Executive summary

2023 was a milestone year for the EPO. We celebrated the 50th anniversary of the European Patent Convention (EPC) and the benefits it has brought. As a clear, coherent and consistent legal framework, the EPC provides predictability and stability in patent law across Europe. It is a solid foundation for all those involved in the innovation ecosystem, boosting competitiveness and supporting the global innovation landscape. The EPC has quality built into every step of the journey through the patent grant process and enshrines rigorous procedures as well as opportunities for interested parties to be heard, thereby ensuring high standards of patent quality.

Another cornerstone of the EPO's quality is its ability to attract and retain the best talent. At present, the EPO has some 4,000 highly educated examiners who are experts in their technical fields. In 2023, we onboarded 100 new examiners: 64% of these hold a PhD and 64% have previous industry experience. New recruits receive over 60 days of training in the first two years alone – including a new module delivered by the epi and BusinessEurope on the value of high-quality patents to industry. As staff remain at the office during their long careers, dedicated initiatives have been put in place to share knowledge, and where necessary, upskill and retrain. These steps ensure that staff stay up-to-date with the latest technologies, legal changes and new tools.

The EPO's Quality Charter, agreed in 2022 with industry, EPO staff and EPO member states, recognises the importance of high-quality patents to industry, competitors and society. The journey to high quality starts long before an application is ever filed at the EPO. European Patent Attorneys, and the applicants they represent, play a pivotal role in ensuring quality at the start of the patent granting journey – so called quality at source. Just as we invest heavily in training EPO staff, the European Patent Academy provides online training to prospective and qualified European Patent Attorneys and offers regular events such as the annual User Day. These activities lay the groundwork for a smooth patent granting process, supporting applicants in drafting high quality applications.

In 2023 our prior art databases increased by 7 million patent publications to 153 million; they also include a non-patent literature database corresponding to 39 million full-text documents; and a collection of 5 million standards-related documents. Further improvements were made to our state-of-the-art search tool ANSEREA with targeted training supporting the transition and increasing usage of this tool from 75% in 2022 to 93% in 2023. Powerful technical information resources have also been made available to support applicants through every step of the patent granting process with enhancements made throughout the year to our user interface tool MyEPO, to support users in their interactions with the Office.

In 2023 several improvements were made to tools used at this stage with a new file routing tool, supported by AI, ensuring that each application is allocated to the division with the most appropriate expertise. In a staged approach – with rigorous quality checks we also saw increasing use of AI to classify incoming prior art.

High quality in the patent system is both a shared responsibility and a shared journey – one taken in partnership with our applicants and legal representatives.

Quality is supported by giving both examiners and applicants access to the very best tools and resources.

The journey through the patent grant process starts with filing, routing and classification.
In 2023 we continued our focus on identifying the most relevant prior art at the start of the procedure. Prior art prejudicial to novelty or inventive step was cited in 83.7% of our search reports and a negative written opinion issued in 93% of cases. Furthermore, our independent quality auditors found a more relevant prior art document in only 4% of audited search reports in 2023. To strengthen further our search products we implemented a new digital workflow in November 2023. As a result, all searches and written opinions are reviewed by the three division members before they are sent to the applicant. Timeliness at search stage is vital for our applicants, allowing them to make informed decisions, and in 2023 92.3% of searches were sent on time. As a result of the search report and opinion in a typical 10 000 filings at the EPO, some 1 200 do not proceed to the substantive examination phase.

Since 2010 we have required the applicant to respond to any negative search report and opinion. If we look at the number of communications required to reach a decision on each application we see that, since 2018, the figure is remarkably stable with an average of 1.61 examination communications prior to grant. The introduction of the shared area in MyEPO Portfolio in 2023 is changing the way applicants and examiners interact, allowing for real-time interactions during the patent granting process. Our users also tell us that they value consistency in the application of the EPC. Following targeted action we see greater consistency within technical fields in our Practice Harmonisation Dashboard. During this thorough examination process some 2 900 applications out of a typical 10 000 initial filings are withdrawn during examination with around 5 700 proceeding to grant.

Only a small minority of granted patents are opposed – 134 in a typical population of 10 000 filings. Each case is dealt with by an opposition division composed of three highly experienced examiners, who can be joined by a legal member if required. In 2023, 2.3% of granted patents were opposed. There was significant variations by field, from a high of 9.7% in agri-food to a low of 0.8% in digital. The video conferencing technology used in oppositions offers increased transparency with over 2 000 public observers attending oral proceedings annually, significantly more than pre-pandemic levels. The EPC also enshrines the right to appeal decisions made by the EPO. By reviewing and deciding on appeals, the Boards of Appeal (BoA) contributes to maintaining high-quality standards. Typically around 70 of 10 000 applications filed reach the BoA.

To help us to improve and assess our progress we must look at quality from many different angles, set clear objectives and set out clear actions. Our independent audit process has been improved and enhanced. Our regular and extensive user satisfaction surveys show a high level of satisfaction with our services with just 4% expressing dissatisfaction. But we analyse these results carefully for areas where we can improve. All complaints and feedback are tracked and reported and the new Ombuds service has proved popular in its first year, providing valuable feedback into our system for continuous improvement. Our extensive dialogue with our users through the Standing Advisory Committee for the EPO (SACEPO) and its many working groups, over 50 meetings in 2023 with representative bodies, and one-to-one meetings, all feed into our quality improvement process. In 2023 we also enhanced and trebled the number of Stakeholder Quality Assurance Panels (SQAPs) with three sessions covering searches and written opinions, grants and intermediate communications.

The next stop on the quality journey is the delivery of a complete search and comprehensive written opinion within just six months.

For those that choose to proceed to examination we aim to provide a thorough and consistent service.

In opposition, the EPO's aim is to act with the utmost impartiality, provide a fair and transparent opposition proceeding, and deliver legally valid decisions on time.

Quality is not only a journey we share with users – it is one where we will never reach the final destination. There is always scope for improvement.

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2023 has been a year of significant quality initiatives and achievements including:

- Investments in our people through recruitment and training
- Improved tools for applicants and staff
- All search reports and written opinions reviewed by three division members
- New practice harmonisation dashboard and targeted action
- Opposition backlog reduced by 20% compared to pre-pandemic levels
- Expanded Stakeholder Quality Assurance Panels (SQAPs) programme
- Publication of our Quality Action Plan 2024 and new quality KPIs.

These and many other initiatives are presented in this comprehensive report, which follows the journey through the patent grant process looking at the steps taken to improve quality at each stage of the journey. In 2024, our commitment to quality remains steadfast. We continue to invest in advanced technologies, such as AI, and to expand our training programmes to ensure that our examiners are equipped with the latest knowledge and skills. Strengthening our dialogue with users and fostering a collaborative environment will be essential as we strive to set new global standards in patent quality. Our actions for 2024 are set out in our Quality Action Plan 2024 alongside our quality KPIs – increasing transparency and accountability.
7.4 Governing bodies

8. Conclusions and outlook for 2024

Annex 1 Quality Report 2023 – Annex SQAPs

1. Format of SQAP programme in 2023
2. SQAP findings on search reports and written opinions
3. SQAPs on intermediate communications
4. SQAPs on granted patents
5. Actions following from SQAPs’ findings
6. Further evolution of SQAPs
1. The strong foundations of EPO quality

KEY FACTS

- **Global classification system**
  Cooperative Patent Classification (CPC) scheme now adopted by 38 countries, including 26 EPO member states and Morocco.

- **Expert examiner workforce**
  Comprises 4,000 highly educated examiners with specialised legal training and engaged in continuous professional development.

- **Vast prior art resources**
  An extensive collection with 153 million patent publications from 166 countries, plus over 5 million standards documents and access to 10,000 journals.

- **50 years of the EPC providing legal certainty and predictability**
  Search, examination, and opposition divisions equipped with three expert examiners, enshrined right to be heard through oral proceedings in examination, third party observations, opposition and appeal.

- **Extensive coverage**
  Uniform patent protection extends to 39 member states, one extension state, and five validation states, covering over 700 million inhabitants.

ACHIEVEMENTS IN 2023

- **Investment in digital workflows**
  Implemented digital workflows to route applications to all members of the examining divisions and ensure collaborative handling through MyEPO.

- **Investment in people**
  100 new examiners on board, up from 77 in 2022, with 64% holding a PhD or a PhD in progress and 64% coming from industry. Training provided for 200 examiners in 5G and 6G technologies.

- **Successful launch of the Unitary Patent**
  Streamlining patent protection in 17 EU member states. The EPO being entrusted with the administration of the Unitary Patent is a clear indication of the quality of our products and services. The European patent with unitary effect came into force on 1 June 2023, streamlining patent protection in 17 EU member states.

- **Advanced examiner tools**
  1,500 examiners participated in targeted training for the sophisticated ANSELTA-based SEARCH tool.

1.1 The EPC provides legal certainty and predictability

In 2023, the European Patent Office (EPO) celebrated the fiftieth anniversary of the founding of the European patent system. With the signing of the European Patent Convention (EPC) in Munich on 5 October 1973, the founders ushered in a new era of economic and technological development, the course of which continues to shape our lives today. The EPC continues to bring value to applicants, industry, innovation and European society today by ensuring legal certainty and predictability in the area of patent law.

Quality has been at the core of the EPO’s activities since day one. In March 1980, the first President of the EPO, Bob van Benthem, said that "it is essential that the patent systems of today and tomorrow grant strong patents. The new European system is such a system". He also recognised the need for efficiency: "in drawing up the guidelines, the main aim was to achieve a speedy granting procedure without curtailing the applicant’s legitimate right to express his opinion" (June
But 2023 was not just a year to reflect on the solid foundations of the European patent system and the EPO. It was also a year in which to look to the future, and on 1 June 2023, the European patent with unitary effect (Unitary Patent) came into force. It combines the recognised high quality of patents granted by the EPO with the enhanced legal certainty afforded by the Unified Patent Court (UPC), bringing significant benefits for patent quality and the enforcement landscape in Europe. The EPO is entrusted with the tasks of processing and registering requests for unitary effect, as well as overseeing the administration and upkeep of the Unitary Patent Register.

Geographical coverage of patents granted by the EPO

The EPC now provides uniform scope of protection in up to 39 member states, one extension state and five validation states – covering an area with over 700 million inhabitants.

Figure 1: Geographical coverage of patents granted by the EPO

Source: EPO

European patents with unitary effect\(^1\) have legal effect in the 17 EU Member States that have ratified the Agreement on a Unified Patent Court (UPC Agreement). It is expected that more EU Member States will ratify the UPC Agreement in the years to come.

\(^1\) epo.org/en/applying/european/unitary/unitary-patent.
Figure 2: Geographical coverage of the Unitary Patent – 17 states in enhanced co-operation which already ratified the Agreement

The EPO’s strong reputation for quality has resulted in close co-operation with other patent offices throughout the world:

The EPO is recognised as providing world-class search quality, as evidenced by the growing number of national patent offices in Europe which entrust parts or all of their national procedure search work to the EPO. By the end of 2023, the EPO had signed working agreements on search co-operation with 17 of its member states. In 2023, the EPO carried out a total 233 334 search actions, of which 26 873 were national searches. In addition, the EPO performs international-type searches under Article 15(5) PCT (without a written opinion) for three member states.

The importance of quality and co-operation stretch well beyond our member states. For example, under the Patent Prosecution Highway\(^2\) (PPH) programme, applicants may obtain accelerated processing in 17 other patent offices which take EPO work products into consideration. In addition, the Reinforced Partnership\(^3\) (RP) is a co-operation programme in which the EPO and its respective partner offices engage in deep and wide-ranging co-operation activities across all areas of the patent system. Applications previously filed with the EPO are systematically reused in the partner offices’ patent granting processes.

\(^2\) epo.org/en/applying/international/patent-prosecution-highway.
\(^3\) epo.org/en/about-us/services-and-activities/international-european-cooperation/international-bilateral/reinforced-partnership-programme.
The European Patent Convention sets us apart
The EPC provides for substantive patent and service quality throughout the patent granting process.

The search division, as set out in Article 17 EPC, is responsible for preparing complete and thorough search reports. In addition to the search report identifying relevant prior art, the EPO also provides the applicant with a detailed search opinion on the patentability of the application. Delivered within six months in the case of first filings, these two documents provide applicants with the information they need to take timely decisions about the future of their applications. Since 1 November 2023, and following a successful pilot project in 2022, the division of three examiners is now involved in preparing the search report and opinion. More details of this significant change, which aims improve quality, are set out later on in this report.

The examining division (Article 18 EPC) is then responsible for conducting the substantive examination. This division, unique amongst the world's largest patent offices, brings together three highly qualified technical experts who must sign off a grant or refusal after a detailed, thorough examination of the application. With rising numbers of applications spanning different technologies, the EPO is uniquely placed to address this challenge, particularly as the examining division increasingly involves examiners from different technical fields to make sure that all aspects of the application are properly assessed. When required, the examining division may also be supplemented with additional legal expertise.

As a further quality assurance measure, the EPC guarantees the right of applicants to be heard. The EPC also recognises the importance of third parties and competitors in the patent system with provisions that allow third parties to file observations and oppose granted patents. Oral proceedings, whether in examination or opposition, take place before all three members of the division.

To enhance opposition quality, the chair and first member of an opposition division are always drawn from a central pool of highly experienced examiners with relevant technical and procedural experience. In 2023, 70% of opposition divisions contained none of the original examining division members who granted the opposed patents. In the remaining cases, one examiner from the original examining division was included to ensure the appropriate level of technical knowledge by the opposition division.

In both examination and opposition proceedings, there is a right to appeal any decision before the EPO's independent Boards of Appeal.

The EPO plays a key role in the Patent Cooperation Treaty
The EPO is a trusted partner for applicants seeking global protection via the Patent Cooperation Treaty (PCT). In total, 65.4% of European users choose the EPO as the receiving Office for filing their PCT applications. Globally, the EPO

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was the number one International Searching Authority (ISA), responsible for 30.6% of all international search reports in 2023, as well as 58.8% of all international preliminary examinations. These figures illustrate the confidence our users place in our PCT services and the unique value that the EPO brings to the work it performs under the PCT.

- The EPO's PCT searches and written opinions are conducted to the same high levels of completeness and thoroughness as those we prepare under the EPC.
- Where the EPO has drawn up the international search report, applications progress directly to examination following entry into the European phase, without a full new search. This saves applicants both time and money because they will not have to pay for and await the results of a new search.
- On entry to the European phase of prosecution, PCT-route applications, including PCT direct applications, are generally dealt with by the same examiners who were responsible for them during the international phase. This results in a consistency of approach to an application.

The EPO also engages in international exchanges on quality topics that are of benefit to its users. The Meeting of International Authorities under the PCT and its dedicated Quality Subgroup provide important fora for alignment and exchanges of information with other patent offices acting as ISAs under the PCT.

The EPO's Guidelines for Examination are clear, consistent and regularly updated

All legal frameworks must adapt to change. The interpretation of the EPC continues to evolve in response to developments in technology and the case law of the Boards of Appeal. The EPO Guidelines for Examination, provide a useful reference point for interpretation and are developed taking into account user feedback.

The Guidelines' revision cycle was redesigned in 2023 to further foster dialogue with our internal and external users and to enhance transparency. For example, the summer consultation with the SACEPO Working Party on Guidelines has been extended to eight weeks to allow ample time for comments. To enhance transparency beyond the SACEPO Working Party on Guidelines, the webpage dedicated to the Guidelines has been revised to provide easier and more direct access to a whole collection of Guidelines-related information. Moreover, the Committee on Patent Law is informed about the results of the consultation exercises and the changes in the Guidelines.

During the public online user consultation on the Guidelines in 2023, 112 comments were received on the EPC Guidelines and 15 comments were made on the PCT-EPO Guidelines. These comments covered a wide range of topics, such as oral proceedings held by videoconference (VICO), adaptation of the description, antibodies, amino acid sequence listings and the new Rule 56a EPC. During the 2023 consultation with the SACEPO Working Party on Guidelines, 187

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comments were received for the EPC and PCT-EPO Guidelines. Another 48 comments were received from EPO-internal experts. Many of these were taken on board in the latest revision of the Guidelines, which entered into force in March 2024.

Figure 3: Consultation on EPC and PCT-EPO Guidelines – spring 2023

![Chart showing consultation results for EPC and PCT-EPO Guidelines.](source)

Simplifying our practices and procedures to increase quality and reduce complexity

In addition to changes made to the Guidelines, workflows and procedures also must be reviewed, and, where necessary, adjusted. To this end, the Patent Granting Process (PGP) Simplification Board was established in March 2023 as a cross-office executive initiative. Its goal is to help promote digital transformation and ensure the highest levels of operational and procedural convergence in implementing procedural changes. The Board was mandated to:

- analyse procedural practices and workflows in the PGP
- identify potential for simplifying them
- propose ways of doing this in line with operational priorities and strategic goals

Ultimately, the Board's work should result in improved quality and more efficient patent procedures for internal and external users. So far, its efforts have led to two sets of legal changes which were implemented in 2023 and early 2024.

1.2 Quality through our staff

Part of the EPO's success as an organisation has been its ability to attract and retain the best talent. We also ensure that knowledge remains at its peak and skills at their sharpest throughout our staff members’ careers. Furthermore, we take steps to retain knowledge when staff leave by investing in knowledge
transfer. Learning will remain central to the quality of the EPO’s products and services.

1.2.1 Recruiting the best

Newcomers in 2023
In 2023, we onboarded 100 new examiners with 17 different nationalities, 36% of whom are women. Some 64% of our new examiners hold or are working towards a PhD and 64% boast industry or private-sector experience. This brings the number of DG1 core examining and formalities staff to 4,486. In anticipation of future staffing needs, we will recruit an even larger number of people in 2024.

To make hiring and onboarding smoother for both the EPO and the successful candidates, we have established a “pipeline” concept for almost 200 promising candidates. This not only optimised the onboarding process for newcomers in 2023, but also ensures we can meet our ongoing recruitment demands. Pipeline candidates benefit from foundational IP training, enabling them to commence their EPO career with advanced knowledge.

The Young Professionals Programme
Our commitment to recruiting diverse talent for the EPO is embodied by the Pan-European Seal Young Professionals (YP) Programme. This three-year programme aims to cultivate a new generation of IP professionals to fortify the future European Patent Network. Since the programme started in 2015, the EPO has welcomed nine cohorts and a total of 580 young professionals with 34 different nationalities, 63% of whom were women. The YP Programme has therefore contributed significantly to the professional development of graduates across the member states.

Figure 4: The 2023 cohort of young professionals in Munich

Source: EPO

Retaining our talent
Because the EPO is considered to be an attractive employer, we are able to retain valuable experience and knowledge within the EPO, which greatly enhances the quality of our work. When colleagues do move on, we ensure their expertise is

transferred to new colleagues. Our staff turnover rates are very low, for example, for examiners in 2023 it was 2.06%, including those who retired.

Table 1: Staff turnover rates by staff category

<table>
<thead>
<tr>
<th>Function</th>
<th>2022 Turnover* 2022</th>
<th>2023 Turnover* 2023</th>
</tr>
</thead>
<tbody>
<tr>
<td>Examiner</td>
<td>85 2.14%</td>
<td>82 2.06%</td>
</tr>
<tr>
<td>BoA</td>
<td>8 4.23%</td>
<td>12 6.67%</td>
</tr>
<tr>
<td>Patent procedure support</td>
<td>22 4.21%</td>
<td>23 4.61%</td>
</tr>
<tr>
<td>Other</td>
<td>73 4.93%</td>
<td>74 5.10%</td>
</tr>
<tr>
<td></td>
<td>188 3.05%</td>
<td>191 3.12%</td>
</tr>
</tbody>
</table>

* Turnover is calculated with reference to the headcount at the end of the respective year, excluding Young Professionals.

Source: EPO

1.2.2 Training and developing our people

Newcomer Academy for examiners
The training programme for new examiners at the EPO is pivotal to ensuring they gain the skills required to perform their complex tasks to the required high standard.

The Newcomer Academy for examiners is continuously amended and improved, taking into account feedback from course participants and presenters, as well as any specific requirements or changes to procedures or tools. In 2023, key improvements were made by updating and rearranging the training modules. In response to a suggestion from our users, the academy was also enhanced by bringing in our users' perspectives through a new session which includes presentations by the epi and BusinessEurope on the importance of patenting to industry.

New examiners benefit from around 60 classroom training days spread over their first two years at the EPO. During their first two years, new examiners work closely together and under the supervision of one or more experienced examiner coaches from the same or closely related technical field. Through this combination of classroom training, coaching and their work within examining divisions and their team, new examiners quickly bring their skills up to the desired level.

Continuing professional development
To make sure that our staff are kept up to date with legal changes, the latest technology and developments in our tools, we keep investing in professional development throughout their time at the EPO. Learning is therefore a key part of every staff member's career at the EPO. Line managers play an important role in guiding the assessment of their staff's individual skills and needs and supporting their continuous development.

In 2022, we introduced a requirement for all staff to have an individual development plan (IDP) as an integral part of their performance development cycle that would be agreed on and tracked with their line manager. The IDP was
promoted internally during 2023 and by the end of the year, 70% of staff at the EPO had an active IDP, and efforts are underway to increase this number in 2024. We have also increased the range of easily accessible courses on offer to formalities officers and examiners on topics such as the European patent administration certification (EPAC) and the European qualifying examination (EQE).

In-depth understanding of a technical area is a prerequisite for high-quality search and examination. But technology is constantly changing. We therefore support examiners in staying up to date with the latest developments in their technical field. For example, in 2023, some 200 examiners followed courses on 5G and 6G technologies provided by leading academic and industry experts. Technical training material used by instructors and trainees for Newcomer Academy classroom courses, as well as more specific courses, can be accessed by all examiners via the dedicated Examiner Area in the EPO Learning Management System.

Legal training ensures that staff are always up to date on the applicable legal framework. In 2023, such training included lectures by Boards of Appeal members and patent court judges. The EPO Learning Management System portal also provides a curated selection of supplementary training materials on our legal framework, with direct links to the relevant legal background.

Training on tools is just as important and in recent years has been an area of focus as the digitalisation of our processes and the in-house development of specialised tools have accelerated. In 2023, over 1 500 examiners followed a targeted search training course aimed at improving their knowledge of the advanced ANSERA search tool. Following a steep increase in use in 2022, we reached almost 100% use of ANSERA during 2023. As it is increasingly used for classification as well, we are confident that 2024 will also see it become the single portal for PGP.

**Figure 5: Training on searching with ANSERA**

![Searching with Ansera](image)

Source: EPO

**Knowledge sharing**

Another pillar of knowledge management is the Continuous Knowledge Transfer (CKT) initiative. This involves a team of central knowledge co-ordinators co-operating with an EPO-wide network of local knowledge agents who organise events that range from team-level to EPO-wide learning events. These peer-to-peer activities are tailored to the audiences’ needs and address a wide range of
day-to-day operational issues. In 2023, there were 330 such events, attracting some 20,000 participants.

Eight iLearn days took place in 2023: AI and CII in patent applications, The Unitary Patent, Boost your knowledge!, Empower tomorrow!, Getting it right first time, Connecting for Success, Strengthening legal certainty of decisions, iLearn day Together EPO-NPOs. Organised by colleagues for colleagues, these online hands-on presentations and lively discussions covered practical matters aiming at harmonising and improving the quality of our daily work.

Reskilling and retraining
As the EPO’s business needs change, careful capacity management is needed to meet both current and future needs. The retraining and reskilling of staff is also required. All examiners who change fields are given appropriate support combining on-the-job training from experienced colleagues with, where necessary, dedicated reskilling.

For formalities officers, we completely redesigned the training curriculum in 2023 to facilitate job mobility. This training programme emphasises advancing digital skills, combining classroom sessions with on-the-job coaching programmes with peer coaches.
1.3 Resources to deliver high-quality products and services

We provide our examiners with the world’s most comprehensive prior-art collection that is constantly updated and expanded. With its 250,000 symbols, the Cooperative Patent Classification (CPC) scheme enables examiners to find relevant prior art in a language-independent way. Our powerful tools are developed in-house together with examiners and they are designed to enable examiners to deliver the highest possible product quality. The EPO classifies vast amounts of patent publications into the CPC within four months of their publication, including all German patent publications.

1.3.1 The world’s most extensive prior-art collection

The EPO’s extensive prior-art collection, with documents dating back to 1782, contained 146 million patent publications in 2022. This increased to 153 million in 2023 and consists of 86 million patent families, 60 million of which are of Asian origin (from China, Japan and Korea) representing 76 million publications. As the volume of Asian prior art continues to increase, the EPO has invested in making this type of prior art fully available for our searches.
Ensuring access to non-patent literature
Non-patent literature (NPL) is an essential source of prior art in many technical fields. The EPO therefore ensures that its non-patent literature collections are as complete as possible to ensure that search reports are exhaustive.

Our non-patent literature database comprised no less than 129 million groups, including 39 million full-text documents, up from 37 million in 2022. Our collection also contains over 445,000 English-language abstracts and summaries of traditional knowledge documents originally published in India, China and Korea.

At the end of 2023, the EPO's prior-art collection also contained 14,872 full-text records of published applications and grants from the Community Plant Variety Office (CPVO). Access to this prior art enables EPO examiners to provide even more legal certainty to applicants seeking protection for plant-related inventions.

Increasing our access to standards documentation
Standards documentation represents an important part of our non-patent literature collection. Standards ensure the compatibility and interoperability of components, products and services while promoting dissemination of new technologies. In other words, standards constitute a central pillar of the modern knowledge economy. In 2023, the EPO's collection of standards-related documents grew to 5.1 million, up from 4.6 million in 2021.

The EPO has signed agreements with a number of standard developing organisations (SDOs) to ensure that the relevant standards documentation can be used in the patent grant process. EPO patent examiners currently have access to comprehensive literature collections from many SDOs, including:

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14 The term "group" is used to avoid double counting of non-patent literature articles; an article might appear in one or more abstract databases, but we count only one record. A "group" therefore represents the original article and all published references to the same article (which come from different sources).
In addition to the final standards issued by SDOs, the EPO's databases include technical disclosures submitted during the standardisation process. As well as renewing existing agreements with SDOs, the EPO signed new agreements with the O-RAN Alliance and with the JEDEC Solid State Technology Association in 2023.

1.3.2 Finding the relevant prior art – a world leading Cooperative Patent Classification scheme

Finding the most relevant prior art is paramount to the quality of a search. An effective classification system structures prior art according to well-defined concepts in a language-independent way, making searches more efficient. Documents that are classified incorrectly, or too late, may not be reliably retrieved by an examiner during a prior art search and this could result in an inaccurate assessment of the patentability of a claimed invention. The Cooperative Patent Classification (CPC) scheme, jointly managed by the EPO and the US Patent and Trademark Office (USPTO), harmonises classification in a single, common, refined scheme that builds on the International Patent Classification (IPC). With Latvia joining the CPC community in 2023, 38 countries have now adopted CPC, including 23 EPO member states and one validation state (Morocco). To keep up with technological developments, the CPC is updated four times a year.
Figure 9: Adoption of the CPC worldwide

Source: EPO

Figure 10: Adoption of the CPC by EPO member states

Source: EPO

15 The EPO classifies vast amounts of patent prior art into the CPC including that of Germany within four months of their publication.
2023 marked the 10th anniversary of the CPC. The EPO and USPTO held their CPC Annual Meetings with CPC offices and industry users. At these meetings, EPO President Campinos launched the EPO’s AI-powered CPC text categoriser, which suggests a CPC symbol based on a text sample. It was further improved in 2023 and now supports French and German as input languages too. This new version was released to all users on 7 November 2023 on the EPO’s Single Access Portal.

Figure 11: Screenshot CPC text categoriser

Source: EPO

CPC training courses continue to be held in co-operation with the European Patent Academy. These included online collective training events open to all CPC offices as well as a dedicated three-week CPC field-specific training session held at the EPO in The Hague. These training sessions allowed for direct online interaction between EPO experts and examiners at CPC offices. The corresponding training material (including CPC videos) was made available on the CPC website and on the European Patent Academy page.

In 2023, the EPO also chaired several international meetings on classification such as the IP5 Working Group 1 – Working Group on Classification (IP5WG1), the IPC Revision Working Group (IPC/WG) and the Expert Group on Semiconductor Technology (EGST), as well as a number of bilateral meetings.

1.3.3 State-of-the-art tools

The resources we provide to our staff and users are a key component of quality at the EPO. That is why we invest heavily in our tools and IT systems. Throughout 2023, the EPO maintained its focus on modernising tools and integrating artificial intelligence, where it was deemed beneficial to support our examiners and users. By the end of the Strategic Plan 2023’s period of implementation, the EPO had built a modular and scalable back-office platform which supports an end-to-end digital patent grant process. This has supported positive developments in in

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16 epn.epo.org/cpc-text-categoriser.
17 epn.epo.org/homepage.
18 cooperativepatentclassification.org/home.
timeliness, harmonisation and the quality of our products. Alongside these in-house developments, we also prioritised improving access to information and offering convenient self-service options, along with providing comprehensive procedural guidance on submissions through our online services. This approach represents another stride towards enabling all users to conduct their EPO business entirely online.

Drawing on examiners' needs and guidance, our IT experts continued to develop in-house customised tools which harness the latest developments in technology. ANSERA is our highly sophisticated search tool which facilitates rapid search and analysis of vast volume of documents, based on concept-based search strategies designed by the examiner. ANSERA was used as a basis for the new cloud-based prior-art search tool (ANSERA-based SEARCH tool), now being used by more than 1,000 examiners in 27 countries. The tool was developed for the EPO's co-operation programme with member states and is set to replace the EPOQUE Net legacy search system currently used by over 2,000 examiners in more than 40 offices worldwide.

The unprecedented developments under Strategic Plan 2023 resulted in a strong portfolio of tools for our substantive work in search and examination, as well as processes. Efforts continued last year to improve their convergence and give an improved and more efficient user experience.

The tools and platforms developed and used by the EPO in the patent granting process are summarised in the figure below.

Figure 12: Overview of EPO tools

The tool portfolio has benefited from the gradual and human-centric integration of AI to assist examiners in their daily work. AI-supported translations, including
of confidential information, are now also possible for unpublished patents. Additionally, AI supports processes from allocation to classification, enabling the accurate routing of applications, as well as the evaluation of their technical fields and the selection of potentially qualified examiners, including in multi-technology cases. A further significant development during the year has been the digitalisation of 99.5% of patent grant actions. The Patent Workbench has become our central hub for all procedural exchanges in the PGP and comprises direct access to the most frequent tools for formality officers and examiners.

Throughout the portfolio, the inter-connectedness of tools now allows examiners and formality officers to exchange information in the centralised digital file repository (DFR). As a significant novelty, following a successful pilot, we even created a dedicated shared area for our users and the divisions in DFR. This measure fosters dialogue and collaboration even more, further integrating the user experience with the PGP.

2. The quality journey – a shared responsibility

KEY FACTS

Access to patent resources
the EPO offers tools such as Espacenet, the European Patent Register, the Global Patent Index, the European Publication Server and EP full-text search for comprehensive access to patent data.

Quality achieved together
the EPO and its users share the responsibility for maintaining high patent quality; the EPO provides extensive resources to support users deliver high quality applications.

Comprehensive training portfolio
the EPO provides comprehensive online training for EQE and EPAC candidates.

Specialised conferences
The EPO hosted Search Matters, Examination Matters, and Opposition Matters conferences to deliver updates on the latest information and conduct in-depth discussions.

ACHIEVEMENTS IN 2023

New webpages for beginners
launched “new to patents” webpages, helping users with little to no patent experience.

MyEPO Portfolio enhancements
MyEPO Portfolio enhances the digital experience for users, enabling effective patent filing and management directly through the EPO’s platform.

Enhanced digital interaction during examination
rolled out a new shared area in MyEPO Portfolio to facilitate direct communication and collaboration between applicants and examining divisions.
The chart below shows the journey of typical population of 10 000 filings through the EPO’s patent grant process. The different stages provide opportunities for applicants to decide, based on prior art and reasoned examiner objections, whether to proceed with their applications or not. At each stage we will examine the outcomes in more detail and the actions we are taking to build on the high quality of our products and services.

However, the journey towards a high-quality patent starts well before the EPO or any patent office sees the invention contained in the application. It is important to recognise the vital role that applicants and their representatives can play in improving quality at the start of the patent grant process and then at every step along the journey. Quality is a shared responsibility and the EPO plays an active role in supporting applicants and representatives in improving the overall quality of the European patent system. The EPO provides high-quality products and services as well as information, training and tools. Applicants have a key role to play in focusing on application drafting quality and prosecution quality.

Figure 13 – Overview of file flow in the patent granting process: long-term averages

Source: EPO
2.1 The start of the quality journey – quality at source

Quality begins at source, from the very moment an application is drafted. High-quality patent applications that are carefully and appropriately drafted help improve quality and efficiency, as well as the overall quality of the prior-art corpus.

At the EPO we carefully monitor a range of metrics that shed light on the quality of incoming applications and how they are subsequently prosecuted in the search and substantive examination phases. In recent years we have observed that there are variations between applicants and representatives with regard to numerous aspects of the patent granting process – variations which can result in significant cost and efficiency implications for applicants as well as increased uncertainty for the public. These include significant differences in:

- the number of formal errors in applications
- the percentage of applications with lack-of-unity findings at the search stage
- the number of lack-of-clarity, lack-of-inventive-step or other substantive issues
- the frequency of oral proceedings in examination
- how applicant responses and amendments bring the procedure forward
- grant rates between applicants.

There are many underlying reasons for these differences; however, applicant choices do have an impact. We have also observed that some applicants are unaware that their choices result in a more complicated prosecution before the EPO than comparable applicants. Consequently, in our regular meetings with applicants we share procedural data specific to their applications that is benchmarked against other companies with a similar technical filing profile.

Figure 14: Rates of objections under selected EPC articles for a group of applicants active in similar technical fields

![Graph showing rates of objections under selected EPC articles](source: EPO)

We have found that dialogue based on such data has improved both our understanding of the approaches taken by applicants and their understanding of our system.

With the example of non-unity, we see a slight decrease over time as represented in the graph below.
2.2 Supporting quality at source

The EPO also has a strong record of providing the user community with comprehensive and regularly updated legal texts, tools, training and information. Many of these resources aim to promote best practice among professional representatives.

Training IP professionals to draft and prosecute to the highest standards

The European Patent Academy provides online training materials and support for EQE and EPAC candidates to help prospective professional representatives, paralegals, patent administrators as well as EPO formalities officers prepare for these demanding examinations.

It also provides numerous training options for diverse audiences. There are currently 23 000 registered participants in Academy events per year and over 17 000 enrolled participants in the e-learning centre.

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The EPO's annual User Day event focuses on the EPO's online tools and gives participants expert insights aimed at helping applicants get the most from what we have to offer.

In 2023, the EPO also hosted three conferences on key aspects of quality in the patent granting process.

- **Search Matters** showedcased the EPO's patent search strategies and techniques as well as its various publicly accessible databases and search programmes to enable businesses and research organisations to improve their patent searches.
- **Examination Matters** included detailed discussions on different aspects of examination by EPO examiners, lawyers and epi experts, helping to improve quality at the examination stage.
- **Opposition Matters** designed to keep patent professionals abreast of the latest and most relevant developments in opposition proceedings, with EPO examiners and lawyers presenting key topics alongside senior European patent attorneys.

Whilst many of our applicants are very familiar with the patent grant process, we must also support those who are new to it and, in response, 2023 saw the launch of our "New to patents" webpages. This new area is aimed at users with little or no experience with patents, helping them to understand the different stages of the patent application journey and to make informed choices. Tailored guided tours of the new online section are offered by our experts upon request.

### 2.3 Resources that support applicants

![Espacenet web site](image)

**Figure 17: The Espacenet web site**

In addition to offering a patent information e-learning centre, seminars and events, the EPO also makes powerful technical information resources available to the public.

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24 epo.org/en/learning/events/pc01-2024.
Espacenet\textsuperscript{27} offers free access to tens of millions of patent publications worldwide and can be used, for example, to search and find patent publications.

The \textbf{European Patent Register}\textsuperscript{28} is a free, complete and up-to-date source of publicly available procedural information on European patent applications and European patents with unitary effect.

\textbf{Global Patent Index (GPI)}\textsuperscript{29} is a powerful online tool for performing detailed searches in the EPO's worldwide bibliographic, legal event and full-text data sets.

The \textbf{European Publication Server}\textsuperscript{30} gives free online access to all the European patent documents published by the EPO.

\textbf{EP full-text search}\textsuperscript{31} is a free online tool that enables users to search European patent applications (A documents) and granted patents (B documents), including full-text searching.

\textbf{2.4 Providing our users with state-of-the-art tools}

The EPO strives to provide a better digital experience for its users. Through close collaboration with users and leveraging pilot projects for early feedback, the EPO has developed new tools that contribute to increasing the quality of the EPO's products. In the most recent user satisfaction survey, 85\% of our users were satisfied or very satisfied with the tools provided by the EPO.

\textbf{Videoconferencing}

Videoconferencing\textsuperscript{32} (VICO) is the norm for oral proceedings in examination and opposition and helps increase the transparency and sustainability of all proceedings. In our most recent user satisfaction survey, over 77\% of respondents found oral proceedings by VICO to be “good” or “very good”.

\textbf{Improving quality, efficiency and engagement through MyEPO online services}

MyEPO services were first launched in June 2022 and include Online Filing 2.0 as the tool of choice for initial filing, MyEPO Portfolio\textsuperscript{33} for interacting with the EPO on files and Central Fee Payment for managing fees and refunds.

Almost half of our applications are filed using Online Filing 2.0. MyEPO Portfolio is gaining traction as we add more and more features to the platform, such as self-service procedural actions and the change of representative.

The EPO also launched \textbf{two-factor authentication} methods to replace smart card technology. This provides users with a more secure and accessible means of authentication.

\begin{footnotesize}
\begin{itemize}
\item \textsuperscript{27} https://worldwide.espacenet.com/.
\item \textsuperscript{28} https://www.epo.org/en/searching-for-patents/legal/register.
\item \textsuperscript{29} https://www.epo.org/en/searching-for-patents/technical/espacenet/gpi.
\item \textsuperscript{30} https://www.epo.org/en/searching-for-patents/technical/publication-server.
\item \textsuperscript{31} https://www.epo.org/en/searching-for-patents/technical/ep-full-text.
\item \textsuperscript{32} https://www.epo.org/en/service-support/faq/law-practice/oral-proceedings-held-videoconference.
\item \textsuperscript{33} https://www.epo.org/en/service-support/faq/myepo-services/myepo-portfolio.
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In 2023, we continued to enrich the integrated set of MyEPO services through which users conduct their EPO business online, releasing exciting new features that enhance quality in both user submissions and the substantive content of patent applications. We also laid the foundations for automating the exchange of structured data between users' IP management systems and the EPO's systems, which will drive efficiency and quality improvements for years to come.

During 2023, we made it easier for IP support staff to collaborate with representatives on their files and extended the range of requests about applications that users can submit in MyEPO Portfolio. In drafting and sending submissions, users benefit from dynamic quality checks and simplified procedural guidance that reduce the likelihood of defects.

We introduced a new shared area in MyEPO Portfolio where examiners and representatives can upload, review, edit and annotate documents together during a live consultation. This real-time interaction increases quality and transparency and saves time, as there is a greater chance that adjustments to substantive content will be right first time.

The Mailbox available in MyEPO Portfolio provides users with instantaneous, reliable delivery of electronic communications from the EPO. This not only saves paper, it also eliminates the need for manual intervention and scanning of paper documents.

The year 2023 saw accelerated uptake of the Mailbox in MyEPO Portfolio, with 90% of companies that work online with the EPO starting to use it. A further 2 000 representatives chose to move away from their paper-based interaction and started working online with the EPO in 2023, representing a rise of 35%. In addition, hundreds of international agents and non-European applicants started receiving their PCT communications electronically via the PCT Link service.
In delivering MyEPO services, we have continued to engage closely with user consultation bodies such as eSACEPO or Online Communication Committee (OCC), focus groups (with ten meetings and over 135 members in 2023) and pilot companies to better understand user needs. We continuously strive to enhance the quality, timeliness and consistency of these services, while improving the user experience every step of the way.

3. The quality journey: filing, routing and classification

**KEY FACTS**

*Flexible system*
the European patent system provides various options to cater for the diverse needs and strategies of applicants.

*Extensive and timely classification*
ensures that a significant portion of the world’s patent documentation is promptly and accurately categorised to facilitate comprehensive search reports and written opinions. The EPO classified a total of 880,000 documents into the Cooperative Patent Classification (CPC) system in 2023.

*AI-enhanced routing*
artificial intelligence is now employed to pre-classify and allocate incoming applications, ensuring they reach the correct examiner and division based on technical expertise and capacity.

*Serving applicants worldwide*
the EPO received a record 199,775 applications in 2023, up 2.9% from 2022 (193,627).

*Second filing office*
the EPO predominantly acts as a second filing office, with approximately 86% of its applications previously processed by another patent office.
3.1 A flexible system providing options for applicants

The EPO strives to achieve excellence in its processing of every application. The European patent system is flexible and offers numerous options for applicants depending on their needs and business strategies. In 2023, applicants entrusted us with a record 199,275 applications (up 2.9% from 2022). The EPO is primarily an office of second filing which means that some 86% of our applications have already been received and handled by another patent office. This in itself acts as "filter mechanism" with, for example 46% of designations/elections of the EP route under the PCT not resulting in an EP application.

The four starting points for the patent journey at the EPO can be summarised as follows:

- **Euro-direct first filings**: EPO applications filed under Article 75 EPC not claiming the priority of a previous application.
- **Euro-direct subsequent filings**: EPO applications filed under Article 75 EPC claiming the priority of a previous application.
- **Euro-PCT with supplementary search**: PCT applications entering the European phase for which the EPO was not the ISA subject to an EPO supplementary search after entry into the European phase.
Euro-PCT no supplementary search: PCT applications entering the European phase for which the EPO was the ISA. Such applications are not subject to a supplementary search after entry into the European phase.

Figure 20: Overview of file flow in the patent granting process: long-term averages

<table>
<thead>
<tr>
<th>Filing</th>
<th>Euro-direct first filings</th>
<th>Euro-direct subsequent filings</th>
<th>Euro-PCT with supplementary search</th>
<th>Euro-PCT no supplementary search</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 478</td>
<td>2 387</td>
<td>3 228</td>
<td>2 927</td>
</tr>
<tr>
<td>EP applications</td>
<td></td>
<td>10 000</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: EPO

3.2 Getting the right file to the right division at the right time

Once the application is successfully filed, the next step in ensuring high quality is to route the application to the examiner and division with both the expertise in the technical area of the application and the capacity to deliver the work on time. This is a two-step process that involves preclassifying an application and then using the preclassification to route the application to the right organisational unit. In the past this required manual processing, but is now done using new technologies such as AI.

Preclassification of an application takes place after filing as soon as it is deemed to be in compliance with the EPC’s formal requirements for new applications. The addition of a high-level classification symbol at this stage is the basis for subsequent file distribution. In 2023, most incoming applications were processed using our AI-driven internal preclassification services and specialist staff who focus on exceptional distribution allocation cases. This approach gives the EPO full control over the preclassification and allocation process, leading to a better, more precise and consistent distribution of incoming applications.

The AI-based preclassification engine has been upgraded and fine-tuned to automatically adapt the preclassification service to changes in the ranges of over 1 400 broad technical fields and/or revisions of the CPC scheme. The accuracy of automatic preclassification is such that the file routing accuracy is over 90%.

The AI-based DFA tool was pilot-tested in late 2022 and fully rolled out in November 2023. Since then, human allocation of files has been progressively replaced, resulting in increased accuracy and higher efficiency. Under the EPO’s Strategic Plan 2028, the EPO will work to further improve the accuracy of the DFA tool.
3.3 Classifying the prior art

Accurate and timely classification of our prior art is fundamental to ensuring the completeness of search reports and written opinions. The EPO invests significant resources in classifying a significant portion of the world’s patent documentation in addition to the patent applications filed at the EPO. In 2023, the EPO fully classified a total of 880 000 documents into the CPC. We classify the prior-art patent documents within four months of their publication to ensure that they can be retrieved in the search process.

Of the 880 000 documents classified in 2023, some 107 500 were EPO-published patent applications where we set ourselves a target of having 80% fully classified on publication. We met this target. The remaining publications were classified after publication and added to our databases.

The AI-assisted classification tools CANOPÉE/CLASSERA are part of our ANSERA search platform and support classification tasks by suggesting potential classification symbols for documents that require classification. In 2023, the tools were integrated into Patent Workbench to further facilitate the classification of applications addressing multiple technologies.

Operational Quality Control (OQC) on classification is performed by our classification quality nominees who perform a check on a sample of classified documents. With 92% of our documentation classified correctly, we continue to operate above our OQC objective of 90%. In August 2023, we began the first pilot tests to explore the use of AI for classification. The quality of classification performed by AI is being monitored very carefully to ensure we meet our target of 90% as we expand the use of AI for classification.

In addition to our OQC for classification, independent quality audits on classification show consistently high results of well over 90% conformity.
Reclassification

As technology evolves, the various classification schemes need to be amended to keep up with developments. The CPC is usually updated four times a year (January, February, May and August), and related documents need to be reclassified in accordance with the new scheme.

In 2022, we introduced an AI-powered reclassification tool which enables precise automatic reclassification of document families. In 2023, this tool facilitated the reclassification of 32,000 document families (including both published patent documents and non-patent literature) to meet full CPC standards.

4. The quality journey: search and written opinions

**KEY FACTS**

- **Highly relevant documents in search reports**
  88.7% of EPO search reports identified at least one document prejudicial to novelty or inventive step.

- **Comprehensive written opinions**
  93% of written opinions raised objections to patentability.

- **Focus on Asian prior art**
  EPO databases contain 7 million publications from Asia, with 49% of search reports in 2023 including Asian-origin patent citations. Around 18% of search reports included patent citations impacting novelty or inventive step and available only in Asian languages. Powerful translation tools enable examiners to access this prior art.

- **Non-patent literature**
  Approximately 28% of search reports cited non-patent literature, indicating thorough research; 4.4% of search reports cited standards, with this figure rising to 25% in certain technical fields.

**ACTIONS TAKEN IN 2023**

- **Enhanced search tools**
  Upgraded Access for better performance and integrated AI-based PreSearch for more efficient document retrieval.

- **Harmonised searching practices**
  Focused on harmonising approaches for emerging technologies and promoting mixed divisions to ensure relevant expertise for applications spanning traditional fields.

- **Active search divisions**
  Implemented a digital workflow so all searches are reviewed by the three division members before being sent to the applicant.

- **Search timing for first filings**
  Established a practice of conducting searches no earlier than four months after the priority date, ensuring comprehensive prior art coverage.
Our goal at the search stage is to deliver complete searches and comprehensive written opinions in a consistent and harmonised manner. In 2023, the EPO carried out a total of 233,334 searches. As shown below, approximately 12% of applications are withdrawn after the search stage and do not proceed to substantive examination, demonstrating that the thoroughness of EPO search products can help applicants avoid unnecessary costs that would have been incurred during subsequent examination.

Figure 22: Overview of file flow in the patent granting process: long-term averages

*Source: EPO*

### 4.1 Identifying the most relevant prior art

Thanks to our strong focus on getting it right from the start, we see a large volume of relevant prior art cited at the search stage. In 2023, 83.7% of EPO search reports identified at least one document that was prejudicial to the novelty or inventive step of one or more claims.\(^3\) Only 15.6% of searches contained only

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\(^3\) Searches with at least one relevant citation are search reports with citations of categories X, Y and E as well as citations where X and Y categories are combined with another category.
A-category citations, meaning that no documents prejudicial to novelty or inventive step were found during these searches. Our search reports have remained remarkably consistent in citing relevant documents over the years.

Figure 23: Searches with at least one relevant citation and searches with only A-category citations

![Chart showing the share of search reports including at least one Asian-origin and/or Asian-only patent citation]

Source: EPO

The share of search reports including at least one Asian-origin and/or Asian-only patent citation has increased: around 49% of our search reports in 2023 included an Asian-origin patent citation, and around 18% even included an Asian-only XYE-category patent citation. This trend confirms the increasing significance of prior art from China, Japan and Korea as well as the EPO's progress in obtaining and using this documentation.

Searches with A citations only are search reports with at least one A-category citation and no XYE-category citation. Other search reports are mainly "no searches" and Euro-PCT bis with no additional citations in the supplementary search report.

35 An Asian-origin citation is a patent document either in Chinese, Japanese or Korean or with a priority document in one of these languages; an Asian-only citation is a Chinese-language, Japanese-language or Korean-language patent document that does not have any patent family member in an EPO language (English, French or German).

36 An XYE-category citation is a document which, in relation to one or more independent claims, is: novelty- or inventive step-destroying when taken alone (X category); inventive step-destroying when combined with one or more documents of the same category (Y category); a potentially conflicting patent document regarding the filing or priority date (E category).
The EPO Translate portal gives access to all of the EPO’s machine translation engines, enabling examiners to perform secure translation for both patent and non-patent literature. With a total of 56 languages now supported, it offers confidential translations from and into English for French, German, Dutch, Italian, Spanish, Greek, Chinese and Japanese.

In 2023, around 28% of EPO search reports contained at least one non-patent literature (NPL) citation. The volume of cited non-patent literature varies by technology, and in 2023, the highest contribution of NPL to total citations was in pure and applied organic chemistry, reflecting the need to search scientific articles in these fields.

In addition, 4.4% of EPO search reports contained at least one standards document. The 2023 decrease in search reports containing standards is largely explained by 25% fewer Euro-PCT with supplementary searches being performed, as such applications tend to have an above-average share of standards citations. Some 98% of the search reports with standard citations were issued by seven directorates in the area of video coding and transmission, wireless communication, IT security and internet and Internet of Things. Around 25% of all search reports in these directorates contained one or more standards citations.
4.2 Providing comprehensive written opinions

EPO searches and written opinions provide applicants with a thorough assessment of patentability allowing them to make timely and informed choices on further investments in their invention. Our data shows that in 83.7% of cases we cite prior art relevant to novelty or inventive step – and in approximately 93% of cases we raise an objection to patentability under the EPC. This leaves just 7% where the search division finds no objection to patentability. These 7% of cases could lead to a "direct grant" in the examination phase without the need to file amendments or convincing arguments to overcome objections. The rate of positive search opinions has remained remarkably stable over the years, illustrating the consistent approach taken by EPO examiners.
4.3 Actions taken in 2023 to improve quality: search and written opinions

Improved our ANSERA search tool and increased use of ANSERA as the search tool of choice
Throughout 2023, improvements were introduced in terms of stability, performance of search algorithms, better visualisation of results, user interface and overall stability. Thanks to the full integration of semi-automated AI-based PreSearch in ANSERA and the introduction of Enhanced Combi (retrieval of cited/citing documents as well as all citations of the first level), it is easier and takes less effort for examiners to retrieve relevant documents. This helps support the quality and timeliness of the search. Since November 2023, all examiners have also benefitted from an improved internet search experience with the Web Search Assistant (highlighting features of ANSERA and facilitating the citation of NPL and video material). The year 2023 also saw practically full usage of ANSERA by examiners as their search tool of choice, increasing to 93%, allowing, in turn, the decommissioning of tools such as XFULL. This transition was accompanied by a significant investment in training.

Searched at the right time to deliver complete searches
We continued the practice established in 2022 of performing searches on first filings no earlier than four months after the priority date to ensure that the prior art has been fully classified. This gives our applicants the confidence that all relevant prior art has been consulted at the time of the search, allowing them to make informed decisions on their applications at an early stage.

Fully implemented active search division concept
Collaboration at the search stage has always been encouraged and routinely takes place in many forms – for instance by consultation of the chairperson or another expert or a specialist on a specific aspect of an application, by collective group consultation to discuss search strategy or in the form of team search jams.
Following a successful pilot phase in 2022, the active search division concept was fully implemented on 1 November 2023. Every search product is now routed via our digital workflow in Patent Workbench to all three members of the search division and the manager for review before being sent to the applicant. We already see increased interaction between the members of the division. This promotes:

- collaboration at the search stage, harnessing the expertise of the full division
- the raising of well-founded and well-reasoned objections in the written opinion
- improvements in addressing user fallback positions e.g. dependent claims
- early alignment of the prospective examining division members (ahead of the examination phase).

**Harmonised our approach to searching in emerging technologies**

In 2023 we continued to focus on harmonising our approach to searching applications in emerging technologies, such as computer-implemented inventions (CII), AI and machine learning, additive manufacturing and quantum computing. To ensure that files requiring specialist knowledge or procedures are handled consistently, cross-cutting communities of practice have been set up to provide all examiners with the information needed regardless of the operational unit they are in. The allocation of mixed divisions (i.e. divisions where members come from different traditional technical fields) is promoted for applications spanning various traditional technical fields so that the most appropriate combination of expertise is brought to the application. In February 2023, a dedicated iLearn Day took place with a specific focus on searching applications featuring AI and CII.

### 4.4 Results achieved: search and written opinion

**User satisfaction survey**

Our end-to-end user satisfaction surveys regularly show high levels of satisfaction throughout the patent grant process (PGP). The 2022/2023 user satisfaction survey (USS) results again showed strong satisfaction along the PGP. Some 80% of respondents rated our search products as good or very good.

**Search quality audit results**

In response to user feedback and pursuing continuous improvement, the EPO has been implementing an extended search audit since October 2021. In this new approach, auditors take an in-depth look at the written opinion in addition to the search report. The search audit results' bar charts provide a transparent overview of the types of findings relating to clarity and sufficient disclosure of the invention, which are now displayed in separate categories (see table, Fig. 3). This provides us with more information which can be used to improve our searches and written opinions.
Importantly, only in 4% of search reports sampled in 2023 did auditors find a better prior-art document, which is considered at search to be a key criterion in the assessment of patentability. The findings relating to novelty and inventive step overall remained stable at around 6% (the 4% better prior art is included in this wider 6%), demonstrating that the overall very high level of quality of search reports was maintained despite an ever-increasing collection of prior art.

As intended, the increased granularity of the extended search audit has revealed several opportunities for improvement. The most frequent issue is still the correctness of objections in the written opinion (11.5% of files in 2023). Often the examiner has been too strict in raising objections. Clearly our aim is to provide an accurate written opinion in which the objections are fully supported by the relevant legislation and any cited document, and this insight from quality audit provides valuable input for future quality improvements.

Search timeliness

Our users need to receive EPO searches and written opinions on time. This is especially the case for first filings because for these applications, applicants have to decide on their next steps before the priority year expires. As a result, we shortened the time for delivery of results to our member states for national searches and delivery of search results on PCT first filings from nine to eight months in 2022, and from eight to seven months in 2023. Under SP2028, we will reduce it by a further month, taking it down to six months, thus aligning all search procedures and giving applicants ample time to decide on next steps during the priority year.
Mean search timeliness for standard searches\textsuperscript{37} was 5.0 months (4.9 months in 2022). 95\% of searches and written opinions ("p95" in Figure 30) were dispatched within 9.7 months (8.6 months in 2022). Compared to our search timeliness target of 90\%, we achieved a result of 92.3\% searches delivered on time in 2023 (89.3\% in 2022).

\textbf{Figure 30: Search timeliness 2016-2023 (time in months)}

\begin{figure}[h]
\centering
\includegraphics[width=0.7\textwidth]{search_timeliness.png}
\caption{Search timeliness 2016-2023 (time in months)}
\end{figure}

Source: EPO

\textsuperscript{37} Standard searches exclude (1) non-unity, (2) unclear and (3) incomplete cases.
5. The quality journey: examination

**KEY FACTS**

- **Stable communication rates**
  Examiners issued an average of 101 communications per granted patent in 2023, consistent with previous years.

- **Variability in grant rates**
  Overall grant rate remained steady at around 60%, with variations according to filing route, technology and between different applicants.

- **Attention to complex cases**
  26% of grants involved two or more communications, reflecting the EPO’s commitment to thorough examination.

- **Effective granting process**
  First-action grant rate of 69% in 2023, indicates helpful EPO assessments at the search and written opinion stage and constructive amendments by applicants on entry to examination.

**ACTIONS TAKEN IN 2023**

- **Facilitated examiner-applicant collaboration**
  New shared area in MyEPO Portfolio where the examining division and applicant can work on the file together.

- **Improved addendum check tool**
  Updated and improved the “addendum check” tool, provided targeted examiner training.

- **Practice harmonisation dashboard**
  Introduced to help align practice within technical areas, the dashboard shows visible improvements in consistency of approach to non-uniformity and summons to oral proceedings.

- **Improved written communications**
  Provided standardised communication templates to promote clarity and consistency in written exchanges between examiners and applicants.

- **Feedback-driven learning**
  From peers, managers, quality auditors, opposition divisions, boards of appeal, and stakeholder quality assurance panels (SQAPs). Internal studies in response to user feedback e.g. adaptation of the description and third-party observations.

**RESULTS ACHIEVED**

- **High user satisfaction**
  78% of respondents in the 2022/2023 USS rated the examination performance as good or very good.

- **Improved consistency in application of the EPC**
  We see improved consistency between examiners in the same field of technology in their application of the EPC.

- **Improved quality audit outcomes**
  Sampled files with no audit findings improved to 77% in 2023 from 76.6% in 2022, with a reduction in findings related to potential impact on validity of future patent. Findings on added subject-matter decreased from 3.9% in 2022 to 1% in 2023.

- **Steady examination timeliness**
  Mean duration of 24.9 months for standard examination, significant reduction in backlog of pre-2018 files (5,200 pending files by end of 2023, down from 21,000 at start of year).
Our goal in substantive examination is to provide applicants and the public with legally robust decisions. We achieve this through a thorough examination process that correctly assesses the most relevant prior art and applies our legal provisions in a correct, harmonised and consistent way. From meetings in various fora, we know that our users share these priorities.

A significant proportion of applications are withdrawn during the examination or refused. As shown below, of 10 000 applications originally filed, typically only 8 822 will enter the substantive examination stage. During the examination phase, some 2 893 will be withdrawn and 294 refused. This leaves some 5 635 of the 10 000 applications resulting in a granted patent.

Figure 31: Overview of file flow in the patent granting process: long-term averages

Source: EPO

5.1 Delivering a thorough examination process

In total, EPO examiners issued some 543 000 actions in 2023, including 104 670 published granted patents. On average, they issued 1.61 examination communications prior to grant in 2023 (applications granted as the first action in examination are excluded). This figure has remained steady, varying between just 1.60 and 1.65 in the 2018-2023 period.
As previously shown, 7% of applications receive a positive search opinion and are deemed ready for grant at the search stage. Therefore, for these cases, where they decide to proceed to examination, a proposal for grant could be the first action in examination. However, even here the examining division will conduct a top-up search and then also write the necessary brief written report (the "votum") before any grant is proposed. Following the initiative to "raise the bar" in 2010, applicants are now required to respond to a negative written opinion and we see many applicants amend their applications to overcome the objections raised. An amendment or argument that overcomes the search division's objections can result in a proposal for grant as the first action in examination. The figure below shows that 49% of the patents granted in 2023 were granted as the first action in examination.

In the remaining portion of granted patents, at least one intermediate communication was issued. Depending on the complexity of an application and the applicant's behaviour, some cases require more dialogue during the examination phase. 20% of grants in 2023 required two or more communications in the substantive examination phase. These more complex cases receive the time and attention they require from examiners. Sometimes the dialogue includes informal interviews, minuted telephone calls or oral proceedings before the examining division. To facilitate the dialogue between applicants, their representatives and examining divisions during the examination phase, a new shared area within MyEPO Portfolio was made available to all users in July 2023.
5.2 Outcomes of the examination process

As mentioned earlier, of 10,000 applications originally filed with the EPO, 8,822 enter the examination phase. Of these, 2,839 are withdrawn, 5,635 are granted and 294 are refused. Almost all granted applications are amended during the patent granting process – only around 7% of grants have the same scope of protection as that claimed in the application as originally filed.

In calculating grant rates, the EPO uses what is known as a "cohort" approach that involves tracking the outcome of applications filed in a particular year. As reported in CA/F 5/23, the grant procedure has been completed for 99% of all applications for a European patent filed between the establishment of the EPO in 1977 up and the end of 2017.

Source: EPO

For applications filed during the past five years (i.e. since the beginning of 2018), 37% of the procedures have been completed. The outcome for most of the 2018 cohort has therefore not been decided yet, hence the grant rate for this cohort and thereafter is not yet meaningful. Grant rates are also influenced by the quality of the incoming applications and the way they are prosecuted. The role of a patent
office is to examine the applications submitted to it and to grant those that comply with the requirements under the applicable law and refuse (after ensuring the right to be heard) those that cannot be brought into line with the law. Its role is not — and should not be — to grant a certain percentage of the applications it receives. Therefore, the grant rate is not and cannot be an indicator of EPO quality.

Grant rates vary significantly between applicants, as can be seen from the graph below.

Figure 35: Average grant, refusal and withdrawal rates for 25 large EPO applicants during the period 2019-2023

Source: EPO

Naturally, business considerations may play a significant role in the overall levels of withdrawals. If we look at the wider applicant base and those that file more than 50 applications with us each year, we see grant rates varying between 15% and 100%. Turning now to refusals, we have seen that of 1 000 applications originally filed with the EPO, 294 are refused. Refusal rates have remained remarkably consistent at around this level over time. A minority (34 out of the 294 refusals) are appealed, i.e. 0.3% of the total filed applications. The outcome of appeals against refusals has also been stable over the past few years as can be seen from the figure below.
5.3 Actions taken in 2023 to improve quality: examination

Improved added subject-matter checks
Quality audits on grants had found that sometimes we did not correctly assess added subject-matter. This led to a suite of actions which began in 2022 and continued throughout 2023. These actions focused on increasing the use of the "added-matter check" tool and refreshing examiners’ awareness of this EPC requirement.

The "added-matter check" tool assists the divisions in highlighting the differences between the application documents as originally filed and the latest ones on file. It compares the different descriptions and sets of claims, including those of family members. The tool can even find the possible basis for filed amendments, enabling the examiner to compare it with the basis provided by the applicant. In 2023, this tool was extended to generate a report shared in MyEPO Portfolio's shared area to facilitate consultations on amendments between examining divisions and applicants.

In order to raise awareness and further support examiners with assessment of amendments and usage of the tool, new job aids have been made available to all examiners, including an online training course to support them in carrying out systematic and complete added-matter checks.

We can already see the impact of these actions to optimise added subject-matter checks: grant quality audit findings in this area fell from 5.9% in 2022 to 5% in 2023.

Improved structure of written communications
Effective dialogue between examining divisions and applicants and their representatives is key to a smooth examination process. This dialogue takes
place in several different forms, including telephone conversations and oral proceedings.

But much of our communication takes place in writing i.e. in the form of communications issued by the EPO and applicant replies. It is therefore very important that our written communications are of the highest quality to ensure there is a mutual understanding of how patentability has been assessed, any objections raised, the reasons for them and the options available to the applicant to overcome them.

In order to further promote well-structured, consistent and complete written communications, new standardised communication templates were made available to all examiners in December 2023. We expected benefits for both parties, the examiner drafting them on one hand and the applicant or representative reading them on the other.

Facilitated collaboration during the examination process
Personal consultation can sometimes help to advance the process. It is already possible for applicants and first members to arrange a consultation, normally by videoconference, to discuss a case informally. The new shared area\textsuperscript{38} was launched on 1 July 2023 following a successful pilot period. This feature of MyEPO Portfolio\textsuperscript{39} allows examiners and applicants to upload documents and jointly edit them. The legal and procedural framework for consultations involving the use of the shared area remains the same as that applicable to all personal consultations (see Guidelines C-VII, 2.1–2.5\textsuperscript{40}).

Internally, we also promoted collaboration within the division by rolling out an "active division area" in our Digital File Repository (DFR), where the division can work collaboratively on a document, e.g. for co-drafting minutes of oral proceedings.

Improved consistency and harmonisation of practice
In 2024, practice harmonisation continues to be an area of focus for the EPO and its users. For example, in response to feedback from the 2023 SACEPO Working Party for Quality and the SQAPs, the EPO will conduct an internal study on consistency of practice in our handling of third-party observations and will also hold a workshop together with our users on clarity and our shared responsibility for applications to meet this EPC requirement.

In response to user feedback about perceived inconsistencies in our approach to adapting the description to amended claims, we took several steps to address this. Between March and December 2022, a group of senior experts performed a study by carefully analysing 1 600 files drawn from all technical areas. Results and recommendations for each area were shared with the relevant directorates and teams in 2023. Targeted actions were taken, where appropriate.

On the same topic and following two decisions of the Boards of Appeal in 2022, there were intensive discussions about the EPO’s practice and working

\textsuperscript{38} epo.org/en/service-support/faq/myepo-services/myepo-portfolio/shared-area.

\textsuperscript{39} epo.org/en/applying/myepo-services/interact.

\textsuperscript{40} epo.org/en/legal/guidelines-epc/2024/c_vii_2.html.
instructions on adapting the description. Several comments on this were received from users during the online consultation on the Guidelines and these were discussed with the members of SACEPO Working Party on Guidelines at two meetings. As a result, the wording of Part F-IV, 4.3 of the Guidelines was revised to clarify the practice, and the new version was published in the 2023 edition of the Guidelines. Referral to the Enlarged Board of Appeal is expected and until a decision is taken, the EPO will continue its current harmonised practice.

In order to provide more visibility on where we can improve the consistency of our practice, the practice harmonisation dashboard was developed in 2022 and rolled out to all examiners and managers in the operational area in March 2023. It allows teams and individual examiners to see how often they raise objections under Articles 54, 56, 76, 83, 84 and 123 EPC. It also shows the number of search citations, A-only searches, non-unity objections, Rules 62 and 63 EPC (CLAR) invitations and Asian citations. For examination, it gives numbers for direct grants, telephone communications, actions in examination, summonses to oral proceedings and refusals. The tool also allows individuals and examiner teams to compare their objection rates with their peers and those of other teams.

While no direct conclusions about quality or harmonisation can be drawn from this data as such, it can be used to trigger conversations about why objection rates vary between different individuals or different teams within a similar technical area. Throughout 2023, this has helped us to identify inconsistent practices, take targeted actions and track progress.

The figure below shows three examples of how this tool has been used to effect positive change. The first example on the left shows an examiner who, in 2022, had raised non-unity objections more often than other examiners working in the same technical field and team. In 2023, their practice had become more aligned with that of their colleagues. In the middle example, another examiner has changed their practice of sending many more summonses to oral proceedings than their peers in the same area. In the third example, a group of three teams operating in the same technical area and with high rates of summonses to oral proceedings showed more convergent practice in 2023 compared to 2022. It is important to state that every case is dealt with on its merits and this dashboard does not suggest a "one size fits all" or preferred approach. It also recognises that findings will naturally vary across technologies.

![Figure 37: Anonymised screenshot from the practice harmonisation dashboard showing the impact of harmonisation actions](image-url)

Source: EPO
Strengthened learning through feedback
At the EPO, we strive to apply the EPC fairly, transparently and consistently, and to get it right first time. However, there is always room for interpretation and for improvement. In 2023, we strengthened our examination practice further by learning through feedback from peers within the operational teams, managers, quality auditors, opposition divisions, boards of appeal, and SQAPs.

5.4 Results achieved: examination

User satisfaction survey
Our end-to-end user satisfaction surveys regularly show high levels of satisfaction throughout the patent grant process (PGP). The 2022/2023 user satisfaction survey (USS) results again showed strong satisfaction along the PGP. 78% of respondents rated our examination performance as good or very good.

Grant audit results

In 2023, the number of files for which we had no audit findings increased from 76.6% to 77.9% (our target was 85%), while the number of audited files increased from 832 to 1 050, thereby narrowing the confidence interval from 2.9% to 2.5%.

Following questions from external stakeholders about the transparency of audit findings, a new bar chart was introduced in 2022 to show the requested details and to demonstrate the thoroughness of the quality audit. This was continued in 2023. The findings are classified according to user priorities and feedback.

Audit results show that although there is still work to be done to achieve excellence, there was a positive development in overall quality in 2023 over 2022, with a reduction in major findings with potential impact on the validity of a future granted patent. About 13% of files concern findings with potential impact on validity in 2023 compared to the previous level of around 15% in 2022, demonstrating the EPO's commitment to improving quality. Files with findings concerning clarity (5.3% in 2023) and sufficiency of disclosure (0.4% in 2023) are
now identified separately. In 2024, we will look more closely at the underlying reasons for the clarity findings.

**Examination timeliness**

Examination timeliness has been relatively stable since 2020, following years of improvements as the historical backlogs were cleared. The mean duration of a standard examination procedure\(^{41}\) (from request for examination to issuing the intention to grant) for applications granted in 2023 was 24.9 months (24.3 months in 2022).

![Figure 39: Examination: standard grants sent within 36 months](image)

Source: EPO

The timeliness target we set ourselves was for 80% of standard examinations to have an intention to grant issued within 36 months of filing at the EPO. The result achieved in 2023 was 77.2% (down slightly from 78.6 in 2022). Overall end-to-end timeliness (from filing to intention to grant) remained strong, with an average duration of 45.1 months for all cases.

In response to user feedback, our work has focused on dealing with the oldest files in our examination stock, and in 2023 this meant pre-2018 files. At the start of 2023, around 21 000 of these files were pending before the EPO or with the applicant in examination. At the end of the year, only around 5 200 were still awaiting examiner action.

In 2023, 95% ("p95" in Figure 40) of examinations were granted in around 63 months, which is 30 months faster than in 2018. Our aim for 2024 is to send 70% of standard grants within 36 months. To prevent unacceptable delays and a growth in the backlog of old files, we will continue to reduce the numbers of these older files in 2024 by:

1. moving forward the applicable cut-off year by one year to focus on pre-2019 examination requests; and
2. maintaining the number of examination files awaiting examiner action for more than 30 months at around 1 000.

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\(^{41}\) Standard examinations exclude cases with (1) more than one request for extension to reply, (2) more than one late fee payment and (3) rescheduling of oral proceedings.
Accelerated examination (PACE) at the EPO\textsuperscript{42} is free of charge and must be requested online using EPO Form 1005.\textsuperscript{43} The EPO strives to issue the first examiner action within three months of receiving a PACE request, and our timeliness in this respect has improved in the last five years. Under SP2028, the PACE programme will be updated to fit the digital age and relaunched as a new service.

### Timeliness of divisional applications
A divisional application may be filed relating to any pending earlier European patent application. The divisional application is accorded the same filing date as the parent application and benefits from any priority right of the parent application. These applications have their legal basis in Article 76 EPC and Rule 36 EPC, as well as Article 4G of the Paris Convention. They may be filed to overcome an objection of non-unity (i.e. mandatory divisionals) or on the applicant's own initiative (i.e. voluntary divisionals). A generation-specific fee was introduced in 2014 to deter the filing of long sequences of divisionals.

\textsuperscript{42} epo.org/en/service-support/faq/applying-patent/practical-advice/there-are-number-different-ways-expediting.

\textsuperscript{43} https://link.epo.org/web/1005_form-editable_12_15.pdf.
At present, pending divisional applications represent about 6.3% of the total volume of EP examination stock. In recent years, between 90% and 94% of divisional applications have been filed on a voluntary basis. The remaining 6% to 10% are filed following an objection of lack of unity. Divisionals are not filed in limited technical fields or solely by large applicants. Most divisionals are "first generation": around 87% of divisionals finished in 2023 had only one parent.

To expedite the proceedings, a summons to oral proceedings may be issued as a first action for divisional applications that have identical scope to the parent application. Divisional applications are usually examined by the same examining division that examined the parent application to ensure harmonisation.

Despite the relatively modest numbers, the timeliness of divisional applications is carefully monitored by the EPO, following feedback from users and other stakeholders. During 2023, we continued with our stringent approach, maintaining the pendency of divisional applications under 40 months, consolidating the positive developments of the past few years.

Table 2: Generations of divisionals finished in 2023 (not being parents themselves)

<table>
<thead>
<tr>
<th>Technology Community</th>
<th>Count</th>
<th>Divisionals with only 1 parent</th>
<th>Divisionals with only 1 parent (%)</th>
<th>Divisionals with 2 parents</th>
<th>Divisionals with 2 parents (%)</th>
<th>Divisionals with 3 parents or more</th>
<th>Divisionals with 3 parents or more (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agri-Food</td>
<td>160</td>
<td>138</td>
<td>86.3%</td>
<td>16</td>
<td>10.0%</td>
<td>6</td>
<td>3.8%</td>
</tr>
<tr>
<td>Digital</td>
<td>2 289</td>
<td>1 935</td>
<td>84.5%</td>
<td>262</td>
<td>11.4%</td>
<td>92</td>
<td>4.0%</td>
</tr>
<tr>
<td>Electronics and Physics</td>
<td>862</td>
<td>788</td>
<td>91.4%</td>
<td>63</td>
<td>7.3%</td>
<td>11</td>
<td>1.3%</td>
</tr>
<tr>
<td>Energy</td>
<td>327</td>
<td>297</td>
<td>90.8%</td>
<td>26</td>
<td>8.0%</td>
<td>4</td>
<td>1.2%</td>
</tr>
<tr>
<td>Health</td>
<td>2 234</td>
<td>1 819</td>
<td>81.4%</td>
<td>321</td>
<td>14.4%</td>
<td>94</td>
<td>4.2%</td>
</tr>
<tr>
<td>Infrastructure and Mechanics</td>
<td>822</td>
<td>753</td>
<td>91.6%</td>
<td>58</td>
<td>7.1%</td>
<td>11</td>
<td>1.3%</td>
</tr>
<tr>
<td>Materials and Production</td>
<td>1 293</td>
<td>1 158</td>
<td>89.6%</td>
<td>116</td>
<td>9.0%</td>
<td>19</td>
<td>1.5%</td>
</tr>
<tr>
<td>Mobility and Space Technologies</td>
<td>560</td>
<td>530</td>
<td>94.6%</td>
<td>24</td>
<td>4.3%</td>
<td>6</td>
<td>1.1%</td>
</tr>
<tr>
<td>Total</td>
<td>8 547</td>
<td>7 418</td>
<td>86.8%</td>
<td>886</td>
<td>10.4%</td>
<td>243</td>
<td>2.8%</td>
</tr>
</tbody>
</table>

Source: EPO
The EPO completes the grant for divisional applications faster than non-divisional applications. 81.4% of standard cases are completed within 48 months.44
Source: EPO

6. The quality journey: opposition

KEY FACTS

Expert opposition divisions composed of three highly experienced examiners, who can be joined by a legal member when required.

Varied opposition rates across fields: In 2013, the overall EPO opposition rate was 2.3%, with significant variation by field, from a high of 9.7% in agris-food to a low of 0.1% in digital.

Steady appeal rates: About 45% of EPO opposition decisions are appealed annually, by the proprietor, opponent(s) or both, reflecting the strategic importance of contested patents yet impacting only a small percentage (around 0.7%) of total applications.

Consistent outcomes: Approximately one-third of patents are revoked, amended, or upheld each year, demonstrating reliable and fair procedures.

44 Standard cases (divisionals) exclude cases with (1) more than one request for extension to reply, (2) more than one late fee payment and (3) rescheduling of oral proceedings.
The aim of the EPO’s opposition procedure is to act with the utmost impartiality, provide fair and transparent opposition proceedings, and deliver legally valid decisions on time. Each case is dealt with by an opposition division composed of three highly experienced examiners, who can be joined by a legal member if required. As shown below, for every 10,000 applications originally filed, 5,635 are granted and of these around 134 are opposed, with 69 opposition decisions being appealed.
6.1 Falling opposition rates

From our data we see that the number of granted patents being opposed has dropped from a high of 4.7% in 2022 to 2.3% in 2023. As with previous years, the 2023 opposition cases were not evenly distributed across technical fields, as shown below.

Table 3: Distribution of opposition cases across technical fields

<table>
<thead>
<tr>
<th>Technology Community</th>
<th>Opposition rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agri-Food</td>
<td>9.70%</td>
</tr>
<tr>
<td>Materials and Production</td>
<td>4.70%</td>
</tr>
<tr>
<td>Health</td>
<td>4.30%</td>
</tr>
<tr>
<td>Infrastructure and Mechanics</td>
<td>3.00%</td>
</tr>
<tr>
<td>Energy</td>
<td>2.20%</td>
</tr>
<tr>
<td>Mobility and Space Technologies</td>
<td>1.50%</td>
</tr>
<tr>
<td>Electronics and Physics</td>
<td>0.90%</td>
</tr>
<tr>
<td>Digital</td>
<td>0.80%</td>
</tr>
</tbody>
</table>

Source: EPO

6.2 Opposition outcomes

As shown in the graph below, the outcome of opposition proceedings has been highly consistent over the years in terms of the proportion of patents revoked, amended or upheld (roughly one-third each). The fluctuation in the outcome breakdown observed in 2020 and 2021 was a result of the pandemic when only...
a limited number of the most straightforward cases were finalised in 2020. This caused the revocation figure to spike at 41% in 2021, before returning to its pre-pandemic level of 33% in 2022.

Figure 44: Opposition outcomes

An appeal against an opposition division's decision can be filed by the proprietor, one or more opponents or even both parties. Around 45% of opposition decisions are appealed: this figure has remained stable over the years and is a logical consequence of the fact that some files are highly contested for commercial and strategic reasons. A significant portion of appealed opposition decisions are withdrawn without a decision from the Boards of Appeal (see Annual Report of the Boards of Appeal). An overview of the outcomes is provided in the figure below for those files for which the Boards of Appeal issued a decision.

Figure 45: Boards of Appeal decisions on oppositions

Source: EPO
6.3 Actions taken in 2023 to improve quality: opposition

A focal point for action in 2023 was the professional development of all examiners involved in opposition, with dedicated learning initiatives for each role (first examiner, second examiner and chairperson).

For example, dedicated workshops for oral proceedings via VICO were held for opposition chairpersons, focusing on soft skills, to ensure an inclusive, objective, and effective process that ultimately results in a high-quality decision. The average duration of oral proceedings by VICO has decreased and is now comparable with the situation before the pandemic with over 90% of cases finished within one day. Moreover, the new digital environment has resulted in 20 times more public observers attending oral proceedings than before the pandemic (>2 000 per year), making this procedure more transparent than ever.

In terms of drafting written opposition communications, the focus was on:

- attaching all relevant facts and submissions
- completeness of the summons
- ensuring that the preliminary opinion of the opposition division is clearly set out

Templates for more structured opposition communications have also been developed and made available to opposition examiners with a view to enhancing consistency and completeness and encouraging more structured interaction with the parties, similar to the above-mentioned templates for structured communications in examination.

Another aim for 2023 was to strengthen learning from feedback by creating a more complete and integrated picture of all internal and external feedback on opposition.

We brought together data and information from our targeted operational quality checks, regular observations of oral proceedings, regular discussions with experienced chairs, complaints/observations from external parties, feedback from the user satisfaction survey and lessons learned from appeal outcomes. These inputs were then discussed and distilled into action plans in quarterly Opposition Quality Round Tables that included a wide variety of internal stakeholders from the operational, quality management and patent law and procedures areas.

BoA decisions setting aside opposition division decisions have been studied and used to identify opportunities for improvement. This work will be developed further in 2024 and a new key performance indicator (KPI) for opposition will be established based on BoA decisions on oppositions.

6.4 Results achieved: opposition

User satisfaction survey
Our end-to-end user satisfaction surveys regularly show high levels of satisfaction throughout the patent grant process (PGP). The 2022/2023 user satisfaction survey (USS) results again showed strong satisfaction along the PGP. 70% of respondents rated our opposition procedure as good or very good.
Opposition audit results
In addition to the classification, search and grant quality audits that are carried out every year, quality audits on oppositions and refusals are carried out every second year and when mandated by the President. As reported in the previous Quality Report in 2022, 100 opposition decisions and procedures were audited, showing very high compliance. Building upon this strong foundation, in 2023 we started redesigning the audit process for opposition files with an emphasis on dialogue with the division when quality improvements are identified. The new process will be rolled out in 2024.

Opposition timeliness
We have continued to reduce the opposition backlog, which is now around 3 500 files. It is now 20% below its pre-pandemic level. The average duration of a standard opposition\textsuperscript{45} action takes 19.3 months, which is only slightly above the 18-month target. 43.4% of opposition cases were decided within 18 months (our target is 70%).

\textbf{Figure 46: Opposition: standard decisions taken within 18 months}

\begin{center}
\begin{tikzpicture}
\begin{axis}[
legend style={at={(0.5,1)},anchor=north,draw=none,fill=white,font=\footnotesize},
legend columns=3,\]
\addplot[fill=white,draw=black,mark=+] coordinates {
(18,0.434)
};
\end{axis}
\end{tikzpicture}
\end{center}

\textbf{Source: EPO}

Non-standard files\textsuperscript{46} take on average six months longer. We have now put in place a dedicated acceleration mechanism for opposition files for cases where we are informed of parallel national court or UPC proceedings (OJ EPO 2023, A99).

\textbf{Figure 47: Opposition timeliness (time in months)}

\begin{center}
\begin{tikzpicture}
\begin{axis}[]
\addplot[black,mark=none,smooth,thick] table [x=date, y=median] {data.csv};
\addplot[red,mark=none,smooth,thick] table [x=date, y=mean] {data.csv};
\addplot[blue,mark=none,smooth,thick] table [x=date, y=p95] {data.csv};
\legend{median, mean, p95}
\end{axis}
\end{tikzpicture}
\end{center}

\textbf{Source: EPO}

\textsuperscript{45} Standard oppositions exclude cases with (1) multiple opponents, (2) legal members to take evidence and (3) rescheduling of oral proceedings or multiple oral proceedings took place.

\textsuperscript{46} Involving multiple parties or a legal member, or where the oral proceeding needed to be rescheduled.
The mission of the EPO is:

"As the patent office for Europe, we are proud to deliver high-quality patents and efficient services that foster innovation, competitiveness and economic growth."

To achieve this goal, the EPO developed an ISO 9001:2015-compliant QMS to help achieve continual improvement. Several elements of the QMS are inward-looking and focus on our products, procedures and services using structured data and intellectual analysis of work products. We also rely on our users to provide us with their views on and perceptions of our quality.

Continual improvement is a journey which requires adaptation and regular reassessment. We do that together with our users by listening to them and also by being transparent.
7.1 Assessing our quality at every step of the process

The EPO Patent Quality Charter
To assess quality, we need to decide what quality means in the patent process. Different actors in the patent landscape will look at this question from different perspectives and have different views on what is important and what is not. Therefore, defining and assessing quality can be challenging. It requires arriving at a common understanding of the meaning of quality and an acknowledgement that responsibility for achieving is shared between the EPO, our users and wider society. Following extensive input from users, staff and member states, the EPO’s Patent Quality Charter48 entered into force on 1 October 2022. The Charter puts front and centre the importance of high-quality patents to industry and the value that industry places on legal certainty and predictability. The Charter also sets out five quality pillars that guide the EPO's quality activities.

Figure 48: Five pillars of the EPO Patent Quality Charter

<table>
<thead>
<tr>
<th>Quality through design</th>
<th>Building systems to deliver quality products and services</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quality through support</td>
<td>Promoting knowledge-sharing to achieve excellence</td>
</tr>
<tr>
<td>Quality through shared values</td>
<td>Nurturing our common principles within and outside the Office</td>
</tr>
<tr>
<td>Quality through metrics &amp; learning</td>
<td>Fostering a culture of continuous improvement</td>
</tr>
<tr>
<td>Quality through dialogue</td>
<td>Exercising strong engagement with stakeholders</td>
</tr>
</tbody>
</table>

Source: EPO

Continual improvement by assessing all aspects of our quality
Over time, we have developed and improved a number of mechanisms to ensure a 360-degree assessment of the quality of our products and services. This involves gathering information about the quality of EPO products and services from internal sources and from users.

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All this information is routinely assessed and cross-referenced with other data and feedback and provides us with an indication of how we are performing and where we can improve. This enables us to set clear goals for our KPIs so we can track our progress and measure the impact of our quality actions.

### 7.1.1 Assessing quality internally

**Built-in quality checks in the search, examining and opposition divisions**

The EPO’s three-member divisions bring together three technically qualified examiners who collaborate on all searches, examinations and oppositions. The divisions bring significant benefits for quality through the peer-to-peer sharing of best practice as well as technical and legal knowledge. In addition to the checks performed by the three-person division, line managers also review products before they are dispatched to applicants. During opposition procedures, the divisions include at least two examiners who were not involved in granting the opposed patent. This ensures objectivity and brings additional expertise into this phase of the patent granting process.

**Operational quality controls**

On top of our three-member divisions, operational quality controls are a key mechanism for analysing our quality. With support from senior experts, these are performed by directors and team managers on a regular basis across the patent granting process. This work is enabled by Patent Workbench, which was designed to support and document collaboration between the division members. In addition, the work of our formalities officers is monitored through checks done by quality officers, which are further reviewed by quality experts. The work of our opposition divisions undergoes a further operational quality check that is carried out by the directors of the opposition area.
Explaining our detailed quality audit process

In addition to the in-process operational quality control checks conducted on every file, quality audits are undertaken by a dedicated internal unit attached to Principal Directorate Internal Audit and Professional Standards to ensure its operational independence. The last external audit of our ISO certified systems in 2023 reconfirmed the successful implementation of quality best practice at the EPO and that the quality audit practice was in line with international standards.

Trained auditors – who are independent of our operational teams – audit the quality of classification, search, examination and opposition work, as well as the work of formalities officers. This ensures regular and independent evaluation of how the divisions and formalities officers are applying the regulations. Findings are used for continuous quality improvement of our products and services. Between 2018 and 2023, the auditing capacity was increased, more than doubling the number of audits performed annually and expanding checks to cover written opinions, while at the same time increasing the granularity of data gathered.

Currently, 12 full-time auditors and 12 auditors on 50% partial mobility assignments carry out the search and examination product audits. They are all highly experienced examiners and senior experts. Most have passed the EQE and have experience of opposition work; some have further qualifications in patent law. All have a solid track record in delivering high-quality products. To ensure that the auditors consistently apply best practice and continually refresh their knowledge of practice and procedure, they are appointed on the basis of three-year assignments following a tough internal recruitment competition. Their rigorous development programme includes soft skills training, which supports the audit dialogue process, complemented by dedicated coaching and continuous knowledge transfer (CKT) sessions. Auditors participate in SQAP exercises, organised within the framework of the SACEPO Working Party on Quality, to ensure they are aware of user quality expectations.

The random sampling of search products and proposals for grant is in process and integrated into the operational electronic workflow, Patent Workbench. Sampled files are routed to auditors immediately after checks by the division and line manager, and any corrective actions are taken before the products are dispatched.

With 312 operational teams across eight technology communities, each search and examination auditor must cover a broad range of applications. In the past, interaction between the auditors and examiners took place mainly in writing, with
around 10% of cases leading to disagreements between the expert examiner divisions and the auditors. In 2020, we introduced face-to-face meetings to increase the effectiveness of feedback in such disputed cases. These informal discussions on specific findings, which could potentially impact the validity of a future patent, enable divisions to receive direct feedback on their work and provide opportunities for learning and knowledge exchange for auditors and divisions alike. As a result, the agreement rate at the end of 2023 was above 98% of audited files in search and 96% in examination, giving us high confidence in the accuracy of audit findings.

Figure 51: Internal search and examination quality audit process

Source: EPO

The EPO has audited the quality of its search products since 2007. High levels of conformity with criteria related to relevance of the cited prior art have been measured continuously since then. Quality is also a continual dialogue with users, and in response to their feedback, at the end of 2021, the audit was extended to cover five additional aspects relating to the written opinion, in addition to the aspects centred around the relevance of the prior art. The audit checks whether the search product provides a complete and correct interpretation of the prior art and whether it clearly communicates the potential patentability of claims. The number of searches sampled for auditing is selected to deliver a statistically relevant measurement of the percentage of sampled files with "no findings" to a confidence level of 95%. The 12-month result for 2022 provided a baseline for the new search audit data to which the 2023 result can be compared. In 2023, the high quality of the main search objectives was confirmed and even found to be improving. The findings potentially affecting validity (novelty or inventive step) were stable at 6%, including findings of more relevant prior art in just 4% of sampled files. Added subject-matter findings improved from 1.8% to 0.7% of sampled files. In 2023, quality audits identified that the proportion of such findings is higher in divisional applications than in Euro-PCT bis files, indicating where actions can best be targeted.

The findings under "Quality improvements" (11.5%) relate mostly to where examiners were too strict with the written opinion. Although preliminary opinions on patentability can be adjusted in the examination phase based on applicants' relevant arguments, measuring this aspect of the written opinion helps the EPO deliver an even better service at search.

During 2023, the department continued to develop the granularity of the issues recorded to be able to deliver more detailed bar charts for search and grant audits and provide deeper insights into the various findings. Following the launch of Unitary Patent protection in 2023, there has been an increased focus on the
validity of the patents granted by the EPO. As a consequence, the audit reports clearly indicate the findings potentially affecting validity, while still providing a detailed breakdown of the legal basis (novelty, inventive step, etc.). In 2023, grant audit findings potentially affecting validity indicated an increase in novelty or inventive step findings from 9.5% to 7.9%, and in "added subject-matter" findings from 5.9% to 5.0%. Clarity (5.3% of findings) is also identified as an area for improvement, the insights here providing inspiration for a future workshop involving the SACEPO Working Party on Quality.

7.1.2 Assessing quality with our users

User feedback is an essential part of our quality assessments and helps us deliver the expected product and service quality levels. We use numerous channels to interact with and listen to users. We have gradually been expanding the portfolio of user engagement activities, and the transition to the digital ways of working has enhanced the dialogue possibilities. A highlight in 2023 was the MyEPO Portfolio Focus Group, which meets monthly and provides feedback and input on the features being tested prior to their release to all users.

Regular, independent and comprehensive user satisfaction surveys

The EPO has conducted comprehensive, independent user satisfaction surveys (USS) for many years. The results are used for continual improvement of products and services throughout the patent granting process. Between September 2022 and April 2023, we ran the latest series. A total of seven in-depth surveys were conducted by telephone and online by an independent external service provider. The interviews were held in Chinese, English, French, German, Japanese and Korean.

The 2022/2023 USS results were based on 7,000 responses from EPO users around the globe. Around 5,100 interviews were conducted by our service provider and the remaining 1,900 responses were from customer sentiment feedback surveys on the handling of customer enquiries. The results confirm high user satisfaction levels along the patent granting process, with a statistically significant increase in examination and decrease in opposition. The latter was mainly due to delays caused by the COVID-19 pandemic. Satisfaction with the various support services was exceptionally high, demonstrating notable improvements in their service levels. The detailed results and free-text comments made were further analysed to identify improvement potential and define quality initiatives as part of our annual quality action plan. In November 2023, the SACEPO Working Party on Quality was consulted on which questions should be asked in the next USS (to be launched in 2024).

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Learning from customer enquiries

Customer enquiries are also a valuable source of user feedback. In 2023, the EPO handled 74,849 enquiries, representing a rise of 15% compared to 2022 (65,097). The increase in enquiries was mainly due to a change in internal procedures where unanswered phone calls are now redirected to the First Line Customer Enquiries Unit. Moreover, the launch of the Unitary Patent in June 2023 was an additional source of requests for assistance and information from users.

The EPO resolved 97% of all cases (96% in 2022) within the set internal time limits.

The bulk of the enquiries concerned the following main areas:

- EPO smart cards (21%)
- file-related queries for the Receiving Section (9%)
- file-related queries in examination (7%)
- general EPO information (5%)
- Online Filing 2.0 (5%)

Upon case closure, customers receive an email inviting them to provide feedback on our handling of their enquiry. Overall, there was a high rate of satisfaction (95%).
Active support for our applicants
A team of eight key account managers (KAMs) provides direct support to applicants that file regularly with the EPO. KAMs provide support to IP professionals, including companies filing directly with the EPO, patent attorneys, paralegals and IP support staff.

A main focus in 2023 was the promotion of EPO online services such as MyEPO Portfolio, Mailbox and Online Filing 2.0. The KAMs were instrumental in bringing the user community on stream with our new tools through promotional and training activities. Additionally, eight public seminars (in all three official EPO languages) and 16 tailored workshops were organised. These seminars reached over 2,800 participants; they were recorded and published on the EPO's website.\(^{50}\)

Online complaints and feedback channel
The EPO provides an official online channel for users to lodge complaints, and since 1 November 2021, users have been able to provide feedback via this form as well.\(^{51}\)

EPO examiners issued some 543,000 actions in 2023. Of the 214 complaints and feedback cases filed (down from 265 in 2022), 177 were complaints, of which 62% were deemed justified or partially justified. Half of all complaints related to the patent granting process.

All complaints are thoroughly analysed, usually in consultation with the operational units concerned. In 92% of cases (86% in 2022), complainants received a detailed reply within 20 working days. The number of complaints in search and examination decreased from 99 in 2022 to 66 in 2023.

Approximately half of all complaints were initiated by professional representatives, with 73% found to be justified or partially justified. The remaining

\(^{50}\) youtube.com/playlist?list=PLgDIswd0__elcuS986ZCO_X4MyxUH78LW.
\(^{51}\) epo.org/en/formal-complaint.
half comprised complaints from users without legal representation, of which 22% were individuals and 28% were companies.

The confidential Ombuds Office service

The Ombuds Office service was launched in April 2022 after extensive user consultation. Available to anyone, it provides an informal and confidential service which aims to resolve difficulties in dealings with the EPO and get stalled procedures back on track through dialogue. It is independent of formal processes and does not address matters involving the Boards of Appeal.

A steady uptake of the service was observed. In 2023, the Ombuds Office received 79 cases. By the end of the year, 75 of these cases had been successfully concluded with four still in progress. Lessons learned from these cases are helping the EPO to further develop its integrated management system for continuous improvement in the consistency and predictability of service delivery.

Table 4: Ombuds Office external cases (2023)

<table>
<thead>
<tr>
<th>External cases</th>
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<tbody>
<tr>
<td>Cases handled since launch</td>
<td>126</td>
</tr>
<tr>
<td>Cases started 2023</td>
<td>79</td>
</tr>
<tr>
<td>Completed 2023</td>
<td>78</td>
</tr>
<tr>
<td>Pending end 2023</td>
<td>5</td>
</tr>
</tbody>
</table>

Throughout 2023, the Ombuds Office continued to participate in awareness-raising activities, including meetings with user representatives and key stakeholders. Positive feedback from user associations indicates that the Ombuds Office service is increasingly recognised as an effective tool for de-escalation and issue resolution in addition to the EPO’s established feedback mechanisms.
Regular meetings with our applicants and their representatives

In 2023, the EPO held 24 user meetings, 20 of which were held virtually and four in hybrid mode. These meetings followed a format established in 2021 under SP2023 which had already been used for 30 similar exchanges involving applicants from all IP5 regions.

The topics covered during meetings were mainly selected by the users and reflect their main areas of interest:

- communication with examiners
- harmonisation
- Unitary Patent and UPC
- timeliness
- EPO approach to CII/AI
- quality
- operational topics
- adaptation of the description
- MyEPO Portfolio.

User Day

User Day went digital in 2021, resulting in a spectacular increase in attendance compared to previous in-person editions of the event. The first online edition in 2021 already attracted 3,700 viewers. The 2023 meeting exceeded all expectations with an all-time high attendance of around 10,300 viewers and representation from 70 different countries (46 in 2021). The event had 55 different speakers, including 15 external guests.

During the two-day event, the latest developments in digital services such as MyEPO Portfolio (Mailbox, Portfolio, the shared area) and Online Filing 2.0 were demonstrated. Panel discussions took place on the Unitary Patent, quality and user feedback channels.
Meetings with user associations and other external stakeholders

In 2023, the EPO held almost 30 meetings with European and international user associations, including the Institute of Professional Representatives before the EPO (epi), BusinessEurope, Bundesverband der Deutschen Industrie (BDI), Chartered Institute of Patent Attorneys (CIPA), Japan External Trade Organization (JETRO) and the American Intellectual Property Law Association (AIPLA). Interactions with NGOs and sector-specific associations also took place.

On top of our regular meetings with BusinessEurope, we held our first technical meeting with this body in 2023. This allowed for deeper technical exchanges between industry and EPO experts. A similar annual technical meeting takes place between the EPO and the epi's European Patent Practice Committee.

The Standing Advisory Committee before the EPO

The Standing Advisory Committee before the EPO (SACEPO) was set up in 1978 and is the EPO's main forum for exchanges with user representatives. The SACEPO is consulted on all major initiatives relating to the development of the European patent system. Five working parties have been set up to address specific areas:

- e-Patent Process
- Guidelines
- Quality
- Rules
- Patent Documentation and Information.

Since its creation in 2018, the SACEPO Working Party on Quality has been the EPO's main consultative body for all matters relating to the quality of the patent granting process. Membership comprises 75 user representatives from industry, the patent profession, public research institutions and SMEs. Members come from 38 countries across four geographical areas of the world and represent all fields of technology. Meeting twice a year, the Working Party on Quality is given detailed updates on EPO performance and new initiatives. Input and feedback
from members enable in-depth discussions on substantive quality improvement. In 2023, breakout sessions were held for each geographical region on search and examination quality, allowing the EPO to hear region-specific needs and perspectives on quality. At the second meeting in the year, suggestions for a review of the practice on third-party observations and for a workshop with industry on clarity were both taken up by the EPO and will be taken forward in 2024. Initiatives that affect quality or the perception of quality are also discussed in the other SACEPO working parties.

**Stakeholder quality assurance panels**

As part of EPO’s extensive user outreach programme, the **stakeholder quality assurance panels** (SQAPs) offer users regular opportunities to discuss the quality of our products with EPO experts in a structured and collaborative environment. Following the success of the 2022 SQAPs, which focused on grant-stage quality, the 2023 SQAP programme was expanded to three sessions on searches and written opinions, intermediate communications and grants.

These panels brought together 50 EPO experts and European patent attorneys, representing the epi, BusinessEurope and the SACEPO Working Party on Quality. The assessors selected and reviewed 108 EPO files (up from 36 in 2022) and provided feedback on best practice and opportunities for learning and improvement. The panels covered diverse technical fields aligned with the EPO’s technology communities.

The panellists acknowledged the high relevance of documents cited in EPO search reports and praised the accompanying written opinions. The assessed intermediate communications were seen as effective in advancing procedures. Users were generally positive about the quality of granted patents and encouraged examiners to make suggestions to overcome objections. As in 2022, the SQAPs underlined the advantages of increased dialogue between applicants and EPO examining divisions. The findings from the 2023 SQAPs were presented at the SACEPO Working Party on Quality in November 2023. For a comprehensive report on the 2023 SQAPs, please refer to the annex to this report.

**7.2 Improving transparency**

Transparency is also foundational to our quality; it underpins the interactions we have with our stakeholders and promotes a shared understanding of quality. Furthermore, we recognise that the information we share can help representatives advise clients, correct misconceptions and generally support exchanges between the EPO and its users.

Last year’s Quality Report was the most comprehensive ever and was welcomed by our users who gave us further suggestions on topics of interest to them. Acting on these requests and suggestions, this edition introduces more information on topics of interest. In addition to recently publishing our Quality Dashboard\(^{52}\) and the Quality Action Plan\(^{53}\) 2024, we have also revamped our Quality pages on

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These pages now provide more detail and data on our quality as well as describing what we are doing to perform even better.

**Figure 57: New Quality website**

![Quality](image)

Source: EPO

**Publishing our annual Quality Action Plan and quality KPIs**

Each year, the Office conducts a comprehensive review of the EPO's quality performance. This takes into account all the feedback and comments we receive and the results of internal and external assessments. This culminates in clearly defined objectives and a detailed Quality Action Plan which outlines the concrete steps that will be taken to improve patent quality in the coming year.

The EPO's Quality Action Plans have always been published internally. To improve transparency further, the EPO Quality Action Plan 2024 has been published for the first time on epo.org.

The EPO's new KPI dashboard, launched in March 2024, enhances transparency for all our stakeholders by providing regular updates on quality indicators and user satisfaction.

Regular reporting to and through the EPO's Management Advisory Committee and Quality Committee ensures close oversight of the delivery of the action plan and tracking of progress against the KPIs.

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7.3 Fully certified quality management system

Underpinning all these activities and as part of the EPO's integrated management system, our certified QMS covers the whole patent granting process. It comprises numerous quality assurance mechanisms that assess the quality of processes and procedures as well as product quality and timeliness. The EPO's QMS was first certified to ISO 9001:2009 in 2014 and achieved its third re-certification to ISO 9001:2015 in October 2023.

By employing ISO 9001 methodology to achieve continual improvement, the EPO is able to effectively manage its various quality-related data and feedback inputs, initiate improvement actions, monitor them and assess their effectiveness.

7.4 Governing bodies

The governing bodies of the EPO play a crucial role in maintaining the quality of its operations. Through strategic oversight, they ensure that the EPO upholds high standards in patent quality, thereby supporting innovation and protecting intellectual property effectively.

The Administrative Council is the EPO's supervisory body. It is responsible for the general oversight and governance of the EPO. The council ensures that the office operates efficiently and adheres to its mission, objectives and quality standards.

The Technical and Operational Support Committee (TOSC) provides the Administrative Council with opinions on operational issues concerning quality.
8. Conclusions and outlook for 2024

This is the EPO’s eight annual Quality Report, outlining our performance in quality, the steps we took to improve quality in 2023 and the results achieved. The 2022 edition of the Quality Report was significantly expanded in response to requests from users for more information on quality targets, metrics, data and activities. Following positive feedback on our 2022 Report, this 2023 edition provides even greater insights into areas where users want to deepen their understanding of our quality actions and results.

For example, this report explains our quality audit process with even greater granularity. It also categorises in more detail the presentation of quality audit findings, by indicating findings potentially affecting validity while still providing a detailed breakdown according to legal basis. The annex provides a comprehensive report on the expanded SQAPs programme in 2023, meetings which are highly appreciated by our users.

Throughout 2023 we continued to invest in the foundations of quality at the EPO. We recruited 100 new examiners. We further expanded our collection of prior art. We also continued to develop our people, tools and processes. We have learnt from the wealth of information and data gathered from users. Quality has been assessed at every stage of the PGP and we have enhanced our approach to consistency of practice.

These investments have enabled us to secure key quality achievements in 2023. Our most recent user satisfaction survey of over 7 000 users shows very high levels of user satisfaction with our products and services. The results from our internal independent quality auditors show positive developments in quality in 2023 compared to 2022 with a reduction in findings that potentially affect validity, at both search and grant stage.

As part of our ISO-certified quality management system, each year the EPO provides a Quality Action Plan which is shared with all EPO staff. The decision to publish our Quality Action Plan on epo.org for the first time in March 2024 represents another step in our quality journey. At the same time, we also introduced a new public quality dashboard presenting our KPIs on quality. This greater transparency allows users to see the commitment we have set for quality in 2024 and beyond and to follow our progress towards the quality goals, as the quality dashboard is updated regularly.

Quality at the EPO is a shared journey. It is a journey that we undertake together with our users through dialogue, shared responsibility and collaboration; a journey that leads to continual improvement of our products and services through adaptation and regular assessment.

Our focus is now on looking forward – and on building on the progress made in 2023.
Our Quality Action Plan 2024 defines targeted actions for further improving the quality of our products and services at every stage of the PGP, strengthening dialogue with our users and enhancing learning from BoA outcomes:

**Search and written opinion**

For 2024, our objectives in search and written opinion focus on finding the most relevant prior art at search stage and providing a correct assessment of novelty and inventive step. We aim to provide more comprehensive written opinions that strike the right balance between ensuring the fulfilment of legal requirements and accurately identifying the full potential of the application. We will achieve our KPIs through the following actions:

<table>
<thead>
<tr>
<th>Enhancing our tools</th>
<th>Further develop AI pre-classification</th>
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<tbody>
<tr>
<td></td>
<td>Achieve 90% accuracy of our AI-based file routing (digital file allocation)</td>
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<tr>
<td></td>
<td>Increase the accuracy of AI classification to 90% to assist in achieving an overall classification accuracy of 95%</td>
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<td></td>
<td>Enhance examiner access to and citation of Asian documentation</td>
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<table>
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<tr>
<th>Developing our people</th>
<th>Identify and address individual training needs</th>
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<tr>
<td></td>
<td>Update technical skills via academia, industry and trade fairs</td>
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<tr>
<td></td>
<td>Provide targeted ANSERA training to fully leverage the tool's functionality and reach 100% usage (currently at 93%)</td>
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</table>

<table>
<thead>
<tr>
<th>Strengthening and further harmonising our work</th>
<th>Enhance assessment of novelty and inventive step, as well as requirements such as clarity</th>
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<tbody>
<tr>
<td></td>
<td>Address fall-back positions</td>
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<td></td>
<td>Propose ways to overcome objections</td>
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<td></td>
<td>Monitor the impact of active search divisions</td>
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</table>

**Examination**

Our quality audits on grant show there is room to improve the quality of the assessment of novelty and inventive step and added subject-matter. In addition to our quality audit results and USS, further insights into the quality of our work can be obtained from the decisions of the BoA, so a new KPI will be developed in the course of 2024 on BoA decisions on ex parte refusals. We will achieve our KPIs through the following actions:

<table>
<thead>
<tr>
<th>Enhancing our tools</th>
<th>Discuss examples to illustrate best practice and areas to improve</th>
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<tbody>
<tr>
<td></td>
<td>Strengthen learning through feedback from peers, managers, quality audits, opposition, BoA, the Unified Patent Court, national courts, users and SQAPs</td>
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<td></td>
<td>Involve team managers in quality audit dialogue</td>
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<table>
<thead>
<tr>
<th>Strengthening and further harmonising our work</th>
<th>Engage experts on computer-implemented inventions (CII) and AI to ensure harmonised approach to emerging technologies</th>
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<tbody>
<tr>
<td></td>
<td>Allocate mixed divisions for applications spanning different fields</td>
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<td></td>
<td>Embed use of structured communications</td>
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<td></td>
<td>Conduct internal study on consistency of practice in handling third-party observations</td>
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<td></td>
<td>Monitor impact of harmonisation using practice harmonisation dashboard</td>
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</table>

<table>
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<tr>
<th>Strengthening our partnerships</th>
<th>Hold workshop with users on clarity and shared responsibility</th>
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<tr>
<td></td>
<td>Track usage and impact of the shared area in MyEPO Portfolio</td>
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</table>
Opposition

To drive improvement in legal certainty and the robustness of our examination and opposition decisions, we will build on initiatives implemented in our SP2023 to strengthen learning from BoA outcomes. Over the course of 2024, we will develop a more systematic analysis of these outcomes and review decisions in appeal to identify quality improvement and learning points. To monitor our progress, we will define a new KPI to identify trends in appeal outcomes from opposition decisions. In 2024 we will pilot a new format of opposition audit, continuing the development of our audit processes based on insights gained from the new granularity of search and grant audits. Our 2024 opposition objectives will be achieved by actions to:

- identify areas of learning from decisions of the BoA and Unified Patent Court and raise awareness e.g. via the case law community of practice and iLearn events
- analyse decisions which set aside first instance decisions
- introduce structured communications in opposition, standardise “Facts and Submissions” and allocate mixed divisions
- explain in decisions how the division has interpreted unclear claims
- consolidate the framework for quality dialogue with the BoA
- further clarify Guidelines for Examination in close consultation with users.

Dialogue with users

In 2023 we had 24 high level and technical meetings with individual large applicants as well as SQAP sessions, SACEPO meetings, the annual User Day and other events. In 2024 we will continue our collaborative approach in which EPO management, patent examiners and industry stakeholders engage in active, open and constructive dialogue to enhance the already high quality of the PGP at the EPO. Specifically, we will:

- continue to deliver a programme of institutional and applicant-level meetings, both high-level and technical. Explore ways of bringing this programme to smaller companies
- optimise engagement between newly appointed members of SACEPO, the users they represent and the EPO
- explain transparently to stakeholders the quality actions being taken and the improvements anticipated
- develop a SQAPs concept incorporating feedback from epi, BusinessEurope and the SACEPO Working Party on Quality
- incorporate feedback from the SACEPO WP/Q when preparing next USS
- continue developing online tools and support users in learning to use them e.g. MyEPO
- modernise professional development, the EQE and EPAC.

By working together with all users of the European patent system – and drawing on our combined expertise and commitment to excellence in our shared journey – we can set new global standards in patent quality.

We welcome all feedback from our users, whether it is about quality in general or specifically about this Quality Report. If you want to join the conversation on patent quality, or share your views on this report, please contact us at quality@epo.org.
Annex 1 Quality Report 2023 – Annex SQAPs

Executive summary

The stakeholder quality assurance panels (SQAPs) are an important component of the EPO's user outreach programme, providing European patent attorneys with the opportunity to work together with EPO experts to jointly assess the quality of selected EPO files.

In 2023, the SQAP programme was expanded by increasing the number of SQAP sessions from one to three and assessing the quality of EPO work at further stages of the patent granting process. Three sessions were held on searches and written opinions (new in 2023), intermediate communications (new in 2023) and grants (as in 2022). The expanded programme was very well received by the SACEPO Working Party on Quality (WP/Q), the epi, BusinessEurope (BE) and SQAP assessors.

In their findings, the panels identified examples of best practice and opportunities for improvement. Feedback from the SQAPs in 2023 provided valuable input for the EPO Quality Action Plan 2024.

Key takeaways of the SQAPs in 2023

- Search reports: broad agreement that cited documents were relevant.
- Written opinions: written opinions very much appreciated; structure and substantiation of reasoning, especially for fallback positions, could be improved.
- Intermediate communications: examination is handled effectively; clearer structure would aid understanding; request for more visibility of status of objections, more dialogue between applicants and division at early stage.
- Grants: high level of agreement between assessment of EPO experts and attorneys; amendments proposed by division appreciated; more consultation with applicants requested; attorneys urge caution when adapting description, especially deletion; more consultation requested.

1. Format of SQAP programme in 2023

Each of the three SQAP sessions held in 2023 consisted of six panels of four experts (two European patent attorneys and two EPO experts i.e. senior experts/internal quality auditors). Each panel was specialised in a different technical field aligned with the EPO's technology communities: Digital, Electronics and Physics, Health, Agri-Food, Energy, Mobility and Space Technologies, Materials and Production and Infrastructure and Mechanics. Over the course of 2023, 50 attorney and EPO experts assessed the quality of 108 files (up from 36 in 2022).

In addition to assessors nominated by the epi and BusinessEurope as in 2022, the 2023 panels also included European patent attorneys from the SACEPO WP/Q. The files selected for assessment by the panels were from a random pool of granted patents provided by the EPO. Members of the SACEPO WP/Q and selected EPO staff were invited to observe the panel discussions which took place on 20/21 June and 25 October 2023. The meetings were conducted in a professional, open-minded and constructive atmosphere, with in-depth and file-
specific discussions. To complement qualitative feedback from the panels and facilitate visualisation of findings and tracking of progress, the assessors completed a questionnaire for each of the files they assessed. The findings of the panels were presented by SQAP assessors at the SACEPO WP/Q meeting on 30 November 2023.

The feedback and suggestions from SACEPO WP/Q members, the epi, BusinessEurope and SQAP assessors on the 2023 SQAP programme can be summarised as:

- offer more patent attorneys and examiners opportunities to participate
- keep search/search opinion and grant as annual SQAP panels and broaden the scope of cases for the third panel to include other aspects of the patent granting process, e.g. "deemed to be withdrawn", "withdrawn", "refused" or "revoked"
- explore options for case selection, e.g. complicated cases or searches which did not proceed to examination
- provide assessors more time to prepare for the SQAP sessions
- reduce the time taken for each SQAP panel to report back to the SACEPO WP/Q
- allocate more time in SACEPO WP/Q meetings for assessors to present their findings
- develop metrics based on SQAP results
- increase awareness of the SQAP concept and outcomes.

This feedback has been taken on board in developing the 2024 SQAP programme.

2. **SQAP findings on search reports and written opinions**

The 2023 SQAPs’ assessment of search reports and written opinions was the first time a session had been held on search reports and written opinions. The assessment focused on the relevance of cited documents, the correct category, addressing independent claims and fallback positions from dependent claims or description, consistency of the written opinion with the search report, correctness and clarity of objections, and facilitating smooth examination. Searching for prior art was not part of the scope of this SQAP session.

**Best practices observed**

- Most search reports cited highly relevant documents, including non-patent literature and Asian documents.
- Written opinions were consistent with search reports and addressed independent claims effectively. Opinions provided a useful basis for further file prosecution.
- Written opinions were detailed and used clear language, well-reasoned objections and a constructive tone. Objections for independent claims were properly substantiated. Feature mapping for novelty objections was very helpful.
- The panels largely agreed with the examiners’ assessment of patentability.
- Examiner indications of patentable subject-matter facilitated efficient processing in examination.
Areas where views differed within panels

- Opinions differed on the correctness of categorising cited documents in search reports, in particular when indicating lack of inventive step with respect to a combination of documents (e.g. use of Y,Y or X,A).
- Some assessors find examiner indications of patentable subject-matter misleading, in particular if the basis for claim combinations is not solid or the division has not been fully consulted on the positive suggestion. This can lead to a change of position by the division in the examination phase after the applicant has made amendments in line with the initial suggestion.
- Opinions sometimes differed on the extent to which claims should be limited to the field of technology of the embodiments in the description.

Consensus on opportunities for improvement

- References to "whole document" in the search report are unhelpful.
- Invalid priorities sometimes overlooked.
- Documents cited as relevant for patentability in search reports drawn up by other ISA not mentioned or commented upon.
- Overstretching relevance of cited documents for dependent claims.
- Dependent claims sometimes not addressed in search report or written opinion.
- Unsubstantiated objections for dependent claims.
- Inconsistent approach to handling of parameter claims and emerging technologies.
- Clarity objections sometimes not easy to understand.

SQAP assessors' responses to questionnaire on assessed searches and written opinions

The responses below visualise aggregate responses given by each of the 24 assessors for each of the six files they assessed. Each panel of four assessed the same files so that the results cover 36 distinct files. The bars reflect the percentage of responses which agreed with the statements below "to a very large extent", "to a large extent" or "to some extent". The percentages are not statistically significant.

Figure 59: SQAP survey results on search reports and written opinions

Source: EPO
3. SQAPs on intermediate communications

The 2023 SQAPs' assessment of intermediate communications was the first time a session was held on intermediate communications. The assessment focused on thoroughness in addressing all claims with reasoned objections, consideration of applicants' arguments and amendments constructive in bringing procedure forward and clarity of reasoning and format.

Best practices observed

- Communications were generally thorough and addressed applicants' arguments.
- Independent claims were addressed in detail, with explanations provided when applicants' arguments were not convincing and objections were maintained.
- Panels generally agreed with the examiner's assessment of novelty and inventive step.
- Objections were raised early, avoiding extended proceedings through incremental amendments.
- Constructive co-operation between applicants/representatives and examining divisions in leading the procedure forward was evident from the communications.

Areas where views differed within panels

- There were some differences of opinion in whether the problem-solution approach had been correctly applied and whether the steps were sufficiently outlined in the communications.
- There were differing views on when a reference document was needed to show common general knowledge.
- There was debate around clarity objections, what kinds of objections were considered necessary to meet the requirements of the EPC and what was considered overly pedantic or too strict. All agreed a balanced approach should be taken but perspectives on "balanced" varied.
- Assessors' opinions varied on when a summons to oral proceedings should be sent.

Consensus on opportunities for improvement

- Reasoning for dependent claims often lacked detail, leaving doubt as to patentability of the fallback positions.
- Citing relevant documents in examination suggests fallback positions had not been properly considered at search stage. Reasons for introducing new documents were not always provided.
- Some communications lacked clear structure and overview of the objections, making them difficult to understand.

SQAP assessors' responses to questionnaire on assessed intermediate communications

The responses below visualise aggregate responses given by each of the 24 assessors for each of the six files they assessed. Each panel of four assessed the same files so that the results cover 36 distinct files. The bars reflect the percentage of responses which agreed with the statements below "to a very large
extent”, "to a large extent” or "to some extent”. The percentages are not statistically significant.

Figure 60: SQAP survey results on intermediate communications

Source: EPO

4. SQAPs on granted patents

The 2023 SQAP session on grants was the second time a session had been held on grants. To allow comparison with previous results, the assessment focused on the same aspects of quality which were assessed in 2022. These were opinions on EPC requirements under Articles 76(1)/123(2), 52(1)/54, 52(1)/56, 83 and 84 EPC, adaptation of the description and amendments proposed by the examining division at the grant stage.

Best practices observed

- High level of agreement between assessment of EPO experts and attorneys on panels.
- Almost all granted patents assessed by panels as novel and inventive.
- Examining divisions suggested appropriate adaptation of the description to claims.
- Amendments proposed by the examining division at grant stage were appreciated.
- Examiners showed commitment and initiative in moving the procedure forward.

Areas where views differed within panels

- There were differing views on when descriptions should be adapted – after each submission with amended claims or only after agreement is reached on patentable subject-matter.
- Different perspectives on the need to delete subject-matter from the description were also apparent.
- Assessors’ opinions differed on which amendments could be carried out during the grant stage by the examining division without consulting the applicant.

Consensus on opportunities for improvement

- Lack of harmonisation concerning the adaptation of the description.
Objections relating to adaptation of description can sometimes be vague and unsubstantiated, making it hard for applicants to understand the issues.

- Sometimes objections relating to adaptation of description are raised late, with communication under Rule 71(3) EPC.
- Amendments are often proposed with the communication under Rule 71(3) EPC without consulting the applicant.

**SQAP assessors’ responses to questionnaire on assessed grants**

The responses below visualise aggregate responses given by each of the 24 assessors for each of the six files they assessed. Each panel of four assessed the same files so that the results cover 36 distinct files. The bars reflect the percentage of responses which agreed with the statements below “to a very large extent”, “to a large extent” or “to some extent”. The percentages are not statistically significant.

> **Figure 61: SQAP survey results on grants**

Source: EPO

### 5. Actions following from SQAPs' findings

The SQAPs’ results mirror feedback we receive from other sources, for example our most recent user satisfaction survey. We noted a high level of convergence in the assessment of the panel members, i.e. EPO experts and attorneys agreed on many aspects. Based on the findings of the panels, action is being taken on basis of the following feedback:

- Pay attention to documents cited in non-EPO ISA PCT search reports.
- Assess priority and search for relevant intermediate documents.
- Address dependent claims and indicate where features are in the cited documents.
- Promote collaboration and mixed divisions especially for applications spanning multiple technical areas.
- Consider the basis for examiner suggestions, especially for claim combinations. Align with division before making suggestions.
- Promote a clear and harmonised structure for communications. State the article corresponding to each objection. Provide an overview and increased visibility regarding the status of objections.
- Facilitate dialogue between applicants and divisions early on in the procedure to avoid complications in the procedure and aid mutual understanding.
- Consult the applicant when proposing amendments at grant stage.
Hold a workshop together with our users on clarity and our shared responsibility for applications to meet this requirement of the EPC.

6. Further evolution of SQAPs

The SQAPs were established at the EPO in 2019 within the framework of SACEPO WP/Q. Since then, they have provided a forum for in-depth, file-specific exchanges with users on substantive quality. The first joint assessment of quality by European patent attorneys took place in 2022 and since then the programme has been expanded significantly to assess quality at more stages of the patent granting process.

Figure 62: Evolution of SQAPs 2019-2023

In 2024 we will again hold three SQAP sessions. To ensure an annual review of our main products, there will be a session on search reports and written opinions as well as a session on grants. These will be complemented by the first SQAP sessions on refusals. The valuable feedback and suggestions provided by SACEPO WP/Q members, the epi, BusinessEurope and SQAP assessors has been taken on board in the development and organisation of the 2024 SQAP programme.