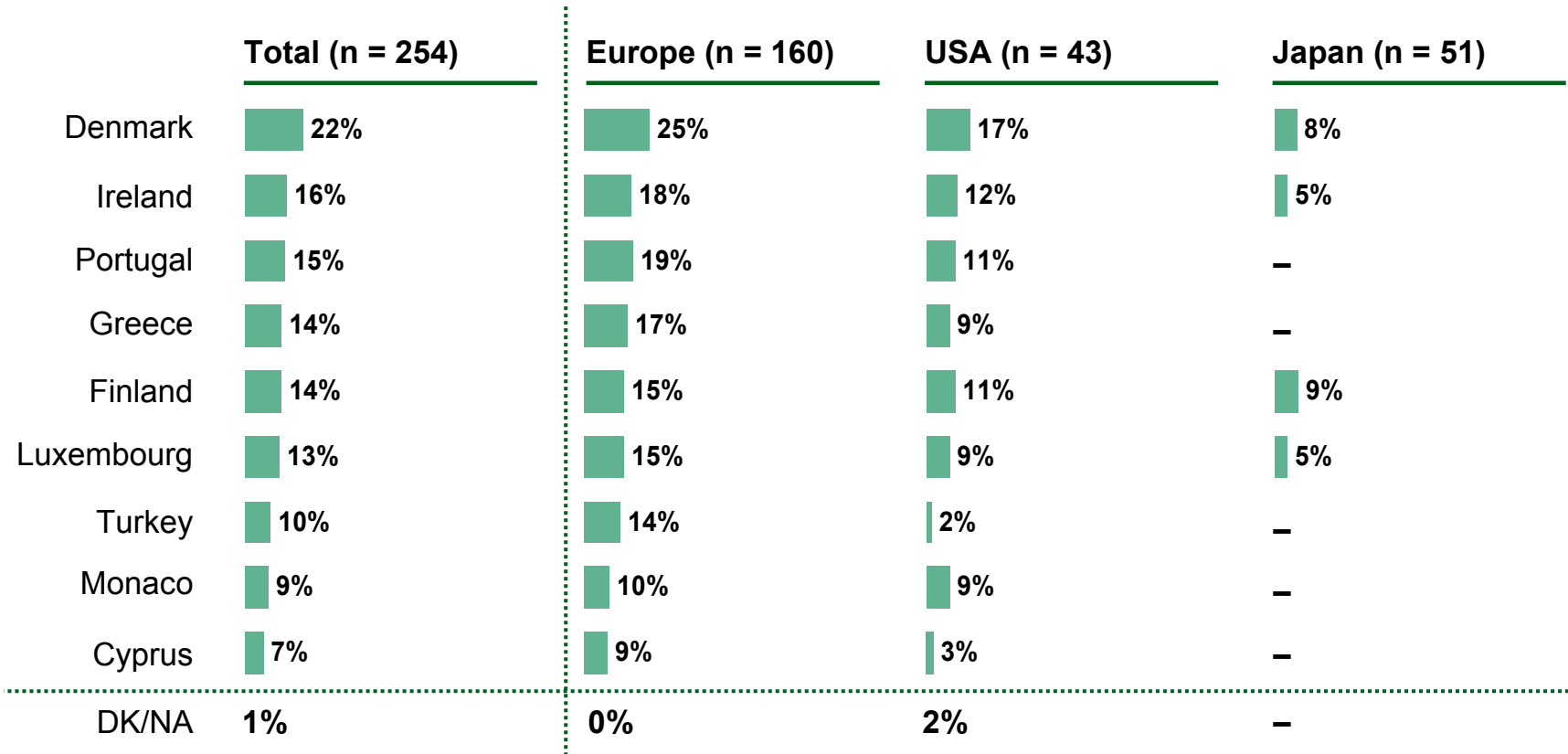


Base: n = 254, all respondents, %, multiple answers possible

Q. 10: Please indicate the countries in which you validate your representative EPO patent. What is the cost of validating your

Cyprus, Monaco and Turkey are rarely chosen as validation countries

Validation countries for a representative EPO patent by region

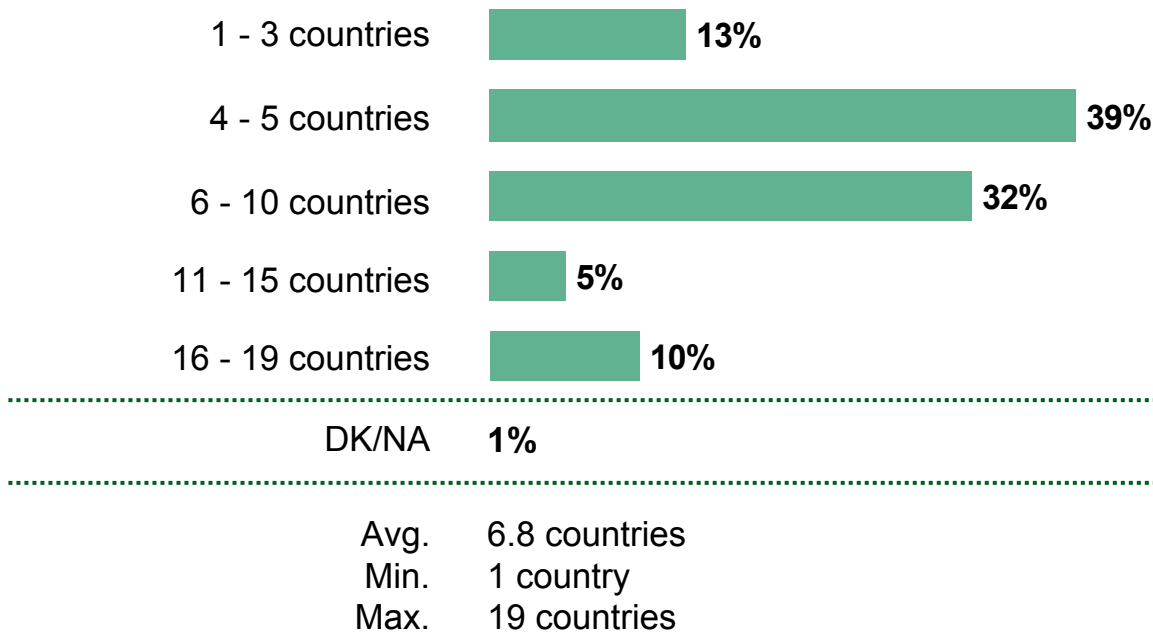


Base: n = 254, all respondents, %, multiple answers possible

Q. 10: Please indicate the countries in which you validate your representative EPO patent. What is the cost of validating your

On average, EPO patents are validated in seven countries

Number of validation countries per EPO patent

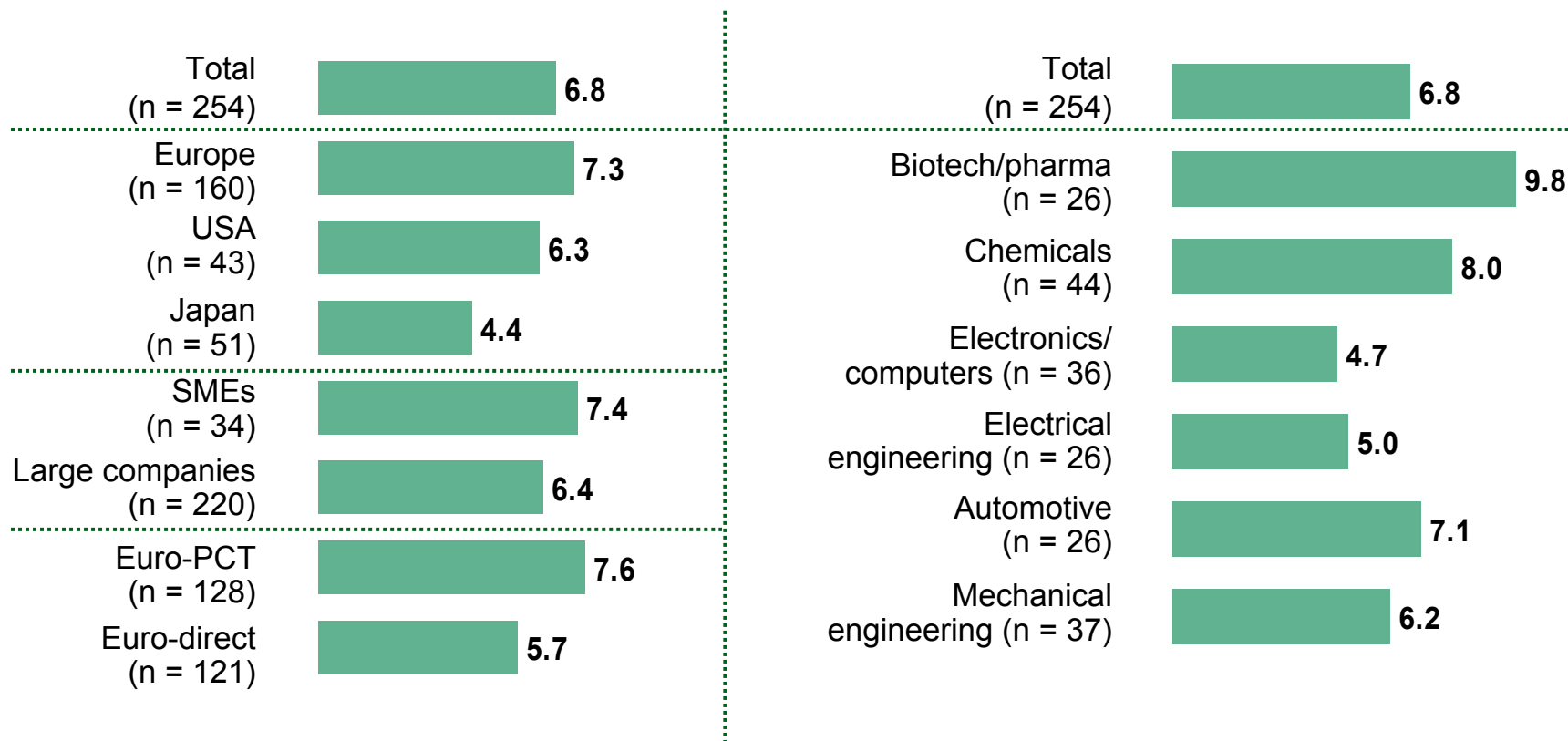


Base: n = 254, all respondents, %, mean values

Q. 10: Please indicate the countries in which you validate your representative EPO patent. What is the cost of validating your

European applicants validate their patents in more countries than US and Japanese applicants

Number of validation countries per EPO patent



Base: n = 254, all respondents, mean values

Q. 10: Please indicate the countries in which you validate your representative EPO patent. What is the cost of validating your

Particularly in Nordic countries, the cost of validating an EPO patent appears to be relatively high

Validation cost per country and EPO patent [EUR]

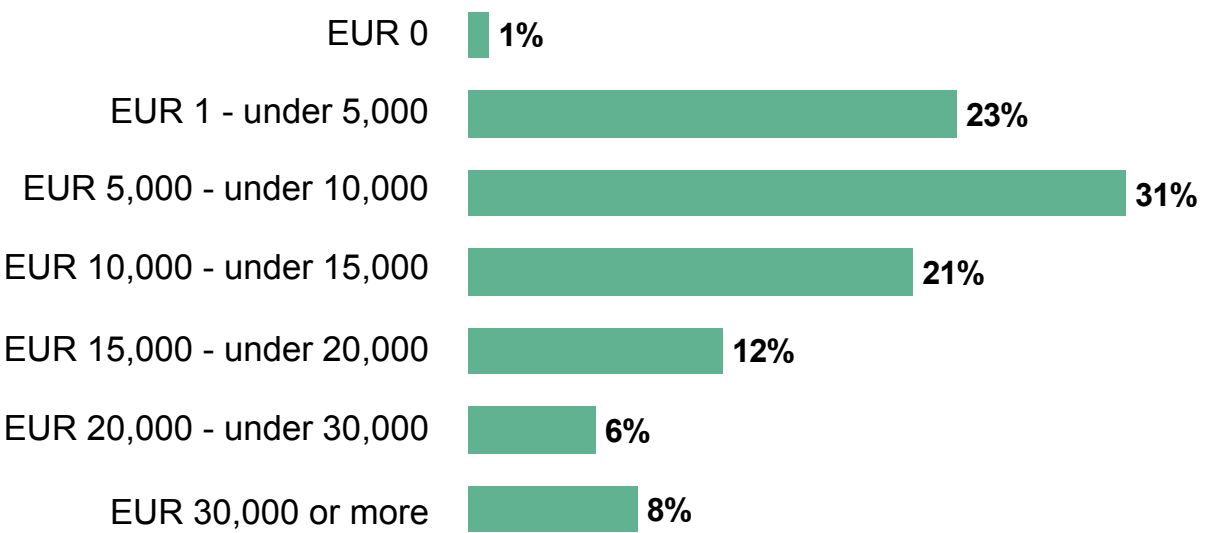
		Mean	Min.	Max.			Mean	Min.	Max.
Germany	(n = 244)	2,180	0	331,600	Denmark	(n = 54)	2,760	800	10,700
France	(n = 235)	2,150	0	95,800	Ireland	(n = 36)	910	200	9,000
UK	(n = 226)	1,450	0	117,900	Portugal	(n = 40)	2,690	230	9,300
Italy	(n = 179)	2,130	183	23,000	Greece	(n = 35)	2,520	710	8,600
Spain	(n = 121)	2,020	191	9,900	Finland	(n = 42)	3,190	900	11,200
Switzerland/ Liechtenstein	(n = 86)	1,150	0	8,300	Luxembourg	(n = 36)	600	0	5,800
The Netherlands	(n = 96)	2,290	25	14,100	Turkey	(n = 15)	2,160	1,172	10,100
Austria	(n = 79)	1,420	0	18,700	Monaco	(n = 15)	680	0	6,400
Sweden	(n = 79)	2,850	660	27,000	Cyprus	(n = 15)	1,520	268	9,700
Belgium	(n = 71)	1,280	130	11,900					

Base: n = 254, all respondents, mean values (incl. 0)

Q. 10: Please indicate the countries in which you validate your representative EPO patent. What is the cost of validating your

The total cost of validating an EPO patent in all the relevant countries averages EUR 13,190

Total validation cost per EPO patent (sum of all countries validated)



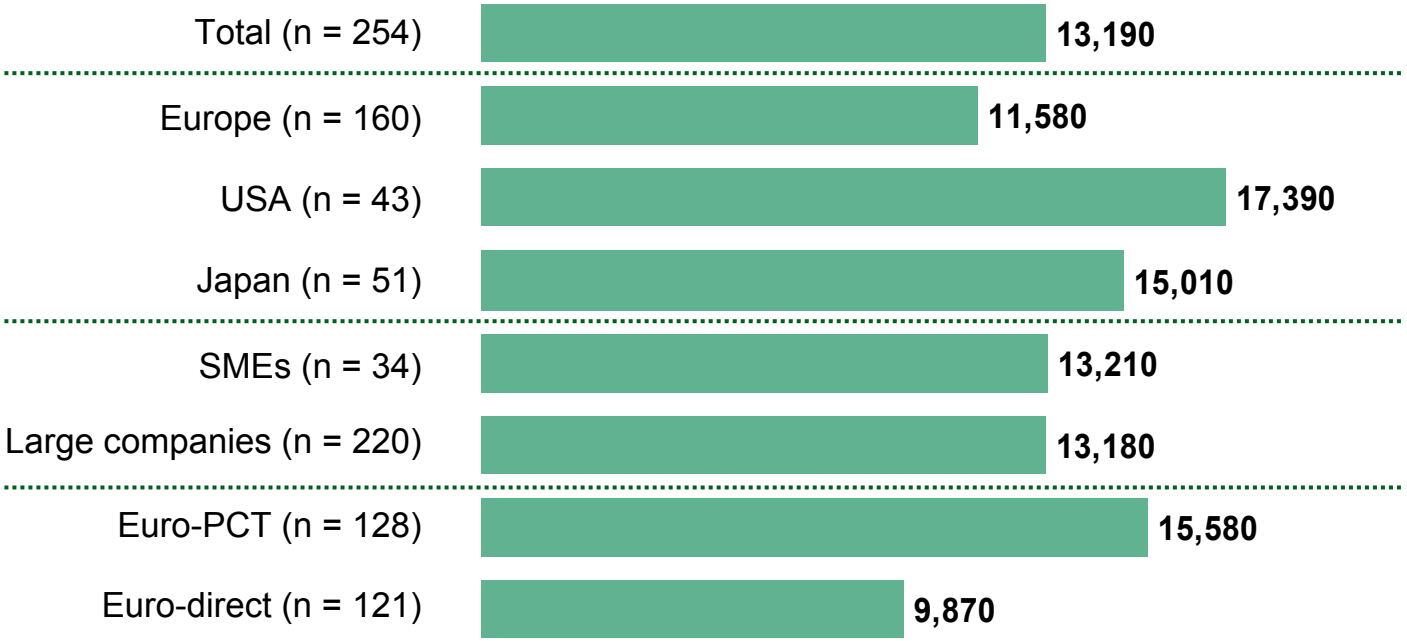
Avg. (incl. 0) EUR 13,190
Min. EUR 0
Max. EUR 545,300

Base: n = 254, all respondents, %, mean values

Q. 10: Please indicate the countries in which you validate your representative EPO patent. What is the cost of validating your

Companies that use the Euro-PCT route spend more on validation than those that use Euro-direct

Total validation cost per EPO patent by region/company size/route [EUR]

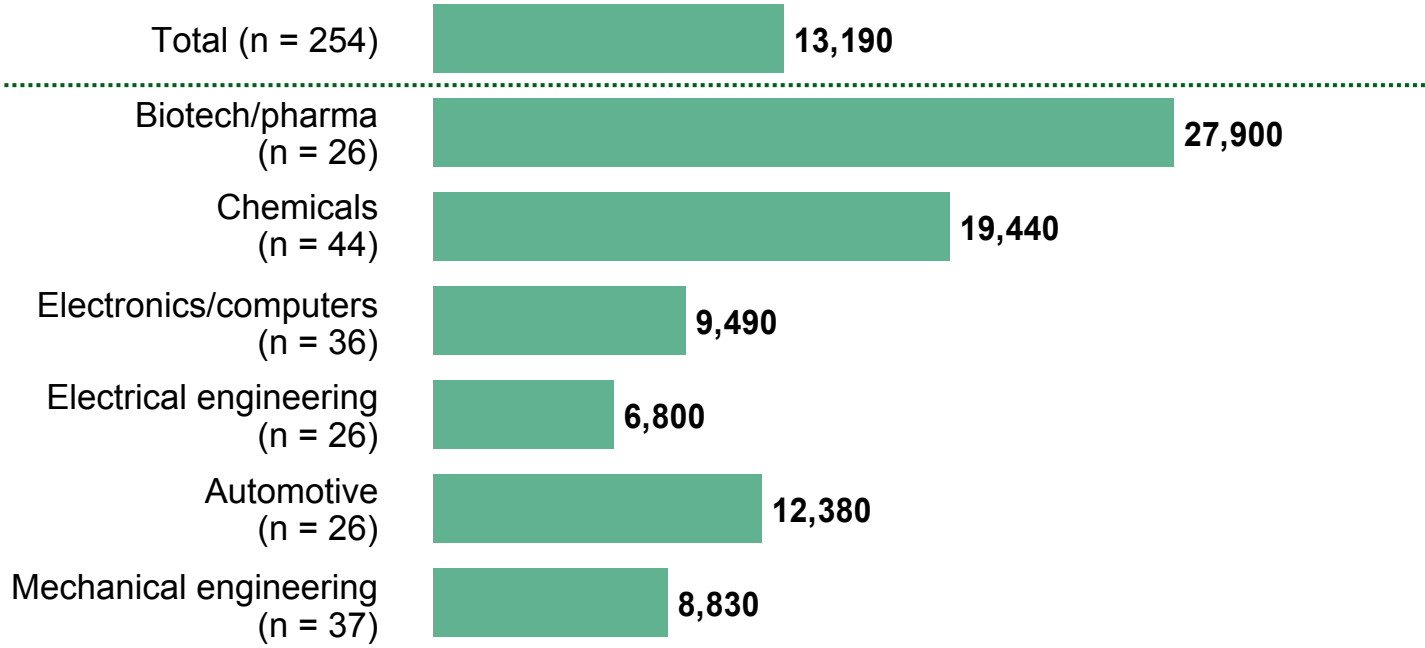


Base: n = 254, all respondents, mean values (incl. 0)

Q. 10: Please indicate the countries in which you validate your representative EPO patent. What is the cost of validating your

EPO patents in the fields of biotech/pharma and chemicals are the most cost intensive for validation

Total validation cost per EPO patent by technology [EUR]



Base: n = 254, all respondents, mean values (incl. 0)

Q. 10: Please indicate the countries in which you validate your representative EPO patent. What is the cost of validating your

**6. Cost of obtaining patent protection in Europe –
Representative patent**

Japanese companies pay the most for their representative EPO patent

Total average cost of an EPO patent¹⁾ by region [EUR]

	Total (n = 254)	Europe (n = 160)	USA (n = 43)	Japan (n = 51)
Pre-filing expenditure (excl. R&D)	7,900	8,640	7,010	4,000
• In-house cost	3,560	4,000	3,050	1,200
• External cost	4,340	4,640	3,960	2,800
Cost of processing	19,260	19,830	14,910	26,860
• In-house cost	4,610	5,340	1,960	5,940
• External cost	14,650	14,490	12,950	20,920
Cost of validation	13,190	11,580	17,390	15,010
	(Avg. 7 countries)	(Avg. 7 countries)	(Avg. 6 countries)	(Avg. 4 countries)
Total	40,350	40,050	39,310	45,870

1) If PCT: International and European phase
Base: n = 254, all respondents, mean values (incl. 0)

Q. 8c/9: What is the total cost of preparing/drafting the first application (i.e. the cost of creating the documents, description, claims, drawings)/preparing and processing your representative EPO patent from filing to grant? Please give a breakdown of costs by patent activity, excluding R&D expenditure/excluding pre-filing expenditure.

Q. 10: Please indicate the countries in which you validate your representative EPO patent. What is the cost of validating your representative

The total average cost for an EPO patent is higher for SMEs than for large companies

Total average cost of an EPO patent¹⁾ by company size [EUR]

	Total (n = 254)	SMEs (n = 34)	Large companies (n = 220)
Pre-filing expenditure (excl. R&D)	7,900	7,780	7,980
• In-house cost	3,560	3,940	3,320
• External cost	4,340	3,840	4,660
Cost of processing	19,260	20,570	18,420
• In-house cost	4,610	4,900	4,430
• External cost	14,650	15,670	13,990
Cost of validation	13,190	13,210	13,180
	(Avg. 7 countries)	(Avg. 7 countries)	(Avg. 6 countries)
Total	40,350	41,560	39,580

1) If PCT: International and European phase
Base: n = 254, all respondents, mean values (incl. 0)

Q. 8c/9: What is the total cost of preparing/drafting the first application (i.e. the cost of creating the documents, description, claims, drawings)/preparing and processing your representative EPO patent from filing to grant? Please give a breakdown of costs by patent activity, excluding R&D expenditure/excluding pre-filing expenditure.

Q. 10: Please indicate the countries in which you validate your representative EPO patent. What is the cost of validating your representative

The total cost of a representative EPO patent averages EUR 46,700 (Euro-PCT) and EUR 30,530 (Euro-direct)

Total average cost of an EPO patent by route [EUR]

	Euro-PCT¹⁾	Euro-direct
Pre-filing expenditure (excl. R&D)	9,130	6,240
• In-house cost	4,190	2,540
• External cost	4,940	3,700
Cost of processing	21,990	14,420
• In-house cost	5,680	3,070
• External cost	16,310	11,350
Cost of validation	15,580	9,870
	(Avg. 8 countries)	(Avg. 6 countries)
Total	46,700	30,530

1) International and European phase

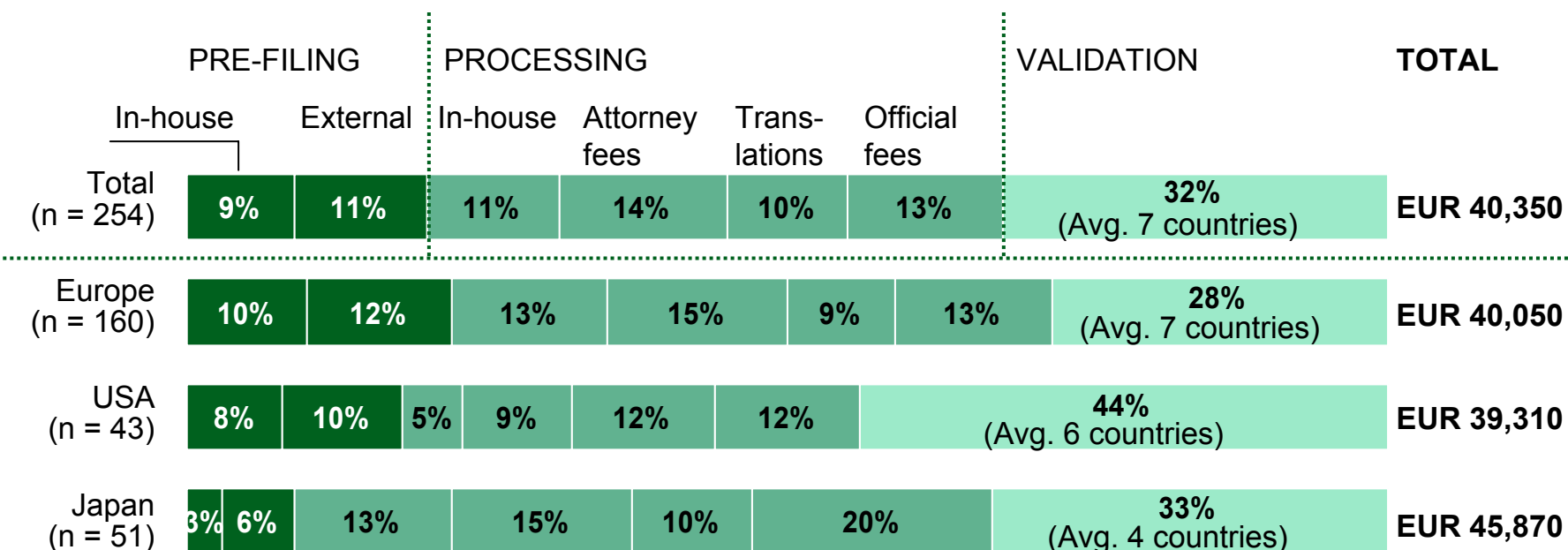
Base: n = 128/121, all respondents whose representative EPO patent is a Euro-PCT/Euro-direct patent, mean values (incl. 0)

Q. 8c/9: What is the total cost of preparing/drafting the first application (i.e. the cost of creating the documents, description, claims, drawings)/preparing and processing your representative EPO patent from filing to grant? Please give a breakdown of costs by patent activity, excluding R&D expenditure/excluding pre-filing expenditure.

Q. 10: Please indicate the countries in which you validate your representative EPO patent. What is the cost of validating your representative

US companies spend a particularly large share of their total budget on validation

Share of cost factors for an EPO patent¹⁾ by region



1) If PCT: International and European phase

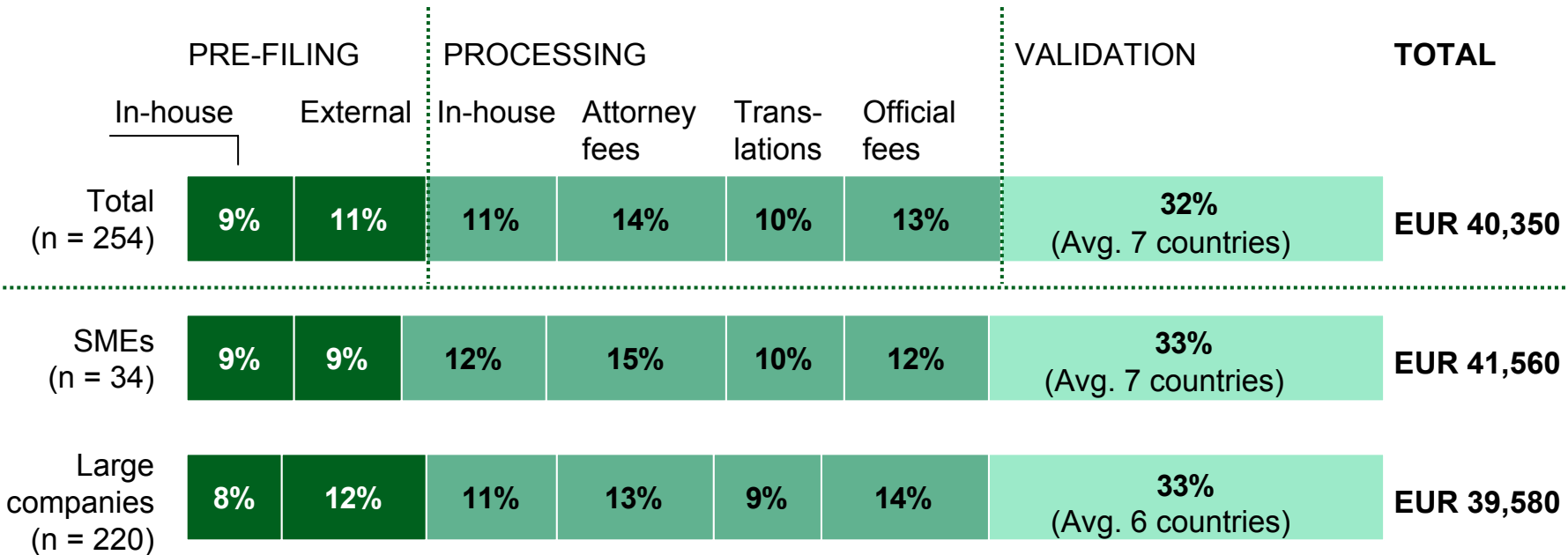
Base: n = 254, all respondents, % of average cost

Q. 8c/9: What is the total cost of preparing/drafting the first application (i.e. the cost of creating the documents, description, claims, drawings)/preparing and processing your representative EPO patent from filing to grant? Please give a breakdown of costs by patent activity, excluding R&D expenditure/excluding pre-filing expenditure.

Q. 10: Please indicate the countries in which you validate your representative EPO patent. What is the cost of validating your

Though the total budgets differ, SMEs and large companies exhibit similar cost factor shares

Share of cost factors for an EPO patent¹⁾ by company size



1) If PCT: International and European phase

Base: n = 254, all respondents, % of average cost

Q. 8c/9: What is the total cost of preparing/drafting the first application (i.e. the cost of creating the documents, description, claims, drawings)/preparing and processing your representative EPO patent from filing to grant? Please give a breakdown of costs by patent activity, excluding R&D expenditure/excluding pre-filing expenditure.

Q. 10: Please indicate the countries in which you validate your representative EPO patent. What is the cost of validating your

For Euro-PCT and Euro-direct patents, the share of the different cost factors is quite similar

Share of cost factors for an EPO patent¹⁾ by route

	PRE-FILING		PROCESSING				VALIDATION	TOTAL
	In-house	External	In-house	Attorney fees	Translations	Official fees		
Total (n = 254)	9%	11%	11%	14%	10%	13%	32% (Avg. 7 countries)	EUR 40,350
Euro-PCT ¹⁾ (n = 128)	9%	11%	12%	12%	8%	14%	34% (Avg. 8 countries)	EUR 46,700
Euro-direct (n = 121)	8%	12%	10%	16%	10%	11%	33% (Avg. 6 countries)	EUR 30,530

1) If PCT: International and European phase

Base: n = 254, all respondents, % of average cost

Q. 8c/9: What is the total cost of preparing/drafting the first application (i.e. the cost of creating the documents, description, claims, drawings)/preparing and processing your representative EPO patent from filing to grant? Please give a breakdown of costs by patent activity, excluding R&D expenditure/excluding pre-filing expenditure.

Q. 10: Please indicate the countries in which you validate your representative EPO patent. What is the cost of validating your

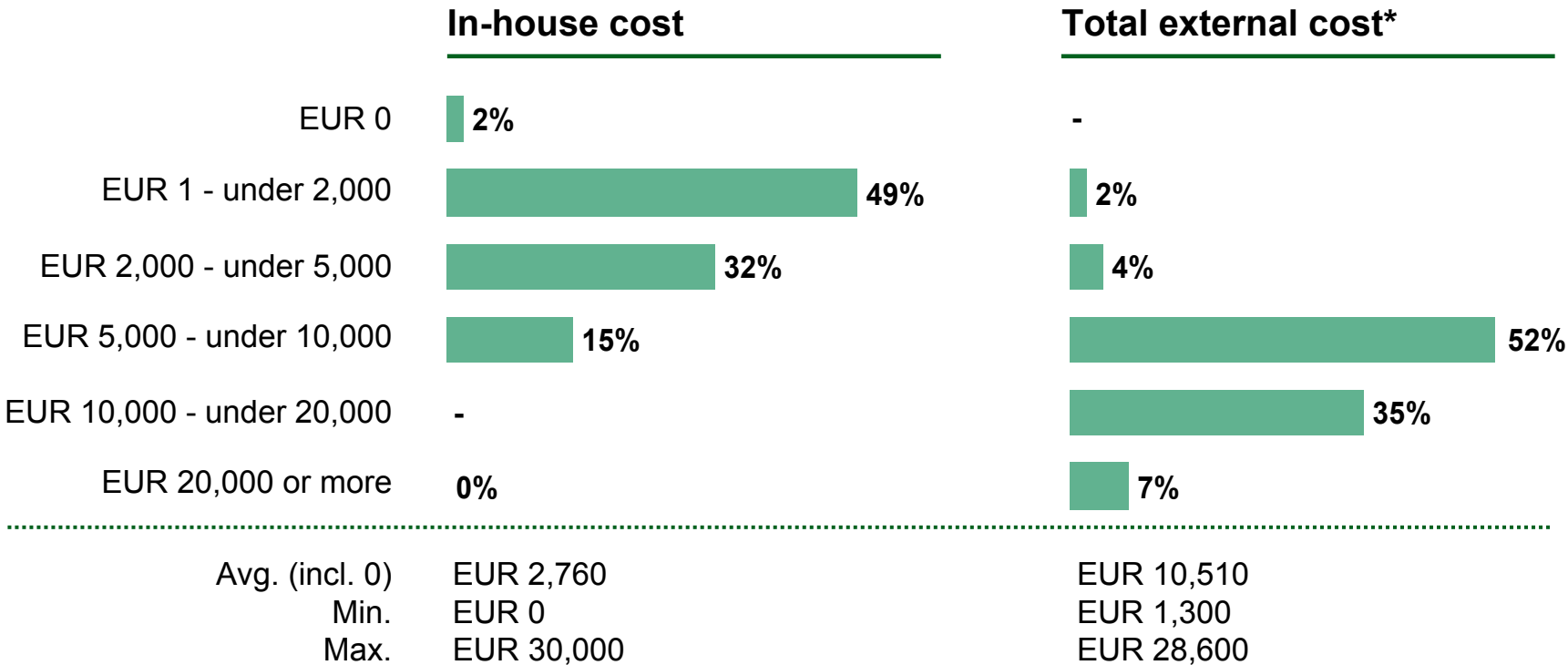
7. Cost of obtaining patent protection in the US and Japan

Important remark

The following results on national US/JP patents are not representative for the parent population of all US/JP patentees. The sample used for this survey covers only **US/JP applicants who were granted an EPO patent in 2002 or 2003** and, therefore, probably only represents a small share of all applicants who were granted national US/JP patents.

The total external cost of processing a PCT patent in the US averages EUR 10,510 for European applicants

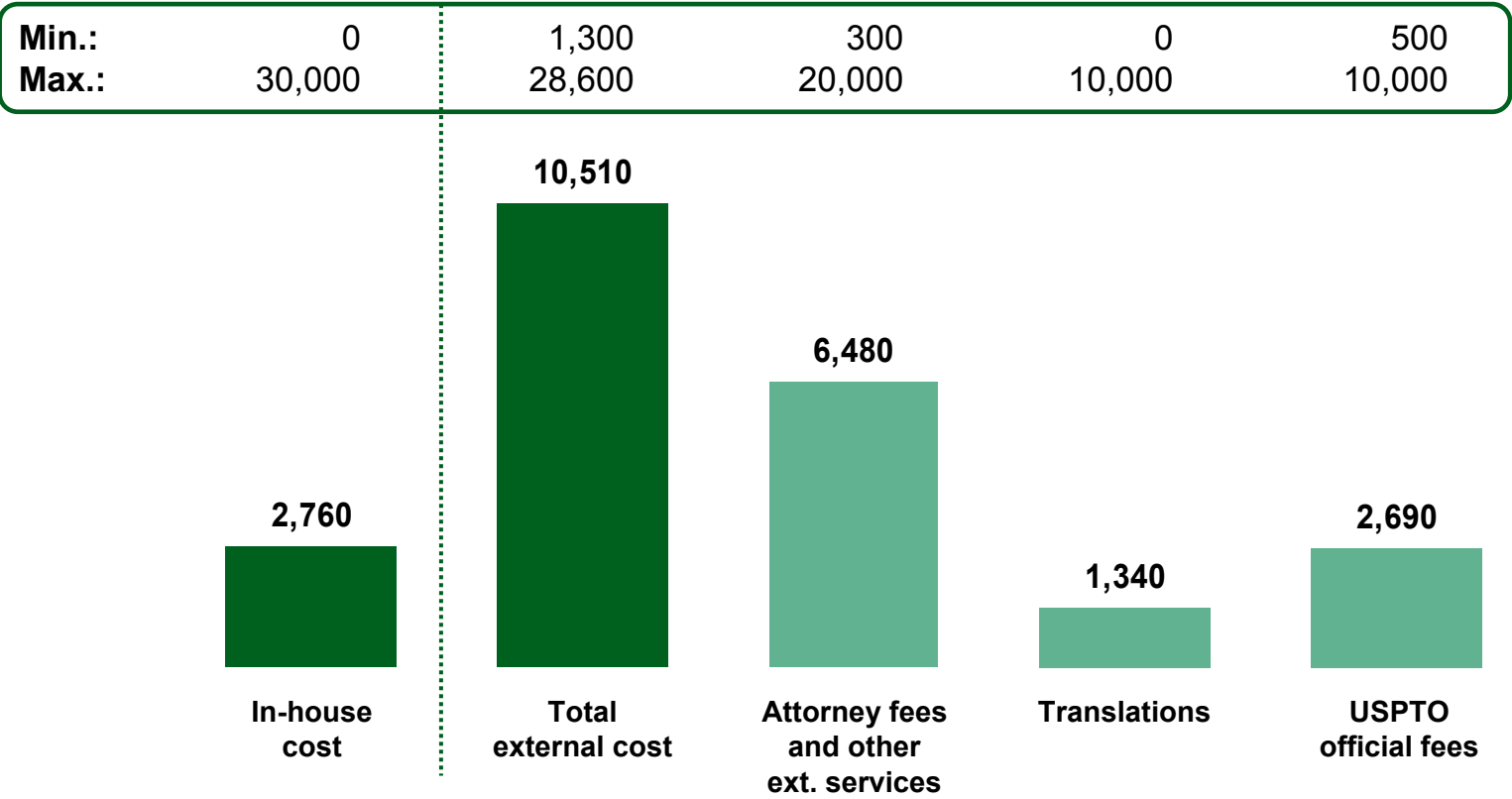
Additional cost of processing a PCT patent in the US – European applicants



* Attorney fees and other external costs, translations, USPTO official fees
 Base: n = 96, all European respondents granted PCT patents in the US in 2002/2003, %, mean values
 Q. 12: What is the total additional cost of processing your representative PCT patent from entering the national phase up to grant? Please

The external cost of processing a PCT patent in the US seems to be influenced mainly by attorney fees

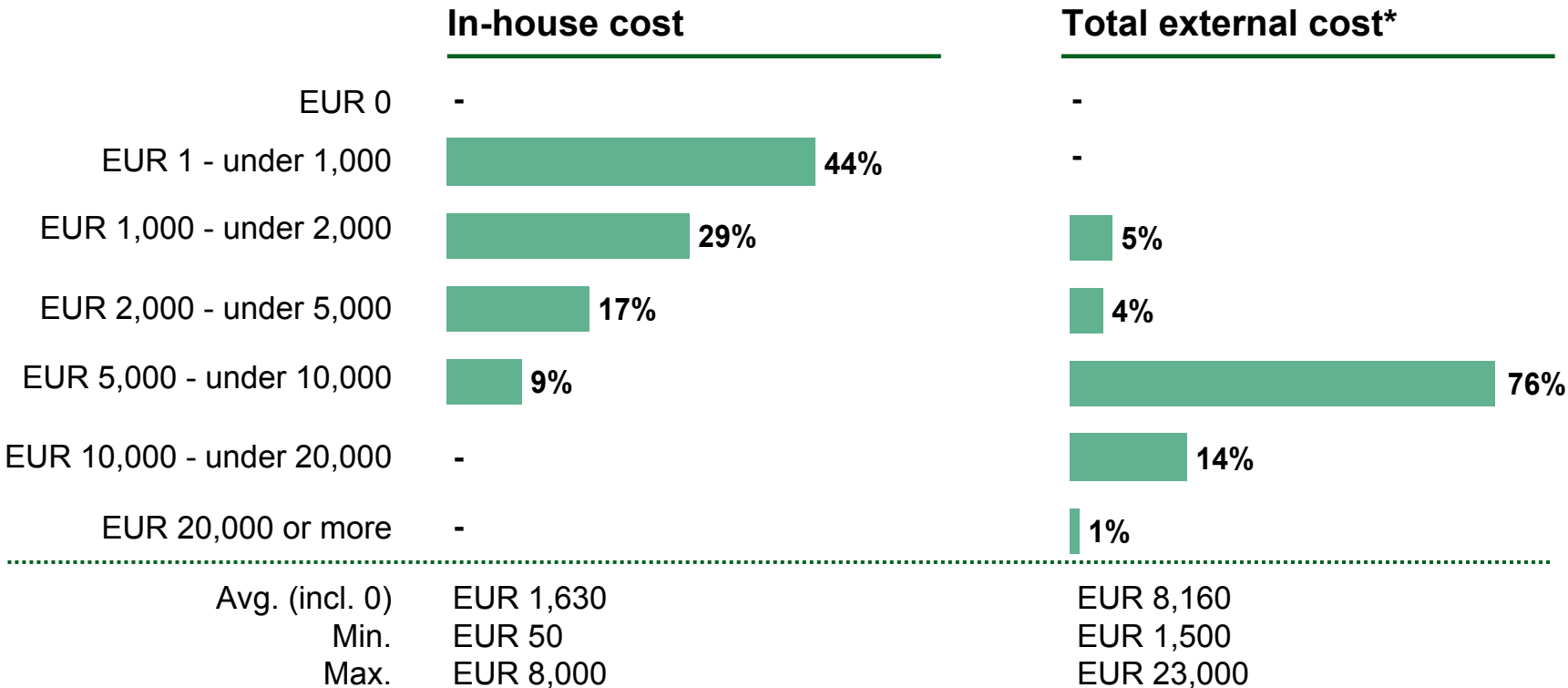
Additional cost of processing a PCT patent in the US – European applicants [EUR]



Base: n = 96, all European respondents with PCT patents in the US in 2002 or 2003, mean values (incl. 0)
Q. 12: What is the total additional cost of processing your representative PCT patent from entering the national phase up to grant? Please

The total external cost of processing a PCT patent in Japan averages EUR 8,160 for European applicants

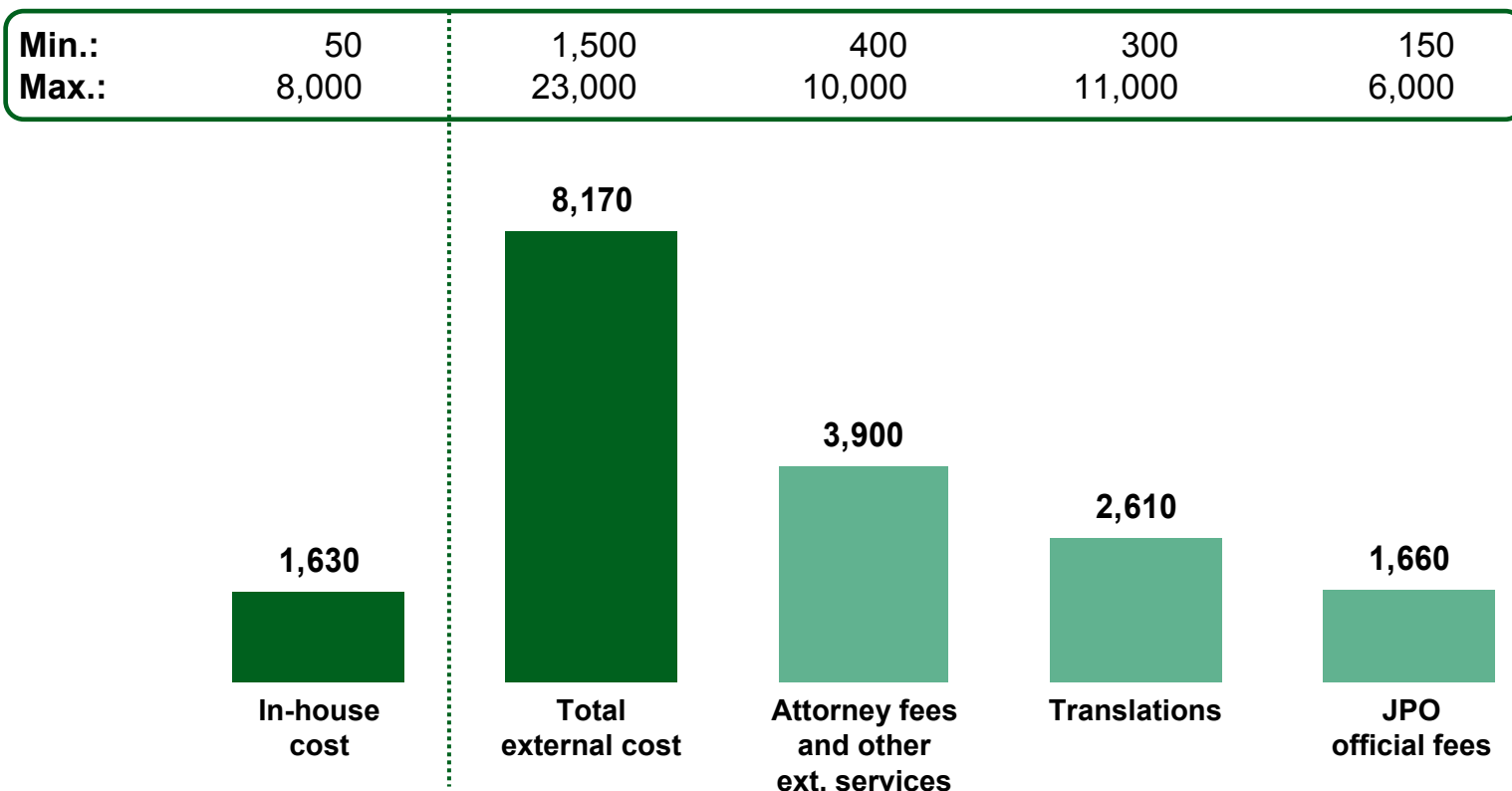
Additional cost of processing a PCT patent in Japan – European applicants



* Attorney fees and other external costs, translations, JPO official fees
 Base: n = 59, all European respondents granted PCT patents in Japan in 2002/2003, %, mean values
 Q. 12: What is the total additional cost of processing your representative PCT patent from entering the national phase up to grant? Please

Translation costs account for one third of the total external cost of a PCT patent in Japan

Additional cost of processing a PCT patent in Japan – European applicants [EUR]

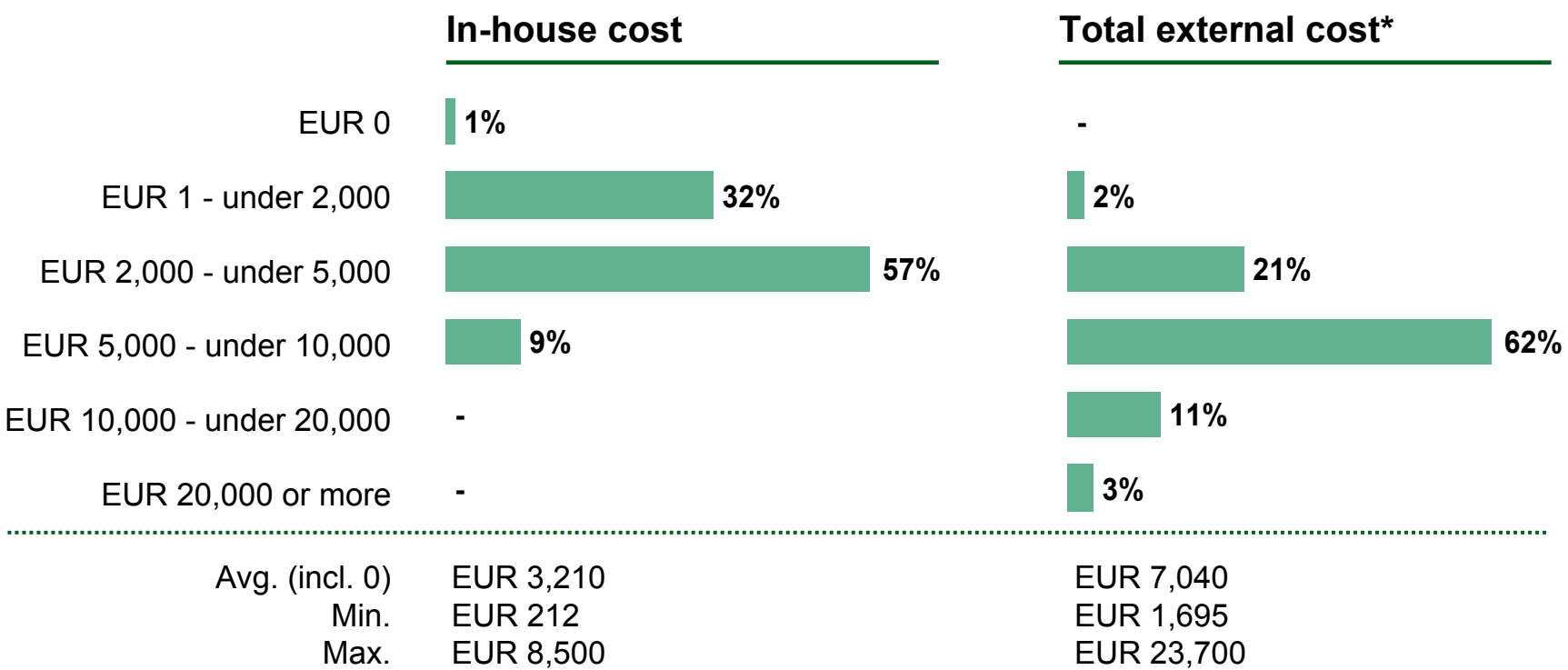


Base: n = 59, all European respondents with PCT patents in Japan in 2002 or 2003, mean values (incl. 0)

Q. 12: What is the total additional cost of processing your representative PCT patent from entering the national phase up to grant? Please

On average, US applicants pay a total of EUR 10,250 for their representative national US patent

Cost of preparing and processing a national US patent – US applicants

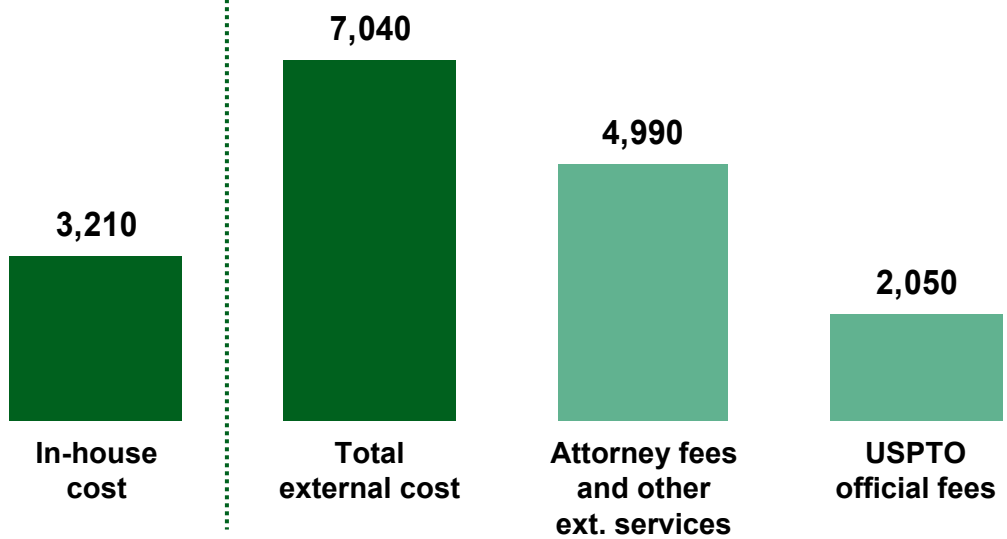


* Attorney fees and other external costs, USPTO official fees
 Base: n = 42, all US respondents granted national patents in the US in 2002/2003, %, mean values
 Q. 12: What is the total cost of preparing and processing your representative national US patent from filing to grant? Please

Attorney fees and other external services account for 70% of the external cost for a national US patent

Cost of preparing and processing a national US patent – US applicants [EUR]

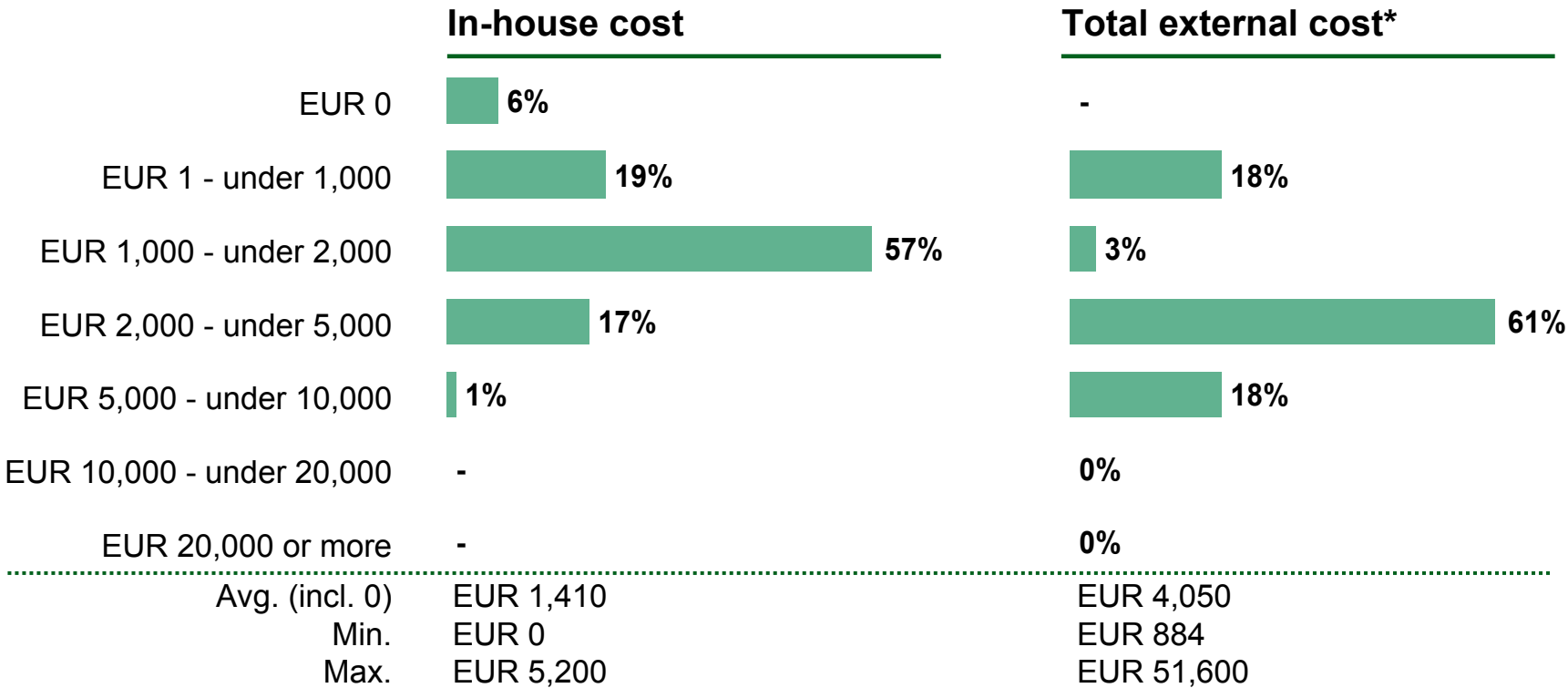
Min.:	212	1,695	0	847
Max.:	8,500	23,700	21,200	4,200



Base: n = 42, all US respondents with national patents in the US in 2002 or 2003, mean values (incl. 0)
Q. 12: What is the total cost of preparing and processing your representative national US patent from filing to grant? Please

On average, Japanese applicants pay a total of EUR 5,460 for their representative national patent in Japan

Cost of preparing and processing a national Japanese patent – JP applicants



* Attorney fees and other external costs, JPO official fees

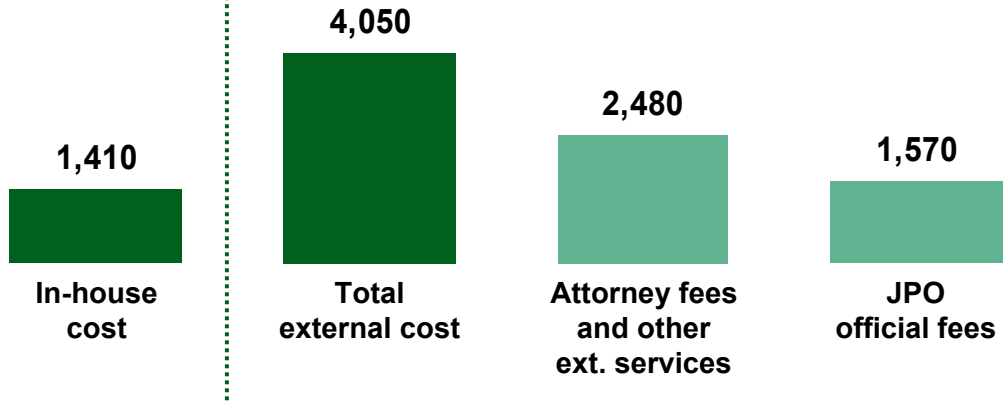
Base: n = 48, all Japanese respondents granted national patents in Japan in 2002/2003, %, mean values (incl. 0)

Q. 12: What is the total cost of preparing and processing your representative national Japanese patent from filing to grant? Please

61% of external costs for national Japanese patents are spent on attorney fees and other external services

Cost of preparing and processing a national Japanese patent – JP applicants [EUR]

Min.:	0	884	0	155
Max.:	5,200	51,600	36,800	14,700



Base: n = 48, all Japanese respondents with national patents in Japan in 2002 or 2003, mean values (incl. 0)
Q. 12: What is the total cost of preparing and processing your representative national Japanese patent from filing to grant? Please

PCT and national patents are less expensive in Japan than in the US

Comparison of costs for PCT/national US/JP patents [EUR]

	EP applicants: PCT in the US (additional cost)	US applicants: national in the US	EP applicants: PCT in Japan (additional cost)	JP applicants: national in Japan
In-house cost	2,760	3,210	1,630	1,410
External cost	10,510	7,040	8,170	4,050
• Attorney fees and other ext. services	6,480	4,990	3,900	2,480
• Translations (if applicable)	1,340	-	2,610	-
• Official fees paid to the USPTO/JPO	2,690	2,050	1,660	1,570
Total	13,270	10,250	9,800	5,460

Base: n = 96/59, all respondents in Europe with PCT patents in US/JP in 2002/2003, n = 42/48, all respondents in the US/JP with national patents in the US/JP 2002/2003, mean values (incl. 0)

Q. 12: What is the total (additional) cost of (preparing and) processing your representative PCT patent/national US/Japanese patent from entering the national phase up to grant/from filing to grant? Please give a breakdown of costs by patent activity, excl. R&D expenditure

Euro-direct patents are much more expensive for European applicants than national US/JP patents are for US/JP applicants

Comparison of costs for Euro-direct/national US/national JP patents [EUR]

	EP applicants: Euro-direct patent	US applicants: national US patent	JP applicants: national JP patent
In-house cost	3,610	3,210	1,410
External cost	11,740	7,040	4,050
• Attorney fees and other ext. services	5,230	4,990	2,480
• Translation (if applicable)	3,040	-	-
• Official fees paid to the EPO/USPTO/JPO	3,470	2,050	1,570
Cost of validation	8,750	-	-
Total	24,100	10,250	5,460

Base: n = 72/42/48, all respondents in Europe with representative Euro-direct patents/all US/JP respondents with national patents in the US/Japan 2002/2003, mean values (incl. 0)

Q. 9: What is the total cost of preparing and processing your representative EPO patent from filing to grant? Please give a breakdown of costs by patent activity, excluding R&D expenditure and excluding pre-filing expenditure.

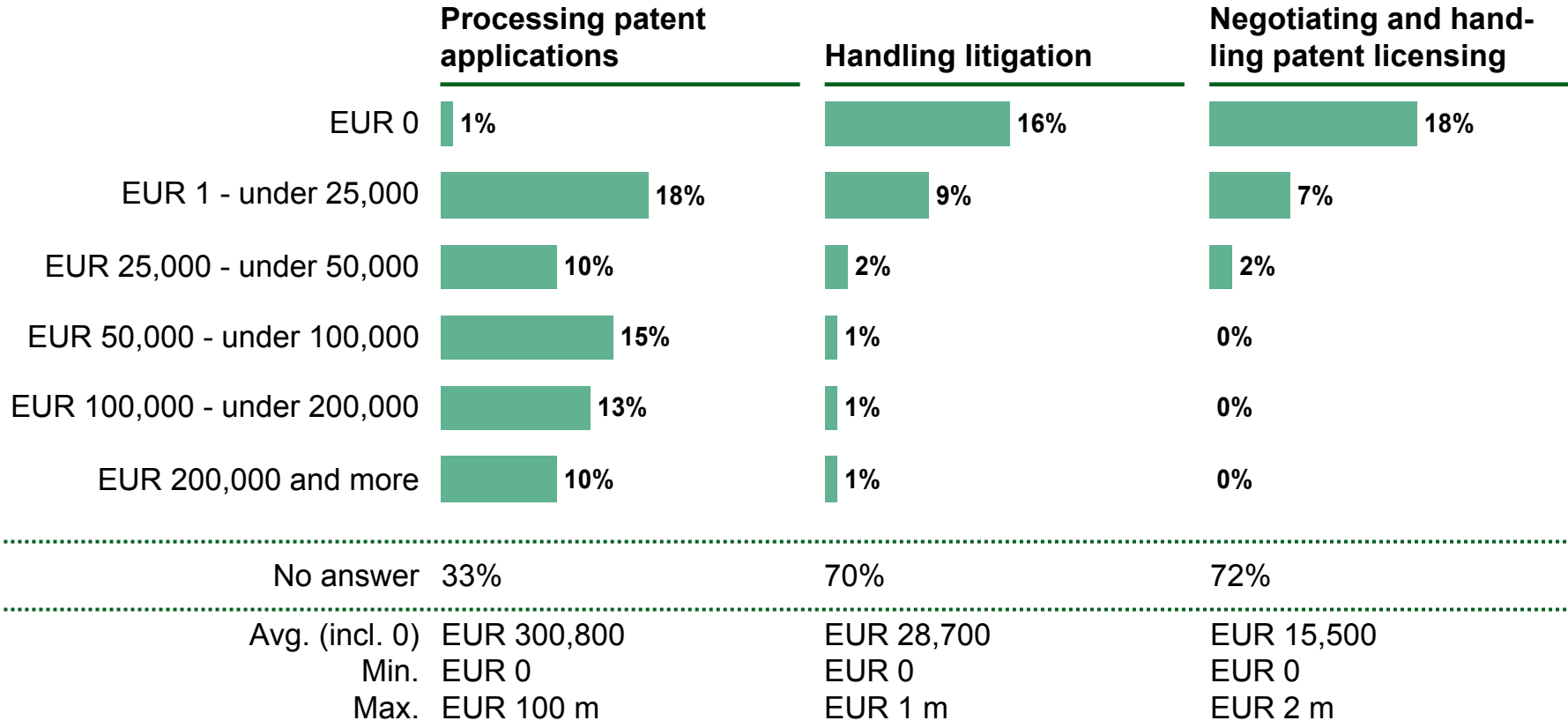
Q. 10: Please indicate the countries in which you validate your representative EPO patent. What is the cost of validating your representative EPO patent in these countries?

Q. 12: What is the total additional cost of processing your representative PCT patent, from entering the national phase up to grant (excl. R&D expenditure and excl. the cost of first filing and the international phase)? What is the total cost of preparing and processing your national US/Japanese patent from filing to grant (excluding R&D and pre-filing

8. Total budget for patents and patent licenses

A third of the companies are not able to estimate their total expenditure on patents

Total budget for patents and patent licenses in Europe in 2003



Base: n = 254, all respondents, %, mean values

C. Results of the service provider survey

Characteristics of the European model patent – Patent attorneys (1)

General assumptions

- The Euro-direct/Euro-PCT application leading to the model patent is based on a national or EP first filing (basic application) for which priority has been claimed
- Filing and processing of the EP/Euro-PCT application up to grant as well as validation and maintenance of the EP are dealt with exclusively by the appointed patent attorney
- There are no irregularities in the granting procedure (all relevant documents filed, no formal deficiencies, etc.)
- No special procedures are required, such as further processing, restitutio in integrum, opposition, etc.

Characteristics of the application

- Description: 24 pages, 325 words per page
- Number of claims: 15, corresponding to a volume of 4 pages, 325 words per page
- Abstract: 0.5 pages, 160 words

Characteristics of the European model patent – Patent attorneys (2)

Actions involved in the prosecution of the application

- Preparation and drafting of the basic application
- Production of a translation of the basic application into one of the EPO languages (where applicable) for a subsequent filing
- Filing of a Euro-direct application or a Euro-PCT application with the EPO acting as RO and ISA (*entry into the European phase 31 months after priority, no Chapter II*)
- Request for examination
- Payment of 7 designation fees
- Reply to one official communication as to the merits (R 51)
- Approval of the text intended for grant
- Filing of translations of the claims in the other two EPO languages
- Payment of 2 renewal fees to the EPO

Actions involved in the post-grant phase

- Validation in 8 contracting states (Switzerland/Liechtenstein (CH/LI), Germany (DE), Great Britain (GB), France (FR), Spain (ES), Italy (IT), Netherlands (NL), Sweden (SE))
- Producing and filing of 6 translations of the patent specification through a corresponding patent attorney
- Maintenance of the patent in the 8 contracting states for 10 years (payment of national renewal fees for the 5th-9th patent year)

On average, attorneys charge EUR 3,900 to process a EURO-PCT and EUR 3,800 to process a Euro-direct application

Cost of prosecuting the application [EUR]

	<u>Average</u>	<u>Min.</u>	<u>Max.</u>
Drafting of first application (mainly in EN, FR or DE)	3,659	2,000	6,400
Production of translation from orig. language into EN, FR or DE (if applicable)	2,200**	-	-
Euro-PCT: Processing the application*	3,913	2,700	6,500
Euro-direct: Processing the application*	3,830	2,300	6,130

* Slightly underestimated, as replies to communications/renewal fees were omitted in some cases
 ** Sole mention, as only one respondent indicated cost
 Base: n = 8, all respondents, mean values

Translations are most expensive for the Nordic languages

Cost of producing translations – Post-grant phase [EUR]

Translation of patent specification into ...	Average	Min.	Max.
Swedish (SE)	2,990	1,500	4,600
Dutch (NL)	2,459	1,800	2,800
German (DE)	2,193	1,700	2,800
French (FR)	2,192	1,400	2,700
Italian (IT)	2,012	1,300	2,900
Spanish (ES)	1,878	1,300	2,600
English (EN)	1,826	1,300	2,778
Sum for 6 languages*:	13,431	9,000	18,078

* Calculated on the basis of cases with answers for 6 languages (n = 6)
Base: n = 7, all respondents with answers, mean values

Germany, Great Britain and France are the least expensive countries for filing the translation with the national patent office

Cost of filing translations with national patent office – Post-grant phase [EUR]

	<u>Average</u>	<u>Min.</u>	<u>Max.</u>
Spain (ES)	695	400	1,400
Sweden (SE)	680	330	1,210
Italy (IT)	629	250	1,000
Netherlands (NL)	608	350	1,000
Switzerland/Liechtenstein (CH/LI)	591	300	1,020
France (FR)	541	150	1,000
Great Britain (GB)	521	160	775
Germany (DE)	472	300	945
Sum of 8 countries:	4,737*	2,615	7,475

* Sum of mean values
Base: n = 7, all respondents with answers, mean values

On average, paying renewal fees for eight countries costs a total of EUR 5,352

Cost of paying renewal fees (5th-9th year) – Post-grant phase [EUR]

	<u>Average</u>	<u>Min.</u>	<u>Max.</u>
Spain (ES)	613	400	1,000
Sweden (SE)	603	500	750
Italy (IT)	700	500	1,000
Netherlands (NL)	563	450	750
<hr/>			
Switzerland/Liechtenstein (CH/LI)	863	500	1,300
France (FR)	550	450	750
Great Britain (GB)	800	500	1,200
Germany (DE)	660	500	1,000
Sum of 8 countries:	5,352*	4,000	7,000

* Sum of mean values
Base: n = 5, all respondents with answers, mean values

On average, total attorney fees amount to EUR 31,090 for a Euro-PCT patent and to 31,010 for a Euro-direct patent

Total cost of preparing and processing the European model patent [EUR]

	Euro-PCT	Euro-direct
Prosecution of the application	7,572**	7,489**
• Drafting the first application	3,659	3,659
• Processing the application*	3,913	3,830
• (Production of translation from orig. language into EN, FR or DE (if applicable))	(2,200)	(2,200)
Production of translation into 6 languages	13,431	13,431
Filing translations with 8 national patent offices	4,737	4,737
Payment of 8 renewal fees	5,352	5,352
Total	31,092**	31,009**

* Slightly underestimated, as replies to communications/renewal fees were omitted in some cases

** Excluding translation from orig. language into EN, FR or DE, as this generally does not apply

Base: n = 8, all respondents with answers, mean values

Q. 3/1: Please give a breakdown of costs (excluding official fees) according to the main elements relating to prosecution of the application.

Characteristics of the European model patent/translation services

Characteristics of the patent specification

- Description: 24 pages, 325 words per page
- Claims: 4 pages, 325 words per page

Original language

English

Translating descriptions into Nordic languages costs EUR 69 to 75 per page on average










Cost of translating the patent description (24 pages) [EUR]

Translation from English into ...	<u>Average (24 pages)</u>	<u>Min.</u>	<u>Max.</u>	<u>Average per page</u>
Finnish	1,808	675	3,170	75
Swedish	1,667	675	2,830	69
Danish	1,666	675	2,860	69
Estonian	1,581	675	2,860	66
Slovenian	1,572	675	2,860	66
Dutch	1,557	583	2,530	65
Hungarian	1,556	583	2,860	65
Greek	1,505	675	2,350	63
Portuguese	1,493	675	2,350	62
Bulgarian	1,470	583	2,860	61

Base: n = 7, all respondents with answers, mean values

Translating descriptions into German and Spanish costs only EUR 53 per page on average

Cost of translating the patent description (24 pages) [EUR]

Translation from English into ...	<u>Average (24 pages)</u>	<u>Min.</u>	<u>Max.</u>	<u>Average per page</u>
Polish	 1,470	583	2,860	61
Romanian	 1,470	583	2,860	61
Slovak	 1,464	551	2,860	61
Czech	 1,434	368	2,860	60
Turkish	 1,418	675	2,350	59
Italian	 1,324	583	2,000	55
French	 1,324	583	2,000	55
Spanish	 1,276	583	2,000	53
German	 1,265	583	2,000	53

Base: n = 7, all respondents with answers, mean values

Translation services charge similar fees for the translation of claims and the translation of descriptions (1)










Cost of translating the claims (4 pages) [EUR]

Translation from English into ...	<u>Average (4 pages)</u>	<u>Min.</u>	<u>Max.</u>	<u>Average per page</u>
Finnish	297	113	490	74
Swedish	276	113	445	69
Danish	274	113	445	69
Estonian	261	113	445	65
Slovenian	259	113	445	65
Dutch	257	97	395	64
Hungarian	257	97	445	64
Greek	248	113	360	62
Portuguese	244	113	360	61
Bulgarian	242	97	445	61

Base: n = 7, all respondents with answers, mean values

Translation services charge similar fees for the translation of claims and the translation of descriptions (2)

Cost of translating the claims (4 pages) [EUR]

Translation from English into ...	<u>Average (4 pages)</u>	<u>Min.</u>	<u>Max.</u>	<u>Average per page</u>
Polish	 242	97	445	61
Romanian	 242	97	445	61
Slovak	 241	92	445	60
Czech	 236	61	445	59
Turkish	 233	113	360	58
Italian	 222	97	340	56
French	 222	97	340	56
Spanish	 215	97	340	54
German	 212	97	340	53

Base: n = 7, all respondents with answers, mean values

Translation costs are higher for smaller validation countries, such as Estonia and Slovenia

Cost of translating the patent description and claims [EUR]

Translation from English into ...

Average

Min.

Max.

Translation from English into ...	Average	Min.	Max.
Finnish	1,808 <small>297</small>	788	3,660
Swedish	1,667 <small>276</small>	788	3,275
Danish	1,666 <small>274</small>	788	3,305
Estonian	1,581 <small>261</small>	788	3,305
Slovenian	1,572 <small>259</small>	788	3,305
Dutch	1,557 <small>257</small>	680	2,925
Hungarian	1,556 <small>257</small>	680	3,305
Greek	1,505 <small>248</small>	788	2,710
Portuguese	1,493 <small>244</small>	788	2,710
Bulgarian	1,470 <small>242</small>	680	3,305

■ Patent description (24 pages) ■ Claims (4 pages)

Base: n = 7, all respondents with answers, mean values

Translations into languages of frequently validated countries, such as Germany, cost least

Cost of translating the patent description and claims [EUR]

Translation from English into ...	Average		Min.	Max.
Polish	1,470	242	1,712	3,305
Romanian	1,470	242	1,712	3,305
Slovak	1,464	241	1,705	3,305
Czech	1,434	236	1,670	3,305
Turkish	1,418	233	1,651	2,710
<hr/>				
Italian	1,324	222	1,546	2,340
French	1,324	222	1,546	2,340
Spanish	1,276	215	1,491	2,340
German	1,265	212	1,477	2,340

■ Patent description (24 pages) ■ Claims (4 pages)

Base: n = 7, all respondents with answers, mean values

Most translation services do not charge additional costs if the original language is German or French instead of English

Additional costs for translation if original language is French or German

- Most translation services indicated **no additional cost** if the original language is not English, but French or German instead
- Just one translation service indicated additional costs for a translation **into Swedish** as described below

Original language	Cost per page (325 words) for translation of	
	patent description	claims
English	EUR 71	EUR 71
French	EUR 85	EUR 109
German	EUR 85	EUR 109
Increase	20%	54%

Base: n = 7, all respondents

Q. 2a/b: Do you charge additional costs for translating the model patent if the original language is not English, but French or German?

On average, attorney charges for translations are 26% to 54% higher than those of the translation services

Comparison of translation costs [EUR]

Translation of the patent specification (24 pages desc./4 pages claims; attorneys:+ 0.5-page abstract) into ...

	<u>Attorneys</u>	<u>Translators</u>	<u>Difference</u>
Swedish	2,990	1,943	1,047
Dutch	2,459	1,814	645
German	2,193	1,477	716
French	2,192	1,546	646
Italian	2,012	1,546	466
Spanish	1,878	1,491	387

Base: n = 7/7, all attorneys/translators with answers, mean values

Q. 3/2: Please give a breakdown of costs (excluding official fees) according to the main elements relating to the post-grant phase (attorneys).

D. Comparison of applicant and service provider surveys

Preliminary remarks

The following pages show a comparison of the results obtained from the three surveys among applicants, attorneys and translation services. Although all results refer to a representative European patent, they are not fully comparable, e.g. due to slight differences in the questionnaires:

- Applicants indicated the cost of attorney fees including **costs for other external services**, which are not included in the charges provided by attorneys
- The **scope of the average EPO patent** as described by applicants is different from that described in the model patent for attorneys and translators (applicants: 15 pages description, attorneys/translators: 24 pages description)
- Applicants indicated the cost of a Euro-PCT patent including the cost of the **international phase**, while attorneys may have referred only to a Euro-PCT application
- To some extent, **cost savings for special country combinations** are considered in the mean values provided by applicants. However, the total of the mean values for the 8 countries of the model patent probably does not consider synergy effects in full detail

There is no separate consideration of subgroups by region or industry because the attorneys and translators were asked about a representative patent only.

A comparison of the surveys among applicants and attorneys shows that the cost levels cited are similar (1)

Structure of pre-grant cost of the (Euro-)PCT model patent [EUR]

	Cost for applicants	Cost charged by attorneys
Pre-filing expenditure		
• In-house cost	4,190	–
• External cost	4,940	3,659 ²⁾
Processing cost		
• In-house cost	5,680 ¹⁾	–
• Attorney fees (and other external services)	5,760 ¹⁾	3,913
• Translation of application and claims	3,950 ¹⁾	2,200 ³⁾
• Official fees (EPO and international phase)	6,600 ¹⁾	–

1) Including international phase 2) No differentiation between Euro-PCT/Euro-direct 3) Sole mention

Base: n = 128, all applicants using the PCT route/n = 8, all attorneys, mean values

Q. 8c/9 (applicants): What is the total cost of preparing/drafting the first application/preparing and processing your representative EPO patent from filing to grant? Please give a breakdown of costs by patent activity, excluding R&D expenditure/excluding pre-filing expenditure.

Q. 3/1 (attorneys): Please give a breakdown of costs (excluding official fees) according to the main elements relating to prosecution

A comparison of the surveys among applicants and attorneys shows that the cost levels cited are similar (2)

Structure of pre-grant cost of the Euro-direct model patent [EUR]

	Cost for applicants	Cost charged by attorneys
Pre-filing expenditure		
• In-house cost	2,540	–
• External cost	3,700	3,659 ¹⁾
Processing cost		
• In-house cost	3,070	–
• Attorney fees (and other external services)	4,930	3,830
• Translation of application and claims	3,020	2,200 ²⁾
• Official EPO fees	3,410	–

1) No differentiation between Euro-PCT/Euro-direct 2) Sole mention

Base: n = 121, all applicants using the Euro-direct route for the representative EPO patent/n = 8, all attorneys, mean values

Q. 8c/9 (applicants): What is the total cost of preparing/drafting the first application/preparing and processing your representative EPO patent from filing to grant? Please give a breakdown of costs by patent activity, excluding R&D expenditure/excluding pre-filing expenditure.

Q. 3/1 (attorneys): Please give a breakdown of costs (excluding official fees) according to the main elements relating to prosecution

The higher cost indicated by attorneys may be due to the larger scope of the model patent

Structure of validation cost for the European model patent [EUR]

	Cost for applicants	Total cost charged by attorneys	Of which	Producing translation	Filing translation	Cost charged by translators
Sweden (SE)	2,850	3,670	→	2,990	680	1,943
Netherlands (NL)	2,290	3,067	→	2,459	608	1,814
Germany (DE)	2,180	2,665	→	2,193	472	1,477
France (FR)	2,150	2,733	→	2,192	541	1,546
Italy (IT)	2,130	2,641	→	2,012	629	1,546
Spain (ES)	2,020	2,573	→	1,878	695	1,491
Great Britain (GB)	1,450	2,347	→	1,826	521	–
Switzerland/ Liechtenstein (CH)	1,150	591	→	–	591	–
Total	16,220¹⁾	18,168²⁾		13,431²⁾	4,737	9,817

1) Total of mean values for all 8 countries without considering synergy effects in full detail 2) Total for 6 languages to be translated

Base: n = 254, all applicants with answers for the relevant country; n = 7/7 all attorneys/translators with answers, mean values

Q. 10 (applicants): Please indicate the countries in which you validate your representative EPO patent. What is the cost of validating your representative EPO patent in these countries?

Q. 3/2 (attorneys): Please give a breakdown of costs (excluding official fees) according to the main elements relating to the post-grant phase.

E. Summary and conclusion

Survey procedure

- The present survey on the cost of patenting is based on 253 telephone and postal interviews among EPO patentees located in Europe, the US and Japan. A random sample was drawn from the EPO database of grants published in 2002 and 2003. The results were weighted in order to represent the parent population of patentees in terms of number of grants and region.
- For cross-checking reasons, 8 interviews with European patent attorneys and 7 interviews with translation services in Europe have been included in the survey. The addresses were selected deliberately from the EPO.

The results of the survey on the cost of patenting can be summarised as follows:

Patent activities of patentees in general

- In most companies, the internal **intellectual property department** is in charge of dealing with patents or patent agents (58%). This applies even for small and medium-sized enterprises (52%). However, just 35% of all companies have implemented an individual **cost-accounting system** and are therefore able to systematically track the costs per patent. In the US, such tools are much more common (53%) than they are in Europe (32%) and Japan (9%).
- Japanese companies were granted more **EPO patents** in 2003 (23 patents on average) than US (17 on average) and European companies (8 on average). A similar ratio applies for PCT and national patents in the US and Japan.

- For EPO patents, the average **share of the Euro-PCT route** increased from 50% in 2002 to 57% in 2003. US companies and SMEs use the Euro-PCT route to a greater extent (71%/79% in 2003), whereas Japanese and larger companies mainly chose the Euro-direct route (42%/47% Euro-PCT in 2003).

Description of a representative EPO patent

In order to obtain answers regarding the relevant cost factors, respondents were asked to describe their **representative EPO patent** based on a sample of EPO patents or on an individual EPO patent granted in 2002 or 2003.

- In terms of **technological area**, a wide range of different sectors was cited, with a focus on mechanical engineering and biotechnology/pharmaceuticals (often SMEs) in Europe, chemicals and food processing in the US and electrical engineering in Japan.
- In terms of the share of **procedures** selected for all EPO patents, 57% of all respondents describe a Euro-PCT patent as being representative. One out of six US respondents cannot specify the route, which might explain the lower share of Euro-PCTs in this subgroup.

- The typical **original language** of filing is English (60%), while one third of the respondents file in German (European companies). On average, the representative EPO patent comprises a **23-page specification**, of which 15 pages are description and 4 pages cover claims, with an average of 13 claims. US and Japanese patentees indicate higher numbers of pages (33/39 pages for an average EP specification), and Euro-PCTs and patents in the field of biotechnology/ pharmaceuticals have an above-average scope (26/32 pages for an average EP specification).

Pre-grant cost (excluding R&D)

- For the **first filing**, a national application in the region of origin is most common. However, mainly US companies and SMEs also use European (EP) applications (22%/24%) or applications under the PCT (11%/14%) for their first filing. To some extent, US companies also submit their first filing as a national application in a European country.
- On average, **pre-filing expenditure per patent totals EUR 7,900**. External costs, such as attorney fees, account for 55%, or EUR 4,340. For in-house pre-filing costs, companies pay EUR 3,560 on average per patent.

- European companies cite the highest pre-filing costs, including both in-house and external costs (average total of EUR 8,640), while Japanese companies cite the lowest costs (average total of EUR 4,000). For both cost factors, pre-filing for Euro-direct patents seems to be less cost-intensive (average total of EUR 6,240) than for Euro-PCT patents (average total of EUR 9,130). In line with the larger scope of patents in the area of biotechnology/pharmaceuticals, total pre-filing costs for patents in those fields tend to be higher than for other technology areas.
- **Processing an EPO patent costs a total of EUR 19,260** on average, including EUR 4,610 for in-house services and EUR 14,650 for external factors such as attorney fees and other external services, translation of the application and claims (pre-grant) and official fees (for PCT patents, all costs indicated include the international phase).
- Of the total external processing cost, companies pay on average EUR 5,500 per patent for **attorney fees** and other external services (38%), EUR 3,860 for the **translation of the application and claims** (26%) and EUR 5,290 (36%) for **official fees** (EPO and, if applicable, for the PCT international phase).

- It appears that US companies pay the least for processing the representative EPO patent (EUR 14,910 on average). However, they cite higher pre-grant translation costs than European companies. Total processing costs are slightly higher for SMEs (EUR 20,570 on average) than for larger companies, especially due to higher attorney and translation costs. For Euro-PCT patents, all cost factors appear to be higher, as the international phase is included (EUR 21,990 in total, compared to an average total of EUR 14,420 for Euro-direct). Again, processing for biotechnology/ pharmaceuticals patents is more expensive than for patents from other technology fields, mainly due to high translation costs.

Post-grant costs

- A representative EPO patent is **validated** in seven countries on average, most commonly in Germany (94% of respondents), France (91%), UK (83%), Italy (76%), Spain (52%), Switzerland/Liechtenstein (39%), and the Netherlands (37%). European companies validate the most countries (7.3 on average), as do SMEs (7.4 on average) and Euro-PCT patents (7.6 on average). Also, more countries are validated for biotech/pharma (10 on average) and chemicals patents (8 on average) than for patents from other technology fields

- In total, companies pay **EUR 13,190 per patent on average for validating** their EPO patent in the relevant countries (7 countries on average; validation costs include fees for the national patent office, attorney and translation fees). This budget appears to be higher for US and JP companies (averaging EUR 17,390 and EUR 15,010, respectively) than for European companies (EUR 11,580 on average) – although the former validate their patents in fewer countries than do European companies, their patents cover more pages on average. The higher validation costs for biotech/ pharma and chemicals patents (averaging EUR 27,900 and EUR 19,440, respectively) as well as for Euro-PCT patents (EUR 15,580 on average) are also not surprising.
- The average validation cost per patent and per country varies a lot. Companies spend most for validation in Nordic countries (e.g. Finland averages EUR 3,190 per patent), while countries that may not require a separate translation tend to be less expensive (e.g. Luxembourg averages EUR 600 per patent).

Total cost (excluding R&D)

- **In total, a European patent costs EUR 40,350** – EUR 46,700 using the PCT route (international and European phase, average of 8 validation countries) and EUR 30,530 using the Euro-direct route (average of 6 validation countries). These are average figures, including pre-filing expenditure, processing and validation. Japanese companies and SMEs spend above-average budgets on EPO patents.
- For both procedures, validation costs account for one third of the total budget. US companies spend an even larger share of their total budget on validation (44% for 6 countries on average).

Cost of obtaining patent protection in the US and Japan (excluding R&D)

- For European applicants, the additional average cost per PCT patent (excluding the cost of first filing and the international phase) totals **EUR 13,270 in the US** and **EUR 9,800 in Japan**, which appears to be much less expensive. Only translation costs are higher for Japan than they are for the US (averaging EUR 2,610 for Japan compared to EUR 1,340 for the US).

- US applicants (i.e. those who have also been granted EPO patents) pay on average **EUR 10,250 per national patent in the US**; JP applicants pay **EUR 5,460 per national patent in Japan**. This means that a national patent in the US and Japan is apparently much less expensive for US/Japanese applicants than the equivalent Euro-direct patent is for European applicants. This is, of course, due to the additional high cost of translating and validating an EPO patent, but there might also be other reasons, such as different fee structures at the various patent offices, or the need for attorney advice.

Total budget for patents and patent licenses in Europe in 2003

- On average, EPO patentees spent **EUR 300,800 on processing patent applications** in Europe in 2003, including opposition and validating and maintaining patents (including fees). The budget for handling litigation totalled EUR 28,700 per patentee and the budget for negotiating and handling patent licensing totalled EUR 15,500 per patentee. However, many companies cannot estimate their total expenditure on these cost factors, especially that for litigation and patent licensing (about 70% each).

Service providers were asked to provide costs for their services on the basis of a single, pre-defined EPO model patent. Due to the sampling scheme and the very small number of interviews, the following results are to be regarded only as rough tendencies.

Costs charged by attorneys

- On average, a European patent attorney charges EUR 3,659 for **drafting the first application**. **Processing the application** costs about EUR 3,913 for the Euro-PCT and about EUR 3,830 for the Euro-direct route.
- **Producing translations** of the patent specification (24 pages of description, 4 pages of claims, 0.5-page abstract) into six languages (Swedish, Dutch, German, French, Italian, Spanish and English) costs EUR 13,431 in total. The average translation costs for the different languages vary from EUR 2,990 for Swedish to EUR 1,826 for English.
- Charges for **filing the translations with the national patent offices** (in Spain, Sweden, Italy, the Netherlands, Switzerland/Liechtenstein, France, Great Britain and Germany) range from EUR 695 for Spain to EUR 472 for Germany. In total, filing the translations for the model patent with eight specified national patent offices costs EUR 4,737 on average.

- Payment of **renewal fees** (5th-9th year) for these eight countries totals EUR 5,352 on average and ranges from EUR 863 for Switzerland to EUR 550 for France.
- On average, total patent attorney fees for the model patent amount to about **EUR 31,090 for a Euro-PCT application** and about **EUR 31,010 for a Euro-direct application**, including drafting the first application, processing the application, producing translations into 6 languages, filing translations and paying renewal fees for 8 countries (excluding producing a translation (pre-grant) from the original filing language into one of the EPO languages as this mostly does not apply).
- However, these figures can only be very **rough estimates** because the real, individual cases vary a lot in terms of scope, complexity, etc.

Costs charged by translation services

- For **translating one page of the patent specification** from English into one of the EPC member states' other languages, translation services charge on average EUR 53 (German) to EUR 75 (Finnish). There are only minor differences between the costs for translating descriptions and those for translating claims.

- The average **translation cost for the whole model patent** (28 pages) varies from EUR 2,104 for Finnish to EUR 1,477 for German. The translation costs for smaller validation countries such as Estonia and Slovenia are more expensive than those for frequently validated countries such as Germany, France and Italy.

Conclusion

- The aim of the study was to establish the costs that are paid for obtaining patent protection in Europe, and to evaluate the different cost factors.
- A cross-check of the figures provided by the different target groups shows that the costs indicated by the applicants are, on average, reasonable and plausible. It seems that the applicants are able to estimate their cost per patent quite well. Differences can be explained by the different specifications given in the questionnaire, which are not totally comparable.
- The study shows that translation and validation costs are the main reason for the higher cost of a European patent compared to patents in the US and Japan. Additional comments from the respondents show that these costs are regarded as a special difficulty.
- Means implemented to reduce translation costs are therefore likely to bring key advantages for the European patent system.

Appendix I: Comments from respondents/applicants (selection)

Criticism relating to the questionnaire (1)

- "To obtain the cost of patents granted in 2002/2003, we have to look for files relating to patent applications which were filed in 1992-1998" / "Costs associated with patents are usually incurred 3-6 years before grant. Thus, the questions asked do not reflect current costs."
- "To complete this questionnaire, I have to ask for figures which I normally do not get easily, and therefore it was very wearisome for me." / "We don't have the capability to track costs to this level of detail without a substantial amount of work."
- "The EPO is hoping for a lot of cooperation and goodwill on the part of the respondents without giving much back in return (e.g. lower costs or favoured treatment for applications)."
- "I think it is very dangerous to make a conclusion after just looking at an individual EPO patent." / "You can't take this calculation for every registration."
- "It would be more accurate to provide figures in euros for European filings. At 2004 exchange rates, our USD expenditures have almost doubled. I used 1.19 as the US to EU conversion rate."
- "The questionnaire is too detailed, but generally done in an intelligent way."
- "In my case, it was a waste of time, because I had only 2 patents. For certain costs, such as validation, you can find out online how much it is."

Criticism relating to the questionnaire (2)

- "The inventor's unpaid work (in several phases) doesn't show."
- "The questions should be more precise regarding the number of countries and above all which countries are meant (better cost indication)."
- "This questionnaire should also include the cost of checking freedom to operate. A major expense arises from checking for third-party patents, advising on them and getting opinions from overseas counsel."
- "However, in the case of multinational companies, it does not capture the cost of funnelling US cases through its US company and of funnelling EP cases through one of its European companies."
- "The method of choosing an average patent is just an approximation and it is very difficult to value it."
- "The response time is too short."
- "The questionnaire doesn't take time lag into account. There are a lot of delays relating to the invoicing of expenditures."

Problems in completing the questionnaire

- "The cost-accounting system has just been implemented, so it is not yet possible to look up the details." / "Since I have no cost-tracking system available, I cannot answer these questions."
- "A big company with efficient computer systems could provide the breakdowns, but a small company like ours can't, and we don't have the time to go and find it all out." / "There is not a full record of expenditures. Many of the figures are estimated."
- "As indicated in item 4, we do not use a cost-tracking system, so a certain amount of resources are required to estimate the total costs per case. Furthermore, we have no system for estimating internal costs, so no real data is available."
- "Our system does not distinguish between filing fees and attorney fees. There is no way for me to tell you how much in-house money we spent."
- "We do not record costs down to the minute level of detail requested here."
- "Questions 9 to 13 cannot be answered within a reasonable time frame due to staff shortages."
- "The external costs of an attorney are easy to find, but total costs are difficult to specify."
- "We don't track costs by patent, only by law firm."

General comments on the questionnaire

- Validation costs (Q. 10): "Most of the costs are for translations."
- Validation costs (Q. 10): "Some countries are the same, to within a few hundred pounds, anyway."
- "In the last few years we had many European direct applications, but in the near future there are going to be more PCT ones."
- "The questionnaire made me realise that my corporation will in future have to concern itself with cost processing for the EPO."
- "We noticed that official fees for the filing of a first application are not included."
- "Seems to be reasonably valid in approach. The average of several reporting companies should provide an assessment of representative costs."
- "What matters is the value of the economy in the relevant country and the possibility of getting the patent, not the cost of patenting."

Comments relating to the EPO

- "It would be helpful if the annual fees could be paid to the EPO – however, not for all member states (as the European Patent draft describes), but only for countries where patent protection is needed."
- "It would be appreciated if the languages could be reduced to English only."
- "The delay in the examination makes it difficult to estimate the budget the company needs for a patent. These costs are a high burden for the company."
- "The more harmonisation at the EPO the better. Translation costs the most and is a waste of money." / "Translations are too cumbersome and expensive."
- "We do not need attorneys for the JPO, whereas we must outsource the attorney processing for the EPO."
- "The costs of EPO patents are generally higher than in the US because of additional validation and translation fees."
- "With a consolidated patent filing, every single patent has to be translated as a priority certificate. Because of that, costs double or even triple."
- "I hope [the survey] illustrates the high cost of filing patents in Europe."

Appendix II: Accompanying letters and questionnaires in English

Appendix III: List of extreme values for questions about cost

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Cost of a sample European Patent¹

EPO Fees: EUR 4 400

- procedural fees before the EPO
- renewal fees for 3rd and 4th year

Percentage of total: 14 %

**Validation in the
contracting states: EUR 6 650**

4 translations

- attorney EUR 2 850
- translation cost EUR 3 400
- publication fees EUR 400

Percentage of total: 21 %

**Total cost:
EUR 31 580**

**Professional
representation
before the EPO: EUR 9 630**

- pre-filing EUR 3 900
- processing EUR 5 200
- translation of claims EUR 530

Percentage of total: 30 %

**National renewal fees
and related cost: EUR 10 900**

- renewal fees (years 5 - 10) EUR 5 600
- attorney:
payment of renewal fees EUR 5 300

Percentage of total: 35 %

¹⁾ 6 states, 10-year term, excl. in-house preparation costs for the patentee



Cost of a European patent (Euro-direct) – model calculation

1. European patents filed by the direct European route – that is to say, directly with the European Patent Office in accordance with the provisions of the European Patent Convention or via a national patent office – are generally valid in six countries. The most frequently designated countries are Germany, the United Kingdom, France, Italy, Spain and Switzerland.

2. The total cost of a European patent is estimated at approximately EUR 32 000. This amount comprises the fees for the EPO grant procedure, the costs of representation by a patent attorney before the EPO, the translation and validation costs and the renewal fees for maintenance of the patent.

The amount is the result of a model calculation but is nevertheless based on actual research data. It should be borne in mind that the actual patenting costs in an individual case may differ by more than 100 %, depending on the technological field. If account is also taken of the in-house cost of preparing for the filing and grant procedure, the total cost increases by approximately EUR 6 000.

3. Approximately EUR 4 400 must be reckoned with for the costs of the procedure before the EPO. This amount includes the fees charged by the EPO for conducting the procedure and granting the European patent and the renewal fees to be paid in the third and fourth years of the procedure.
4. A cost of about EUR 10 000 in patent attorney fees is estimated for the drafting of the patent application in one language, representation in procedures before the EPO and the translation of the patent claims into the other two official languages.
5. Since all the EPC states except Luxembourg and Monaco require a translation of the European patent where the patent is not drafted in their official language, the patentee will incur considerable post-grant expense in producing, filing and publishing such translations („validation costs“). Where a patent is granted for the six most frequently designated countries, the patentee will need four translations. The associated translation, representation and publishing costs amount to approximately EUR 6 700.
6. During the term of his patent, the patentee must pay renewal fees to maintain his right. These fees are fixed and collected by the contracting states. 50% of the fees remain with the national patent authorities, whilst the remainder is transferred to the EPO. The renewal fees payable from the fifth to tenth year and the associated representation costs are estimated at approximately EUR 11 000.



Cost of a sample EURO-PCT Patent¹

EPO Fees: EUR 6 300

- international fees
- procedural fees before the EPO
- renewal fees for 3rd and 4th year

Percentage of total: 14 %

**Validation in the
contracting states: EUR 12 100**
6 translations

- attorney EUR 4 000
- translation cost EUR 7 400
- publication fees EUR 700

Percentage of total: 26 %

**Total cost:
EUR 46 550**

**Professional
representation
before the EPO: EUR 12 500**

- pre-filing EUR 5 200
- processing EUR 6 100
- translation of claims EUR 850

Percentage of total: 26 %

**National renewal fees
and related cost: EUR 16 000**
5th to 10th year

- renewal fees EUR 9 200
- attorney:
payment of renewal fees EUR 6 800

Percentage of total: 34 %

¹⁾ 8 states, 10-year term, excl. in-house preparation costs for the patentee



Cost of a Euro-PCT patent – model calculation

1. European patents filed by way of an application under the Patent Cooperation Treaty (PCT), known as “Euro-PCT patents”, are generally valid in eight countries. In addition to the six most frequently designated countries Germany, France, the United Kingdom, Italy, Spain and Switzerland, applicants usually specify the Netherlands and Austria.
2. The total cost of a Euro-PCT patent is estimated at approximately EUR 47 000. This amount comprises the international PCT fees, the fees for the EPO grant procedure, the costs of representation by a patent attorney, the translation and validation costs incurred following the grant procedure and the renewal fees for maintenance of the patent in the designated countries.

Whilst this cost is only a model calculation, it is based on an empirical study. However, it may vary considerably, in some cases by up to 100%, depending on the technical field and the filing strategy chosen. If account is taken of the in-house cost to the applicant of preparing for the filing and grant procedure, the total cost of a Euro-PCT patent increases by EUR 10 000 to EUR 11 000.

3. Procedural costs: a total cost of approximately EUR 6 300 is incurred in international fees under the PCT and fees for the EPO grant procedure.
4. Patent attorney costs of about EUR 12 000 are estimated for the drafting of the patent application in one official language, representation in procedures before the EPO and the translation of the patent claims into the other two official languages.
5. Once the EPO grant procedure has been closed, the patentee must pay for the translation of the Euro-PCT patent into the official languages of the designated countries and for the filing and publication (“validation costs”) of those translations. As a result of the larger number of pages and the larger number of designated countries (eight), the translation and validation costs are higher than in the case of a Euro-direct patent and amount to approximately EUR 12 000.
6. During the term of the patent, renewal fees fixed and collected by the individual countries must be paid. The renewal fees (5th to 10th year) payable in the eight countries most frequently designated in Euro-PCT patents and the associated attorney costs amount to approximately EUR 16 000.