



European Patent Office

APPLICANT PANEL SURVEY 2005

OF INTENTIONS FOR FILING PATENT APPLICATIONS AT THE EUROPEAN PATENT OFFICE AND OTHER OFFICES

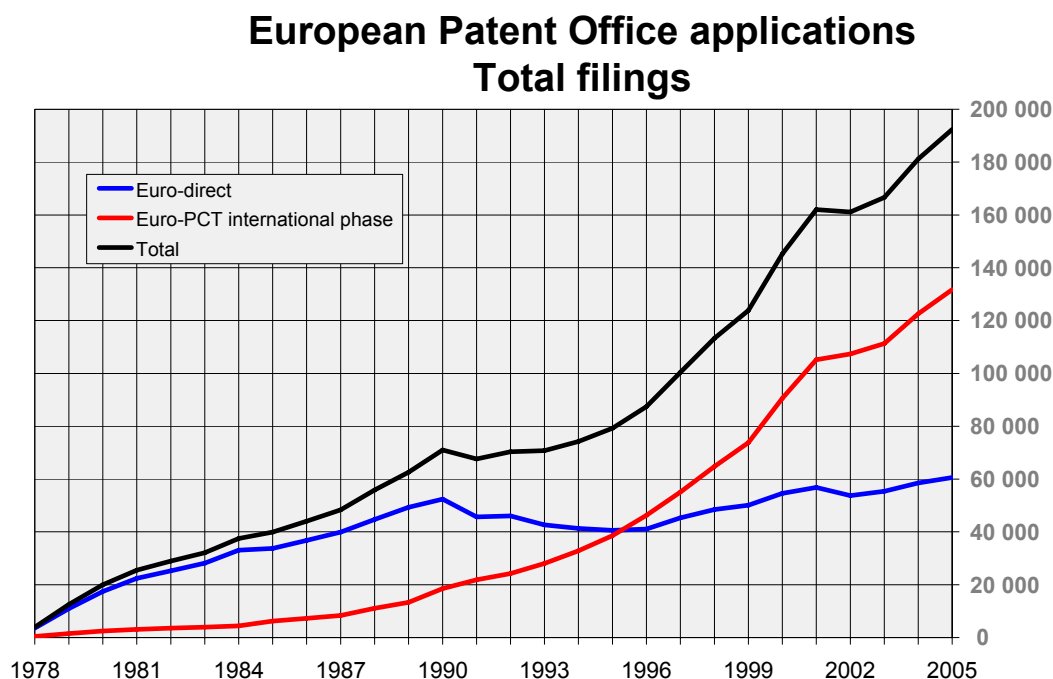
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with an introduction by the European Patent Office

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Introduction by the European Patent Office

Overall numbers of filings at the European Patent Office have continued their recovery in 2005. Various regression based forecasting models can be applied that project the previous trends into the future. These methods all suggest further growth, with some giving quite high levels of growth for the future.



Each year, the EPO carries out a survey of filing intentions by applicants for European patents. In summer 2005 the latest survey was carried out by Roland Berger Market Research acting as researcher and consultant, using a questionnaire sent by fax and follow-up interviews. The survey design was similar to that of 2004. The survey finds a reasonable degree of optimism among applicants regarding future numbers of patent filings in years 2005 to 2007, with average growth rates of about 6% per year over the period. It should be appreciated that the results of the survey are liable to fairly large degrees of statistical error, summarised by 95% confidence intervals on the forecasts.

For us, the main purpose of the survey is to provide information on likely filing developments for the EPO's annual forecasting exercises that is used for budgetary planning purposes. This effort is made in January each year, with the current objective being to forecast annual patent filings out as far as 2011. The survey is executed some months before January, so that the results become available in time for the planning exercise.

In this report, there is a description of the survey set-up and execution, followed by a discussion of results. Firstly, some descriptive statistics are presented, and in this report for the first time results are interpreted by reweighting to make inferences about the distributions of company sizes and activities within the population of patent applicants at the EPO. The report then concentrates on estimating future inputs for the main workload items at the EPO: Direct European route filings, Euro-PCT international phase filings and Euro-PCT regional phase filings. There is an assessment of current results in comparison

to results from previous surveys. Then there is a discussion of filing trends for applications in other national patent systems (particularly Japan and United States, but also France, Germany and United Kingdom). This is followed by an analysis of R&D budgets, numbers of patentable inventions and first patent filings for each of the 14 main technology joint clusters that exist at EPO. Finally, findings are presented on the time length between initial R&D expenditures and patenting.

The survey asks about filing intentions for three years only (in the current exercise 2005, 2006 and 2007), and it seems better not to enquire about activities further in the future since the respondents would most probably then rely only on their own trend projections rather than special information. The set of forecasts that is identified in the report as being most appropriate appears in [Table 18](#), and for the second successive year these are based on a random sample of applicants without differentiating between countries of residence or technical areas. It remains a question of interest as to whether or not better results can be found in the randomly sampled group after allowing for different forecasted growth rates in the four major residential blocs (EPC, Japan, USA and Others). A new method for identifying and treating outliers has been experimented with in the current survey. This appears to have led to a slight downward shift of the results. Another possible source of error in forecasts is the possibility of differential levels of non-response between applicants with different levels of optimism. We look forward to further ongoing research on these and other issues in order to improve future surveys.

In the current survey there is a new comparison of the forecasts from previous panel surveys over several years with actual out-turn of filings. This is valuable enough, but it should be recalled that part of the survey procedure is to recommend a single choice scenario among various choices that are obtained from different methods on the same sets of data. Thus, the apparently relatively poor performance of a particular historical survey can have more to do with choice of the recommended scenario than with the results themselves. It is also possible for the patenting activities of applicants to turn out different to what they themselves expected due to changes of business circumstances.

In the later parts of the report, there appear a series of results on R&D investment activities, inventions and usage of the patent system for such inventions. Survey questions are included on research investment activities because, firstly, knowledge of the relationship of R&D to patents should be able to help us forecast patent filings better and, secondly, information on R&D is important in a wider policy context. Tabulations of data are given after breakdowns into the various joint clusters. In this survey analytic steps have been taken to standardise results for differing average company sizes between the joint clusters, by expressing most results as ratios of the numbers of first patent filings that are actually made. We hope to process these data further in order to deepen our understanding of the behavioural mechanism behind patenting. It should be born in mind that reasons for the average sizes of applicant companies from Europe tending to be smaller than those from Japan and United States, include the consideration that EPO represents the home area for IP protection among European applicants.

We hope that you will enjoy reading the report. Please do not hesitate to provide us with feedback. This will help us to learn from experience in our continuous effort to improve the applicant survey from year to year.

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1 Summary

1.1 Background

Since 1996, the European Patent Office (EPO) has carried out an annual "Applicant panel survey" among its patent applicants. The main aim of the survey is to get an idea of the number of filings that can be expected in the coming two years. The EPO uses the information received through the applicant panel as a tool for establishing the resources required to handle future filings within an acceptable time frame. In order to achieve this, quantitative forecasts of patent filings at the EPO and other patent offices by various filing routes and applicants' residence bloc were calculated. A secondary aim was to explore technological areas of patenting, in order to make more detailed forecasts and to explore the relationship between R&D and patent applications.

The size of the gross sample in this survey comprises approximately 2 000 applicants each year. Roland Berger Market Research has carried out data collection and data entry since 2001. For the second year in succession, in 2005 Roland Berger Market Research was again in charge of data analysis and interpretation.

The design of the 2005 survey was similar to that of the previous years since 2001, with a comparable sample size.

1.2 The 2005 survey

Applicants were selected in two groups: the Biggest group and the Random group. The total number of applicants involved was 2 124¹, with most of the Biggest group also appearing in the Random group. The survey covered applicants for about 37% of the applications at the EPO. In the first stage, valid addresses were found for 2 026 applicants, and contact details were established for 1 717 applicants. A questionnaire was sent out in June 2005, with interviews being completed by early September. The questionnaire contained a full matrix of questions on patent filings broken down by first and subsequent filings, not only at the EPO, but also in other main worldwide patent systems. Furthermore, questions were asked to elicit information on R&D expenditures and filings by joint cluster (roughly equivalent to industry segments). Descriptive information was also collected on company type and size in terms of persons employed and in terms of sales. The total useful response rate was 36.9% of the valid addresses (747 out of 2 026), which is slightly above the 35.5% calculated for last year's survey.

A group of 112 among the 2 124 applicants involved in the survey had been deliberately added because they were of special interest for the EPO. For statistical

¹ Numbers reported in this subsection include deliberately added applicants, in contrast to the overview given in Section 4.

reasons, these additional applicants were not included in the analyses reported here. Also a few late returned responses were not treated.

Using additional data obtained from the questionnaire that was filled in by the applicants, information was obtained about the size distribution of the applicant population in terms of numbers of employees and worldwide sales. Furthermore, information was obtained on research and development (R&D) expenditures, as well as numbers of potentially patentable inventions and numbers of first patent filings world wide, all broken down by activities in the 14 joint cluster speciality areas that are relevant to EPO operations.

1.3 Analysis of results on patent filings

The survey approach involved establishing forecasts from basic filing types (first and subsequent filings, Euro-direct and PCT international phase filings, as well as PCT applications entering the national and regional phase) and residence bloc of the applicants. The specific responses regarding future expectations for applicants' filings were subjected to several analyses. For the Random group, growth rates (compared with 2004) can be estimated at about 7.5% in 2005, 15.2% in 2006 and 20.3% in 2007. For the Biggest group, the results are slightly less optimistic. The growth rates obtained are 7.4% for 2005, 13.5% for 2006 and 18.7% for 2007. In this year's analysis, a new forecasting method that includes outlier correction was tested. This again leads to less optimistic predictions (cf. [Table 14](#)). The proportion of filings using the PCT system is estimated at about 69% for 2005, and 68% for both 2006 and 2007.

Comparing this year's predictions with those from the 2004 panel, it appears that the results of the study at hand are more stable, i.e. growth rates are relatively smooth compared with last year. This is especially true for applicants residing in the US, and particularly for PCT international phase filings. A possible explanation for this is the fact that it was possible to increase the response rate for applicants from the US by about 50%, leading to improved results. Another possible explanation may be the fact that interviewees are more familiar with the alterations in rules for eligibility for the treatment of PCT applications from US applicants at the EPO for particular joint clusters (biotechnology, telecommunications and computers) in 2005 than they were in 2004. In 2004, these changes may have led to distorted response behaviour. In addition, confidence limits are generally narrower this year as compared with 2004. With no change in methodology, this implies that the variability of the forecasted figures received from the respondents is lower.

An alternative approach was used to analyse the data from the Random group by establishing forecasts broken down by the joint clusters the EPO uses for organisational planning. Growth rates were derived for each joint cluster, as well as on an overall basis by combining the results for each joint cluster. Compared with last year's survey, the overall forecasts are less optimistic in the breakdown by joint cluster than if the breakdown is done by residence bloc, but the figures should be

interpreted cautiously: a multiple choice option was included for the joint clusters in order to make it easier for applicants to describe the business of the company, so answers may be biased and distorted to some extent, even after applying a correction factor.

It was also possible to analyse the matrix of questions on PCT filings entering the regional phase at the EPO. For the Biggest group, growth rates (compared with 2004) can be estimated at 3.1% in 2005, 9.6% in 2006 and 14.0% in 2007. For the Random group, growth rates (compared with 2004) can be estimated at 5.1% in 2005, 12.7% in 2006 and 17.1% in 2007.

In addition, the intentions of the EPO's clients regarding future patent applications at the other major world patent offices were analysed, both in terms of national filings and of PCT national phase filings, and interpreted in terms of forecasts for filings at those offices as far as data were available to allow this. Growth in patenting in the national systems at the other main trilateral patent offices (in all cases compared to filings in 2004 as base year) is estimated for the Japan Patent Office as 1.5% (2005), 4.8% (2006) and 6.2% (2007); and for the United States Patent and Trademark Office as 5.2% (2005), 8.7%(2006) and 15.2% (2007). In the national phase PCT system at the other trilateral patent offices, growth is estimated for the Japan Patent Office as 6.8% (2005), 16.6% (2006) and 21.5% (2007); and for the United States Patent and Trademark Office as 7.9% (2005), 13.9%(2006) and 21.0% (2007).

1.4 Forecasts of future filings at the EPO

The recommended forecasts are those from the Random group with no additional breakdown and including companies with qualifying comments, due to the narrower upper and lower confidence limits compared with the other methods. **Table 18** summarises the forecasts.

The overall forecast for total filings in 2005 is 194 673, with approximate 95% confidence limits of 186 324 to 203 023, resulting in a deviation of $\pm 4.3\%$. The estimated percentage of Euro-PCT-IP filings among total filings for 2005 is 68.7%.

This method predicts total filings of 208 772 in 2006 (approximate 95% confidence limits of 197 983 and 219 560) and 218 007 in 2007 (approximate 95% confidence limits of 205 505 and 230 509).

2 Introduction

In 2005, the European Patent Office (EPO) organised its tenth annual exercise to question groups of applicants on their intentions regarding future numbers of patent filings. The survey was carried out by telephone and mail interview with pre-established contact persons. The interviews, data capture and data analysis were done by Roland Berger Market Research, providing the EPO with the benefit of joint experience gained previously in similar surveys in 2001 to 2004. The design of the 2005 survey was similar to that of the previous years, using a comparable sample size.

The main aim 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. A secondary aim was to explore technological areas of patenting in order to make more detailed forecasts and to explore the relationship between R&D and patent applications. This was done on the basis of 14 joint clusters, broken down according to technology classes of the patent applications and corresponding to the structure in which the EPO has organised its search, examination and opposition departments.

3 The 2005 survey

More than 2 000 applicants were approached regarding their expectations for patent filings for the coming three years, in this case for 2005, 2006 and 2007.

The parent population of the applicant panel comprises applicants who filed a patent application at the EPO in 2004. These applicants are mainly companies, but there are also some organisations and private inventors. The applicants come from all over the world, but mostly from Europe, US and Japan.

The EPO provided two gross samples of applicants drawn from the EPO database of applications:

- "Random": This sample includes 1 931 participants and is 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.
- "Biggest": This sample comprises 519 participants and is designed to represent large applicants separately.

All gross sample data were taken from the EPO application database of Euro-direct and Euro-PCT regional phase filings only (Euro-PCT-IP filings were ignored for the sampling due to a lack of timeliness).

The EPO also added another 112 deliberately selected addresses that are of special interest. For statistical reasons, however, these were not included in the investigations reported here. Both samples were drawn separately and contain an overlap of 326 large applicants who belong to both groups. Without the overlap, the gross sample includes a total of 2 124 different applicant addresses. Both samples should adequately represent the three regions Europe, the US and Japan.

The questionnaire used for data collection was essentially identical to that used in 2004. The main parts of the questionnaire remained unchanged to allow for comparisons. However, two minor topics (usage of epoline and patents licensed/licence fees) were removed, while two statistical questions on the size of sales and countries of operation were added to the 2005 questionnaire. Furthermore, in Part C, some explanations were added to the list of joint cluster organisational groupings used for examinations at the EPO.

The questionnaire is attached as **Annex I**. It covers the following key topics:

- Current and future filings (**Section B**), split by
 - First and subsequent filings
 - Different procedures: Euro-direct, PCT international and national/regional phase, and national procedures
 - Different countries: Germany, UK, France, Japan, US and other countries
- Research and development activities, split by the 14 joint cluster organisational groupings used for examinations at the EPO (**Section C**)
- Average time between initial R&D expenditure and the first patent filing (**Section D**)
- Company details, such as organisation type and number of employees, approximate size of sales and countries of operation

Participants were given the opportunity to make specific comments at the end of Section B. The questionnaire also included a general comments section (questionnaire **Section F**). A selection of the comments received is included in **Annex II**.

The main question (in **Section B**) asked for the number of filings already made in the base year (2004), as well as estimates for future filings for the years 2005, 2006 and 2007. An option was provided to give information in the form of growth rates rather than actual numbers. Growth rates were requested on a year-by-year basis because previous experience showed that the interviewees had difficulties calculating growth rates from a single base year. However, for the results in the report, we have adopted the convention of indicating growth rates with respect to a base year (in this case 2004).

The questionnaire was accompanied by an official letter of recommendation from the EPO, signed by Alain Pompidou, the President of the EPO, to motivate respondents to participate. This letter contained information on the background of the study, the

target group and data protection, and stated that the results would be published on the Internet. In addition, a cover letter from Roland Berger Market Research provided information on the survey procedure.

Both letters and the questionnaire were personalised, i.e. the company name, the address, the name of the contact person and the identification number were printed on each questionnaire and reference letter. The letters and questionnaires sent were written in English, French, German or Japanese, according to the language code provided in the gross sample file.

Since the questionnaire was largely identical to the one used in 2004, no pre-test interviews were conducted. The main interviews took place from June to early September 2005. Most questionnaires were completed by the respondents themselves. Substantive telephone interviews were required for only about 2% of the cases. In total, 747 interviews were completed in 2005, meaning that the relatively high response level of the previous year (733 interviews) was again achieved.

4 Response rates

A full report on the execution of the survey is provided in the methodology report, from which the following information has been extracted. The EPO provided lists containing a total of 2 124 selected applicants. The researchers strove to identify contact names, addresses and telephone numbers, and 2 026 addresses were confirmed. Of these, contact was established with 1 717 applicants (adjusted sample) for survey purposes. As mentioned in **Section 3**, the overall sample contained 112 applicants deliberately added by the EPO. Since they are not considered in the statistics presented in this report, they will be left out from here on.

Table 1 shows the total number of applicants that were selected for the survey, the number that dropped out for various reasons, and the final number of responses received.

Item	Number	Percentage
Total gross sample	2 012	100.0
Addresses not found	95	4.7
Addresses found	1 917	95.3
Addresses found	1 917	100.0
Dropouts (1)	287	15.0
Adjusted sample	1 630	85.0
Dropouts (2)	921	48.0
Total responses	709	37.0

- (1) Company was identical to another already identified in the sample; company could not be reached; mailbox system blocked further contact possibilities; company no longer exists; no patents filed; company being restructured, etc.
- (2) Questionnaire not returned though promised; contact person not available; general refusal to participate; no time available for dealing with the matter; data too confidential; not possible to collect data; company policy; questionnaire forwarded to somebody else, etc.

Table 1: Sample and responses received (excluding deliberately selected addresses)

Table 2 shows the distribution of the applicant population in 2004, broken down by residence bloc (applicants for Euro-direct and Euro-PCT-RP, see also **Annex VI**).

Table 3 shows the same information as **Table 1**, but additionally broken down by applicants' residence bloc. Compared with the previous survey, the overall response rate is slightly higher (37.0% in 2005 compared with 35.5% in 2004). An important improvement has been achieved regarding responses from applicants residing in the US. Their number has been increased by 50%.

Table 4 and **Table 5** describe the two samples, "Random" group and "Biggest" group (including their overlap), drawn by different sampling methods, in greater detail. It may seem surprising that the overall response rate is essentially identical to that of the Random group. This is due to the fact that the Random group is about four times larger than the Biggest group.

Residence bloc	Applicants (popula- tion)	%
EPC countries	18 005	55.1
Japan	2 385	7.3
USA	8 454	25.9
Other countries	3 856	11.8
Total	32 700	100.0

Table 2: Population size (applicants for Euro-direct and Euro-PCT-RP)

Residence bloc	Applicants selected (sample)	%	Addresses found	Adjusted sample	Responses	Response rate [%]
EPC countries	1 026	51.0	977	869	399	40.8
Japan	254	12.6	247	207	103	41.7
USA	567	28.2	547	443	184	33.6
Other countries	165	8.2	146	111	23	15.8
Total	2 012	100.0	1 917	1 630	709	37.0

Table 3: Total sample (Biggest and Random groups, net numbers, excluding deliberately selected addresses)

Residence bloc	Applicants selected (sample)	%	Addresses found	Adjusted sample	Responses	Response rate [%]
EPC countries	183	45.0	181	151	83	45.9
Japan	96	23.6	96	80	48	50.0
USA	111	27.3	111	84	52	46.8
Other countries	17	4.2	17	11	2	11.8
Total	407	100.0	405	326	185	45.7

Table 4: Biggest group sample (including overlap, excluding deliberately selected addresses)

Residence bloc	Applicants selected (sample)	%	Addresses found	Adjusted sample	Responses	Response rate [%]
EPC countries, thereof:	994	51.5	945	841	384	40.6
- France	119	6.2	109	90	36	33.0
- UK	113	5.9	107	98	45	42.1
- Germany	369	19.1	363	332	158	43.5
- Italy	89	4.6	81	74	29	35.8
- Sweden	50	2.6	45	40	22	48.9
- Switzerland	74	3.8	73	68	28	38.4
Japan	232	12.0	225	186	94	41.8
USA	542	28.1	522	426	177	33.9
Other countries	163	8.4	144	109	23	16.0
Total	1 931	100.0	1 836	1 562	678	36.9

Table 5: Random group sample (including overlap)

Annex VI provides an alternative breakdown of the samples, showing the coverage proportions of the underlying populations in terms of both applicants and applications.

The researchers checked the plausibility of the responses received (**Annex III**). In cases where possible difficulties were identified, a follow-up interview was conducted to verify the responses.

5 Respondent profile

In **Sections C** and **E** of the questionnaire, respondents were asked to indicate the profile of the company, including company/organisation type, the number of persons employed and the joint clusters that best describe the applicants' business.

5.1 All respondents

These findings represent the totality of responses to the survey, but they are nearly the same as the results for the Random group. Since the Random group represents a probabilistic sample from the applicant population, it is considered appropriate for the main forecasting exercise of this report to analyse and report results separately for the Biggest and Random groups, and not to provide combined results for all respondents.

5.2 Respondents from the Biggest group

It comes as little surprise that the distribution of the respondents according to company/organisation type shows that the majority of the Biggest applicants are private enterprises (90%), compared with the public sector (6%), educational institutions (1%), independent inventors (0%), and "other" (3%).

Regarding the profiles of the Biggest applicants in terms of number of employees, the majority have more than 250 employees (96%), followed by 50-249 employees (1%), another 2% for the category 10-49 employees, and 1% of applicants have fewer than 10 employees. As compared to last year's survey, percentages of small companies are now slightly higher. However, the differences are of the order of 1% to 2%, i.e. 4 respondents or less.

In summary, most of the applicants from the Biggest group are private enterprises and employ at least 1 000 persons.

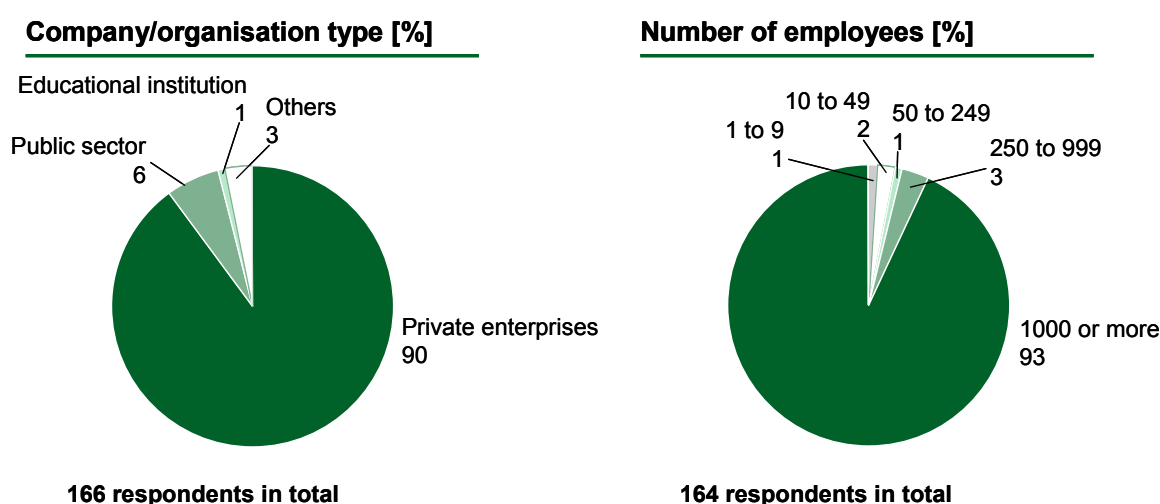


Figure 1: Biggest group distribution according to company/organisation type and number of employees

Broken down by residence bloc, the distributions are as follows:

Sample	Biggest group						Grand total	No. of cases
	Type							
Residence bloc	Private enterprises	Public sector	Educational institutions	Individual inventors	Other			
EP	88%	4%	1%	0%	6%	100%	77	
JA	98%	2%	0%	0%	0%	100%	46	
OT	100%	0%	0%	0%	0%	100%	2	
US	83%	15%	2%	0%	0%	100%	41	
Grand total	90%	6%	1%	0%	3%	100%	166	

Table 6: Biggest group broken down by company type and residence bloc

Sample	Biggest group						
	Persons employed						
Residence bloc	1 to 9	10 to 49	50 to 249	250 to 999	1 000 or more	Grand total	No. of cases
EP	0%	4%	3%	3%	91%	100%	78
JA	0%	0%	0%	0%	100%	100%	46
OT	0%	0%	0%	0%	100%	100%	2
US	3%	0%	0%	8%	89%	100%	38
Grand total	1%	2%	1%	3%	93%	100%	164

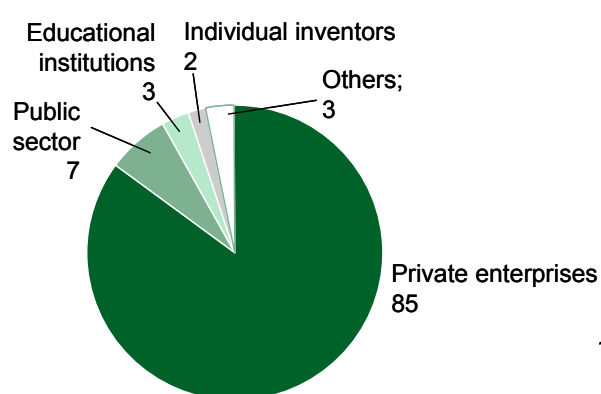
Table 7: Biggest group broken down by persons employed and residence bloc

5.3 Respondents from the Random group

The distribution of respondents from the Random group according to company/organisation type also shows that the majority of random applicants are private enterprises (85%), compared with the public sector (7%), educational institutions (3%) and independent inventors (2%). Finally, about 3% of the respondents fall into the category "other". As compared to the 2004 panel survey, the percentage of US respondents who qualify themselves as "public" has nearly doubled. US respondents partially understand "public" to mean "listed" rather than "state-owned". This ambiguity can lead to increased fluctuations in responses.

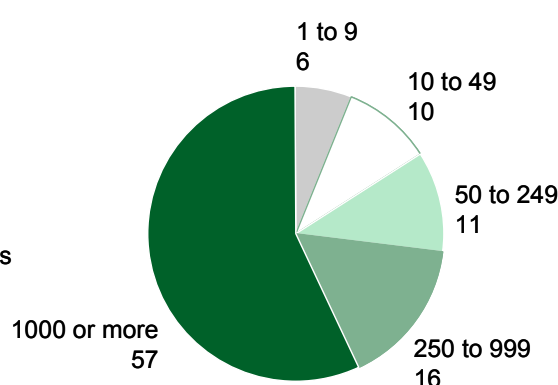
Regarding profiles of random applicants in terms of number of employees, the majority have more than 250 employees (73%), followed by 50-249 employees (11%), 10-49 (10%) and 1-9 (6%). Therefore, the Random group does indeed contain a somewhat larger proportion of small companies than the Biggest group does.

Company/organisation type [%]



623 respondents in total

Number of employees [%]



612 respondents in total

Figure 2: Random group distribution according to company/organisation type and number of employees

Broken down by residence bloc, the distributions are as follows.

Sample	Random group						No. of cases
	Type						
Residence bloc	Private enterprises	Public sector	Educational institutions	Individual inventors	Other	Grand total	
EP	87%	3%	3%	3%	4%	100%	360
JA	96%	2%	1%	0%	1%	100%	89
OT	100%	0%	0%	0%	0%	100%	23
US	76%	19%	3%	0%	1%	100%	151
Grand total	85%	7%	3%	2%	3%	100%	623

Table 8: Random group broken down by company type and residence bloc

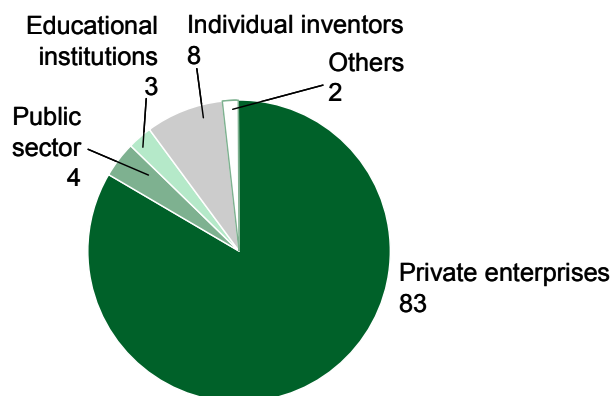
Sample	Random group						
	Persons employed						
Residence bloc	1 to 9	10 to 49	50 to 249	250 to 999	1 000 or more	Grand total	No. of cases
EP	9%	10%	12%	19%	51%	100%	354
JA	1%	2%	3%	14%	80%	100%	88
OT	4%	26%	17%	22%	30%	100%	23
US	3%	12%	13%	10%	63%	100%	147
Grand total	6%	10%	11%	16%	57%	100%	612

Table 9: Random group broken down by persons employed and residence bloc

5.4 Estimated composition of the population of EPO applicants

It should be borne in mind that the Random group remains highly skewed toward larger applicants due to the sampling method that was used. Compared with the Random group, the actual applicant population contains a much larger proportion of small companies in terms of number of patent applications filed, and presumably also in terms of number of employees. In order to obtain a more realistic picture of the EPO's actual applicant population, the above figures need to be reweighted by applicant size to counteract the sampling bias. Weights are obtained by dividing the population probability of applicant size by the sample probability of applicant size. The population probability, including residence bloc information, can be taken from EPO statistics, assuming that the number of patents filed per year is proportional to the applicant's size. The sample probability is the Poisson weight (cf. the *Applicant panel survey 2003* report) without multiplying by numbers of applications. The results are as follows:

Company/organisation type [%]



Number of employees [%]

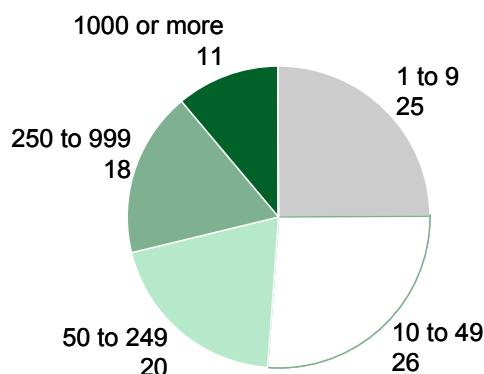


Figure 3: Estimated distribution of the EPO applicant population by company/organisation type and number of employees

Residence bloc	Private enterprises	Public sector	Educational institutions	Individual inventors	Other	Grand total
EP	54.6%	1.0%	2.6%	8.3%	1.8%	68%
JA	6.1%	0.0%	0.0%	0.0%	0.0%	6%
OT	4.3%	0.1%	0.0%	0.0%	0.0%	4%
US	18.3%	2.8%	0.1%	0.0%	0.0%	21%
Grand total	83.3%	3.8%	2.7%	8.3%	1.8%	100%

Table 10: Estimated distribution of EPO applicants by company/organisation type

Estimated distribution of total population based on the Random group sample

Residence bloc	Persons employed					Grand total
	1 to 9	10 to 49	50 to 249	250 to 999	1 000 or more	
EP	20%	17%	12%	12%	5%	67%
JA	1%	1%	1%	3%	1%	6%
OT	1%	1%	2%	1%	0%	5%
US	3%	7%	5%	2%	5%	22%
Grand total	25%	26%	20%	18%	11%	100%

Table 11: Estimated distribution of EPO applicants by number of employees

As expected, percentages are strongly shifted toward smaller companies, particularly for EPC based applicants. In particular, the proportion of individual inventors in the actual applicant population appears to be significantly higher than in the Random group sample, even though it is still much lower than that reported for the German patent office in a recent survey¹. One possible explanation is that one might expect individual inventors to apply for PCT-IP and then sell the rights to bigger companies that make the PCT-RP applications. Another possibility is that there was a higher non-response rate among individual inventors in the survey.

¹ <http://www.dpma.de/infos/aktuelles/umfrage/anmeldekunden.html>

A comparison of the last column of **Table 10** with the actual distribution of applicants by residence bloc as given in **Table 2** shows that the estimation method used in this section leads to a higher proportion of EP applicants than in the actual population. The difference might be due to non-response bias differing between residence blocs, or a possible tendency for companies to answer via their EPC based subsidiaries. This is a subject for future research.

5.5 EPO joint clusters

All applicants in the survey were asked to describe themselves in terms of membership in one or more of the EPO joint clusters (questionnaire **Section C**). **Figure 4** shows the distribution of responses in the Random group by number of clusters chosen. The following **Table 12** shows a two-way matrix describing the joint cluster combinations selected by the interviewees of the Random group. On average, the interviewees reported data for 1.91 joint clusters, as compared to 1.7 in the 2004 survey. This increase does not necessarily indicate a tendency toward diversification of the respondents. It could just as well be due to the fact that explanations regarding the definitions of joint clusters were added to the questionnaire this year, which facilitated responses.

Figure 5 shows the number of responses per joint cluster in the Biggest group and **Figure 6** those in the Random group, and **Table 12** indicates which combinations of clusters are cited most frequently.

Number of joint clusters per respondent (Random group)

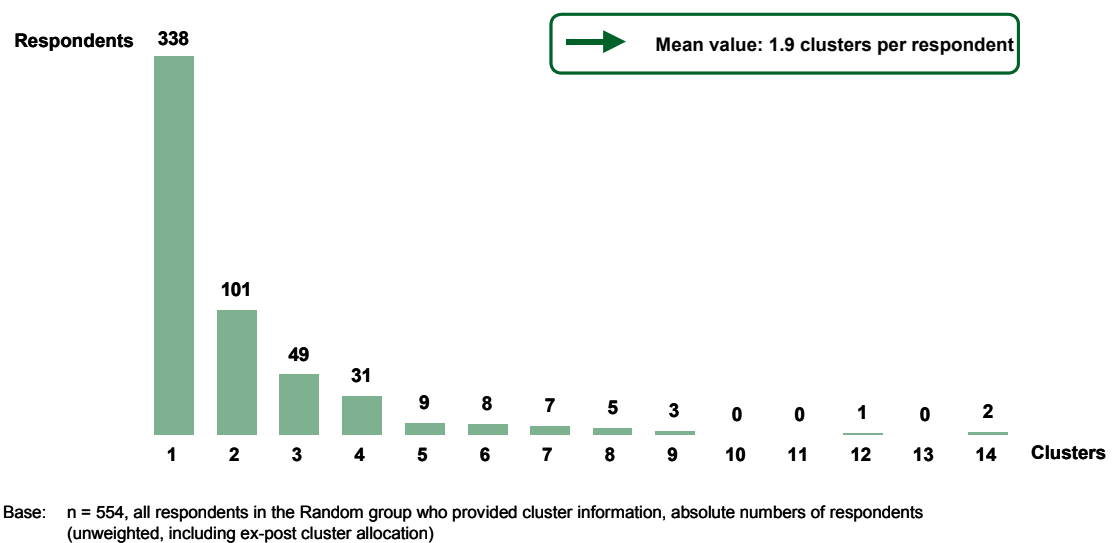


Figure 4: Number of joint clusters selected per respondent (Random group)

Number of responses per joint cluster (Biggest group)

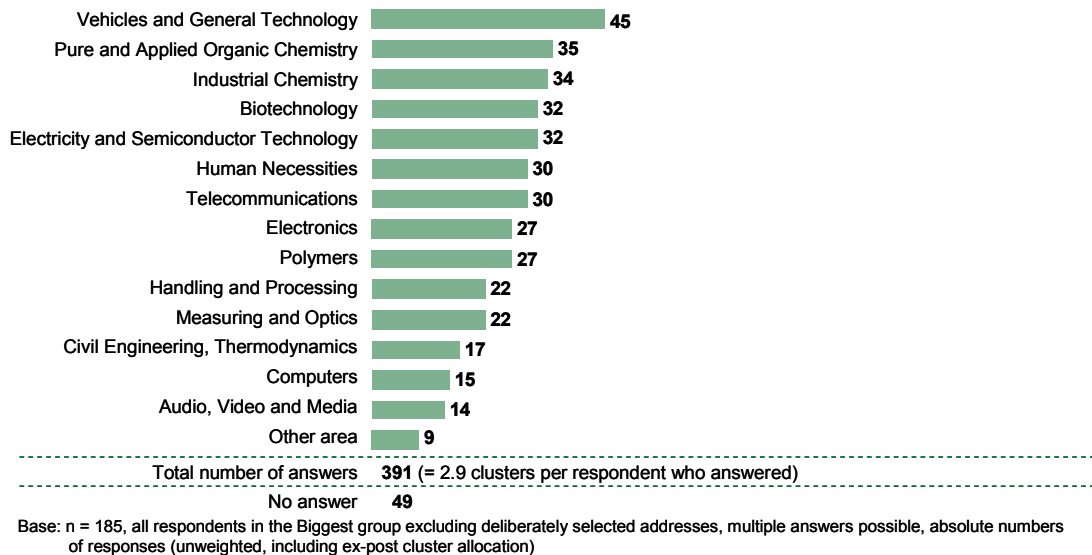


Figure 5: Number of responses per joint cluster (Biggest group)

Number of responses per joint cluster (Random group)

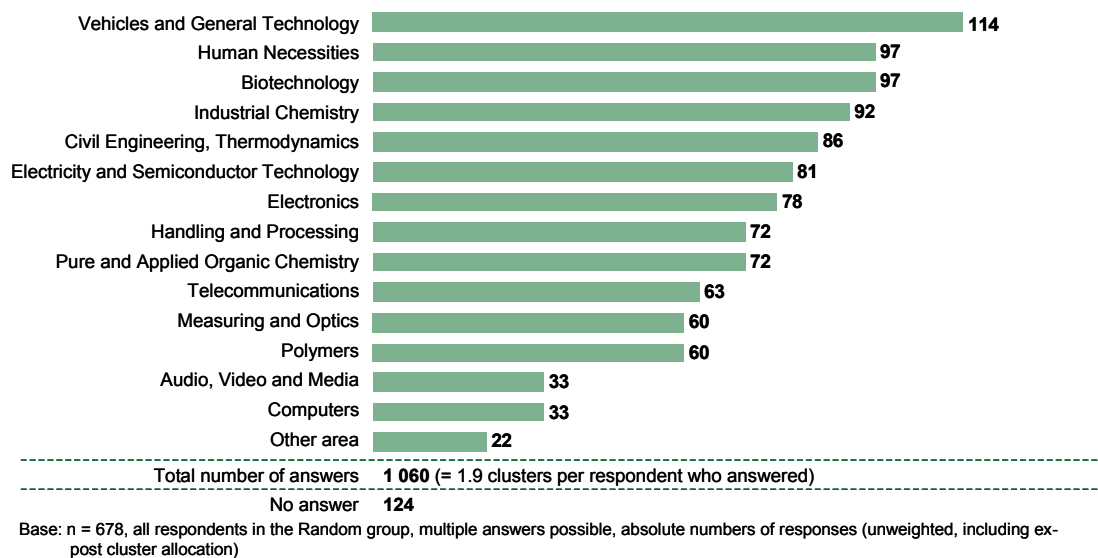


Figure 6: Number of responses per joint cluster (Random group)

**Number of responses per joint cluster combination
(two-way matrix, Random group)**

Joint cluster	1	2	3	4	5	6	7	8	9	10	11	12	13	14	Other area
1. Audio, Video and Media	33	3	5	12	13	16	11	4	4	9	6	4	19	10	0
2. Biotechnology	3	97	9	7	11	17	8	21	23	17	18	35	11	8	6
3. Civil Engineering, Thermodynamics	5	9	86	8	15	15	13	10	9	10	10	5	7	20	2
4. Computers	12	7	8	33	15	15	9	5	6	12	7	7	18	7	2
5. Electricity/Semiconductor Tech.	13	11	15	15	81	46	14	8	15	22	14	10	30	24	5
6. Electronics	16	17	15	15	46	78	14	13	15	21	13	8	31	23	4
7. Handling and Processing	11	8	13	9	14	14	72	11	13	11	15	9	11	17	4
8. Human Necessities	4	21	10	5	8	13	11	97	16	6	13	19	6	10	3
9. Industrial Chemistry	4	23	9	6	15	15	13	16	92	18	34	26	12	12	5
10. Measuring and Optics	9	17	10	12	22	21	11	6	18	60	18	9	18	12	2
11. Polymers	6	18	10	7	14	13	15	13	34	18	60	20	11	13	4
12. Pure/Applied Organic Chemistry	4	35	5	7	10	8	9	19	26	9	20	72	10	7	5
13. Telecommunications	19	11	7	18	30	31	11	6	12	18	11	10	63	15	2
14. Vehicles and General Technology	10	8	20	7	24	23	17	10	12	12	13	7	15	114	6
Other area	0	6	2	2	5	4	4	3	5	2	4	5	2	6	22

Base: n = 554, all respondents in the Random group who provided cluster information, absolute numbers of respondents (unweighted, including ex-post cluster allocation)

Table 12: Number of responses per joint cluster combination (two-way matrix, Random group)

5.6 Size of sales of random group respondents

In this year's survey, a new question¹ was added asking for the respondents' sales (worldwide) to compare these with the number of patent filings. The results are presented in **Table 13**, using the same weighting factor² as in **Section 5.4**. Both size of sales and number of patent filings are expected to depend on company size. However, they will both also depend on a number of other factors, like e.g. industry or position in the value chain. Therefore, there is probably no *simple* relation between sales and numbers of patent filings, as indicated by the large variations of the results given in **Table 13**. Remarkably, mean as well as median are considerably higher for Japan than for all other residence blocs. This may reflect greater industrial concentration in Japan than elsewhere, or the fact that only bigger companies from Japan are interested in filing patents at the EPO.

Random group

Other matters

Breakdown by residence bloc

Residence bloc	Statistics	Total sales divided by number of patent filings in 2004 [EUR]
EP	N	249
	MIN	0
	MAX	62 500 000 000
	MEAN	88 735 044
	MEDIAN	5 793 400
	SE	36 392 588
JA	N	72
	MIN	0
	MAX	1 746 268 333
	MEAN	172 336 840
	MEDIAN	146 540 000
	SE	19 915 237
OT	N	14
	MIN	0
	MAX	1 348 280 000
	MEAN	87 061 904
	MEDIAN	16 853 500
	SE	33 819 296
US	N	76
	MIN	32 998
	MAX	7 499 545 455
	MEAN	112 785 199
	MEDIAN	8 249 500
	SE	30 090 279
Average region	MEAN	107 770 852
	MEDIAN	31 280 651

Table 13: Respondents' sales throughout the world, divided by the number of patent filings – Random group; weighted

¹ The other new question, regarding countries of operation, was answered by too few respondents so that no reliable statistics could be obtained.

² Regarding the calculation of weighted medians, cf. Annex V.

6 Methodology

The main part of the survey was executed in the same way as in 2003 and 2004. Please refer to the *Applicant panel survey 2003* report as well as the 2001 and 2002 reports for a more detailed description of the methodology. For the data generated by the main questions in **Section B** of the questionnaire, a composite index was used to measure patent growth rates in the Biggest group (see *Applicant panel survey 2001: Annex III*), and a Q-index was used to measure patent growth rates in the Random group (see *Applicant panel survey 2002: Section IV.1, Annex IV*). Special care is required to address the skewness of the Random group toward larger applicants due to the sampling method that was used. In order to counteract this systematic distortion of the results, calculation of the Q index involves the introduction of a specific weighting factor to balance the results by taking into account the probability that each applicant was drawn randomly for the sample from the EPO database. For a detailed description of the methodology, please refer to the *Applicant panel survey 2003* report.

As described in the *Applicant panel survey 2002: Annex IV*, a natural logarithmic transformation was applied to the data before calculating the Q-index. Approximate 95% confidence intervals were calculated in order to provide a more realistic estimate of the forecasts in terms of a range of possible values.

In cases where the samples were too small to directly calculate a growth index (5 respondents or less), average values were used (also for the associated standard errors). These are marked with an asterisk (*) in the following tables. Average values were taken for the corresponding type of filing from [Table 18](#) and rounded.¹

Once the growth indices were calculated based on the survey results, they were multiplied by the actual numbers of filings in the base year (2004) in order to generate explicit forecasts. Data on EPO Euro-direct and Euro-PCT-IP and -RP filings for 2004 and 2005 were supplied by EPO on 12 January 2006 and reflect the state of knowledge as of that date. Data for 2005 were estimated using mainly reported data on filings up to November 2005. Note that the joint cluster breakdowns of filings for 2005 are still provisional, since PCT-IP filings by cluster have to be projected using trends from previous years.

In the survey, the principal questions of interest for the EPO concern forecasts of future *Euro-direct filings*, *Euro-PCT-IP filings*, *total filings (Euro-direct and Euro-PCT-IP)*, and *Euro-PCT-RP filings*. **Section 7** presents an analysis of forecasted filings for the first three types of filings at the EPO, while **Section 8** analyses Euro-PCT-RP filings. The analyses were done by calculating growth indices according to various breakdowns of the data in order to establish combined overall forecasts. For the EPO, however, it is important to make forecasts not just for total filings, but also for filings broken down by 14 technical work units known as *joint clusters*. The Random group constitutes a simple random sample across applications, so the responses can be broken down by joint cluster as an alternative to residence bloc. It was decided not to split the responses by both factors simultaneously ($4 \times 14 = 56$ combinations), as there would not have been enough data in the subdivided groups to allow for good growth rate estimates. Detailed results by joint clusters will be discussed in **Section 7.4**.

¹ For the analysis based on a breakdown by EPO joint clusters, standard errors are multiplied by a correction factor, cf. Section 7.4.

In many cases, the researchers found it necessary to correct the responses to **Section B** of the questionnaire for one reason or another, often after a further conversation with the respondent for clarification. In other cases, more substantial comments were given for the interpretation of the reported results. All of these cases were indicated in the data set that was subsequently analysed. Since some uncertainty remained about these cases, the data were analysed both in total and after excluding all companies with substantial comments. However, this cleaning was not found to reduce the confidence intervals obtained for the resulting growth indices.

In this year's survey, a new approach was tested in addition to repeating all the analyses from the previous years. The objective was to correct for distortions due to outliers, i.e. answers far away from the majority of values given. Results will be discussed in **Section 7.5**.

In order to analyse the reliability of the different forecasting approaches, predictions from earlier years have been compared to actual filing numbers (**Section 7.6**). This analysis should be repeated in subsequent studies to allow definite conclusions to be reached.

Another problem with these kinds of forecasts is the possibility of bias in the results due to non-response. Nearly 57% of the applicants approached (adjusted sample in **Table 1**) did not respond, and it is possible that a propensity to not respond may be correlated with a pessimistic outlook for future filings. On the other hand, it can be argued that there are always new applicants appearing in the population each year, constituting a non-surveyed element of the population that acts as a source of extra applications beyond the forecasts from the survey.

It is difficult to make an accurate correction for the effect of non-responses that are, obviously, not observed. In the 2003 report, an attempt was made to do this by isolating a subset of the respondents that might be presumed to be similar to the non-responders and assuming that their intentions can be projected across the non-responding part of the sample. This subset was made up of those respondents who provided data for filing expectations for 2002 (the base year) and 2003 only, with no estimates for 2004 or 2005. As all of these calculations were based on debatable assumptions, this bias correction was omitted in more recent surveys.

Responses to the survey also allowed growth indices to be calculated for EPO clients' intentions to file patent applications on the national level (**Section 9**).

Annex IV comprises a series of tables showing, for each relevant question in **Section B** of the questionnaire, the growth index estimate, the number of cases used for each comparison and the standard error of the estimates.

The responses in **Section C** of the questionnaire involve a breakdown of numbers of patentable inventions and first patent filings in 2004 by joint cluster, together with the approximate size of the R&D budget used for working activities that might lead to patent applications per joint cluster, including an indication of the percentage of the R&D budget that was spent before the point of decision on patenting. Results are presented in **Section 10**. The objective is to accumulate these responses over several years in order to explore the relationship between R&D and subsequent patenting at the microeconomic level. Findings on the time lag between initial R&D expenditure and the first patent filing (from questionnaire **Section D**) also appear in **Section 10**.

7 Results 1: Forecasts for patent filings at the EPO

7.1 Overview of predicted growth rates and patent filing numbers

Forecasts for patent filings were obtained from the survey data using different forecasting methods. Overviews of the main results are given in **Table 14** and **Table 15**.

Comparison of forecasts: Growth from 2004

Euro-direct and Euro-PCT-IP

Deviation of confidence limits from forecast given in % of forecast

Group	Breakdown	2005		2006		2007	
		Growth rate	Deviation	Growth rate	Deviation	Growth rate	Deviation
Biggest	None	7.4%		13.5%		18.7%	
Biggest	Residence bloc	7.0%		13.0%		17.6%	
Random	None	7.5%	4.3%	15.2%	5.2%	20.3%	5.7%
Random	Residence bloc	6.9%	5.0%	16.0%	6.0%	21.1%	6.6%
Random	Residence bloc ("other" incorp. in EP)	6.8%	4.6%	15.0%	5.7%	20.0%	6.2%
Random	None (excluding companies with comments)	6.5%	4.7%	12.7%	5.7%	17.3%	6.2%
Random	Residence bloc (excluding companies with comments)	5.9%	5.4%	13.6%	6.5%	18.3%	7.1%
Random	Residence bloc ("other" incorp. in EP, excluding companies with comments)	5.8%	5.0%	12.4%	6.3%	17.0%	6.7%
Biggest	EPO joint cluster	4.5%		9.5%		13.8%	
Random	EPO joint cluster	6.7%	4.6%	12.6%	6.3%	18.5%	6.5%
Biggest	None (including outlier correction)	6.0%		11.4%		16.1%	
Random	None (including outlier correction)	5.2%		13.5%		17.9%	
Random	Residence bloc (including outlier correction)	4.7%		14.3%		18.7%	

Table 14: Predicted growth rates for Euro-direct and Euro-PCT-IP filings according to different forecasting methods

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

Group	Breakdown	2005			2006			2007		
		Predicted filings	LCL	UCL	Predicted filings	LCL	UCL	Predicted filings	LCL	UCL
Biggest	None	194 586			205 662			215 022		
Biggest	Residence bloc	193 816			204 666			212 997		
Random	None	194 673	186 324	203 023	208 772	197 983	219 560	218 007	205 505	230 509
Random	Residence bloc	193 715	184 032	203 398	210 044	197 450	222 637	219 381	204 851	233 910
Random	Residence bloc ("other" incorp. in EP)	193 493	184 571	202 416	208 277	196 349	220 205	217 430	203 968	230 892
Random	None (excluding companies with comments)	192 969	183 927	202 011	204 196	192 483	215 908	212 542	199 379	225 705
Random	Residence bloc (excluding companies with comments)	191 884	181 523	202 244	205 715	192 258	219 172	214 310	199 020	229 601
Random	Residence bloc ("other" incorp. in EP, excluding companies with comments)	191 588	181 940	201 236	203 522	190 691	216 352	211 884	197 607	226 161
Biggest	EPO joint cluster	189 246			198 322			206 208		
Random	EPO joint cluster	193 373	184 484	202 262	203 930	191 164	216 695	214 643	200 779	228 508
Biggest	None (including outlier correction)	192 086			201 794			210 401		
Random	None (including outlier correction)	190 478			205 674			213 631		
Random	Residence bloc (including outlier correction)	189 723			206 990			215 110		

Table 15: Predicted total numbers of Euro-direct and Euro-PCT-IP filings according to different forecasting methods

7.2 Biggest group

A group of 407 applicants who filed at least 37 applications (Euro-direct filings and Euro-PCT-RP) in 2004. There were a total of 185 respondents.

Since the Biggest group is not a random sample, it is considered appropriate to use the composite index (CI) in this case, as explained in the *Applicant panel survey 2001: Annex III*. The numerical values of the indices obtained are shown in **Table 16** and **Table 17**, with the resulting forecasts and actual numbers of filings where available. The first analysis is based on no subsidiary breakdown, while the second analysis takes into account the residence blocs of the applicants. **Figure 7** shows a plot of the forecasts from **Table 16**. No confidence limits are indicated for the estimates because this is a survey of the intentions of the Biggest applicants. Details of the calculations of the composite indices are shown in **Annex IV, Table 60 to Table 63**.

Please refer to **Sections 7.4, 7.5 and 8** for further analyses of the Biggest group.

Biggest group [no. of filings]

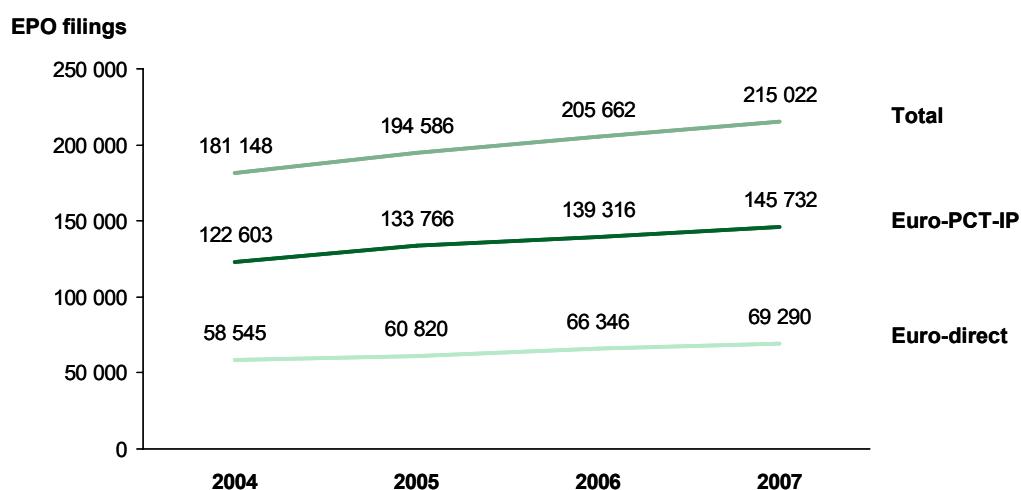


Figure 7: Forecasts for EPO filings – Biggest group with no subsidiary breakdown

Biggest group
No subsidiary breakdown
Composite indices

			Year							
			2004	2005		2006		2007		
Filing type	Filing route	Res. bloc	Actual filings	Index 05	Predicted filings	Actual filings	Index 06	Predicted filings	Index 07	Predicted filings
First	Euro-direct	Total	15 318	1.1888	18 211		1.4200	21 752	1.5216	23 308
	Euro-PCT-IP	Total	7 139	1.1698	8 351		1.1831	8 446	1.2066	8 614
Subsequent	Euro-direct	Total	43 227	0.9857	42 609		1.0316	44 594	1.0637	45 982
	Euro-PCT-IP	Total	115 464	1.0862	125 415		1.1334	130 870	1.1875	137 118
All	Euro-direct	Total	58 545		60 820	60 593		66 346		69 290
	Euro-PCT-IP	Total	122 603		133 766	131 733		139 316		145 732
Grand total		Total	181 148		194 586	192 326		205 662		215 022
Growth from 2004					7.4%			13.5%		18.7%
Implied % Euro-PCT-IP			67.7%		68.7%	68.5%		67.7%		67.8%

Table 16: Forecasts for EPO filings – Biggest group with no subsidiary breakdown

Biggest group
Breakdown by residence bloc
Composite indices

*Average growth rate

			Year							
			2004	2005			2006		2007	
Filing type	Filing route	Res. bloc	Actual filings	Index 05	Predicted filings	Actual filings	Index 06	Predicted filings	Index 07	Predicted filings
First	Euro-direct	EP	13 043	1.1957	15 595		1.4753	19 243	1.5578	20 319
		JA	254	1.1800*	300		1.3400*	340	1.4000*	356
		OT	907	1.1800*	1 070		1.3400*	1 215	1.4000*	1 270
		US	1 114	1.0468	1 166		1.0611	1 182	1.0771	1 200
		Total	15 318		18 132			21 981		23 144
First	Euro-PCT-IP	EP	2 642	1.2489	3 300		1.2528	3 310	1.2845	3 394
		JA	1 617	1.0344	1 673		1.0615	1 716	1.0741	1 737
		OT	1 489	1.3200*	1 965		1.2400*	1 846	1.2800*	1 906
		US	1 391	1.2374	1 721		1.2512	1 740	1.2799	1 780
		Total	7 139		8 659			8 613		8 817
Subsequent	Euro-direct	EP	19 140	0.9860	18 871		1.0291	19 697	1.0353	19 816
		JA	11 739	0.9408	11 044		0.9954	11 685	1.0327	12 123
		OT	3 315	0.9900*	3 282		1.1000*	3 647	1.1600*	3 845
		US	9 033	1.0529	9 511		1.0624	9 597	1.1099	10 026
		Total	43 227		42 708			44 625		45 811
Subsequent	Euro-PCT-IP	EP	41 392	1.0466	43 321		1.0537	43 614	1.0892	45 085
		JA	18 600	1.1855	22 050		1.2710	23 640	1.3443	25 004
		OT	13 397	1.0800*	14 469		1.1400*	15 273	1.1900*	15 942
		US	42 075	1.0571	44 478		1.1152	46 921	1.1692	49 194
		Total	115 464		124 318			129 448		135 226
All	Euro-direct	EP	32 183		34 467			38 940		40 135
		JA	11 993		11 344			12 025		12 479
		OT	4 222		4 352			4 862		5 115
		US	10 147		10 677			10 779		11 226
		Total	58 545		60 840	60 593		66 605		68 955
All	Euro-PCT-IP	EP	44 034		46 621			46 924		48 479
		JA	20 217		23 722			25 357		26 741
		OT	14 886		16 434			17 119		17 848
		US	43 466		46 199			48 661		50 975
		Total	122 603		132 977	131 733		138 061		144 042
Grand total	Total	EP	76 217		81 088			85 864		88 614
		JA	32 210		35 066			37 381		39 219
		OT	19 108		20 786			21 981		22 964
		US	53 613		56 876			59 440		62 201
		Total	181 148		193 816	192 326		204 666		212 997
Growth from 2004					7.0%		13.0%		17.6%	
Implied Euro-PCT-IP					68.6%	68.5%	67.5%		67.6%	

Table 17: Forecasts for EPO filings – Biggest group, broken down by residence bloc

7.3 Random group

A randomly sampled group of 1 931 applicants to the EPO (Euro-direct filings and Euro-PCT-RP) in 2004; 678 respondents.

For the responses from the Random group, it is appropriate to use the Q-index method after logarithmic transformation of the data (see *Applicant panel survey 2002: Section IV.1, Annex IV*). A series of analyses will now be reported for the Random group. Details of the Q-index estimates are shown in **Annex IV, Table 64 to Table 71**. First, the data were analysed without taking residence blocs into account. The numerical values of the Q-indices are shown with their standard errors in **Table 18**. The resulting predicted filings are shown together with confidence limits based on the standard error for combined counts of total filings. **Figure 8** shows the predicted filings for 2005 to 2007, including confidence limits.

Random group [no. of filings]

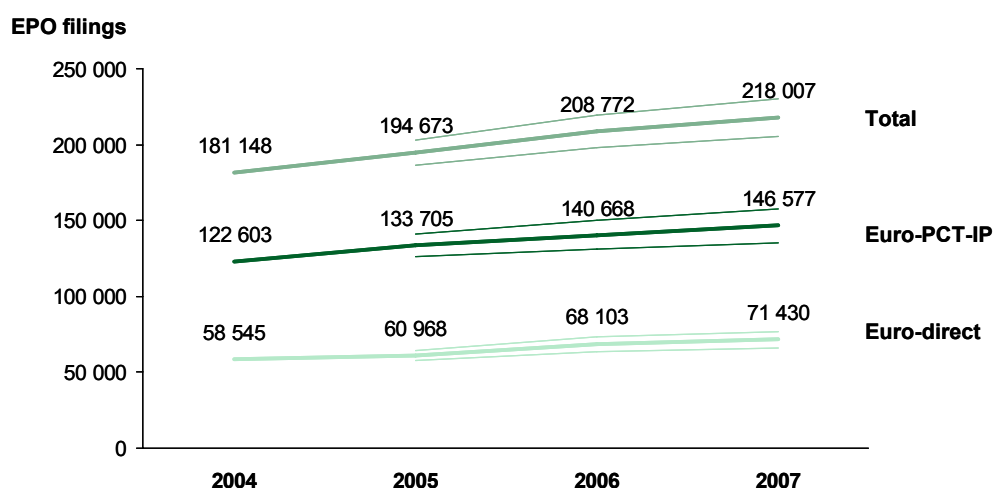


Figure 8: Forecasts for EPO filings, including 95% confidence limits

The next analysis takes the residence blocs into account. Numerical values of the Q-indices are shown with standard errors in **Table 19**. The deviation of 95% confidence limits is slightly higher than in the case of no subsidiary breakdown.

Comparing this year's predictions with those from the 2004 panel, it appears that the results (particularly for applicants residing in the US, and for PCT international phase filings) of the study at hand are more stable, i.e. growth rates are relatively smooth compared with last year. A possible explanation for this is the fact that it was possible to increase the response rate for applicants from the US by about 50%, leading to improved results. Another possible explanation may be the fact that interviewees are more familiar with the alterations in rules for eligibility for the treatment of PCT applications from US applicants at the EPO for particular joint clusters (biotechnology, telecommunications and computers) in 2005 than they were in 2004. In 2004, these changes may have led to distorted response behaviour.

Q-indices were also obtained for selected residence *countries*. The corresponding results along with standard errors and sample sizes are given in **Table 71 in Annex IV**.

Since there are few responses available from the "other" category, the next analysis is a repeat of the previous analysis by bloc, after combining "other" with EPC. The numerical values of the Q-indices are shown with their standard errors in **Table 20**. The growth indices and standard errors for Japan and the US are the same as in **Table 19**. The span of the confidence limits is slightly smaller than for the previous scenario.

An attempt was then made to clean the data from the Random group by removing cases in which the researchers made qualifying comments. This reduced the overall sample size from 678 to 522.

First, the analysis not taking residence blocs into account (**Table 18**) was repeated on the cleaned subset of data. The numerical values of the Q-indices are shown with their standard errors in **Table 21**. The resulting predicted filings are indicated together with 95% confidence limits for combined counts of total filings. The deviation of the results after excluding respondents with qualifying comments is greater than before, so this approach did not increase the quality of the forecasts.

The analysis taking the residence blocs into account (**Table 19**) was repeated on the cleaned data. The numerical values of the Q-indices are shown with their standard errors in **Table 22**. The span of the confidence limits is slightly wider than before cleaning the data, arguing against the efficacy of the method.

However, it was argued above that most of the variability of the bloc-based analysis arises from the small number of respondents from the "other" category. Therefore, the previous analysis by bloc after combining "other" with EPC (**Table 20**) was repeated on the cleaned data. The numerical values of the Q-indices are shown with their standard errors in **Table 23**. The growth indices and standard errors for Japan and the US are the same as in **Table 22**. The spans of the confidence limits are again slightly wider than those before cleaning.

These results reflect the fact that the improvement in precision that is to be expected due to cleaning is not great enough to compensate for the detrimental effect on the standard error estimates of the smaller sized sample that remains available for the calculations.

Among the series of analyses that incorporate residence bloc breakdowns, **Table 20** yields the best results. However, it is apparent that the scenario in **Table 18** shows the narrowest confidence limits, even though it does not account for different opinions between blocs. Actual filing figures for 2005 agree with this forecast within these relatively narrow confidence limits.

This overall forecast for total filings in 2005 is 194 673, with approximate 95% confidence limits of 186 324 to 203 023, resulting in a deviation of $\pm 4.3\%$. The estimated percentage of Euro-PCT-IP filings among total filings for 2005 is 68.7%.

This method predicts total filings of 208 772 in 2006 (approximate 95% confidence limits of 197 983 and 219 560) and 218 007 in 2007 (approximate 95% confidence limits of 205 505 and 230 509).

Random group
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										
			2004	2005				2006			2007		
Filing type	Filing route	Res. bloc	Actual filings	Q-index 05	S.E. 05	Predicted filings	Actual filings	Q-index 06	S.E. 06	Predicted filings	Q-index 07	S.E. 07	Predicted filings
First	Euro-direct	Total	15 318	1.1800	0.0685	18 076		1.3415	0.0982	20 549	1.4034	0.1039	21 497
		LCL				15 639				16 563			17 085
		UCL				20 512				24 534			25 909
First	Euro-PCT-IP	Total	7 139	1.3150	0.0757	9 388		1.2399	0.0445	8 852	1.2771	0.0485	9 117
		LCL				7 989				8 079			8 249
		UCL				10 786				9 624			9 985
Subsequent	Euro-direct	Total	43 227	0.9923	0.0256	42 893		1.1001	0.0311	47 555	1.1551	0.0361	49 933
		LCL				40 737				44 655			46 394
		UCL				45 049				50 455			53 472
Subsequent	Euro-PCT-IP	Total	115 464	1.0767	0.0310	124 317		1.1416	0.0370	131 816	1.1905	0.0412	137 460
		LCL				116 756				122 251			126 344
		UCL				131 878				141 382			148 576
All	Euro-direct	Total	58 545			60 968	60 593			68 103			71 430
		LCL				57 715				63 174			65 774
		UCL				64 222				73 033			77 086
All	Euro-PCT-IP	Total	122 603			133 705	131 733			140 668			146 577
		LCL				126 015				131 072			135 428
		UCL				141 395				150 265			157 727
Grand total		Total	181 148			194 673	192 326			208 772			218 007
		LCL				186 324				197 983			205 505
		UCL				203 023				219 560			230 509
Growth from 2004						7.5%				15.2%			20.3%
Implied % Euro-PCT-IP			67.7%			68.7%	68.5%			67.4%			67.2%
Deviation in % of forecast						4.3%				5.2%			5.7%

Table 18: Forecasts for EPO filings – Random group with no subsidiary breakdown

Random group
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
*Average growth rate and standard error

			Year										
			2004		2005		2006		2007				
Filing type	Filing route	Res. bloc	Actual filings	Q-index 05	S.E. 05	Predicted filings	Actual filings	Q-index 06	S.E. 06	Predicted filings	Q-index 07	S.E. 07	Predicted filings
First	Euro-direct	EP	13 043	1.1724	0.0943	15 292		1.3338	0.1354	17 396	1.3922	0.1431	18 159
		JA	254	1.4420	0.1147	366		1.5909	0.1329	404	1.6127	0.1278	410
		OT	907	1.1800*	0.0700*	1 070		1.3400*	0.1000*	1 215	1.4000*	0.1000*	1 270
		US	1 114	1.1197	0.0594	1 247		1.2440	0.0648	1 386	1.2768	0.0644	1 422
		Total	15 318			17 976				20 402			21 260
		LCL				15 122				15 711			16 080
First	Euro-PCT-IP	EP	2 642	1.4657	0.1135	3 872		1.2354	0.0634	3 264	1.2684	0.0701	3 351
		JA	1 617	1.3834	0.1423	2 237		1.5337	0.1535	2 480	1.5469	0.1641	2 501
		OT	1 489	1.3200*	0.0800*	1 965		1.2400*	0.0400*	1 846	1.2800*	0.0500*	1 906
		US	1 391	1.0683	0.0675	1 486		1.1504	0.0626	1 600	1.2040	0.0655	1 675
		Total	7 139			9 561				9 190			9 433
		LCL				8 424				8 295			8 449
Subsequent	Euro-direct	EP	19 140	1.0112	0.0327	19 355		1.1031	0.0371	21 113	1.1373	0.0429	21 768
		JA	11 739	0.9484	0.0439	11 134		1.0092	0.0506	11 847	1.0417	0.0588	12 229
		OT	3 315	0.8953	0.1407	2 968		0.9327	0.1627	3 092	1.0860	0.1846	3 600
		US	9 033	1.0040	0.0764	9 069		1.2186	0.1005	11 008	1.3567	0.1131	12 255
		Total	43 227			42 525				47 059			49 852
		LCL				40 287				43 972			46 024
Subsequent	Euro-PCT-IP	EP	41 392	1.0540	0.0257	43 628		1.0978	0.0298	45 440	1.1325	0.0341	46 876
		JA	18 600	1.2135	0.0729	22 572		1.2916	0.0840	24 024	1.3740	0.0924	25 557
		OT	13 397	1.1140	0.1456	14 925		1.2980	0.1391	17 389	1.3334	0.1760	17 863
		US	42 075	1.0108	0.0803	42 529		1.1061	0.0975	46 540	1.1536	0.1029	48 539
		Total	115 464			123 653				133 393			138 836
		LCL				114 748				122 156			125 849
All	Euro-direct	EP	32 183			34 647				38 509			39 927
		JA	11 993			11 500				12 251			12 638
		OT	4 222			4 038				4 307			4 870
		US	10 147			10 316				12 394			13 677
		Total	58 545			60 501	60 593			67 461			71 112
		LCL				56 874				61 846			64 671
All	Euro-PCT-IP	EP	44 034			47 501				48 703			50 227
		JA	20 217			24 809				26 504			28 058
		OT	14 886			16 890				19 235			19 769
		US	43 466			44 015				48 141			50 213
		Total	122 603			133 214	131 733			142 583			148 269
		LCL				124 236				131 310			135 244
Grand total	Total	EP	76 217			82 147				87 212			90 154
		JA	32 210			36 308				38 755			40 697
		OT	19 108			20 928				23 542			24 639
		US	53 613			54 331				60 534			63 891
		Total	181 148			193 715	192 326			210 044			219 381
		LCL				184 032				197 450			204 851
Growth from 2004	Implied Euro-PCT-IP	UCL				203 398				222 637			233 910
						6.9%				16.0%			21.1%
						68.8%	68.5%			67.9%			67.6%
Deviation in % of forecast						5.0%				6.0%			6.6%

Table 19: Forecasts for EPO filings – Random group, broken down by residence bloc

Random group

Breakdown by residence bloc ("other" incorporated in EP)

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										
			2004		2005				2006		2007		
Filing type	Filing route	Res. bloc	Actual filings	Q-index 05	SE 05	Predicted filings	Actual filings	Q-index 06	SE 06	Predicted filings	Q-index 07	SE 07	Predicted filings
First	Euro-direct	EP/OT	13 950	1.1819	0.0907	16 488		1.3527	0.1302	18 870	1.4253	0.1385	19 882
		JA	254	1.4420	0.1147	366		1.5909	0.1329	404	1.6127	0.1278	410
		US	1 114	1.1197	0.0594	1 247		1.2440	0.0648	1 386	1.2768	0.0644	1 422
		Total	15 318			18 102				20 660			21 714
		LCL				15 147				15 777			16 236
		UCL				21 057				25 543			27 193
First	Euro-PCT-IP	EP/OT	4 131	1.4319	0.1103	5 915		1.2245	0.0606	5 059	1.2546	0.0667	5 183
		JA	1 617	1.3834	0.1423	2 237		1.5337	0.1535	2 480	1.5469	0.1641	2 501
		US	1 391	1.0683	0.0675	1 486		1.1504	0.0626	1 600	1.2040	0.0655	1 675
		Total	7 139			9 638				9 139			9 359
		LCL				8 188				8 149			8 271
		UCL				11 089				10 128			10 446
Subsequent	Euro-direct	EP/OT	22 455	1.0075	0.0318	22 623		1.0977	0.0359	24 648	1.1358	0.0418	25 505
		JA	11 739	0.9484	0.0439	11 134		1.0092	0.0506	11 847	1.0417	0.0588	12 229
		US	9 033	1.0040	0.0764	9 069		1.2186	0.1005	11 008	1.3567	0.1131	12 255
		Total	43 227			42 826				47 503			49 989
		LCL				40 642				44 475			46 261
		UCL				45 009				50 531			53 717
Subsequent	Euro-PCT-IP	EP/OT	54 789	1.0555	0.0254	57 828		1.1026	0.0295	60 411	1.1366	0.0338	62 272
		JA	18 600	1.2135	0.0729	22 572		1.2916	0.0840	24 024	1.3740	0.0924	25 557
		US	42 075	1.0108	0.0803	42 529		1.1061	0.0975	46 540	1.1536	0.1029	48 539
		Total	115 464			122 928				130 975			136 368
		LCL				114 928				120 569			124 701
		UCL				130 929				141 381			148 035
All	Euro-direct	EP/OT	36 405			39 111				43 519			45 388
		JA	11 993			11 500				12 251			12 638
		US	10 147			10 316				12 394			13 677
		Total	58 545			60 927	60 593			68 163			71 703
		LCL				57 253				62 418			65 077
		UCL				64 602				73 909			78 329
All	Euro-PCT-IP	EP/OT	58 920			63 743				65 469			67 455
		JA	20 217			24 809				26 504			28 058
		US	43 466			44 015				48 141			50 213
		Total	122 603			132 566	131 733			140 114			145 727
		LCL				124 435				129 661			134 009
		UCL				140 697				150 567			157 445
Grand total	Total	EP/OT	95 325			102 854				108 988			112 842
		JA	32 210			36 308				38 755			40 697
		US	53 613			54 331				60 534			63 891
		Total	181 148			193 493	192 326			208 277			217 430
		LCL				184 571				196 349			203 968
		UCL				202 416				220 205			230 892
Growth from 2004						6.8%				15.0%			20.0%
Implied Euro-PCT-IP						68.5%	68.5%			67.3%			67.0%
Deviation in % of forecast						4.6%				5.7%			6.2%

Table 20: Forecasts for EPO filings – Random group, broken down by residence bloc, ("other" incorporated in EP)

Random group

No subsidiary breakdown (excluding companies with qualifying comments)

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										
			2004	2005				2006			2007		
	Filing route	Res. bloc	Actual filings	Q-index 05	S.E. 05	Predicted filings	Actual filings	Q-index 06	S.E. 06	Predicted filings	Q-index 07	S.E. 07	Predicted filings
First	Euro-direct	Total	15 318	1.2055	0.0793	18 466		1.3970	0.1157	21 399	1.4729	0.1223	22 561
		LCL				15 582				16 499			17 091
		UCL				21 350				26 298			28 032
First	Euro-PCT-IP	Total	7 139	1.3774	0.0868	9 833		1.2688	0.0532	9 058	1.2946	0.0560	9 242
		LCL				8 151				8 111			8 226
		UCL				11 516				10 004			10 258
Subsequent	Euro-direct	Total	43 227	0.9830	0.0272	42 494		1.0725	0.0328	46 362	1.1289	0.0380	48 799
		LCL				40 229				43 379			45 156
		UCL				44 758				49 344			52 442
Subsequent	Euro-PCT-IP	Total	115 464	1.0581	0.0338	122 176		1.1032	0.0407	127 378	1.1427	0.0439	131 940
		LCL				114 084				117 210			120 581
		UCL				130 268				137 546			143 299
All	Euro-direct	Total	58 545			60 959	60 593			67 760			71 360
		LCL				57 292				62 024			64 788
		UCL				64 626				73 497			77 933
All	Euro-PCT-IP	Total	122 603			132 010	131 733			136 435			141 182
		LCL				123 744				126 223			129 778
		UCL				140 275				146 647			152 587
Grand total		Total	181 148			192 969	192 326			204 196			212 542
		LCL				183 927				192 483			199 379
		UCL				202 011				215 908			225 705
Growth from 2004						6.5%				12.7%			17.3%
Implied % Euro-PCT-IP			67.7%			68.4%	68.5%			66.8%			66.4%
Deviation in % of forecast						4.7%				5.7%			6.2%

Table 21: Forecasts for EPO filings – Random group with no subsidiary breakdown (excluding companies with qualifying comments)

Random group
Breakdown by residence bloc (excl. companies with qualifying comments)
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
*Average growth rate and standard error

			Year										
			2004	2005			2006			2007			
Filing type	Filing route	Res. bloc	Actual filings	Q-index 05	S.E. 05	Predicted filings	Actual filings	Q-index 06	S.E. 06	Predicted filings	Q-index 07	S.E. 07	Predicted filings
First	Euro-direct	EP	13 043	1.1960	0.1085	15 599		1.3845	0.1584	18 058	1.4548	0.1669	18 975
		JA	254	1.1800*	0.0700*	300		1.3400*	0.1000*	340	1.4000*	0.1000*	356
		OT	907	1.1800*	0.0700*	1 070		1.3400*	0.1000*	1 215	1.4000*	0.1000*	1 270
		US	1 114	1.1434	0.0680	1 274		1.2954	0.0713	1 443	1.3365	0.0687	1 489
		Total	15 318			18 243				21 057			22 089
		LCL				14 887				15 336			15 742
		UCL				21 598				26 778			28 437
First	Euro-PCT-IP	EP	2 642	1.5446	0.1219	4 081		1.2572	0.0718	3 322	1.2727	0.0748	3 362
		JA	1 617	1.5743	0.2127	2 546		1.8337	0.2161	2 965	1.8353	0.2316	2 968
		OT	1 489	1.3200*	0.0800*	1 965		1.2400*	0.0400*	1 846	1.2800*	0.0500*	1 906
		US	1 391	1.0740	0.0827	1 494		1.1666	0.0756	1 623	1.2184	0.0771	1 695
		Total	7 139			10 086				9 756			9 931
		LCL				8 558				8 344			8 410
		UCL				11 613				11 167			11 452
Subsequent	Euro-direct	EP	19 140	0.9983	0.0358	19 108		1.0699	0.0379	20 478	1.1113	0.0443	21 271
		JA	11 739	0.9477	0.0517	11 125		1.0255	0.0577	12 038	1.0643	0.0672	12 494
		OT	3 315	0.8727	0.1737	2 893		0.9251	0.1824	3 067	1.0980	0.2074	3 640
		US	9 033	0.9927	0.0738	8 967		1.1455	0.1030	10 347	1.2542	0.1152	11 329
		Total	43 227			42 093				45 930			48 733
		LCL				39 688				42 788			44 840
		UCL				44 498				49 072			52 627
Subsequent	Euro-PCT-IP	EP	41 392	1.0345	0.0249	42 818		1.0559	0.0283	43 706	1.0884	0.0319	45 050
		JA	18 600	1.2079	0.0807	22 468		1.2867	0.0930	23 933	1.3398	0.0959	24 920
		OT	13 397	1.1140	0.1456	14 925		1.2980	0.1391	17 389	1.3334	0.1760	17 863
		US	42 075	0.9804	0.0888	41 252		1.0445	0.1081	43 945	1.0867	0.1138	45 723
		Total	115 464			121 463				128 973			133 557
		LCL				112 083				117 290			120 289
		UCL				130 842				140 656			146 825
All	Euro-direct	EP	32 183			34 707				38 536			40 246
		JA	11 993			11 424				12 378			12 849
		OT	4 222			3 963				4 282			4 910
		US	10 147			10 241				11 790			12 818
		Total	58 545			60 336	60 593			66 987			70 823
		LCL				56 207				60 460			63 376
		UCL				64 464				73 514			78 269
All	Euro-PCT-IP	EP	44 034			46 899				47 028			48 413
		JA	20 217			25 013				26 898			27 888
		OT	14 886			16 890				19 235			19 769
		US	43 466			42 746				45 568			47 418
		Total	122 603			131 548	131 733			138 728			143 488
		LCL				122 046				126 960			130 133
		UCL				141 051				150 497			156 842
Grand total	Total	EP	76 217			81 605				85 564			88 659
		JA	32 210			36 438				39 276			40 737
		OT	19 108			20 854				23 517			24 679
		US	53 613			52 987				57 358			60 235
		Total	181 148			191 884	192 326			205 715			214 310
		LCL				181 523				192 258			199 020
		UCL				202 244				219 172			229 601
Growth from 2004						5.9%				13.6%			18.3%
Implied Euro-PCT-IP						68.6%	68.5%			67.4%			67.0%
Deviation in % of forecast						5.4%				6.5%			7.1%

Table 22: Forecasts for EPO filings – Random group, broken down by residence bloc (excl. companies with qualifying comments)

Random group

Breakdown by residence bloc ("other" incorporated in EP; excluding companies with qualifying comments)

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

*Average growth rate and standard error

			Year											
			2004	2005				2006			2007			
Filing type	Filing route	Res. bloc	Actual filings	Q-index 05	SE 05	Predicted filings	Actual filings	Q-index 06	SE 06	Predicted filings	Q-index 07	SE 07	Predicted filings	
First	Euro-direct	EP/OT	13 950	1.2069	0.1041	16 837		1.4068	0.1519	19 625	1.4940	0.1612	20 841	
		JA	254	1.1800*	0.0700*	300		1.3400*	0.1000*	340	1.4000*	0.1000*	356	
		US	1 114	1.1434	0.0680	1 274		1.2954	0.0713	1 443	1.3365	0.0687	1 489	
		Total	15 318			18 410				21 409			22 686	
		LCL				14 941				15 459			15 968	
		UCL				21 880				27 358			29 403	
First	Euro-PCT-IP	EP/OT	4 131	1.5007	0.1189	6 200		1.2416	0.0686	5 129	1.2560	0.0713	5 189	
		JA	1 617	1.5743	0.2127	2 546		1.8337	0.2161	2 965	1.8353	0.2316	2 968	
		US	1 391	1.0740	0.0827	1 494		1.1666	0.0756	1 623	1.2184	0.0771	1 695	
		Total	7 139			10 239				9 717			9 851	
		LCL				8 396				8 224			8 250	
		UCL				12 082				11 210			11 452	
Subsequent	Euro-direct	EP/OT	22 455	0.9945	0.0349	22 332		1.0652	0.0367	23 918	1.1110	0.0434	24 947	
		JA	11 739	0.9477	0.0517	11 125		1.0255	0.0577	12 038	1.0643	0.0672	12 494	
		US	9 033	0.9927	0.0738	8 967		1.1455	0.1030	10 347	1.2542	0.1152	11 329	
		Total	43 227			42 424				46 303			48 769	
		LCL				40 120				43 261			45 038	
		UCL				44 728				49 346			52 500	
Subsequent	Euro-PCT-IP	EP/OT	54 789	1.0366	0.0246	56 795		1.0625	0.0281	58 215	1.0939	0.0317	59 935	
		JA	18 600	1.2079	0.0807	22 468		1.2867	0.0930	23 933	1.3398	0.0959	24 920	
		US	42 075	0.9804	0.0888	41 252		1.0445	0.1081	43 945	1.0867	0.1138	45 723	
		Total	115 464			120 515				126 093			130 578	
		LCL				112 010				115 243			118 652	
		UCL				129 021				136 944			142 504	
All	Euro-direct	EP/OT	36 405			39 168				43 543			45 788	
		JA	11 993			11 424				12 378			12 849	
		US	10 147			10 241				11 790			12 818	
		Total	58 545			60 834	60 593			67 712			71 455	
		LCL				56 669				61 029			63 771	
		UCL				64 999				74 394			79 139	
All	Euro-PCT-IP	EP/OT	58 920			62 995				63 344			65 123	
		JA	20 217			25 013				26 898			27 888	
		US	43 466			42 746				45 568			47 418	
		Total	122 603			130 754	131 733			135 810			140 429	
		LCL				122 051				124 857			128 396	
		UCL				139 457				146 763			152 462	
Grand total	Total	EP/OT	95 325			102 163				106 888			110 911	
		JA	32 210			36 438				39 276			40 737	
		US	53 613			52 987				57 358			60 235	
		Total	181 148			191 588	192 326			203 522			211 884	
		LCL				181 940				190 691			197 607	
		UCL				201 236				216 352			226 161	
Growth from 2004						5.8%				12.4%			17.0%	
Implied Euro-PCT-IP						68.2%	68.5%			66.7%			66.3%	
Deviation in % of forecast						5.0%				6.3%			6.7%	

Table 23: Forecasts for EPO - Random group, broken down by residence bloc ("other" incorporated in EP; excl. companies with qualifying comments)

7.4 Biggest and Random group broken down by joint cluster

The forecasts for EPO filings provided in **Section B** of the questionnaire were analysed with primary breakdowns by joint cluster rather than residence bloc, and again, both the composite index and the Q-index method were applied. For the Q-index method, the indices were again transformed to natural logarithms. **Table 24** to **Table 29** show the results of this exercise. First, the composite index was analysed based on the Biggest group (**Table 24** to **Table 26**). Then the Q-index was analysed based on the Random group (**Table 27** to **Table 29**). **Figure 9** shows a plot of the overall forecasts derived by aggregating forecasts per joint cluster².

Random group [no. of filings]

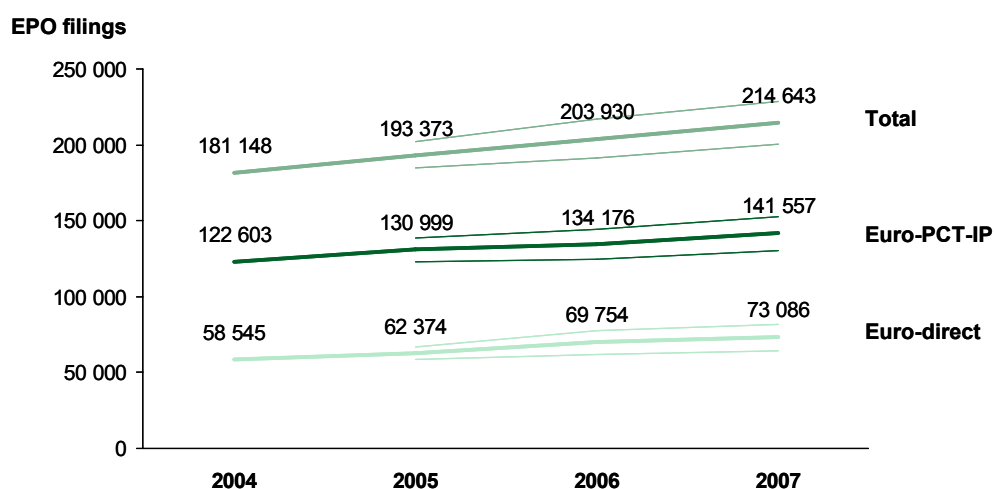


Figure 9: Forecasts for EPO filings, including 95% confidence limits, based on breakdown by joint cluster

In order to avoid a distortion of the standard errors and the confidence limits due to the multiple choice option in Section C of the questionnaire, an approximate correction factor has been introduced for the standard error in **Table 27** to **Table 29** (compared with **Table 70**). This correction factor takes into account the average repetition factor of 1.91 and widens the confidence limits by multiplying standard errors by 1.38 (square root of 1.91). Since the breakdown of the sample into 14 sub-groups results in rather few observations per group, some of the individual Q-indices per joint cluster have relatively large standard errors. On the other hand, aggregated forecasts for total filings and standard errors are comparable with those determined for a breakdown by residence bloc. This gives some confidence also in the forecasts for individual joint clusters. However, it is not suggested that the total filing forecasts based on the joint cluster breakdown should be adopted. As mentioned before, the respondents were allowed to choose more than one cluster to indicate their main business, and the average number of joint clusters per respondent increased over last year. This means a decrease in the standard error, but one must take into account the fact that all of the answers provided in **Section B** of the questionnaire are used to calculate the Q-index for each joint cluster reported for that applicant. Differing respondent behaviour as a function of cluster is not considered. For this reason, it appears to be better to use a forecast with no subsidiary breakdown rather than a breakdown by

² Data not cleaned

joint cluster. Nevertheless, the approach based on joint clusters is useful for business planning because it provides forecasts for individual joint clusters of the various primary combinations (first filings/subsequent filings, Euro-direct/Euro-PCT-IP).

Biggest group
Breakdown by EPO joint cluster
Composite indices

*Average growth rate and standard error

			Year							
			2004	2005		2006		2007		
Filing type	Filing route	Cluster	Actual filings	Index 05	Predicted filings	Actual filings	Index 06	Predicted filings	Index 07	Predicted filings
First	Euro-direct	Audio, Video & Media	1 157	1.1800*	1 366		1.3400*	1 551	1.4000*	1 620
		Biotechnology	852	1.6622	1 416		2.7606	2 352	2.8641	2 440
		Civil Engineering & Thermodynamics	1 121	1.0342	1 160		1.1282	1 265	1.2179	1 366
		Computer	1 068	1.1800*	1 260		1.3400*	1 431	1.4000*	1 495
		Electricity & Electrical Machines	1 117	1.0688	1 194		1.0671	1 192	1.1040	1 233
		Electronics	1 048	1.1718	1 228		1.3073	1 370	1.5024	1 574
		Handling and Processing	1 232	1.0234	1 261		1.0526	1 297	1.0526	1 297
		Human Necessities	1 094	1.0680	1 168		1.1777	1 288	1.2683	1 388
		Industrial Chemistry	820	2.3836	1 954		4.7406	3 886	4.8491	3 975
		Measuring, Optics	1 137	1.0455	1 189		1.1709	1 332	1.3266	1 509
		Polymers	617	1.1444	706		1.3667	843	1.5889	980
		Pure & Applied Organic Chemistry	1 840	1.5286	2 812		2.3569	4 336	2.4789	4 560
		Telecommunications	1 317	1.2863	1 694		1.5145	1 995	1.7612	2 320
		Vehicles & General Technology	898	0.8935	802		0.9655	867	1.0238	920
		Total	15 318		19 210			25 004		26 676
First	Euro-PCT-IP	Audio, Video & Media	381	1.3200*	503		1.2400*	472	1.2800*	488
		Biotechnology	560	1.0943	613		1.1182	626	1.2800*	717
		Civil Engineering & Thermodynamics	418	1.3200*	552		1.2105	506	1.2982	543
		Computer	469	1.3200*	619		1.2400*	582	1.2800*	600
		Electricity & Electrical Machines	580	1.1903	691		1.1788	684	1.1979	695
		Electronics	337	1.2112	409		1.1975	404	1.2204	412
		Handling and Processing	502	1.3200*	663		1.3513	679	1.2800*	643
		Human Necessities	701	1.1719	822		1.1842	830	1.2105	849
		Industrial Chemistry	538	1.1159	600		1.2400*	667	1.2800*	689
		Measuring, Optics	442	1.3200*	583		1.2400*	548	1.2800*	565
		Polymers	355	0.9512	337		1.0385	368	1.0380	368
		Pure & Applied Organic Chemistry	981	1.0728	1 052		1.2400*	1 216	1.2800*	1 255
		Telecommunications	462	1.0793	499		1.0683	493	1.0738	496
		Vehicles & General Technology	412	1.1293	466		1.1865	489	1.1971	494
		Total	7 139		8 408			8 566		8 814

Table 24: Forecasts for EPO filings at the EPO – Biggest group (first filings, broken down by joint cluster)

Biggest group
Breakdown by EPO joint cluster
Composite indices

*Average growth rate and standard error

			Year							
Filing type	Filing route	Cluster	2004	2005		2006	2007			
			Actual filings	Index 05	Predicted filings	Actual filings	Index 06	Predicted filings	Index 07	Predicted filings
Subsequent	Euro-direct	Audio, Video & Media	2 844	1.0554	3 002		1.2002	3 414	1.2163	3 460
		Biotechnology	827	0.9433	780		0.9767	808	0.9781	809
		Civil Engineering & Thermodynamics	4 502	0.8426	3 793		0.8842	3 980	0.9255	4 166
		Computer	2 380	1.1003	2 619		1.1077	2 637	1.1164	2 657
		Electricity & Electrical Machines	3 957	0.9297	3 679		0.9508	3 763	0.9882	3 911
		Electronics	2 551	0.9519	2 429		0.9775	2 494	1.0291	2 626
		Handling and Processing	4 583	0.8844	4 053		0.9104	4 172	0.8791	4 029
		Human Necessities	4 762	0.9407	4 479		0.9902	4 715	1.0282	4 896
		Industrial Chemistry	2 422	0.9785	2 370		0.9606	2 327	0.9310	2 255
		Measuring, Optics	2 652	1.0090	2 676		1.0000	2 652	1.0715	2 842
		Polymers	1 489	0.8463	1 260		0.8561	1 275	0.7661	1 141
		Pure & Applied Organic Chemistry	2 037	0.9249	1 884		0.9625	1 961	0.9457	1 927
		Telecommunications	3 044	1.0105	3 076		1.0401	3 166	1.0584	3 222
		Vehicles & General Technology	5 176	0.9969	5 160		1.0464	5 416	1.0675	5 525
		Total	43 227		41 261			42 779		43 464
Subsequent	Euro-PCT-IP	Audio, Video & Media	6 166	0.9570	5 901		0.9243	5 699	0.9804	6 045
		Biotechnology	9 058	1.0129	9 174		1.0160	9 203	1.0350	9 375
		Civil Engineering & Thermodynamics	6 761	1.0463	7 074		1.1370	7 687	1.2084	8 170
		Computer	7 591	1.0445	7 928		1.0726	8 141	1.1288	8 568
		Electricity & Electrical Machines	9 386	1.0677	10 021		1.0824	10 159	1.1334	10 638
		Electronics	5 456	1.0629	5 799		1.0958	5 978	1.1432	6 237
		Handling and Processing	8 125	0.9682	7 866		0.9934	8 071	1.0232	8 313
		Human Necessities	11 332	1.0336	11 713		1.0693	12 117	1.1087	12 564
		Industrial Chemistry	8 701	1.0786	9 385		1.0887	9 473	1.1178	9 726
		Measuring, Optics	7 146	1.0208	7 295		1.0194	7 284	1.0848	7 752
		Polymers	5 739	1.0164	5 833		1.0623	6 096	1.1147	6 397
		Pure & Applied Organic Chemistry	15 855	1.1169	17 709		1.0773	17 081	1.1138	17 660
		Telecommunications	7 480	1.0550	7 891		1.0539	7 883	1.0963	8 200
		Vehicles & General Technology	6 670	1.0162	6 778		1.0643	7 099	1.1407	7 608
		Total	115 464		120 366			121 973		127 253

Table 25: Forecasts for EPO filings – Biggest group (subsequent filings, broken down by joint cluster)

Biggest group
Breakdown by EPO joint cluster
Composite indices

*Average growth rate and standard error

			Year							
			2004	2005			2006		2007	
Filing type	Filing route	Cluster	Actual filings	Index 05	Predicted filings	Actual filings	Index 06	Predicted filings	Index 07	Predicted filings
All	Euro-direct	Audio, Video & Media	4 002			4 368			4 965	5 080
		Biotechnology	1 679			2 196			3 160	3 249
		Civil Engineering & Thermodynamics	5 623			4 953			5 245	5 532
		Computer	3 448			3 879			4 068	4 152
		Electricity & Electrical Machines	5 075			4 873			4 955	5 144
		Electronics	3 599			3 657			3 864	4 200
		Handling and Processing	5 814			5 313			5 469	5 325
		Human Necessities	5 856			5 648			6 003	6 283
		Industrial Chemistry	3 242			4 324			6 213	6 230
		Measuring, Optics	3 790			3 865			3 984	4 351
		Polymers	2 106			1 966			2 118	2 121
		Pure & Applied Organic Chemistry	3 877			4 696			6 296	6 487
		Telecommunications	4 361			4 771			5 161	5 542
		Vehicles & General Technology	6 074			5 962			6 283	6 445
			Total	58 545			60 471	60 593		67 783
All	Euro-PCT-IP	Audio, Video & Media	6 547			6 404			6 172	6 533
		Biotechnology	9 618			9 787			9 829	10 092
		Civil Engineering & Thermodynamics	7 179			7 626			8 193	8 713
		Computer	8 060			8 547			8 723	9 169
		Electricity & Electrical Machines	9 966			10 712			10 844	11 334
		Electronics	5 793			6 208			6 382	6 649
		Handling and Processing	8 627			8 530			8 750	8 956
		Human Necessities	12 033			12 534			12 947	13 413
		Industrial Chemistry	9 239			9 985			10 140	10 415
		Measuring, Optics	7 588			7 878			7 832	8 317
		Polymers	6 093			6 170			6 464	6 765
		Pure & Applied Organic Chemistry	16 836			18 761			18 297	18 915
		Telecommunications	7 942			8 390			8 377	8 696
		Vehicles & General Technology	7 082			7 243			7 588	8 102
			Total	122 603			128 775	131 733		130 539
Grand total	Total	Audio, Video & Media	10 549			10 771			11 136	11 613
		Biotechnology	11 297			11 984			12 989	13 341
		Civil Engineering & Thermodynamics	12 802			12 579			13 439	14 245
		Computer	11 508			12 427			12 791	13 321
		Electricity & Electrical Machines	15 041			15 585			15 799	16 478
		Electronics	9 392			9 864			10 246	10 849
		Handling and Processing	14 441			13 843			14 219	14 281
		Human Necessities	17 889			18 182			18 951	19 696
		Industrial Chemistry	12 481			14 309			16 353	16 645
		Measuring, Optics	11 377			11 743			11 816	12 668
		Polymers	8 199			8 136			8 582	8 886
		Pure & Applied Organic Chemistry	20 712			23 457			24 593	25 401
		Telecommunications	12 304			13 161			13 538	14 238
		Vehicles & General Technology	13 156			13 205			13 871	14 546
			Total	181 148			189 246	192 326		198 322
Growth from 2004					4.5%		9.5%		13.8%	
Implied Euro-PCT-IP					68.0%	68.5%	65.8%		66.0%	

Table 26: Forecasts for EPO filings – Biggest group (first and subsequent filings combined, broken down by joint cluster)

Random group
Breakdown by EPO joint cluster
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
*Average growth rate and standard error

			Year										
			2004		2005			2006			2007		
Filing type	Filing route	Cluster	Actual filings	Q-index 05	S.E. 05	Predicted filings	Actual filings	Q-index 06	S.E. 06	Predicted filings	Q-index 07	S.E. 07	Predicted filings
First	Euro-direct	Audio, Video & Media	1 157	1.2062	0.0935	1 396		1.4837	0.1350	1 717	1.6367	0.1645	1 894
		Biotechnology	852	1.7367	0.3954	1 480		2.4510	0.5610	2 088	2.6435	0.5393	2 252
		Civil Engineering & Thermodynamics	1 121	0.9928	0.1157	1 113		1.0437	0.1271	1 170	1.0833	0.1443	1 215
		Computer	1 068	1.1800*	0.0967*	1 260		1.3400*	0.1382*	1 431	1.4000*	0.1382*	1 495
		Electricity & Electrical Machines	1 117	1.1064	0.1234	1 236		1.1707	0.1774	1 308	1.2050	0.1755	1 346
		Electronics	1 048	1.1381	0.0811	1 193		1.3663	0.1473	1 432	1.5220	0.1660	1 595
		Handling and Processing	1 232	1.2754	0.1349	1 571		1.4891	0.1332	1 834	1.4991	0.1597	1 846
		Human Necessities	1 094	1.1809	0.1026	1 292		1.3408	0.1038	1 467	1.3894	0.1263	1 520
		Industrial Chemistry	820	1.8024	0.3722	1 478		2.3531	0.5698	1 929	2.4109	0.5614	1 976
		Measuring, Optics	1 137	1.1252	0.1067	1 280		1.2448	0.1650	1 416	1.3706	0.1719	1 555
		Polymers	617	1.4348	0.1570	885		1.5723	0.1483	970	1.5558	0.1433	960
		Pure & Applied Organic Chemistry	1 840	1.7489	0.4082	3 217		2.3500	0.5851	4 323	2.5019	0.5664	4 602
		Telecommunications	1 317	1.1923	0.0813	1 570		1.2451	0.1529	1 640	1.3387	0.1851	1 763
		Vehicles & General Technology	898	1.1089	0.1037	996		1.2035	0.1227	1 081	1.2372	0.1362	1 111
		Total	15 318			19 966				23 805			25 135
		LCL				16 441				16 115			17 299
		UCL				23 492				31 496			32 971
First	Euro-PCT-IP	Audio, Video & Media	381	0.9019	0.1715	344		0.9479	0.1089	361	1.0124	0.0734	386
		Biotechnology	560	1.8260	0.4544	1 023		1.2310	0.1912	690	1.4394	0.2779	806
		Civil Engineering & Thermodynamics	418	1.0331	0.1085	432		1.2496	0.1703	523	1.3102	0.2021	548
		Computer	469	1.1401	0.3502	535		1.1401	0.3502	535	1.1401	0.3502	535
		Electricity & Electrical Machines	580	1.5361	0.1835	892		1.4736	0.2302	855	1.5428	0.2330	896
		Electronics	337	1.5160	0.2367	511		1.3911	0.2821	469	1.5842	0.3094	534
		Handling and Processing	502	0.9561	0.1026	480		1.1047	0.1086	555	1.1443	0.1605	575
		Human Necessities	701	1.3410	0.2514	940		1.3544	0.2447	949	1.4843	0.2522	1 041
		Industrial Chemistry	538	1.7123	0.5720	921		1.0528	0.2087	566	1.0435	0.2120	561
		Measuring, Optics	442	1.3465	0.3315	595		1.1278	0.3966	498	1.0986	0.3911	485
		Polymers	355	0.8874	0.1454	315		1.0171	0.1119	361	1.0271	0.1634	364
		Pure & Applied Organic Chemistry	981	1.7667	0.4896	1 733		1.1135	0.0775	1 092	1.2323	0.1392	1 208
		Telecommunications	462	1.0783	0.0865	498		1.0395	0.1081	480	1.0580	0.1035	489
		Vehicles & General Technology	412	1.2989	0.1340	536		1.3997	0.1633	577	1.4752	0.1862	608
		Total	7 139			9 754				8 512			9 037
		LCL				6 985				7 475			7 820
		UCL				12 523				9 549			10 253

Table 27: Forecasts for EPO filings at the EPO – Random group (first filings, broken down by joint cluster)

Random group
Breakdown by EPO joint cluster
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
*Average growth rate and standard error

			Year										
			2004	2005				2006			2007		
Filing type	Filing route	Cluster	Actual filings	Q-index 05	S.E. 05	Predicted filings	Actual filings	Q-index 06	S.E. 06	Predicted filings	Q-index 07	S.E. 07	Predicted filings
Subsequent	Euro-direct	Audio, Video & Media	2 844	0.9714	0.1361	2 763		1.1902	0.1251	3 385	1.1981	0.1506	3 408
		Biotechnology	827	0.8984	0.0806	743		1.0241	0.0739	847	1.0649	0.0796	881
		Civil Engineering & Thermodynamics	4 502	0.9868	0.1005	4 442		1.0475	0.1169	4 716	1.1029	0.1280	4 965
		Computer	2 380	0.9716	0.1404	2 313		1.0592	0.1260	2 521	1.1009	0.1289	2 621
		Electricity & Electrical Machines	3 957	0.9946	0.0468	3 936		1.0359	0.0694	4 100	1.0786	0.0816	4 268
		Electronics	2 551	1.0023	0.0493	2 557		1.0874	0.0953	2 774	1.1408	0.1025	2 911
		Handling and Processing	4 583	0.8722	0.1309	3 997		0.9561	0.1326	4 381	1.0499	0.1329	4 811
		Human Necessities	4 762	1.0377	0.0547	4 941		1.0788	0.0625	5 137	1.1349	0.0751	5 404
		Industrial Chemistry	2 422	0.9172	0.0756	2 222		0.9846	0.0792	2 385	0.9936	0.0783	2 407
		Measuring, Optics	2 652	1.0587	0.0598	2 808		1.1202	0.1136	2 971	1.2400	0.1172	3 289
		Polymers	1 489	0.9116	0.0923	1 358		0.9605	0.0979	1 430	0.9173	0.1145	1 366
		Pure & Applied Organic Chemistry	2 037	0.9631	0.0874	1 962		1.0726	0.0940	2 185	1.1060	0.1064	2 253
		Telecommunications	3 044	1.0126	0.0690	3 083		1.0951	0.0902	3 334	1.1125	0.0857	3 387
		Vehicles & General Technology	5 176	1.0208	0.0776	5 283		1.1171	0.0770	5 782	1.1556	0.0845	5 981
		Total	43 227			42 408				45 948			47 951
		LCL				40 277				43 385			45 030
		UCL				44 538				48 511			50 872
Subsequent	Euro-PCT-IP	Audio, Video & Media	6 166	0.8784	0.2764	5 416		0.8042	0.3712	4 959	0.8275	0.3881	5 102
		Biotechnology	9 058	1.0250	0.0657	9 284		1.0710	0.0639	9 701	1.0987	0.0672	9 951
		Civil Engineering & Thermodynamics	6 761	1.0397	0.1240	7 029		1.1764	0.1519	7 953	1.2682	0.1689	8 574
		Computer	7 591	0.7979	0.3453	6 056		0.8424	0.4242	6 394	0.8765	0.4358	6 653
		Electricity & Electrical Machines	9 386	1.1631	0.0689	10 917		1.1892	0.1012	11 162	1.2647	0.1088	11 871
		Electronics	5 456	1.1001	0.0713	6 002		1.1721	0.0964	6 395	1.2452	0.1029	6 794
		Handling and Processing	8 125	1.0656	0.0574	8 657		1.1562	0.1046	9 394	1.2395	0.1379	10 070
		Human Necessities	11 332	1.1306	0.0823	12 813		1.2394	0.0928	14 045	1.3127	0.1046	14 876
		Industrial Chemistry	8 701	1.0798	0.0581	9 395		1.1024	0.0640	9 592	1.1603	0.0646	10 096
		Measuring, Optics	7 146	1.1159	0.0747	7 974		1.0811	0.0960	7 726	1.1637	0.0961	8 315
		Polymers	5 739	1.1044	0.0504	6 338		1.1291	0.0795	6 480	1.1815	0.0901	6 780
		Pure & Applied Organic Chemistry	15 855	1.0969	0.0519	17 391		1.1168	0.0679	17 707	1.1734	0.0706	18 605
		Telecommunications	7 480	0.9156	0.1617	6 849		0.8965	0.1975	6 706	0.9149	0.2010	6 844
		Vehicles & General Technology	6 670	1.0680	0.0739	7 123		1.1171	0.0853	7 451	1.1978	0.1144	7 989
		Total	115 464			121 245				125 664			132 520
		LCL				113 870				115 858			121 529
		UCL				128 620				135 471			143 512

Table 28: Forecasts for EPO filings – Random group (subsequent filings, broken down by joint cluster)

Random group
Breakdown by EPO joint cluster
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
*Average growth rate and standard error

			Year											
			2004	2005			2006			2007				
Filing type	Filing route	Cluster	Actual filings	Q-index 05	S.E. 05	Predicted filings	Actual filings	Q-index 06	S.E. 06	Predicted filings	Q-index 07	S.E. 07	Predicted filings	
All	Euro-direct	Audio, Video & Media	4 002				4 159				5 102			5 302
		Biotechnology	1 679				2 223				2 935			3 133
		Civil Engineering & Thermodynamics	5 623				5 555				5 886			6 179
		Computer	3 448				3 573				3 952			4 116
		Electricity & Electrical Machines	5 075				5 172				5 408			5 615
		Electronics	3 599				3 750				4 206			4 505
		Handling and Processing	5 814				5 568				6 215			6 657
		Human Necessities	5 856				6 233				6 604			6 924
		Industrial Chemistry	3 242				3 699				4 314			4 383
		Measuring, Optics	3 790				4 088				4 387			4 848
		Polymers	2 106				2 243				2 400			2 326
		Pure & Applied Organic Chemistry	3 877				5 179				6 508			6 855
		Telecommunications	4 361				4 653				4 974			5 150
		Vehicles & General Technology	6 074				6 279				6 863			7 092
		Total	58 545				62 374	60 593				69 754		
LCL					58 255				61 647			64 723		
UCL					66 493				77 860			81 449		
All	Euro-PCT-IP	Audio, Video & Media	6 547				5 760				5 320			5 488
		Biotechnology	9 618				10 307				10 390			10 758
		Civil Engineering & Thermodynamics	7 179				7 461				8 476			9 123
		Computer	8 060				6 591				6 929			7 188
		Electricity & Electrical Machines	9 966				11 808				12 018			12 766
		Electronics	5 793				6 513				6 864			7 328
		Handling and Processing	8 627				9 138				9 949			10 645
		Human Necessities	12 033				13 753				14 995			15 916
		Industrial Chemistry	9 239				10 317				10 158			10 657
		Measuring, Optics	7 588				8 569				8 224			8 801
		Polymers	6 093				6 652				6 840			7 144
		Pure & Applied Organic Chemistry	16 836				19 123				18 799			19 813
		Telecommunications	7 942				7 347				7 186			7 332
		Vehicles & General Technology	7 082				7 659				8 028			8 597
		Total	122 603				130 999	131 733				134 176		
LCL					123 121				124 315			130 499		
UCL					138 877				144 037			152 616		
Grand total	Total	Audio, Video & Media	10 549				9 918				10 422			10 790
		Biotechnology	11 297				12 530				13 326			13 891
		Civil Engineering & Thermodynamics	12 802				13 017				14 362			15 302
		Computer	11 508				10 164				10 881			11 304
		Electricity & Electrical Machines	15 041				16 980				17 425			18 381
		Electronics	9 392				10 263				11 070			11 833
		Handling and Processing	14 441				14 706				16 164			17 303
		Human Necessities	17 889				19 986				21 599			22 841
		Industrial Chemistry	12 481				14 016				14 472			15 040
		Measuring, Optics	11 377				12 657				12 611			13 648
		Polymers	8 199				8 895				9 240			9 470
		Pure & Applied Organic Chemistry	20 712				24 303				25 307			26 669
		Telecommunications	12 304				12 001				12 160			12 482
		Vehicles & General Technology	13 156				13 938				14 891			15 689
		Total	181 148				193 373	192 326				203 930		
LCL					184 484				191 164			200 779		
UCL					202 262				216 695			228 508		
Growth from 2004						6.7%				12.6%			18.5%	
Implied Euro-PCT-IP						67.7%	68.5%			65.8%			65.9%	
Deviation in % of forecast						4.6%				6.3%			6.5%	

Table 29: Forecasts for EPO filings – Random group (first and subsequent filings combined, broken down by joint cluster)

7.5 Outlier correction

In this year's analysis, a new approach was tested in an effort to reduce the distortions due to outliers, i.e. answers that fall well outside the majority of values. The procedure is as follows: First, growth ratios are calculated. From these, the 5% and 95% percentiles are obtained. Each individual ratio that falls below the 5% value is then set to the 5% value, and each ratio above the 95% value is set to the 95% value. Finally, growth ratios are recalculated for the adjusted sample. The method is new and needs further development. For instance, it is not obvious how to define confidence limits within this approach. They have therefore been left out in the following tables.

Results are shown in **Table 30** to **Table 32**. The most important effect of the outlier correction in this year's survey is that the predicted growth rates are systematically lower. A possible reason for this effect could be that outliers above the 95% percentile can be arbitrarily large, whereas those below the 5% percentile cannot be less than zero. Outliers might thus tend to skew the survey results toward higher values. On the other hand, growth indices are calculated only after transformation to a logarithmic scale, which is not bounded from below. The logarithmic transformation might therefore correct for the skew. Further research is needed to clarify this point.

Biggest group
No subsidiary breakdown
Composite indices

			Year							
			2004	2005			2006		2007	
Filing type	Filing route	Res. bloc	Actual filings	Index 05	Predicted filings	Actual filings	Index 06	Predicted filings	Index 07	Predicted filings
First	Euro-direct	Total	15 318	1.1248	17 229		1.2458	19 083	1.3583	20 807
	Euro-PCT-IP	Total	7 139	1.1686	8 343		1.1784	8 413	1.2008	8 572
Subsequent	Euro-direct	Total	43 227	0.9764	42 206		1.0177	43 992	1.0417	45 030
	Euro-PCT-IP	Total	115 464	1.0766	124 309		1.1285	130 306	1.1778	135 993
All	Euro-direct	Total	58 545		59 435	60 593		63 076		65 836
	Euro-PCT-IP	Total	122 603		132 651	131 733		138 718		144 565
Grand total		Total	181 148		192 086	192 326		201 794		210 401
Growth from 2004					6.0%			11.4%		16.1%
Implied % Euro-PCT-IP			67.7%		69.1%	68.5%		68.7%		68.7%

Table 30: Forecasts for EPO filings – Biggest group, including an outlier correction

Random group
No subsidiary breakdown
Q-indices

			Year							
			2004	2005		2006		2007		
Filing type	Filing route	Res. bloc	Actual filings	Q-index 05	Predicted filings	Actual filings	Q-index 06	Predicted filings	Q-index 07	Predicted filings
First	Euro-direct	Total	15 318	1.1235	17 210		1.2497	19 143	1.3177	20 184
First	Euro-PCT-IP	Total	7 139	1.3012	9 289		1.2229	8 730	1.2539	8 952
Subsequent	Euro-direct	Total	43 227	0.9817	42 438		1.0807	46 717	1.1295	48 825
Subsequent	Euro-PCT-IP	Total	115 464	1.0526	121 541		1.1353	131 084	1.1750	135 671
All	Euro-direct	Total	58 545		59 648	60 593		65 860		69 009
All	Euro-PCT-IP	Total	122 603		130 830	131 733		139 814		144 622
Grand total		Total	181 148		190 478	192 326		205 674		213 631
Growth from 2004					5.2%			13.5%		17.9%
Implied % Euro-PCT-IP			67.7%		68.7%	68.5%		68.0%		67.7%

Table 31: Forecasts for EPO filings – Random group, including an outlier correction

Random group
Breakdown by residence bloc
Q-indices

*Average growth rate and standard error

			Year							
			2004	2005			2006		2007	
Filing type	Filing route	Res. bloc	Actual filings	Q-index 05	Predicted filings	Actual filings	Q-index 06	Predicted filings	Q-index 07	Predicted filings
First	Euro-direct	EP	13 043	1.0938	14 267		1.2085	15 762	1.2760	16 643
		JA	254	1.4420	366		1.5909	404	1.6127	410
		OT	907	1.1800*	1 070		1.3400*	1 215	1.4000*	1 270
		US	1 114	1.1197	1 247		1.2397	1 381	1.2685	1 413
		Total	15 318		16 951			18 763		19 735
First	Euro-PCT-IP	EP	2 642	1.4594	3 856		1.2235	3 233	1.2490	3 300
		JA	1 617	1.2994	2 101		1.4405	2 329	1.4529	2 349
		OT	1 489	1.3200*	1 965		1.2400*	1 846	1.2800*	1 906
		US	1 391	1.0683	1 486		1.1504	1 600	1.1991	1 668
		Total	7 139		9 408			9 008		9 223
Subsequent	Euro-direct	EP	19 140	1.0009	19 158		1.0938	20 935	1.1325	21 677
		JA	11 739	0.9474	11 122		1.0092	11 847	1.0417	12 229
		OT	3 315	0.8953	2 968		0.9327	3 092	1.0860	3 600
		US	9 033	0.9809	8 861		1.1444	10 337	1.2350	11 156
		Total	43 227		42 109			46 212		48 661
Subsequent	Euro-PCT-IP	EP	41 392	1.0325	42 737		1.0915	45 180	1.1267	46 636
		JA	18 600	1.1824	21 993		1.2618	23 469	1.3042	24 258
		OT	13 397	1.1140	14 925		1.2980	17 389	1.3334	17 863
		US	42 075	0.9887	41 601		1.1163	46 970	1.1583	48 734
		Total	115 464		121 255			133 007		137 491
All	Euro-direct	EP	32 183		33 425			36 698		38 319
		JA	11 993		11 488			12 251		12 638
		OT	4 222		4 038			4 307		4 870
		US	10 147		10 108			11 718		12 569
		Total	58 545		59 059	60 593		64 975		68 396
All	Euro-PCT-IP	EP	44 034		46 593			48 412		49 936
		JA	20 217		24 094			25 798		26 607
		OT	14 886		16 890			19 235		19 769
		US	43 466		43 087			48 570		50 402
		Total	122 603		130 663	131 733		142 015		146 714
Grand total	Total	EP	76 217		80 018			85 110		88 255
		JA	32 210		35 582			38 049		39 245
		OT	19 108		20 928			23 542		24 639
		US	53 613		53 195			60 289		62 970
		Total	181 148		189 723	192 326		206 990		215 110
Growth from 2004					4.7%			14.3%		18.7%
Implied Euro-PCT-IP					68.9%	68.5%		68.6%		68.2%

Table 32: Forecasts for EPO filings – Random group, broken down by resident bloc, including an outlier correction

7.6 Assessment of results and comparison with previous panel surveys

Bearing in mind the statistical errors resulting from the sampling methods that were used, there is a reasonable level of agreement between the results acquired for the Biggest group and those for the Random group under the different scenarios. In agreement with last year's results, it appears that the most accurate forecasts have been obtained for the Random group with no subsidiary breakdown ([Table 18](#)).

Table 33 compares the preferred forecasts derived from the surveys since 2001.

Forecasts for a given year have consistently increased from one survey to the next. There has likely been a slight increase in enthusiasm regarding filing expectations among the applicant population since 2003.

The precision of predictions from previous years' panels has been studied by comparison with actual filing numbers. **Table 34** to **Table 43** show the results for the panels from 2001 through 2004.

Actual filing numbers lie within the calculated 95% confidence limits in most cases, with a very slight exception in the case of the 2001 prediction for 2002, and stronger deviations in the 2003 predictions for 2004 and 2005, where the upper confidence limits are up to 1.5% below the actual figures. This coincides with the general trend that the 2003 and 2004 panels' predictions were rather pessimistic, whereas those from 2001 and 2002 tended to be too optimistic (**Figure 10**, **Figure 11**).

Concerning the method of generating forecasts, the best results were obtained in 2001 and 2002 by considering the Biggest group. In 2003, however, the forecast based on the Random group was, for the first time, done with no subsidiary breakdown, and this method yielded results of comparable precision (**Figure 12**).

Looking at the forecasts broken down by residence bloc, EPC results are clearly the most precise (errors below 6% or better, with the exception of the Random group-based prediction from 2001) and OT results the worst in most cases. This is probably due to the difference in sample sizes for EPC and OT.

From 2001 to 2003, predictions for Euro-direct filings improved, whereas those for Euro-PCT-IP filings generally became less precise. This may be due to the changes that appeared during this time in the economic context related to Euro-PCT-IP filings, as well as in the filing procedures.

The analysis at hand should be repeated in subsequent surveys in order to obtain sufficient data for deciding which forecasting methods yield the most reliable results.

	Forecasting year				
Survey	2003	2004	2005	2006	2007
2001	198 092				
2002	176 425	188 214			
2003	160 766	169 511	175 029		
2004	167 141 (actual)	174 456	182 833	188 957	
2005		181 148 (actual)	194 673	208 772	218 007

Table 33: Comparison of forecasts derived since 2001

	EPC	JP	US	OT	ED	PCT	TOTAL
2001	0.986863	0.817692	1.140055	0.762089	1.010412	0.977151	0.988823
2002	0.990251	0.979988	1.203389	0.750234	1.08575	1.004034	1.031301
2003	0.997976	0.962129	1.273934	0.677938	1.085482	1.020181	1.041866

Table 34: Forecasts from the 2001 panel, based on the Biggest group, divided by the numbers of actual filings

	EPC	JP	US	OT	ED	PCT	TOTAL	LCL	UCL
2001	1.127666	0.915306	1.088661	0.694822	1.017025	1.053315	1.040581	0.973541	1.107621
2002	1.149366	1.021459	1.201856	1.235834	1.100504	1.182465	1.155116	1.008356	1.301883
2003	1.177076	1.001825	1.327659	1.119115	1.107983	1.229064	1.188855	0.97411	1.403589

Table 35: Forecasts from the 2001 panel, based on the Random group, divided by the numbers of actual filings

	EPC	JP	US	OT	ED	PCT	TOTAL
2002	0.972832	1.061854	1.024316	1.031111	1.049675	0.987189	1.00804
2003	0.969785	1.070152	1.063752	1.633962	1.078037	1.088003	1.084693
2004	0.954643	0.910928	1.140115	1.527214	1.063609	1.061467	1.062159

Table 36: Forecasts from the 2002 panel, based on the Biggest group, divided by the numbers of actual filings

	EPC	JP	US	OT	ED	PCT	TOTAL	LCL	UCL
2002	0.976766	1.082072	1.039551	1.079028	1.027517	1.019706	1.022312	0.91565	1.12898
2003	1.021746	1.069087	1.125285	1.353562	1.078868	1.104293	1.09585	0.973527	1.218185
2004	1.007203	0.91217	1.184582	1.317406	1.062567	1.081711	1.075524	0.955694	1.195349

Table 37: Forecasts from the 2002 panel, based on the Random group, divided by the numbers of actual filings

	EPC	JP	US	OT	ED	PCT	TOTAL
2003	1.034498	1.01711	1.037514	0.850796	0.980771	1.029229	1.013137
2004	0.987116	0.869823	0.955515	0.788727	0.963242	0.922963	0.935981
2005	0.939001	0.796159	1.018698	0.688242	0.948254	0.883806	0.904111

Table 38: Forecasts from the 2003 panel, based on the Biggest group, divided by the numbers of actual filings

	EPC	JP	US	OT	ED	PCT	TOTAL	LCL	UCL
2003	1.000651	0.965209	0.942728	0.938749	1.01191	0.950562	0.970935	0.924645	1.01723
2004	0.996812	0.839739	0.925447	0.932751	1.019711	0.90342	0.941004	0.887595	0.994424
2005	0.964958	0.755678	1.003191	0.870223	1.018509	0.880071	0.923687	0.862333	0.985041

Table 39: Forecasts from the 2003 panel, based on the Random group broken down by residence bloc, divided by the numbers of actual filings

	ED	PCT	TOTAL	LCL	UCL
2003	0.978891	0.979334	0.979187	0.929986	1.028399
2004	0.990657	0.929325	0.949147	0.892872	1.005415
2005	0.9841	0.902184	0.927992	0.864985	0.990995

Table 40: Forecasts from the 2003 panel, based on the Random group with no subsidiary breakdown, divided by the numbers of actual filings

	EPC	JP	US	OT	ED	PCT	TOTAL
2004	0.969534	0.903539	1.020872	0.847289	0.979537	0.950817	0.960104
2005	0.94674	0.794772	1.180682	0.739343	0.977696	0.946957	0.956642

Table 41: Forecasts from the 2004 panel, based on the Biggest group, divided by the numbers of actual filings

	EPC	JP	US	OT	ED	PCT	TOTAL	LCL	UCL
2004	0.979375	0.864794	1.120997	0.908101	0.944778	1.016606	0.993398	0.872833	1.113957
2005	0.961465	0.766825	1.313637	0.916758	0.987813	1.02529	1.013483	0.85432	1.17265

Table 42: Forecasts from the 2004 panel, based on the Random group broken down by residence bloc, divided by the numbers of actual filings

	ED	PCT	TOTAL	LCL	UCL
2004	0.942711	0.972774	0.963058	0.906717	1.019393
2005	0.97093	0.941309	0.950641	0.885102	1.016186

Table 43: Forecasts from the 2004 panel, based on the Random group with no subsidiary breakdown, divided by the numbers of actual filings

Biggest group totals (breakdown by residence bloc)

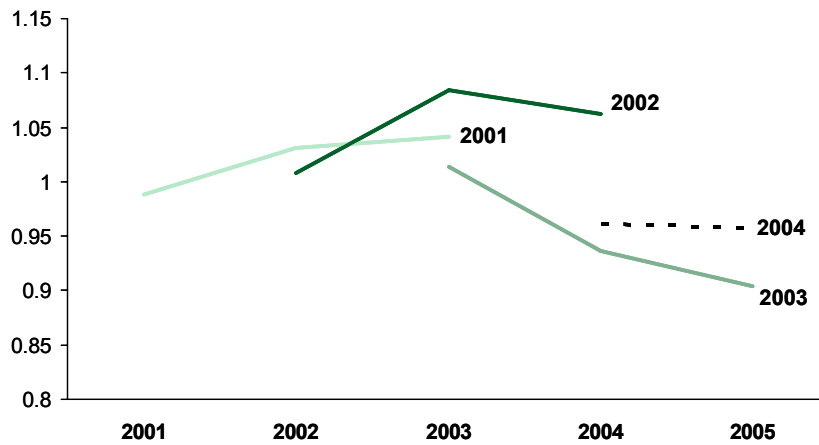


Figure 10: Ratios of forecasted and actual filing numbers for forecasts based on the Biggest group

Random group totals

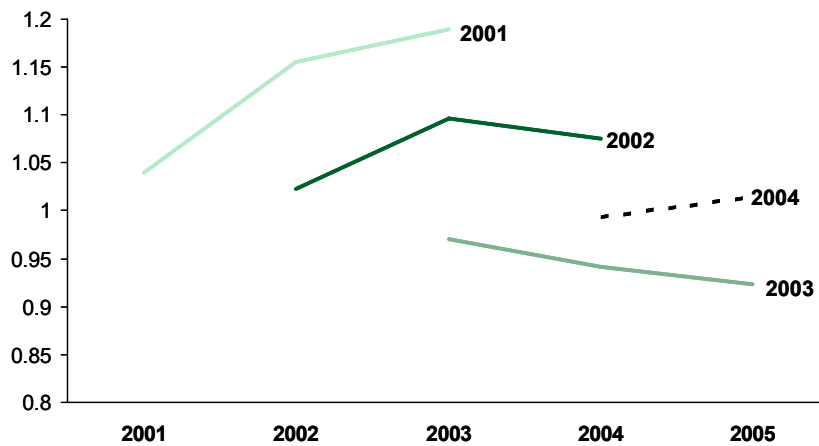


Figure 11: Ratios of forecasted and actual filing numbers for forecasts based on the Random group

Totals, 2003 panel

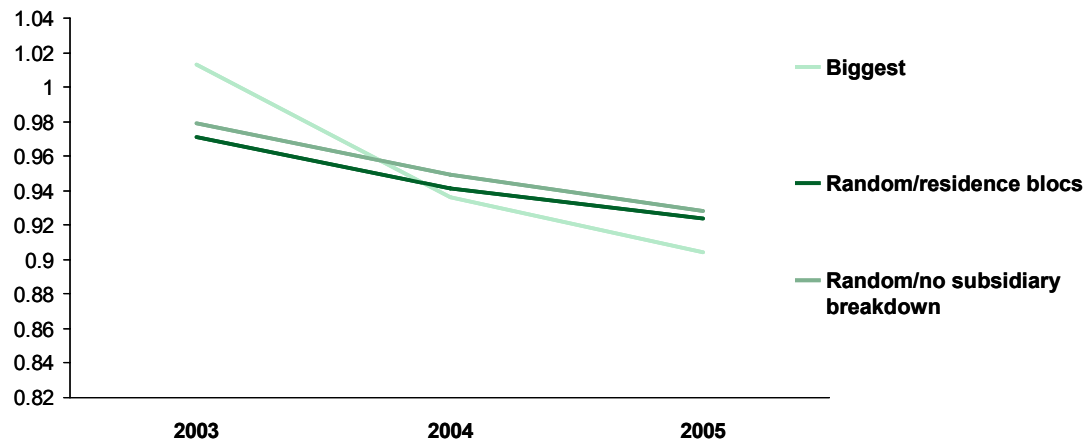


Figure 12: Ratios of forecasted and actual filing numbers for different forecast methods from the 2003 panel

8 Results 2: Forecasts for PCT regional phase applications

The results for PCT regional phase applications at EPO were obtained from question (j) in Section B of the questionnaire (**Annex I**), and are displayed in **Table 46** to **Table 52**. As in the previous analysis, the calculations were carried out using several breakdowns. **Table 44** and **Table 45** give an overview of the main results according to the different methods. **Annex IV**, **Table 63** shows the details of the results for the Biggest group, **Table 72** and **Table 73** those for the Random group. As in the case of Euro-direct and PCT-IP applications, predicted growth rates for the Biggest group are generally lower than those for the Random group.

The results show that, for the different blocs of residence, there is generally an intention to increase the numbers of filings entering the regional phase in the years 2005 to 2007, albeit with a slowdown (or even a decrease in some cases) from 2006 to 2007. Especially applicants residing in Japan are fairly positive about increasing their filings that will enter the regional phase. Their expected growth rates are the highest of all respondents (except for the biggest group for 2007, where the forecast for US residents is higher). Applicants residing in EPC countries seem to be less optimistic: their expected growth rates are the lowest in most cases.

As for Euro-direct and Euro-PCT-IP filings, the analysis was conducted starting with the Biggest group, with a calculation of the simple composite index with no subsidiary breakdown (**Table 46**), and taking into account a breakdown by residence bloc (**Table 47**).

Next, the analysis was conducted for the Random group starting with a calculation of the Q-indices taking no subsidiary breakdown into account and including all respondents. In a second step, companies with qualifying comments were excluded. The results of this analysis are shown in **Table 48** and **Table 49**. The conclusion is the same as for the Euro-direct and PCT-IP filings: cleaning the data does not reduce the standard error of the forecast.

Afterwards, the analysis was repeated for the breakdown by residence bloc. The results are shown in **Table 50** and **Table 51**. After excluding companies with qualifying comments, the standard error of the forecasts is again higher than before.

The same data were analysed with respect to the breakdown by joint cluster. As mentioned in **Section 7.3** of the report, an approximate correction factor was introduced for the standard error. This correction factor takes into account the average repetition factor of 1.91 and widens the confidence limits. **Table 52** shows the results in greater detail.

Comparing deviations of confidence limits from forecasts, the analysis without breakdown by residence bloc and including all respondents gives the best results again. Except for the breakdown by joint clusters, projected overall growth rates for PCT regional phase filings at the EPO are smaller than those for Euro-direct and PCT international phase filings.

Comparison of forecasts: Growth from 2004

Euro-PCT-RP

Deviation of confidence limits from forecast given in % of forecast

		2005		2006		2007	
Group	Breakdown	Growth rate	Deviation	Growth rate	Deviation	Growth rate	Deviation
Biggest	None	2.9%		9.4%		13.2%	
Biggest	Residence bloc	3.1%		9.6%		14.0%	
Random	None	5.1%	5.5%	12.7%	8.1%	17.1%	9.6%
Random	None (excluding companies with comments)	5.5%	5.9%	11.7%	9.0%	15.5%	10.6%
Random	Residence bloc	3.9%	6.7%	12.6%	9.1%	17.6%	11.2%
Random	Residence bloc (excluding companies with comments)	4.0%	7.1%	11.2%	10.2%	15.6%	12.3%
Random	EPO joint cluster	8.8%	5.0%	17.5%	9.0%	24.0%	14.6%

Table 44: Overview of predicted growth rates for Euro-PCT-RP applications according to different forecasting methods

Comparison of forecasts: Predicted total filings

Euro-PCT-RP

LCL/UCL indicates lower/upper 95% confidence limit

		2005			2006			2007		
Group	Breakdown	Predicted filings	LCL	UCL	Predicted filings	LCL	UCL	Predicted filings	LCL	UCL
Biggest	None	67 158			71 412			73 835		
Biggest	Residence bloc	67 266			71 538			74 384		
Random	None	68 550	64 799	72 300	73 542	67 556	79 528	76 418	69 045	83 790
Random	None (excluding companies with comments)	68 826	64 737	72 915	72 901	66 366	79 436	75 344	67 340	83 349
Random	Residence bloc	67 788	63 258	72 318	73 443	66 767	80 118	76 762	68 183	85 341
Random	Residence bloc (excluding companies with comments)	67 874	63 036	72 711	72 571	65 200	79 943	75 412	66 171	84 654
Random	EPO joint cluster	71 010	67 484	74 536	76 671	69 734	83 607	80 939	69 151	92 728

Table 45: Overview of predicted filing numbers for Euro-PCT-RP applications according to different forecasting methods

Biggest group
Breakdown by residence bloc
Composite indices

			2004	2005			2006		2007	
Patent office	Filing route	Res. bloc	Actual filings	Index 05	Predicted filings	Actual filings	Index 06	Predicted filings	Index 07	Predicted filings
EPO	Euro-PCT-RP	Total	65 249	1.0293	67 158	66 900	1.0944	71 412	1.1316	73 835
Growth from 2004					2.9%			9.4%		13.2%

Table 46: Forecasts for Euro-PCT-RP applications (no subsidiary breakdown; composite index based on Biggest group)

Biggest group
Breakdown by residence bloc
Composite indices

*Average growth rate and standard error

			2004	2005			2006		2007	
Patent office	Filing route	Res. bloc	Actual filings	Index 05	Predicted filings	Actual filings	Index 06	Predicted filings	Index 07	Predicted filings
EPO	Euro-PCT-RP	EP	29 034	0.9767	28 359		1.0100	29 323	0.9797	28 445
		JA	8 602	1.1207	9 640		1.1896	10 233	1.2436	10 698
		OT	5 138	1.0510*	5 400		1.1270*	5 791	1.1710*	6 017
		US	22 475	1.0619	23 867		1.1653	26 191	1.3004	29 225
Total			65 249		67 266	66 900		71 538		74 384
Growth from 2004					3.1%			9.6%		14.0%

Table 47: Forecasts for Euro-PCT-RP applications (breakdown by residence bloc; composite index based on Biggest group)

Random group
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

			2004	2005					2006			2007		
Patent office	Filing route	Res. bloc	Actual filings	Q-index 05	S.E. 05	Predicted filings	Actual filings	Q-index 06	S.E. 06	Predicted filings	Q-index 07	S.E. 07	Predicted filings	
EPO	Euro-PCT-RP	Total	65 249	1.0506	0.0279	68 550	66 900	1.1271	0.0415	73 542	1.1712	0.0491	76 418	
		LCL				64 799				67 556			69 045	
		UCL				72 300				79 528			83 790	
Growth from 2004						5.1%				12.7%		17.1%		
Deviation in % of forecast						5.5%				8.1%		9.6%		

Table 48: Forecasts for Euro-PCT-RP applications (no subsidiary breakdown; Q-index based on Random group)

Random group
No subsidiary breakdown (excluding companies with qualifying comments)
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

			2004	2005						2006			2007		
Patent office	Filing route	Res. bloc	Actual filings	Q-index 05	S.E. 05	Predicted filings	Actual filings	Q-index 06	S.E. 06	Predicted filings	Q-index 07	S.E. 07	Predicted filings		
EPO	Euro-PCT-RP	Total	65 249	1.0548	0.0303	68 826	66 900	1.1173	0.0457	72 901	1.1547	0.0541	75 344		
		LCL				64 737				66 366			67 340		
		UCL				72 915				79 436			83 349		
Growth from 2004						5.5%				11.7%			15.5%		
Deviation in % of forecast						5.9%				9.0%			10.6%		

Table 49: Forecasts for Euro-PCT-RP applications (no subsidiary breakdown; excluding companies with qualifying comments; Q-index based on Random group)

Random group
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

			2004		2005				2006			2007		
Patent office	Filing route	Res. bloc	Actual filings	Q-index 05	S.E. 05	Predicted filings	Actual filings	Q-index 06	S.E. 06	Predicted filings	Q-index 07	S.E. 07	Predicted filings	
EPO	Euro-PCT-RP	EP	29 034	1.0101	0.0389	29 328		1.0465	0.0499	30 384	1.0768	0.0533	31 265	
		JA	8 602	1.1539	0.0463	9 926		1.3036	0.0591	11 214	1.3603	0.0627	11 701	
		OT	5 138	0.8216	0.3565	4 221		1.0718	0.1778	5 507	1.1916	0.1878	6 122	
		US	22 475	1.0818	0.0428	24 313		1.1719	0.1055	26 338	1.2313	0.1354	27 674	
Total		Total	65 249			67 788	66 900			73 443			76 762	
		LCL				63 258				66 767			68 183	
		UCL				72 318				80 118			85 341	
Growth from 2004						3.9%				12.6%			17.6%	
Deviation in % of forecast						6.7%				9.1%			11.2%	

Table 50: Forecasts for Euro-PCT-RP applications (broken down by residence bloc; Q-index based on Random group)

Random group
Breakdown by residence bloc (excluding companies with qualifying comments)
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

			2004	2005				2006			2007		
Patent office	Filing route	Res. bloc	Actual filings	Q-index 05	S.E. 05	Predicted filings	Actual filings	Q-index 06	S.E. 06	Predicted filings	Q-index 07	S.E. 07	Predicted filings
EPO	Euro-PCT-RP	EP	29 034	1.0149	0.0425	29 467		1.0442	0.0534	30 316	1.0681	0.0571	31 010
		JA	8 602	1.1827	0.0422	10 173		1.3192	0.0639	11 347	1.3906	0.0679	11 962
		OT	5 138	0.8119	0.3744	4 171		1.0818	0.2015	5 558	1.2246	0.2153	6 292
		US	22 475	1.0706	0.0477	24 062		1.1279	0.1212	25 350	1.1635	0.1524	26 149
		Total	65 249			67 874	66 900			72 571			75 412
		<i>LCL</i>				63 036				65 200			66 171
		<i>UCL</i>				72 711				79 943			84 654
Growth from 2004						4.0%				11.2%			15.6%
Deviation in % of forecast						7.1%				10.2%			12.3%

Table 51: Forecasts for Euro-PCT-RP applications (broken down by residence bloc; excluding companies with qualifying comments; Q-index based on Random group)

Random group
Breakdown by EPO Joint Cluster
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											
			2004		2005			2006			2007			
Patent office	Filing route	Cluster	Actual filings	Q-index 05	S.E. 05	Predicted filings	Actual filings	Q-index 06	S.E. 06	Predicted filings	Q-index 07	S.E. 07	Predicted filings	
EPO	Euro-PCT-RP	Audio, Video & Media	3 272	1.0795	0.0470	3 532		0.9553	0.3830	3 126	1.1104	0.4881	3 633	
		Biotechnology	5 050	1.0778	0.0784	5 443		1.1954	0.0811	6 037	1.0739	0.1198	5 423	
		Civil Engineering & Thermodynamics	3 568	1.1043	0.1497	3 940		1.2557	0.1782	4 480	1.3983	0.1893	4 989	
		Computer	4 031	0.9836	0.0761	3 965		0.8516	0.4417	3 433	1.0108	0.5976	4 075	
		Electricity & Electrical Machines	4 540	1.0749	0.0626	4 880		1.3401	0.1609	6 084	1.5146	0.2345	6 876	
		Electronics	2 943	1.0491	0.0827	3 087		1.3237	0.1512	3 896	1.4533	0.2301	4 277	
		Handling and Processing	4 849	1.1534	0.1431	5 593		1.1594	0.1522	5 622	1.3717	0.3303	6 651	
		Human Necessities	6 281	1.0779	0.0846	6 770		1.2786	0.1355	8 031	1.4262	0.1430	8 958	
		Industrial Chemistry	5 183	1.1173	0.0831	5 791		1.1937	0.0882	6 187	1.0564	0.1183	5 475	
		Measuring, Optics	3 795	1.0458	0.0834	3 969		1.1615	0.1618	4 408	1.3874	0.2876	5 265	
		Polymers	3 837	1.1019	0.0764	4 228		1.2250	0.1392	4 700	1.3234	0.2466	5 078	
		Pure & Applied Organic Chemistry	9 900	1.1766	0.0715	11 648		1.2282	0.0871	12 159	1.1110	0.1336	10 999	
		Telecommunications	4 174	0.9669	0.0888	4 036		0.9593	0.2143	4 004	1.0419	0.2726	4 349	
		Vehicles & General Technology	3 826	1.0790	0.0911	4 128		1.1774	0.1025	4 505	1.2782	0.1169	4 890	

Table 52: Forecasts for Euro-PCT-RP applications (broken down by joint cluster; Q-index based on Random group)

9 Results 3: Forecasts for national applications by country (national filings and PCT national phase filings)

Intentions regarding future patent filings at national offices were obtained for questions (c) to (i) and (k) to (m) in **Section B** of the questionnaire (**Annex I**). Forecast filing numbers were calculated to the extent that detailed figures were available for the base year (2004), i.e. for JPO and USPTO. The results are shown in **Table 53** to **Table 56**. For offices where no information was available on the breakdowns of total numbers of filings in the base year by first and subsequent filings, and PCT national phase applications, an analysis was made for combined filings, leaving in only those respondents for each filing type that gave information on filing for all years. This seemed to give inconsistent results, at least for the German and UK patent offices, due to sample selection effects. Analyses based on combined filings were therefore not included in this report. Detailed results on Q-indices and standard errors for the different filing types separately can be found in **Table 74** and **Table 75** in **Annex IV**, including France, Germany and the UK.

In cases where the samples were too small (5 respondents or less) to directly calculate a growth index, the overall growth rates from **Table 18** were used instead. The associated standard errors were replaced by weighted means (rounded) of those given in **Table 18**. These values are marked with an asterisk (*) in the following tables.

Note that the data for applications at *national* offices presented in this section cover a different population than that represented by the samples surveyed in this report, which are based on EPO filings. Nevertheless, growth indices presented in this section and in the related tables in **Annex IV** were calculated using the data from the survey at hand, and only the figures for the base year (2004) were obtained from the respective national offices. Forecasts should therefore be used with caution.

For overall numbers of first and subsequent filings, only moderate growth is predicted. On the other hand, PCT national phase filings are predicted to grow at about the same rate as Euro-direct and PCT international phase filings at the EPO.

Random group
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
*Average growth rate and standard error

				Year											
				2004	2005				2006			2007			
Patent office	Filing type	Filing route	Res. bloc	Actual filings	Q-index 05	S.E. 05	Predicted filings	Actual filings	Q-index 06	S.E. 06	Predicted filings	Q-index 07	S.E. 07	Predicted filings	
Japan	First	National	EP	827	0.9754	0.0596	807		1.0269	0.0547	849	1.0378	0.0445	858	
			JA	338 812	1.0089	0.0155	341 839		1.0336	0.0204	350 199	1.0399	0.0227	352 345	
			OT	1 305	1.0740*	0.0350*	1 402		1.1350*	0.0410*	1 481	1.1870*	0.0460*	1 549	
			US	1 844	1.1404	0.0656	2 103		1.2584	0.1033	2 321	1.2833	0.1064	2 366	
			Total	342 788			346 150				354 850			357 119	
			LCL				335 754				340 868			341 452	
			UCL				356 545				368 833			372 786	
	Subsequent	National	EP	4 862	0.9786	0.1184	4 758		1.1827	0.0869	5 750	1.2372	0.0986	6 015	
			JA	23 300	1.0327	0.0806	24 063		1.0986	0.1116	25 597	1.1618	0.1262	27 069	
			OT	5 864	1.3615	0.1217	7 984		1.5905	0.0976	9 326	1.7530	0.1726	10 280	
			US	6 230	0.9539	0.1008	5 943		0.9283	0.0995	5 783	1.0255	0.1038	6 389	
			Total	40 256			42 748				46 458			49 753	
			LCL				38 170				40 342			41 902	
			UCL				47 326				52 573			57 605	
	Grand total	Total	EP	5 689			5 565					6 600			6 874
			JA	362 112			365 901				375 797			379 415	
			OT	7 169			9 386				10 808			11 829	
			US	8 074			8 046				8 104			8 755	
			Total	383 044			388 897				401 308			406 873	
			LCL				377 539				386 046			389 348	
			UCL				400 256				416 570			424 397	
Growth from 2004						1.5%				4.8%			6.2%		
Deviation in % of forecast						2.9%				3.8%			4.3%		

Table 53: Forecasts for national filings in Japan (excluding PCT) – Random group

Random group
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
*Average growth rate and standard error

			2004	2005				2006			2007		
Patent office	Filing route	Res. bloc	Actual filings	Q-index 05	S.E. 05	Predicted filings	Actual filings	Q-index 06	S.E. 06	Predicted filings	Q-index 07	S.E. 07	Predicted filings
Japan	PCT National	EP	15 827	1.0193	0.0617	16 132		1.0485	0.0939	16 594	1.0535	0.0977	16 674
		JA	6 304	1.2949	0.0970	8 163		1.5378	0.1146	9 694	1.7359	0.1436	10 943
		OT	2 985	1.0740*	0.0350*	3 206		1.1350*	0.0410*	3 388	1.1870*	0.0460*	3 543
		US	14 921	1.0214	0.0590	15 241		1.1399	0.1509	17 009	1.1723	0.1869	17 492
		Total	40 037			42 742				46 685			48 652
		LCL	39 670							40 319			40 682
		UCL	45 814							53 051			56 621
Growth from 2004						6.8%				16.6%			21.5%
Deviation in % of forecast						7.2%				13.6%			16.4%

Table 54: Forecasts for PCT national phase filings in Japan – Random group

Random group
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
*Average growth rate and standard error

				Year											
				2004	2005				2006			2007			
Patent office	Filing type	Filing route	Res. bloc	Actual filings	Q-index 05	S.E. 05	Predicted filings	Actual filings	Q-index 06	S.E. 06	Predicted filings	Q-index 07	S.E. 07	Predicted filings	
Japan	First	National	EP	827	0.9754	0.0596	807		1.0269	0.0547	849	1.0378	0.0445	858	
			JA	338 812	1.0089	0.0155	341 839		1.0336	0.0204	350 199	1.0399	0.0227	352 345	
			OT	1 305	1.0740*	0.0350*	1 402		1.1350*	0.0410*	1 481	1.1870*	0.0460*	1 549	
			US	1 844	1.1404	0.0656	2 103		1.2584	0.1033	2 321	1.2833	0.1064	2 366	
			Total	342 788			346 150				354 850			357 119	
			LCL			335 754			340 868			341 452			
			UCL			356 545			368 833			372 786			
	Subsequent	National	EP	4 862	0.9786	0.1184	4 758		1.1827	0.0869	5 750	1.2372	0.0986	6 015	
			JA	23 300	1.0327	0.0806	24 063		1.0986	0.1116	25 597	1.1618	0.1262	27 069	
			OT	5 864	1.3615	0.1217	7 984		1.5905	0.0976	9 326	1.7530	0.1726	10 280	
			US	6 230	0.9539	0.1008	5 943		0.9283	0.0995	5 783	1.0255	0.1038	6 389	
			Total	40 256			42 748				46 458			49 753	
			LCL			38 170			40 342			41 902			
			UCL			47 326			52 573			57 605			
	Grand total	Total	EP	5 689			5 565				6 600			6 874	
			JA	362 112			365 901				375 797			379 415	
			OT	7 169			9 386				10 808			11 829	
			US	8 074			8 046				8 104			8 755	
			Total	383 044			388 897				401 308			406 873	
			LCL			377 539			386 046			389 348			
			UCL			400 256			416 570			424 397			
Growth from 2004						1.5%				4.8%			6.2%		
Deviation in % of forecast						2.9%				3.8%			4.3%		

Table 55: Forecasts for national filings in the United States (excluding PCT) – Random group

Random group
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

			2004	2005				2006			2007			
Patent office	Filing route	Res. bloc	Actual filings	Q-index 05	S.E. 05	Predicted filings	Actual filings	Q-index 06	S.E. 06	Predicted filings	Q-index 07	S.E. 07	Predicted filings	
US	PCT National	EP	18 009	1.0160	0.0465	18 297		1.0831	0.0763	19 506	1.0991	0.0859	19 793	
		JA	8 752	1.2210	0.0651	10 686		1.2602	0.0705	11 029	1.3483	0.0661	11 801	
		OT	6 574	1.0643	0.1325	6 997		1.0921	0.1655	7 180	1.3137	0.1578	8 636	
		US	3 894	1.0722	0.0693	4 175		1.2031	0.0805	4 685	1.2333	0.1129	4 803	
		<i>Total</i>		<i>Total</i>	<i>37 229</i>			<i>40 155</i>			<i>42 399</i>			<i>45 033</i>
		<i>LCL</i>				<i>37 261</i>				<i>38 260</i>			<i>40 328</i>	
		<i>UCL</i>				<i>43 050</i>				<i>46 539</i>			<i>49 738</i>	
Growth from 2004						7.9%				13.9%			21.0%	
Deviation in % of forecast						7.2%				9.8%			10.4%	

Table 56: Forecasts for PCT-National Phase filings in the United States – Random group

10 Results 4: Analysis of R&D budgets (Random group)

In **Section C** of the questionnaire, applicants were asked to provide more detailed information about their R&D budget, the number of inventions considered for patenting, and the number of first patent filings in 2004 throughout the world, split by joint cluster. Questions regarding the R&D budget specifically addressed the approximate size of the R&D budget used for working on activities that might lead to patent applications, and the percentage of the R&D budget that was spent before the point of decision on patenting. To provide a representative result for EPO applicants, the analysis is based on the Random group only. As opposed to last year's report, all statistics are now calculated per first patent filing. Bearing in mind the low number of responses and the resulting skewness of the data, the median is introduced as a more stable average parameter in terms of statistics. The last row of **Table 57** contains the mean and the median of an "average cluster", calculated as the average of all clusters, weighted by the number of interviewees belonging to the clusters. Even for the average cluster, means and medians differ greatly, which reflects the skewness of the size distribution of the applicant population.

It is quite obvious that the results differ among the joint clusters, and fall into a wide range. The high standard errors should be taken into account when interpreting the following results, as should the fact that sample sizes vary from one column to the next.

Before analysing **Section C** of the questionnaire, the answers given for the R&D budget had to be recalculated to EUR. The exchange rate as of 1 August 2005 was applied to the applicants' R&D budget. **Table 57** shows the main statistics for the responses regarding activities in various sectors.

In **Section C**, respondents were asked to allocate their information on R&D budgets, inventions and first patent filings to the specific joint clusters. Therefore, no artificial multiplication of data occurs in the analysis for this section, and no correction factor is necessary. If a company provided only total figures without indicating any cluster breakdown, this case was omitted from the respective analysis. If the company provided only total R&D budgets, but ticked at least the clusters it is active in, then the total figures were distributed among these clusters equally or according to the number of inventions/first filings (if provided).

Random group
Activities in various sectors
Breakdown by joint cluster

Residence bloc	Joint cluster	Statistics	Approximate size of R&D budget used for working on activities that might lead to patent applications per first patent filing [EUR]	R&D budget that was spent before the point of decision on patenting per first patent filing [EUR]	Number of inventions that led to consider making a patent application per first patent filing	First patent filings worldwide
Total	Audio, Video & Media	N	11	6	13	21
		MIN	0	2 173	1.0	0
		MAX	3 333 333	1 333 333	7.8	1 144
		MEAN	1 191 491	396 825	2.3	149
		MEDIAN	204 951	121 529	1.5	13
		SE	406 927	225 630	0.5	63
	Biotechnology	N	40	28	49	70
		MIN	27 498	4 950	0.2	0
		MAX	16 499 000	10 333 333	4.0	1 522
		MEAN	1 987 824	1 213 548	1.6	59
		MEDIAN	609 381	195 926	1.4	9
		SE	522 323	494 132	0.1	26
	Civil Engineering & Thermodynamics	N	38	31	46	66
		MIN	6 000	136	0.8	0
		MAX	8 700 000	1 400 000	3.5	1 522
		MEAN	541 148	199 902	1.4	57
		MEDIAN	177 997	60 000	1.3	6
		SE	229 251	64 923	0.1	26
	Computer	N	11	5	13	26
		MIN	10 583	5 000	1.0	0
		MAX	9 428 000	1 333 333	7.8	2 482
		MEAN	1 516 671	447 223	2.0	263
		MEDIAN	354 077	206 238	1.4	8
		SE	844 989	253 502	0.5	121
	Electricity & Electrical Machines	N	29	14	38	55
		MIN	676	2 609	1.0	0
		MAX	13 179 985	11 861 987	7.8	1 800
		MEAN	1 679 178	2 089 668	1.7	190
		MEDIAN	519 293	213 275	1.4	16
		SE	590 336	1 059 675	0.2	58
	Electronics	N	29	17	27	40
		MIN	10 434	664	1.0	0
		MAX	6 599 600	2 532 858	14.0	3 000
		MEAN	989 980	424 743	2.0	226
		MEDIAN	400 000	50 692	1.4	9
		SE	282 660	180 437	0.5	96
	Handling and Processing	N	25	17	40	52
		MIN	25 000	10 176	0.8	0
		MAX	3 440 860	1 333 333	5.7	1 522
		MEAN	589 669	164 959	1.5	56
		MEDIAN	228 969	36 635	1.2	5
		SE	185 099	80 349	0.1	30
	Human Necessities	N	34	26	49	61
		MIN	10 000	516	0.0	0
		MAX	10 333 333	10 333 333	5.1	720
		MEAN	932 147	626 683	1.6	57
		MEDIAN	453 958	88 420	1.3	12
		SE	315 815	393 339	0.1	16
	Industrial Chemistry	N	37	21	46	60
		MIN	36 635	2 442	0.9	0
		MAX	8 700 000	6 078 860	3.0	250
		MEAN	1 125 745	660 747	1.4	45
		MEDIAN	607 143	210 362	1.3	12
		SE	299 878	291 299	0.1	9
	Measuring, Optics	N	23	11	33	43
		MIN	61 058	6 180	0.2	0
		MAX	4 300 052	1 108 333	7.8	456
		MEAN	845 533	322 431	1.8	41
		MEDIAN	653 846	247 485	1.3	10
		SE	197 395	101 105	0.2	13
	Polymers	N	18	6	24	35
		MIN	20 624	8 532	0.0	0
		MAX	5 499 667	2 749 833	25.0	300
		MEAN	1 020 407	695 268	2.5	51
		MEDIAN	470 012	225 428	1.3	13
		SE	341 046	436 911	1.0	14
	Pure & Applied Organic Chemistry	N	24	11	32	49
		MIN	6 513	4 694	0.9	0
		MAX	17 063 467	16 210 293	4.0	1 545
		MEAN	3 043 975	1 831 668	1.5	91
		MEDIAN	1 433 462	434 783	1.3	17
		SE	892 512	1 443 617	0.1	33
	Telecommunications	N	24	13	35	48
		MIN	11 272	3 382	1.0	0
		MAX	6 599 600	3 799 288	7.8	1 521
		MEAN	1 488 968	1 085 542	2.0	212
		MEDIAN	800 383	728 571	1.5	39
		SE	340 940	315 622	0.3	49
	Vehicles & General Technology	N	44	27	71	87
		MIN	287	0	0.8	0
		MAX	2 571 099	1 000 000	6.8	3 496
		MEAN	630 544	206 644	1.9	165
		MEDIAN	320 284	27 147	1.5	23
		SE	109 724	58 642	0.1	47
Total	Average cluster	N	387	233	516.0	713
		MEAN	1 213 717	694 426	1.7	110.75
		MEDIAN	513 629	168 906	1.4	13.97

Table 57: Main statistics for activities in various sectors – Random group

Figure 13 provides an overview of the average R&D budget spent per company in the different joint clusters for activities that might lead to a patent application in 2004. The joint clusters are listed in descending order, so that the joint cluster with the highest mean R&D budget appears first.

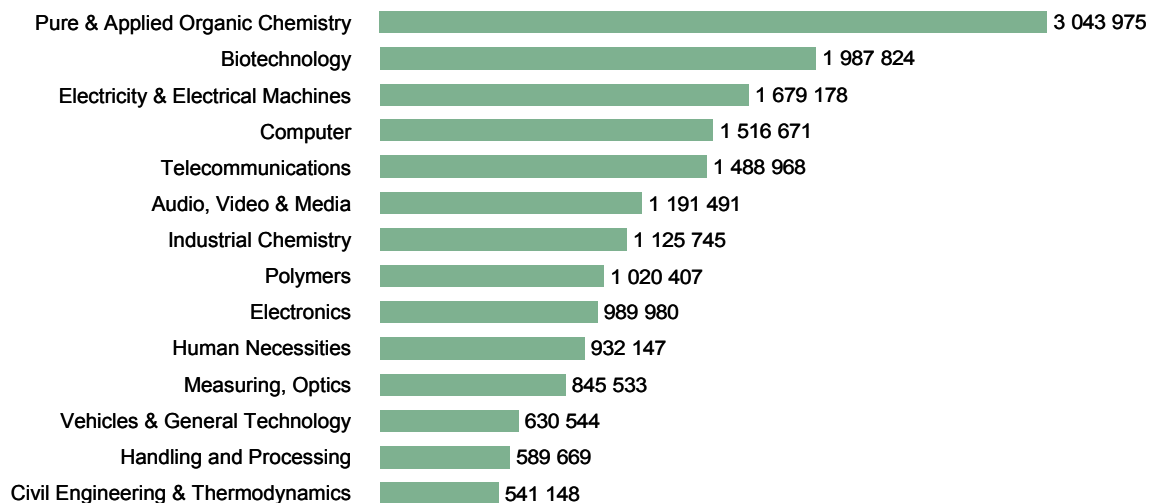


Figure 13: 2004 R&D budget ([EUR] per company) that might lead to a patent application, divided by numbers of first patent filings, broken down by joint cluster – Random group

Companies allocated to the cluster Pure and Applied Organic Chemistry use the highest R&D budgets per first patent filing (more than EUR 3 m) for activities that might lead to patent applications. Handling and Processing, and Civil Engineering & Thermodynamics use the lowest budgets per patent (less than EUR 600 000).

Taking into account the share of the R&D budget that was spent before a decision was made on patenting in 2004 yields a different ranking (**Figure 14**).

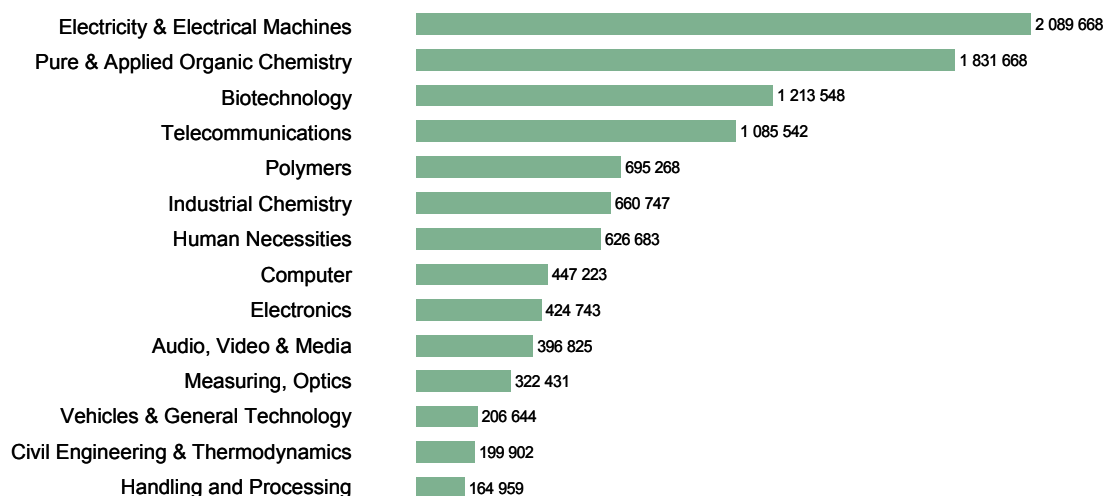


Figure 14: 2004 R&D budget spent per first patent filing ([EUR] per company) before making a decision on patenting – Random group

The companies in the cluster Electricity & Electrical Machines spent more than EUR 2 m per patent before a decision was made in 2004, while companies belonging to Civil Engineering & Thermodynamics or Handling and Processing spent less than EUR 200 000 per patent.

Figure 13 and **Figure 14** show that the R&D budget per patent spent before the point of decision on patenting is, on average, smaller than the total R&D budget per patent spent for activities that might lead to patent applications. However, for the cluster Electricity & Electrical Machines, the mean R&D budget per first patent filing spent before making a decision on patenting was actually higher than the mean of the overall R&D budget per first patent filing that might lead to a patent application. This clearly illustrates a problem that actually concerns all the results displayed in **Table 57**. Since only very few respondents filled in all the answers in this part of the Questionnaire, samples differ between questions. Results from different questions can therefore only be compared circumspectly with each other because of the strong sampling bias. Taking into account only those respondents who provided information on all questions would reduce the sample sizes given in **Table 57** by approximately 50%.

The numbers of inventions per first patent filing that led the companies to consider filing patent applications (**Figure 15**) yield yet another ranking.

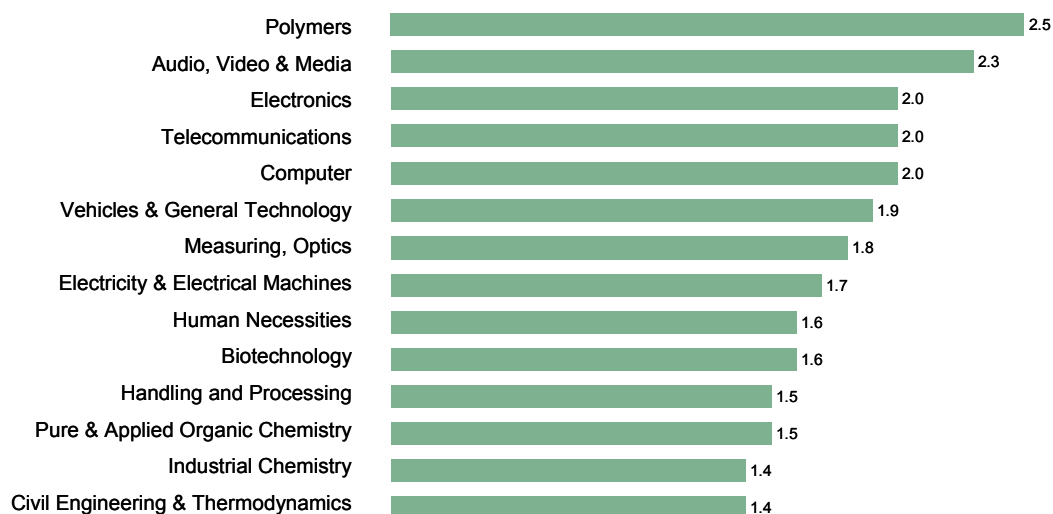


Figure 15: Number of inventions in 2004 (per company) that led to considering patenting, divided by the number of first patent filings – Random group

Here, results are very similar for all joint clusters. The companies in the Polymers and the Audio, Video & Media joint clusters lead with more than 2 inventions per first patent filing on average in 2004. Industrial Chemistry and Civil Engineering & thermodynamics companies have the lowest figures, considering less than 1.5 inventions for a patent application per patent actually filed.

The last column of **Table 57** and **Figure 16** provide an overview of the absolute numbers of first patent filings. Electronics related joint clusters lead with between approximately 150 to over 250 first patent filings per company per year, whereas chemistry or biology related companies count less than 100 first patent filings per year on average. Comparing the last column of **Table 57** with last year's results, the most striking difference is that standard errors are approximately one order of magnitude smaller this year.¹ Last year's results were Poisson weighted. Outliers with strong weighting factors can indeed significantly increase standard errors. While means and minima have not changed much, maxima have generally increased, and medians have changed by an order of magnitude in some cases.

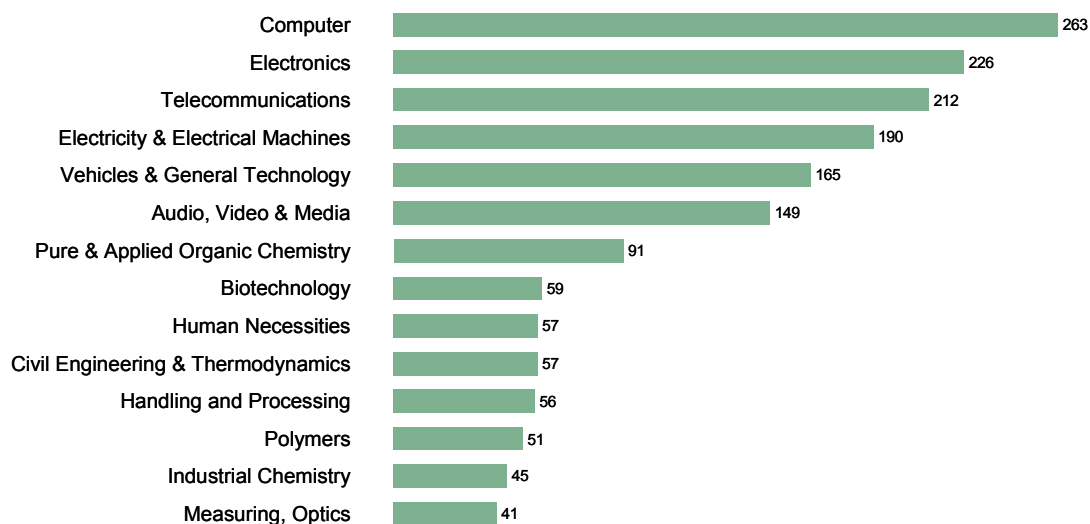


Figure 16: Averages of absolute numbers of first filings per company – Random group

¹ In last year's report, standard deviations were given instead of standard errors. Since sample sizes are given, standard errors can be reconstructed.

In **Section D** of the questionnaire, respondents were asked about the time lag between initial expenditure on R&D and the first patent filing. In order to obtain a representative analysis, the statistics are based on the Random group. The number of valid cases is also shown for each statistic. For each variable, the main statistics were calculated for a breakdown by residence bloc (**Table 58**) and by joint cluster (**Table 59**). Bearing in mind the low number of responses and the resulting skewness of the data, the median is introduced as a more stable average parameter in terms of statistics. However, the results are still distorted due to the low number of responses. Therefore, it was decided to present weighted mean values, proceeding as previously discussed in **Section 5.4**, as opposed to last year's report, where Poisson weighting was applied. Despite this difference, results are very similar in both years. The last row of the table contains the mean and the median of an "average region", calculated as the average of all blocs and weighted by the number of interviewees belonging to each bloc.

Random group
Other matters
Breakdown by residence bloc

Residence bloc	Statistics	Average time between initial expenditure on R&D that might lead to patent applications and the first patent filing [months]
EP	N	272
	MIN	1
	MAX	72
	MEAN	14
	MEDIAN	12
	SE	1
JA	N	60
	MIN	1
	MAX	48
	MEAN	13
	MEDIAN	12
	SE	1
OT	N	13
	MIN	1
	MAX	36
	MEAN	13
	MEDIAN	12
	SE	1
US	N	89
	MIN	2
	MAX	60
	MEAN	14
	MEDIAN	12
	SE	1
Average region	MEAN	14
	MEDIAN	12

Table 58: Average time between initial R&D expenditure and first patent filing, broken down by residence bloc – Random group; weighted

The results for the different blocs are quite similar, and means and medians are close to each other. On average, the time lag between initial expenditure on R&D that might lead to patent applications and the first patent filings is about 12 to 14 months.

Random group
Other matters
Breakdown by joint cluster

Joint cluster	Statistics	Average time between initial expenditure on R&D that might lead to patent applications and the first patent filing [months]
Audio, Video & Media	N MIN MAX MEAN MEDIAN SE	26 1 36 9 12 1
Biotechnology	N MIN MAX MEAN MEDIAN SE	63 2 60 18 9 2
Civil Engineering & Thermodynamics	N MIN MAX MEAN MEDIAN SE	71 2 48 13 12 1
Computer	N MIN MAX MEAN MEDIAN SE	23 2 36 11 12 1
Electricity & Electrical Machines	N MIN MAX MEAN MEDIAN SE	54 1 60 12 12 1
Electronics	N MIN MAX MEAN MEDIAN SE	52 1 60 11 9 1
Handling and Processing	N MIN MAX MEAN MEDIAN SE	60 1 36 11 9 1

Joint cluster	Statistics	Average time between initial expenditure on R&D that might lead to patent applications and the first patent filing [months]
Human Necessities	N MIN MAX MEAN MEDIAN SE	60 1 72 10 6 2
Industrial Chemistry	N MIN MAX MEAN MEDIAN SE	56 2 36 12 12 1
Measuring, Optics	N MIN MAX MEAN MEDIAN SE	44 2 60 26 24 3
Polymers	N MIN MAX MEAN MEDIAN SE	40 2 36 12 9 1
Pure & Applied Organic Chemistry	N MIN MAX MEAN MEDIAN SE	49 2 48 12 15 1
Telecommunications	N MIN MAX MEAN MEDIAN SE	43 2 60 10 6 1
Vehicles & General Technology	N MIN MAX MEAN MEDIAN SE	86 2 36 9 6 1
Average cluster	N MEAN MEDIAN	727 13 10

Table 59: Average time between initial R&D expenditure and first patent filing, broken down by joint cluster – Random group; weighted

These results are remarkably homogeneous when comparing different joint clusters. Only those for Measuring, Optics stand out, with a significantly longer time lag between initial R&D expenditure and first patent filing than for all other joint clusters. This is only the case when weighting is applied, due to several respondents which are small and therefore strongly weighted, and which take a particularly long time before filing patents.

11 Conclusions

The main results of this report were already summarized in **Section 1**. The following discussion is therefore restricted to just a few key points.

The recommended forecasting method for future filings at the EPO is that based on the Random group with no additional breakdown and including companies with qualifying comments, due to the narrower upper and lower confidence limits compared with the other methods. **Table 18** summarises the resulting forecasts.

The applicants responding to the survey in 2005 represented an appreciable percentage of applications from the total population (see **Annex VI**). There is a reasonable level of agreement between the results obtained through different forecasting methods, as well as between those based on the Biggest group and the Random group. Despite the fact that the groups do, in fact, largely overlap, this may be taken as an indication that the results should be fairly representative of future filing intentions. However, there is always the possibility that the applicants who did not respond have different intentions.

This survey was conducted in mid-2005, so for the forecasts to be valid, it must be assumed that filing intentions currently remain similar.

A small number of responses were received late, after the above-described analyses of the growth indices were conducted. They are therefore not included, but the researchers checked these cases manually. There were no heavy outliers observed that might distort the indicated results by more than a small amount.

12 Annex I: Questionnaire



APPR
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LEITER PATENTABTL
ABTEILUNG
STRASSE

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LAND

GROUP

Questionnaire

for Applicant Panel Survey on Patent Filings

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

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: _____
Phone Number: _____
E-mail-Address: _____
Organisation Name: _____
Organisation Address: _____

**B. Estimation of levels of patenting activity throughout the world for your company/
company part**

Please give information on numbers of filings in the two tables below. In case you are unable to give actual figures, please indicate anticipated yearly growth rates as percentages (i.e. 2005 compared with 2004; 2006 compared with 2005; 2007 compared with 2006).

Please indicate the numbers of first filings (priority forming) 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.

		Filed		Expected		Expected		Expected	
		2004		2005		2006		2007	
		First filings ¹	Subsequent filings	First filings ¹	Subsequent filings	First filings ¹	Subsequent filings	First filings ¹	Subsequent filings
European patent applications under the EPC (excluding PCT) (a)									
International applications under the PCT (International Phase) (b)									
National applications (excluding PCT and EPC) in	Germany (c)								
	United Kingdom (d)								
	France (e)								
	Japan (f)								
	United States ² (g)								
	Other countries (h)								
Worldwide Total First Filings (i)									

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 Including provisional filings under the columns for first filings.

Please indicate the numbers of your PCT applications which entered substantive examination at the listed offices during the last calendar year and which you expect to enter substantive examination in the present and future calendar years.

PCT applications entering substantive examination (national/regional phase) at	Entered 2004	Expected 2005	Expected 2006	Expected 2007
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)				

Do you have any specific comments to make regarding the above section B of the questionnaire?

C. Activities in various sectors for your company/company part

We are interested in classifying your activities in terms of the *Joint Cluster* organisational groupings used for examinations at the European Patent Office.

We would also like to know more detailed information on your R&D and patenting activities for each of the below mentioned areas in which you were active in 2004. Please complete the following table as far as you can.

a) Please indicate which of the following you believe contain(s) the main area(s) of your business. Please tick appropriate box(es).	b) Approximate size of your R&D budget 2004 used for working on activities that might lead to patent applications (in your national currency)	c) Percentage of your R&D budget 2004 under b) that was spent before the point of decision on patenting	d) Number of inventions 2004 where you considered making patent applications	e) Number of first patent filings that you actually made in 2004 throughout the world
1. Audio, Video and Media..... ☐				
2. Biotechnology..... ☐				
3. Civil Engineering; Thermodynamics (incl. engines and pumps)..... ☐				
4. Computers ☐				
5. Electricity and Semiconductor Technology ☐				
6. Electronics ☐				
7. Handling and Processing..... ☐				
8. Human Necessities (incl. agriculture, medical products, printing)..... ☐				
9. Industrial Chemistry ☐				
10. Measuring and Optics ☐				
11. Polymers ☐				
12. Pure and Applied Organic Chemistry (incl. pharmaceuticals)..... ☐				
13. Telecommunications ☐				
14. Vehicles; General Technology (incl. transporting mechanisms, lighting) ☐				
15. Other area..... ☐ please specify: _____				
Total				

D. Time lag until first patent filings

Please indicate the average time between initial expenditure on R&D that might lead to patent applications and the first patent filings:

Time lag: _____

E. Details of company/company part

Please indicate the nature of the entity for which you have answered the above questions in Sections A to D of this questionnaire. Tick appropriate boxes!

Type: Private enterprise.....	☐	Persons Employed: 1 – 9.....	☐
Public sector.....	☐	10 – 49.....	☐
Educational institution.....	☐	50 – 249.....	☐
Individual inventor.....	☐	250 – 999.....	☐
Other.....	☐	1 000 – 4 999.....	☐
		5 000 – 9 999.....	☐
		10 000 – 49 999.....	☐
		50 000 or more.....	☐

Countries of operation:

What is the approximate size of the sales that correspond to the activities of your company/company part throughout the world in 2004 (national currency, please specify):

F. Comments

Please comment on any matter arising from this questionnaire. Use a separate sheet for extended comments.

Thank you very much for your co-operation!

A summary of the results of the survey will be published in early 2006 under www.european-patent-office.org/aps/. We will remind you of this if you could please give us your E-mail address under Section A of this questionnaire.

13 Annex II: Comments received from participating members of the applicant panel (selection)

13.1 Comments on Section B

13.1.1 General comments on Section B

- Development is expected to remain at the same level (9 mentions)
- Difficult to provide precise figures for forecasts; data are estimates (6 mentions)
- Forecasts are not yet possible, e.g. because it is not yet clear how many substantive examinations will enter each listed office, etc. (5 mentions)

13.1.2 Individual comments on Section B

- We are moving away from PCT filings and toward direct filings with the EPO, JPO, etc. when we do foreign filings
- From our point of view, there will be no substantial increase at the EPO as long as it creates problems in achieving acceptance of patent claims in EU countries
- (We use) national proceedings often; PCT procedure depends on the commercial success of the invention, which is uncertain at present
- We see increasing use of EPC, PCT and US filings, and less so for individual European country filings
- We generally make all of our first filings at the EPO. We then proceed with national applications (primarily US). We rarely go through the PCT procedure. This applies to all applications filed on or after 1 July 2003
- We normally start with a US provisional application
- Many of our US patent applications are business methods. We do not carry them forward to Europe because the European Patent Office does not allow for business method patents
- Historically, we register only in DE/UK/FR through EPO (no direct filings); we only file in JP through PCT (no direct filings)
- We do not usually file PCT applications, and we file few European applications
- Applications for the following years cannot be predicted; there will be growth rates in China and the US, while applications in Germany will be constant
- PCT applications are filed only in case of urgency
- We generally file first in Germany or the US. We then pursue PCT or EP counterpart applications based on a variety of factors. When we enter the nationalisation stage, we usually get coverage in Germany, France, Italy, the United Kingdom and Ireland
- Table 2 (line j): The number is due to the refusal of the EPO to examine and search US biotech applications
- We now request most PCT searches in the US instead of Europe due to the lower cost. We usually do not request PCT examination because we can extend the national phase deadline without the PCT examination
- The EP filings may be substituted by PCT filings or individual countries
- EPO less than USPTO due to weak protection possibilities for software and business methods

- These are not statistics we keep or projections we make – everything depends on what is being worked on. Our normal pattern is to file US and PCT so that, by the time national phase filing is due, we have a better understanding as to the commercial benefit of the invention
- With few exceptions, all first filings are filed in the US or the UK. As of 2005: selective proceeding planned, therefore heavy decrease (new strategy). PCT national phase mainly in other countries than those listed

13.2 Comments on Section C

13.2.1 General comments on Section C

- Data are not available/not known (25 mentions)
- The data are confidential (particularly R&D budgets) (17 mentions)
- Detailed breakdown according to the specific clusters is not possible/very difficult (e.g. for public organisations) (4 mentions)

13.2.2 Individual comments on Section C

- The percentage of our R&D budget that was spent before the point of decision on patenting is very difficult to estimate and is probably on the order of 60%. This would not include development costs for commercialisations (research phase only)
- This is difficult to answer, as our R&D does not carry the development costs for IP on its budget, they are carried by project management within our R&D department and technology management of post-provisional filings. Projects carry invention development costs and not the IP centre. As we file most of our provisional applications in South Africa, where the costs are low, our budget for these filings is low. If provisional or priority filings are made in Germany or the US (our other main areas), the business carries this
- We do not understand the categories; the definition of the categories is not clear
- Our R&D budget is done by product line and is not available for this survey
- Scientific research at universities does not aim at filing patent applications. We file applications as a result of research. It is not possible to provide figures
- We are a pharmaceutical company. We file patent applications throughout the research and development phase. We simply cannot answer part C appropriately
- We do not have any annual budget. Patents are dealt with as they emerge

13.3 Comments on Section D

13.3.1 Average time between initial expenditure on R&D that might lead to patent applications and first patent filings

- The information is not available/unknown (28 mentions)
- The time span varies a lot (9 mentions)
- We start filing applications as soon as our research is officially slated for publishing

13.4 Comments on Section F

13.4.1 General comments on Section F

- Sorry that we did not answer all questions completely/the questionnaire asks for confidential information (5 mentions)
- The questionnaire is very time consuming/the questions ask for details that require extraordinary effort (4 mentions)

13.4.2 Individual comments on Section F

- The questionnaire is not really appropriate for large companies (groups) with several locations
- Questions on how the EPO could improve are missing
- We are happy to utilise the EPO. The long pendency time and high cost to nationalise are negatives. The good search quality and opposition procedure are positives
- It would help if you could identify the purpose of the survey and how data would be interpreted
- Questions C and D are difficult to answer. In my opinion, it is not necessary for the EPO to know the cost of research
- As a small company, a period of R&D is followed by a period of patenting, and then by commercialisation. We are now starting our second period of R&D while the results of the first period are commercialised
- Patent applications are too expensive for small companies
- Research on the EPO website is very time consuming. It has to be criticised that lists are cut off after 500 patents
- Patents are expensive, so many companies think twice before applying for one. Patents are not always easy to protect. Particularly countries outside the European Common Market often copy patents and cannot easily be taken to court

14 Annex III: Plausibility checks and interpretation rules

To ensure that the answers given to the questionnaire were logical and consistent, a number of plausibility rules were established:

- 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)
- The numbers in any cell under subsequent filings should be comparable (say, not more than three times higher) to the number under worldwide total first filings (line l) for the previous year
- The numbers for PCT national/regional phase applications in any cell for 2006 and 2007 (lines j, k, l or m) should be comparable (say, not more than three times higher) to the combined figures under PCT international phase first filings and subsequent filings (line b) in 2004 and 2005.
- Technical areas noted in the "other" line of Section C were allocated to one of the 14 joint clusters ex post, where possible

A set of rules was developed together with the researchers 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 provided concerning the interpretation of zero, to ensure correct interpretation where zero is given either as a figure or an indicator of no change compared with the base year.

15 Annex IV: Detailed forecasting results

The detailed results of the predictive analysis are shown below. For each forecast, the growth index is given as the cumulative index (CI) for the biggest group or as the Q- index for the random group. The number of cases that the forecast is based on and the estimated standard error of the forecast are also shown (Q-index only). In cases with less than five respondents, an average growth rate and standard error is given from [Table 18](#) for the product concerned.

Filing type	Filing route	Cases 05	Index 05	Cases 06	Index 06	Cases 07	Index 07
First	Euro-direct	65	1.188842157	60	1.420039536	58	1.521587809
First	Euro-PCT-IP	47	1.16977286	44	1.183079625	43	1.206634333
Sub	Euro-direct	127	0.985699991	113	1.031616474	109	1.063743146
Sub	Euro-PCT-IP	153	1.08618391	138	1.133425748	133	1.187538721

Table 60: Detailed forecasting results (no further breakdown) – Biggest group

Filing type	Filing route	Res. bloc	Cases 05	Index 05	Cases 06	Index 06	Cases 07	Index 07
First	Euro-direct	EP	44	1.195698529	41	1.475333601	40	1.557830922
First	Euro-direct	JA	4	1.1800*	4	1.3400*	4	1.4000*
First	Euro-direct	OT	2	1.1800*	2	1.3400*	2	1.4000*
First	Euro-direct	US	15	1.046814044	13	1.061088977	12	1.07712766
First	Euro-PCT-IP	EP	28	1.24892396	24	1.252838428	23	1.284536765
First	Euro-PCT-IP	JA	8	1.034358047	8	1.061482821	8	1.074141049
First	Euro-PCT-IP	OT	1	1.3200*	1	1.2400*	1	1.2800*
First	Euro-PCT-IP	US	10	1.237410072	11	1.251196172	11	1.279904306
Sub	Euro-direct	EP	57	0.985956113	50	1.02908905	47	1.035320914
Sub	Euro-direct	JA	38	0.940816327	37	0.995366348	37	1.032725167
Sub	Euro-direct	OT	1	0.9900*	1	1.1000*	1	1.1600*
Sub	Euro-direct	US	31	1.052880076	25	1.06240639	24	1.109945027
Sub	Euro-PCT-IP	EP	71	1.046607886	63	1.053687943	59	1.089220655
Sub	Euro-PCT-IP	JA	39	1.185468112	38	1.270972532	38	1.344283593
Sub	Euro-PCT-IP	OT	0	1.0800*	0	1.1400*	0	1.1900*
Sub	Euro-PCT-IP	US	43	1.057111139	37	1.115175044	36	1.169208574

Table 61: Detailed forecasting results broken down by residence bloc – Biggest group

Filing type	Filing route	Joint cluster	Res. bloc	Cases 05	Index 05	Cases 06	Index 06	Cases 07	Index 07
First	Euro-direct	Audio, Video & Media	Total	2	1.1800*	2	1.3400*	2	1.4000*
First	Euro-direct	Biotechnology	Total	11	1.6622	10	2.7606	10	2.8641
First	Euro-direct	Civil Engineering & Thermodynamics	Total	7	1.0342	7	1.1282	7	1.2179
First	Euro-direct	Computer	Total	2	1.1800*	2	1.3400*	2	1.4000*
First	Euro-direct	Electricity & Electrical Machines	Total	11	1.0688	10	1.0671	10	1.1040
First	Euro-direct	Electronics	Total	10	1.1718	9	1.3073	9	1.5024
First	Euro-direct	Handling and Processing	Total	7	1.0234	7	1.0526	7	1.0526
First	Euro-direct	Human Necessities	Total	8	1.0680	7	1.1777	7	1.2683
First	Euro-direct	Industrial Chemistry	Total	13	2.3836	12	4.7406	12	4.8491
First	Euro-direct	Measuring, Optics	Total	6	1.0455	7	1.1709	7	1.3266
First	Euro-direct	Polymers	Total	6	1.1444	6	1.3667	6	1.5889
First	Euro-direct	Pure & Applied Organic Chemistry	Total	13	1.5286	13	2.3569	13	2.4789
First	Euro-direct	Telecommunications	Total	9	1.2863	9	1.5145	9	1.7612
First	Euro-direct	Vehicles & General Technology	Total	10	0.8935	10	0.9655	10	1.0238
First	Euro-PCT-IP	Audio, Video & Media	Total	2	1.3200*	2	1.2400*	2	1.2800*
First	Euro-PCT-IP	Biotechnology	Total	8	1.0943	6	1.1182	5	1.2800*
First	Euro-PCT-IP	Civil Engineering & Thermodynamics	Total	5	1.3200*	6	1.2105	6	1.2982
First	Euro-PCT-IP	Computer	Total	2	1.3200*	2	1.2400*	2	1.2800*
First	Euro-PCT-IP	Electricity & Electrical Machines	Total	11	1.1903	10	1.1788	10	1.1979
First	Euro-PCT-IP	Electronics	Total	8	1.2112	7	1.1975	7	1.2204
First	Euro-PCT-IP	Handling and Processing	Total	5	1.3200*	6	1.3513	5	1.2800*
First	Euro-PCT-IP	Human Necessities	Total	7	1.1719	6	1.1842	6	1.2105
First	Euro-PCT-IP	Industrial Chemistry	Total	6	1.1159	5	1.2400*	5	1.2800*
First	Euro-PCT-IP	Measuring, Optics	Total	5	1.3200*	5	1.2400*	5	1.2800*
First	Euro-PCT-IP	Polymers	Total	7	0.9512	8	1.0385	7	1.0380
First	Euro-PCT-IP	Pure & Applied Organic Chemistry	Total	6	1.0728	5	1.2400*	4	1.2800*
First	Euro-PCT-IP	Telecommunications	Total	10	1.0793	10	1.0683	10	1.0738
First	Euro-PCT-IP	Vehicles & General Technology	Total	9	1.1293	10	1.1865	10	1.1971
Sub	Euro-direct	Audio, Video & Media	Total	13	1.0554	11	1.2002	11	1.2163
Sub	Euro-direct	Biotechnology	Total	19	0.9433	19	0.9767	18	0.9781
Sub	Euro-direct	Civil Engineering & Thermodynamics	Total	14	0.8426	13	0.8842	13	0.9255
Sub	Euro-direct	Computer	Total	12	1.1003	11	1.1077	11	1.1164
Sub	Euro-direct	Electricity & Electrical Machines	Total	24	0.9297	21	0.9508	21	0.9882
Sub	Euro-direct	Electronics	Total	22	0.9519	20	0.9775	20	1.0291
Sub	Euro-direct	Handling and Processing	Total	17	0.8844	14	0.9104	13	0.8791
Sub	Euro-direct	Human Necessities	Total	22	0.9407	20	0.9902	20	1.0282
Sub	Euro-direct	Industrial Chemistry	Total	28	0.9785	25	0.9606	24	0.9310
Sub	Euro-direct	Measuring, Optics	Total	16	1.0090	14	1.0000	14	1.0715
Sub	Euro-direct	Polymers	Total	19	0.8463	18	0.8561	17	0.7661
Sub	Euro-direct	Pure & Applied Organic Chemistry	Total	20	0.9249	20	0.9625	19	0.9457
Sub	Euro-direct	Telecommunications	Total	21	1.0105	19	1.0401	19	1.0584
Sub	Euro-direct	Vehicles & General Technology	Total	35	0.9969	34	1.0464	33	1.0675
Sub	Euro-PCT-IP	Audio, Video & Media	Total	14	0.9570	12	0.9243	12	0.9804
Sub	Euro-PCT-IP	Biotechnology	Total	30	1.0129	29	1.0160	28	1.0350
Sub	Euro-PCT-IP	Civil Engineering & Thermodynamics	Total	14	1.0463	13	1.1370	13	1.2084
Sub	Euro-PCT-IP	Computer	Total	12	1.0445	11	1.0726	11	1.1288
Sub	Euro-PCT-IP	Electricity & Electrical Machines	Total	27	1.0677	24	1.0824	24	1.1334
Sub	Euro-PCT-IP	Electronics	Total	24	1.0629	22	1.0958	22	1.1432
Sub	Euro-PCT-IP	Handling and Processing	Total	16	0.9682	13	0.9934	12	1.0232
Sub	Euro-PCT-IP	Human Necessities	Total	27	1.0336	25	1.0693	24	1.1087
Sub	Euro-PCT-IP	Industrial Chemistry	Total	32	1.0786	29	1.0887	28	1.1178
Sub	Euro-PCT-IP	Measuring, Optics	Total	18	1.0208	16	1.0194	16	1.0848
Sub	Euro-PCT-IP	Polymers	Total	26	1.0164	25	1.0623	24	1.1147
Sub	Euro-PCT-IP	Pure & Applied Organic Chemistry	Total	33	1.1169	33	1.0773	31	1.1138
Sub	Euro-PCT-IP	Telecommunications	Total	26	1.0550	24	1.0539	24	1.0963
Sub	Euro-PCT-IP	Vehicles & General Technology	Total	36	1.0162	36	1.0643	35	1.1407

Table 62: Detailed forecasting results broken down by joint cluster – Biggest group

Patent office	Res. bloc	2005		2006		2007	
		Cases 05	Index 05	Cases 06	Index 06	Cases 07	Index 07
EPO	EP	64	0.9767	54	1.0100	53	0.9797
	JA	34	1.1207	33	1.1896	33	1.2436
	OT	1	1.051*	0	1.127*	0	1.171*
	US	38	1.0619	34	1.1653	33	1.3004

Table 63: Detailed forecasting results for PCT applications entering the regional phase - Biggest group

Filing type	Filing route	Cases 05	Q-index 05	S.E. 05	Cases 06	Q-index 06	S.E. 06	Cases 07	Q-index 07	S.E. 07
First	Euro-direct	170	1.1800	0.0685	162	1.3415	0.0982	154	1.4034	0.1039
First	Euro-PCT-IP	110	1.3150	0.0757	108	1.2399	0.0445	105	1.2771	0.0485
Sub	Euro-direct	307	0.9923	0.0256	291	1.1001	0.0311	280	1.1551	0.0361
Sub	Euro-PCT-IP	377	1.0767	0.0310	359	1.1416	0.0370	345	1.1905	0.0412

Table 64: Detailed forecasting results (no further breakdown) – Random group

Filing type	Filing route	Cases 05	Q-index 05	S.E. 05	Cases 06	Q-index 06	S.E. 06	Cases 07	Q-index 07	S.E. 07
First	Euro-direct	135	1.2055	0.0793	127	1.3970	0.1157	122	1.4729	0.1223
First	Euro-PCT-IP	87	1.3774	0.0868	85	1.2688	0.0532	84	1.2946	0.0560
Sub	Euro-direct	253	0.9830	0.0272	237	1.0725	0.0328	227	1.1289	0.0380
Sub	Euro-PCT-IP	315	1.0581	0.0338	296	1.1032	0.0407	284	1.1427	0.0439

Table 65: Detailed forecasting results (no further breakdown), excluding companies with qualifying comments – Random group

Filing type	Filing route	Res. bloc	Cases 05	Q-index 05	S.E. 05	Cases 06	Q-index 06	S.E. 06	Cases 07	Q-index 07	S.E. 07
First	Euro-direct	EP	128	1.1724	0.0943	122	1.3338	0.1354	116	1.3922	0.1431
First	Euro-direct	JA	8	1.4420	0.1147	8	1.5909	0.1329	8	1.6127	0.1278
First	Euro-direct	OT	4	1.1800*	0.0700*	4	1.3400*	0.1000*	4	1.4000*	0.1000*
First	Euro-direct	US	30	1.1197	0.0594	28	1.2440	0.0648	26	1.2768	0.0644
First	Euro-PCT-IP	EP	50	1.4657	0.1135	49	1.2354	0.0634	48	1.2684	0.0701
First	Euro-PCT-IP	JA	18	1.3834	0.1423	18	1.5337	0.1535	18	1.5469	0.1641
First	Euro-PCT-IP	OT	3	1.3200*	0.0800*	2	1.2400*	0.0400*	2	1.2800*	0.0500*
First	Euro-PCT-IP	US	39	1.0683	0.0675	39	1.1504	0.0626	37	1.2040	0.0655
Sub	Euro-direct	EP	163	1.0112	0.0327	156	1.1031	0.0371	147	1.1373	0.0429
Sub	Euro-direct	JA	58	0.9484	0.0439	56	1.0092	0.0506	57	1.0417	0.0588
Sub	Euro-direct	OT	9	0.8953	0.1407	8	0.9327	0.1627	7	1.0860	0.1846
Sub	Euro-direct	US	77	1.0040	0.0764	71	1.2186	0.1005	69	1.3567	0.1131
Sub	Euro-PCT-IP	EP	194	1.0540	0.0257	185	1.0978	0.0298	176	1.1325	0.0341
Sub	Euro-PCT-IP	JA	69	1.2135	0.0729	65	1.2916	0.0840	65	1.3740	0.0924
Sub	Euro-PCT-IP	OT	9	1.1140	0.1456	9	1.2980	0.1391	7	1.3334	0.1760
Sub	Euro-PCT-IP	US	105	1.0108	0.0803	100	1.1061	0.0975	97	1.1536	0.1029

Table 66: Detailed forecasting results broken down by residence bloc – Random group

Filing type	Filing route	Res. bloc	Cases 05	Q-index 05	S.E. 05	Cases 06	Q-index 06	S.E. 06	Cases 07	Q-index 07	S.E. 07
First	Euro-direct	EP	100	1.1960	0.1085	94	1.3845	0.1584	91	1.4548	0.1669
First	Euro-direct	JA	5	1.1800*	0.0700*	5	1.3400*	0.1000*	5	1.4000*	0.1000*
First	Euro-direct	OT	3	1.1800*	0.0700*	3	1.3400*	0.1000*	3	1.4000*	0.1000*
First	Euro-direct	US	27	1.1434	0.0680	25	1.2954	0.0713	23	1.3365	0.0687
First	Euro-PCT-IP	EP	42	1.5446	0.1219	42	1.2572	0.0718	42	1.2727	0.0748
First	Euro-PCT-IP	JA	11	1.5743	0.2127	11	1.8337	0.2161	11	1.8353	0.2316
First	Euro-PCT-IP	OT	2	1.3200*	0.0800*	1	1.2400*	0.0400*	1	1.2800*	0.0500*
First	Euro-PCT-IP	US	32	1.0740	0.0827	31	1.1666	0.0756	30	1.2184	0.0771
Sub	Euro-direct	EP	136	0.9983	0.0358	126	1.0699	0.0379	119	1.1113	0.0443
Sub	Euro-direct	JA	48	0.9477	0.0517	47	1.0255	0.0577	47	1.0643	0.0672
Sub	Euro-direct	OT	7	0.8727	0.1737	7	0.9251	0.1824	6	1.0980	0.2074
Sub	Euro-direct	US	62	0.9927	0.0738	57	1.1455	0.1030	55	1.2542	0.1152
Sub	Euro-PCT-IP	EP	161	1.0345	0.0249	151	1.0559	0.0283	144	1.0884	0.0319
Sub	Euro-PCT-IP	JA	61	1.2079	0.0807	58	1.2867	0.0930	57	1.3398	0.0959
Sub	Euro-PCT-IP	OT	9	1.1140	0.1456	9	1.2980	0.1391	7	1.3334	0.1760
Sub	Euro-PCT-IP	US	84	0.9804	0.0888	78	1.0445	0.1081	76	1.0867	0.1138

Table 67: Detailed forecasting results broken down by residence bloc, excluding companies with qualifying comments – Random group

Filing type	Filing route	Res. bloc	Cases 05	Q-index 05	S.E. 05	Cases 06	Q-index 06	S.E. 06	Cases 07	Q-index 07	S.E. 07
First	Euro-direct	EP/OT	132	1.1819	0.0907	126	1.3527	0.1302	120	1.4253	0.1385
First	Euro-direct	JA	8	1.4420	0.1147	8	1.5909	0.1329	8	1.6127	0.1278
First	Euro-direct	US	30	1.1197	0.0594	28	1.2440	0.0648	26	1.2768	0.0644
First	Euro-PCT-IP	EP/OT	53	1.4319	0.1103	51	1.2245	0.0606	50	1.2546	0.0667
First	Euro-PCT-IP	JA	18	1.3834	0.1423	18	1.5337	0.1535	18	1.5469	0.1641
First	Euro-PCT-IP	US	39	1.0683	0.0675	39	1.1504	0.0626	37	1.2040	0.0655
Sub	Euro-direct	EP/OT	172	1.0075	0.0318	164	1.0977	0.0359	154	1.1358	0.0418
Sub	Euro-direct	JA	58	0.9484	0.0439	56	1.0092	0.0506	57	1.0417	0.0588
Sub	Euro-direct	US	77	1.0040	0.0764	71	1.2186	0.1005	69	1.3567	0.1131
Sub	Euro-PCT-IP	EP/OT	203	1.0555	0.0254	194	1.1026	0.0295	183	1.1366	0.0338
Sub	Euro-PCT-IP	JA	69	1.2135	0.0729	65	1.2916	0.0840	65	1.3740	0.0924
Sub	Euro-PCT-IP	US	105	1.0108	0.0803	100	1.1061	0.0975	97	1.1536	0.1029

Table 68: Detailed forecasting results broken down by residence bloc ("other" incorporated in EP) – Random group

Filing type	Filing route	Res. bloc	Cases 05	Q-index 05	S.E. 05	Cases 06	Q-index 06	S.E. 06	Cases 07	Q-index 07	S.E. 07
First	Euro-direct	EP/OT	103	1.2069	0.1041	97	1.4068	0.1519	94	1.4940	0.1612
First	Euro-direct	JA	5	1.1800*	0.0700*	5	1.3400*	0.1000*	5	1.4000*	0.1000*
First	Euro-direct	US	27	1.1434	0.0680	25	1.2954	0.0713	23	1.3365	0.0687
First	Euro-PCT-IP	EP/OT	44	1.5007	0.1189	43	1.2416	0.0686	43	1.2560	0.0713
First	Euro-PCT-IP	JA	11	1.5743	0.2127	11	1.8337	0.2161	11	1.8353	0.2316
First	Euro-PCT-IP	US	32	1.0740	0.0827	31	1.1666	0.0756	30	1.2184	0.0771
Sub	Euro-direct	EP/OT	143	0.9945	0.0349	133	1.0652	0.0367	125	1.1110	0.0434
Sub	Euro-direct	JA	48	0.9477	0.0517	47	1.0255	0.0577	47	1.0643	0.0672
Sub	Euro-direct	US	62	0.9927	0.0738	57	1.1455	0.1030	55	1.2542	0.1152
Sub	Euro-PCT-IP	EP/OT	170	1.0366	0.0246	160	1.0625	0.0281	151	1.0939	0.0317
Sub	Euro-PCT-IP	JA	61	1.2079	0.0807	58	1.2867	0.0930	57	1.3398	0.0959
Sub	Euro-PCT-IP	US	84	0.9804	0.0888	78	1.0445	0.1081	76	1.0867	0.1138

Table 69: Detailed forecasting results broken down by residence bloc ("other" incorporated in EP), excluding companies with qualifying comments – Random group

Filing type	Filing route	Joint cluster	Res. block	Cases 04	Q-index 04	S.E. 04	Cases 05	Q-index 05	S.E. 05	Cases 06	Q-index 06	S.E. 06
First	Euro-direct	Audio, Video & Media	Total	7	1.2062	0.0676	7	1.4837	0.0977	7	1.6367	0.1190
First	Euro-direct	Biotechnology	Total	29	1.7367	0.2861	27	2.4510	0.4060	27	2.6435	0.3902
First	Euro-direct	Civil Engineering & Thermodynamics	Total	25	0.9928	0.0837	24	1.0437	0.0919	23	1.0833	0.1044
First	Euro-direct	Computer	Total	5	1.1800*	0.0700*	5	1.3400*	0.1000*	5	1.4000*	0.1000*
First	Euro-direct	Electricity & Electrical Machines	Total	20	1.1064	0.0893	19	1.1707	0.1284	18	1.2050	0.1270
First	Euro-direct	Electronics	Total	22	1.1381	0.0587	23	1.3663	0.1066	23	1.5220	0.1201
First	Euro-direct	Handling and Processing	Total	17	1.2754	0.0976	17	1.4891	0.0964	16	1.4991	0.1155
First	Euro-direct	Human Necessities	Total	23	1.1809	0.0742	22	1.3408	0.0751	21	1.3894	0.0914
First	Euro-direct	Industrial Chemistry	Total	30	1.8024	0.2693	27	2.3531	0.4123	27	2.4109	0.4062
First	Euro-direct	Measuring, Optics	Total	12	1.1252	0.0772	13	1.2448	0.1194	12	1.3706	0.1244
First	Euro-direct	Polymers	Total	15	1.4348	0.1136	15	1.5723	0.1073	14	1.5558	0.1037
First	Euro-direct	Pure & Applied Organic Chemistry	Total	26	1.7489	0.2953	25	2.3500	0.4234	25	2.5019	0.4099
First	Euro-direct	Telecommunications	Total	14	1.1923	0.0589	15	1.2451	0.1107	15	1.3387	0.1339
First	Euro-direct	Vehicles & General Technology	Total	28	1.1089	0.0751	26	1.2035	0.0888	26	1.2372	0.0985
First	Euro-PCT-IP	Audio, Video & Media	Total	6	0.9019	0.1241	6	0.9479	0.0788	6	1.0124	0.0531
First	Euro-PCT-IP	Biotechnology	Total	15	1.8260	0.3288	15	1.2310	0.1383	12	1.4394	0.2011
First	Euro-PCT-IP	Civil Engineering & Thermodynamics	Total	13	1.0331	0.0785	14	1.2496	0.1232	14	1.3102	0.1463
First	Euro-PCT-IP	Computer	Total	5	1.1401	0.2534	5	1.1401	0.2534	5	1.1401	0.2534
First	Euro-PCT-IP	Electricity & Electrical Machines	Total	18	1.5361	0.1328	15	1.4736	0.1665	15	1.5428	0.1686
First	Euro-PCT-IP	Electronics	Total	14	1.5160	0.1712	14	1.3911	0.2041	14	1.5842	0.2239
First	Euro-PCT-IP	Handling and Processing	Total	13	0.9561	0.0742	15	1.1047	0.0786	14	1.1443	0.1162
First	Euro-PCT-IP	Human Necessities	Total	20	1.3410	0.1819	19	1.3544	0.1770	19	1.4843	0.1825
First	Euro-PCT-IP	Industrial Chemistry	Total	14	1.7123	0.4139	14	1.0528	0.1510	13	1.0435	0.1534
First	Euro-PCT-IP	Measuring, Optics	Total	9	1.3465	0.2399	9	1.1278	0.2870	9	1.0986	0.2830
First	Euro-PCT-IP	Polymers	Total	13	0.8874	0.1052	13	1.0171	0.0809	11	1.0271	0.1182
First	Euro-PCT-IP	Pure & Applied Organic Chemistry	Total	13	1.7667	0.3543	12	1.1135	0.0561	11	1.2323	0.1007
First	Euro-PCT-IP	Telecommunications	Total	13	1.0783	0.0626	12	1.0395	0.0782	12	1.0680	0.0749
First	Euro-PCT-IP	Vehicles & General Technology	Total	17	1.2989	0.0970	19	1.3997	0.1182	19	1.4752	0.1347
Sub	Euro-direct	Audio, Video & Media	Total	19	0.9714	0.0985	17	1.1902	0.0905	16	1.1981	0.1090
Sub	Euro-direct	Biotechnology	Total	33	0.8984	0.0583	35	1.0241	0.0534	32	1.0649	0.0576
Sub	Euro-direct	Civil Engineering & Thermodynamics	Total	43	0.9868	0.0727	39	1.0475	0.0846	40	1.1029	0.0926
Sub	Euro-direct	Computer	Total	19	0.9716	0.1016	17	1.0592	0.0912	18	1.1009	0.0932
Sub	Euro-direct	Electricity & Electrical Machines	Total	47	0.9946	0.0339	40	1.0359	0.0502	40	1.0786	0.0590
Sub	Euro-direct	Electronics	Total	42	1.0023	0.0356	37	1.0874	0.0689	36	1.1408	0.0742
Sub	Euro-direct	Handling and Processing	Total	33	0.8722	0.0947	32	0.9561	0.0959	31	1.0499	0.0962
Sub	Euro-direct	Human Necessities	Total	41	1.0377	0.0396	39	1.0788	0.0452	39	1.1349	0.0543
Sub	Euro-direct	Industrial Chemistry	Total	44	0.9172	0.0547	42	0.9846	0.0573	40	0.9936	0.0567
Sub	Euro-direct	Measuring, Optics	Total	30	1.0587	0.0433	27	1.1202	0.0822	27	1.2400	0.0848
Sub	Euro-direct	Polymers	Total	29	0.9116	0.0668	27	0.9605	0.0708	26	0.9173	0.0828
Sub	Euro-direct	Pure & Applied Organic Chemistry	Total	34	0.9631	0.0633	34	1.0726	0.0680	34	1.1060	0.0770
Sub	Euro-direct	Telecommunications	Total	36	1.0126	0.0499	32	1.0951	0.0652	33	1.1125	0.0620
Sub	Euro-direct	Vehicles & General Technology	Total	61	1.0208	0.0562	58	1.1171	0.0557	58	1.1556	0.0612
Sub	Euro-PCT-IP	Audio, Video & Media	Total	28	0.8784	0.2000	25	0.8042	0.2686	24	0.8275	0.2809
Sub	Euro-PCT-IP	Biotechnology	Total	67	1.0250	0.0475	66	1.0710	0.0462	63	1.0987	0.0486
Sub	Euro-PCT-IP	Civil Engineering & Thermodynamics	Total	38	1.0397	0.0897	38	1.1764	0.1099	37	1.2682	0.1222
Sub	Euro-PCT-IP	Computer	Total	22	0.7979	0.2499	21	0.8424	0.3070	21	0.8765	0.3153
Sub	Euro-PCT-IP	Electricity & Electrical Machines	Total	56	1.1631	0.0499	50	1.1892	0.0732	51	1.2647	0.0787
Sub	Euro-PCT-IP	Electronics	Total	50	1.1001	0.0516	46	1.1721	0.0697	46	1.2452	0.0745
Sub	Euro-PCT-IP	Handling and Processing	Total	34	1.0656	0.0415	30	1.1562	0.0757	28	1.2395	0.0998
Sub	Euro-PCT-IP	Human Necessities	Total	52	1.1308	0.0595	52	1.2394	0.0672	49	1.3127	0.0757
Sub	Euro-PCT-IP	Industrial Chemistry	Total	68	1.0798	0.0421	65	1.1024	0.0463	62	1.1603	0.0467
Sub	Euro-PCT-IP	Measuring, Optics	Total	44	1.1159	0.0541	38	1.0811	0.0695	37	1.1637	0.0695
Sub	Euro-PCT-IP	Polymers	Total	42	1.1044	0.0365	41	1.1291	0.0575	40	1.1815	0.0652
Sub	Euro-PCT-IP	Pure & Applied Organic Chemistry	Total	61	1.0969	0.0375	61	1.1168	0.0491	59	1.1734	0.0511
Sub	Euro-PCT-IP	Telecommunications	Total	47	0.9156	0.1170	45	0.8965	0.1429	45	0.9149	0.1454
Sub	Euro-PCT-IP	Vehicles & General Technology	Total	64	1.0680	0.0535	61	1.1171	0.0617	61	1.1978	0.0828

Table 70: Detailed forecasting results broken down by joint cluster – Random group

Random group
Breakdown by residence country
Q-indices

			Year			Year			Year		
			2005			2006			2007		
Residence country	Filing type	Filing route	Cases 05	Q-index 05	S.E. 05	Cases 06	Q-index 06	S.E. 06	Cases 07	Q-index 07	S.E. 07
Germany	First	Euro-direct	49	1.1934	0.1650	48	1.3861	0.2467	44	1.3999	0.2638
		Euro-PCT-IP	18	1.7697	0.1633	15	1.2875	0.0951	15	1.2786	0.0952
	Subsequent	Euro-direct	87	1.0380	0.0404	80	1.1037	0.0544	76	1.1006	0.0557
		Euro-PCT-IP	91	1.0882	0.0316	83	1.1000	0.0392	79	1.1280	0.0461
France	First	Euro-direct	9	0.9184	0.1628	7	0.9191	0.1488	5	1.0075	0.1801
		Euro-PCT-IP	3	1.1412	0.1329	3	1.1951	0.1295	2	1.5166	0.2922
	Subsequent	Euro-direct	20	1.0756	0.1179	19	1.0108	0.0515	16	1.1083	0.0740
		Euro-PCT-IP	18	1.0093	0.0689	18	1.0527	0.0630	14	1.0218	0.0627
United Kingdom	First	Euro-direct	7	2.2476	0.7093	6	4.4030	0.9595	6	4.7797	0.9748
		Euro-PCT-IP	4	1.1898	0.1504	4	1.3156	0.1468	4	1.3156	0.1468
	Subsequent	Euro-direct	8	0.8361	0.2819	8	1.2150	0.1237	8	1.1649	0.2264
		Euro-PCT-IP	19	1.0071	0.1232	17	1.0050	0.1364	17	1.1070	0.1317
Sweden	First	Euro-direct	4	1.1342	0.1401	3	1.2702	0.2504	3	1.4126	0.3352
		Euro-PCT-IP	5	1.4311	0.2610	6	1.4180	0.2772	6	1.5161	0.3113
	Subsequent	Euro-direct	9	0.8854	0.1980	9	1.1617	0.0914	8	1.1341	0.0864
		Euro-PCT-IP	12	1.0190	0.1354	12	1.0289	0.1500	12	1.0397	0.1460
Switzerland	First	Euro-direct	17	1.0638	0.0419	16	1.1169	0.0460	16	1.1537	0.0561
		Euro-PCT-IP	8	1.4648	0.1912	7	1.3800	0.2639	7	1.4408	0.2937
	Subsequent	Euro-direct	11	0.8127	0.1352	11	0.9222	0.1255	11	1.0198	0.1321
		Euro-PCT-IP	14	1.0502	0.1095	14	1.1481	0.1372	13	1.2191	0.1438
Italy	First	Euro-direct	14	0.9415	0.1577	12	1.1629	0.1778	12	1.2365	0.2071
		Euro-PCT-IP	4	0.8984	0.1542	5	1.1300	0.2019	5	1.1252	0.2181
	Subsequent	Euro-direct	9	0.7976	0.1868	9	0.9130	0.1914	8	1.0061	0.1219
		Euro-PCT-IP	8	1.0293	0.1016	8	1.0290	0.1220	8	1.0603	0.1285

Table 71: Detailed forecasting results for selected residence countries – Random group

Random group
Breakdown by residence bloc
Q-indices

Patent office	Res. bloc	2005			2006			2007		
		Cases 05	Q-index 05	S.E. 05	Cases 06	Q-index 06	S.E. 06	Cases 07	Q-index 07	S.E. 07
EPO	EP	195	1.0101	0.0389	177	1.0465	0.0499	168	1.0768	0.0533
	JA	59	1.1539	0.0463	57	1.3036	0.0591	55	1.3603	0.0627
	OT	11	0.8216	0.3565	8	1.0718	0.1778	7	1.1916	0.1878
	US	101	1.0818	0.0428	91	1.1719	0.1055	84	1.2313	0.1354

Table 72: Detailed forecasting results for PCT applications entering the regional phase - Random group

Random group
Breakdown by residence bloc (excluding companies with qualifying comments)
Q-indices

Patent office	Res. bloc	2005			2006			2007		
		Cases 05	Q-index 05	S.E.	Cases 06	Q-index 06	S.E.	Cases 07	Q-index 07	S.E.
EPO	EP	160	1.0149	0.0425	144	1.0442	0.0534	136	1.0681	0.0571
	JA	52	1.1827	0.0422	50	1.3192	0.0639	48	1.3906	0.0679
	OT	10	0.8119	0.3744	7	1.0818	0.2015	6	1.2246	0.2153
	US	78	1.0706	0.0477	69	1.1279	0.1212	64	1.1635	0.1524

Table 73: Detailed forecasting results for PCT applications entering the regional phase, excluding companies with qualifying comments – Random group

Random group
Breakdown by residence bloc
Q-indices

*Average growth rate and standard error

Filing type	Filing route	Nation	Res. bloc	2005			2006			2007		
				Cases 05	Q-index 05	S.E. 05	Cases 06	Q-index 06	S.E. 06	Cases 07	Q-index 07	S.E. 07
First	National	Germany (c)	EP	136	1.0007	0.0278	124	1.0038	0.0377	120	0.9991	0.0454
			JA	3	1.0740*	0.0350*	3	1.1350*	0.0410*	3	1.1870*	0.0460*
			OT	2	1.0740*	0.0350*	2	1.1350*	0.0410*	2	1.1870*	0.0460*
			US	15	0.7282	0.2289	13	0.6451	0.4254	13	0.6697	0.4390
		United Kingdom (d)	EP	46	0.9522	0.0548	40	1.0637	0.0646	38	1.0782	0.0756
			JA	4	1.0740*	0.0350*	3	1.1350*	0.0410*	3	1.1870*	0.0460*
			OT	1	1.0740*	0.0350*	1	1.1350*	0.0410*	1	1.1870*	0.0460*
			US	24	1.0423	0.0926	21	1.0866	0.1139	20	1.0931	0.1261
		France (e)	EP	35	0.9033	0.0794	34	0.9411	0.0918	29	0.9409	0.1067
			JA	4	1.0740*	0.0350*	3	1.1350*	0.0410*	3	1.1870*	0.0460*
			OT	0	1.0740*	0.0350*	0	1.1350*	0.0410*	0	1.1870*	0.0460*
			US	10	0.8132	0.2616	8	0.9193	0.3485	8	0.9452	0.3965
		Japan (f)	EP	16	0.9754	0.0596	16	1.0269	0.0547	13	1.0378	0.0445
			JA	86	1.0089	0.0155	83	1.0336	0.0204	82	1.0399	0.0227
			OT	0	1.0740*	0.0350*	0	1.1350*	0.0410*	0	1.1870*	0.0460*
			US	17	1.1404	0.0656	17	1.2584	0.1033	17	1.2833	0.1064
		United States (g)	EP	81	1.1115	0.0424	72	1.2072	0.0462	69	1.2578	0.0571
			JA	28	1.2329	0.0889	26	1.4052	0.1072	26	1.4381	0.1167
			OT	12	1.2508	0.1445	11	1.1883	0.1093	9	1.2539	0.1264
			US	134	1.0717	0.0302	124	1.1151	0.0310	122	1.1504	0.0339
		Other countries (h)	EP	69	0.9403	0.2104	58	1.2326	0.1005	56	1.2836	0.0895
			JA	11	0.8835	0.1296	9	1.1925	0.0957	9	1.1548	0.1019
			OT	10	1.1727	0.1572	9	1.2315	0.1907	8	1.4290	0.1564
			US	27	1.1879	0.0768	24	1.2550	0.0993	23	1.3813	0.1077
		Worldwide total (i)	EP	311	1.0411	0.0208	289	1.0795	0.0236	275	1.1110	0.0275
			JA	87	1.0137	0.0162	84	1.0421	0.0214	83	1.0495	0.0237
			OT	19	1.1730	0.0734	19	1.2228	0.1344	16	1.4768	0.1442
			US	148	1.0493	0.0311	141	1.1089	0.0340	136	1.1659	0.0334
Subsequent	National	Germany (c)	EP	45	1.1097	0.0512	41	1.1468	0.0758	39	1.1927	0.0978
			JA	22	0.6988	0.2662	20	1.0002	0.0863	20	1.0126	0.0892
			OT	3	1.0740*	0.0350*	2	1.1350*	0.0410*	2	1.1870*	0.0460*
			US	26	1.2940	0.0874	21	1.4021	0.1806	21	1.5233	0.1779
		United Kingdom (d)	EP	39	1.2669	0.1750	34	1.2468	0.1256	33	1.2603	0.1311
			JA	15	1.1293	0.0912	15	1.1209	0.0934	15	1.1096	0.0976
			OT	1	1.0740*	0.0350*	0	1.1350*	0.0410*	0	1.1870*	0.0460*
			US	25	1.0440	0.1136	25	1.1182	0.1532	21	1.1638	0.1712
		France (e)	EP	35	1.0337	0.0991	31	1.0340	0.1060	30	1.0765	0.1150
			JA	13	1.0503	0.1033	13	1.0086	0.1277	13	1.0213	0.1276
			OT	1	1.0740*	0.0350*	0	1.1350*	0.0410*	0	1.1870*	0.0460*
			US	20	0.9453	0.2845	18	1.3692	0.1285	17	1.4786	0.1574
		Japan (f)	EP	88	0.9786	0.1184	87	1.1827	0.0869	82	1.2372	0.0986
			JA	34	1.0327	0.0806	32	1.0986	0.1116	31	1.1618	0.1262
			OT	6	1.3615	0.1217	6	1.5905	0.0976	5	1.1870*	0.0460*
			US	50	0.9539	0.1008	46	0.9283	0.0995	45	1.0255	0.1038
		United States (g)	EP	133	0.9418	0.0304	123	1.0272	0.0355	117	1.3104	0.1847
			JA	59	1.0192	0.0269	58	1.0225	0.0362	57	1.0354	0.0468
			OT	10	1.0807	0.0987	9	1.2692	0.1373	9	1.4553	0.1885
			US	83	1.0077	0.0509	74	0.9939	0.0626	73	1.0342	0.0653
		Other countries (h)	EP	117	1.0254	0.0325	108	1.0471	0.0319	103	1.0903	0.0351
			JA	57	1.0849	0.0450	56	1.1407	0.0540	55	1.1928	0.0614
			OT	10	0.9081	0.1221	8	1.0267	0.1396	7	1.0829	0.1077
			US	59	0.9401	0.0870	48	1.0657	0.0682	48	1.1217	0.0696

Table 74: Detailed forecasting results for national applications (excluding PCT) – Random group

Random group
Breakdown by residence bloc (excluding companies with qualifying comments)
Q-indices

*Average growth rate and standard error

Filing type	Filing route	Nation	Res. bloc	2005			2006			2007		
				Cases 05	Q-index 05	S.E. 05	Cases 06	Q-index 06	S.E. 06	Cases 07	Q-index 07	S.E. 07
First	National	Germany (c)	EP	114	0.9855	0.0293	102	0.9889	0.0406	98	0.9773	0.0497
			JA	2	1.0740*	0.0350*	2	1.1350*	0.0410*	2	1.1870*	0.0460*
			OT	2	1.0740*	0.0350*	2	1.1350*	0.0410*	2	1.1870*	0.0460*
			US	11	0.6414	0.2632	9	0.5084	0.5146	9	0.5283	0.5377
		United Kingdom (d)	EP	39	0.9437	0.0557	34	1.0569	0.0648	33	1.0588	0.0733
			JA	4	1.0740*	0.0350*	3	1.1350*	0.0410*	3	1.1870*	0.0460*
			OT	0	1.0740*	0.0350*	0	1.1350*	0.0410*	0	1.1870*	0.0460*
			US	21	1.0470	0.1107	18	1.0880	0.1395	17	1.0910	0.1554
		France (e)	EP	31	0.8850	0.0844	30	0.9204	0.0974	26	0.9246	0.1066
			JA	2	1.0740*	0.0350*	1	1.1350*	0.0410*	1	1.1870*	0.0460*
			OT	0	1.0740*	0.0350*	0	1.1350*	0.0410*	0	1.1870*	0.0460*
			US	7	0.6659	0.4393	5	0.7672	0.6971	5	1.1870*	0.0460*
		Japan (f)	EP	13	0.9706	0.0720	13	1.0241	0.0656	11	1.0393	0.0465
			JA	72	1.0102	0.0180	69	1.0371	0.0242	68	1.0438	0.0268
			OT	0	1.0740*	0.0350*	0	1.1350*	0.0410*	0	1.1870*	0.0460*
			US	13	1.1789	0.0751	13	1.2950	0.1258	13	1.3439	0.1292
		United States (g)	EP	70	1.1128	0.0456	61	1.2137	0.0507	59	1.2547	0.0601
			JA	23	1.2707	0.1035	22	1.4763	0.1195	22	1.5163	0.1299
			OT	11	1.2757	0.1558	10	1.2083	0.1186	8	1.2887	0.1387
			US	110	1.0665	0.0342	100	1.0951	0.0342	99	1.1191	0.0361
		Other countries (h)	EP	57	0.9207	0.2276	48	1.2279	0.1085	46	1.2835	0.0957
			JA	8	0.8085	0.2056	6	1.3723	0.1256	6	1.2930	0.1528
			OT	9	1.1593	0.1709	8	1.2079	0.2084	7	1.4215	0.1732
			US	22	1.2085	0.0880	19	1.2739	0.1161	18	1.4252	0.1184
		Worldwide total (i)	EP	245	1.0195	0.0225	224	1.0594	0.0252	215	1.0816	0.0296
			JA	72	1.0151	0.0189	69	1.0462	0.0256	68	1.0540	0.0282
			OT	16	1.1571	0.0761	16	1.2067	0.1483	13	1.4938	0.1551
			US	120	1.0401	0.0361	113	1.0867	0.0392	109	1.1410	0.0375
Subsequent	National	Germany (c)	EP	34	1.1071	0.0559	30	1.1360	0.0828	28	1.1783	0.1074
			JA	15	0.5800	0.3333	14	0.9168	0.1171	14	0.9355	0.1194
			OT	3	1.0740*	0.0350*	2	1.1350*	0.0410*	2	1.1870*	0.0460*
			US	23	1.3080	0.0952	18	1.4287	0.2075	19	1.5504	0.1954
		United Kingdom (d)	EP	32	1.2658	0.1852	28	1.2404	0.1318	27	1.2516	0.1376
			JA	10	1.2147	0.1472	10	1.1992	0.1525	10	1.1783	0.1617
			OT	1	1.0740*	0.0350*	0	1.1350*	0.0410*	0	1.1870*	0.0460*
			US	20	1.1279	0.1234	20	1.2272	0.1800	17	1.2859	0.1971
		France (e)	EP	29	1.0278	0.1043	26	1.0341	0.1119	25	1.0777	0.1217
			JA	9	1.0874	0.1723	9	1.0147	0.2175	9	1.0366	0.2167
			OT	1	1.0740*	0.0350*	0	1.1350*	0.0410*	0	1.1870*	0.0460*
			US	17	0.9085	0.3322	15	1.3963	0.1512	15	1.5078	0.1763
		Japan (f)	EP	69	0.9797	0.1388	68	1.1977	0.1038	64	1.2514	0.1137
			JA	30	1.0401	0.0935	28	1.1224	0.1331	27	1.2013	0.1505
			OT	6	1.3615	0.1217	6	1.5905	0.0976	5	1.1870*	0.0460*
			US	47	0.9697	0.1057	43	0.9397	0.1037	42	1.0454	0.1070
		United States (g)	EP	106	0.9413	0.0342	96	1.0251	0.0403	91	1.3511	0.2118
			JA	51	1.0346	0.0286	50	1.0419	0.0386	49	1.0572	0.0505
			OT	9	1.0856	0.1034	9	1.2692	0.1373	9	1.4553	0.1885
			US	71	1.0171	0.0573	62	1.0482	0.0612	61	1.0981	0.0639
		Other countries (h)	EP	94	1.0331	0.0327	85	1.0595	0.0296	81	1.1058	0.0327
			JA	50	1.0913	0.0505	49	1.1492	0.0602	48	1.2066	0.0687
			OT	8	0.8539	0.1408	7	1.0298	0.1558	6	1.0944	0.1210
			US	53	1.0038	0.0560	43	1.0706	0.0687	43	1.1272	0.0703

Table 75: Detailed forecasting results for national applications (excluding PCT), excluding companies with qualifying comments – Random group

16 Annex V: Calculation of weighted medians

The weighted median is calculated in three steps. To each observation a weight is assigned according to the weighting scheme. Note that the weights have to be scaled to ensure that the weights add up to one. Second, the observations are ordered in ascending order. Third, to obtain the weighted median of the observations, start from the lowest observation and keep accumulating the weights until 50% is reached. Linear interpolation is used between adjacent points to achieve exactly 50% of the distribution. For further details and an application of weighted quantiles to calculate value at risk please see J. Boudoukh, M. Richardson, R. Whitelaw, *The Best of Both Worlds, Risk*, Vol. 11 (1998), pp. 64-67.

17 Annex VI: Sizes of populations and samples for the EPO Applicant panel survey 2005

	Euro applications in 2004				Euro applicants in 2004			
	Direct	PCT-IP	Total (direct + PCT-IP)	PCT-RP	Direct	PCT-IP	Total (direct + PCT-IP)	PCT-RP
	58 550	121 898	180 448	65 252	15 154	36 949	48 141	20 887
1. Population in 2004*								
Sample group A: Biggest**								
2. Number asked*	26 809	30 950	57 759	22 415	394	374	407	375
as a percentage of 1.	45.8%	25.4%	32.0%	34.4%	2.6%	1.0%	0.8%	1.8%
Number of quantitative responses	16 397	25 279	41 676	12 918	160	171	183	147
as a percentage of 1.	28.0%	20.7%	23.1%	19.8%	1.1%	0.5%	0.4%	0.7%
as a percentage of 2.	61.2%	81.7%	72.2%	57.6%	40.6%	45.7%	45.0%	39.2%
Sample group B: Random								
3. Number asked*	29 250	36 740	65 990	26 784	1 246	1 104	1 565	1 411
as a percentage of 1.	50.0%	30.1%	36.6%	41.0%	8.2%	3.0%	3.3%	6.8%
Number of quantitative responses	19 541	30 767	50 308	15 985	475	488	605	421
as a percentage of 1.	33.4%	25.2%	27.9%	24.5%	3.1%	1.3%	1.3%	2.0%
as a percentage of 3.	66.8%	83.7%	76.2%	59.7%	38.1%	44.2%	38.7%	29.8%

* From the EPO database (status December 2005).

** Excluding deliberately selected addresses that are of special interest

Other numbers are based on figures given by the respondents

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