European Patent Office

PATENT FILINGS SURVEY 2012

INTENTIONS OF APPLICANTS REGARDING PATENT APPLICATIONS AT THE EUROPEAN PATENT OFFICE AND OTHER OFFICES

Munich, April 2013

EXECUTIVE SUMMARY

- The forecasts and further analyses documented in this report originate from the results of the most recent annual Patent Filings Survey, carried out in the middle of 2012. The forecasts that are made for EPO Total filings exclude divisional filings.

- Based on this survey, Total filings growth at the European Patent Office for 2012 was estimated to be +4.7% versus 2011 filings.

- This forecast is in excellent agreement with actually observed growth from 2011 to 2012, which currently stands at 5.6%. Estimated errors associated with forecasts are low this year, lending additional confidence to this year's predictions.

- The survey forecast predicted 245 346 Total filings for 2012, compared to 247 433 actual Total filings in 2012.

- The minor underestimation of actual growth from 2011 to 2012, gives cause for optimism that the survey's two and three-year positive growth predictions will materialise.

- For 2013, the survey predicts +11.9% versus 2011, resulting in 262 090 Total filings at the EPO.

- For 2014, the final year for which a forecast was attempted based on this year's survey, +16.0% growth versus 2011 has been forecast, resulting in 271 727 filings.

- Estimates for growth of PCT applications entering the regional phase at EPO was not quite so positive (3.1% in 2012, 6% in 2013, and 2% in 2014).

- Estimates for worldwide first filings growth were essentially flat for 2012, to be followed by recovery from 2013 on (0% in 2012, 6% in 2013, 2% in 2014).

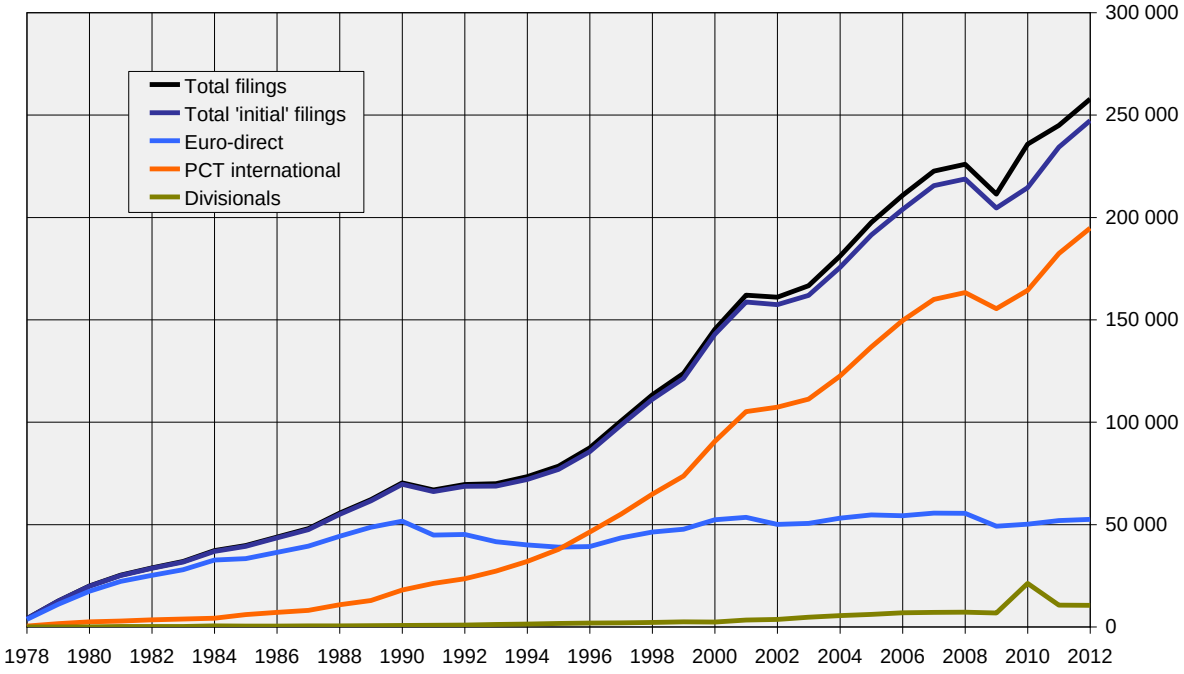
- From other information provided in the survey, an estimation can be made that 58% of EPO applicants are small and medium-sized enterprises (SMEs) according to the EU definition (with 95% confidence limits from 52% to 65%). Accordingly, the proportion of applications originating from SMEs is estimated at 19%.

Commentary by the European Patent Office

Each year, the EPO carries out a survey of filing intentions of applicants for European patents. This report concerns the survey done for us in the summer of 2012 by the Ipsos market research firm. The main use that is made of the survey is to provide information on probable filing developments for budgetary planning purposes. Applicants were approached for a Biggest group of about 400 largest clients and a Random group of about 2 800 from the general population with a random sampling method that preferentially selected larger applicants. The fieldwork period was from early May to mid-September 2012 and resulted in 757 responses.

The report highlights key findings, with more details appearing in annexes. The main items forecast are the numbers of direct European route filings (Euro-direct), PCT international phase filings (PCT-IP), which are together referred to as Total filings, and Euro-PCT regional phase filings (Euro-PCT-RP). An assessment is made of current results in comparison with those from previous surveys. The annexes describe the survey setup; fieldwork experiences and response rates; a collection of comments from participants; analytical methodology; forecasts broken down by technical areas; forecasts for worldwide first filings and for filings at other offices; and a description of respondent profiles including company economic attributes. Analyses are then provided of special questions from the current survey on the relationship of patent filings to R&D activities, growth and characteristics of European patent portfolios, and possible effects of the pending European Unitary Patent on patent filings. The remaining annexes report on methodological experiments and the sizes of the population and the samples.

Total European patent filings (Euro-direct + PCT international phase)



This diagram shows that Total filings increased in 2012. The survey forecast for 2012 by the favoured scenario came out quite close to the observed total, which gives some confidence for the projections from the same scenario for 2013 and 2014. As in the previous two years' survey reports, the forecasts in this report do not include divisional filings.

A new method was used to extract the samples of applicants from the EPO database, which depended on applicant names after replacement of all letters with capital letters. This may have been more successful than the previous approach because it turns out that the 2012 Total filings numbers were better estimated than current year forecasts in the earlier surveys. The effect may have been to consolidate applicants into slightly larger entities than had been done on average in the earlier surveys. Some evidence for this is that the finite population correction for the Random group (Section 9.4) increased slightly to 0.26 from 0.24 in 2011. A possibly related effect is given in Annex VI, Section 12.6, where the current survey estimates median R&D expenditures per worldwide first filing of € 450 000 in 2011. This is somewhat greater than € 261 000 in 2010, as was found in the 2011 survey, with levels in earlier surveys being not much more than € 300 000.

Another consequence of the new sampling scheme is that correction factors, to deal with "birth" and "death" effects in the population, are calculated as being smaller than in previous surveys (see Annex VIII). Therefore, and also because of reservations about their applicability when calculated over the fairly recent recession period, it was decided not to incorporate correction factors in the calculation of Total filings forecasts.

The favoured scenario for Total filings from the Random group involves summation of forecasts broken down by blocs of residence of the applicants (Europe, Japan, US, Others - see Table 12). This predicts 4.7% growth from 2011 to 2012, while the growth actually observed was not significantly statistically different at 5.6%. There also appears to have been a greater degree of consensus between respondents than in previous surveys regarding the path of filings growth, as is reflected in narrower 95% confidence limits for the forecasts. Various other breakdown analyses of the Random group results are shown, for example in Table 16, which is more topical. This shows a residence bloc breakdown as above, but with first and subsequent filings combined for the US bloc only. Regarding priority rights in patent applications, historically, there was a first-to-invent system in the US rather than a first-to-file system as in most other parts of the world. This leads to some doubts about whether the US-based respondents have always been able to distinguish counts of their first and subsequent filings properly in their responses. Since the US will move to a first-to-file system in 2013, it will be interesting to monitor the situation going forward.

From the Biggest group, the forecasts for Total filings that were made without a bloc breakdown agree with the favoured scenario from the Random group for 2012, with positive growth thereafter but a little lower than the favoured scenario. No follow-up survey was carried out this year.

The growth estimates for Euro-PCT-RP filings from 2011 to 2012 are, while positive, somewhat lower than the growth that was observed. In fact, the forecasts in the previous 2011 survey for 2012 are closer to the outturn than the new forecasts are here. Correction factors for Euro-PCT-RP filings (alone) are given in Annex VIII. While the correction factor for 2012 is positive and helps a little to reduce the discrepancy between the forecast and

observed count, it does not solve the situation. As with correction factors for Total filings mentioned above, it seems better not to use them in the current survey. But ways to better estimate counts of Euro-PCT-RP filings in future surveys need to be studied more thoroughly.

Again this year the responses of EPO applicants in terms of their worldwide first filings are mapped onto the presumed overall worldwide first filings out to 2014 (see Annex V). Worldwide first filings growth is predicted to have been almost static in 2012 compared to 2011, but will be followed by positive growth in 2013 and 2014. This cannot be checked for the time being because collected returns from all the patent offices have not yet been published by WIPO. This result is strictly applicable only to worldwide first filings by EPO applicants and is also subject to statistical error (95% confidence limits for growth 2011 to 2012 are between -8% and +8%, see Table 47).

There are variations from year to year in the statistics given to estimate economic parameters of companies. Although there may be some underlying changes over time, these are usually gradual and most of the differences of averages between years are due to sampling errors. This year, a more general method was developed to obtain standard errors and hence the quoted 95% confidence limits for the weighted means. However, the reported weighted medians should be less biased as estimates of the medians of the asymmetrically distributed populations of quantitative, size-related measures. So we hope to develop methods to calculate 95% confidence limits for the weighted medians as well.

The subject of the size of applicants is taken further this year by questions to elicit the status of applicants with respect to being small and medium-sized enterprises (SMEs) in terms of the European Union definition (including individual inventors). A direct question was asked on this, and supporting questions were also asked on components of the definition (e.g. numbers of employees, balance sheet and turnover, ownership by or of other entities). As shown in Tables 63 to 67 of Section 12.6, a weighted estimate of the proportion of SMEs from the Random group is 58%, with 95% confidence limits from 52% to 65%. The estimate is somewhat less than the estimate of 64% of applicants with a maximum of 249 employees in Fig. 10 of Section 12.4, which is expected because the criteria for an SME are stricter than a limit on numbers of employees. Variations in the proportions of SMEs between residence blocs are large, with estimates as follows (from Table 65): Overall 58%, EPC 57%, Japan 14%, US 77%, Others 60%.

Parallel calculations for proportions of EPO applications coming from SMEs do not appear in Section 12.4. The following provisional estimates have been made by relating the respondents back to EPO's database counts of their applications (Euro-direct + Euro-PCT regional phase, without divisionals in 2011): Overall 19%, EPC 20%, Japan 3%, US 27%, Others 20%.

Note that, in the above, SMEs are private enterprises, but the calculated proportions relate to all EPO applicants and applications respectively. Applicants answering for entities larger or smaller than themselves (as indicated on the first page of the questionnaire) were excluded in an effort to reduce bias. Fairly wide 95% confidence limits apply to these estimates from the survey because the information comes from a subset of all applicants.

In Annex VII (Section 13), there are analyses of responses to other questions. In Section 13.1, one can expect that there is some movement in the causative factors for first patent

filings over the past ten years, away from relating to R&D outlays and towards relating to strategic management decisions. The effect seems to be rather slight and suggests that patenting has not become very much more politicised within companies over the period. Section 13.2 provides some analysis of the constituents and growth of European patent portfolios held by companies, again across the past ten years. It should be borne in mind that the reported portfolio growth involves applicants that were active in 2011, and takes no account of other applicants that had a portfolio previously and did not file in 2011, which may preferentially contain companies with portfolio sizes reduced over time. This section also estimates that applicants regret having filed only about 3% of the European patents in their portfolios. There are some caveats on the interpretation of this result that are discussed in Section 13.2. In Section 13.3, there is an estimate that 8% of applicants recently started making more applications than they would otherwise have done, because of possible advantages later on in case the planned Unitary Patent is introduced. This is again an interesting result whose interpretation should be made carefully, and which will also be useful to the EPO for its planning purposes.

We are very grateful to the respondents for having provided the data to allow for the various forecasts and estimations in this report. Please participate in this survey in case you are approached with a request to do so in future.

We will be happy to receive your feedback on any of the issues that are covered in this report. For this, send an e-mail to the address below.

European Patent Office, Munich **controlling@epo.org**

Table of Contents

Index of figures

Index of tables

1 Introduction

1.1 Background and objectives

Since 1996, the European Patent Office (EPO) has carried out the annual "Patent Filings" (formerly “Future Filings” and “Applicant Panel”) survey among a group of its patent applicants. Applicants are surveyed with the main objective of predicting the number of patent filings for the base year and the following two years. The EPO uses the predictions as one of the ways of allocating resources in order to ensure a high service level when processing future patent filings.

In 2012, the seventeenth in the series of surveys took place. The interviews and data collection were undertaken by Ipsos (formerly Synovate), providing the EPO with the benefit of joint experience previously gained in similar surveys from 2001 to 2011. For the ninth year in succession, Ipsos was also in charge of the data analysis and interpretation in 2012.

The primary objective of the survey was to calculate quantitative forecasts of patent filings at the EPO and other patent offices by various filing routes and applicants' residence blocs (EPC[1], Japan, USA, Others). The latter breakdown may be of special interest when assessing the impact of varying economic environments around the globe. A secondary objective was to explore technological areas of patenting in order to make more detailed forecasts and to explore the relationship between R&D expenditures and patent applications. Data were collected on the basis of 14 joint clusters, corresponding to the structure in which the EPO has organised its search, examination and opposition departments, and then amalgamated into five rather more meaningful “mega clusters”. The opportunity was also taken to ask for information on other characteristics of patenting firms, and their views on aspects of the patenting procedure in Europe.

1.2 Content and structure of this report

The survey involves establishing forecasts from basic filing types and residence blocs of the applicants. The basic filings types at the EPO are first and subsequent filings, each of which can be either Euro-direct or PCT international phase filings (PCT-IP). The PCT-IP applications can later on become PCT applications entering the regional phase (Euro-PCT-RP). At other offices, there are national filings and PCT applications entering the national phase (PCT-NP), the latter of which also originate as PCT-IP applications.

Section 1.3 outlines the characteristics of this year’s survey and sample groups. **Section 2** provides high-level summaries of the predicted counts of Total filings and growth rates for 2012, 2013, and 2014 based on the recommended forecasting method. **Section 3** summarises forecasts (for Euro-direct and PCT-IP filings) based on two sample groups using the different forecasting methods, and puts the report into perspective by comparing

[1] European Patent Convention (EPC) contracting states, considered here as at March 2012 with 38 members.

results with those from previous surveys dating back to 2003. **Section 4** begins by describing the statistical methodologies employed for forecasting growth, and then provides forecast results (for Euro-direct and PCT-IP filings) for both sample groups with the various breakdown scenarios employed. **Section 5** focuses on forecasts for PCT applications entering the regional filing phase (Euro-PCT-RP). The main part of the report wraps up with conclusions and an outlook in **Section 6**.

Annex I describes the survey fieldwork methodology as well as this year's questionnaire, and details the data validation procedures that were employed. **Annex II** reports on the comments to the survey received from respondents. **Annex III** contains details of the analytical methodology employed. **Annex IV** reports on forecasting results broken down by mega cluster. **Annex V** provides forecasts for applications at other national patent offices (national filings including worldwide first filings and national phase PCT filings). **Annex VI** provides summary statistics and analyses respondents based on economic characteristics of EPO applicants in 2011, including R&D budgets, inventions, first filings, sales, numbers of employees (all and inventive), and some ratios including proportions of small and medium-sized enterprises. **Annex VII** reports on additional topics covered in this year's survey. **Annex VIII** gives details on the estimation of possible correction factors based on birth/death effects. Finally, **Annex IX** reports on population sizes and sample sizes underlying the 2012 survey.

1.3 The 2012 survey

The survey design was to a large extent similar to that of the previous years, using overlapping Biggest and Random groups of selected applicants. Sampling for both target groups was based on the raw name of each applicant after capitalising it and the main results for EPO filings were calculated on counts excluding divisional applications.

The total number of applicants involved was 2 819, with most of the Biggest group also appearing in the Random group. The survey covered applicants for about 30% of the applications at the EPO (Euro-direct and PCT-IP filing numbers of Random sample relating to population, see **Annex IX**).

The survey was carried out via telephone and mail interviews with pre-established contact persons. Questionnaires were sent out from the beginning of May 2012, with interviews being completed by mid-September. In total, 757 interviews were completed in 2012.

In the first stage, valid addresses were found for 2 717 of the 2 819 applicants. Contacts were established for 2 307 applicants. The overall response rate in terms of the number of valid addresses was 27.9% (757 out of 2 717), lower than in the previous 2011 survey (30.5% or 782 out of 2 568) for the same comparisons.

The EPO provided two **gross samples** of applicants drawn from the EPO database of applications (EPASYS) in early 2012.[2]

[2] The sampling procedures were done on database counts for Euro-direct and Euro-PCT regional phase filings only (PCT-IP filings were ignored for the sampling due to a lack of timeliness).

- "Biggest": This sample comprises the 429 largest applicants and was designed to allow for separate analysis of the intentions of the biggest applicants.
- "Random": This sample includes 2 773 applicants and was designed to represent all applicants of the parent population. It was obtained from a simple random sample of applications, with the effect of over-weighting large applicants due to their larger numbers of applications.

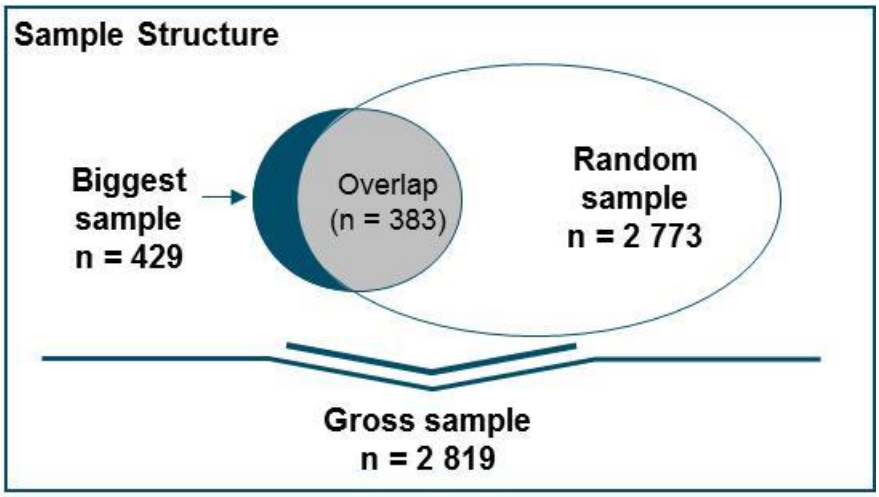


Figure 1: Sample structure of this year's survey

These samples were drawn separately, and the Random and Biggest groups contain an overlap of 383 large applicants that are part of both groups. Without double counting caused by the overlap, the gross sample included a total of 2 819 applicant addresses. Both samples should adequately represent the three regions of Europe, the US, and Japan. Other countries comprise a residual group for the rest of the world. The sampling scheme for the Random group should give Other countries an adequate representation in terms of their number of patent applications to the EPO, except perhaps where there has been fast growth in PCT-IP filings from a low level in the most recent years.

The questionnaire used for data collection was broadly similar to the one used in 2011 (see **Annex I**). It contained a full matrix of questions on patent filings and expectations for patent filings for the coming three years, in this case for 2012, 2013, and 2014, itemised by first and subsequent filings, not only at the EPO but also at other main worldwide patent offices.[3] Apart from the main questions on predicting numbers of patent filings, questions

[3] An option was provided to give information in the form of growth rates rather than actual numbers. Growth rates on a year-by-year basis were a permitted alternative because previous experience had shown that some interviewees had difficulties calculating growth rates from a single base year. However, for this report we adopt the convention of indicating growth rates with respect to the base year (in this case 2011).
Also, respondents were asked to fill in a zero rather than leave the field blank for filing types and years with no activity. In addition, this year follow-up calls were undertaken more systematically in

were asked to elicit information on economic characteristics of applicants, including R&D expenditures and first filings by 14 joint clusters (roughly equivalent to industry segments) that are relevant to EPO operations. Descriptive information was also collected on company type and size in terms of persons employed, worldwide turnover and balance sheet total, as well as number of staff that were involved in making inventions. New questions were added on details regarding the relationship of patent filings to R&D activities, to classify companies into small and medium-sized enterprises (SME), on the structure of inventive staff regarding qualification and focus of work, on European patent portfolio sizes, and on the effect of a possible future Unitary Patent.

For details of parent population, target persons, questionnaire topics, data collection procedure, and response statistics, refer also to **Annex I**.

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case certain forecasts were left blank. These actions resulted in a higher base of useful answers to calculate growth rates.

Applicants were also asked whether they were able to provide all the filing information asked for in the upper matrix of Section B of the questionnaire, and specify incomplete information in case they were not able to.

2 Forecast of future patent filings at EPO

All actual and estimated filing totals refer to filings excluding divisional filings[4]. As a consequence, whenever this report refers to filings or Total filings, the counts excluding divisional filings are meant. It should be noted that, while this procedure ensures that all filing numbers contained are consistent (in the sense that they exclude divisional filings), it also means that filing numbers cannot easily be compared to filing numbers stated in reports of this survey prior to 2010.

Based on the recommended forecast method explained in **Section 3**, the estimated growth rates (with respect to 2011) for Total filings excluding divisional filings were calculated as **4.7% for 2012, 11.9% for 2013**, and **16.0% for 2014**. The **overall survey forecast** for Total filings excluding divisionals **in 2012 is 245 346,** with approximate 95% confidence limits of **238 788 to 251 903**, resulting in a deviation[5] of 2.7%. This forecast agrees quite well with the currently assumed figure of 247 433 for actual 2012 filings excluding divisionals, and the forecast is well within the 95% confidence limit of the forecast. The estimated percentage of PCT-IP filings amongst Total filings for 2012 is 79.1%, which is almost the same as the actual value of 78.7%. **For 2013**, the recommended forecast method predicts **262 090** Total filings with approximate 95% confidence limits of **251 178 and 273 003. For 2014**, the recommended method estimates **271 727** Total filings with approximate 95% confidence limits of **256 786 and 286 668**.

As was the case last year, estimates based on the Biggest group are generally within the range of estimates calculated on the basis of the Random group. However, contrary to the Random group estimates, the estimates based on the Biggest group and employing a residence bloc breakdown predict lower growth than the estimate without further breakdown.

In summary, this year's survey predicts strong growth in filing totals for the three years under review. The recommended forecast anticipates double-digit percentage growth in 2013 when compared to 2011, and for the forecasts including cases with qualifying comments, all but the winsorised forecast (in **Tables 1** and **2** below) predict double-digit percentage growth in 2014 compared to 2011. Compared to last year, this year's forecasts exhibit smaller deviations and the agreement between different forecast approaches is also better than last year.

[4] Divisional filings normally make up only a small proportion of Total filings, although they have been on a steady rise over the past decade and a rule change led to a surplus of divisional filings in 2010. The survey question on filings at EPO specifically excludes divisional filings in the counts, so it was again decided to exclude divisional filings from all the actual and predicted filing counts. See the *Commentary by the European Patent Office* of the 2010 Future Filings Survey for further details.

[5] Deviation is the distance from the forecast filings number to the lower 95% confidence limit of the forecast as a percentage of the forecast filings number.

As in previous years, it was also possible to analyse the questions on PCT filings entering the regional phase at the EPO (Euro-PCT-RP). For the Biggest group, growth rates (compared with 2011) can be estimated at 4.3% in 2012, 8.6% in 2013, and 11.2% in 2014. For the Random group, growth rates can be estimated at 3.1% in 2012, 9.3% in 2013, and 11.8% in 2014. For Euro-PCT-RP filings this year, estimates based on the Biggest group are generally in good agreement with the estimates based on the Random group.

3 Summary of forecasts and comparison with previous Patent Filings Surveys

3.1 Summary of this year's forecasts for Total filings

This report presents and discusses a variety of different forecasting approaches. Overviews of the main results presented in **Section 4** are summarised in **Table 1** with respect to growth rates and in **Table 2** for the resulting predicted filing numbers.

Comparison of forecasts: Growth from 2011
Euro-direct and PCT-IP

			Year					
			2012		2013		2014	
Qualifying comments	Group	Breakdown	Growth rate	Deviation*	Growth rate	Deviation*	Growth rate	Deviation*
Included	Biggest	None	4.7%		8.4%		11.0%	
Included	Biggest	Residence bloc	2.6%		6.9%		9.9%	
Included	Random	None	1.0%	2.8%	6.8%	3.4%	10.3%	3.9%
Included	Random	None (winsorized)	1.1%	2.6%	6.3%	3.0%	9.7%	3.5%
Included	Random	None (Euro-direct and PCT-IP filings combined)	3.3%	3.0%	8.7%	3.4%	12.9%	3.8%
Included	Random	Residence bloc	4.7%	2.7%	11.9%	4.2%	16.0%	5.5%
Included	Random	Residence bloc (winsorized)	4.5%	2.5%	10.2%	3.4%	13.9%	4.3%
Included	Random	Residence bloc (ED and PCT-IP filings combined)	6.5%	2.8%	12.5%	4.1%	16.7%	5.3%
Included	Random	Residence bloc (FF and SF combined for US residence bloc)	4.7%	2.8%	10.1%	4.1%	14.4%	5.2%
Excluded	Biggest	None	4.6%		8.1%		10.7%	
Excluded	Biggest	Residence bloc	2.5%		6.4%		9.5%	
Excluded	Random	None	0.4%	2.9%	5.6%	3.4%	8.8%	3.9%
Excluded	Random	None (Euro-direct and PCT-IP filings combined)	2.6%	3.0%	7.5%	3.4%	11.5%	3.9%
Excluded	Random	Residence bloc	3.9%	2.7%	10.7%	4.2%	14.5%	5.5%
Excluded	Random	Residence bloc (ED and PCT-IP filings combined)	5.9%	2.9%	11.6%	4.3%	15.5%	5.4%
Excluded	Random	Residence bloc (FF and SF combined for US residence bloc)	3.7%	2.7%	8.8%	4.1%	12.7%	5.0%

*) **Deviation** corresponds to the distance from the forecasted filings to the lower 95% confidence limit (as % of the forecasted filings)

Table 1: Predicted growth rates for Total filings by forecasting method

Comparison of forecasts: Predicted total filings
Euro-direct and PCT-IP
LCL/UCL indicates lower/upper 95% confidence limit

			Year									
			2012				2013			2014		
Qualifying comments	Group	Breakdown	Predicted filings	LCL	UCL	RMSEF*	Predicted filings	LCL	UCL	Predicted filings	LCL	UCL
Included	Biggest	None	245 211				253 902			259 949		
Included	Biggest	Residence bloc	240 435				250 320			257 392		
Included	Random	None	236 596	229 927	243 266	11 358	250 259	241 673	258 846	258 440	248 417	268 464
Included	Random	None (winsorized)	236 810	230 653	242 967	11 077	249 033	241 449	256 618	256 878	247 929	265 828
Included	Random	None (Euro-direct and PCT-IP filings combined)	242 069	234 873	249 266	6 500	254 546	245 921	263 170	264 432	254 414	274 451
Included	Random	Residence bloc	245 346	238 788	251 903	3 943	262 090	251 178	273 003	271 727	256 786	286 668
Included	Random	Residence bloc (winsorized)	244 737	238 732	250 741	4 081	258 253	249 462	267 044	266 846	255 397	278 294
Included	Random	Residence bloc (ED and PCT-IP filings combined)	249 381	242 405	256 358	4 058	263 440	252 571	274 308	273 284	258 745	287 823
Included	Random	Residence bloc (FF and SF combined for US residence bloc)	245 236	238 387	252 085	4 128	257 903	247 279	268 527	267 933	254 095	281 772
Excluded	Biggest	None	245 004				253 202			259 339		
Excluded	Biggest	Residence bloc	240 105				249 367			256 552		
Excluded	Random	None	235 121	228 418	241 824	12 778	247 461	239 059	255 863	254 999	245 113	264 886
Excluded	Random	None (Euro-direct and PCT-IP filings combined)	240 455	233 181	247 729	7 904	251 926	243 238	260 613	261 239	251 137	271 342
Excluded	Random	Residence bloc	243 304	236 848	249 760	5 282	259 323	248 461	270 186	268 323	253 546	283 101
Excluded	Random	Residence bloc (ED and PCT-IP filings combined)	248 120	240 976	255 265	3 709	261 459	250 337	272 580	270 687	255 998	285 375
Excluded	Random	Residence bloc (FF and SF combined for US residence bloc)	242 911	236 446	249 377	5 597	254 789	244 439	265 140	264 111	250 779	277 444
		Actual Filings	247 433									

*) **RMSEF:** Root mean squared error of forecast

Table 2: Predicted Total filings by forecasting method

As in last year's survey, forecasts based on the Biggest group are generally in good agreement with those based on the Random group.

A priori, the Biggest group is not the preferred sample on which to base overall estimates of growth rates and filings, since its composition is skewed to large companies. Although it gives valuable information about the intentions of the small number of major applicants to EPO, it is not representative of the overall EPO applicant population, whereas the Random group represents a probabilistic sample of the totality of the EPO applicant population. Therefore, it is usually recommended to use the results from the Random group.

When considering which forecasting method to use, our recommendation is to use the one that minimises the "root mean squared error of forecast" (RMSEF)[6]. The RMSEF for each estimate is shown in **Table 2**. Based on this criterion, we recommend using the forecast broken down by residence bloc. In addition to minimising the RMSEF, its one-year estimate aligns best of all estimates with the current expectation of actual filings in 2012. Moreover, it is among the estimates with the lowest deviations for all forecast years. The filing estimates using the recommended prediction method, as shown in **Figure 2** are **245 346 for 2012, 262 090 for 2013**, and **271 727 for 2014**. It should be noted that for the two and three-year time horizon, our recommended forecast is somewhat more optimistic than the long-term estimates based on the Biggest group.

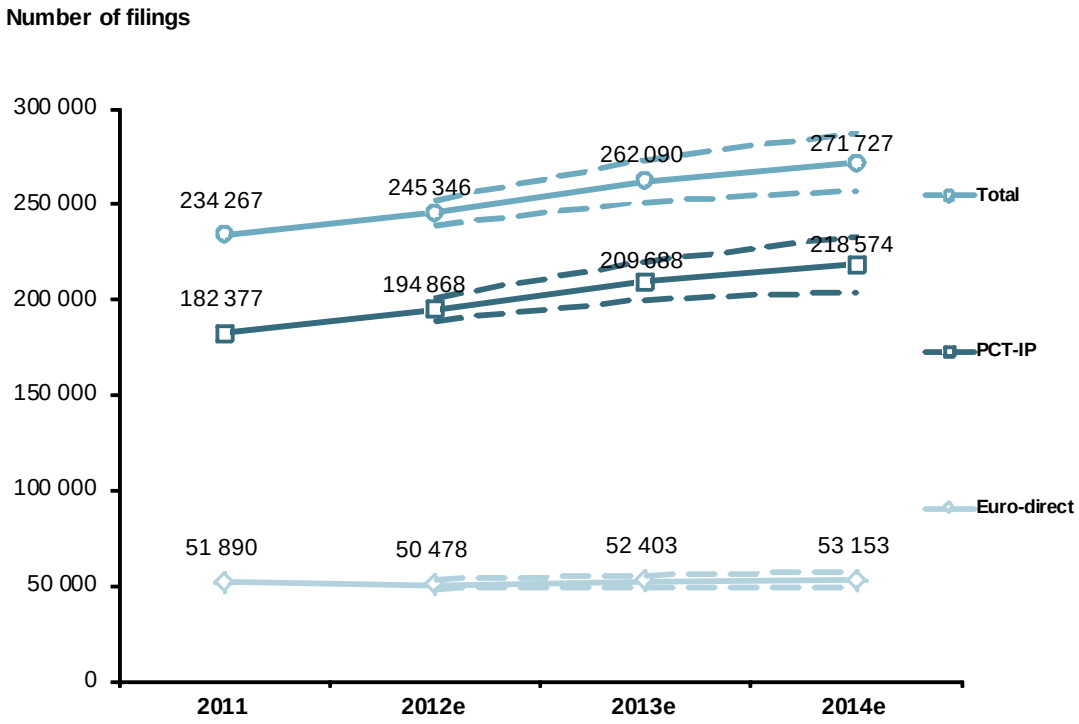


Figure 2: Forecasts for EPO filings based on the recommended forecast – Random group with breakdown by residence bloc (dotted lines illustrate 95% confidence limits)

[6] See Section 9.3 for a detailed explanation of the RMSEF.

Due to the design of the survey, growth estimates and predicted filing totals based purely on these survey data cannot properly account for birth and death effects in the true EPO applicant population. **Annex VIII** details the calculation of correction factors to overcome this issue. Since these correction factors are quite small for the 2012 survey, separate predictions including correction factors will not be published.

3.2 Comparison with previous Patent Filings Surveys

Figure 3 and **Table 3** as well as **Figure 4** and **Table 4** compare the forecasting results of previous surveys since 2003 for the Biggest and the Random groups, respectively.

The **precision of predictions** from previous years' surveys can be evaluated by comparison with actual filing numbers, which are given in the last row of the respective tables. The forecast numbers are given as percentage values of the actual filings in brackets. On the whole, the forecast deviation in terms of the percentage of actual filings remains between 90% and 105%, with the notable exception of estimates based on the 2007 and 2008 surveys for the crisis-affected years of 2009 and 2010. More recently, predictions from the 2010 and 2011 surveys appear to have been somewhat too pessimistic in hindsight.

Concerning which sample to base estimates on, in retrospect the estimates based on the Random group were slightly more accurate than the estimates based on the Biggest group, with the exception of estimates of the 2007 survey for 2008 and the 2008 survey for 2009 and 2010, where the Biggest group can now be seen to have fared better. For 2010 and 2011, the Biggest group estimates again appear to have been somewhat too pessimistic.

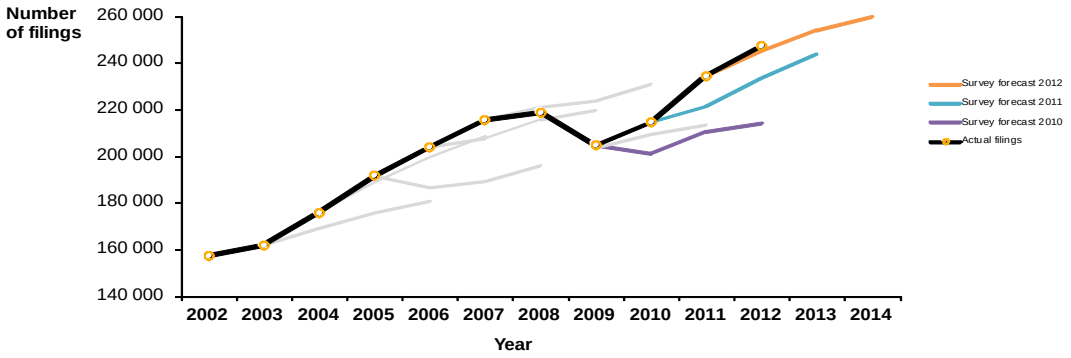


Figure 3: Comparison of forecasts since 2003 (Biggest group with no subsidiary breakdown)

Number of filings* forecasted based on …	Forecasting Year												
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
… 2003 survey (in % of actual filings)	**157 434** (=actual)	**-****	**-****	**-****									
… 2004 survey (in % of actual filings)		**161 932** (=actual)	**168 905** (96%)	**175 647** (92%)	**180 869** (89%)								
… 2005 survey (in % of actual filings)			**175 643** (=actual)	**188 713** (99%)	**199 455** (98%)	**208 532** (97%)							
… 2006 survey (in % of actual filings)				**191 499** (=actual)	**186 500** (91%)	**189 297** (88%)	**195 854** (90%)						
… 2007 survey (in % of actual filings)					**204 027** (=actual)	**207 557** (96%)	**215 853** (99%)	**219 717** (107%)					
… 2008 survey (in % of actual filings)						**215 586** (=actual)	**221 086** (101%)	**223 897** (109%)	**230 688** (108%)				
… 2009 survey (in % of actual filings)							**218 757** (=actual)	**203 663** (100%)	**209 379** (98%)	**213 281** (91%)			
… 2010 survey (in % of actual filings)								**204 600** (=actual)	**201 136** (94%)	**210 322** (90%)	**214 193** (87%)		
… 2011 survey (in % of actual filings)									**214 430** (=actual)	**221 120** (94%)	**233 136** (94%)	**243 874** (N/A)	
… 2012 survey (in % of actual filings)										**234 267** (=actual)	**245 211** (99%)	**253 902** (N/A)	**259 949** (N/A)
Actual filings	**157 434**	**161 932**	**175 643**	**191 499**	**204 027**	**215 586**	**218 757**	**204 600**	**214 430**	**234 267**	**247 433**	**N/A**	**N/A**

*) First and subsequent Euro-direct and Euro-PCT-IP filings excluding divisional filings

**) The 2003 survey did not analyze the Biggest group without subsidiary breakdown

Table 3: Comparison of forecasts since 2003 (Biggest group with no subsidiary breakdown)

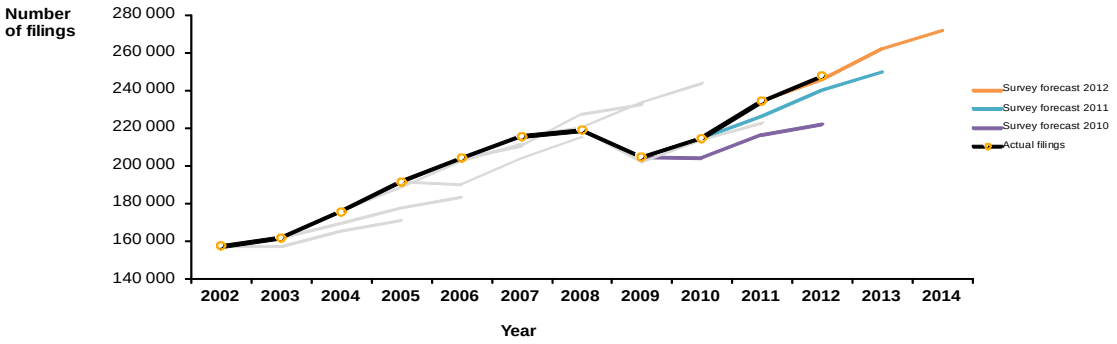


Figure 4: Comparison of recommended forecasts since 2003 (Random group)

Survey year	Recommended forecast method	Forecast*)	Forecasting Year 2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
2003	**Random group** with residence bloc breakdown (EPC and Others combined)	**Number of filings** (in % of actual filings) *Lower confidence limit* *Upper confidence limit*	**157 434** (=actual)	**157 121** (97%) *155 007* *166 525*	**165 668** (94%) *160 982* *178 091*	**171 061** (89%) *166 171* *184 680*									
2004	**Random group** without subsidiary breakdown	**Number of filings** (in % of actual filings) *Lower confidence limit* *Upper confidence limit*		**161 932** (=actual)	**169 516** (97%) *164 250* *184 661*	**177 656** (93%) *170 228* *195 439*	**183 606** (90%) *175 084* *202 830*								
2005	**Random group** without subsidiary breakdown	**Number of filings** (in % of actual filings) *Lower confidence limit* *Upper confidence limit*			**175 643** (=actual)	**188 798** (99%) *186 324* *203 023*	**202 471** (99%) *197 983* *219 560*	**211 427** (98%) *205 505* *230 509*							
2006	**Random group** with residence bloc breakdown	**Number of filings** (in % of actual filings) *Lower confidence limit* *Upper confidence limit*				**191 499** (=actual)	**190 338** (93%) *178 298* *214 506*	**203 939** (95%) *187 051* *233 821*	**215 408** (98%) *196 847* *247 694*						
2007	**Random&Smallest group** without subsidiary breakdown	**Number of filings** (in % of actual filings) *Lower confidence limit* *Upper confidence limit*					**204 027** (=actual)	**210 409** (98%) *209 961* *224 927*	**227 451** (104%) *227 359* *242 753*	**232 362** (114%) *231 081* *249 180*					
2008	**Random group** without subsidiary breakdown	**Number of filings** (in % of actual filings) *Lower confidence limit* *Upper confidence limit*						**215 586** (=actual)	**220 374** (101%) *219 446* *234 509*	**233 575** (114%) *231 547* *249 601*	**243 890** (114%) *240 746* *261 649*				
2009	**Random group** without subsidiary breakdown Euro-direct and Euro-PCT-IP filings combined	**Number of filings** (in % of actual filings) *Lower confidence limit* *Upper confidence limit*							**218 757** (=actual)	**202 063** (99%) *201 830* *216 251*	**213 529** (100%) *211 940* *229 862*	**222 822** (95%) *220 420* *240 610*			
2010	**Random group** without subsidiary breakdown Euro-direct and Euro-PCT-IP filings combined	**Number of filings** (in % of actual filings) *Lower confidence limit* *Upper confidence limit*								**204 600** (=actual)	**204 354** (95%) *199 117* *209 591*	**216 620** (92%) *210 324* *222 915*	**222 160** (90%) *215 126* *229 195*		
2011	**Random group** with residence bloc breakdown (winsorized)	**Number of filings** (in % of actual filings) *Lower confidence limit* *Upper confidence limit*									**214 430** (=actual)	**226 027** (96%) *212 517* *239 536*	**239 711** (97%) *223 930* *255 492*	**249 925** (N/A) *232 328* *267 522*	
2012	**Random group** with residence bloc breakdown	**Number of filings** (in % of actual filings) *Lower confidence limit* *Upper confidence limit*										**234 267** (=actual)	**245 346** (99%) *238 788* *251 903*	**262 090** (N/A) *251 178* *273 003*	**271 727** (N/A) *256 786* *286 668*
		Actual filings	**157 434**	**161 932**	**175 643**	**191 499**	**204 027**	**215 586**	**218 757**	**204 600**	**214 430**	**234 267**	**247 433**	**N/A**	**N/A**

*) First and subsequent Euro-direct and Euro-PCT-IP filings excluding divisional filings

Table 4: Comparison of recommended forecasts since 2003 (Random group)

4 Methodology and individual forecasts

Section 4.1 details the methodology employed for obtaining the growth forecasts. In **Sections 4.2 and 4.3,** results for the Biggest group and the Random group are presented, respectively.

4.1 Methodology and structure of results

The main part of the survey covers the predictions of future patent filings. The basic approach was the same as in the previous surveys. For a detailed description of the methodology see the *Applicant Panel Survey 2003 report*. The survey data from the main questions in **Part B** of the questionnaire are used to measure patent growth rates.

For the Biggest group, growth rates are calculated as a **Composite index**.[7] Growth rates in the Random group are calculated as a **Q index**.[8] This involves weighting each applicant's response with a so-called Poisson weight, to account for the fact that the Random group is a random sample of applications, rather than of applicants. The number of filings an applicant made is a central factor in the determination of the Poisson weight. Traditionally, and in order to align with the sampling procedure, this number of filings was taken from the EPO's database recorded for each applicant. Using these "database-tethered Poisson weights" ensures that the number of filings which directly determine each applicant's probability of inclusion in the sample is used in the weighting procedure.

However, the respondent is also asked to give the number of filings that were made in the base year on the questionnaire, and this may differ from the number recorded in the EPO's database. One of the main reasons for this is that the respondent may actually be answering for a different, or overlapping, entity to the one that was selected as assumed from the EPO's database. Specifically, the respondent may represent a smaller or larger company than the database entity does. The extent of such mismatching was minimised by selecting applicants from the database on the basis of identical or very similar names, rather than by using applicant code numbers.

As in previous years, a natural logarithmic transformation was applied to the data before calculating the Q index.[9] A finite population correction (fpc) was included when calculating the confidence limits for forecasts of total patent filings. Details on the construction of the finite population correction are given in the *Applicant Panel Survey 2006 report*[10]. Specific fpc values used this year are explained in **Annex III, Section 9.4**.

When analysing data subsets, e.g. itemisations by residence bloc or mega cluster, cases arise where the sample size falls below a critical threshold of five respondents. In such cases, for either the Composite index or the Q index, replacement is done by a growth value taken from the corresponding analysis on the next available level of aggregation. In

[7] Cf. Applicant Panel Survey 2001 report: Annex III.
[8] Cf. Applicant Panel Survey 2002 report: Section IV.1, Annex IV.
[9] Cf. Applicant Panel Survey 2002 report: Annex IV.
[10] Cf. Applicant Panel Survey 2006 report: Annex VII, page 79.

the results tables, the replacement of growth indices with aggregated values is marked with an asterisk (*).

Once the growth indices were calculated based on the survey results, they were multiplied by the actual numbers of filings (excluding divisional filings) in the 2011 base year in order to generate explicit forecasts. Data on Euro-direct, PCT-IP and Euro-PCT-RP filings for 2011 and 2012 were supplied by the EPO on 15 February 2013, and reflect the status of the database about one week before that date.

In many cases, the responses on growth forecasts in the questionnaire (**Part B**) made it necessary for the researchers to validate them, usually by conducting a clarifying conversation with the respondent. After the validation attempts, the validity and integrity of some responses remained doubtful and such cases were marked with a **critical code**. In this year's survey, 40 cases, or 5.3%, of survey responses were ultimately marked with a critical code. There are also non-critical codes. For details, refer to the plausibility checks described in **Annex I, Section 7.6**.

As in previous years, all growth forecasts were carried out twice: once on the full dataset including those cases marked with a critical code, and once on a reduced set of cases which do not carry any critical code. The summary tables shown in **Section 3.1** thus show results for both sets of data, while the detailed tables in this report always refer to the full dataset including cases with critical codes (unless explicitly stated otherwise).

The patent filing predictions are presented in various **breakdown scenarios**. Based on the resulting forecasts, an overall growth forecast is derived for each year based on an accumulation of the individual forecasts. The breakdown scenarios examined that are based on so-called mega clusters are of some interest for the EPO. Mega cluster forecasts are shown as growth rate forecasts only, and appear in **Annex IV**.

As a means of analysing and reducing distortions by outliers, the technique of **winsorisation** was applied to some of the forecasts as an additional forecast approach. See **Section 9.5** for details on winsorisation.

4.2 Biggest group

This year, the Biggest group is based on a sample of 427 addresses found for Euro-direct filings and Euro-PCT-RP filings, comprising applicants making at least 35 such applications (excluding divisionals) in 2011. From this group, 164 responded to the 2012 Patent Filings Survey (38.4%).

Using the Composite index (CI), detailed information on the forecasts by filing type and route are shown in **Table 5** and **Figure 5** (no subsidiary breakdown). **Table 6** shows details of the forecasts by filing type and route, broken down by residence bloc. The implied percentage of PCT-IP of 78.1% based on this forecast slightly underestimates the actual percentage of PCT-IP filings of 78.7% in 2012. No confidence limits are given for the estimates as this is a survey of the intentions of the Biggest applicants and not of a random statistical sample.

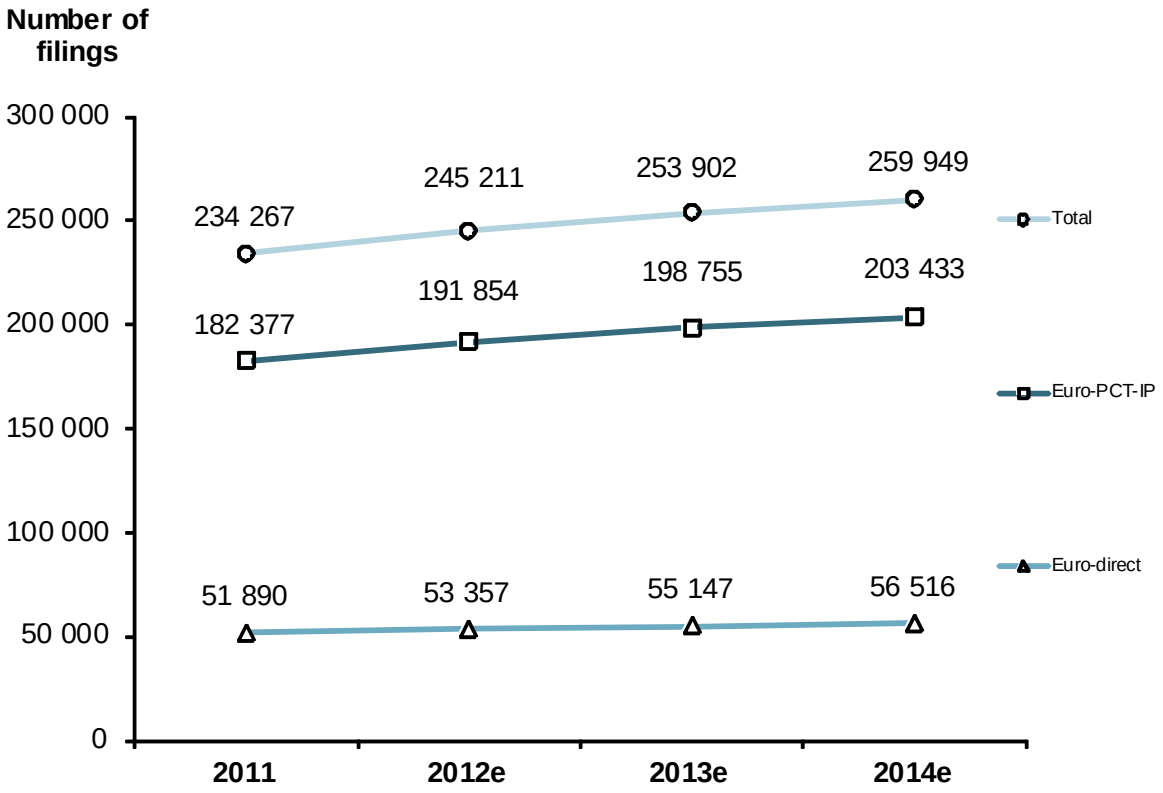


Figure 5: Forecasts for EPO filings – Biggest group with no subsidiary breakdown

Biggest group (including critical comments)
No subsidiary breakdown
Composite indices

			Year										
			2011	2012				2013			2014		
Filing type	**Filing route**	**Res. bloc**	Actual filings	Cases 12	Index 12	Predicted filings	Actual filings	Cases 13	Index 13	Predicted filings	Cases 14	Index 14	Predicted filings
First	Euro-direct	Total	20 291	69	0.9840	19 967	20 698	64	1.0227	20 752	64	1.0454	21 213
	Euro-PCT-IP	Total	19 140	46	1.0816	20 701	19 902	46	1.1149	21 338	45	1.1393	21 806
Subsequent	Euro-direct	Total	31 599	91	1.0567	33 390	32 100	82	1.0885	34 395	81	1.1172	35 303
	Euro-PCT-IP	Total	163 237	117	1.0485	171 153	174 734	108	1.0869	177 417	106	1.1127	181 628
All	Euro-direct	Total	51 890			53 357	52 798			55 147			56 516
	Euro-PCT-IP	Total	182 377			191 854	194 635			198 755			203 433
Grand total		**Total**	**234 267**			**245 211**	**247 433**			**253 902**			**259 949**
Growth from 2011						**4.7%**	**5.6%**			**8.4%**			**11.0%**
Implied % Euro-PCT-IP			**77.9%**			**78.2%**	**78.7%**			**78.3%**			**78.3%**

Table 5: Forecasts for EPO filings – Biggest group with no subsidiary breakdown

Biggest group (including critical comments)
Breakdown by residence bloc
Composite indices

			Year										
			2011	2012				2013			2014		
Filing type	**Filing route**	**Res. bloc**	Actual filings	Cases 12	Index 12	Predicted filings	Actual filings	Cases 13	Index 13	Predicted filings	Cases 14	Index 14	Predicted filings
First	Euro-direct	EP	18 159	62	0.9792	17 780	18 752	57	1.0146	18 424	57	1.0360	18 813
		JP	239	2 *	0.9840	235	229	2 *	1.0227	244	2 *	1.0454	250
		OT	938	2 *	0.9840	923	1 039	2 *	1.0227	959	2 *	1.0454	981
		US	955	3 *	0.9840	940	678	3 *	1.0227	977	3 *	1.0454	998
		Total	**20 291**	**69**		**19 878**	**20 698**	**64**		**20 604**	**64**		**21 041**
First	Euro-PCT-IP	EP	5 297	30	1.0317	5 465	5 721	30	1.0617	5 624	29	1.0844	5 744
		JP	6 947	9	1.0650	7 399	6 611	9	1.1023	7 658	9	1.1671	8 108
		OT	4 075	2 *	1.0816	4 407	4 246	2 *	1.1149	4 543	2 *	1.1393	4 642
		US	2 821	5 *	1.0816	3 051	3 324	5 *	1.1149	3 145	5 *	1.1393	3 214
		Total	**19 140**	**46**		**20 322**	**19 902**	**46**		**20 969**	**45**		**21 708**
Subsequent	Euro-direct	EP	15 237	60	1.0592	16 139	14 860	53	1.0929	16 653	53	1.1210	17 081
		JP	6 521	20	0.9779	6 377	6 290	18	0.9637	6 284	17	0.9576	6 245
		OT	4 626	3 *	1.0567	4 888	4 749	3 *	1.0885	5 035	3 *	1.1172	5 168
		US	5 215	8	1.0421	5 434	6 201	8	1.1055	5 765	8	1.1701	6 102
		Total	**31 599**	**91**		**32 838**	**32 100**	**82**		**33 738**	**81**		**34 596**
Subsequent	Euro-PCT-IP	EP	50 359	75	1.0010	50 411	51 914	68	1.0091	50 816	67	1.0341	52 074
		JP	31 927	31	1.1241	35 889	36 909	29	1.1984	38 262	28	1.2380	39 525
		OT	34 714	2 *	1.0485	36 398	37 286	2 *	1.0869	37 730	2 *	1.1127	38 625
		US	46 237	9	0.9667	44 698	48 625	9	1.0425	48 202	9	1.0775	49 822
		Total	**163 237**	**117**		**167 396**	**174 734**	**108**		**175 010**	**106**		**180 047**
All	Euro-direct	EP	33 396			33 919	33 612			35 077			35 893
		JP	6 760			6 612	6 519			6 528			6 495
		OT	5 564			5 811	5 788			5 995			6 149
		US	6 170			6 374	6 879			6 742			7 101
		Total	**51 890**			**52 717**	**52 798**			**54 342**			**55 637**
All	Euro-PCT-IP	EP	55 656			55 876	57 635			56 439			57 818
		JP	38 874			43 288	43 520			45 920			47 633
		OT	38 789			40 805	41 531			42 272			43 268
		US	49 058			47 749	51 949			51 346			53 036
		Total	**182 377**			**187 718**	**194 635**			**195 979**			**201 755**
Grand total	**Total**	EP	89 052			89 795	91 247			91 516			93 712
		JP	45 634			49 901	50 039			52 449			54 128
		OT	44 353			46 616	47 319			48 267			49 416
		US	55 228			54 123	58 828			58 088			60 136
		Total	**234 267**			**240 435**	**247 433**			**250 320**			**257 392**
Growth from 2011						**2.6%**	**5.6%**			**6.9%**			**9.9%**
Implied Euro-PCT-IP						**78.1%**	**78.7%**			**78.3%**			**78.4%**

Table 6: Forecasts for EPO filings – Biggest group, broken down by residence bloc

4.3 Random group

The Random group this year is based on a sample of 2 671 addresses found for Euro-direct filings and Euro-PCT-RP filings, of which 740 responded to the survey (27.7%).

For responses from the Random group, the Q index method was used following logarithmic transformation of the data. All the tables in this section for the Random group analyses show the numbers of cases that estimates were based on, Q indices with their standard errors, the resulting filing forecasts, and the 95% confidence intervals based thereon.[11] Unless explicitly stated otherwise, all results are based on the full version of the Random group dataset, including cases with critical comments. As can be seen in **Table 2**, the analyses including critical comments have generally performed better than those excluding critical comments, in terms of forecasting the 2012 observed filings.

The forecasts for numbers of patent filings without a breakdown by residence bloc are illustrated in **Table 7** to **Table 10**. **Figure 6** and **Table 7** depict the results with the usual breakdowns by filing type and filing route. **Table 8** gives the results of the same forecast method using winsorised data. To address any uncertainty about whether it is advisable to forecast separately by filing route, a forecast combining the Euro-direct and PCT-IP filing routes was done, the results of which are displayed in **Table 9**. **Table 10** provides the results of the analysis without a breakdown by residence bloc, but including those companies which were marked with a critical code. Finally, **Table 11** shows the results of a forecast without subsidiary breakdown and combining Euro-direct and PCT-IP filing routes using all available Random group cases, including those with critical comments.

Analyses for the Random group using a breakdown into the four residence blocs, Europe (EPC), Japan (JP), Other (OT), and the US, are shown in **Table 12** to **Table 15**. **Table 12** shows the results when using Random group cases including critical comments. **Table 13** depicts the results using winsorised data and **Table 14** shows results when combining Euro-direct and PCT-IP filing routes. **Table 15** is analogous to the forecast shown in **Table 12,** but excludes cases with a critical code. Finally, **Table 16** shows the forecast based on a residence bloc breakdown and combining first and subsequent filings for the US residence bloc only.

The analysis corresponding to **Table 7**, with no subsidiary breakdown, was used for the recommended filing forecasts in the 2005, 2007, and 2008 reports. This recommendation was based mostly on narrow confidence intervals of the forecast and better adherence to known filing figures of the survey year compared to other forecasting approaches.

In 2009 and 2010, the recommended forecast method was the one shown in **Table 9** (analysis with no subsidiary breakdown and with Euro-direct and PCT-IP filings combined), because of a better fit with 2009 actual filings and narrower confidence intervals.

[11] The Q index is a weighted average of the individual growth rates given by the respondents using Poisson weights (weight formula shown in Section 9.1). Cf. Applicant Panel Survey 2002 report: Section IV.1, Annex IV. Reported standard errors are based on the logarithms of the respective Q index estimates. Cf. Applicant Panel Survey 2002 report, Annex IV. Finite population correction factors are applied. Cf. Applicant Panel Survey 2006 report: Annex VII, page 79.

As was the case last year, when comparing analogous forecasts based on the full data set (including cases with critical codes) with forecasts based on the reduced Random group data set (excluding cases with critical codes), it becomes apparent that estimates based on the reduced data set this year are quite conservative in terms of one-year filings predictions. Also, as last year, restricting the forecasts to the reduced data set this year does not lead to a consistent reduction in estimated deviations. Both of these observations support the decision to continue using full data set estimates including cases with critical comments as the de facto standard for this report.

For this year's survey, the recommended forecast approach (employing all data including cases with critical codes) was determined by minimising the RMSEF, leading to the estimate employing residence bloc breakdown (in **Table 12**). For two and three-year ahead predictions, this approach leads to estimates on the high range of all estimates and is also considerably more optimistic than long-term estimates based on the Biggest group. The implied percentage of PCT-IP of 79.4% based on this forecast slightly overestimates the actual percentage of PCT-IP filings of 78.7% in 2012. Contrary to last year, winsorisation of individual estimates did not lead to an improvement of forecasts and was thus not performed for the recommended forecast.

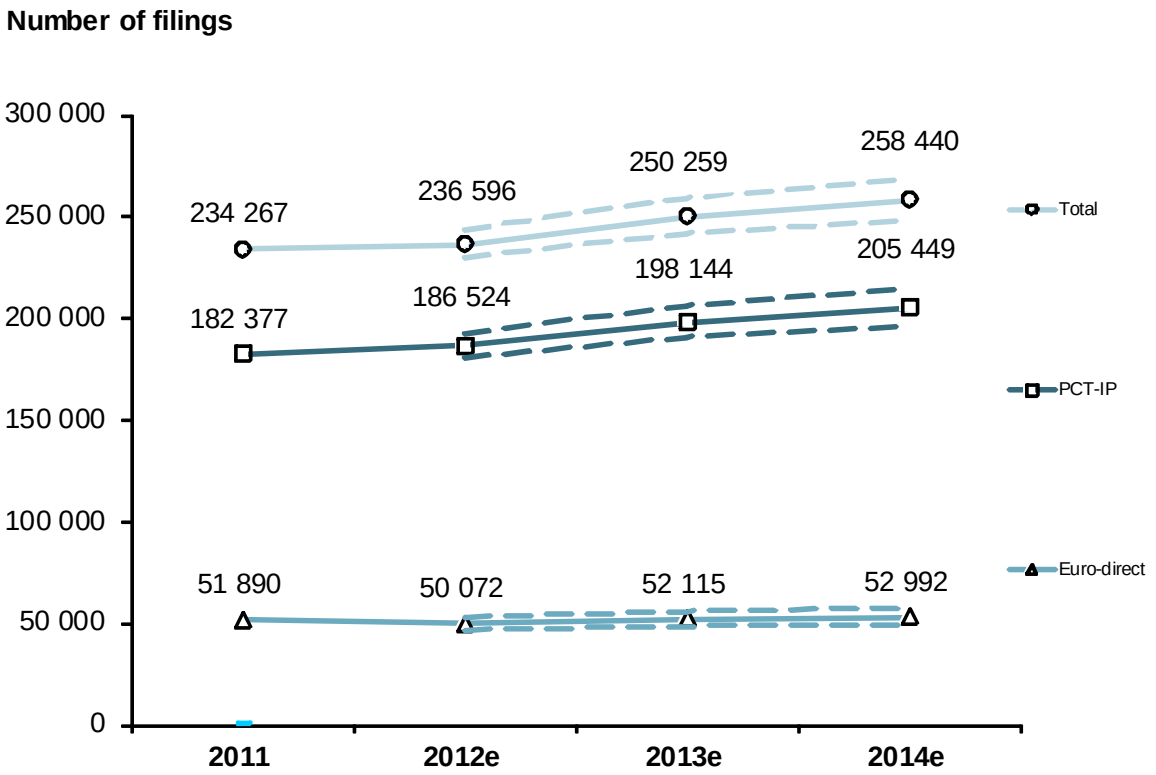


Figure 6: Forecasts for EPO filings – Random group without breakdown by residence bloc (dotted lines illustrate 95% confidence limits)

Random group (including critical comments)
No subsidiary breakdown
Q-Indices

S.E. indicates standard error of logarithm
LCL/UCL indicates lower/upper 95% confidence limit
Deviation in % of forecast means (predicted filings - LCL)/predicted filings

			Year													
			2011	2012					2013				2014			
Filing type	**Filing route**	**Res. bloc**	Actual filings	Cases 12	Q-index	S.E. 12	Predicted filings	Actual filings	Cases 13	Q-index	S.E. 13	Predicted filings	Cases 14	Q-index	S.E. 14	Predicted filings
First	Euro-direct	**Total**	**20 291**	203	1.0131	0.0318	**20 556**	**20 698**	183	1.0372	0.0414	**21 045**	177	1.0498	0.0503	**21 302**
		LCL					19 272					19 336				19 199
		UCL					21 839					22 755				23 405
First	Euro-PCT-IP	**Total**	**19 140**	119	1.0824	0.0361	**20 717**	**19 902**	113	1.2299	0.0460	**23 539**	108	1.3031	0.0611	**24 941**
		LCL					19 251					21 412				21 945
		UCL					22 183					25 666				27 938
Subsequent	Euro-direct	**Total**	**31 599**	266	0.9341	0.0500	**29 516**	**32 100**	241	0.9832	0.0549	**31 070**	229	1.0029	0.0576	**31 689**
		LCL					26 619					27 718				28 103
		UCL					32 414					34 421				35 276
Subsequent	Euro-PCT-IP	**Total**	**163 237**	340	1.0157	0.0175	**165 807**	**174 734**	302	1.0696	0.0217	**174 605**	290	1.1058	0.0243	**180 508**
		LCL					160 125					167 186				171 894
		UCL					171 490					182 024				189 122
All	Euro-direct	**Total**	**51 890**				**50 072**	**52 798**				**52 115**				**52 992**
		LCL					46 903					48 353				48 833
		UCL					53 241					55 877				57 150
All	Euro-PCT-IP	**Total**	**182 377**				**186 524**	**194 635**				**198 144**				**205 449**
		LCL					180 655					190 426				196 329
		UCL					192 393					205 863				214 569
Grand total		**Total**	**234 267**				**236 596**	**247 433**				**250 259**				**258 440**
		LCL					229 927					241 673				248 417
		UCL					243 266					258 846				268 464
Growth from 2011							**1.0%**	**5.6%**				**6.8%**				**10.3%**
Implied % Euro-PCT-IP			**77.9%**				**78.8%**	**78.7%**				**79.2%**				**79.5%**
Deviation in % of forecast							**2.8%**					**3.4%**				**3.9%**

Table 7: Forecasts for EPO filings – Random group with no subsidiary breakdown

Random group (including critical comments)
No subsidiary breakdown
Q-Indices

S.E. indicates standard error of logarithm
LCL/UCL indicates lower/upper 95% confidence limit
Deviation in % of forecast means (predicted filings - LCL)/predicted filings

			Year													
			2011	2012					2013				2014			
Filing type	**Filing route**	**Res. bloc**	Actual filings	Cases 12	Q-index	S.E. 12	Predicted filings	Actual filings	Cases 13	Q-index	S.E. 13	Predicted filings	Cases 14	Q-index	S.E. 14	Predicted filings
First	Euro-direct	**Total**	**20 291**	203	1.0064	0.0306	**20 420**	**20 698**	183	1.0321	0.0400	**20 943**	177	1.0442	0.0496	**21 189**
		LCL					19 195					19 300				19 123
		UCL					21 645					22 586				23 254
First	Euro-PCT-IP	**Total**	**19 140**	119	1.0775	0.0355	**20 623**	**19 902**	113	1.2062	0.0413	**23 086**	108	1.2585	0.0483	**24 087**
		LCL					19 186					21 214				21 802
		UCL					22 059					24 958				26 373
Subsequent	Euro-direct	**Total**	**31 599**	266	0.9616	0.0322	**30 386**	**32 100**	241	1.0128	0.0336	**32 003**	229	1.0408	0.0365	**32 887**
		LCL					28 466					29 896				30 531
		UCL					32 305					34 110				35 243
Subsequent	Euro-PCT-IP	**Total**	**163 237**	340	1.0131	0.0171	**165 382**	**174 734**	302	1.0598	0.0202	**173 002**	290	1.0948	0.0230	**178 716**
		LCL					159 844					166 155				170 650
		UCL					170 919					179 848				186 781
All	Euro-direct	**Total**	**51 890**				**50 806**	**52 798**				**52 946**				**54 075**
		LCL					48 529					50 274				50 942
		UCL					53 082					55 618				57 208
All	Euro-PCT-IP	**Total**	**182 377**				**186 005**	**194 635**				**196 088**				**202 803**
		LCL					180 284					188 990				194 420
		UCL					191 725					203 186				211 186
Grand total		**Total**	**234 267**				**236 810**	**247 433**				**249 033**				**256 878**
		LCL					230 653					241 449				247 929
		UCL					242 967					256 618				265 828
Growth from 2011							**1.1%**	**5.6%**				**6.3%**				**9.7%**
Implied % Euro-PCT-IP			**77.9%**				**78.5%**	**78.7%**				**78.7%**				**78.9%**
Deviation in % of forecast							**2.6%**					**3.0%**				**3.5%**

Table 8: Forecasts for EPO filings – Random group with no subsidiary breakdown, analysis employing winsorisation

Random group (including critical comments)
No subsidiary breakdown
Q-Indices
Euro-direct and Euro-PCT-IP filings combined

S.E. indicates standard error of logarithm
LCL/UCL indicates lower/upper 95% confidence limit
Deviation in % of forecast means (predicted filings - LCL)/predicted filings

			Year													
			2011	2012					2013				2014			
Filing type	**Filing route**	**Res. bloc**	Actual filings	Cases 12	Q-index 12	S.E. 12	Predicted filings	Actual filings	Cases 13	Q-index 13	S.E. 13	Predicted filings	Cases 14	Q-index 14	S.E. 14	Predicted filings
First	All	**Total**	**39 431**	225	1.0758	0.0315	**42 420**	**40 600**	197	1.1584	0.0424	**45 675**	188	1.2029	0.0521	**47 432**
		LCL					39 800					41 874				42 576
		UCL					45 041					49 475				52 289
Subsequent	All	**Total**	**194 836**	379	1.0247	0.0171	**199 649**	**206 834**	334	1.0720	0.0189	**208 871**	320	1.1138	0.0206	**217 000**
		LCL					192 946					201 129				208 237
		UCL					206 351					216 613				225 763
Grand total		**Total**	**234 267**				**242 069**	**247 433**				**254 546**				**264 432**
		LCL					234 873					245 921				254 414
		UCL					249 266					263 170				274 451
Growth from 2011							**3.3%**	**5.6%**				**8.7%**				**12.9%**
Deviation in % of forecast							**3.0%**					**3.4%**				**3.8%**

Table 9: Forecasts for EPO filings – Random group with no subsidiary breakdown (Euro-direct and PCT-IP filings combined)

Random group (including critical comments)
No subsidiary breakdown
Q-Indices
Euro-direct and Euro-PCT-IP filings combined

S.E. indicates standard error of logarithm
LCL/UCL indicates lower/upper 95% confidence limit
Deviation in % of forecast means (predicted filings - LCL)/predicted filings

			Year													
			2011	2012					2013				2014			
Filing type	**Filing route**	**Res. bloc**	Actual filings	Cases 12	Q-index 12	S.E. 12	Predicted filings	Actual filings	Cases 13	Q-index 13	S.E. 13	Predicted filings	Cases 14	Q-index 14	S.E. 14	Predicted filings
First	All	**Total**	**39 431**	225	1.0758	0.0315	**42 420**	**40 600**	197	1.1584	0.0424	**45 675**	188	1.2029	0.0521	**47 432**
		LCL					39 800					41 874				42 576
		UCL					45 041					49 475				52 289
Subsequent	All	**Total**	**194 836**	379	1.0247	0.0171	**199 649**	**206 834**	334	1.0720	0.0189	**208 871**	320	1.1138	0.0206	**217 000**
		LCL					192 946					201 129				208 237
		UCL					206 351					216 613				225 763
Grand total		**Total**	**234 267**				**242 069**	**247 433**				**254 546**				**264 432**
		LCL					234 873					245 921				254 414
		UCL					249 266					263 170				274 451
Growth from 2011							**3.3%**	**5.6%**				**8.7%**				**12.9%**
Deviation in % of forecast							**3.0%**					**3.4%**				**3.8%**

Table 10: Forecasts for EPO filings – Random group excluding companies with critical comments, no subsidiary breakdown

Random group (excluding critical comments)
No subsidiary breakdown
Q-Indices
Euro-direct and Euro-PCT-IP filings combined

S.E. indicates standard error of logarithm
LCL/UCL indicates lower/upper 95% confidence limit
Deviation in % of forecast means (predicted filings - LCL)/predicted filings

			Year													
			2011	2012					2013				2014			
Filing type	**Filing route**	**Res. bloc**	Actual filings	Cases 12	Q-index 12	S.E. 12	Predicted filings	Actual filings	Cases 13	Q-index 13	S.E. 13	Predicted filings	Cases 14	Q-index 14	S.E. 14	Predicted filings
First	All	**Total**	**39 431**	210	1.0686	0.0321	**42 136**	**40 600**	183	1.1410	0.0430	**44 991**	174	1.1851	0.0534	**46 728**
		LCL					39 486					41 190				41 827
		UCL					44 785					48 792				51 630
Subsequent	All	**Total**	**194 836**	351	1.0179	0.0174	**198 319**	**206 834**	308	1.0621	0.0193	**206 934**	294	1.1010	0.0210	**214 511**
		LCL					191 545					199 123				205 677
		UCL					205 094					214 746				223 345
Grand total		**Total**	**234 267**				**240 455**	**247 433**				**251 926**				**261 239**
		LCL					233 181					243 238				251 137
		UCL					247 729					260 613				271 342
Growth from 2011							**2.6%**	**5.6%**				**7.5%**				**11.5%**
Deviation in % of forecast							**3.0%**					**3.4%**				**3.9%**

Table 11: Forecasts for EPO filings – Random group excluding companies with critical comments, no subsidiary breakdown (Euro-direct and PCT-IP filings combined)

Random group (including critical comments)
Breakdown by residence bloc
Q-indices

S.E. indicates standard error of logarithm
LCL/UCL indicates lower/upper 95% confidence limit
Deviation in % of forecast means (predicted filings - LCL)/predicted filings

			Year												
			2011	2012					2013				2014			
Filing type	**Filing route**	**Res. bloc**	Actual filings	Cases 12	Q-index 12	S.E. 12	Predicted filings	Actual filings	Cases 13	Q-index 13	S.E. 13	Predicted filings	Cases 14	Q-index 14	S.E. 14	Predicted filings
First	Euro-direct	EP	18 159	184	1.0028	0.0335	18 211	18 752	166	1.0240	0.0453	18 595	161	1.0377	0.0559	18 843
		JP	239	5 *	1.0131	0.0318	242	229	5 *	1.0372	0.0414	248	5 *	1.0498	0.0503	251
		OT	938	2 *	1.0131	0.0318	950	1 039	2 *	1.0372	0.0414	973	2 *	1.0498	0.0503	985
		US	955	12	0.8815	0.0740	842	678	10	0.9360	0.0484	894	9	0.9503	0.0516	908
		Total	**20 291**	**203**			**20 245**	**20 698**	**183**			**20 710**	**177**			**20 986**
		LCL					19 039					19 053				18 914
		UCL					21 451					22 367				23 058
First	Euro-PCT-IP	EP	5 297	74	1.0241	0.0280	5 425	5 721	66	1.0840	0.0297	5 742	63	1.1208	0.0409	5 937
		JP	6 947	23	1.4697	0.1030	10 210	6 611	23	1.9513	0.1817	13 556	23	2.3088	0.2467	16 039
		OT	4 075	5 *	1.0824	0.0361	4 410	4 246	6	1.1392	0.0134	4 642	5 *	1.3031	0.0611	5 310
		US	2 821	17	1.0085	0.1963	2 845	3 324	18	1.4281	0.1004	4 028	17	1.5255	0.0774	4 303
		Total	**19 140**	**119**			**22 890**	**19 902**	**113**			**27 968**	**108**			**31 589**
		LCL					20 488					22 944				23 405
		UCL					25 292					32 992				39 773
Subsequent	Euro-direct	EP	15 237	184	0.9215	0.0667	14 042	14 860	164	0.9843	0.0735	14 997	155	1.0123	0.0759	15 424
		JP	6 521	44	0.9124	0.0999	5 949	6 290	40	0.9034	0.1129	5 891	40	0.8896	0.1222	5 801
		OT	4 626	12	1.1318	0.0425	5 236	4 749	10	1.1896	0.0386	5 503	10	1.1779	0.0603	5 449
		US	5 215	26	0.9600	0.0641	5 006	6 201	27	1.0166	0.0627	5 301	24	1.0533	0.0734	5 493
		Total	**31 599**	**266**			**30 233**	**32 100**	**241**			**31 693**	**229**			**32 167**
		LCL					27 917					29 040				29 280
		UCL					32 549					34 345				35 053
Subsequent	Euro-PCT-IP	EP	50 359	223	0.9903	0.0231	49 869	51 914	193	1.0333	0.0267	52 034	184	1.0684	0.0293	53 806
		JP	31 927	74	1.0676	0.0316	34 084	36 909	69	1.1402	0.0406	36 402	68	1.1715	0.0438	37 402
		OT	34 714	10	1.1629	0.0443	40 368	37 286	10	1.2117	0.0715	42 063	10	1.2056	0.0894	41 851
		US	46 237	33	1.0307	0.0312	47 657	48 625	30	1.1078	0.0573	51 221	28	1.1663	0.0784	53 926
		Total	**163 237**	**340**			**171 978**	**174 734**	**302**			**181 720**	**290**			**186 985**
		LCL					166 463					172 551				175 000
		UCL					177 493					190 888				198 969
All	Euro-direct	EP	33 396				32 252	33 612				33 592				34 267
		JP	6 760				6 192	6 519				6 139				6 052
		OT	5 564				6 186	5 788				6 476				6 434
		US	6 170				5 848	6 879				6 195				6 400
		Total	**51 890**				**50 478**	**52 798**				**52 403**				**53 153**
		LCL					47 867					49 275				49 600
		UCL					53 089					55 530				56 706
All	Euro-PCT-IP	EP	55 656				55 293					57 776				59 742
		JP	38 874				44 295					49 959				53 441
		OT	38 789				44 778					46 705				47 161
		US	49 058				50 502					55 249				58 229
		Total	**182 377**				**194 868**	**194 635**				**209 688**				**218 574**
		LCL					188 853					199 233				204 062
		UCL					200 883					220 143				233 086
Grand total	**Total**	EP	89 052				87 546					91 368				94 010
		JP	45 634				50 486					56 097				59 493
		OT	44 353				50 964					53 181				53 595
		US	55 228				56 350					61 444				64 629
		Total	**234 267**				**245 346**	**247 433**				**262 090**				**271 727**
		LCL					238 788					251 178				256 786
		UCL					251 903					273 003				286 668
Growth from 2011							**4.7%**	**5.6%**				**11.9%**				**16.0%**
Implied Euro-PCT-IP							**79.4%**	**78.7%**				**80.0%**				**80.4%**
Deviation in % of forecast							**2.7%**					**4.2%**				**5.5%**

Table 12: Forecasts for EPO filings – Random group broken down by residence bloc

Random group (including critical comments)
Breakdown by residence bloc
Q-indices

S.E. indicates standard error of logarithm
LCL/UCL indicates lower/upper 95% confidence limit
Deviation in % of forecast means (predicted filings - LCL)/predicted filings

			Year													
			2011	2012					2013				2014			
Filing type	**Filing route**	**Res. bloc**	Actual filings	Cases 12	Q-index 12	S.E. 12	Predicted filings	Actual filings	Cases 13	Q-index 13	S.E. 13	Predicted filings	Cases 14	Q-index 14	S.E. 14	Predicted filings
First	Euro-direct	EP	18 159	184	1.0012	0.0329	18 181	18 752	166	1.0249	0.0445	18 611	161	1.0375	0.0558	18 840
		JP	239	5 *	1.0131	0.0318	242	229	5 *	1.0372	0.0414	248	5 *	1.0498	0.0503	251
		OT	938	2 *	1.0131	0.0318	950	1 039	2 *	1.0372	0.0414	973	2 *	1.0498	0.0503	985
		US	955	12	0.8839	0.0762	844	678	10	0.9424	0.0475	900	9	0.9571	0.0512	914
		Total	**20 291**	**203**			**20 217**	**20 698**	**183**			**20 732**	**177**			**20 989**
		LCL					19 037					19 102				18 921
		UCL					21 398					22 361				23 057
First	Euro-PCT-IP	EP	5 297	74	1.0277	0.0266	5 444	5 721	66	1.0867	0.0297	5 756	63	1.1243	0.0411	5 955
		JP	6 947	23	1.4080	0.0971	9 781	6 611	23	1.6780	0.1597	11 657	23	1.8071	0.1829	12 554
		OT	4 075	5 *	1.0824	0.0361	4 410	4 246	6	1.1392	0.0134	4 642	5 *	1.3031	0.0611	5 310
		US	2 821	17	1.0038	0.1997	2 832	3 324	18	1.4428	0.1038	4 070	17	1.5303	0.0780	4 317
		Total	**19 140**	**119**			**22 467**	**19 902**	**113**			**26 125**	**108**			**28 136**
		LCL					20 232					22 295				23 405
		UCL					24 701					29 954				32 867
Subsequent	Euro-direct	EP	15 237	184	0.9578	0.0406	14 593	14 860	164	1.0220	0.0410	15 572	155	1.0583	0.0446	16 126
		JP	6 521	44	0.9353	0.0722	6 099	6 290	40	0.9398	0.0845	6 128	40	0.9417	0.0911	6 141
		OT	4 626	12	1.1372	0.0403	5 261	4 749	10	1.1896	0.0386	5 503	10	1.1779	0.0603	5 449
		US	5 215	26	0.9541	0.0644	4 976	6 201	27	1.0040	0.0639	5 236	24	1.0402	0.0739	5 425
		Total	**31 599**	**266**			**30 929**	**32 100**	**241**			**32 440**	**229**			**33 140**
		LCL					29 294					30 646				31 079
		UCL					32 565					34 233				35 200
Subsequent	Euro-PCT-IP	EP	50 359	223	0.9877	0.0227	49 739	51 914	193	1.0255	0.0247	51 642	184	1.0573	0.0277	53 246
		JP	31 927	74	1.0680	0.0305	34 098	36 909	69	1.1236	0.0362	35 873	68	1.1533	0.0392	36 823
		OT	34 714	10	1.1477	0.0408	39 840	37 286	10	1.1578	0.0424	40 192	10	1.1527	0.0573	40 016
		US	46 237	33	1.0261	0.0300	47 446	48 625	30	1.1084	0.0569	51 250	28	1.1786	0.0743	54 496
		Total	**163 237**	**340**			**171 123**	**174 734**	**302**			**178 957**	**290**			**184 580**
		LCL					165 928					171 424				174 572
		UCL					176 319					186 490				194 589
All	Euro-direct	EP	33 396				32 774	33 612				34 183				34 965
		JP	6 760				6 342	6 519				6 376				6 392
		OT	5 564				6 211	5 788				6 476				6 434
		US	6 170				5 820	6 879				6 136				6 339
		Total	**51 890**				**51 147**	**52 798**				**53 171**				**54 129**
		LCL					49 130					50 748				51 210
		UCL					53 164					55 594				57 048
All	Euro-PCT-IP	EP	55 656				55 183					57 398				59 201
		JP	38 874				43 879					47 530				49 377
		OT	38 789				44 250					44 834				45 325
		US	49 058				50 278					55 320				58 813
		Total	**182 377**				**193 590**	**194 635**				**205 082**				**212 716**
		LCL					187 934					196 631				201 646
		UCL					199 246					213 533				223 787
Grand total	**Total**	EP	89 052				87 957					91 582				94 166
		JP	45 634				50 220					53 906				55 769
		OT	44 353				50 461					51 310				51 759
		US	55 228				56 097					61 456				65 152
		Total	**234 267**				**244 737**	**247 433**				**258 253**				**266 846**
		LCL					238 732					249 462				255 397
		UCL					250 741					267 044				278 294
Growth from 2011							**4.5%**	**5.6%**				**10.2%**				**13.9%**
Implied Euro-PCT-IP							**79.1%**	**78.7%**				**79.4%**				**79.7%**
Deviation in % of forecast							**2.5%**					**3.4%**				**4.3%**

Table 13: Forecasts for EPO filings – Random group broken down by residence bloc, analysis employing winsorisation

Random group (including critical comments)
Breakdown by residence bloc
Q-indices
Euro-direct and Euro-PCT-IP filings combined

S.E. indicates standard error of logarithm
LCL/UCL indicates lower/upper 95% confidence limit
Deviation in % of forecast means (predicted filings - LCL)/predicted filings

			Year													
			2011	2012					2013				2014			
Filing type	**Filing route**	**Res. bloc**	Actual filings	Cases 12	Q-index 12	S.E. 12	Predicted filings	Actual filings	Cases 13	Q-index 13	S.E. 13	Predicted filings	Cases 14	Q-index 14	S.E. 14	Predicted filings
First	All	EP	23 456	178	1.0312	0.0309	24 189	24 473	151	1.0797	0.0345	25 326	143	1.1016	0.0370	25 839
		JP	7 186	24	1.5034	0.1164	10 803	6 840	24	1.9602	0.1867	14 087	24	2.3087	0.2476	16 591
		OT	5 013	5	1.1471	0.0382	5 750	5 285	5	1.1884	0.0414	5 957	5	1.1525	0.0499	5 777
		US	3 776	18	0.9948	0.0480	3 756	4 002	17	1.0542	0.0390	3 980	16	1.1011	0.0364	4 158
		Total	**39 431**	**225**			**44 499**	**40 600**	**197**			**49 350**	**188**			**52 364**
		LCL					41 556					43 759				43 701
		UCL					47 441					54 941				61 027
Subsequent	All	EP	65 596	250	1.0059	0.0237	65 986	66 774	215	1.0502	0.0253	68 886	205	1.0955	0.0276	71 861
		JP	38 448	80	1.0706	0.0226	41 161	43 199	75	1.1408	0.0276	43 862	74	1.1721	0.0306	45 066
		OT	39 340	14	1.1606	0.0486	45 658	42 035	12	1.2252	0.0722	48 200	12	1.2323	0.0920	48 480
		US	51 452	35	1.0122	0.0282	52 079	54 826	32	1.0328	0.0456	53 142	29	1.0789	0.0553	55 514
		Total	**194 836**	**379**			**204 883**	**206 834**	**334**			**214 090**	**320**			**220 920**
		LCL					198 558					204 770				209 244
		UCL					211 208					223 410				232 596
Grand total	**Total**	EP	89 052				90 174	91 247				94 212				97 699
		JP	45 634				51 964	50 039				57 948				61 657
		OT	44 353				51 408	47 319				54 158				54 257
		US	55 228				55 835	58 828				57 122				59 671
		Total	**234 267**				**249 381**	**247 433**				**263 440**				**273 284**
		LCL					242 405					252 571				258 745
		UCL					256 358					274 308				287 823
Growth from 2011							**6.5%**	**5.6%**				**12.5%**				**16.7%**
Deviation in % of forecast							**2.8%**					**4.1%**				**5.3%**

Table 14: Forecasts for EPO filings – Random group, broken down by residence bloc (Euro-direct and PCT-IP filings combined)

Random group (excluding critical comments)
Breakdown by residence bloc
Q-indices

S.E. indicates standard error of logarithm
LCL/UCL indicates lower/upper 95% confidence limit
Deviation in % of forecast means (predicted filings - LCL)/predicted filings

			Year												
			2011	2012					2013				2014			
Filing type	**Filing route**	**Res. bloc**	Actual filings	Cases 12	Q-index 12	S.E. 12	Predicted filings	Actual filings	Cases 13	Q-index 13	S.E. 13	Predicted filings	Cases 14	Q-index 14	S.E. 14	Predicted filings
First	Euro-direct	EP	18 159	173	0.9864	0.0334	17 911	18 752	155	1.0072	0.0454	18 290	150	1.0190	0.0565	18 504
		JP	239	4 *	0.9994	0.0320	239	229	4 *	1.0221	0.0417	244	4 *	1.0324	0.0509	247
		OT	938	2 *	0.9994	0.0320	937	1 039	2 *	1.0221	0.0417	959	2 *	1.0324	0.0509	968
		US	955	10	0.8690	0.0760	830	678	9	0.9093	0.0441	868	8	0.9235	0.0456	882
		Total	**20 291**	**189**			**19 918**	**20 698**	**170**			**20 362**	**164**			**20 601**
		LCL					18 735					18 727				18 544
		UCL					21 101					21 997				22 659
First	Euro-PCT-IP	EP	5 297	69	1.0334	0.0264	5 474	5 721	60	1.0828	0.0308	5 735	58	1.1103	0.0426	5 881
		JP	6 947	23	1.4697	0.1030	10 210	6 611	23	1.9513	0.1817	13 556	23	2.3088	0.2467	16 039
		OT	4 075	5 *	1.0916	0.0364	4 448	4 246	6	1.1392	0.0134	4 642	5 *	1.3007	0.0626	5 300
		US	2 821	16	1.0151	0.1994	2 863	3 324	18	1.4281	0.1004	4 028	17	1.5255	0.0774	4 303
		Total	**19 140**	**113**			**22 996**	**19 902**	**107**			**27 961**	**103**			**31 524**
		LCL					20 583					22 936				23 338
		UCL					25 409					32 987				39 710
Subsequent	Euro-direct	EP	15 237	168	0.9131	0.0702	13 914	14 860	149	0.9734	0.0771	14 832	140	0.9997	0.0798	15 232
		JP	6 521	42	0.9089	0.1012	5 927	6 290	38	0.8983	0.1144	5 858	38	0.8814	0.1236	5 748
		OT	4 626	11	1.1356	0.0432	5 253	4 749	9	1.1915	0.0401	5 512	9	1.1794	0.0624	5 456
		US	5 215	25	0.9560	0.0662	4 986	6 201	26	1.0112	0.0650	5 273	23	1.0484	0.0760	5 468
		Total	**31 599**	**246**			**30 080**	**32 100**	**222**			**31 475**	**210**			**31 904**
		LCL					27 689					28 742				28 933
		UCL					32 470					34 209				34 875
Subsequent	Euro-PCT-IP	EP	50 359	204	0.9824	0.0235	49 470	51 914	175	1.0144	0.0255	51 084	167	1.0461	0.0285	52 678
		JP	31 927	74	1.0676	0.0316	34 084	36 909	69	1.1402	0.0406	36 402	68	1.1715	0.0438	37 402
		OT	34 714	9	1.1507	0.0441	39 947	37 286	9	1.2007	0.0708	41 681	9	1.1857	0.0844	41 162
		US	46 237	32	1.0124	0.0291	46 809	48 625	29	1.0891	0.0589	50 357	27	1.1474	0.0814	53 052
		Total	**163 237**	**319**			**170 311**	**174 734**	**282**			**179 524**	**271**			**184 294**
		LCL					164 949					170 436				172 534
		UCL					175 672					188 613				196 054
All	Euro-direct	EP	33 396				31 825	33 612				33 122				33 737
		JP	6 760				6 166	6 519				6 102				5 995
		OT	5 564				6 191	5 788				6 471				6 424
		US	6 170				5 816	6 879				6 142				6 349
		Total	**51 890**				**49 997**	**52 798**				**51 837**				**52 505**
		LCL					47 330					48 652				48 892
		UCL					52 665					55 022				56 119
All	Euro-PCT-IP	EP	55 656				54 945					56 820				58 560
		JP	38 874				44 295					49 958				53 441
		OT	38 789				44 395					46 323				46 462
		US	49 058				49 672					54 385				57 355
		Total	**182 377**				**193 307**	**194 635**				**207 486**				**215 818**
		LCL					187 427					197 101				201 489
		UCL					199 186					217 871				230 146
Grand total	**Total**	EP	89 052				86 769					89 942				92 297
		JP	45 634				50 460					56 060				59 436
		OT	44 353				50 586					52 794				52 886
		US	55 228				55 488					60 527				63 704
		Total	**234 267**				**243 304**	**247 433**				**259 323**				**268 323**
		LCL					236 848					248 461				253 546
		UCL					249 760					270 186				283 101
Growth from 2011							**3.9%**	**5.6%**				**10.7%**				**14.5%**
Implied Euro-PCT-IP							**79.5%**	**78.7%**				**80.0%**				**80.4%**
Deviation in % of forecast							**2.7%**					**4.2%**				**5.5%**

Table 15: Forecasts for EPO filings – Random group excluding companies with critical comments, broken down by residence bloc

Random group (including critical comments)
Breakdown by residence bloc
Q-indices

S.E. indicates standard error of logarithm
LCL/UCL indicates lower/upper 95% confidence limit
Deviation in % of forecast means (predicted filings - LCL)/predicted filings

			Year										
			2011	2012				2013			2014		
Filing type	**Filing route**	**Res. bloc**	Actual filings	Q-index 12	S.E. 12	Predicted filings	Actual filings	Q-index 13	S.E. 13	Predicted filings	Q-index 14	S.E. 14	Predicted filings
First	Euro-direct	EP	18 159	1.0028	0.0335	18 211	18 752	1.0240	0.0453	18 595	1.0377	0.0559	18 843
		JP	239	1.0131 *	0.0318 *	242	229	1.0372 *	0.0414 *	248	1.0498 *	0.0503 *	251
		OT	938	1.0131 *	0.0318 *	950	1 039	1.0372 *	0.0414 *	973	1.0498 *	0.0503 *	985
		Total - US	**19 336**			**19 403**	**20 020**			**19 816**			**20 079**
		LCL				18 203				18 162			18 009
		UCL				20 603				21 471			22 149
First	Euro-PCT-IP	EP	5 297	1.0241	0.0280	5 425	5 721	1.0840	0.0297	5 742	1.1208	0.0409	5 937
		JP	6 947	1.4697	0.1030	10 210	6 611	1.9513	0.1817	13 556	2.3088	0.2467	16 039
		OT	4 075	1.0824 *	0.0361 *	4 410	4 246	1.1392	0.0134	4 642	1.3031 *	0.0611 *	5 310
		Total - US	**16 319**			**20 045**	**16 577**			**23 940**			**27 286**
		LCL				17 924				18 979			19 128
		UCL				22 166				28 900			35 444
Subsequent	Euro-direct	EP	15 237	0.9215	0.0667	14 042	14 860	0.9843	0.0735	14 997	1.0123	0.0759	15 424
		JP	6 521	0.9124	0.0999	5 949	6 290	0.9034	0.1129	5 891	0.8896	0.1222	5 801
		OT	4 626	1.1318	0.0425	5 236	4 749	1.1896	0.0386	5 503	1.1779	0.0603	5 449
		Total - US	**26 384**			**25 227**	**25 899**			**26 391**			**26 674**
		LCL				22 998				23 821			23 899
		UCL				27 455				28 962			29 450
Subsequent	Euro-PCT-IP	EP	50 359	0.9903	0.0231	49 869	51 914	1.0333	0.0267	52 034	1.0684	0.0293	53 806
		JP	31 927	1.0676	0.0316	34 084	36 909	1.1402	0.0406	36 402	1.1715	0.0438	37 402
		OT	34 714	1.1629	0.0443	40 368	37 286	1.2117	0.0715	42 063	1.2056	0.0894	41 851
		Total - US	**117 000**			**124 321**	**126 109**			**130 499**			**133 059**
		LCL				119 642				123 370			124 442
		UCL				129 001				137 628			141 677
First+Subsequent	Euro-direct	**US**	**6 170**	0.9003	0.0644	**5 555**	**6 879**	0.9167	0.0606	**5 656**	0.9743	0.0692	**6 012**
		LCL				4 851				4 982			5 193
		UCL				6 258				6 330			6 830
First+Subsequent	Euro-PCT-IP	**US**	**49 058**	1.0332	0.0371	**50 685**	**51 949**	1.0518	0.0519	**51 600**	1.1175	0.0572	**54 824**
		LCL				46 996				46 343			48 657
		UCL				54 374				56 858			60 991
Grand total	**Total**	EP	89 052			87 546	91 247			91 368			94 010
		JP	45 634			50 486	50 039			56 097			59 493
		OT	44 353			50 964	47 319			53 181			53 595
		US	55 228			56 240	58 828			57 256			60 836
		Total	**234 267**			**245 236**	**247 433**			**257 903**			**267 933**
		LCL				238 387				247 279			254 095
		UCL				252 085				268 527			281 772
Growth from 2011						**4.7%**				**10.1%**			**14.4%**
Deviation in % of forecast						**2.8%**				**4.1%**			**5.2%**

Table 16: Forecasts for EPO filings – Random group, broken down by residence bloc (first and subsequent filings combined for US residence bloc only)

5 Forecasts for Euro-PCT regional phase applications

The results for PCT regional phase applications at the EPO were obtained from question (j) in **Part B** of the questionnaire (see **Annex I**). The forecasts for Euro-PCT-RP filings are calculated both for the Biggest group sample and the Random group sample, applying the Composite index and the Q index, respectively. No separate questions on first filings and subsequent filings were asked regarding Euro-PCT-RP applications. Unless explicitly stated otherwise, the results for the Random group are based on the full version of the dataset that includes cases with critical comments.

An overview of the main results of the forecasts for Euro-PCT-RP applications according to the different methods is given in terms of growth rates (**Table 17**) and in terms of absolute numbers of filings with RMSEF values (**Table 18**). Firstly, Euro-PCT-RP filings are estimated for the Biggest group with no subsidiary breakdown (**Table 19**) and broken down by residence bloc (**Table 20**). Then a series of tables give forecasts for Euro-PCT-RP filings from the Random group. Q indices for the Random group sample are calculated with no subsidiary breakdown using the full Random group dataset (**Table 21**) and excluding companies with a critical code (**Table 22**). The same analysis is repeated with the Euro-PCT-RP filings itemised by residence bloc using the full dataset (**Table 23**) and again using only those respondents without critical codes (**Table 24**).

Comparing the RMSEF of Random group forecasts, the analysis without residence bloc breakdown consistently produces the best values and should thus be considered superior. The estimates without subsidiary breakdown, as shown in **Table 21**, thus continue to be preferred for PCT-RP applications. It should be noted, however, that even the recommended approach fails to adequately convey expected true one-year growth. Indeed, the actual number of PCT-RP filings is above the 95% confidence interval of the recommended forecast approach. Contrary to last year, estimates employing a residence bloc breakdown (which is the recommended forecast for PCT-IP and Euro Direct filings this year) are even less optimistic than the recommended approach without any breakdown.

On the whole, one-year forecasts for PCT-RP filings turn out too conservative this year. However, as was the case last year, and regardless of the forecast method used, it is notable that two and three-year growth rate estimates exhibit a strong jump when compared to the one-year growth estimate for PCT regional phase filings.

Comparison of forecasts: Growth from 2011
Euro-PCT-RP

			2012		2013		2014	
Qualifying comments	**Group**	**Breakdown**	Growth rate	Deviation*	Growth rate	Deviation*	Growth rate	Deviation*
Including	Biggest	None	4.3%		8.6%		11.2%	
Including	Biggest	Residence bloc	1.6%		5.4%		8.2%	
Including	Random	None	3.1%	3.7%	9.3%	4.6%	11.8%	5.4%
Including	Random	Residence bloc	1.9%	3.8%	9.4%	4.8%	12.1%	6.1%
Excluding	Biggest	None	4.3%		8.6%		11.2%	
Excluding	Biggest	Residence bloc	1.6%		5.4%		8.1%	
Excluding	Random	None	2.8%	3.7%	8.9%	4.7%	11.2%	5.5%
Excluding	Random	Residence bloc	1.3%	3.9%	8.8%	4.9%	11.3%	6.2%

*) **Deviation** corresponds to the distance from the forecasted filings to the lower 95% confidence limit (as % of the forecasted filings)

Table 17: Overview of predicted growth rates for Euro-PCT-RP applications by forecasting method

Comparison of forecasts: Predicted total filings
Euro-PCT-RP
LCL/UCL indicates lower/upper 95% confidence limit

			2012				2013			2014		
Qualifying comments	**Group**	**Breakdown**	**Predicted filings**	**LCL**	**UCL**	**RMSEF***	**Predicted filings**	**LCL**	**UCL**	**Predicted filings**	**LCL**	**UCL**
Including	Biggest	None	83 721				87 150			89 302		
Including	Biggest	Residence bloc	81 577				84 623			86 855		
Including	Random	None	82 810	79 783	85 837	3 003	87 730	83 678	91 783	89 747	84 938	94 556
Including	Random	Residence bloc	81 817	78 669	84 966	3 912	87 855	83 624	92 085	89 976	84 521	95 430
Excluding	Biggest	None	83 752				87 179			89 311		
Excluding	Biggest	Residence bloc	81 569				84 610			86 821		
Excluding	Random	None	82 497	79 452	85 541	3 280	87 428	83 323	91 534	89 300	84 401	94 198
Excluding	Random	Residence bloc	81 356	78 184	84 528	4 342	87 346	83 069	91 623	89 343	83 769	94 917
		Actual filings	85 385									

*) **RMSEF:** Root mean squared error of forecast

Table 18: Overview of predicted filing numbers for Euro-PCT-RP applications by forecasting method

Biggest group (including critical comments)
No subsidiary breakdown
Composite Indices

			Year										
			2011	2012				2013			2014		
Patent Office	**Filing route**	**Res. bloc**	Actual filings	Cases 12	Index 12	Predicted filings	Actual filings	Cases 13	Index 13	Predicted filings	Cases 14	Index 14	Predicted filings
EPO	Euro-PCT-RP	**Total**	**80 285**	**120**	**1.0428**	**83 721**	**85 385**	**105**	**1.0855**	**87 150**	**100**	**1.1123**	**89 302**
Growth from 2011						**4.3%**	**6.4%**			**8.6%**			**11.2%**

Table 19: Forecasts for Euro-PCT-RP applications - Biggest group (no subsidiary breakdown)

Biggest group (including critical comments)
Breakdown by residence bloc
Composite indices

			Year										
			2011	2012				2013			2014		
Patent office	**Filing route**	**Res. bloc**	Actual filings	Cases 12	Index 12	Predicted filings	Actual filings	Cases 13	Index 13	Predicted filings	Cases 14	Index 14	Predicted filings
EPO	Euro-PCT-RP	EP	35 669	76	1.0242	36 531	36 540	68	1.0459	37 305	64	1.0668	38 053
		JP	12 048	31	1.1060	13 325	14 527	25	1.2030	14 493	25	1.2527	15 093
		OT	8 628	3 *	1.0428	8 997	10 651	2 *	1.0855	9 366	2 *	1.1123	9 597
		US	23 940	10	0.9492	22 724	23 667	10	0.9799	23 459	9	1.0072	24 112
Total		**Total**	**80 285**	**120**		**81 577**	**85 385**	**105**		**84 623**	**100**		**86 855**
Growth from 2011						**1.6%**	**6.4%**			**5.4%**			**8.2%**

Table 20: Forecasts for Euro-PCT-RP applications - Biggest group (broken down by residence bloc)

Random group (including critical comments)
No subsidiary breakdown
Q-indices

S.E. indicates standard error of logarithm
LCL/UCL indicates lower/upper 95% confidence limit
Deviation in % of forecast means (predicted filings - LCL)/predicted filings

			Year												
			2011	2012					2013				2014			
Patent office	**Filing route**	**Res. bloc**	Actual filings	Cases 12	Q-index 12	S.E. 12	Predicted filings	Actual filings	Cases 13	Q-index 13	S.E. 13	Predicted filings	Cases 14	Q-index 14	S.E. 14	Predicted filings
EPO	Euro-PCT-RP	**Total**	**80 285**	**404**	**1.0315**	**0.0186**	**82 810**	**85 385**	**351**	**1.0927**	**0.0236**	**87 730**	**328**	**1.1179**	**0.0273**	**89 747**
		LCL					79 783					83 678				84 938
		UCL					85 837					91 783				94 556
Growth from 2011							**3.1%**	**6.4%**				**9.3%**				**11.8%**
Deviation in % of forecast							**3.7%**					**4.6%**				**5.4%**

Table 21: Forecasts for Euro-PCT-RP applications - Random group (no subsidiary breakdown)

Random group (excluding critical comments)
No subsidiary breakdown
Q-indices

S.E. indicates standard error of logarithm
LCL/UCL indicates lower/upper 95% confidence limit
Deviation in % of forecast means (predicted filings - LCL)/predicted filings

			Year													
			2011	2012					2013				2014			
Patent office	**Filing route**	**Res. bloc**	Actual filings	Cases 12	Q-index 12	S.E. 12	Predicted filings	Actual filings	Cases 13	Q-index 13	S.E. 13	Predicted filings	Cases 14	Q-index 14	S.E. 14	Predicted filings
EPO	Euro-PCT-RP	**Total**	**80 285**	**377**	**1.0275**	**0.0188**	**82 497**	**85 385**	**326**	**1.0890**	**0.0239**	**87 428**	**305**	**1.1123**	**0.0280**	**89 300**
		LCL					79 452					83 323				84 401
		UCL					85 541					91 534				94 198
Growth from 2011							**2.8%**	**6.4%**				**8.9%**				**11.2%**
Deviation in % of forecast							**3.7%**					**4.7%**				**5.5%**

Table 22: Forecasts for Euro-PCT-RP applications - Random group excluding cases with critical comments (no subsidiary breakdown)

Random group (including critical comments)
Breakdown by residence bloc
Q-indices

S.E. indicates standard error of logarithm
LCL/UCL indicates lower/upper 95% confidence limit
Deviation in % of forecast means (Predicted filings - LCL)/Predicted filings

			Year													
			2011	2012					2013				2014			
Patent Office	**Filing route**	**Res. bloc**	Actual filings	Cases 12	Q-index 12	S.E. 12	Predicted filings	Actual filings	Cases 13	Q-index 13	S.E. 13	Predicted filings	Cases 14	Q-index 14	S.E. 14	Predicted filings
EPO	Euro-PCT-RP	EP	35 669	253	1.0173	0.0243	36 288	36 540	220	1.0552	0.0314	37 636	205	1.0795	0.0365	38 506
		JP	12 048	77	1.1149	0.0397	13 432	14 527	70	1.1959	0.0492	14 408	68	1.2151	0.0530	14 640
		OT	8 628	20	1.0411	0.0425	8 982	10 651	16	1.1084	0.0553	9 564	16	1.1041	0.0561	9 526
		US	23 940	54	0.9655	0.0506	23 115	23 667	45	1.0964	0.0598	26 247	39	1.1405	0.0804	27 303
Total		**Total**	**80 285**	**404**			**81 817**	**85 385**	**351**			**87 855**	**328**			**89 976**
		LCL					78 669					83 624				84 521
		UCL					84 966					92 085				95 430
Growth from 2011							**1.9%**	**6.4%**				**9.4%**				**12.1%**
Deviation in % of forecast							**3.8%**					**4.8%**				**6.1%**

Table 23: Forecasts for Euro-PCT-RP applications - Random group (broken down by residence bloc)

Random group (excluding critical comments)
Breakdown by residence bloc
Q-indices

S.E. indicates standard error of logarithm
LCL/UCL indicates lower/upper 95% confidence limit
Deviation in % of forecast means (Predicted filings - LCL)/Predicted filings

			Year													
			2011	2012					2013				2014			
Patent Office	**Filing route**	**Res. bloc**	Actual filings	Cases 12	Q-index 12	S.E. 12	Predicted filings	Actual filings	Cases 13	Q-index 13	S.E. 13	Predicted filings	Cases 14	Q-index 14	S.E. 14	Predicted filings
EPO	Euro-PCT-RP	EP	35 669	232	1.0157	0.0248	36 228	36 540	200	1.0529	0.0323	37 556	186	1.0715	0.0380	38 219
		JP	12 048	75	1.1063	0.0391	13 328	14 527	68	1.1896	0.0491	14 332	67	1.2162	0.0532	14 653
		OT	8 628	19	1.0417	0.0431	8 988	10 651	15	1.1082	0.0561	9 561	15	1.1038	0.0569	9 524
		US	23 940	51	0.9529	0.0516	22 811	23 667	43	1.0817	0.0609	25 896	37	1.1256	0.0831	26 947
Total		**Total**	**80 285**	**377**			**81 356**	**85 385**	**326**			**87 346**	**305**			**89 343**
		LCL					78 184					83 069				83 769
		UCL					84 528					91 623				94 917
Growth from 2011							**1.3%**	**6.4%**				**8.8%**				**11.3%**
Deviation in % of forecast							**3.9%**					**4.9%**				**6.2%**

Table 24: Forecasts for Euro-PCT-RP applications - Random group excluding cases with critical comments (broken down by residence bloc)

6 Conclusions and outlook

The 2012 survey appears to signal a return to normalcy with respect to filing forecasts: compared to the previous year, the uncertainty of forecasts is considerably lower and variability between forecasts is also reduced. Predicted growth rates are nearly linear when moving from one to two to three-year growth, indicating that most respondents appear to expect a period of relative stability, especially when compared to the surveys of 2009 and 2011. Also the recommended forecast for 2012 Total filings is in very good agreement with the actual 2012 filings total, as is manifested by the low RMSEF value.

Our recommended forecast this year predicts close to 5% one-year growth and similar growth rates for the following two years.

One possible interpretation of the stability and low variability of this year's forecasts is that the concerted efforts to counter recent economic shocks have been successful to some extent, at least with respect to reducing associated uncertainty.

Of course, the stability of forecasts this year should not lead to the interpretation that long-term observed growth is guaranteed to be close to this year's two and three-year forecasts. The overly optimistic 2008 survey forecasts can serve as a reminder that this survey's long-term predictive accuracy is naturally limited with respect to anticipating unexpected shocks. Indeed, should the current relative confidence in the economic outlook be dampened, for example by a resumption of the euro region debt crisis, then long-term growth in filings could be negatively affected.

The EPO uses the forecasts of this survey to allocate its resources and capacities in order to optimise the patent examination process. We would thus like to thank all participants of this year's survey for their valuable time and input. We realise that filling in the questionnaire diligently and fully is a time-consuming process. In order to be able to continue with a well-founded resource allocation process at EPO, we would also like to appeal to all applicants that might be approached in the future to kindly respond in full to the questions.

Please read the following Annexes for information on the mechanism and execution of the survey (Annexes I to V), for results on respondents' profiles and analyses of company economic attributes that appear, such as R&D budgets, inventions, inventors, first filings and SME status (Annex VI). Applicants were also asked to assess possible changes in the relationship of patent filings to R&D activities, provide information about European patent portfolios and about potential effects of the future Unitary Patent (Annex VII). Annex VIII reports on possible correction. Finally, Annex IX gives details on this year's survey population and sample sizes.

7 ANNEX I: Methodological approach, data collection procedure, and questionnaire

7.1 Underlying population and target persons

The **underlying population** of the Patent Filings Survey comprises applicants who filed a patent application (excluding divisionals) at the EPO in 2011. These applicants are mainly companies, but there are also some educational organisations and private inventors. The applicants come from all over the world, but are mostly residents of Europe, the US, and Japan.

The following table shows the distribution of the applicant population in 2011, broken down by residence bloc (applicants for Euro-direct and Euro-PCT-RP, here excluding divisional filings[12]).

Residence bloc	Applicants (population)	%
EPC countries	20 776	58.7%
Japan	2 101	5.9%
USA	7 585	21.4%
Other countries	4 937	13.9%
Total	**35 399**	**100.0%**

Table 25: Population size (applicants for Euro-direct and Euro-PCT-RP)

The following table shows the probability distributions of the same applicant population in terms of number of filings made per applicant, with separate distributions shown per bloc of origin and overall.

class	lb	ub	EP	JP	OT	US	TOTAL
1	1	1	0.68	0.49	0.73	0.63	0.67
2	2	2	0.14	0.15	0.13	0.14	0.14
3	3	3	0.06	0.08	0.05	0.06	0.06
4	4	5	0.05	0.07	0.03	0.06	0.05
5	6	9	0.03	0.07	0.02	0.04	0.04
6	10	19	0.02	0.06	0.01	0.03	0.03
7	20	39	0.01	0.05	0.00	0.02	0.01
8	40	and higher	0.01	0.04	0.01	0.01	0.01

Table 26: Grouped bloc-wise probabilities of existence of specific filing counts

[12] These use capitalised names from the database, as were also used for selecting the samples.

Details of each selected applicant were provided by the EPO, including the name of the company/person, address and further information from the EPO database, such as number of filings at the EPO in 2011.

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

7.2 Questionnaire

The questionnaire used for data collection is printed below. It is broadly similar to the one used in 2011, and covers the following key topics:

- **Current and future filings (part B)**, split by
  - First and subsequent filings
  - Different procedures: Euro-direct, PCT international and national/regional phase, and national procedures
  - Different countries: Germany, Japan, the US, Republic of Korea, People's Republic of China, and Other countries
- **Research and development budget as well as patenting activities (part C)**, split by the 14 joint cluster organisational groupings used for examinations at the EPO and total number of inventions considered for patent applications. There is also a 15th box for "Other area(s), please specify".
- **Changes in the relationship of patent filings to R&D activities (part D):** estimate if the patent filings done today compared to ten years ago are more driven by strategic management decisions than by R&D outlays, proportion of R&D expenditure spent today as well as ten years ago on activities that lead to patent filings.
- **Inventive staff (part E):** number of staff involved in making inventions, number of inventive staff by the type of educational qualification they have received (secondary school, undergraduate, post-graduate, higher post-graduate), proportion of inventive staff focused on research versus administration today as well as ten years ago.
- **European Patent portfolio (part E):** total number of European patents in the portfolio across different time periods, number of European patents bought in and sold across these time periods, proportion of European patents still in the pre-grant phase, number of European patents the applicant regrets having applied for including reasons, and estimate if there is an increase in European patent applications due to some advantages noticed when the Unitary Patent is introduced.
- **Company details**, such as organisation type **(part A)**, number of employees (**part E**), size of annual turnover, and annual balance sheet total (**part C**), whether company is an SME, whether it owns/is owned by other companies to the extent of at least 25%, whether size of these companies is as big as applicant (**part E**), when an organisation started applying at the EPO (**part C**).
- General **comments** regarding the questionnaire (**part F**).

Basic results of **Section D** and **E** are documented in **Annex VII**.

There were several changes in the main part of the questionnaire compared to last year:

Section B:

a) A more precise explanation was added before the first matrix about how to record no filing activity in the table.
b) In addition, the wording of the control question beneath the first matrix was changed to give more relevant answers (a specification of which lines were incomplete).

Section C:

a) Earlier "total annual sales throughout the world" was collected which was now modified and asked about as "annual turnover (total sales less rebates and taxes)".
b) A new question on the "size of annual balance sheet (value of company's main assets)" was appended.
c) Some changes were made in the nomenclature of the technical domains used to classify the main areas of business of the participating companies in order to adapt wording to the current usage within the EPO (e.g. Electronics was changed to Electrical and Electronic Technology, Human Necessities to Medical and Consumer Technology (including agriculture), Measuring & Optics changed to Applied Physics).

As usual, Sections D and E were extensively changed to include topical questions for the current survey.

Section D:

New questions replaced the former ones to understand the change in relationship of patent filings to R&D activities.

Section E: New questions were added on the following topics:

a) Possible classification of the company as a small and medium-sized enterprise (SME), with backup questions on relevant topics for the SME definition that is used by the European Union (numbers of employees, turnover, ownership of or by other companies).
b) Profile of staff involved in making inventions (educational qualification, focus on research or administration).
c) Development of European patent portfolios over time, including buying and selling patents.
d) Information on the effect of the potential Unitary Patent on applications for European patents.

The questionnaire was accompanied by an **official letter of recommendation from the EPO** to motivate respondents to participate. This letter contained information on the background of the study, the target group and data protection, a contact person at the EPO in cases of doubt, and stated that the results would be published on the internet. As in 2011, the letter stated that guesses are welcome in case no exact figures can be retrieved. In addition, a **cover letter from Ipsos** provided information on the survey procedure.

Both letters and the questionnaire were personalised, i.e. the company name, the address, the name of the contact person and an identification number were printed on each questionnaire and reference letter. To cover the requirements of the contact persons, the letters and questionnaires were available in English, French, German, Japanese, Chinese (Simplified as well as Traditional), Italian, and Spanish.

Since there were changes to the questionnaire, it was pre-tested amongst 15 respondents (English and German versions). For this purpose, the correct contact persons were found and contacted by telephone. If they agreed to take part in the survey, the draft questionnaire was sent via fax and discussed by phone in a follow-up call. This means that Ipsos not only received their answers but (mostly) had a follow-up talk about the questionnaire as well. The pre-test interviews resulted in some changes in wording. The answers given in the pre-test interviews were included in the analysis. There were also four pre-test questionnaires received after the testing phase had been finished, which were treated as usual returns.

The English version of the questionnaire is displayed below:

Europäisches Patentamt European Patent Office Office européen des brevets	Ipsos-ID / GROUP FA LEITER PATENTABTL ABTEILUNG STRASSE ORT **LAND**
	Please return to the EPO: **+49-89-2399-1333** **filingsurvey@epo.org**

Questionnaire

for Patent Filings Survey

We assure you that all the information you provide will be treated as strictly confidential by the EPO as well as by Ipsos, and will be used solely for the purposes of neutral, general statistical evaluation.

Please respond only in respect of the company/company part mentioned to you over the phone by Ipsos, e.g. your branch or subsidiary. If, however, this is not possible, we would welcome your responses in respect of whatever larger or smaller company part that you can speak for.

For which company/company part will you answer the questionnaire?

☐ the company/company part mentioned by Ipsos

☐ smaller company/company part, please specify: _____

☐ bigger company/company part, please specify: _____

Please answer the whole questionnaire for the same company/company part.

A. Contact Details

Should the information given above on your company details be incorrect, please provide us with corrected information below:

Contact Name:		Position:	
Phone Number:		E-mail-Address:	
Organisation Name:		Organisation Address:	

Please indicate the nature of the entity for which you will answer the following questions in Sections B to F of this questionnaire. Please cross the box that applies.

Type:

☐ **Private enterprise/commercial sector**

Public sector

☐ Government-performed R&D

☐ Higher educational sector

☐ Other public sector

☐ **Other, please specify:**

A summary of the results of the survey will be published in early 2013 at http://www.epo.org/service-support/contact-us/surveys.html.
Please give your E-mail address in Section A above and we will let you know then.

B. Estimation of your levels of patenting activity throughout the world

Please give information on numbers of filings in the two tables below. In case you are unable to give actual figures, indicate anticipated yearly growth rates as percentages (i.e. 2012 compared with 2011; 2013 compared with 2012; 2014 compared with 2013).

Please indicate the numbers of first filings[1] and subsequent filings (claiming priority of an earlier application) with break downs by patent types and countries, that you filed in the last calendar year and that you expect to file in the present and future calendar years. Please enter "0" if you have no applications in a year/procedure, and a "/" only if you do not know or do not want to tell.

			Filed 2011		Expected 2012		Expected 2013		Expected 2014	
			First filings[1]	Subse-quent filings	First filings[1]	Subse-quent filings	First filings[1]	Subse-quent filings	First filings[1]	Subse-quent filings
European patent applications under the EPC (excluding PCT)[2]		**(a)**								
International applications under the PCT (International Phase)		**(b)**								
National applications (excluding EPC and PCT) to the Patent Offices of these countries	Germany	**(c)**								
	Japan	**(d)**								
	United States[3]	**(e)**								
	Republic of Korea	**(f)**								
	People's Republic of China	**(g)**								
	Other countries	**(h)**								
Worldwide Total First Filings		**(i)**								

Were you able to complete the table above with all the requested information regarding your activities?
☐ ***Yes*** ☐ ***No***

If not, please specify which rows are incomplete:

1 A first filing is a patent application that, according to the Paris Convention for the Protection of Industrial Property, confers a right of priority for a period of twelve months for the purpose of filing patent applications in other countries or systems, with respect to the same invention.

2 Exclude any multiple counting that is due to the retrospective filing of divisional applications.

3 Include provisional filings at USPTO in the cells for first filings of this row.

Please indicate the numbers of your PCT applications that entered the regional/national phase at the listed offices during the last calendar year, and also those that you expect to enter the regional/national phase in the present and future calendar years.

PCT applications entering the regional/ national phase at:		**Entered 2011**	**Expected 2012**	**Expected 2013**	**Expected 2014**
European Patent Office (EPO)	**(j)**				
United States Patent and Trademark Office (USPTO)	**(k)**				
Japan Patent Office (JPO)	**(l)**				
German Patent and Trade Mark Office (DPMA)	**(m)**				
China State Intellectual Property Office (SIPO)	**(n)**				
Korean Intellectual Property Office (KIPO)	**(o)**				

C. Your activities in total and in various sectors

Can you give us more information on your business activities, including turnover, balance sheet total, inventions, R&D budget as well as first patent filings? This will help EPO to develop detailed plans that use relationships between various items in the major technological categories of industrial research. Please indicate …

(a) the approximate size of your annual turnover (total sales less rebates and taxes) in 2011 (specify currency):	
(b) the approximate size of your annual balance sheet total (value of your company's main assets) in 2011 (specify currency):	
(c) the total number of distinct inventions in 2011 that led your organisation to consider making patent applications:	

We are interested in classifying your activities in terms of technical domains according to organisational groupings of examination departments at the European Patent Office. Please complete the following table as far as you can, by indicating…

(d) …which of the following you believe contain(s) the **main area(s)** of your business. Please tick appropriate box(es).	**(e)** …the approximate size of your **R&D budget 2011** (specify currency)	**(f)** …the number of **first patent filings** that you actually made in 2011 throughout the world[4]
☐ Audio, Video and Media		
☐ Biotechnology		
☐ Civil Engineering; Thermodynamics (including engines and pumps)		
☐ Computers		
☐ Electricity and Semiconductor Technology		
☐ Electrical and Electronic Technology		
☐ Handling and Processing		
☐ Medical and Consumer Technology (including agriculture)		
☐ Industrial Chemistry		
☐ Applied Physics		
☐ Polymers		
☐ Pure and Applied Organic Chemistry (including pharmaceuticals)		
☐ Telecommunications		
☐ Vehicles and General Technology (including transporting mechanisms, lighting)		
☐ Other area(s), please specify:		
TOTAL		

4 The Total for first patent filings provided at the bottom of this column should correspond to the number of worldwide total first filings provided in **part B** of the questionnaire, **line (i)**.

In what year did your company / company part start applying for patents at EPO[5]?

(g) Please insert the year:

5 Do not consider any other patent offices located in Europe. Note that EPO effectively started operations in 1978.

D. Changes in the relationship of patent filings to R&D activities:

(a) ***Please indicate to what extent you agree with the following statement.***

	Completely disagree 1	2	3	4	Fully agree 5
Compared to 10 years ago (or the year you started applying at the EPO, if later), these days your first patent filings relate **more to strategic management decisions** than to R&D outlays.	☐	☐	☐	☐	☐

Comments:

(b) ***What proportion of your overall R&D expenditure is spent specifically on activities that might lead to first patent filings? Please answer for today as well as for the past as described:***

Today: ____ % 10 years ago (or the year you started applying at the EPO, if later): ____ %

E. Details of company/company part and EPO patent portfolio

(a) ***Is your company one of the Small and Medium sized enterprises (SMEs) under the EU definition?***

Yes ☐ No ☐ Not relevant ☐ Don't know ☐

NB: Essentially, the European Union defines a SME as follows: A private enterprise with a headcount less than 250, AND; EITHER a turnover less than or equal to 50 million Euro OR a balance sheet total less than or equal to 43 million Euro. The entity should not cross these limits after taking account of other enterprises that it controls or is controlled by.

(b) ***Do you own, or are you owned by, other companies to the extent of at least 25%?***

Yes, we are owned by other companies to the extent of at least 25% ☐ Yes, we own other companies to the extent of at least 25% ☐ No ☐

(c) ***If "yes" once or twice in (b): Together, are these other companies at least as big as you?***

Yes ☐ No ☐

(d) ***Please indicate the…***

1	approximate **total number of staff** employed at your organisation at the end of 2011:	
2	number of these staff directly **involved in making inventions** that might be patented:	
3	numbers of your **staff involved in making inventions** that have the following as highest formal **educational qualification**:	**Number of inventive staff:**
	- Secondary school leaving certificate:	
	- Completion of undergraduate degree or equivalent (e.g. Bachelor):	
	- Completion of post-graduate degree or equivalent (e.g. Master, Diploma):	
	- Completion of higher post-graduate degree (e.g. PhD):	

4 Please indicate the approximate **proportion of your staff involved in making inventions** that are …

	Today	**10 years ago** (or in the year you started applying at the EPO, if later)
- focussed on research	%	%
- focussed on administration	%	%

Please answer the following questions on **your European patent portfolio** as far as possible on the basis of information that you have readily available.

In the following, **"European patents"** is to include patent applications that are still under consideration at the EPO as well as EPO patents that have been granted and are still maintained in at least one EPC contracting state's national office.

(e) ***Indicate the total number of European patents (including divisionals) in your portfolio at the end of the following years. (Note that the same patents may remain for several years in the portfolio. (Please enter "0" in each box where there was no portfolio):***

Year:	1995	2000	2005	2008	2009	2010	2011
No. of patents **in portfolio**:							

(f) ***Indicate the numbers of European patents that you bought in from external sources, and that left your portfolio because you sold them, during each of the following years. (Please enter "0" in each box where there was no patent bought in or sold)***

Year of **purchase or sale**:	1995	2000	2005	2008	2009	2010	2011
No. of patents **bought in**:							
No. of patents **sold**:							

(g) ***Counting each granted patent only once, roughly what proportion of your European patent portfolio at the end of 2011 is still in the pre-grant phase?***

Please insert in %: **%**

(h) ***Some patents may turn out to be more valuable to their owners than others, due to various reasons. Bearing this in mind, how many patents in your European Patent portfolio at the end of 2011 do you now regret having applied for?***

Please insert the number of patents:

Reasons:

(i) ***Did you recently start making more applications for European patents, than you otherwise would have done, because of some possible advantages in case a "Unitary Patent" is introduced in the future?***

Yes ☐ No ☐ Not relevant ☐

NB: If the **Unitary Patent** is implemented, this will be an additional option for simultaneous protection in the European Union member countries.

Comments:

F. Further comments:

Comments on any matter concerning this questionnaire (please continue on a separate sheet if necessary):

Thank you very much for your cooperation.

7.3 Data collection procedure

As in previous years, data collection was done through mailed questionnaires backed up by telephone interviews, and consisted of three steps.

7.3.1 International research of up-to-date telephone numbers

Telephone numbers were sought for the 2 819 EPO applicant addresses (Biggest and Random samples).
The following sources were used to search for telephone numbers:

- Internet search engines
- Special business pages on the internet
- Phone directories of the relevant countries
- Websites of the companies on the internet
- Directory enquiries

As in previous years, up-to-date telephone numbers could not be found for all applicants in the gross sample. It was difficult to find telephone numbers in particular for private inventors, for companies in the US and GB, and applicants in the "Other countries" category. All in all, it was not possible to find (correct) telephone numbers for a total of 102 addresses.

7.3.2 Telephone contact interviews

Following the research step, telephone contact interviews were conducted with applicants whose current telephone number had been obtained. The contact interviews consisted of the following steps:

- Identifying the target person within the company or organisation who could answer the questions in the questionnaire
- Introducing the background and the purpose of the survey to the target person and requesting his/her participation
- Recording the name and e-mail address or, where required, fax number of the target person, or recording their reason for declining, where applicable.

Due to the complexity of the topics, all participants received the questionnaire in writing to enable them to look up the required figures and provide reasonable estimates. In 184 cases, the questionnaire and the accompanying letters were sent via fax. However, the majority of applicants preferred to receive the documents via e-mail (1 696). Only four applicants received the documents via fax as well as e-mail.

The main contacting phase, i.e. sending the personalised questionnaires and accompanying letters to the participants, started on 2 May 2012.

From 30 July until 20 August, there was a summer break in European countries (as in previous years). During this time, fieldwork was not completely stopped at any point; the interviewers conducted previously agreed calls and incoming questionnaires were collected as usual.

7.3.3 Main interviews

The target respondents were offered several modes of returning a completed questionnaire: e-mail, fax, telephone, and post. Principally, the respondents were asked to send their questionnaire to the EPO. If this did not suit their need for data protection, they were asked to return the questionnaire directly to Ipsos. In this case, the identity was not made known to EPO. Alternatively, the respondents could opt for a telephone interview.

Most of the questionnaires were completed by the target respondents themselves and sent back to the EPO by e-mail or fax. Compared to previous years, e-mail responses increased significantly again (316 in 2009 vs. 496 in 2010 vs. 560 in 2011 vs. 631 in 2012).

Proactive fieldwork was finished by 14 September 2012. However, to increase the number of responses, all completed questionnaires received by 28 September 2012 were included in the analysis.

	Questionnaire sent to EPO							**Questionnaire sent to Ipsos**						
ReturnType	2010	2011	**2012**	**EPC**	**US**	**JP**	**OT**	2010	2011	**2012**	**EPC**	**US**	**JP**	**OT**
Email	388	393	**482**	315	52	92	23	108	167	**149**	103	19	10	17
Fax / letter	257	168	**84**	51	4	28	1	1	4	**6**	2	-	4	-
Phone	-	-	**-**	-	-	-	-	50	50	**36**	32	-	2	2
Total	645 80%	561 72%	**566 75%**	**366**	**56**	**120**	**24**	159 20%	221 28%	**191 25%**	**137**	**19**	**16**	**19**

Table 27: The distribution of responses received by the EPO and by Ipsos

In total, **757 interviews** were realised in 2012. The number of responses is slightly lower than last year (782 interviews in 2011, 804 interviews in 2010, 702 interviews in 2009, 772 interviews in 2008, 747 in 2007, and 772 in 2006).

Of these 757 participants in 2012, 135 also took part in the 2011 survey (according to consolidated EPO identification numbers for the Random group and names for the Biggest group). This rate of cases overlapping with the previous year's survey has continuously been growing over the past three years from 10% in 2010 (overlap with 2009), 15% in 2011 (overlap with 2010) to 18% now in 2012 (overlap with 2011). This seems to be due to the changes in the sampling scheme applied, switching from ID codes to capitalised applicant names.

Cases overlapping for 2011 and 2012 are split by region as follows:

	Total	EPC	US	JP	OT
Base: Total number of interviews 2012	*757*	*503*	*75*	*136*	*43*
Number of 2012 survey respondents also having participated in the 2011 survey	**135** **18%**	87 17%	4 5%	41 30%	3 7%

Table 28: Cases overlapping for 2011 and 2012, split by region

The following table shows the total number of applicants who were selected for the survey, the number of applicants who dropped out for various reasons, the final numbers of responses received for the total net number of applicants, and the split into Biggest and Random groups.

	Total**		Biggest		Random	
	n	%	n	%	n	%
Total gross sample	**2 819**	**100.0**	**429**	**100.0**	**2 773**	**100.0**
Addresses not found	102	3.6	2	0.5	102	3.7
Addresses found	**2 717**	**100.0**	**427**	**99.5**	**2 671**	**96.3**
Dropouts (1)	410	15.1	57	13.3	403	15.1
Adjusted sample	2 307	84.9	370	86.7	2 268	84.9
Dropouts (2)	1 550	57.0	206	48.2	1 528	57.2
Total responses/ response rate*	**757**	**27.9**	**164**	**38.4**	**740**	**27.7**

(1) Number of losses: company was identical with/included in another one already identified in the sample; an appropriate contact was not found or could not be reached; contact was never available; company is being restructured or never available, etc.

(2) Number of refusals: questionnaire not returned; no time available for dealing with the matter; no interest in filling in the questionnaire; company policy; data too confidential; not able to collect requested data, etc.

*) Calculation: total responses over addresses found

**) No additional addresses were requested by EPO joint cluster managers in 2012

Table 29: Overview of samples and responses received

During the main interview phase, the respondents were contacted several times through follow-up telephone calls in order to realise both a high response rate and quality. The follow-up calls aimed to

- arrange appointments with target persons who were difficult to reach
- remind respondents about the questionnaire
- clarify questions and help respondents to complete the questionnaire
- collect the responses by telephone, where appropriate

All contact interviews and, where applicable, main interviews were conducted centrally by telephone from the Ipsos call centre in Munich. This facilitated efficient and reliable survey coordination.

All interviewers involved were either native speakers of the required languages, or spoke those languages fluently. Most of them already had prior experience with patent-related topics or other EPO surveys. All 13 interviewers received a detailed briefing about the study and the contents of the questionnaire, in order to prepare them for any questions from the target persons. Delegates from the EPO attended the initial briefing of the interviewers.

The availability of the 2012 questionnaire in multiple languages was very much appreciated by the respondents, as mentioned in telephone calls.

7.4 Experiences during fieldwork

During fieldwork, the complexity of company structures were considered in order to avoid data overlaps. Multiple contacts with one and the same department through different company subsidiaries were avoided as far as possible, e.g. by carefully checking the gross sample for companies with identical or similar names.

Just as in 2011, the fieldwork in 2012 started about a month earlier than the start dates previously. The early start enabled the fieldwork staff to progress better with initiating contacts/conducting follow-up calls with the respondents prior to the summer break. However, as in 2011, some respondents again took much time to send back their replies so that a considerable number of follow-up calls were needed to motivate contact persons.

As in previous years, the contact phase was particularly difficult in the US. The response rate for both the Biggest group and the Random group in the US dropped compared to 2011, and is now again lower than in previous years. This was due to the increasing difficulty to identify target persons within the companies, i.e. the extended use of mailbox systems or the policy not to put any phone call through unless a correct name of a contact person could be provided.

However, since 2010 the situation that interviewers only got through if they had the name of the contact person has not only been encountered in the US, but also in European countries. In addition, refusals due to time restrictions, lack of interest or confidentiality of data are increasing continuously from year to year. Some applicants that had participated in past years explained that they did not want to take part for the current year. For some small enterprises and private inventors, the applicants found the questionnaire too difficult to fill in and more complicated than expected. Also some applicants were not willing to participate in the survey as they did not recognise the benefits.

7.5 Questionnaire checks

Each questionnaire returned was checked in detail and corrected according to rules agreed with the EPO. In cases where answers were not comprehensible, respondents were contacted again for clarification. If necessary, verbal information provided by the respondents on the questionnaire was converted into figures. All relevant modifications were recorded on a separate change and comment list.

A set of rules was developed, together with the interviewers, to ensure that the answers given to the questions were correctly transcribed and interpreted in the electronic database. In cases where percentage growth rates were given instead of real figures, a method was defined for converting these into equivalent filing figures on which the analyses could be based. Rules were given concerning the interpretation of zero to ensure correct interpretation where zero is given either as a figure or as an indicator of no change compared to the base year.

Technical areas noted verbally in the "Others" line of Part C were allocated to one of the 14 joint clusters ex post, where possible.

7.6 Plausibility rules

To ensure that the answers given in the questionnaire were logical and consistent, some plausibility rules were set up. The rules covered the following topics:

General rules:

- The worldwide total of first filings (line i of **Section B**) was compared with the sum of the first filings reported for Euro-direct/European patent applications under the EPC (excluding PCT) (line a), international applications under the PCT (international phase) (line b), and national applications (lines c, d, e, f, g, and h) as well as with the total number of first filings given in part C/question f. If missing or implausible, the worldwide total of first filings was calculated according to the figures provided, or otherwise the total was deleted. The calculated sum can be interpreted as an estimation for the worldwide total of first filings.
- For non-EPC-respondents (US, JP, CN, etc.), the number of first filings at the EPO (Euro-direct/European patent applications under the EPC, line a) should not be much higher than the number of first filings at the respective home office in the same year. In addition, a non-EPC-respondent should not have more first filings at the EPO than subsequent filings at the EPO one year later.

Specific rules for "critical codes" that can lead to removal from the analysis:

Some plausibility checks resulted in “critical codes” in the electronic database that identify an answer scenario as being dubious if the following rules were not fulfilled:

- The numbers in any field under subsequent filings should be comparable (say, not more than three times as high) as the number under worldwide total first filings (line i) for the previous year.

- The numbers for PCT national/regional phase applications in any field for 2013 and 2014 (lines l, m, n, o, or p) should be comparable to (say, not more than three times as high as) the combined figures under PCT international phase first filings and subsequent filings (line b) in 2011 and 2012, respectively.
- Any scenario that gave the impression of being dubious due to other reasons.

Specific rules resulting in an analysis as combined filings only:

In addition, it was checked whether there was any evidence that first and subsequent filings had not been distinguished by the respondents. Such cases were analysed as combined filings only. This refers to the following rules:

- When a respondent indicated a more substantial number of first filings for offices that are not the home office, there should be subsequent filings in the following year. If there are only figures provided for the first filings column, this probably indicates that the respondent did not distinguish first and subsequent filings but put them together.
- When a non-EPC respondent indicated subsequent filings at the home office (national office of applicant residence) only, but no subsequent filings in other countries/procedures. This also may indicate that first and subsequent filings were put together.
- When there was a specific comment by the respondent that first and subsequent filings could not be distinguished (no case in 2012).

Such suspected combined answers could not properly be allocated or partitioned between first and subsequent filings, and unfortunately, could not be used for the detailed analyses as they are calculated for this report. Therefore, they were marked with a comment code in the data set and were included only at a higher level of aggregation with first and subsequent filings combined.

The following table shows the distribution of such cases in total (Biggest and Random groups put together) and broken down by residence bloc. This problem is slightly more relevant for applicants from the US, JP, and Other countries than for EP applicants.

	Total	**EP**	**US**	**JP**	**OT**
Total number of interviews	*757*	*503*	*75*	*136*	*43*
Cases without subsequent filings entered, but first filings	99 13%	43 9%	17 23%	28 21%	11 26%
Cases with subsequent filings in home office only	17 2%	0 0%	9 12%	6 4%	2 5%

Table 30: Distribution of cases that can be analysed at a higher level of aggregation only

7.7 Follow-up Calls

In the previous years' surveys it was noticed that many respondents sent back the questionnaire without providing most of the details critical for forecasting patent applications (Section B, first matrix table). Respondents either returned the section completely blank or incomplete. Although attempts were made in previous years to make follow-up calls to collect the missing information, the process was followed in a more systematic and structured manner during 2012. It was decided to focus the efforts on reconnecting or follow-up with such respondents and collecting the information in Section B as completely as possible. This provided more useful input for higher quality forecasts, especially for EPO procedures (lines a) and b) of the questionnaire).

Certain rules (referring to Section B, first and second matrix table) were set to undertake these follow-up calls. A follow-up call was made for …:

- **Cases that provided only base year filings but no forecast** for EPO procedures (a) and / or (b) **for 2012** (2013 and 2014 only asked for if a follow-up call was done anyway)
- **Cases that did not provide any base year figures** (2011) for EPO procedures (a) and/or (b)
- **Cases that did not have at least one EPO application** (2011) in line (a) or (j) in base year 2011 (as sampling was restricted to applicants at the EPO in 2011)
- **Cases that indicated percentage growth rates for 2012-2014 based on zeros or blanks**
  (growth rates indicate that respondent wanted to communicate some information; but the information that was given was not meaningful and hence needed checking)

In total, 279 questionnaires needed a follow-up process to get the missing information, requiring about **530 calls**. So a considerable effort was made to reach the 279 respondents, as there were drop-outs for various reasons such as contact not reachable, number busy, re-directed to mailbox, etc.

Structure of reasons for follow-up calls

Mostly, blank responses to questions related to the estimation of future patenting activities at the EPO in 2012 (85%) were the key reason for undertaking the follow-up calls. Other reasons were related to implausible statements regarding sampling conditions, missing information, etc.

Reasons for follow-up calls

Base: Questionnaires needing a follow-up call	*279*
BLANK for EPO filings in (a) and/or (b) for 2011 & 2012	63%
BLANK for EPO filings in (a) and/or (b) for 2012	22%
No EPO filings (zero or BLANK) in (a) and (j) for 2011	4%
Implausible statements	3%
Information is missing / unclear information (e.g. additional "m" / missing "billion")	1%
No EPO filings in (a) and/or (b) for 2011	1%
% growth rates for 2012-2014 based on “zero" or “BLANK" in the base year 2011	1%
Others	3%

Table 31: Reasons for follow-up calls

Results of follow-up calls

It was observed that the follow-up calls had a close to 50% success rate (gaps from 132 respondents out of 279 were filled in).

Results of follow-up calls	Made changes	No changes	Not reached*
BLANK for EPO filings in (a) and/or (b) for 2011 & 2012	52%	18%	30%
BLANK for EPO filings in (a) and/or (b) for 2012	35%	50%	15%
No EPO filings (zero or BLANK) in (a) and (j) for 2011	25%	58%	16%
Implausible statements	44%	11%	11%

* Including those for which fieldwork timing was too short for doing a follow-up call.

Table 32: Results of follow-up calls

As a result of the follow-up calls, the volume of information that was available for analysis from Section B, EPO procedures lines a) and b) in 2012 was much higher than in 2011:

Completion level after follow-up calls 2012	**2011**	**2012**
Base: Total Interviews Achieved	*782*	*757*
Filled (a) for all years (FF+SF)	49%	**61%**
Filled (a) first two years (2010/11; resp. 2011/12) (FF+SF)	55%	**77%**
Filled (b) all years (FF+SF)	46%	**58%**
Filled (b) first two years (2010/11; resp. 2011/12) (FF+SF)	53%	**75%**
Filled both (a) and (b) for all years (FF+SF)	43%	**56%**
Filled both (a) and (b) first two years (2010/11; resp. 2011/12) (FF+SF)	49%	**60%**

Table 33: Completion level after follow-up calls in 2012

7.8 Respondents' reactions to the questionnaire

As usual, the questionnaire required a high level of commitment from the respondents. Some respondents found the questionnaire very complicated and difficult to understand. It was emphasised that the questionnaire gets more complex from year to year, therefore data collection was often perceived as being too time-consuming. Sometimes it was impossible to gather the information requested.

As in previous years, all this resulted in a significant time lag between initial contact and response. In addition, a substantial number of follow-up calls were required (in some cases as many as 12 calls) to remind and encourage respondents to complete the questionnaire, and to assist respondents with explanations about the questions. If respondents indicated that it was difficult to give precise quantitative answers to the questions asked, then they were asked to give educated guesses where no exact data were available.

In general, the respondents had the following difficulties when responding to the questionnaire:

- Difficulty providing the information due to unavailability of the data
    - Some organisations do not record the requested data
    - Data are only available for a larger/another part of the company than that requested
    - Data are not recorded in the required structure
    - Data are not available because the company is currently under transition
- Difficulty providing the information due to data confidentiality
- Confusion about the terminology used in the questionnaire
- Difficulty answering the questions as they are not relevant to their organisation

7.9 Non-response analysis and response rates

7.9.1 Address qualification

The EPO provided lists containing a total of 2 819 selected applicants. The researchers strove to identify contact names, addresses and telephone numbers, and 2 717 addresses were confirmed. It was possible to obtain 427 telephone numbers for 429 Biggest addresses (99.5%) through international research. In the Random group (including target group overlap), the percentage of telephone numbers found was less than that of the Biggest group but was more than the percentage in the previous year, and the achievement rate is one of the highest (96% in 2012 vs. 94% in 2011 vs. 89% in 2010 vs. 95% in 2009).

7.9.2 Losses

In 2012, 7% of the addresses found for the Biggest group were identical with, or included in, another company. A further 6% had to be classified as non-systematic losses. Addresses were classified as losses in case of general drop-out not due to a refusal of the company or contact person (reasons like no availability, no appropriate contact found/mailbox system, technical problems or language problems, company no longer exists, etc.).

In the Random group, 6% of the addresses found were identical to, or included in, another applicant in the sample. Compared to 2011, this rate is about on the same level, due to the EPO's continuing efforts to eliminate identical addresses from the gross sample, by assigning applicants using capitalised names. Another 9% were non-systematic losses (2011: 11%).

In the Biggest group, a first contact was established for 86% of the 429 gross addresses (= "adjusted sample B", 2011: 88%). This figure was lower in the Random group (82% of 2773 gross addresses), which is, however, slightly better than in the previous year (77%). In the US, which is an important region for analysis, the quota of useable Random group contacts increased again slightly compared to 2011 (76% in 2012 compared to 69% in 2011).

In absolute numbers, the useable number of contacts in the Random sample (adjusted sample B) is again higher than in the previous years (2 268 addresses for the Random group in 2012 compared to 2 060 addresses in 2011 and 1 809 addresses in 2010). However, again more addresses were provided by the EPO (which resulted in 2 773 addresses in the gross sample in 2012 compared to 2 671 in 2011 and 2 530 in 2010).

7.9.3 Response rates

As in previous years, the general response rate was higher in the Biggest group than in the Random group in 2012. In terms of addresses found, **Table 29** shows that the overall response rate is 27.9%, 38.4% in the Biggest group, and 27.7% in the Random group.

In the following more detailed **Table 34** and **Table 35,** response rates are given in terms of percentages against adjusted sample B (equivalent to "adjusted sample" in Table 29) ("Response rate 1") and the number of addresses found ("Response rate 2"). The latter

includes duplicates (according to names/addresses) and non-systematic losses and is, therefore, lower than response rate 1.

Referring to adjusted sample B, the overall response rate was 44% (response rate 2 calculated over addresses found: 38%) in the Biggest group, and 33% (response rate 2: 28%) in the Random group. Compared to the previous years, there is a steady decrease in both groups (2011: 46%, 2010: 54% response rate in the Biggest group; 2011: 37% and 2010: 43% in the Random group).

In terms of regions, the response rate dropped especially in the US (both Biggest and Random groups), but also in EPC countries of the Random group and in the "Others" region of the Biggest group.

The main reasons for this drop may be as follows:

- The same absolute amount of interviewer hours had to be spread among an even larger number of addresses and contacts compared to previous years.
- In 2012, there was more effort put into high data quality rather than into absolute numbers of successful interviews (see Section 7.7). So a lot of interviewer hours were switched from pure reminder calls to data completion follow-up calls. This negative effect in terms of total number of interviews is especially noticeable in the US.

For the **US**, there was a drop in the response rate from 22% in the Biggest group in 2011 to 18% in 2012 (response rate 2: 13%), and from 22% in the Random group in 2011 to 14% in 2012 (response rate 2: 11%).

For the "**Others**" countries of the Biggest group, the response rate decreased slightly from 36% in 2011 to 32% in 2012 (response rate 2: 22%).

The response rate for **EPC** countries/Random group dropped from 43% in 2011 to 38% in 2012 (response rate 2: 33%). However, much higher response rates were still achieved for single EPC countries like Finland (57%), Belgium (50%), Netherlands (46%), and Denmark (45%) (Random group). With regard to absolute numbers of interviews, the level remained rather stable for EPC countries in the Random group compared to 2011 (491 interviews achieved in 2012 vs. 496 interviews in 2011). For EPC countries of the Biggest group, the response rate as well as the number of successful interviews did not change since 2011.

In **Japan**, the response rates did not drop from the 2011 level in both sample groups: 62% (response rate 2: 60%) in the Biggest group (2011: 64%) and 50% (response rate 2: 46%) in the Random group (2011: 48%). However, the absolute total number of interviews increased for the Random group (132 interviews achieved in 2012 compared to 115 interviews in 2011), although this is only slightly reflected in the response rate. This result seems to be due to the reduced field work period in Japan in spring 2011 due to the earthquake catastrophe.

The third column from the right in both **Table 34** and **Table 35** shows the numbers of responses achieved from blocs and countries of origin. **Table 36** shows in addition the numbers of responses by origin from the combined samples. Reasons for non-response are explained in **Table 37** (combined sample).

Block, Biggest	Country	Addresses in gross sample	Addresses not found	Addresses found	Included in/Identical with other applicant[D1]	Adjusted sample A	Number of losses[D1]	Adjusted sample B	Number of refusals[D2]	Number of interviews	Response rate 1*	Response rate 2**
EPC	BE	9	0	9	1	8	1	7	2	5	71%	56%
EPC	CH	22	0	22	0	22	0	22	13	9	41%	41%
EPC	DE	85	0	85	7	78	0	78	40	38	49%	45%
EPC	DK	11	0	11	0	11	0	11	4	7	64%	64%
EPC	FI	5	0	5	0	5	0	5	3	2	40%	40%
EPC	FR	32	0	32	1	31	1	30	16	14	47%	44%
EPC	GB	7	0	7	0	7	1	6	2	4	67%	57%
EPC	IE	2	1	1	0	1	0	1	1	0	0%	0%
EPC	IT	5	0	5	0	5	1	4	2	2	50%	40%
EPC	LU	2	0	2	1	1	0	1	1	0	0%	0%
EPC	NL	14	0	14	2	12	1	11	5	6	55%	43%
EPC	SE	10	0	10	0	10	0	10	6	4	40%	40%
EPC	OTHERS	6	0	6	0	6	0	6	3	3	50%	50%
EPC	**Total**	**210**	**1**	**209**	**12**	**197**	**5**	**192**	**98**	**94**	**49%**	**45%**
JP	**JP**	**83**	**0**	**83**	**1**	**82**	**1**	**81**	**31**	**50**	**62%**	**60%**
US	**US**	**108**	**0**	**108**	**13**	**95**	**17**	**78**	**64**	**14**	**18%**	**13%**
OT	CN	5	1	4	1	3	0	3	2	1	33%	25%
OT	KR	12	0	12	1	11	2	9	6	3	33%	25%
OT	CA	3	0	3	0	3	1	2	2	0	0%	0%
OT	OTHERS	8	0	8	2	6	1	5	3	2	40%	25%
OT	**Total**	**28**	**1**	**27**	**4**	**23**	**4**	**19**	**13**	**6**	**32%**	**22%**
Total	**Total**	**429**	**2**	**427**	**30**	**397**	**27**	**370**	**206**	**164**	**44%**	**38%**

D1) Both columns sum up to Dropouts (1) in **Table 29** D2) This column refers to Dropouts (2) in **Table 29**

*) Calculation: number of interviews over adjusted sample B**) Calculation: number of interviews over addresses found

Table 34: Non-response statistics – Biggest group (incl. overlapping members of the Random group)

Block, Biggest	Country	Addresses in gross sample	Addresses not found	Addresses found	Included in/ Identical with other applicant[D1]	Adjusted sample A	Number of losses[D1]	Adjusted sample B	Number of refusals[D2]	Number of interviews	Response rate 1*	Response rate 2**
EPC	AT	45	0	45	0	45	2	43	25	18	42%	40%
EPC	BE	42	1	41	6	35	1	34	17	17	50%	41%
EPC	CH	123	1	122	10	112	8	104	76	28	27%	23%
EPC	DE	504	3	501	37	464	20	444	267	177	40%	35%
EPC	DK	42	0	42	0	42	0	42	23	19	45%	45%
EPC	ES	50	1	49	2	47	2	45	33	12	27%	24%
EPC	FI	23	0	23	0	23	0	23	10	13	57%	57%
EPC	FR	193	7	186	19	167	13	154	104	50	32%	27%
EPC	GB	117	0	117	7	110	8	102	72	30	29%	26%
EPC	IE	19	2	17	1	16	1	15	9	6	40%	35%
EPC	IT	116	1	115	0	115	3	112	71	41	37%	36%
EPC	NL	71	0	71	5	66	3	63	34	29	46%	41%
EPC	SE	70	0	70	7	63	3	60	34	26	43%	37%
EPC	OTHERS	76	0	76	4	72	8	64	39	25	39%	33%
EPC	**Total**	**1491**	**16**	**1475**	**98**	**1377**	**72**	**1305**	**814**	**491**	**38%**	**33%**
JP	**JP**	**296**	**11**	**285**	**14**	**271**	**5**	**266**	**134**	**132**	**50%**	**46%**
US	**US**	**684**	**19**	**665**	**45**	**620**	**102**	**518**	**444**	**74**	**14%**	**11%**
OT	CN	47	15	32	1	31	12	19	14	5	26%	16%
OT	KR	58	10	48	4	44	17	27	18	9	33%	19%
OT	AU	19	3	16	0	16	1	15	12	3	20%	19%
OT	CA	37	1	36	0	36	7	29	21	8	28%	22%
OT	IL	33	8	25	3	22	6	16	9	7	44%	28%
OT	TW	36	0	36	0	36	0	36	32	4	11%	11%
OT	Asian Others	29	4	25	3	22	2	20	16	4	20%	16%
OT	Others	43	15	28	2	26	9	17	14	3	18%	11%
OT	**Total**	**302**	**56**	**246**	**13**	**233**	**54**	**179**	**136**	**43**	**24%**	**17%**
Total	**Total**	**2773**	**102**	**2671**	**170**	**2501**	**233**	**2268**	**1528**	**740**	**33%**	**28%**

D1) Both columns sum up to Dropouts (1) in **Table 29**

D2) This column refers to Dropouts (2) in **Table 29**

*) Calculation: number of interviews over adjusted sample B**) Calculation: number of interviews over addresses found

Table 35: Non-response statistics – Random group (incl. overlapping members of the Biggest group)

Number of interviews				
Block	**Country**	**Biggest (incl. Target group overlap)***	**Random (incl. Target group overlap)***	**Biggest & Random / net number of interviews***
EPC	AT	1	18	18
EPC	BE	5	17	19
EPC	CH	9	28	29
EPC	CZ	0	1	1
EPC	DE	38	177	184
EPC	DK	7	19	20
EPC	ES	0	12	12
EPC	FI	2	13	13
EPC	FR	14	50	50
EPC	GB	4	30	30
EPC	GR	0	1	1
EPC	IE	0	6	6
EPC	IT	2	41	41
EPC	LU	0	4	4
EPC	LV	0	1	1
EPC	NL	6	29	30
EPC	NO	0	5	5
EPC	PL	0	5	5
EPC	RO	0	1	1
EPC	SE	4	26	26
EPC	SI	0	2	2
EPC	TR	2	5	5
EPC	**Total**	**94**	**491**	**503**
JP	**JP**	**50**	**132**	**136**
US	**US**	**14**	**74**	**75**
OT	CN	1	5	5
OT	KR	3	9	9
OT	AU	0	3	3
OT	CA	0	8	8
OT	IL	0	7	7
OT	IN	0	2	2
OT	MY	0	2	2
OT	SA	1	1	1
OT	TW	1	4	4
OT	ZA	0	2	2
OT	**Total**	**6**	**43**	**43**
Total	**Total**	**164**	**740**	**757**

Table 36: Respondent structure

NO. OF LOSSES			NO. OF SYSTEMATIC LOSSES/REFUSALS		
Appropriate contact not found / mailbox system	110	46%	Didn't return questionnaire	830	54%
Contact never available	47	20%	No time	203	13%
Company is being restructured	25	11%	Not interested	166	11%
Company is never available	18	8%	Company policy	65	4%
Language problems	16	7%	Data too confidential	63	4%
Technical problems (fax, email address not working)	6	3%	Not able to identify/collect data	57	4%
Company no longer exists	6	3%	No reason given	52	3%
Contact is sick/on vacation	5	2%	Questionnaire too complicated	26	2%
Company will be liquidated	5	2%	External attorney costs / too expensive	25	2%
			No name policy*	15	1%
			Questionnaire too long	11	1%
			Data security	10	1%
			Participated in other EPO survey	2	0%
			Other reasons	25	2%
Total	**238**	**100%**	**Total**	**1550**	**100%**

(1) = No addresses requested by EPO clusters in 2012

* = Blocking operators in case no correct contact name is available

Table 37: Reasons for non-response – Biggest and Random groups

7.9.4 Item non-response

Apart from the overall response rates, the different sections of the questionnaire were filled in with varying completeness, i.e. there are different response rates for different parts of the questionnaire. The completion rates of the questionnaire were close to 100% for part B (98% in 2011), 94% for part C (91% in 2011), 86% for part D, and 94% for Part E. These gratifyingly high percentages hide cases where not all questions were answered for a part (see **Table 38**).

	Total*		Biggest (incl. Overlap)		Random (incl. Overlap)	
Base: no. of interviews	*757*		*164*		*740*	
Part B overall	754	100%	164	100%	737	100%
Part B (at least one of Ba or Bb in at least one year)	746	99%	163	99%	729	99%
Part B (at least one of Ba or Bb in at least one of 2012-14)	696	92%	148	90%	679	92%
Part B (at least one of Ba or Bb in 2012)	694	92%	148	90%	677	91%
Part B (at least one of Ba or Bb in 2013)	598	79%	136	83%	583	79%
Part B (at least one of Ba or Bb in 2014)	566	75%	131	80%	551	75%
Part B (Bj)	662	87%	149	91%	648	88%
Part C overall	711	94%	149	91%	694	94%
Part C technical domain (Cd)	682	90%	140	85%	667	90%
Part C R&D budget (Ce)	295	39%	63	38%	288	39%
Part C Filings 2011 (Cf)*	742	98%	162	99%	725	98%
Part D overall	650	86%	139	85%	633	86%
Part E overall	708	94%	151	92%	691	93%

* = Cases with transfer of total worldwide filings from part B to part C are included here

Table 38: Partial response rates – Biggest and Random groups

In total (Biggest and Random groups), out of 757 complete interviews, 746 responses (755 in 2011) provided information for either EPC or PCT International Phase (B(a) or B(b)) for at least one year / first or subsequent filings). A lower number (696) provided figures for at least one forecasting year 2012-2014 for either EPC or PCT International Phase filings. As the overall number of interviews went down compared to 2011, this is about the same level as it was in 2011 (715 responses out of 782 interviews). It should be noted that the positive effect of follow-up calls cannot be seen in these figures because the calculation of the item non-response follows different and less stringent rules than the ones set for conducting a follow-up call.

662 responses (670 in 2011) could be used for EPO PCT regional phase applications (B(j)).

682 respondents (664 in 2011) provided information on the technical area(s) that they are active in. However, 189 of these respondents noted their technical area(s) in the "others" line (220 in 2011). Where possible (in 176 cases), these responses were allocated to one of the 14 joint clusters by Ipsos ex post. 295 responses (338 in 2011, 314 in 2010 and 239 in 2009) contributed to the analysis of R&D budgets (C(e)).

In the **Biggest group** (including overlap), out of 164 complete interviews, 163 cases provided information for either EPC or PCT International Phase (B(a) or B(b)) for at least one year / first or subsequent filings (equivalent response rate 2 over addresses found: 38%, which is about the same as the rate in the previous year: 40%). Of these, 148 responses provided figures for at least one forecasting year 2012-2014 for either EPC or PCT International Phase filings. 149 responses provided useful information on EPO PCT regional phase applications B(j) (equivalent response rate 2: 35%, which is the same as in 2011). For Section C, 149 respondents answered at least one question (equivalent response rate 2: 35%; which is fewer respondents than in 2011: 173 or 36%), and 63 responses contributed to the analysis of R&D budgets C(e) – equivalent response rate 2: 15% compared to 18% in 2011). 139 respondents provided useful answers to the Section D questions (equivalent response rate 2: 33%), while 151 respondents provided information on Section E (equivalent response rate 2: 35%).

In the **Random group** (including overlap), out of 740 complete interviews, 729 responses provided information for either EPC or PCT International Phase (B(a) or B(b)) for at least one year / first or subsequent filings (equivalent response rate 2: 27%, which is almost the same as the previous year). Of these, 679 responses provided figures for at least one forecasting year 2012-2014 for either EPC or PCT International Phase filings. 648 responses supplied useful information on EPO PCT regional phase applications B(j) (equivalent response rate 2: 24% compared to 26% in 2011). For Section C, 694 respondents answered at least one question (equivalent response rate 2: 26% compared to 28% in 2011) and 288 responses were used for the analysis of R&D budgets C(e) (equivalent response rate 2: 11% compared to 13% in 2011). 633 respondents answered Section D questions (equivalent response rate 2: 24% compared to 27% in 2011), while 691 respondents provided information on Section E (equivalent response rate 2: 26% compared to 27% in 2011).

8 Annex II: Verbal comments received from participants

8.1 Multiple comments

The table below lists a selection of verbal comments that were received multiple times. Numbers refer to the number of times a specific comment was received. Sometimes the same respondent made identical comments in several parts of the questionnaire. The comments may refer to more than one of the questions in the particular part mentioned.

Questionnaire part:	**B**	**C**	**D**	**E**	**F**	**Total**
	Absolute frequency of comments					
No answer / data not available / not collecting data in in requested structure/ do not know	49	71	46	67	30	**263**
Hard to answer (change in organisation / external attorney handles patent filing, company too young)	14	-	-	-	15	**29**
Confidential	3	6	1	-	17	**27**
Difficult to provide figures / hard to estimate / estimation only	26	3	1	8	14	**52**
Unclear question / terminology	-	2	4	6	5	**17**
Total	**92**	**82**	**52**	**81**	**81**	**388**

Table 39: Numbers of multiple verbal comments

8.2 Individual comments (selection)

8.2.1 Individual comments on patenting strategy and development

- So far, we are expecting probably 1 EU filing per year for 2012, 2013, and 2014. We have stopped using the PCT for the most part as we know which countries we would like to file in. We now use the PCT only for emergencies.
- […] is a business-to-business company producing a large amount of private label products. Due to limited amount of branded products, there are not many patents. From top management there is slightly increased focus on patent/IP opportunities when possible.
- We file patent application from a strategic point of view, namely what would bother our competitors the most which is not the same as focusing on distinct invention. Rather protect a "small" invention relating to a unique selling feature than patenting a distinct invention which would not gain customer interest.
- Patent use has shifted from defence (to assure return on investment) to strategy, we "are forced" by competition to have more strategic patents rather than having those on our actual products.

- We have been evaluating our patents in terms of patentability and functionality in a meeting before filing our EP applications and our filing strategy is filing through Euro-PCT application and thus having enough time for the evaluation process.
- We use an expert committee system for strategic patent filing decisions.
- Our strategy is mainly defensive, so not all patents relate directly to our own products. We have many competitors, known and unknown, and portfolio is sized to deter attacks.
- Ten years ago, my company did already have an elaborate filing strategy including the EPO, but that was different 20 years ago. A potentially interesting question could have been what value a company gives to its portfolio. This would have been high in our case as we give it defensive value and an offensive one, namely licensing value.
- As a US company, we file and prosecute patents first in the US, then PCT (rest of world). Depending on how US prosecution goes, this is a good insight for the PCT applications.

8.2.2 Individual comments on relationship of patent filings to R&D activities

- From the beginning, our IP strategy was put into managerial strategy.
- Our decisions are based on the commercialisation potential in the countries selected.
- Don't believe our first filings are related to the size of R&D outlay and don't think that's changed over the last ten years.
- As an academic institution first patent filings are mainly related to R&D outlays.
- The question seems to be odd and of little relevance. Why does R&D spend determine patent filings?

8.2.3 Individual comments on advantages of Unitary Patent

- Naturally we welcome legal initiatives such as Unitary European patents because we expect that it will ease patenting in Europe and reduce costs, but in general we use business considerations not legal/practical considerations when deciding on patenting.
- We will probably stop filing EP patents or at least file more national patents when the Unitary Patent is introduced.
- Hard to say. Upside of less translations vs. downside of distant legal venue.
- We expect that it will bring us the minimising of translation costs and maintenance costs.
- The European Patent Office would better serve its customers by decreasing pendency time.
- The Unitary Patent doesn't give benefits to us due to high price.
- No transparency of fees for the Unitary Patent.
- Not more patents but each EP is validated in more EPC member states in view of the upcoming central court.

- I do not believe that the Unitary Patent will be in place within five years.
- With thinking about uncertainty inherent in the Unitary Patent, we don't file applications which are in anticipation of the Unitary Patent at the moment.
- […] Quality of decisions needs to be seen before we will consider this option.

8.2.4 Individual comments on reasons for regretting having applied for a patent

- Change in company strategy
- No market - better technology in follow on.
- Unfeasible invention or do not add value to portfolio
- Poorly drafted claims and/or lacking prior art knowledge
- Scope not relevant to commercial products. Voluntary divisional having verbatim claim language outside of scope of originally filed application claims leading to prosecution issues.
- The portfolio is constantly pruned, and patents which have become irrelevant are abandoned.
- Starting patenting too early in the development process.
- At the time of filing, it is impossible to know which patents will be the most valuable ones. It is only genuinely possible to judge the value as inventions mature.
- We have been evaluating our patents in terms of patentability and functionality in a meeting before filing our EP applications and our filing strategy is filing through Euro-PCT application and thus having enough time for the evaluation process.
- Actually it is the other way around, regretting that we did not file a couple of applications.

8.2.5 Individual comments on EPC system/EPO quality

- It is extremely slow to get an EPO patent and the related fees appear quite high. Considering to "cover" Europe by direct DE filings.
- We would greatly appreciate more insight into the timing of prosecution of our matters. We had two patents granted this year far in advance of our projected timing for those applications, which leads to large budget shortfalls. Perhaps some sort of insight into the docketed scheduling for cases would help.
- We feel the examinations of EPO are extraordinarily slow. There are many matters which are taking more than five years. We hope they "speed-up" on these examinations and proceedings.
- We would very much appreciate it if the EPO patent procedure would be faster and less expensive.
- The EPO applications are encumbered much more for non-EU patent filings, it has been our experience, being a Canadian company, that EPO filings take an avg. of five years to go through the EPO with many office actions and encumbrances, with the longest prosecution taking nine years. We have observed similar filings by EU members - with very limited objections and examination and awarded in two years time. We have also experienced opposition to patents with no basis for objection,

but the objection had to be dealt with, eventually it was resolved favourably to our company - and the objection raised by the German company admitted they had no basis - but simply wanted the process stalled, there should be penalties administered for companies objecting patents with no basis for objection. The EPO must act equally for all filings irrespective of their country of origin, and fines should be administered for companies that fail to provide substantiated objections.

- The biggest issues we face in Europe are rejections based on morality concerns and the ECJ's [European Court of Justice] decision in Brüstle vs. Greenpeace and subsequent EPO guidelines issued June 20, 2012[13].
- […] The website is really hard to use. It seems the database never recognises the application/publication numbers I have, can't search claims, can't search by patent number, etc.
- We expect price reduction on annual maintenance fee of EP applications. Especially, we'd like to request exemption of price reduction of cumulative annual maintenance fee. We request easing restrictions on the unity of invention. The judgment for the unity of invention is more strict than in other countries (for example more than in USA). With consideration of the latest regulatory revision and the more cases of divisional application in future, we request easing restrictions. […] We request easing conditions of amendment also. Conditions of amendment are very tough on examination's process and it's impossible to amend the content, if it was not noted in the original full statement.
- In our opinion European Patent Office should become a real EU agency, in order to promote the free movement of the scientific intellectual property inside the European Union.
- We have to pay the expensive maintenance and prosecuting fees for the patents although patents still remain unused for long time and there is no guarantee of success for licensing or commercialisation.

[13] The European Patent Office (EPO)'s latest revisions to the Guidelines for Examination (in force on 20 June 2012) now reflect the Brüstle ruling of the Court of Justice (CJEU) on the patentability of stem cell inventions using human embryos. Source: www.lexology.com

9 Annex III: Analytical methodology

9.1 Poisson weighting of Random group forecasting results

The established method used in this report to analyse the Random group involves Poisson weights that take account of the probability of inclusion of the respondent within the sample asked, as measured via the number of filings made in the base year according to the EPO database.[14]

The Poisson weight for each respondent is calculated as

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

where n^+ is the number of extractions made for sampling purposes, A is the total number of recorded filings in the base year, and A_i is the known number of applications made by the i-th sampled applicant in the base year. For this year's sample, A = 132 127 (excluding divisional filings) and n^+ = 4 700.

9.2 Amalgamation of joint clusters into mega clusters

At the EPO, operations with respect to patent filings are organised according to industry segments, also called *joint clusters*. In the questionnaire Part C, respondents are invited to give some information broken down according to these classes. Joint cluster specific filing estimates help the EPO anticipate industry-specific trends and dynamics. For purposes of aggregating enough sample responses to give better forecasts by technical areas, the 14 joint clusters have been amalgamated into five larger groups in this report. These *mega clusters* each define a hopefully fairly homogenous group of industries. Through this amalgamation, each of the 14 joint clusters is assigned to just one of the mega clusters. The assignment is given in **Table 40**.

In this year's report, growth estimates broken down by mega cluster are given in **Annex IV**. Additional analyses of **Annex VI** and **Annex VII** are also provided using mega cluster breakdowns.

[14] See Applicant Panel Survey 2001 report: Annex III; and Applicant Panel Survey 2002 report: Section IV.1, Annex IV.

Mega Cluster	Joint Cluster
Electricity	Electricity and Semiconductor Technology Electrical and Electronic Technology Applied Physics
ICT	Audio, Video & Media Computers Telecommunications
Inorganic Chemistry	Industrial Chemistry Polymers
Organic Chemistry	Biotechnology Pure & Applied Organic Chemistry
Traditional	Civil Engineering; Thermodynamics Handling & Processing Medical and Consumer Technology Vehicles & General Technology

Table 40: Amalgamation of joint clusters into mega clusters

9.3 Assessment of forecast quality using RMSEF

As introduced last year, all forecast approaches with filings forecasts from the Random group are analysed in terms of the root mean squared error of the forecast (RMSEF), defined as

$$RMSEF(\hat{f}) = \sqrt{[bias(\hat{f})]^2 + Var(\hat{f})}\ ,$$

where $bias(\hat{f})$ is the difference between the forecast and the actual number of Total filings for year one (2012 in this survey); and $Var(\hat{f})$ is the variance of the forecast that is calculated as the Poisson weighted sum of squared differences from the actual number of Total filings.

Based on the tables presented in this report, $Var(\hat{f})$ can also be calculated as

$$Var(\hat{f}) = \left(\frac{Deviation(\hat{f}) * \hat{f}}{1.96}\right)^2 .$$

9.4 Finite population correction

Finite population correction values were obtained from the EPO database counts of Euro-direct and Euro-PCT-RP filings of respondents in the Random group as follows:

Residence bloc	fpc
Total	0.26
EP	0.28
JP	0.50
OT	0.15
US	0.13

Table 41: Finite population correction values by residence bloc

The finite population correction factor values shown here were used in the current analysis. In fact, these fpc values are conservative because they are based on database counts for filings by respondents, while the reported counts for base year filings by the respondents can be somewhat higher (see **Annex IX**, where numbers of applicants responding are smaller than numbers of applicants asked, although numbers of applications are higher for applicants responding than for applicants asked in the case of PCT-IP). This year's fpc values are quite similar to last year's, as the small difference in the total fpc value of 0.26 this year compared to 0.24 in last year's survey indicates. This is continued evidence that the increased sample size, as well as the new sampling scheme attempting to combine all filings of a company, have successfully covered a larger proportion of filings when compared to years prior to 2010. FPC values were calculated based on total filings excluding divisional filings, since this was the population of filings on which the sampling mechanism was based.

9.5 Winsorisation

Some of the forecast approaches in this survey were repeated using a winsorised version of applicant responses.[15] With this method, individual applicant growth indices are adjusted by reigning in the most extreme growth indices after logarithmic transformation. Indices that fall below the 5% percentile and indices that lie above the 95% percentile are replaced by the growth index at the respective percentile. The adjusted data are then used for carrying out Q index calculations according to the various breakdown scenarios.

As initiated last year, when using winsorised data, standard errors of Q index based growth rate estimates are adjusted to take account of the winsorisation by applying an inflation factor of

$$\frac{(n-1)}{(n-2k-1)},$$

[15] Cf. Applicant Panel Survey 2005 report: Section 7.5.

where n is the number of sample cases overall and *k* is the number of sample cases effected by the winsorisation process at each end.[16]

9.6 Nonparametric bootstrapping

Nonparametric bootstrapping was carried out to validate the stability of the forecast results in terms of the analytically calculated standard errors of the growth indices.[17] Again this year, the bootstrap results confirm the validity of the analytic formulae that are routinely used throughout the report. Due to limited further insights, the bootstrapping analysis results are not included in this report.

[16] Tukey and McLaughlin (1963): Less vulnerable confidence and significance procedures based on a single sample: Trimming and winsorisation, Sankhyā: The Indian Journal of Statistics, Series A, vol. 25, no. 3, pp 331-352.

[17] Cf. Applicant Panel Survey 2006 report: Section 7.5.

10 Annex IV: Forecasts broken down by mega cluster

The forecasts for EPO filings were analysed with primary breakdowns by mega cluster (see **Annex III, Section 9.2)**. For the Biggest group sample, the composite indices were calculated, while for the Random group sample, Q indices were calculated.

This year's forecasts employing a mega cluster breakdown are based on the modified weight allocation scheme that was first described in the 2009 report[18]. This ensures that an applicant's growth estimate retains the same overall leverage, regardless of the number of mega clusters the applicant may be active in.

When deriving the standard error for mega-cluster-based analyses, a correction factor is included to avoid distortions caused by multiple mega cluster classifications. For the Random group, this correction factor takes into account the average multiplicity of mega clusters per responding applicant in this year's survey of 1.59[19], and widens the confidence limits by multiplying standard errors by 1.26 (the square root of 1.59). As previously for the calculation of standard errors, a finite population correction is also applied. This has the compensatory effect of narrowing the confidence limits.

10.1 Results broken down by mega cluster only

The forecasts of filings by filing type, filing route and mega cluster for the Biggest group are shown in **Table 42**. The analogous forecasts for the Random group broken down by mega cluster are given in **Table 43**.

This analysis is useful for business planning as it provides growth rate estimates for groups of individual EPO examining departments of the various primary combinations of first, subsequent, Euro-direct, and PCT-IP filings.

The comparison of mega clusters in **Table 43** is not very conclusive. Traditional and Electricity expect the highest growth in 2012, except for subsequent Euro-PCT-IP filings.

[18] Cf. Future Filings Survey 2009 report: Section 4.4.

[19] See Section 12.5 below for details of this calculation.

Forecast for EPO filings - Biggest group by mega clusters

Biggest group (including critical comments)
Breakdown by EPO mega cluster
Composite indices

			Year					
			2012		2013		2014	
Filing type	**Filing route**	**Cluster**	Cases 12	Index 12	Cases 13	Index 13	Cases 14	Index 14
First	Euro-direct	Electricity	21	1.1088	20	1.1789	20	1.2048
		Organic Chemistry	16	1.0088	14	1.0478	14	1.0915
		Inorganic Chemistry	18	1.1264	17	1.1800	17	1.2067
		ICT	16	0.8061	15	0.7932	15	0.7910
		Traditional	32	1.0723	31	1.1159	31	1.1365
First	Euro-PCT-IP	Electricity	16	1.1327	16	1.1834	16	1.2157
		Organic Chemistry	11	1.1111	11	1.1494	10	1.2073
		Inorganic Chemistry	10	1.1330	10	1.1255	10	1.1348
		ICT	12	1.1077	12	1.1154	12	1.0868
		Traditional	21	1.0457	21	1.0974	20	1.1717
Subsequent	Euro-direct	Electricity	31	1.0349	28	1.0568	28	1.0905
		Organic Chemistry	11	0.8288	7	0.8428	7	0.8412
		Inorganic Chemistry	17	0.9749	14	0.9562	14	0.9482
		ICT	21	0.9689	18	1.0025	18	0.9899
		Traditional	49	1.0820	45	1.0939	44	1.1409
Subsequent	Euro-PCT-IP	Electricity	38	1.0563	35	1.1345	35	1.1529
		Organic Chemistry	23	1.0684	20	1.1345	20	1.1820
		Inorganic Chemistry	30	1.0789	27	1.1484	27	1.1822
		ICT	28	1.0576	25	1.1126	25	1.1156
		Traditional	65	1.0528	61	1.1102	59	1.1401

Table 42: Forecasts for EPO filings at the EPO – Biggest group broken down by mega cluster

Random group (including critical comments)
Breakdown by EPO mega cluster
Q-indices

S.E. indicates standard error of logarithm

			Year								
			2012			2013			2014		
Filing type	**Filing route**	**Cluster**	Cases 12	Q-index 12	S.E. 12	Cases 13	Q-index 13	S.E. 13	Cases 14	Q-index 14	S.E. 14
First	Euro-direct	Electricity	51	1.0755	0.0415	46	1.1243	0.0516	46	1.1627	0.0520
		Organic Chemistry	51	0.9688	0.0613	41	1.0777	0.0773	39	1.1146	0.0968
		Inorganic Chemistry	54	1.0186	0.1036	48	1.1114	0.0923	48	1.1711	0.0990
		ICT	36	0.8915	0.0952	31	0.8393	0.1442	31	0.7935	0.1765
		Traditional	97	1.1465	0.0736	87	1.2012	0.0782	81	1.2329	0.0818
First	Euro-PCT-IP	Electricity	33	1.1722	0.0548	33	1.2767	0.0622	33	1.3361	0.0693
		Organic Chemistry	26	0.9656	0.0692	23	1.0311	0.0867	21	1.0816	0.1290
		Inorganic Chemistry	28	1.1209	0.0871	25	1.1313	0.0820	24	1.1733	0.1045
		ICT	26	0.9633	0.0889	26	1.1373	0.0683	25	1.1340	0.0688
		Traditional	58	1.1129	0.1071	52	1.3854	0.1771	49	1.6065	0.2526
Subsequent	Euro-direct	Electricity	84	1.0211	0.0289	77	1.0436	0.0368	75	1.0744	0.0444
		Organic Chemistry	46	0.8047	0.0636	37	0.8808	0.0683	35	0.8813	0.0876
		Inorganic Chemistry	49	1.0117	0.0685	43	1.0533	0.0713	40	1.1144	0.0926
		ICT	51	0.7258	0.2750	43	0.7393	0.2866	42	0.7402	0.2867
		Traditional	147	1.0564	0.0392	137	1.1141	0.0571	130	1.1335	0.0537
Subsequent	Euro-PCT-IP	Electricity	102	0.9806	0.0510	87	1.0520	0.0577	86	1.1153	0.0662
		Organic Chemistry	78	1.0190	0.0538	67	1.0808	0.0568	63	1.0799	0.0612
		Inorganic Chemistry	96	1.0548	0.0450	84	1.1022	0.0558	82	1.1498	0.0447
		ICT	59	1.0501	0.0770	49	1.1270	0.0984	49	1.1396	0.1045
		Traditional	185	0.9973	0.0292	160	1.0588	0.0379	157	1.0939	0.0442

Table 43: Forecasts for EPO filings at the EPO – Random group broken down by mega cluster

10.2 Results broken down by mega cluster and residence bloc

The data of the Random group were also analysed with a simultaneous breakdown by mega cluster and residence bloc. The results are shown in **Table 44**.

Detailed forecasting results - Random group, breakdown by mega cluster and residence bloc ("Other" incorp. into EP)

Random group (including critical comments)
Breakdown by mega cluster and residence bloc ("Other" incorporated into EP)
Q-indices
First, Subsequent, Euro-direct and Euro-PCT-IP filings combined

				Year								
				2012			2013			2014		
Filing type	**Filing route**	**mega cluster**	**Res. bloc**	Cases 12	Q-index 12	S.E. 12	Cases 13	Q-index 13	S.E. 13	Cases 14	Q-index 14	S.E. 14
First+Subsequent	Euro-direct+Euro-PCT-IP	Electricity	EP/OT	84	1.0172	0.0298	68	1.0745	0.0342	67	1.1180	0.0365
			JP	31	0.9604	0.1099	27	1.0694	0.1480	27	1.0909	0.1612
			US	11	0.9172	0.0812	11	0.7949	0.1245	10	0.7773	0.1590
First+Subsequent	Euro-direct+Euro-PCT-IP	Organic Chemistry	EP/OT	71	1.0240	0.0562	50	1.1079	0.0844	45	1.1124	0.0721
			JP	19	1.0758	0.0462	17	1.1544	0.0529	17	1.1767	0.0568
			US	10	0.9087	0.1154	9	0.8603	0.1015	7	0.9767	0.0512
First+Subsequent	Euro-direct+Euro-PCT-IP	Inorganic Chemistry	EP/OT	71	1.0523	0.0560	52	1.1589	0.0648	48	1.2229	0.0568
			JP	31	1.0664	0.0214	29	1.1269	0.0264	29	1.1463	0.0291
			US	11	1.1371	0.0989	10	1.0354	0.1159	8	1.2629	0.1173
First+Subsequent	Euro-direct+Euro-PCT-IP	ICT	EP/OT	45	0.9662	0.0955	35	1.0036	0.1044	33	1.0139	0.1071
			JP	24	1.0227	0.0878	22	1.0269	0.0915	22	1.0353	0.0939
			US	7	0.8996	0.0787	6	0.8950	0.2651	6	0.8939	0.3194
First+Subsequent	Euro-direct+Euro-PCT-IP	Traditional	EP/OT	172	1.0243	0.0319	137	1.0603	0.0334	132	1.0960	0.0349
			JP	54	1.0974	0.0480	48	1.2060	0.0620	48	1.2776	0.0760
			US	18	1.1421	0.0743	17	1.1105	0.0839	14	1.2138	0.0956

Table 44: Forecasts for EPO filings at the EPO – Random group broken down by residence bloc and mega cluster

Following on from the results of **Table 43**, it seems that ICT will be relatively strong in Japan, while the apparent growth to come in Traditional is likely to come from all residence blocs. Combinations with low case counts should be interpreted with caution.

10.3 Forecasts for PCT regional phase applications broken down by mega cluster

Growth rate estimates for PCT regional phase applications were also estimated, after breaking down by mega cluster, but combining filing types and first filings with subsequent filings. The results of this analysis are shown in **Table 45**.

Random group (including critical comments)
Breakdown by EPO mega cluster
Q-indices

S.E. indicates standard error of logarithm

			Year								
			2012			2013			2014		
Patent office	**Filing route**	**Cluster**	Cases 12	Q-index 12	S.E. 12	Cases 13	Q-index 13	S.E. 13	Cases 14	Q-index 14	S.E. 14
EPO	Euro-PCT-RP	Electricity	112	1.0487	0.0328	102	1.1244	0.0434	98	1.1696	0.0584
		Organic Chemistry	98	0.9915	0.0448	86	1.0203	0.0405	76	1.0835	0.0514
		Inorganic Chemistry	99	0.9803	0.0452	86	1.0170	0.0680	78	1.0633	0.0811
		ICT	68	1.0155	0.0732	64	1.0546	0.0824	60	1.0366	0.0799
		Traditional	213	1.1087	0.0407	179	1.1881	0.0533	172	1.2106	0.0567

Table 45: Forecasts for Euro-PCT-RP applications - Random group (broken down by mega cluster)

For all time frames under review, growth in the Traditional cluster is anticipated to be the strongest.

11 Annex V: Forecasts for applications at other patent offices

11.1 Worldwide first filings

Intentions regarding worldwide future patent filings were obtained from question *(i)* in **Part B** of the questionnaire (**Annex I**). As was attempted for the first time last year, an estimate of total worldwide first filings is made in this report, based on the worldwide first filings growth rate estimates obtained from the respondents. The sample that was employed in this survey, while representative of EPO applicants, does not match all the applicants that apply at the various other national and regional offices, because they include some entities that do not apply to EPO. Care should thus be taken when interpreting these numbers.

"2011 Actual filings" that are used as base year data for the projections are based on information from WIPO that appeared in December 2012.[20] The definition that was chosen for first patent filings is a proxy equivalent to the one that is used in the IP5 Statistics Report[21]. An assumption is made that the domestic national filings reported from each patent office are equivalent to first filings. In order to estimate numbers of first filings from EPC states, domestic national filings from the national offices of the 38 EPC contracting states are summed and added to the numbers of Euro-direct first filings at EPO coming from residents. Some simplifying assumptions were applied to calculate the 2010 base year counts from this source, so that numbers that will appear in the next published version of the IP5 Statistics Report may vary slightly from these numbers.

Table 46 shows the results without further breakdown, whereas **Table 47** depicts the results broken down by residence bloc.

Contrary to last year and in contrast to estimated EPO Total filings growth this year, estimates based on a residence bloc breakdown are only slightly more optimistic than estimates without breakdown. On the whole, one-year worldwide filings growth is expected to be flat with growth returning for the two and three-year time horizons. Some differences in growth expectations can be observed between residence blocs. However, contrary to last year, it is the US rather than the OT residence bloc (including China and Korea) that this year is apparently the growth driver.

Random group (including critical comments)
No subsidiary breakdown
Q-Indices

S.E. indicates standard error of logarithm
LCL/UCL indicates lower/upper 95% confidence limit
Deviation in % of forecast means (predicted filings - LCL)/predicted filings

		Year												
		2011	2012				2013				2014			
Filing type	**Res. bloc**	Actual filings	Cases 12	Q-index 12	S.E. 12	Predicted filings	Cases 13	Q-index 13	S.E. 13	Predicted filings	Cases 14	Q-index 14	S.E. 14	Predicted filings
Worldwide Total First Filings	**Total**	**1 277 456**	501	0.9907	0.0171	**1 265 554**	433	1.0456	0.0183	**1 335 656**	421	1.0753	0.0193	**1 373 637**
	LCL					1 223 108				1 287 721				1 321 632
	UCL					1 308 000				1 383 591				1 425 641
Growth from 2011						**-0.9%**				**4.6%**				**7.5%**

Table 46: Forecast for worldwide first filings, no breakdown – Random group

[20] See www.wipo.int/ipstats/en/wipi/index.html/. The data are extracted from the table there "Patent applications by office and by country of origin (1995-2011)". Residence bloc breakdowns are augmented by exchanges between patent offices.

[21] See Fig. 3.4 in the IP5 Statistics Report 2011 edition, at www.fiveipoffices.org/stats.html

Random group (including critical comments)
Breakdown by residence bloc
Q-indices

S.E. indicates standard error of logarithm
LCL/UCL indicates lower/upper 95% confidence limit
Deviation in %of forecast means (predicted filings - LCL)/predicted filings

		Year											
		2011	2012				2013				2014			
Filing type	**Res. bloc**	Actual filings	Cases 12	Q-index 12	S.E. 12	Predicted filings	Cases 13	Q-index 13	S.E. 13	Predicted filings	Cases 14	Q-index 14	S.E. 14	Predicted filings
Worldwide Total First Filings	EP	137 479	346	0.9741	0.0228	133 921	296	1.0405	0.0246	143 051	288	1.0755	0.0263	147 853
	JP	271 885	88	1.0103	0.0121	274 681	79	1.0299	0.0150	280 010	78	1.0439	0.0172	283 811
	OT	620 342	21	0.9677	0.0803	600 294	18	1.0453	0.0614	648 443	18	1.0707	0.0372	664 195
	US	247 750	46	1.0843	0.0547	268 648	40	1.1130	0.0589	275 739	37	1.1411	0.0607	282 718
	Total	**1 277 456**	**501**			**1 277 543**	**433**			**1 347 243**	**421**			**1 378 577**
	LCL					1 177 875				1 261 990				1 318 282
	UCL					1 377 211				1 432 495				1 438 871
Growth from 2011						**0.0%**				**5.5%**				**7.9%**

Table 47: Forecast for worldwide first filings, broken down by residence bloc – Random group

Historically, despite not being the primary aim of this survey, the forecasts of total worldwide first filings growth have performed quite well, when measured against truly observed growth. **Figure 7** shows estimated one-year worldwide first filings growth, along with 95% confidence intervals based on the surveys, in comparison to truly observed growth. It remains to be seen whether or not the zero growth of worldwide first filings predicted by this survey for 2012 will be validated later on.

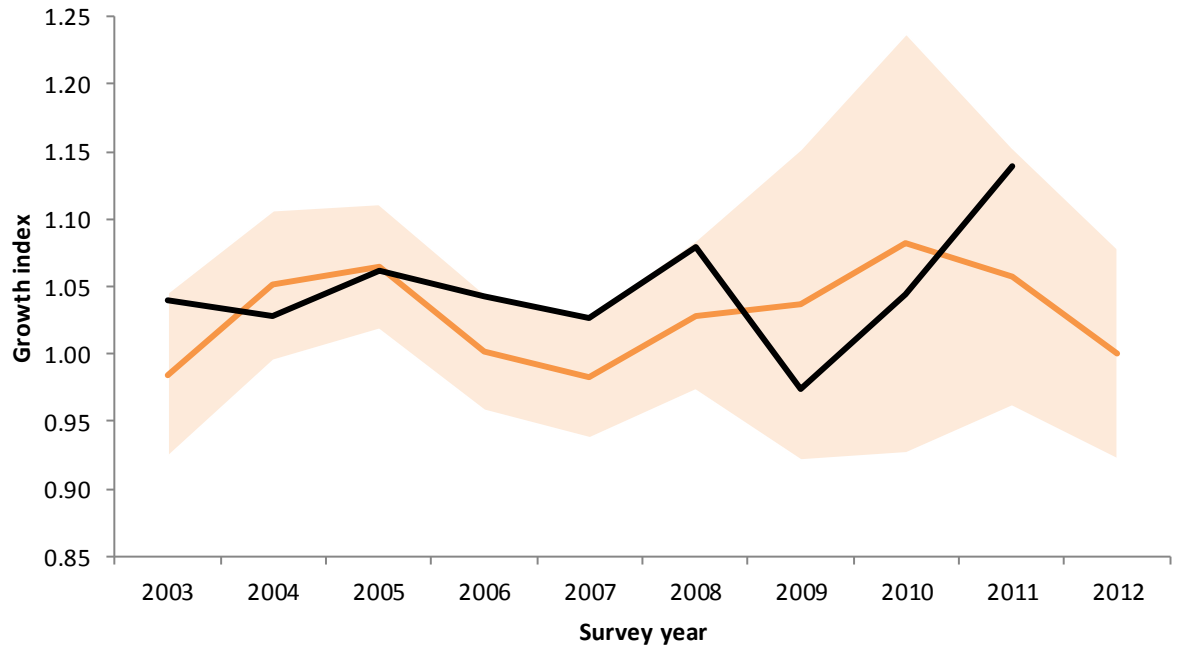


Figure 7: Forecast for one-year worldwide first filings growth based on PFS surveys. Orange line indicates forecast, orange bands the corresponding confidence intervals. Black line indicates observed true growth.

11.2 Patent filings at specific national offices

Intentions regarding future patent filings at specific national offices were obtained from questions *(c)* to *(h)* and *(k)* to *(o)* in **Part B** of the questionnaire (**Annex I**).

National applications by country based on the Random group are presented in **Table 48** and **Table 49**.

The filing intentions at national offices of the companies that applied at the EPO in 2011 vary considerably from country to country. But in all cases, the 95% confidence limits for the growth indices (obtained via a normal approximation as the point estimate of growth +/- 1.96 x standard error) for 2012 are not significantly different from 1 (no change). China was expected to have the highest national first filings growth in 2012, while first filings for 2012 in Korea and the Other countries category are forecast to decline. Over the three-year horizon of this survey, China is anticipated to experience 47% first filings growth, with the United States growing by 3%, while Germany is expected to grow by 9%. Table 49 suggests that the first filings from Japan to China will be the highest component of the growth there.

In terms of subsequent national filings, the expected growth rates are lowest in Korea; with Germany and US looking relatively strong.

Random group (including critical comments)
No breakdown
Q Indices

				Year								
				2012			2013			2014		
Filings type	**Filing route**	**Nation**	**Res. bloc**	Cases 12	Q-index 12	S.E. 12	Cases 13	Q-index 13	S.E. 13	Cases 14	Q-index 14	S.E. 14
First	National	Germany (c)	Total	123	0.9985	0.0341	103	1.0416	0.0449	101	1.0880	0.0438
		Japan (d)	Total	99	1.0008	0.0100	90	1.0157	0.0121	89	1.0215	0.0140
		United States (e)	Total	159	0.9936	0.0370	144	1.0047	0.0402	141	1.0345	0.0431
		Republic of Korea (f)	Total	16	0.8798	0.1056	16	1.0328	0.1036	16	1.0406	0.1113
		China (g)	Total	45	1.1403	0.0878	46	1.3465	0.1140	46	1.4729	0.1349
		Other Countries (h)	Total	143	0.8711	0.0782	122	1.0025	0.0731	120	1.0527	0.0787
Subsequent	National	Germany (c)	Total	79	1.0266	0.0489	71	1.0290	0.0482	69	1.0523	0.0584
		Japan (d)	Total	124	0.8422	0.1671	116	0.8504	0.1724	112	0.8433	0.1785
		United States (e)	Total	233	1.0268	0.0503	206	1.0906	0.0655	199	1.1255	0.0729
		Republic of Korea (f)	Total	103	0.7595	0.2197	100	0.8126	0.2347	92	0.8370	0.2479
		China (g)	Total	173	0.9830	0.1471	159	1.0236	0.1563	151	1.0440	0.1617
		Other Countries (h)	Total	161	0.9638	0.0575	152	1.0240	0.0592	145	1.0388	0.0637

Table 48: Detailed forecasting results for national applications (excluding PCT), no breakdown – Random group

Random group (including critical comments)
Q Indices, Breakdown by residence bloc

				Year								
				2012			2013			2014		
Filings type	Filing route	Nation	Res. bloc	Cases 12	Q-index 12	S.E. 12	Cases 13	Q-index 13	S.E. 13	Cases 14	Q-index 14	S.E. 14
First	National	Germany (c)	EP	115	0.9997	0.0352	96	1.0418	0.0463	95	1.0864	0.0450
			JP	2	0.9985 *	0.0341 *	2	1.0416 *	0.0449 *	2	1.0880 *	0.0438 *
			OT	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
			US	6	0.9415	0.0620	5	1.0416 *	0.0449 *	4	1.0880 *	0.0438 *
		Japan (d)	EP	8	1.0000	0.0000	8	1.0073	0.0087	8	1.0073	0.0087
			JP	85	1.0106	0.0154	77	1.0242	0.0188	76	1.0299	0.0220
			OT	1	1.0008 *	0.0100 *	1	1.0157 *	0.0121 *	1	1.0215 *	0.0140 *
			US	5	1.0008 *	0.0100 *	4	1.0157 *	0.0121 *	4	1.0215 *	0.0140 *
		United States (e)	EP	96	0.9588	0.0544	86	0.9759	0.0607	84	1.0179	0.0654
			JP	20	1.0906	0.0521	20	1.0983	0.0540	20	1.1047	0.0563
			OT	7	1.1486	0.0262	8	1.0720	0.0644	8	1.0430	0.0548
			US	36	1.0114	0.0416	30	1.0121	0.0420	29	1.0311	0.0443
		Republic of Korea (f)	EP	6	0.8768	0.3351	6	1.3608	0.1002	6	1.3620	0.1504
			JP	3	0.8798 *	0.1056 *	3	1.0328 *	0.1036 *	3	1.0406 *	0.1113 *
			OT	5	0.8798 *	0.1056 *	5	1.0328 *	0.1036 *	5	1.0406 *	0.1113 *
			US	2	0.8798 *	0.1056 *	2	1.0328 *	0.1036 *	2	1.0406 *	0.1113 *
		China (g)	EP	25	1.1226	0.1165	26	1.3526	0.1509	26	1.5184	0.1776
			JP	14	1.2760	0.1521	14	1.5274	0.2021	14	1.5948	0.2150
			OT	3	1.1403 *	0.0878 *	3	1.3465 *	0.1140 *	3	1.4729 *	0.1349 *
			US	3	1.1403 *	0.0878 *	3	1.3465 *	0.1140 *	3	1.4729 *	0.1349 *
		Other Countries (h)	EP	117	0.8689	0.0951	100	1.0123	0.0914	98	1.0450	0.0951
			JP	6	1.0628	0.0393	6	1.1117	0.0669	6	1.4996	0.1525
			OT	9	1.0403	0.0804	6	1.1229	0.0212	7	1.0946	0.0091
			US	11	0.6605	0.1093	10	0.7792	0.0869	9	0.7987	0.0996
Subsequent	National	Germany (c)	EP	50	0.9728	0.0410	42	1.0096	0.0497	40	1.0190	0.0493
			JP	16	0.9250	0.0869	16	0.9250	0.0869	16	0.9302	0.0874
			OT	4	1.0266 *	0.0489 *	3	1.0290 *	0.0482 *	3	1.0523 *	0.0584 *
			US	9	1.6192	0.1313	10	1.2690	0.2480	10	1.4587	0.3493
		Japan (d)	EP	64	0.7566	0.2663	58	0.7570	0.2787	56	0.7600	0.2804
			JP	35	1.0374	0.1030	35	1.0184	0.1034	35	1.0195	0.1035
			OT	8	1.0778	0.0847	6	1.2105	0.0581	7	1.2058	0.0845
			US	17	0.8867	0.1067	17	0.9168	0.0830	14	0.8065	0.1607
		United States (e)	EP	141	1.0175	0.0779	124	1.0772	0.1036	122	1.1251	0.1143
			JP	59	1.0357	0.0333	54	1.0982	0.0359	51	1.1112	0.0411
			OT	11	1.0376	0.0878	8	1.1988	0.0409	9	1.1828	0.0657
			US	22	1.0616	0.0821	20	1.1061	0.0837	17	1.1304	0.0882
		Republic of Korea (f)	EP	48	0.6500	0.3972	46	0.7260	0.4306	43	0.7568	0.4514
			JP	42	0.9259	0.1238	40	0.9484	0.1293	38	0.9638	0.1348
			OT	3	0.7595 *	0.2197 *	4	0.8126 *	0.2347 *	3	0.8370 *	0.2479 *
			US	10	0.7440	0.0300	10	0.7320	0.0487	8	0.7697	0.0651
		China (g)	EP	92	0.9342	0.2537	84	0.9900	0.2715	80	1.0189	0.2793
			JP	53	1.0566	0.0444	50	1.0857	0.0488	48	1.0994	0.0527
			OT	11	1.0683	0.0592	8	1.2400	0.0736	9	1.2362	0.0897
			US	17	1.0345	0.1503	17	0.9592	0.1388	14	0.9564	0.1471
		Other Countries (h)	EP	89	0.9369	0.0872	83	0.9869	0.0955	80	1.0258	0.1026
			JP	47	1.0116	0.0803	43	1.1001	0.0781	41	1.0986	0.0830
			OT	6	1.2564	0.0839	6	1.2697	0.0933	7	1.2395	0.1035
			US	19	0.8769	0.0698	20	0.9630	0.0302	17	0.9087	0.0649

Table 49: Detailed forecasting results for national applications (excluding PCT), broken down by residence bloc – Random group

Forecasts based on the Random group for PCT national phase applications at DPMA (German Patent Office), JPO, KIPO SIPO, and USPTO are displayed without further breakdown in **Table 50**, and with a residence bloc breakdown in **Table 51** to **Table 55.** The tables are limited to calculating growth indices in these cases.[22]

Growth at KIPO is forecast to be most dynamic, followed by DPMA, SIPO, and the USPTO. Again it should be noted that these growth rate estimates apply only to the population from which the sample was selected, namely applicants to EPO for Euro-direct and Euro-PCT-RP filings in 2011.

[22] Counts for base year 2011 are also provided in some cases by WIPO as of December 2012 (similarly to worldwide first filings in Section 11.1 above). Forecasts in terms of absolute future levels of such filings are not given due to the lack of representativeness in the sample.

Random group (excluding critical comments)
No subsidiary breakdown
Q-indices

		Year								
		2012			2013			2014		
Patent Office	**Filing route**	Cases 12	Q-index 12	S.E. 12	Cases 13	Q-index 13	S.E. 13	Cases 14	Q-index 14	S.E. 14
DPMA	PCT National	59	1.0718	0.0923	49	1.1491	0.0854	46	1.1995	0.0829
JPO	PCT National	266	1.0331	0.0272	237	1.0632	0.0285	224	1.0717	0.0320
KIPO	PCT National	108	1.0941	0.0318	95	1.1589	0.0387	88	1.2200	0.0478
SIPO	PCT National	176	1.0798	0.0268	158	1.1464	0.0294	152	1.1769	0.0321
USPTO	PCT National	342	1.0537	0.0292	298	1.1215	0.0348	282	1.1381	0.0367

Table 50: Detailed forecasting results for PCT applications entering the national phase without further breakdown – Random group

Random group (including critical comments)
Breakdown by residence bloc
Q-indices

			Year								
			2012			2013			2014		
Patent Office	**Filing route**	**Res. bloc**	Cases 12	Q-index 12	S.E. 12	Cases 13	Q-index 13	S.E. 13	Cases 14	Q-index 14	S.E. 14
DPMA	PCT National	EP	59	1.0718	0.0923	49	1.1491	0.0854	46	1.1995	0.0829
		JP	22	1.0927	0.0529	22	1.1594	0.0681	23	1.1736	0.0755
		OT	0	n/a	n/a	0	n/a	n/a	0	n/a	n/a
		US	14	1.4801	0.2641	11	1.5937	0.2802	10	1.5575	0.2990

Table 51: Detailed forecasting results for PCT applications entering the national phase at DPMA (Germany) – Random group

Random group (including critical comments)
Breakdown by residence bloc
Q-indices

			Year								
			2012			2013			2014		
Patent Office	**Filing route**	**Res. bloc**	Cases 12	Q-index 12	S.E. 12	Cases 13	Q-index 13	S.E. 13	Cases 14	Q-index 14	S.E. 14
JPO	PCT National	EP	148	1.0162	0.0332	135	1.0482	0.0363	127	1.0640	0.0407
		JP	68	1.1383	0.0751	61	1.1409	0.0712	60	1.1461	0.0792
		OT	14	1.0453	0.0511	11	1.0606	0.0520	11	1.0710	0.0525
		US	36	0.9170	0.0626	30	0.9823	0.0719	26	0.9538	0.0919

Table 52: Detailed forecasting results for PCT applications entering the national phase at JPO (Japan) – Random group

Random group (including critical comments)
Breakdown by residence bloc
Q-indices

			Year								
			2012			2013			2014		
Patent Office	**Filing route**	**Res. bloc**	Cases 12	Q-index 12	S.E. 12	Cases 13	Q-index 13	S.E. 13	Cases 14	Q-index 14	S.E. 14
KIPO	PCT National	EP	108	1.0941	0.0318	95	1.1589	0.0387	88	1.2200	0.0478
		JP	64	1.0551	0.0697	57	1.1446	0.0760	56	1.1389	0.0731
		OT	9	1.0335	0.0571	8	1.0324	0.0607	7	1.0485	0.0577
		US	24	0.9335	0.0583	21	1.0098	0.0835	16	1.0004	0.0715

Table 53: Detailed forecasting results for PCT applications entering the national phase at KIPO (Korea) – Random group

Random group (including critical comments)
Breakdown by residence bloc
Q-indices

			Year								
			2012			2013			2014		
Patent Office	**Filing route**	**Res. bloc**	Cases 12	Q-index 12	S.E. 12	Cases 13	Q-index 13	S.E. 13	Cases 14	Q-index 14	S.E. 14
SIPO	PCT National	EP	176	1.0798	0.0268	158	1.1464	0.0294	152	1.1769	0.0321
		JP	75	1.2037	0.0567	67	1.3122	0.0760	66	1.3378	0.0785
		OT	19	1.0163	0.0738	14	1.0859	0.0880	15	1.1135	0.0975
		US	37	0.9111	0.0741	32	0.9878	0.0952	27	1.0305	0.1234

Table 54: Detailed forecasting results for PCT applications entering the national phase at SIPO (China) – Random group

Random group (including critical comments)
Breakdown by residence bloc
Q-indices

			Year								
			2012			2013			2014		
Patent Office	**Filing route**	**Res. bloc**	Cases 12	Q-index 12	S.E. 12	Cases 13	Q-index 13	S.E. 13	Cases 14	Q-index 14	S.E. 14
USPTO	PCT National	EP	204	1.0037	0.0301	176	1.0461	0.0326	168	1.0643	0.0351
		JP	78	1.1335	0.0606	72	1.2318	0.0755	71	1.2556	0.0780
		OT	24	1.0246	0.0590	18	1.1103	0.0781	18	1.0901	0.0691
		US	36	1.2635	0.1420	32	1.3875	0.1689	25	1.4131	0.1886

Table 55: Detailed forecasting results for PCT applications entering the national phase at USPTO (United States) – Random group

12 Annex VI: Respondents' profiles

In **Sections C** and **E** of the questionnaire, some of the questions asked respondents to indicate the profile of the company, including company/organisation type, the number of persons employed, the joint clusters that best describe the applicant's business along with corresponding R&D and patenting activity, and the year of onset of patenting activity at the EPO. The results from these questions are analysed in this Annex, while other questions from Section E are reported on in **Annex VII**.

In **Sections 12.2 to 12.4**, distributions will be shown for the year of onset of patenting activities at EPO and numbers of employees per applicant.[23] One of the criteria for status as a small and medium-sized enterprise (SME) is to have fewer than 250 employees. But there are other criteria, and more definitive (lower) estimates of proportions of SMEs are given later in **Section 12.6**.

12.1 All respondents

These findings represent the totality of responses to the survey. As in the main forecasting exercise of this report, it is considered better here to analyse and report results separately for the Biggest and Random groups, and not to provide combined results for all respondents.

12.2 Respondents from the Biggest group

In the Biggest group, **Figure 8** shows that 50% of the responding applicants were active at the EPO from the onset (before 1980, the proportion was 44% in the 2011 survey).

Only 8% of the Biggest group began patenting activities at the EPO after 2000.[24] Also, 60% of Biggest group companies have more than 10 000 employees and 94% are private enterprises.

[23] Distributions for numbers of employees were also previously given in the survey reports for the years 2006 to 2008.

[24] A few responses indicating activity before the start of operations of the EPO were removed before analysing the data for the Biggest group and the Random group.

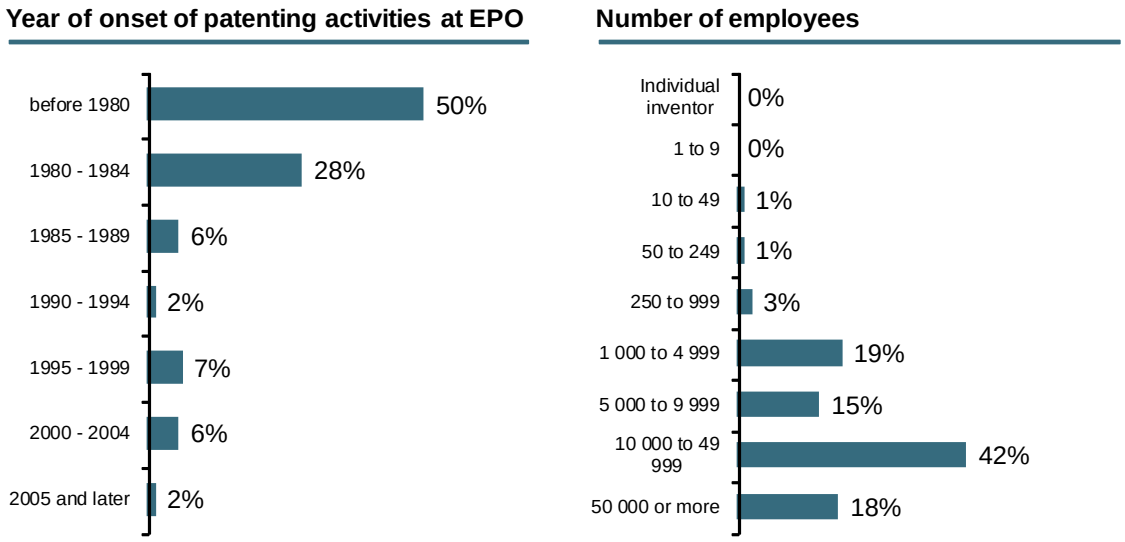


Figure 8: Biggest group by year of onset of patenting activities at the EPO and by number of employees

Broken down by residence bloc, distributions for number of employees are shown in the following table:

Biggest group
By number of employees
Total and breakdown by residence bloc

Residence bloc	Individual inventor	1 to 9	10 to 49	50 to 249	250 to 999	1 000 to 4 999	5 000 to 9 999	10 000 to 49 999	50 000 or more	Grand total	No. of cases
Total	**0%**	**0%**	**1%**	**1%**	**3%**	**19%**	**15%**	**42%**	**18%**	**100%**	**141**
EP	0%	0%	2%	2%	5%	17%	11%	42%	20%	100%	81
JP	0%	0%	0%	0%	0%	24%	24%	41%	11%	100%	46
OT	0%	0%	0%	0%	0%	0%	33%	33%	33%	100%	3
US	0%	0%	0%	0%	0%	18%	0%	45%	36%	100%	11

Table 56: Biggest group by number of employees and residence bloc

12.3 Respondents from the Random group

Figure 9 shows that, in the Random group, only 18% of applicants were active at the EPO from the onset (before 1980), while 37% initiated activities at the EPO only from 2000 onwards. 30% of Random group applicants have a maximum of 249 employees and 89% are private enterprises.

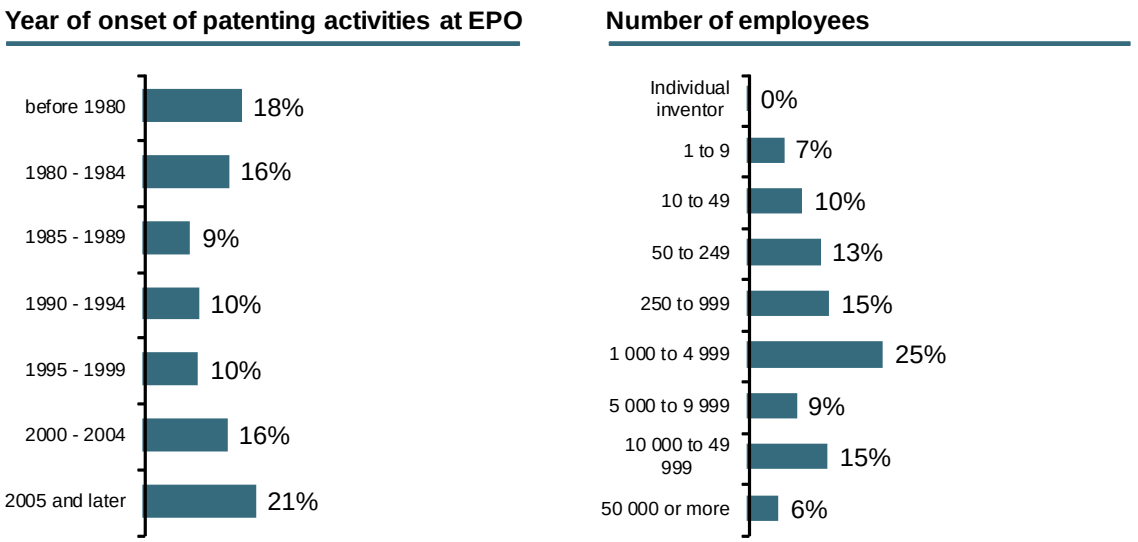


Figure 9: Random group by year of onset of patenting activities at the EPO and by number of employees

Broken down by residence bloc, distributions of number of employees are shown in the following table:

Random group
By number of employees
Total and breakdown by residence bloc

Residence bloc	Individual inventor	1 to 9	10 to 49	50 to 249	250 to 999	1 000 to 4 999	5 000 to 9 999	10 000 to 49 999	50 000 or more	Grand total	No. of cases
Total	**0%**	**7%**	**10%**	**13%**	**15%**	**25%**	**9%**	**15%**	**6%**	**100%**	**620**
EP	0%	8%	11%	15%	16%	23%	8%	13%	5%	100%	413
JP	0%	0%	1%	4%	16%	35%	16%	23%	5%	100%	119
OT	0%	13%	16%	23%	10%	13%	16%	3%	6%	100%	31
US	0%	9%	18%	12%	7%	21%	4%	18%	12%	100%	57

Table 57: Random group broken down by persons employed and residence bloc

12.4 Estimated composition of the population of EPO applicants

Although the Random group is primarily designed to be a random sample drawn from the pool of applications, it can also be used to make inferences about the properties and composition of the population of EPO applicants, if a proper weighting scheme is used.

The weighting to estimate applicant population characteristics uses the extended structural weight approach described in the *Future Filings Survey 2010 report*[25]. These weights are based on the denominator of the Poisson weight and then an adjustment to match the sample to the population by bloc and size classes. The adjustment is achieved by using the sample response rate by size class per bloc of residence (SRSS).

Table 58 shows bloc-wise SRSS values based on filing count class. Filing count classes are defined by a range of filing counts from lower bound ("lb") to upper bound ("ub"), but class midpoints are used in the analysis. This year, as in the previous four years, bloc-specific SRSS values were used since there are pronounced differences in sample response rates between blocs.

class	lb	ub	EP	JP	OT	US	TOTAL
1	1	1	0.26	0.17	0.10	0.08	0.19
2	2	2	0.34	0.35	0.16	0.09	0.24
3	3	3	0.26	0.33	0.07	0.13	0.22
4	4	5	0.40	0.53	0.18	0.13	0.31
5	6	9	0.32	0.32	0.30	0.06	0.26
6	10	19	0.38	0.41	0.17	0.09	0.29
7	20	39	0.29	0.58	0.00	0.14	0.29
8	40	9999999	0.49	0.61	0.19	0.16	0.42
		Total	0.33	0.45	0.14	0.11	0.27

Table 58: Bloc-wise SRSS values of the Random sample by filing count class

The results in **Table 58** are consistent with **Table 35**, which also shows that the highest response rates are found from applicants residing in Japan and the EPC.

Extended structural weights are applied for estimating distributions for the whole applicant population by year of foundation and the onset of patenting activities at the EPO, giving the following results:

[25] Cf. Future Filings Survey 2010 report: Section 11.4, p. 77.

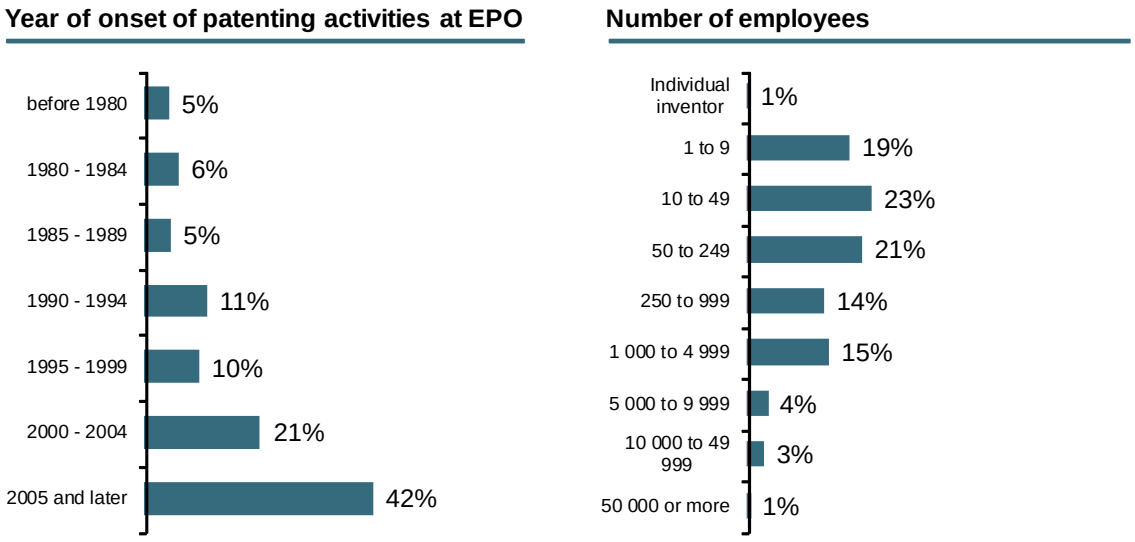


Figure 10: Estimated distribution of the EPO applicant population by year of onset of patenting activities at the EPO and by number of employees

The inference for the whole applicant population is that 5% of applicants were active at the EPO before 1980 (2010 report: 7%), and a majority - 63% - initiated patenting activities at the EPO after 1999 (2010 report: 60%). 64% of applicants have a maximum of 249 employees and 89% are private enterprises. Both distributions in **Figure 10** show a strong contrast to the data for the Biggest group in **Figure 8**.

Separated by residence bloc, the estimated composition of the applicant distributions can be summarised as follows:

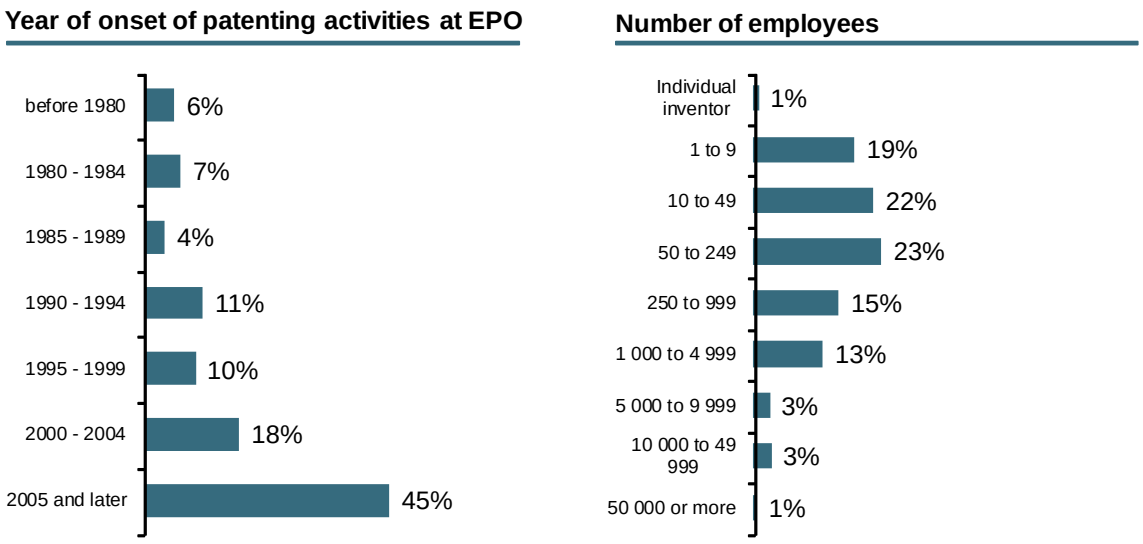


Figure 11: Estimated distribution of the EPO applicant population in the EPC (EP) residence bloc by year of onset of patenting activities at the EPO and by number of employees

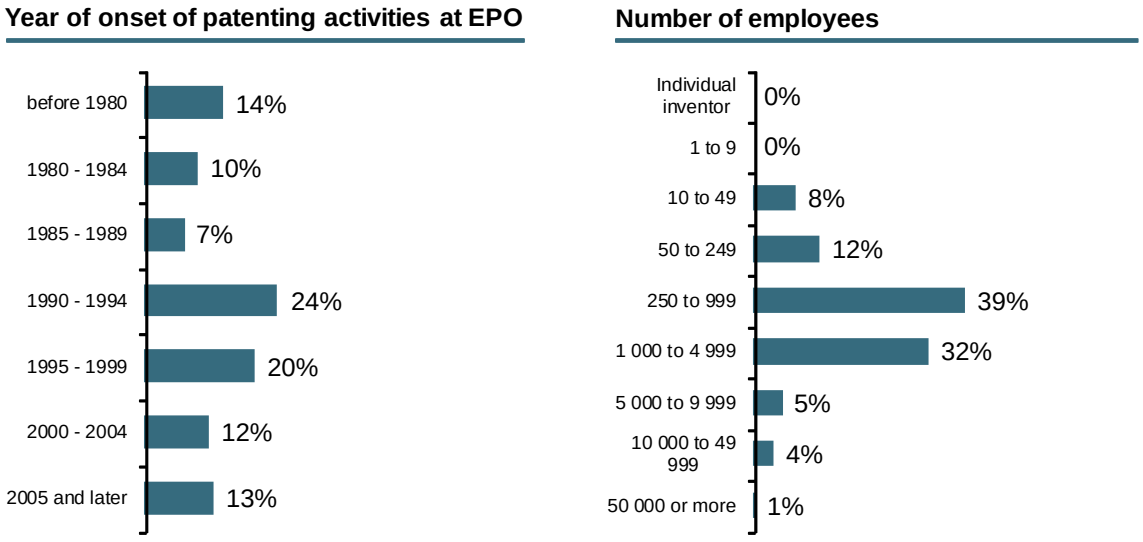


Figure 12: Estimated distribution of the EPO applicant population in the Japan (JP) residence bloc by year of onset of patenting activities at the EPO and by number of employees

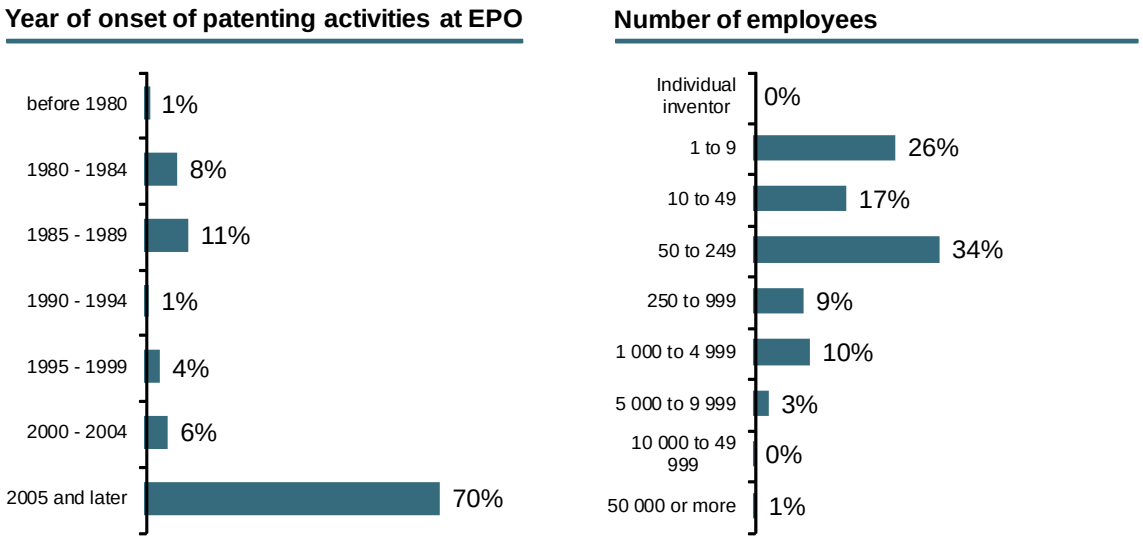


Figure 13: Estimated distribution of the EPO applicant population in the Others (OT) residence bloc by year of onset of patenting activities at the EPO and by number of employees

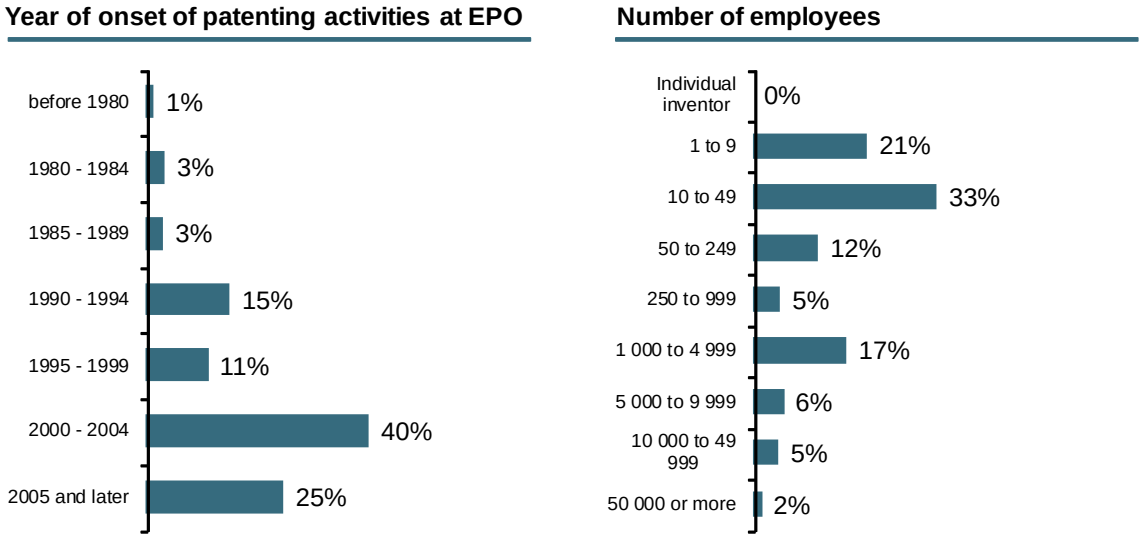


Figure 14: Estimated distribution of the EPO applicant population in the US residence bloc by year of onset of patenting activities at the EPO and by number of employees

Notable differences can be inferred between the typical histories of applicants from the various blocs. 14% of current Japanese applicants at the EPO were active at the EPO from the onset, in contrast to 6% of current applicants from the EP residence bloc and 1% of applicants from the US and OT residence blocs, respectively. Differences in company

sizes are also striking: 65% of applicants from the EP bloc, 66% from the US bloc, and 77% from the OT bloc have fewer than 250 employees, while the industrial concentration in Japan means that only 20% have fewer than 250 employees.

Broken down by residence bloc, the inferred distributions of numbers of employees are shown in the following table:

Estimation incorporating structural weights
By number of employees
Total and breakdown by residence bloc

Residence bloc	Individual inventor	1 to 9	10 to 49	50 to 249	250 to 999	1 000 to 4 999	5 000 to 9 999	10 000 to 49 999	50 000 or more	Total
Total	**0.6%**	**18.6%**	**22.8%**	**21.1%**	**14.0%**	**14.8%**	**3.9%**	**3.3%**	**0.9%**	**100%**
EP	1.0%	18.5%	21.9%	23.4%	15.4%	12.6%	3.1%	3.3%	0.7%	100%
JP	0.0%	0.0%	7.8%	12.1%	38.5%	31.9%	5.4%	3.8%	0.5%	100%
OT	0.0%	25.9%	16.9%	33.8%	9.3%	10.4%	3.0%	0.2%	0.6%	100%
US	0.0%	20.8%	33.3%	11.8%	5.0%	17.1%	5.7%	4.7%	1.6%	100%

Table 59: Estimated distribution of EPO applicants by number of employees and residence bloc

12.5 EPO joint clusters & mega clusters

All applicants in the survey were asked to describe themselves in terms of membership of one or more of the EPO joint clusters (questionnaire **Part C**, question d). The following figures provide an overview of the sample composition in terms of joint clusters for the Biggest and Random groups.

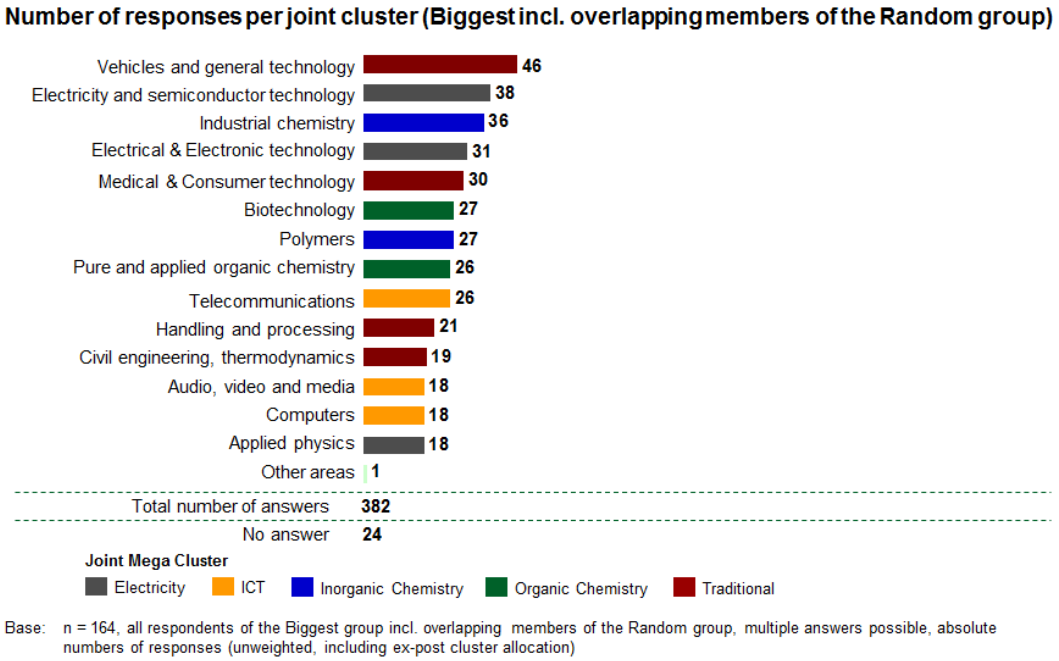


Figure 15: Number of responses per joint cluster (Biggest group including overlapping members of the Random group)

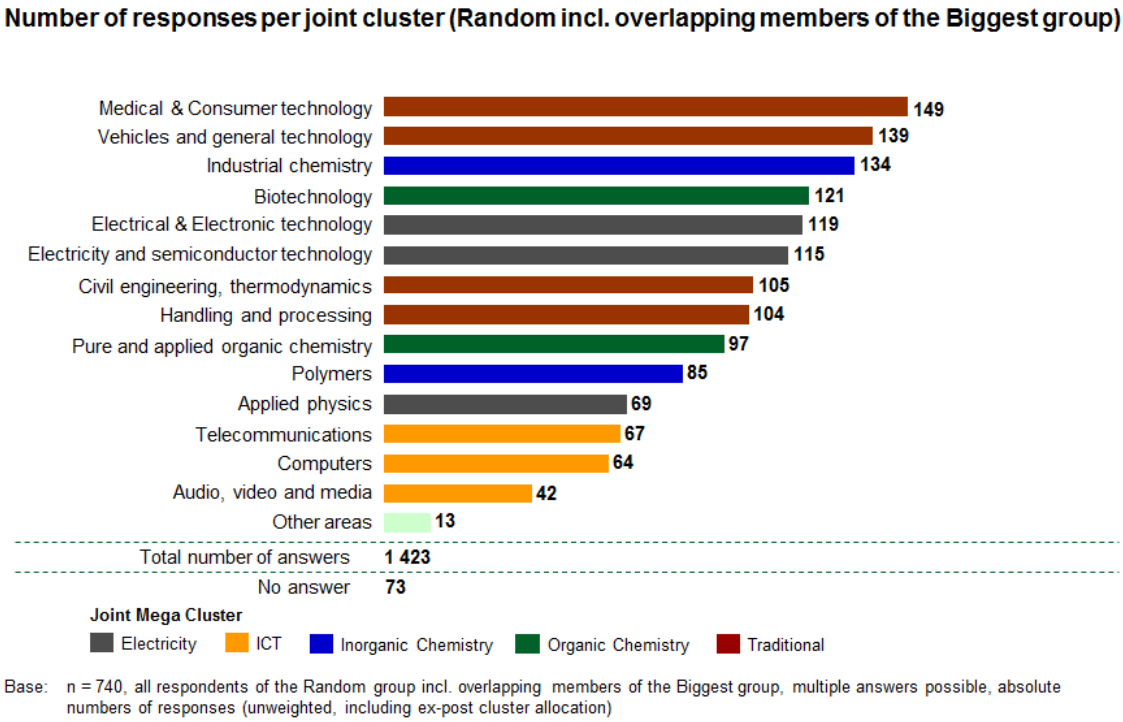


Figure 16: Number of responses per joint cluster (Random group including overlapping members of the Biggest group)

MC*	Joint cluster	Total	Bloc			
			EP	US	JP	OT
Ele	1. Electricity/semiconductor tech	115	71	10	31	3
	2. Electrical & Electronic technology	119	65	12	34	8
	3. Applied physics	69	44	9	13	3
ICT	4. Audio, video and media	42	16	7	14	5
	5. Computers	64	38	4	17	5
	6. Telecommunications	67	34	6	21	6
InoC	7. Industrial chemistry	134	76	16	35	7
	8. Polymers	85	52	9	23	1
OrC	9. Biotechnology	121	77	19	16	9
	10. Pure/applied organic chemistry	97	58	11	20	8
Trad	11. Civil engineering, thermodynamics	105	82	7	12	4
	12. Handling and processing	104	75	3	24	2
	13. Medical & Consumer technology	149	95	21	21	12
	14. Vehicles and general technology	139	78	10	44	7
	Other areas	13	6	1	4	2
	No answer	73	43	8	12	10

* Mega Clusters: Ele = Electricity ICT = ICT InoC = Inorganic Chemistry
OrC = Organic Chemistry Trad = Traditional

Base: n = 740/491/74/132/43, corresponding to total/EP/US/JP/OT, all respondents of the Random group, including overlapping members of the Biggest group, absolute numbers of respondents (unweighted, including ex-post cluster allocation)

Table 60: Number of responses per joint cluster (Random group including overlapping members of the Biggest group) broken down by bloc

Figure 17 and **Figure 18** show the distribution of responses in the Biggest and Random groups combined with the number of joint clusters chosen. In terms of the five mega clusters (for the amalgamation of joint clusters into joint mega clusters see **Annex III, Section 9.2**), the average number of mega clusters per respondent is 1.84 for the Biggest group respondents (1.82 in 2011), and 1.59 for Random group respondents (1.47 in 2011).

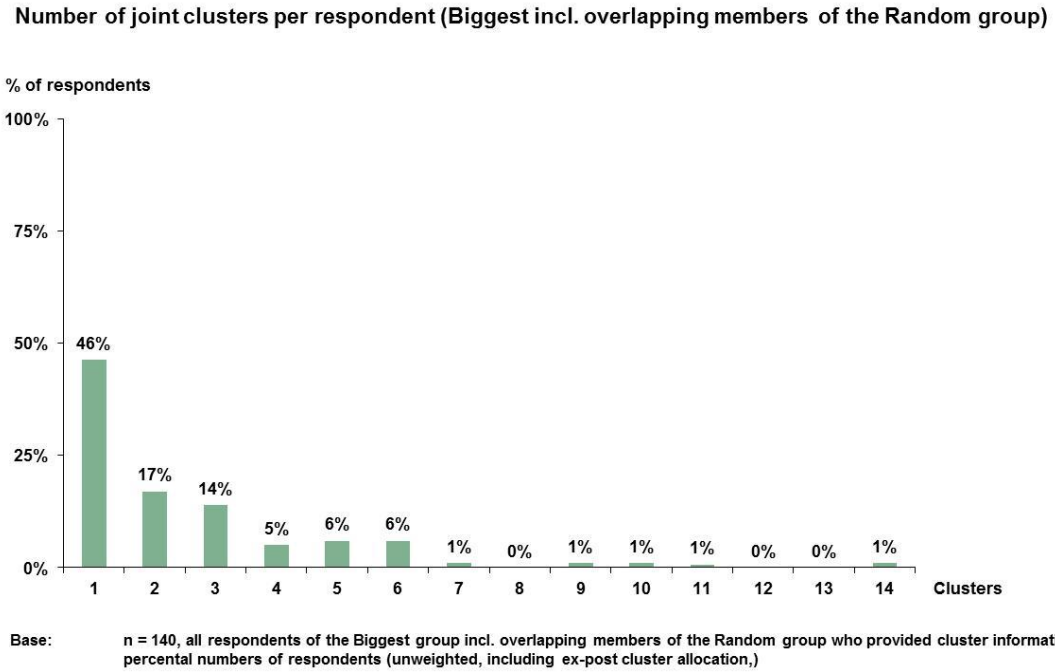


Figure 17: Number of joint clusters selected per respondent (Biggest group including overlapping members of the Random group)

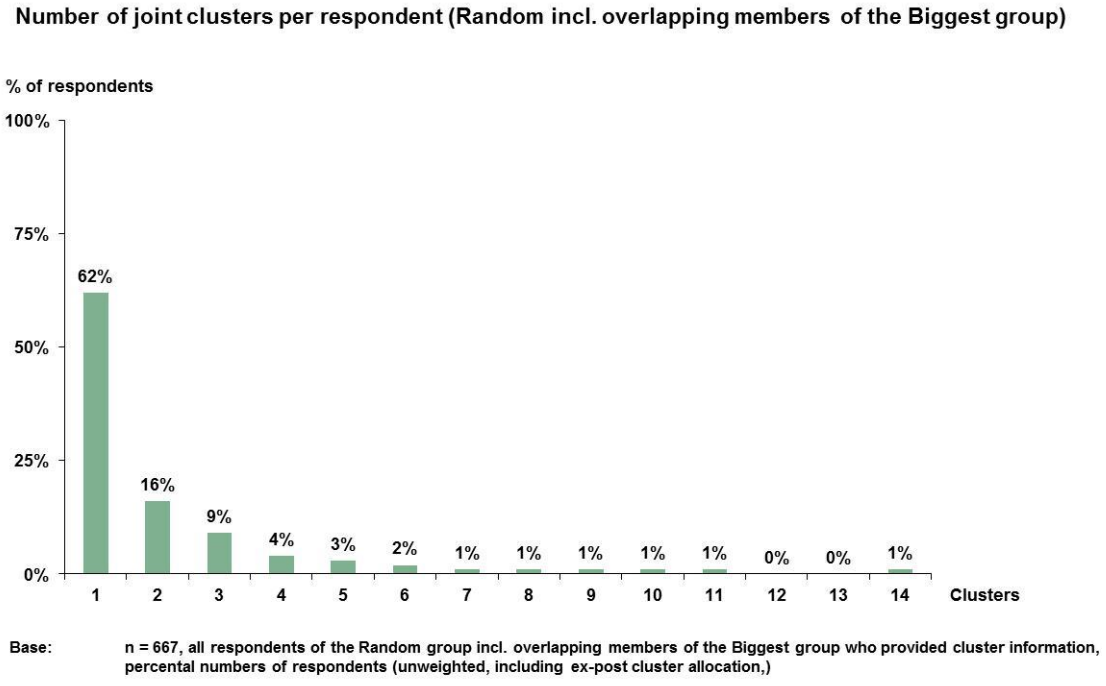


Figure 18: Number of joint clusters selected per respondent (Random group including overlapping members of the Biggest group)

Table 61: and **Table 62** below indicate which combinations of joint clusters and mega clusters are cited most frequently. Each table shows a two-way matrix describing the cluster combinations selected by the interviewees of the Biggest group (**Table 61:**), and Random group (**Table 62**). The tables indicate pairwise combinations, but this picture is not absolutely complete, as **Figure 17** and **Figure 18** show that respondents sometimes indicate activities in more than two joint clusters.

MC*	Joint cluster	1	2	3	4	5	6	7	8	9	10	11	12	13	14	Other areas
Ele	1. Electricity/semiconductor tech	38	16	15	10	12	12	16	14	10	12	8	7	10	15	
	2. Electrical & Electronic technology	16	31	9	12	11	13	6	5	4	6	6	9	10	11	
	3. Applied physics	15	9	18	6	8	8	10	9	7	8	8	6	8	8	
ICT	4. Audio, video and media	10	12	6	18	9	9	5	4	4	5	3	6	6	4	
	5. Computers	12	11	8	9	18	11	5	6	5	6	4	5	5	6	
	6. Telecommunications	12	13	8	9	11	26	5	5	3	5	3	7	5	8	
InoC	7. Industrial chemistry	16	6	10	5	5	5	36	21	16	18	11	8	11	9	
	8. Polymers	14	5	9	4	6	5	21	27	16	16	7	4	10	10	
OrC	9. Biotechnology	10	4	7	4	5	3	16	16	27	18	7	6	14	9	1
	10. Pure/applied organic chemistry	12	6	8	5	6	5	18	16	18	26	8	6	13	7	1
Trad	11.Civil engineering, thermodynamics	8	6	8	3	4	3	11	7	7	8	19	8	6	9	
	12. Handling and processing	7	9	6	6	5	7	8	4	6	6	8	21	5	7	
	13. Medical & Consumer technology	10	10	8	6	5	5	11	10	14	13	6	5	30	8	
	14. Vehicles and general technology	15	11	8	4	6	8	9	10	9	7	9	7	8	46	
	Other areas									1	1					1

* Mega Clusters: Ele = Electricity ICT = ICT InoC = Inorganic Chemistry OrC = Organic Chemistry Trad = Tradition

Base: n = 140, all respondents of the Biggest group, incl. overlapping members of the Random group who provided cluster information, absolute numbers of respondents (unweighted, including ex-post cluster allocation, excluding deliberately selected addresses by the EPO)

Table 61: Number of responses per joint cluster combination (two-way matrix, Biggest group including overlapping members of the Random group)

MC*	Joint cluster	1	2	3	4	5	6	7	8	9	10	11	12	13	14	Other areas
Ele	1. Electricity/semiconductor tech	115	48	40	21	31	36	40	34	30	32	22	21	36	36	4
	2. Electrical & Electronic technology	48	119	32	26	34	34	33	22	25	23	25	25	38	37	6
	3. Applied physics	40	32	69	15	29	28	32	29	34	31	24	17	30	22	7
ICT	4. Audio, video and media	21	26	15	42	19	19	14	13	14	13	12	13	16	13	2
	5. Computers	31	34	29	19	64	28	26	23	28	27	15	14	23	18	6
	6. Telecommunications	36	34	28	19	28	67	21	21	20	21	17	15	22	26	2
InoC	7. Industrial chemistry	40	33	32	14	26	21	134	54	44	52	32	23	34	26	4
	8. Polymers	34	22	29	13	23	21	54	85	39	45	24	15	33	20	3
OrC	9. Biotechnology	30	25	34	14	28	20	44	39	121	57	26	16	52	21	8
	10. Pure/applied organic chemistry	32	23	31	13	27	21	52	45	57	97	24	14	44	17	5
Trad	11. Civil engineering, thermodynamics	22	25	24	12	15	17	32	24	26	24	105	21	23	30	4
	12. Handling and processing	21	25	17	13	14	15	23	15	16	14	21	104	15	19	5
	13. Medical & Consumer technology	36	38	30	16	23	22	34	33	52	44	23	15	149	23	5
	14. Vehicles and general technology	36	37	22	13	18	26	26	20	21	17	30	19	23	139	3
	Other areas	4	6	7	2	6	2	4	3	8	5	4	5	5	3	13

* Mega Clusters: Ele = Electricity ICT = ICT InoC = Inorganic Chemistry OrC = Organic Chemistry Trad = Tradition

Base: n = 667, all respondents of the Random group, incl. overlapping members of the Biggest group who provided cluster information, absolute numbers of respondents (unweighted, including ex-post cluster allocation, excluding deliberately selected addresses by the EPO)

Table 62: Number of responses per joint cluster combination (two-way matrix, Random group including overlapping members of the Biggest group)

12.6 Analysis of company economic attributes

All applicants in the survey were asked to describe themselves in terms of membership of one or more of the EPO joint clusters (questionnaire **Part C**, question d). The following figures provide an overview of the sample composition in terms of sample groups, residence blocs, and mega clusters.

In **Part C** of the questionnaire, applicants were asked to provide more detailed information about their sales; R&D budgets; inventions; numbers of staff involved in making inventions; and numbers of first patent filings throughout the world (with splits by joint clusters for R&D budgets and first filings).[26] All responses were given with respect to activities in 2011.

For the questions on R&D budget and sales, currencies had to be specified by the respondents. Therefore, before analysing Part C, the numbers given for R&D budget and sales were recalculated to EUR. Interbank exchange rates current as of 30 September 2012 were applied to the responses to those questions.

This year, the grouping of economic attributes has been modified in order to ease orientation and interpretation. The tables in this section contain three groups of attributes.

The first group contains (from left to right): the approximate balance sheet total, total worldwide sales, number of employees, proportion of SMEs[27], and the proportion of staff involved in making inventions.

The second group contains the approximate R&D budget, the number of worldwide first patent filings, and the total number of inventions considered for patent applications.

The third and final group contains ratio type characteristics, namely: first patent filings by number of inventions, total sales by first patent filing, and R&D budget by first patent filing.

Summary results for the attributes are shown in **Table 63.** Bearing in mind the asymmetry of some distributions among the population, particularly for variables that measure quantities related to the size of applicant companies, and also on the grounds of considering the robustness of the estimates, for the Random group it is considered more appropriate to compare the weighted medians rather than the weighted means. This year in order to convey the variability associated with the reported measures, 95% normal approximation confidence intervals for the weighted mean are reported.[28]

Detailed tables are shown in unweighted and weighted versions for the Random group in **Table 64** to **Table 67**. These tables contain breakdowns by residence bloc and mega cluster.

[26] A more extensive analysis of the company economic factors in 2009, based on the earlier 2010 survey, is Hingley, P., and Dannegger, F., "Distributions of structures and activities of applicants at the European Patent Office", World Patent Information (2012), 34, 2:143-158.

[27] SME determination was made based on the answers for company type, number of employees, annual turnover, and balance sheet total. If a determination was not possible based on these data, the applicant declaration as given by question E(a) of this year's survey was used.

[28] Calculation of confidence intervals is based on a normal approximation. Thus the confidence interval is calculated as the weighted mean +/- 1.96 standard error of the weighted mean. For the binary variable "Proportion of SMEs", a dummy coding (0="Not an SME", 1="SME") was used. For further details, see Cochran, W.G., "Sampling Techniques", *Wiley*, 1977, Chapter 3.

For the analyses broken down by residence bloc, **Table 64** contains the unweighted analyses for the Random group and **Table 65** contains the weighted results of the Random group. For the analyses itemised by mega cluster, **Table 66** contains the unweighted analyses for the Random group and **Table 67** contains the weighted results of the Random group.

Due to the intricate weighting mechanism with large weight spans, comparisons should be made with caution. The analyses were made using all data available for the groups concerned, while in surveys before 2007 some outliers were excluded. The distribution of the measured quantities within the applicant population shifts slightly from year to year due to sampling effects as well as due to changes in economic circumstances of the applicants.

Many of the columns in the tables report on the same statistics as in last year's report. Considering weighted results from the Random group (**Table 65** and **Table 67**), median sales are a little larger (€30 million vs €23 million previously), but median numbers of employees went down (70 vs 130 previously). Proportions of inventive staff are at a median 17% compared to 10% previously, while median numbers of first filings are almost the same at 5 compared to 4 previously. The median R&D budget increased from €660 000 to €1.4 million, while median sales per first filing are almost the same at €8 million. The apparent R&D expenditure per first patent filing increased to €450 000 compared to €260 000 previously. These year-to-year comparisons are presumed to be only on the borderline of statistical significance, considering the variability of each year's survey. Some idea of this variability is given by the rather wide 95% confidence limits for most of the respective weighted means, although these can be presumed to be more variable than the weighted medians. Some interesting variations between residence blocs (**Table 65**) and between mega clusters (**Table 67**) can also be seen.

Along with the usual standard statistics that can be compared with previous reports, this year there is new information on balance sheet totals and proportions of SMEs. The median balance sheet total is €24 million and median total sales are €30 million. The proportion of SMEs is considered to be better estimated directly as a weighted (mean) proportion and a median is inappropriate. The overall proportion of SMEs is estimated at 58% (95% confidence limits 52% to 65%). There are wide and significant variations between residence blocs (**Table 65**) from Japan at 14% (95% confidence limits 0% to 34%) to the US at 77% (95% confidence limits 65% to 90%). In terms of mega clusters (**Table 67**), the variation in the proportion of SMEs is less obviously significant, going from 39% for ICT (95% confidence limits 21% to 58%) up to 59% for electricity (95% confidence limits 46% to 72%). As a check, it is relevant to confirm that the proportion of SMEs that was measured in the Biggest group was 0% (**Table 63**).

By sample group

Sample group	Statistic	Approximate balance sheet total at the end of 2011 [EUR]	Approximate total sales throughout the world in 2011 [EUR]	Number of employees at the end of 2011	Proportion of SMEs	Proportion of staff directly involved in making inventions	Approximate R&D budget in 2011 [EUR]	Number of first patent filings throughout the world in 2011	Total number of inventions considered for patent application in 2011	First patent filings by number of inventions	Total sales by first patent filing [EUR per first filing]	R&D budget by first patent filing [EUR per first filing]
Biggest Unweighted	N	62	121	141	124	97	66	161	102	99	119	65
	MIN	2 926 585	8 400 000	25		0%	6 617 680	15	18	0.2	7 260	33 937
	MAX	254 000 000 000	159 000 000 000	360 000		86%	7 387 010 000	12 702	12 156	4.2	389 765 915	35 777 358
	MEDIAN	10 594 037 500	5 691 594 000	13 200		10%	239 000 000	235	338	0.8	17 537 037	1 145 012
	MEAN	20 193 445 389	13 174 885 673	33 415	0.0%	18%	986 011 279	813	1 088	0.8	36 282 617	2 971 771
	MEAN 95% LB	11 238 091 143	9 264 476 091	24 096	0.0%	14%	594 543 226	554	696	0.7	26 637 285	1 632 572
	MEAN 95% UB	29 148 799 636	17 085 295 256	42 734	0.0%	22%	1 377 479 332	1 072	1 479	0.9	45 927 948	4 310 969
Random Unweighted	N	256	423	618	555	521	282	672	474	438	398	256
	MIN	1 000	2 000	1		0%	1 000	1	1	0.1	4 368	1 000
	MAX	400 000 000 000	159 000 000 000	500 000		100%	7 387 010 000	12 702	12 156	6.0	4 500 000 000	278 947 059
	MEDIAN	463 215 670	520 000 000	1 214		10%	11 500 000	19	23	0.8	15 669 643	739 854
	MEAN	8 550 007 677	5 211 463 251	12 160	24.7%	21%	315 077 233	246	312	0.9	72 912 251	3 373 133
	MEAN 95% LB	4 576 354 924	3 930 989 225	9 141	21.1%	19%	200 472 251	178	215	0.8	39 205 257	1 140 219
	MEAN 95% UB	12 523 660 431	6 491 937 277	15 179	28.3%	23%	429 682 214	315	408	0.9	106 619 246	5 606 047
Random Weighted	N	256	423	618	555	521	282	672	474	438	398	256
	MIN	1 000	2 000	1		0%	1 000	1	1	0.1	4 368	1 000
	MAX	400 000 000 000	159 000 000 000	500 000		100%	7 387 010 000	12 702	12 156	6.0	4 500 000 000	278 947 059
	MEDIAN	24 000 000	30 000 000	70		17%	1 400 000	5	5	1.0	7 775 800	450 000
	MEAN	1 464 561 359	1 174 526 193	2 366	58.4%	30%	84 566 543	59	43	1.1	92 107 522	3 992 774
	MEAN 95% LB	787 802 714	733 268 254	1 600	51.6%	26%	11 573 138	17	26	0.9	5 633 558	0
	MEAN 95% UB	2 141 320 004	1 615 784 131	3 131	65.2%	35%	157 559 948	100	61	1.2	178 581 485	8 577 651

Table 63: Main statistics for the various sample groups

Random group
Unweighted

Residence bloc	Statistic	Approximate balance sheet total at the end of 2011 [EUR]	Approximate total sales throughout the world in 2011 [EUR]	Number of employees at the end of 2011	Proportion of SMEs	Proportion of staff directly involved in making inventions	Approximate R&D budget in 2011 [EUR]	Number of first patent filings throughout the world in 2011	Total number of inventions considered for patent application in 2011	First patent filings by number of inventions	Total sales by first patent filing [EUR per first filing]	R&D budget by first patent filing [EUR per first filing]
EP	N	149	274	411	365	361	186	436	311	286	253	161
	MIN	1 000	2 000	1		0%	1 000	1	1	0.1	5 802	1 000
	MAX	400 000 000 000	159 000 000 000	500 000		100%	7 000 000 000	4 336	9 800	6.0	4 500 000 000	35 941 176
	MEDIAN	72 000 000	239 717 000	844		8%	5 000 000	11	15	0.8	19 949 048	833 333
	MEAN	7 790 514 671	4 063 936 215	10 731	28.8%	20%	233 311 484	87	156	0.9	97 225 712	2 492 670
	MEAN 95% LB	1 439 614 043	2 495 751 603	6 994	24.1%	17%	119 165 569	56	79	0.8	44 790 112	1 714 108
	MEAN 95% UB	14 141 415 299	5 632 120 827	14 469	33.4%	23%	347 457 398	119	233	1.0	149 661 311	3 271 233
JP	N	78	104	119	111	80	52	127	94	90	101	51
	MIN	612 433	467 054	12		1%	598 800	2	1	0.1	7 260	24 805
	MAX	117 571 974 820	79 321 988 100	330 000		77%	6 407 160 000	8 557	12 156	2.6	407 078 947	4 527 593
	MEDIAN	2 592 090 430	2 654 680 000	4 000		15%	55 658 460	222	250	0.7	8 339 609	390 883
	MEAN	9 819 373 601	7 835 337 587	15 310	2.7%	19%	358 691 806	718	921	0.7	24 637 124	701 818
	MEAN 95% LB	5 830 983 750	5 067 766 704	8 254	0.0%	16%	95 125 686	468	542	0.7	13 397 143	476 883
	MEAN 95% UB	13 807 763 453	10 602 908 471	22 367	5.7%	22%	622 257 927	968	1 301	0.8	35 877 105	926 753
OT	N	8	16	31	28	29	13	37	21	17	15	13
	MIN	15 720 000	777 580	1		2%	77 758	3	2	0.2	4 368	11 108
	MAX	92 920 810 000	47 043 590 000	140 000		100%	4 742 100 000	12 702	500	3.5	317 862 095	278 947 059
	MEDIAN	176 551 750	109 499 700	170		24%	10 511 655	17	9	1.0	5 403 878	567 896
	MEAN	12 007 462 298	5 452 071 529	9 215	35.7%	29%	397 682 324	637	46	1.3	31 757 187	23 066 442
	MEAN 95% LB	0	0	0	18.0%	20%	0	0	0	0.9	0	0
	MEAN 95% UB	33 204 162 053	11 601 157 284	18 878	53.5%	38%	1 079 942 616	1 338	92	1.7	71 096 504	63 250 594
US	N	21	29	57	51	51	31	72	48	45	29	31
	MIN	583 185	77 758	2		0%	155 516	1	1	0.3	9 720	11 108
	MAX	47 782 291 000	45 255 156 000	199 900		100%	7 387 010 000	3 806	3 800	4.5	333 333 333	67 311 615
	MEDIAN	349 911 000	3 110 320 000	1 000		20%	7 775 800	28	27	0.9	21 483 262	1 036 773
	MEAN	7 906 878 104	6 511 109 605	17 487	37.3%	29%	697 870 951	177	244	1.0	50 215 990	4 082 118
	MEAN 95% LB	2 560 487 002	2 750 337 452	7 707	24.0%	21%	135 175 581	59	46	0.8	21 169 504	0
	MEAN 95% UB	13 253 269 205	10 271 881 757	27 268	50.5%	36%	1 260 566 322	295	442	1.3	79 262 476	8 252 181
Total	N	256	423	618	555	521	282	672	474	438	398	256
	MEDIAN	463 215 670	520 000 000	1 214		10%	11 500 000	19	23	0.8	15 669 643	739 854
	MEAN	8 550 007 677	5 211 463 251	12 160	24.7%	21%	315 077 233	246	312	0.9	72 912 251	3 373 133
	MEAN 95% LB	4 576 354 924	3 930 989 225	9 141	21.1%	19%	200 472 251	178	215	0.8	39 205 257	1 140 219
	MEAN 95% UB	12 523 660 431	6 491 937 277	15 179	28.3%	23%	429 682 214	315	408	0.9	106 619 246	5 606 047

Table 64: Main statistics for activities by residence bloc – Random group (unweighted)

Random group
Cases weighted with structural weight

Residence bloc	Statistic	Approximate balance sheet total at the end of 2011 [EUR]	Approximate total sales throughout the world in 2011 [EUR]	Number of employees at the end of 2011	Proportion of SMEs	Proportion of staff directly involved in making inventions	Approximate R&D budget in 2011 [EUR]	Number of first patent filings throughout the world in 2011	Total number of inventions considered for patent application in 2011	First patent filings by number of inventions	Total sales by first patent filing [EUR per first filing]	R&D budget by first patent filing [EUR per first filing]
EP	N	149	274	411	365	361	186	436	311	286	253	161
	MIN	1 000	2 000	1		0%	1 000	1	1	0.1	5 802	1 000
	MAX	400 000 000 000	159 000 000 000	500 000		100%	7 000 000 000	4 336	9 800	6.0	4 500 000 000	35 941 176
	MEDIAN	8 000 000	20 000 000	70		13%	500 000	3	3	1.0	10 000 000	400 000
	MEAN	1 173 215 435	812 285 948	2 262	56.5%	27%	27 626 288	17	36	1.0	126 721 990	1 580 103
	MEAN 95% LB	359 035 654	424 323 910	1 340	49.3%	22%	13 523 189	8	6	0.8	0	603 925
	MEAN 95% UB	1 987 395 216	1 200 247 985	3 183	63.8%	32%	41 729 387	27	66	1.3	268 778 987	2 556 281
JP	N	78	104	119	111	80	52	127	94	90	101	51
	MIN	612 433	467 054	12		1%	598 800	2	1	0.1	7 260	24 805
	MAX	117 571 974 820	79 321 988 100	330 000		77%	6 407 160 000	8 557	12 156	2.6	407 078 947	4 527 593
	MEDIAN	1 973 914 260	252 494 000	653		10%	7 085 800	22	30	0.8	15 776 170	926 714
	MEAN	4 314 314 508	2 570 498 567	2 905	14.0%	18%	62 391 353	119	151	0.7	72 907 381	863 514
	MEAN 95% LB	2 064 340 359	741 554 324	1 691	0.0%	11%	14 031 980	68	79	0.6	12 628 900	524 632
	MEAN 95% UB	6 564 288 657	4 399 442 810	4 120	33.7%	26%	110 750 727	170	222	0.9	133 185 863	1 202 395
OT	N	8	16	31	28	29	13	37	21	17	15	13
	MIN	15 720 000	777 580	1		2%	77 758	3	2	0.2	4 368	11 108
	MAX	92 920 810 000	47 043 590 000	140 000		100%	4 742 100 000	12 702	500	3.5	317 862 095	278 947 059
	MEDIAN	25 291 200	157 279 650	50		33%	3 110 320	7	3	1.0	22 468 521	367 168
	MEAN	1 967 566 407	950 276 517	966	60.0%	33%	349 139 548	79	15	1.6	26 677 728	21 292 367
	MEAN 95% LB	0	0	100	32.5%	16%	0	9	0	0.8	8 922 746	0
	MEAN 95% UB	6 027 035 865	2 323 168 752	1 833	87.5%	50%	1 021 428 214	150	30	2.3	44 432 710	60 682 157
US	N	21	29	57	51	51	31	72	48	45	29	31
	MIN	583 185	77 758	2		0%	155 516	1	1	0.3	9 720	11 108
	MAX	47 782 291 000	45 255 156 000	199 900		100%	7 387 010 000	3 806	3 800	4.5	333 333 333	67 311 615
	MEDIAN	27 992 880	3 887 900	30		50%	3 110 320	9	10	1.0	777 580	450 000
	MEAN	847 326 545	1 727 964 953	3 205	77.4%	39%	113 552 824	107	35	1.0	26 249 887	2 081 561
	MEAN 95% LB	34 821 650	0	855	64.5%	29%	0	0	17	0.8	616 236	282 582
	MEAN 95% UB	1 659 831 440	3 506 694 131	5 554	90.4%	49%	238 490 227	249	53	1.2	51 883 537	3 880 540
Total	N	256	423	618	555	521	282	672	474	438	398	256
	MEDIAN	24 000 000	30 000 000	70		17%	1 400 000	5	5	1.0	7 775 800	450 000
	MEAN	1 464 561 359	1 174 526 193	2 366	58.4%	30%	84 566 543	59	43	1.1	92 107 522	3 992 774
	MEAN 95% LB	787 802 714	733 268 254	1 600	51.6%	26%	11 573 138	17	26	0.9	5 633 558	0
	MEAN 95% UB	2 141 320 004	1 615 784 131	3 131	65.2%	35%	157 559 948	100	61	1.2	178 581 485	8 577 651

Table 65: Main statistics for activities by residence bloc – Random group (weighted)

Random group
Unweighted

Mega Cluster	Statistic	Approximate balance sheet total at the end of 2011 [EUR]	Approximate total sales throughout the world in 2011 [EUR]	Number of employees at the end of 2011	Proportion of SMEs	Proportion of staff directly involved in making inventions	Approximate R&D budget in 2011 [EUR]	Number of first patent filings throughout the world in 2011	Total number of inventions considered for patent application in 2011	First patent filings by number of inventions	Total sales by first patent filing [EUR per first filing]	R&D budget by first patent filing [EUR per first filing]
Electricity	N	70	117	169	169	155	67	184	133	141	124	64
	MIN	190 064	43 148	1		0%	50 272	1	1	0.1	5 802	50 272
	MAX	30 764 322 230	66 708 141 144	280 876		100%	2 474 000 000	3 383	7 646	6.0	4 400 000 000	24 000 000
	MEDIAN	542 888 390	385 868 872	1 000		13%	9 980 000	12	16	0.7	10 964 209	815 717
	MEAN	3 721 175 849	3 061 144 713	7 927	18.9%	22%	126 277 702	171	259	0.8	84 844 005	1 887 139
	MEAN 95% LB	2 196 650 752	1 687 803 342	3 768	13.0%	18%	36 755 026	105	120	0.7	11 930 219	1 020 367
	MEAN 95% UB	5 245 700 946	4 434 486 084	12 085	24.8%	25%	215 800 378	237	398	1.0	157 757 791	2 753 912
Organic Chemistry	N	51	74	120	127	113	57	140	103	105	77	54
	MIN	87 975	100 678	1		0%	50 000	1	0	0.1	4 368	29 603
	MAX	32 368 421 053	35 156 425 000	80 000		100%	3 904 073 664	1 223	800	5.5	4 400 000 000	67 311 615
	MEDIAN	406 408 854	332 631 158	896		25%	13 582 780	13	14	0.8	9 072 727	1 574 405
	MEAN	3 500 788 035	2 742 605 055	4 945	22.0%	32%	237 471 557	59	73	0.9	116 362 094	4 613 887
	MEAN 95% LB	1 598 482 096	1 381 573 179	2 697	14.8%	27%	65 141 430	36	43	0.8	313 014	1 936 985
	MEAN 95% UB	5 403 093 974	4 103 636 931	7 192	29.3%	37%	409 801 685	82	103	1.1	232 411 174	7 290 789
Inorganic Chemistry	N	62	91	135	132	118	55	147	106	108	93	51
	MIN	3 450 000	5 802	1		0%	20 000	1	1	0.1	5 802	30 000
	MAX	34 526 315 789	19 368 421 053	57 240		100%	758 140 500	1 222	1 333	4.5	4 400 000 000	11 154 802
	MEDIAN	2 000 417 407	1 067 536 324	1 348		10%	13 617 150	18	20	0.8	18 712 500	685 373
	MEAN	4 194 259 075	2 885 160 713	5 401	9.8%	19%	69 657 608	82	118	0.8	120 967 991	1 540 259
	MEAN 95% LB	2 564 367 511	2 011 743 315	3 636	4.8%	15%	33 135 652	56	74	0.7	24 492 078	942 548
	MEAN 95% UB	5 824 150 639	3 758 578 112	7 166	14.9%	23%	106 179 564	108	162	0.9	217 443 904	2 137 970
ICT	N	34	61	92	95	82	38	107	76	80	64	36
	MIN	1 000	20 000	2		0%	50 000	1	0	0.1	6 667	11 108
	MAX	67 780 098 140	42 315 239 920	140 000		100%	6 842 704 000	4 632	3 800	4.0	4 400 000 000	35 941 176
	MEDIAN	851 350 831	1 200 000 000	1 008		17%	10 255 828	20	20	0.8	12 204 474	1 285 359
	MEAN	6 433 533 336	6 505 240 194	13 007	13.7%	26%	674 052 322	310	326	0.8	140 255 833	3 585 322
	MEAN 95% LB	2 131 632 989	3 934 393 162	7 079	6.8%	21%	219 201 538	168	153	0.7	0	1 312 593
	MEAN 95% UB	10 735 433 684	9 076 087 225	18 936	20.6%	31%	1 128 903 106	452	499	1.0	286 730 173	5 858 051
Traditional	N	136	231	323	315	309	164	358	264	262	234	146
	MIN	5 920	62 840	1		0%	1 000	1	0	0.1	4 368	1 000
	MAX	400 000 000 000	159 000 000 000	357 143		100%	7 000 000 000	7 957	12 156	4.0	4 500 000 000	278 947 059
	MEDIAN	540 573 086	500 000 000	1 348		8%	9 990 000	12	20	0.8	17 763 393	698 937
	MEAN	8 678 299 571	3 797 602 706	9 869	22%	17%	235 792 430	140	226	0.9	94 904 502	4 309 664
	MEAN 95% LB	1 691 605 663	2 152 556 666	6 693	17%	14%	103 440 089	85	121	0.8	38 506 079	510 472
	MEAN 95% UB	15 664 993 479	5 442 648 746	13 044	26%	19%	368 144 770	194	332	0.9	151 302 926	8 108 857

Table 66: Main statistics for activities in various sectors – Random group (unweighted)

Random group
Cases weighted with structural weight

Mega Cluster	Statistic	Approximate balance sheet total at the end of 2011 [EUR]	Approximate total sales throughout the world in 2011 [EUR]	Number of employees at the end of 2011	Proportion of SMEs	Proportion of staff directly involved in making inventions	Approximate R&D budget in 2011 [EUR]	Number of first patent filings throughout the world in 2011	Total number of inventions considered for patent application in 2011	First patent filings by number of inventions	Total sales by first patent filing [EUR per first filing]	R&D budget by first patent filing [EUR per first filing]
Electricity	N	70	117	169	169	155	67	184	133	141	124	64
	MIN	190 064	43 148	1		0%	50 272	1	1	0.1	5 802	50 272
	MAX	30 764 322 230	66 708 141 144	280 876		100%	2 474 000 000	3 383	7 646	6.0	4 400 000 000	24 000 000
	MEDIAN	62 839 500	20 000 000	50		22%	1 166 370	4	7	0.8	8 450 704	1 000 000
	MEAN	948 192 028	630 543 506	1 179	59.0%	30%	18 186 568	23	36	1.0	107 678 329	2 088 491
	MEAN 95% LB	246 439 045	311 314 962	680	46.2%	23%	7 301 700	15	20	0.7	0	187 620
	MEAN 95% UB	1 649 945 012	949 772 049	1 678	71.8%	37%	29 071 435	31	52	1.3	221 633 411	3 989 363
Organic Chemistry	N	51	74	120	127	113	57	140	103	105	77	54
	MIN	87 975	100 678	1		0%	50 000	1	0	0.1	4 368	29 603
	MAX	32 368 421 053	35 156 425 000	80 000		100%	3 904 073 664	1 223	800	5.5	4 400 000 000	67 311 615
	MEDIAN	38 704 201	5 060 000	140		45%	3 110 320	6	6	1.0	1 686 667	1 060 336
	MEAN	745 728 162	787 353 376	982	55.2%	43%	34 905 540	12	13	1.0	122 940 499	2 739 740
	MEAN 95% LB	42 873 351	38 964 719	440	40.1%	34%	6 716 413	9	9	0.7	0	917 084
	MEAN 95% UB	1 448 582 973	1 535 742 032	1 523	70.3%	53%	63 094 666	16	17	1.3	298 343 407	4 562 397
Inorganic Chemistry	N	62	91	135	132	118	55	147	106	108	93	51
	MIN	3 450 000	5 802	1		0%	20 000	1	1	0.1	5 802	30 000
	MAX	34 526 315 789	19 368 421 053	57 240		100%	758 140 500	1 222	1 333	4.5	4 400 000 000	11 154 802
	MEDIAN	680 431 964	170 000 000	264		10%	2 332 740	6	10	0.7	12 249 819	314 198
	MEAN	2 426 234 138	1 898 744 473	2 218	43.4%	25%	15 401 457	21	30	0.8	226 106 246	847 963
	MEAN 95% LB	1 044 346 520	775 510 746	779	24.4%	14%	7 290 364	13	17	0.7	0	405 797
	MEAN 95% UB	3 808 121 755	3 021 978 199	3 657	62.4%	35%	23 512 550	29	43	1.0	483 576 066	1 290 130
ICT	N	34	61	92	95	82	38	107	76	80	64	36
	MIN	1 000	20 000	2		0%	50 000	1	0	0.1	6 667	11 108
	MAX	67 780 098 140	42 315 239 920	140 000		100%	6 842 704 000	4 632	3 800	4.0	4 400 000 000	35 941 176
	MEDIAN	110 432 648	160 441 050	500		17%	5 000 000	6	5	1.0	18 992 976	1 060 336
	MEAN	2 462 572 318	2 541 971 125	5 337	39.3%	31%	234 847 874	61	87	1.0	143 792 719	3 109 414
	MEAN 95% LB	0	237 094 545	436	20.9%	16%	0	22	0	0.8	0	531 283
	MEAN 95% UB	6 046 071 366	4 846 847 705	10 238	57.7%	45%	513 224 026	100	191	1.3	330 796 948	5 687 546
Traditional	N	136	231	323	315	309	164	358	264	262	234	146
	MIN	5 920	62 840	1		0%	1 000	1	0	0.1	4 368	1 000
	MAX	400 000 000 000	159 000 000 000	357 143		100%	7 000 000 000	7 957	12 156	4.0	4 500 000 000	278 947 059
	MEDIAN	25 291 200	40 000 000	135		14%	790 350	4	5	0.9	13 607 650	375 000
	MEAN	1 392 586 306	829 280 617	1 993	54%	24%	91 015 900	18	30	1.1	139 782 972	6 297 345
	MEAN 95% LB	396 269 786	413 264 690	1 190	44%	19%	0	13	20	0.8	0	0
	MEAN 95% UB	2 388 902 825	1 245 296 544	2 797	63%	29%	219 299 783	23	39	1.3	298 316 331	15 789 668

Table 67: Main statistics for activities in various sectors – Random group (weighted)

13 Annex VII: Additional topics in this year's survey

This year's survey included additional questions on applicant assessments of the relationship of patent filings to R&D activities, on European patent portfolios, and on possible effects of the pending Unitary Patent. Some of these questions are analysed in this section.

13.1 Assessment of the change in relationship of patent filings to R&D activities

Question (a) in **Part D** of the questionnaire was as follows:

Please indicate to what extent you agree with the following statement: Compared to 10 years ago (or the year you started applying at the EPO if later), these days your first patent filings relate more to strategic management decisions than to R&D outlays.

Table 68 to **Table 72** display the results.

By sample group

		Compared to 10 years ago or later, these days our first patent filings relate more to strategic management decisions than to R&D outlays					
Sample group	Valid N	Completely disagreee 1	2	3	4	Fully agreee 5	Mean score
Biggest group unweighted	138	5%	9%	28%	41%	17%	3.57
Random group unweighted	618	5%	14%	27%	38%	17%	3.47
Random group weighted	618	9%	13%	27%	34%	17%	3.37

Table 68: Assessment of the change in relationship of patent filings to R&D activities by sample group

Random group
Unweighted

		Compared to 10 years ago or later, these days our first patent filings relate more to strategic management decisions than to R&D outlays					
Residence bloc	Valid N	Completely disagreee 1	2	3	4	Fully agreee 5	Mean score
EP	409	6%	13%	24%	40%	18%	3.52
JP	110	2%	17%	35%	38%	7%	3.32
OT	33	12%	18%	21%	30%	18%	3.24
US	66	5%	11%	32%	30%	23%	3.56
Total	618	5%	14%	27%	38%	17%	3.47

Table 69: Assessment of the change in relationship of patent filings to R&D activities broken down by residence bloc – Random group (unweighted)

Random group
Cases weighted with structural weight

Residence bloc	Valid N	Compared to 10 years ago or later, these days our first patent filings relate more to strategic management decisions than to R&D outlays: Completely disagreee 1	2	3	4	Fully agreee 5	Mean score
EP	409	9%	13%	25%	39%	14%	3.35
JP	110	0%	20%	41%	37%	2%	3.21
OT	33	16%	12%	13%	33%	26%	3.41
US	66	5%	13%	38%	24%	21%	3.42
Total	618	9%	13%	27%	34%	17%	3.37

Table 70: Assessment of the change in relationship of patent filings to R&D activities broken down by residence bloc – Random group (weighted)

Random group
Unweighted

Mega Cluster	Valid N	Compared to 10 years ago or later, these days our first patent filings relate more to strategic management decisions than to R&D outlays: Completely disagreee 1	2	3	4	Fully agreee 5	Mean score
Electricity	188	6%	14%	27%	39%	14%	3.41
Organic Chemistry	142	6%	15%	23%	44%	12%	3.42
Inorganic Chemistry	148	5%	16%	26%	41%	13%	3.42
ICT	111	2%	15%	31%	42%	10%	3.43
Traditional	363	4%	15%	27%	38%	16%	3.46

Table 71: Assessment of the change in relationship of patent filings to R&D activities broken down by mega cluster – Random group (unweighted)

Random group
Cases weighted with structural weight

Mega Cluster	Valid N	Compared to 10 years ago or later, these days our first patent filings relate more to strategic management decisions than to R&D outlays: Completely disagreee 1	2	3	4	Fully agreee 5	Mean score
Electricity	188	8%	16%	34%	32%	10%	3.20
Organic Chemistry	142	4%	9%	22%	52%	13%	3.59
Inorganic Chemistry	148	7%	15%	35%	32%	11%	3.25
ICT	111	0%	10%	45%	32%	13%	3.47
Traditional	363	8%	16%	28%	32%	15%	3.30

Table 72: Assessment of the change in relationship of patent filings to R&D activities broken down by mega cluster – Random group (weighted)

Generally speaking, the mean scores for this question go slightly in the direction of agreement rather than disagreement with the proposition that first patent filings are more strategic than they were in the past. In **Table 72** the highest weighted mean score by industries is 3.59 for Organic chemistry, and the lowest is 3.20 for Electricity. There is not much difference between blocs of residence in **Table 70**, but for the record the highest mean score is 3.42 for US, with Japan lowest at 3.21.

It is interesting that the weighted mean scores by blocs of origin in **Table 70** are mostly smaller than the simple unweighted mean scores in **Table 69**. This suggests that smaller applicants may be more in agreement with the proposition than larger applicants, which have generally been established for longer (as was shown by comparisons of **Figure 8** and **Figure 10**).

13.2 Information about European Patent portfolios

Some of the questions in **Part E** were:

e) Indicate the total number of European patents (including divisionals) in your portfolio at the end of the following years.

g) Counting each granted patent only once, roughly what proportion of your European patent portfolio at the end of 2011 is still in the pre-grant phase?

h) Some patents may turn out to be more valuable to their owners than others, due to various reasons. Bearing this in mind, how many patents in your European patent portfolio at the end of 2011 do you now regret having applied for?

The patent portfolio that was asked about contains applications that are still under consideration at the EPO as well as patents that have been granted and are still maintained in at least one EPC contracting state's national office.

Table 73 to **Table 77** show the results for questions e), g) and h).

By sample group

Residence Bloc	Proportion of 2011 European patent portfolios which were nonexistent in 2000		Growth of European patent portfolios from 2000 to 2011			Proportion of European patents still in the pre-grant phase at the end of 2011		Number of European patents in portfolio at the end of 2011 which are regretted to having been filed	
	Valid N	Mean	Valid N	Mean	Median	Valid N	Mean	Valid N	Mean
Biggest group unweighted	59	7%	53	2645%	302%	94	52%	67	16%
Random group unweighted	390	30%	229	1022%	300%	497	52%	430	7%
Random group weighted	390	46%	229	503%	300%	497	58%	430	3%

Table 73: Assessment of European patent portfolios by sample group

Random group
Unweighted

Residence bloc	Proportion of 2011 European patent portfolios which were nonexistent in 2000		Growth of European patent portfolios from 2000 to 2011			Proportion of European patents still in the pre-grant phase at the end of 2011		Number of European patents in portfolio at the end of 2011 which are regretted to having been filed	
	Valid N	Mean	Valid N	Mean	Median	Valid N	Mean	Valid N	Mean
EP	256	32%	151	638%	300%	351	52%	310	5%
JP	66	12%	41	571%	288%	67	48%	48	4%
OT	24	50%	10	9820%	420%	28	63%	19	3%
US	44	32%	27	597%	320%	51	57%	53	21%
Total	390	30%	229	1022%	300%	497	52%	430	7%

Table 74: Assessment of European patent portfolios broken down by residence bloc – Random group (unweighted)

Random group
Cases weighted with structural weight

Residence bloc	Proportion of 2011 European patent portfolios which were nonexistent in 2000		Growth of European patent portfolios from 2000 to 2011			Proportion of European patents still in the pre-grant phase at the end of 2011		Number of European patents in portfolio at the end of 2011 which are regretted to having been filed	
	Valid N	Mean	Valid N	Mean	Median	Valid N	Mean	Valid N	Mean
EP	256	44%	151	379%	234%	351	53%	310	2%
JP	66	37%	41	565%	314%	67	68%	48	2%
OT	24	47%	10	789%	136%	28	64%	19	2%
US	44	52%	27	625%	327%	51	63%	53	4%
Total	390	46%	229	503%	300%	497	58%	430	3%

Table 75: Assessment of European patent portfolios broken down by residence bloc – Random group (weighted)

Random group
Unweighted

Mega Cluster	Proportion of 2011 European patent portfolios which were nonexistent in 2000		Growth of European patent portfolios from 2000 to 2011			Proportion of European patents still in the pre-grant phase at the end of 2011		Number of European patents in portfolio at the end of 2011 which are regretted to having been filed	
	Valid N	Mean	Valid N	Mean	Median	Valid N	Mean	Valid N	Mean
Electricity	104	23%	70	605%	322%	136	54%	121	7%
Organic Chemistry	96	34%	58	423%	305%	118	56%	104	12%
Inorganic Chemistry	87	22%	56	569%	271%	114	52%	100	11%
ICT	66	26%	42	3024%	425%	81	55%	68	9%
Traditional	226	23%	145	598%	302%	288	50%	260	6%

Table 76: Assessment of European patent portfolios broken down by mega cluster – Random group (unweighted)

Random group
Cases weighted with structural weight

Mega Cluster	Proportion of 2011 European patent portfolios which were nonexistent in 2000		Growth of European patent portfolios from 2000 to 2011			Proportion of European patents still in the pre-grant phase at the end of 2011		Number of European patents in portfolio at the end of 2011 which are regretted to having been filed	
	Valid N	Mean	Valid N	Mean	Median	Valid N	Mean	Valid N	Mean
Electricity	104	47%	70	496%	311%	136	60%	121	2%
Organic Chemistry	96	55%	58	388%	327%	118	57%	104	4%
Inorganic Chemistry	87	32%	56	299%	200%	114	62%	100	5%
ICT	66	43%	42	1004%	311%	81	56%	68	3%
Traditional	226	39%	145	449%	220%	288	57%	260	2%

Table 77: Assessment of European patent portfolios broken down by mega cluster – Random group (weighted)

Regarding question e), **Table 75** shows an estimate that 46% of EPO's applicants in 2011 had **no portfolio in 2000**. Broken down by blocs, the highest proportion is from the US at 52%, while the lowest is Japan at 37%. In terms of mega clusters, **Table 77** shows a highest proportion of 55% from Organic chemistry while Inorganic chemistry is lowest at 32%. **Figure 10** shows an estimate that 63% of EPO applicants in 2011 started patenting activities at EPO in 2000 or later, so this apparent discrepancy needs to be analysed further. From the distributions by bloc shown in **Figure 11** to **Figure 14**, the proportions starting in 2000 or later are higher for every case except Japan, where 25% started in 2000 or later, while **Table 75** estimates that for Japan 37% had no portfolio in 2000.

Regarding the **growth of the portfolios** from the 70% of companies that already had one in 2000, the weighted median estimate in **Table 75** is 300% from 2000 to 2011, which is impressively high. (The weighted mean is much larger at 504% but this is presumably dominated by the few very large companies that grew from much smaller entities in 2000.) The bloc with the highest median growth is the US at 327%, while the lowest is Others with 136%. For mega clusters, **Table 77** estimates the highest growth for organic chemistry at 327% and the lowest for traditional at 220%.

Regarding question g), **Table 75** gives an estimate of 58% of European patents in the portfolio that were **still in the pre-grant phase** at the end of 2011. Considered by blocs, the highest percentage is for Japan (68%) and the lowest is for EPC residence blocs (53%). In terms of mega clusters (**Table 77**), the highest percentage is for Inorganic chemistry (62%) and the lowest is for ICT (56%).

Regarding question h), **Table 75** gives an estimate of 3% of European patents in the portfolio for which the applicants have **regret that they were ever filed**. This proportion is gratifyingly low, but it should be borne in mind that applications that were withdrawn, refused or expired are not included. If some additional regret now exists for these latter types, then the overall percentage of cases with regret may be much higher. Considered by blocs, the highest percentage that was reported is for the US (4%) and the lowest is for all other three blocs (2% each). In terms of mega clusters (**Table 77**), the highest percentage is for Inorganic chemistry (5%) and the lowest is for Traditional and Electricity (2% each).

13.3 Possible effect of the pending Unitary Patent

Question i) in **Part E** of this year's survey was:

i) *Did you recently start making more applications for European patents, than you otherwise would have done, because of some possible advantages in case a "Unitary Patent" is introduced in the future?*

Table 78 to **Table 82** display the results.

By sample group

Sample group	Valid N	Did you recently start making more applications for European patents, than you otherwise would have done, because of some possible advantages in case a "Unitary Patent" is introduced in the future? Yes	No	Not relevant
Biggest group unweighted	130	6%	70%	24%
Random group unweighted	610	7%	70%	23%
Random group weighted	610	8%	69%	23%

Table 78: Assessment of possible effect of the pending Unitary Patent by sample group

Random group
Unweighted

Residence bloc	Valid N	Did you recently start making more applications for European patents, than you otherwise would have done, because of some possible advantages in case a "Unitary Patent" is introduced in the future? Yes	No	Not relevant
EP	406	7%	76%	17%
JP	109	3%	50%	48%
OT	31	26%	45%	29%
US	64	6%	81%	13%
Total	610	7%	70%	23%

Table 79: Assessment of possible effect of the pending Unitary Patent broken down by residence bloc – Random group (unweighted)

Random group
Cases weighted with structural weight

Residence bloc	Valid N	Did you recently start making more applications for European patents, than you otherwise would have done, because of some possible advantages in case a "Unitary Patent" is introduced in the future? Yes	No	Not relevant
EP	406	7%	70%	23%
JP	109	2%	51%	47%
OT	31	27%	35%	38%
US	64	2%	86%	12%
Total	610	8%	69%	23%

Table 80: Assessment of possible effect of the pending Unitary Patent broken down by residence bloc – Random group (weighted)

Random group
Unweighted

Mega Cluster	Valid N	Did you recently start making more applications for European patents, than you otherwise would have done, because of some possible advantages in case a "Unitary Patent" is introduced in the future? Yes	No	Not relevant
Electricity	185	8%	73%	19%
Organic Chemistry	141	6%	74%	20%
Inorganic Chemistry	144	6%	72%	23%
ICT	104	11%	66%	23%
Traditional	358	7%	70%	23%

Table 81: Assessment of possible effect of the pending Unitary Patent broken down by mega cluster – Random group (unweighted)

Random group
Cases weighted with structural weight

Mega Cluster	Valid N	Did you recently start making more applications for European patents, than you otherwise would have done, because of some possible advantages in case a "Unitary Patent" is introduced in the future? Yes	No	Not relevant
Electricity	185	10%	70%	21%
Organic Chemistry	141	6%	67%	26%
Inorganic Chemistry	144	2%	83%	15%
ICT	104	23%	64%	13%
Traditional	358	5%	74%	21%

Table 82: Assessment of possible effect of the pending Unitary Patent broken down by mega cluster – Random group (weighted)

In **Table 80**, there is an estimate that 8% of applicants have recently started making more applications for European patents than they would otherwise have done because of possible advantages in case a Unitary Patent (UP) is introduced. While this proportion is not large, it presumably represents a significant contribution to filings increases at EPO and needs to be taken account of in planning demand. Considered by blocs, the highest percentage is for Others (27%) and the lowest is for Japan and the US (2% each). In terms of mega clusters, **Table 82** shows that the highest percentage is for ICT (23%) and the lowest is for Inorganic chemistry (2%).

14 Annex VIII: Estimating birth & death effects in the applicant population

Using methods that were described in earlier reports[29], correction factors for Total filings were calculated using Combined filings (Euro-direct + Euro-PCT-RP).

		Correction factors for Total filings (Euro-direct+Euro-PCT-RP)		
Survey Year	Base Year	Survey Year	Survey Year + 1	Survey Year + 2
2005	2004	-11		
2006	2005	-334	-1 332	
2007	2006	1 041	-15	-1 832
2008	2007	1 034	2 267	826
2009	2008	257	1 191	2 422
2010	2009	-1 265	-1 478	-1 124
2011	2010	544	-982	-2 086
2012	2011	691	-1 196	-2 091

The new method to identify applicants according the capitalised names has replaced the previous method. The effect is to slightly reduce the absolute number of applicants in one year, but to increase the numbers of applicants that applied in pairs of years that are well separated.

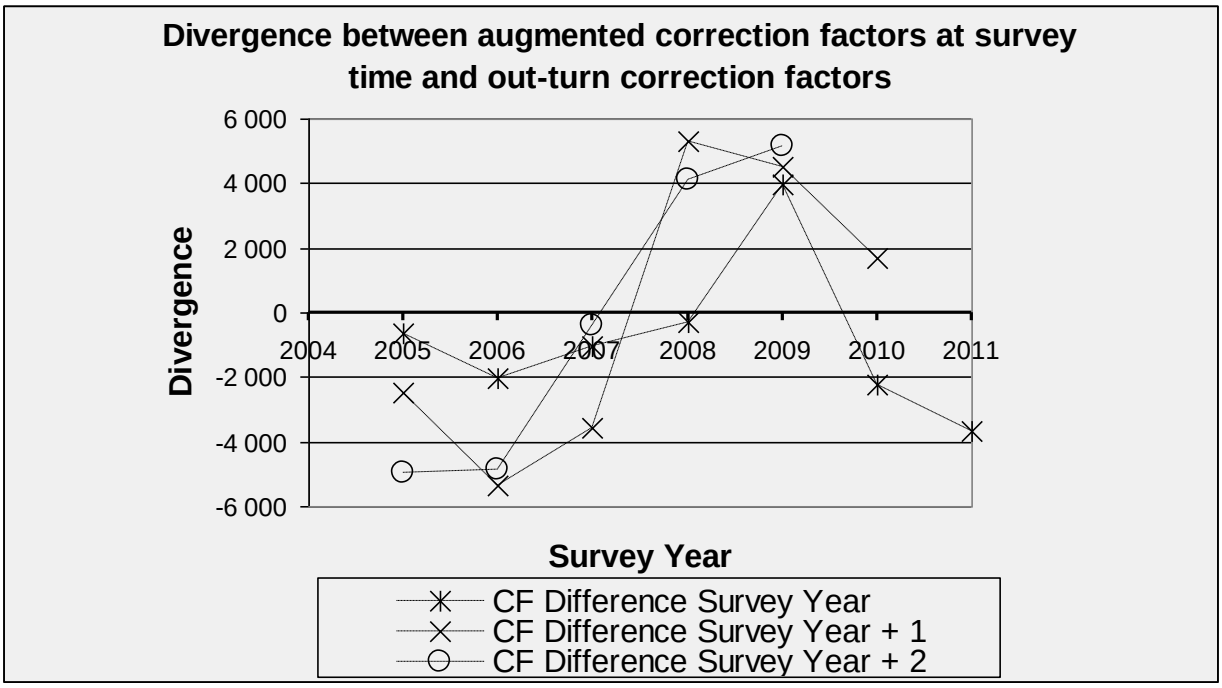
Out-turn correction factors

		Forward correction factors for Total filings (Euro-direct+Euro-PCT-RP)		
Survey Year	Base Year	Survey Year	Survey Year + 1	Survey Year + 2
2005	2004	625	2 495	4 967
2006	2005	1 682	4 020	4 847
2007	2006	2 093	3 533	-1 417
2008	2007	1 321	-3 023	-3 308
2009	2008	-3 730	-3 317	-2 757
2010	2009	947	-3 177	
2011	2010	4 219		
2012	2011			

The following graph shows the deviations between the applicant panel correction factors given earlier and the forward correction factors seen later in the out-turns.

[29] E.g. the 2011 PFS report, Annex X.

Correction factors from Combined filings:



The divergences are negative in the early part of the period, which means that the correction factors underestimated the balance of applications coming from new applicants compared to the drop-out of old applicants. In the middle of the period, the divergences become positive, before appearing to trend downwards again in the last two surveys.

The correction factor for the survey year is most accurate. The survey year + 1 divergence was a little out at about -5 000 in 2006 and nearly up to +6 000 in 2008. The survey year + 2 divergence behaves somewhat similarly to the survey year + 1 divergence. The magnitude of the divergences is about the same as that reported last year with a different definition, although the shapes over time have changed.

The graph supports the same general conclusion as in this Annex in previous surveys. The survey year correction factor can be used with confidence even though the recent severe downturn led to a positive divergence of about 4 000 in 2009. The survey year + 1 and + 2 correction factors can show larger divergences, so can only be taken on trust.

These correction factors are small and can practically be ignored. What is of interest is that they represent a control check on the sampling method. Their low values over the period studied in this survey give some confidence to the new method of sampling using capitalised names.

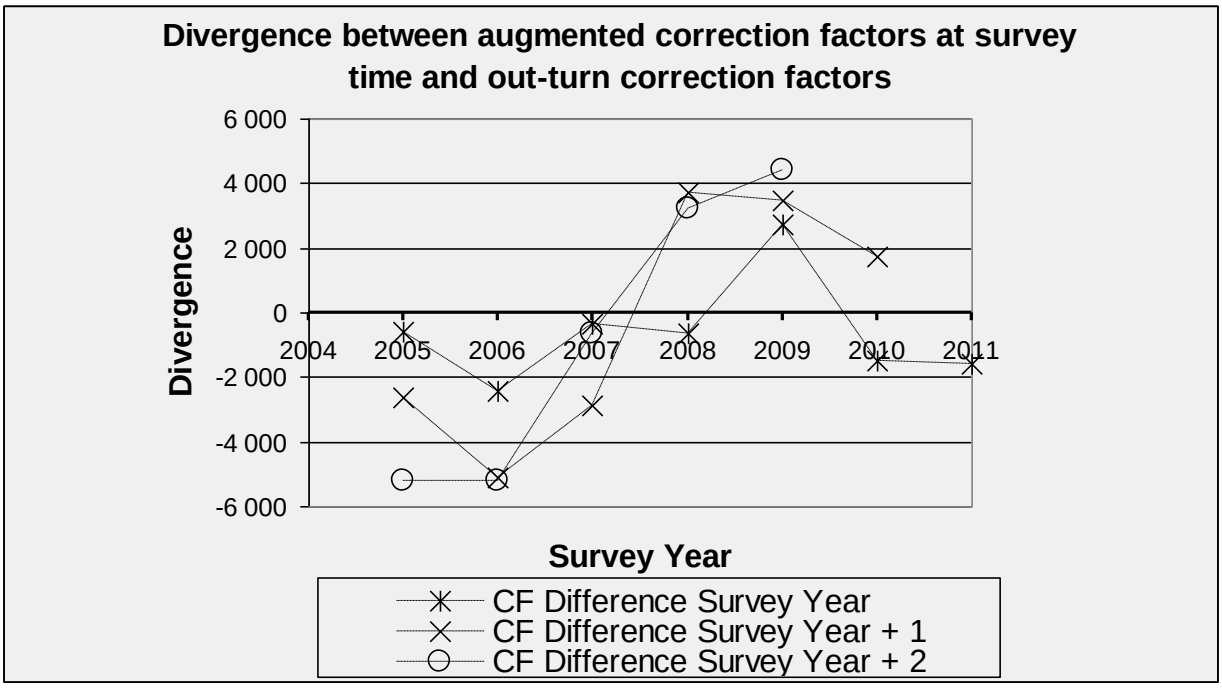
A similar approach is possible to calculate correction factors for Euro-PCT-RP filings forecasts alone. Equivalent tables and charts follow.

		Correction factors for Total filings (Euro-direct+Euro-PCT-RP)		
Survey Year	Base Year	Survey Year	Survey Year + 1	Survey Year + 2
2005	2004	-94		
2006	2005	-226	-822	
2007	2006	1 309	3	-632
2008	2007	611	2 382	960
2009	2008	42	381	2 557
2010	2009	-1 404	-1 275	-1 348
2011	2010	-139	-1 906	-2 535
2012	2011	757	-1 831	-2 355

Out-turn correction factors

		Forward correction factors for Total filings (Euro-direct+Euro-PCT-RP)		
Survey Year	Base Year	Survey Year	Survey Year + 1	Survey Year + 2
2005	2004	491	2 643	5 229
2006	2005	2 216	4 275	5 193
2007	2006	1 672	2 888	-1
2008	2007	1 243	-1 314	-2 240
2009	2008	-2 680	-3 080	-1 866
2010	2009	107	-2 994	
2011	2010	1 447		
2012	2011			

Correction factors from Euro-PCT-RP filings:



The correction factor for the survey year is most accurate. The survey year + 1 divergence was a little out at about -5 000 in 2006 and up to just over +3 000 in 2008. The survey year + 2 divergence behaves somewhat similarly to the survey year + 1 divergence.

The survey year correction factor can be used with confidence even though the recent severe downturn led to a positive divergence of more than 2 000 in 2009. The survey year + 1 and + 2 correction factors can show larger divergences, so can only be taken on trust.

While these correction factors for Euro-PCT-RP filings remain small, they are sometimes greater in magnitude than those calculated above for combined filings (Euro-direct + Euro-PCT-RP). This could reflect a greater volatility in terms of Euro-PCT-RP applicants from year to year due to more of a geographical dispersion of applicants outside Europe.

15 Annex IX: Sizes of populations and samples for the 2012 EPO Patent Filings Survey

	Euro-applications in 2011[&]					Euro-applicants in 2011[$"]				
	Direct	PCT-IP[#]	Total (Direct + PCT-IP[#])	Euro-PCT-RP	Total (Direct + Euro-PCT-RP)	Direct	PCT-IP[#]	Total (Direct + PCT-IP[#])	Euro-PCT-RP	Total (Direct + Euro-PCT-RP)
1. Population in 2011*	51 890	182 370	234 260	80 284	132 174					35 399
Sample group A: Biggest										
2. Number asked[$]	23 544	26 848	50 392	31 208	54 752	356	392	427	405	429
as percentage of 1.	45,4%	14,7%	21,5%	38,9%	41,4%					1,2%
Number of quantitative responses (questionnaires)	17 167	36 045	53 212	18 444	35 611	144	153	162	142	161
as percentage of 1.	33,1%	19,8%	22,7%	23,0%	26,9%					0,5%
as percentage of 2.	72,9%	134,3%	105,6%	59,1%	65,0%	40,4%	39,0%	37,9%	35,1%	37,5%
Sample group B: Random										
3. Number asked[$]	29 267	35 728	69 389	41 689	70 956	1 457	1 401	2 095	2 158	2 783
as percentage of 1.	56,4%	19,6%	29,6%	51,9%	53,7%					7,9%
Number of quantitative responses (questionnaires)	21 629	46 452	68 081	23 957	45 586	548	520	681	508	680
as percentage of 1.	41,7%	25,5%	29,1%	29,8%	34,5%					1,9%
as percentage of 3.	73,9%	130,0%	98,1%	57,5%	64,2%	37,6%	37,1%	32,5%	23,5%	24,4%

[&] All figures exclude divisional filings.

* From the EPO database (EPASYS) and WIPO web site. (Applications are status January 2013, Applicants are status March 2012).

[$] The counts of numbers asked in the samples are status March 2012

[#] At present information on PCT-IP filings enters the data more than one year late and is therefore undercounted here.

" Based on a list of capitalised applicant names from EPASYS at sampling time (status March 2012)

Table 83: Sizes of populations and samples for the 2012 EPO Patent Filings Survey

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