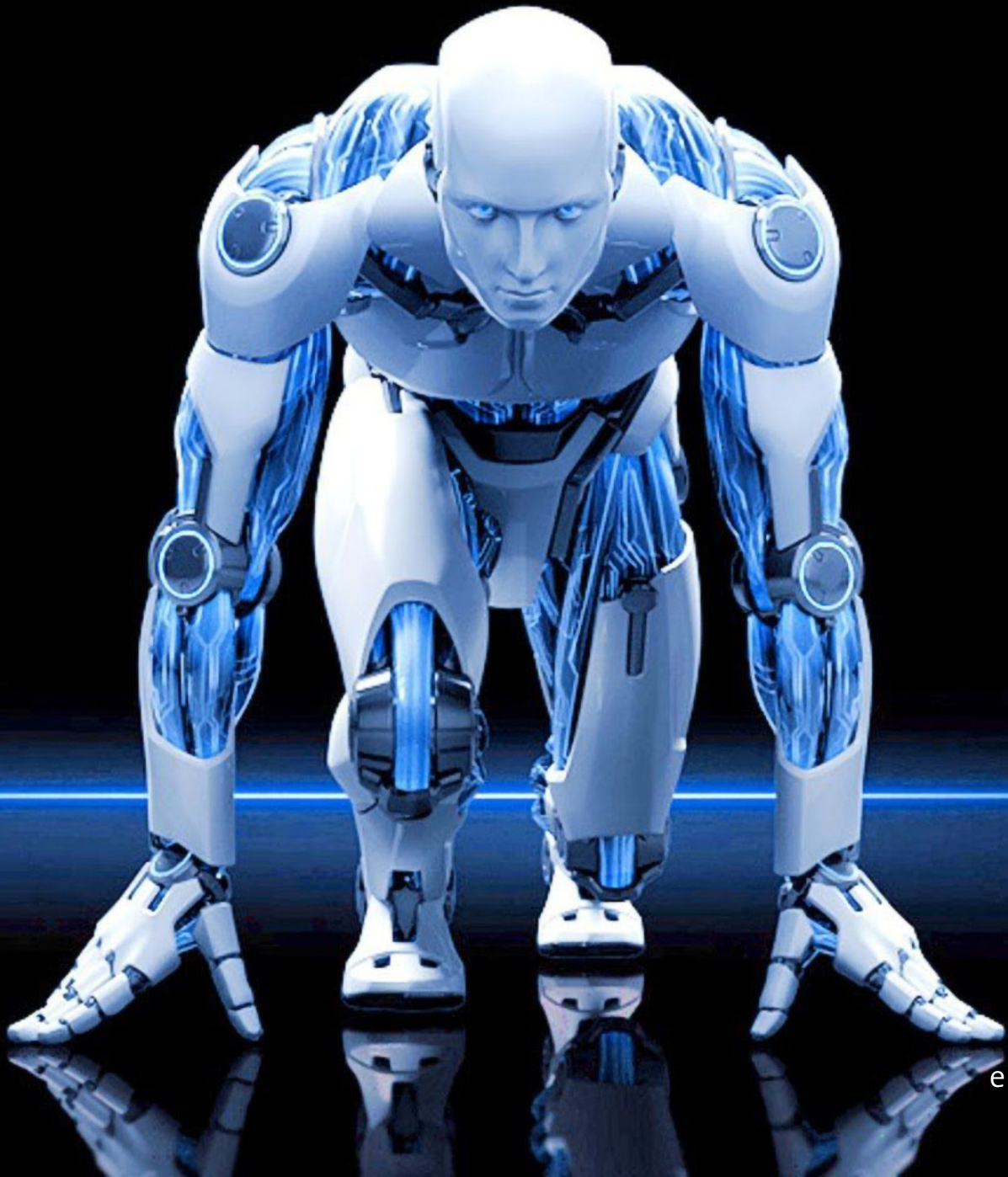


# IT Report 2023

Annex to the Annual Review



## Executive summary

We made strides in modernising and streamlining the EPO's IT systems in 2023, with a focus on enhancing user experience, improving efficiency and strengthening security across all our digital platforms. This report highlights the key advances and initiatives undertaken during the year, demonstrating our commitment to digital excellence and innovation.

We achieved milestones in simplifying our IT landscape by phasing out outdated legacy systems and introducing state-of-the-art tools and platforms. These efforts have laid the foundation for a more streamlined, efficient and secure IT infrastructure, which serves the needs of both internal and external users.

One of the biggest achievements of the year was the transformation of the Patent Workbench into the central hub for our patent granting process, enabling extensive digitalisation of workflows. The digital file allocation service, enhanced with AI capabilities, has significantly improved the allocation of files to examiners.

We continue to enhance the functionality and performance of ANSERA, making it the primary search tool for most examiners. The introduction of the new AI-powered classification tools Classera and Canopée has led to improvements in the accuracy and efficiency of patent classification.

Our experience with AI-supported services has taught us that fully realising the potential of AI involves integrating it into everyday tools. We have found that the combination of humans and AI produces better results in terms of quality and efficiency than either alone. The adoption of AI should therefore remain human-centric.

The year also saw the launch of new features within MyEPO Portfolio, including offering users a platform for live discussions with patent examiners and secure two-factor authentication methods. Our external website was relaunched with an improved search experience and responsive design optimised for all devices, marking a milestone in our digital transformation journey.

We embarked on the modernisation of our HR management system MyFIPS, enhancing the user experience and simplifying processes. Significant improvements were made to our workplace booking tool, supporting the New Ways of Working pilot scheme. In addition we achieved our target of 98% IT systems availability and strengthened our disaster recovery capabilities, ensuring business continuity.

Our efforts in cybersecurity saw the implementation of advanced user authentication solutions and the successful management of critical vulnerabilities, reaffirming our commitment to protecting our users, staff and data across all tools and services.

There have been several significant achievements in IT co-operation, enhancing support and fostering knowledge-building among National Patent Offices (NPOs). Front Office has been successfully implemented or upgraded in five countries, allowing their filing systems to be modernised. The ANSERA-based SEARCH tool has been adopted in 27 countries so far, offering secure cloud-based access to patent information and representing a modern alternative

to EPOQUENet. Additionally, the Single Access Portal has been enriched with new services, including an AI-supported CPC text categoriser to facilitate access to patent classification information.

As we set out on the journey towards the Strategic Plan 2028 (SP2028), the lessons from the Strategic Plan 2023 (SP2023) serve as our guiding principles. The EPO is dedicated to a future where digital transformation is not just about adopting new technologies, but about creating a more sustainable, resilient, efficient and inclusive Office. By refining our approaches to delivery planning, technical deployments, AI integration, process simplification and change management, we aim to shape a future that not only meets the evolving needs of our internal and external stakeholders but also sets new benchmarks for innovation and excellence in the intellectual property ecosystem.

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## 1. Reflecting on the SP2023 digital transformation journey to craft a more impactful SP2028

The Strategic Plan 2023 (SP2023) was nearing completion as 2022 drew to a close. The majority of programmes, projects and initiatives were finalising their deliverables and achieving their intended benefits. In parallel to conducting a full benefits review, we continued to push forward with the final year of SP2023 deliveries to ensure that all aspirations were fully realised.

One of the most significant developments of SP2023 was the digitisation of the patent granting process (PGP). We achieved productivity gains in pre-classification, classification and search by embedding new tools with artificial intelligence (AI). However, the digital transformation in examination was limited to changes that enabled the continuity of the PGP during the pandemic, such as deploying the Patent Workbench (PWB) for paperless working.

Laying the foundations for a fully digital end-to-end patent granting process

In 2023 we began implementing new tools and initiatives that laid the foundation for a digital examination process and a fully digital end-to-end PGP. These will provide our users with higher quality and more timely products and services. For instance, a new AI-based digital file allocation tool matches the contents of a file directly with examiner competences, ensuring the right file is assigned to the right examiner.

The New Ways of Working (NWoW) pilot continued to shape the way we work, interact and collaborate. We adapted our working environment, corporate processes and systems to support a hybrid working model.

We also ensured that our digital transformation directly benefits our users in their interactions with the Office. Throughout the PGP they are able to interact with us more efficiently, transparently and rapidly thanks to improvements to the MyEPO toolset. Real-time communication, transparent processes and quality checks within the tool all contributed to a more efficient and timelier PGP. Security remained paramount, with robust measures consistently implemented to protect our users, staff and data.

Active business change management was crucial as we assisted users in transitioning away from legacy tools before final decommissioning. We supported this by training users how to be efficient with the new tools, communicating effectively and managing user expectations.

Reflecting on our experiences with SP2023, we identified both successes and areas for improvement. A clear strategic narrative broken down into programmes and projects facilitated initial implementation and staff engagement. However, dividing the plan too much created management challenges, particularly when it came to managing dependencies.

The pipeline approach for project delivery proved valuable for transparency and stakeholder engagement. Focusing on minimum viable products allowed for quicker solutions and iterative improvements. Our early AI implementations were successful, highlighting the importance of human-centric AI integration and clear user guidance.

Digital transformation extends far beyond mere technological updates; it encompasses a comprehensive approach to process simplification and

business change management. Our experience with SP2023 underscored the importance of not only introducing new tools and initiatives, but also ensuring they are embraced. Emphasising user support, upskilling and ergonomics play a pivotal role in realising anticipated benefits.

As part of SP2028 we will continue our digital transformation journey, implementing technologies that deliver greater quality, efficiency and higher productivity – the very demands that must be mastered to maintain our commitment to excellence. Our technologies must be financially and environmentally sustainable and ensure we have a dependable, agile and adaptable IT landscape that can evolve in response to user needs.

## 2. Simplifying and modernising IT systems

In 2023 we released state-of-the-art tools and platforms for our core business and corporate functions, as well as for external users. Additionally, we focused on enhancing our infrastructure and information security. As part of this process we decommissioned outdated legacy solutions, paving the way for a more streamlined and efficient IT landscape.

### 2.1 Delivering PGP and search

In our core business area we continued working on creating a seamless user experience by leveraging cutting-edge technologies to simplify or eliminate manual interventions. Our new modular back office platform has had a direct impact on the work of examiners and formalities officers, supporting delivery of a suite of products and tools. We have harmonised processes, streamlined measures and modernised platforms, all with the goal of providing a single coherent user experience.

The PWB has continued to evolve, becoming the central hub for the PGP. By the end of the PGP programme we had successfully digitalised 99.5% of patent grant actions. The PWB was expanded to include remaining workflows in examination and integrate quality approvals issued by the chairperson and line manager in search and examination. Extending the coverage of digital workflows streamlines the process and enables quality improvement, as well as increasing efficiency compared to sending emails for the same actions. Fully digitalised workflows allowed us to eliminate more than 447 000 physical file movements per year, resulting in a timeliness gain of about two days in the overall process.

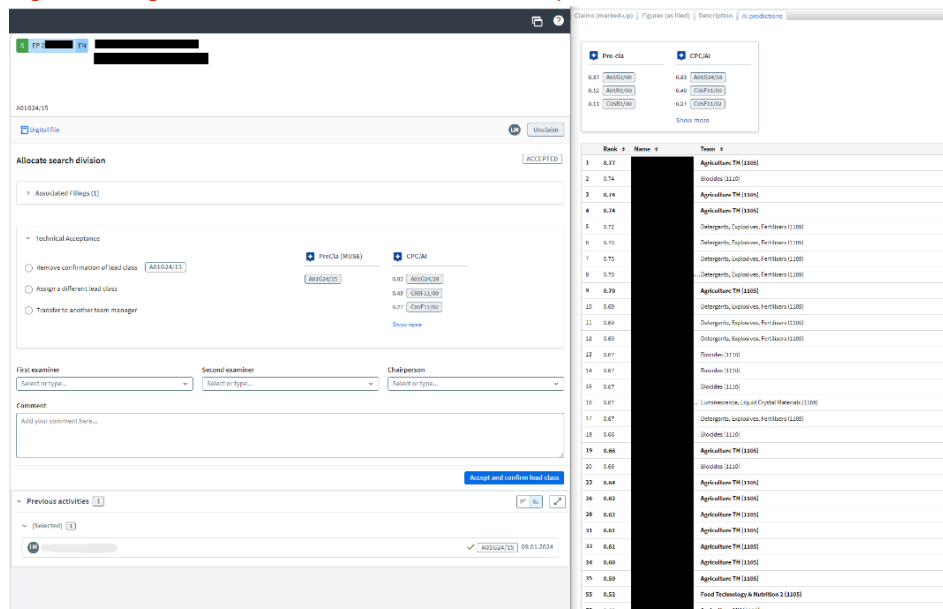
PWB is the central hub for digital patent granting process

In the past, allocation and workload management in our core business were carried out in many different ways. The disruptive impact of the pandemic resulted in many parallel processes that often tried to mimic pre-pandemic manual workflows, with different approaches and goals for deciding on the technical competence of examiners and balancing workload management. To address these challenges we introduced Digital File Allocation, which operates with a harmonised approach and clear goals and is fully integrated into the PWB as a single tool for file allocation. The tool is simple, user-friendly and adapted to new organisational roles, while providing flexibility to collaborate across units in a transparent and straightforward way.

In 2023 Digital File Allocation evolved from a prototype into a fully functional tool which helps allocate the right file to the right examiner. New features, such as AI suggestions for file allocation and redistribution, were implemented, including an extension of the tool to the opposition procedure. AI has reduced the need for manual support in re-routing files by 75%, resulting in improved quality and timeliness. For the remaining cases that still require manual intervention, files are re-routed and the tool continuously refined to increase its accuracy.

New features in Digital File Allocation contribute to quality and timeliness

Figure 1 – Digital File Allocation interface with AI capabilities



Source: EPO

We also added new tasks related to user data management, such as changes of name, appointment of representatives and transfer of rights to the PWB. A new tool was introduced within the PWB that enables staff to perform batch changes to multiple files simultaneously with ease. This simplified the work of formalities officers and generated efficiency gains by taking into account the phases of different proceedings. Most of these services will also be offered online to external users via MyEPO Portfolio. The success of the new tool enabled the legacy Universal Formalities Officer's tool (UFO) to be decommissioned, further simplifying our IT infrastructure.

The Digital File Repository (DFR), a digital archive storing all the relevant documents of a file and a tool allowing collaboration and sharing of intellectual work, is another key component of our PGP digital backbone. We have gradually extended the DFR to all areas of the organisation, including legal teams and the Boards of Appeal. This has provided everyone with access to a single source of data, eliminating the need for cumbersome transfers between systems and improving the efficiency of document handling. Following extensive internal consultation and a substantial number of improvements in ergonomics and performance, we were able to smoothly decommission the legacy digital archives (DI+) for all users, contributing to the simplification of our IT toolset.

In publication we have insourced services such as bulk data distribution, reducing risks and costs. Each month, we distribute 10 terabytes of bulk data sets to 300 subscribers, providing them with non-confidential, structured and

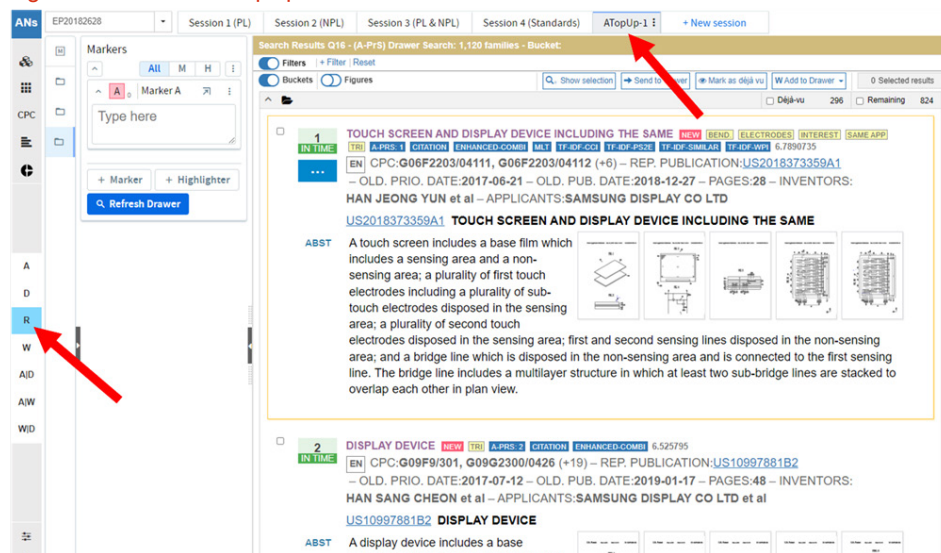
standardised data collections from internal EPO databases. In 2023 we also completed insourcing production of the European Patent Bulletin. Established from day one and the grant of the first European patent, the Bulletin is the EPO's main vehicle for making our decisions available to the public and appeared as a print product until 2004. Since 2005 it has been published every Wednesday in the form of a 6 000-page PDF that lists bibliographical data relating to newly published grants. Since the ninth edition of the Bulletin in 2023 we have been producing the PDF version in-house, and the contract with the external provider has come to an end.

Quality in the patent granting process begins with top-notch classification and search. Over recent years we have incorporated the latest technical advances and user feedback to continuously improve the functionality of ANSERA. This has evolved into a comprehensive suite of tools, all designed to assist examiners in their daily tasks.

In 2023 our focus remained on enhancing the performance and usability of ANSERA, helping us to achieve 93% usage of this tool. To further support adoption we introduced redesigned drawers as a way of improving document management during searches and easing the transition from the legacy JViewer to the ANSERA Viewer, which is a necessary step before decommissioning the legacy EPOQUE search environment. The increasing maturity of ANSERA's rich full-text search allowed us to gradually move away from the legacy tool X-Full (an application that allows searching across full-text databases), which was finally decommissioned in January 2024. This has simplified our IT environment and further consolidated search and classification tasks in ANSERA.

Enhancing patent granting with ANSERA's comprehensive suite of tools

Figure 2 – ANSERA TopUp



Source: EPO

Regular top-up searches for European and PCT applications as prior art under Articles 54(3) and 153(5) EPC at the end of examination are an essential component of quality assurance in the EPO grant procedure. Over time, ANSERA TopUp (ATopUp) has evolved to better meet the needs of examiners and has ultimately replaced the former top-up search tool, XTopUp. ATopUp offers ranked results and filtering capabilities from within ANSERA, as well as enabling examiners to detect earlier national rights prior to grant, as required by the Unitary Patent procedure.



Since its launch in 2021 ANSERA Pre-Search has undergone continuous improvements, incorporating the latest developments in machine learning and artificial intelligence. The new tool improves the quality of search and written opinion by ensuring the most comprehensive and advanced pre-search is performed efficiently for every search, offering a ranked list of relevant documents which can be filtered and further searched. User feedback, including from early adopters, has been taken into account for these enhancements, allowing the legacy pre-search tool to be decommissioned for all examiners.

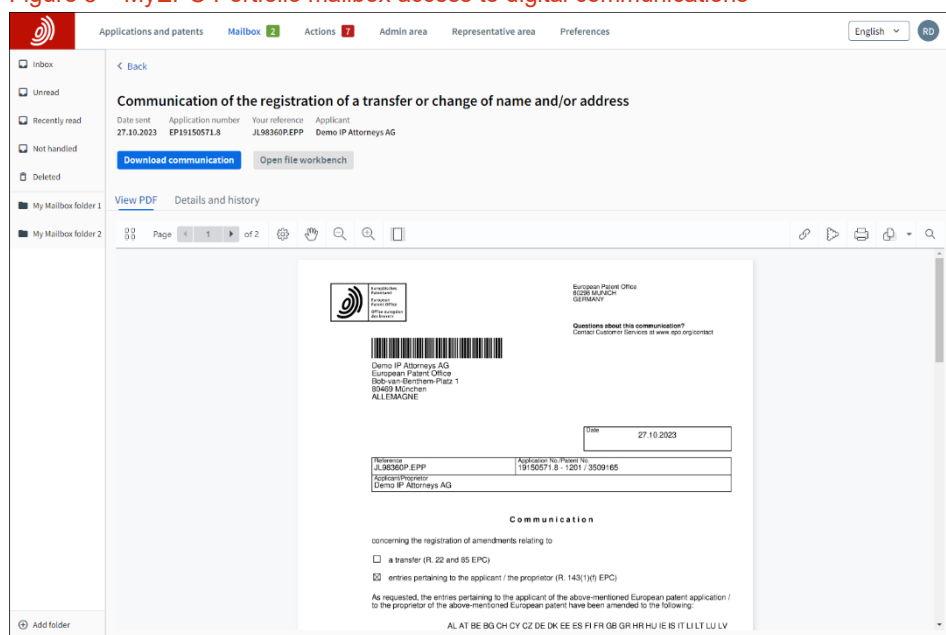
## 2.2 Enhancing MyEPO online services

Digital transformation is a journey that begins and ends with our users. With this in mind, we have focused on enhancing the ways we interact with our users throughout their customer journey.

A fundamental part of our approach to evolving external tools is to work closely with users to test major new features of MyEPO Portfolio during the pilot phase. In 2023 we completed two pilot trials and released the new features to all users.

Working hand-in-hand with our external users to enhance the functionalities of MyEPO Portfolio

Figure 3 – MyEPO Portfolio mailbox access to digital communications



Source: EPO

One of the most notable new functionalities released in July 2023 is the Shared Area, which supports a more collaborative and non-sequential process by allowing the examining division and the applicant to work together in real time in the initial stages of examination. Early alignment and a common understanding between the division and the applicant will ultimately lead to better quality. In addition, the introduction of new business-to-business application programming interfaces (APIs) enables users to streamline and improve their processes, both internally and while interacting with the EPO.

We also launched electronic PCT communications via the EPO Mailbox for international agents and non-European applicants and introduced secure two-factor authentication to access MyEPO Portfolio, Central Fee Payment and

Online Filing 2.0. A new contingency upload service was added to enable users to submit urgent documents electronically should online filing be unavailable.

In November 2023 we took additional steps to digitalise the patent granting process and added new administrative features providing users with more self-service options. These included a dedicated area for representatives to update their entries in the list of professional representatives, access to the application portfolio for company administrators, and the ability to handle changes to applications. Two-factor authentication was extended to the legacy eOLF filing system.

Our users are adopting MyEPO Portfolio rapidly, and many are now benefiting from the convenience of accessing their digital communications through the user-friendly EPO Mailbox. In March we reached a new milestone when we discontinued the sending of faxes. We also engaged in discussions with stakeholders on our intention to stop accepting fax filings by July 2024. By phasing out outdated communication channels we are continuing to modernise access to our services, simplifying user communications and supporting a fully digital and paperless patent granting process.

Figure 4 – Adoption of MyEPO Portfolio services



Source: EPO

In 2023 we launched our new external website, featuring an improved search experience, informative sections for inventors and SMEs, a transparency portal and a "New to patent" section addressed to non-patent experts explaining the fundamentals of intellectual property protection. The new website has been optimised for all devices and plays a vital role in our continuing digital transformation.

Revamped website offers improved user experience and reduces carbon footprint

In re-developing the site we gathered input from user satisfaction surveys, focus groups, usability tests and our customer service colleagues. The new website reflects their feedback, improving navigation, the search experience and the overall look and feel. We also implemented best practices in co-operation with the Green IT initiative to minimise the carbon footprint.

The new EPO website is updated using a content management system called Drupal, which is also used for the intranet, the design system and various international co-operation websites. This significantly simplifies our IT landscape and allows features to be shared between sites. The legacy Lenya-based web content management platform was decommissioned towards the end of the year.

In line with the ambitions outlined in SP2023, we continued moving towards cloud and cloud-native technologies and shifting away from legacy ones. As part of this transformation, our revamped external website and New Espacenet, which provides access to the world's largest free collection of patent documents, have been successfully migrated to the cloud, ensuring better performance and availability for all users.

Our online services continue to evolve, making it more convenient for users to conduct their EPO business online. Over the last year several releases have enriched the digital patent granting process for more than 7 200 representatives. These efforts have been well received by external users, resulting in an 85% satisfaction rate with our external tools.

## 2.3 Supporting corporate functions with advanced tools

We are on a journey to digitalise not just our patent granting process, but also our corporate services. In 2023 we started modernising our HR management system MyFIPS. We automated and simplified processes, enhancing existing tools in areas such as payroll and health and safety to reduce manual data entry. The first phase of the MyFIPS refresh process introduced a more modern and user-friendly interface, improved existing functions such as leave management and team calendar, and added new services including medical certificates and reimbursement. Additional services are being added gradually.

We also made improvements to the tool used for claims for reimbursement of school fees, based on feedback from staff. The application process is now more streamlined, with fewer documents required; in addition we revised the related circular to reflect these changes. As a way of formalising our approach we set up an HR Simplification Board, which is tasked with critically reviewing policies and processes to simplify digitalisation.

Processes simplified  
in preparation for  
modernising the HR  
management system

Our new document management platform, which manages administrative document repositories and related workflows, was extended to more areas of the Office in preparation for the introduction of the new retention policy on 1 January 2024. The platform ensures that staff can easily access knowledge and expertise, even after the original creators of the data have left the organisation. Modern document controls and features also facilitate collaborative work – building on each other's ideas and complementing past knowledge with up-to-date information.

The document retention policy, established by a Decision of the President, creates a legal framework for the retention of all files and records at the Office. It sets out to strike a balance between limiting the amount of time files, both paper and electronic, are kept within the Office, and maintaining operational practicalities.

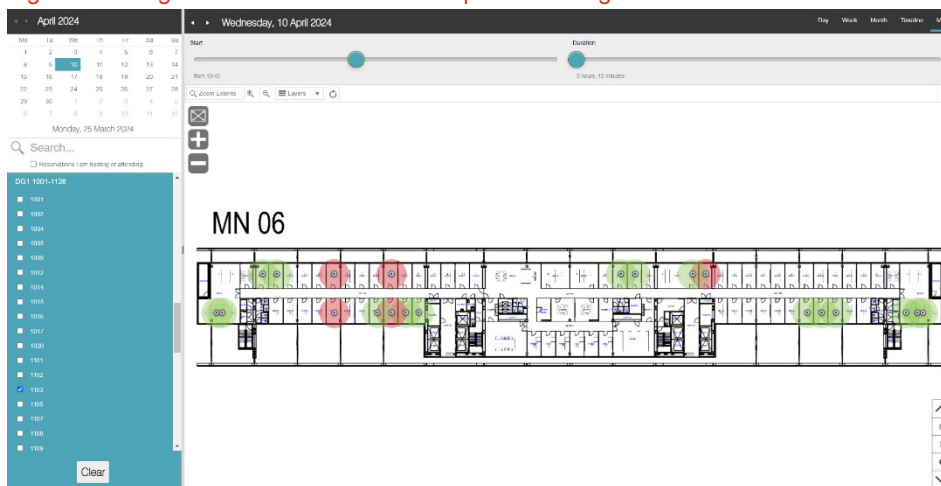
In parallel to rolling-out the new platform, we continued decommissioning legacy document management tools, including IBM Lotus Notes Domino, Babylon, Byblos and information stored in shared drives.

Our data analytics platform underwent a significant transition in 2023. Our technical and business teams worked diligently to migrate their statistical reports and data services from the legacy SAS software to the open-source WYRM solution. For 20 years, SAS provided the Office with valuable statistical reports and data services, however, in recent years it faced limitations in handling increasingly complex data. WYRM is a powerful analytics platform used to retrieve data workflows, enabling convenient data retrieval, scalable storage and distributed processing, as well as confidential handling and collaboration.

Modernising data services for enhanced business intelligence and analytics

Since its initial roll-out WYRM has become the preferred tool for analysts across the Office, supporting various business areas. The portal has over 100 000 monthly visits and is used by approximately 6 000 people each month. The legacy SAS platform is scheduled to be decommissioned in early 2024, bringing savings of EUR 590 000 per year.

Figure 5 – Neighbourhood view in the workplace booking tool



Source: EPO

To support our hybrid working model we have made improvements to our workplace booking tool, enhancing the user experience and simplifying the process. A major component of our approach has been grouping teams into neighbourhoods within our buildings. We have added new options to the workplace booking tool to make it easier and faster to book in a team's dedicated area, bringing colleagues closer together for collaboration and networking and fostering our sense of belonging. This forms part of our consistent efforts to enhance tools so they are better aligned with the NWoW and promote sustainable use of space.

Bringing teams closer together: an improved workplace booking tool for closer collaboration

New features added to the NWoW planning tool have made it easier to find and connect with colleagues when in the office, facilitating greater face-to-face contact. Its integration with the workspace booking tool allows users to see the workplaces reserved by members of their team, as well as reservations by any colleague who has given them permission to see their information. In addition, managers have access to a dashboard that shows workplace bookings made by their teams over the next few days. This helps support and encourage collaboration.

Following the strategic agreement between OpenAI, the creators of ChatGPT, and Microsoft to integrate their AI chatbot, now known as MS Copilot, into the

Microsoft Office suite, we joined a preview initiative. We analysed potential uses carefully and invited a group of early adopters to test the tool's usefulness in a range of typical support tasks. As the Microsoft Office suite remains our central toolset for administrative work and collaboration, this workstream presents a promising path for future gains. Additionally, it poses a low risk in terms of confidentiality of information and the purpose of the models, which are focused on administrative efficiency and enhanced collaboration.

We continued to equip our premises in 2023 with the technology needed to enable smooth collaboration for virtual exchanges, hybrid meetings and online events in a hybrid workplace. This included new videoconferencing equipment for better hybrid meetings and upgrading the technology in our meeting and training rooms, offering autofocus cameras, multifunction-panels and larger screens.

Videoconferences (VICO) became a common mode for conducting oral proceedings in 2023, with over 6 000 sessions held. Opposition cases accounted for 40% of these, reflecting the adoption of VICO as the standard mode for oral proceedings since January. Examination-related proceedings made up another 41%, while the remaining sessions were dedicated to proceedings before the Boards of Appeal. This made it possible to reduce the number of files still pending from the pandemic period, supported transparency in the decision making process by allowing easy access for observers, and had a positive impact on environmental sustainability by reducing travel.

The Administrative Council and its subsidiary bodies require more complex arrangements for their meetings. Smooth operations for 150-200 participants, as well as specific requirements for interpreting and voting, are essential. After gaining substantial experience with Zoom for online and hybrid meetings and recognising the technological advantages of the platform, we initiated extensive testing and refinement of the standard setup, and piloted its use for Council meetings. The successful results of this exercise allowed us to discontinue the use of the legacy KUDO technology.

## **2.4 Modernising IT infrastructure**

We continued our efforts in 2023 to improve the availability and stability of our IT systems, recognising the direct impact any failure can have on our activities and ability to provide high-quality services to users. At the end of the year we reached our target of 98% availability.

We also completed a long-term project that provides comprehensive disaster recovery capabilities. This allows us to switch operations from our primary data centre in Luxembourg to our backup data centre in Munich. In the event of a catastrophic loss of our Luxembourg-based IT systems, our business continuity plan would be activated and the Munich site would be started up.

In October 2020 we conducted comprehensive tests of our disaster recovery systems. Since then our IT infrastructure has undergone significant changes, including the decommissioning of the mainframe, the relocation of the primary data centre to Luxembourg and the implementation of a new storage solution. These changes had a major impact on our IT environments.

In February 2023 we conducted another comprehensive disaster recovery test, covering our key applications and infrastructure. The exercise was successful and provided valuable input for future tests, which will continue to be performed regularly.

Successful disaster recovery test ensures business continuity

Our EPO Cloud Policy was updated in 2023 to incorporate the latest technical, legal, contractual and sustainability requirements, reflecting our experience in using cloud services. As part of our digital transformation we are increasingly using cost-effective, high-performing and secure cloud services to support our goals. In line with our Data Protection Rules (DPR), the EPO cloud policy defines appropriate, controlled use of cloud services during all lifecycle phases and enables fact-based decisions on their use in specific situations.

In 2023 we prepared to upgrade staff laptops to provide them with the latest technology for enhancing collaboration and performance. We also took into account comfort and ergonomics. Throughout the year, several potential models were tested by IT technicians and a selection of beta users, primarily in our core business area, who work with PGP tools daily. Based on their feedback and technical requirements, two models were selected. This has allowed us to move away from a "one size fits all" approach towards a solution where staff members can choose the model that best suits their preferences. Distribution of the new laptops is scheduled to begin in mid-2024.

We conducted a series of tests to ensure our software and tools operate seamlessly with Windows 11 on the new laptops. These were automated wherever possible and supplemented by manual tests performed by the product teams. All tests were completed successfully, giving us confidence that the roll-out will be smooth, as will the upgrade to the operating system on machines to be replaced at a later stage.

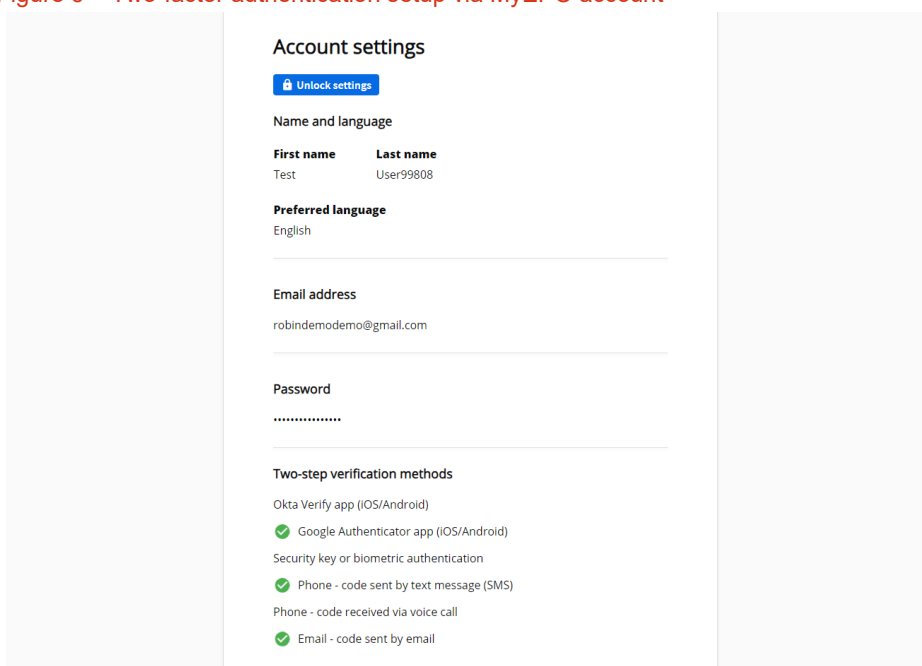
## 2.5 Strengthening cybersecurity

At the EPO we prioritise the highest levels of information security to protect our users, staff and data across all our tools, including those for the PGP, corporate services and the broader EPO user community.

In 2023 we enhanced our user authentication solution by introducing automated management of identity lifecycle and role-based access. We also made self-service features available to external users, offering new means of online authentication beyond the use of smartcards. These features were extended to all relevant online systems, including legacy ones, allowing external users to transition away from smartcards, which will no longer be issued after 1 January 2024. The new two-factor authentication method (factor one: email address plus password; factor two: another authentication method) is more secure than the smartcard and offers simpler and more flexible means of online authentication.

New online authentication features for external users of our new and legacy systems

Figure 6 – Two-factor authentication setup via MyEPO account



Source: EPO

At the beginning of the year we put our staff to the test with two phishing simulations, gauging their ability to identify cyberattacks. 2.1% and 7.3% of recipients of the message fell for the phish and disclosed their credentials. However, the majority of users exhibited high levels of awareness and the ability to identify and report suspicious messages. These findings highlight the significance of our ongoing efforts to combat cybercrime through communication, education campaigns and phishing simulations, with a focus on enhancing staff knowledge of IT security, physical security and related policies.

We also made strides in improving our security incident reporting and management system, with the goal of reducing our response time and increasing the traceability of incidents. Our capabilities were put to the test when a critical flaw was discovered in the widely used WebP image processing library. This vulnerability posed a serious threat, allowing attackers to gain control of computer systems and potentially access sensitive data. In response, our IT experts swiftly updated all EPO laptops and affected applications, ensuring the integrity of our data and systems.

In addition, we continued to build on our experience in securing our cloud applications and infrastructure, investing in innovative solutions for confidential computing and encryption techniques. This ensures that the Office remains in full control of the data entrusted to us, even when stored in the cloud.

### 3. Driving the delivery of high-quality products and services

At the EPO we are dedicated to enhancing the patent granting process by delivering robust, user-friendly and reliable IT tools. In line with this commitment, we have decommissioned the outdated CASE application and introduced a new modern solution. The quality approvals issued by the chairperson and line manager in search and examination were integrated into

the PWB, which continues to evolve into the central hub for the whole process. This change has significantly improved the usability of our toolset and enriched the user experience by providing a consistent interface for managing the incoming workload.

### 3.1 Classification

Our new tools Classera and Canopée made significant advances over the full range of classification tasks in 2023. The new integrated set of classification functionalities, assisted by AI capabilities, is now mature and has been adopted by users in preparation for replacing the legacy tools.

Our internal AI pre-classification engine, which processes incoming applications in three official languages, was fine tuned to improve performance. Classera and Canopée were equipped with functionalities to allocate classification symbols to documents such that AI proposes classification symbols that can then be directly endorsed by the examiner. We also implemented fully automatic classification in field Y02/Y04 and for a limited number of specific scenarios, for example when the combination of external proposals and AI-generated internal proposals match. We further explored AI assistance in reclassification work to achieve improved consistency and timeliness, while guaranteeing quality.

Classera and  
Canopée: the future  
of classification tools  
with AI capabilities

Given the progress made in modernising the search and classification ecosystem and consolidating it around ANSERA, we plan to decommission the legacy classification tools in early 2024.

### 3.2 Management of prior-art collections

An integral part of our efforts to improve quality and efficiency relies on our ability to master the wealth of prior art published in many different languages. In 2022 we introduced a new internal machine translation engine capable of translating unpublished documents from several languages into English, enhancing both pre-classification and pre-search results. In 2023 we expanded our machine translation capabilities to include new languages such as Russian, Korean and Spanish. This brought the total number of language pairs used in the translation process to 56, up from 32 in 2019. The expansion gave all EPO examiners access to 99% of the full-text patent data in our databases.

In early 2023 we introduced a powerful and versatile computing platform called EPYQUE to all users at the EPO. EPYQUE is used for a wide range of tasks in various areas, including application prototyping, secure access to the most relevant EPO systems, in-depth prior-art and data exploration and analysis, quality checks and content transformation.

The platform has found widespread use in BIT, supporting the regular activities of several departments, including Prior-art Data Management and Data Science, and has been integrated into the new EPO analytics platform. EPYQUE has also been employed as a support platform in other domains such as the Chief Economist Office to meet specific needs.

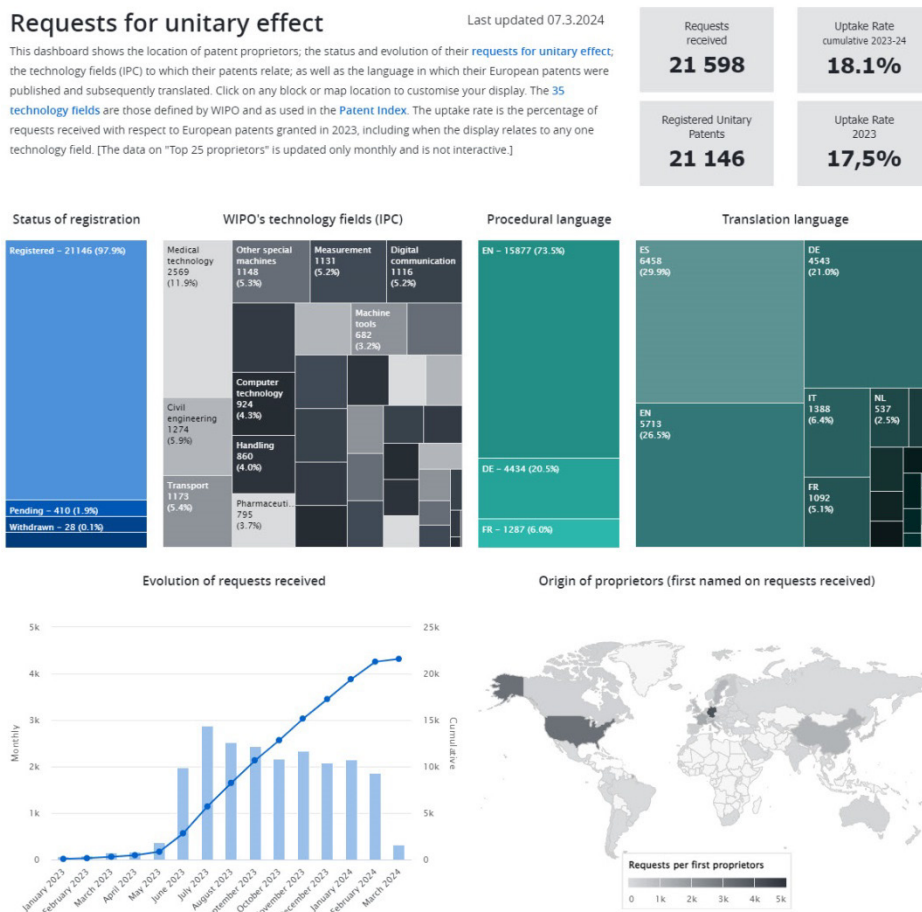


### 3.3 Supporting the Unitary Patent system

We continued to provide support to contracting states with activities related to implementing and promoting the Unitary Patent package in 2023. This included providing financial assistance for adapting national IT systems and translating EPO communication products. The Unitary Patent exchange platform already established plays a crucial role in facilitating the exchange of information between contracting states and the EPO.

Advancing the Unitary Patent system: support and IT enhancements

Figure 7 – Dashboard showing demand for Unitary Patents



Source: EPO

In preparation for the launch of the Unitary Patent, we made the adaptations needed to our IT systems to support data exchanges and transitional measures. These measures included handling early requests for unitary effect and requests to delay publication of the decision to grant at the start of the sunrise period. The European Patent Register was extended to incorporate the Unitary Patent Register and include procedural and legal status data on patent applications from the moment that unitary effect has been requested. At the same time, various improvements and extensions have been implemented, including the introduction of information on supplementary protection certificates (SPCs) for unitary patents. We also introduced a new icon in the search results list in Espacenet that indicates patents for which unitary effect has been requested or registered, together with the corresponding date. Users can click on the icon to access the Unitary Patent Register directly.

After the Unitary Patent system was launched on 1 June 2023 we published a dashboard that displays the leading sources of requests for unitary effect and the technology communities in which these patents are classified by the EPO. The dashboard is updated daily with data from our internal workflow, providing an immediate overview of applicants' interest in opting for Unitary Patents.

## 4. IT co-operation

Ensuring that our partners benefit from a strong and accessible European patent system remains one of our highest priorities. In 2023 we continued to focus on enhancing the IT co-operation portfolio through new and updated initiatives that foster innovation, particularly with regard to the user experience with tools and services.

### 4.1 Strengthening the EPN

The IT co-operation programme of SP2023 delivered its planned scope in 2023. Teams were reorganised and reinforced to support the practical implementation of projects in participating member state NPOs. Knowledge-building and technical support activities were consolidated.

One of the major accomplishments was the successful launch of Front Office across five countries (Greece, Iceland, Lithuania, North Macedonia and Spain), with nearly 10 000 filings made using the software. Several other countries were preparing their implementation projects. In parallel we started to roll out Front Office 2.0 to all implementing countries. This release introduces additional functionalities for both end-users and NPOs, as well as significant improvements in security, stability and maintainability.

The adoption of Front Office allows NPOs to plan the decommissioning of the decades-old eOLF system, which has become complex to maintain in terms of both hardware and software. Its replacement is an important objective for the next few years.

More than 1 000 users in 27 countries either started using the ANSERA-based SEARCH tool on a daily basis or participated in the pilot. Based on the EPO's ANSERA and updated to take advantage of cloud technology, this benefits from a rich set of features, scalable and secure implementation and a continuous improvement path. The cloud-based tool provides swift access to published patent, non-patent and commercial databases. It has matured over time, including in security aspects, and now offers the necessary capabilities to replace EPOQUENet.

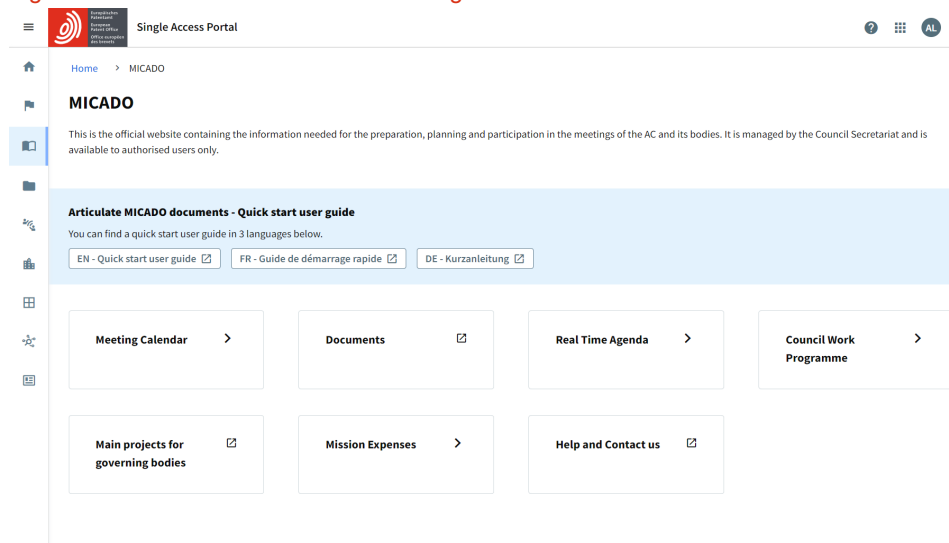
**SEARCH: the cloud-based tool delivering value to NPOs**

The data quality working group continued leveraging the data transfer platform, with exchange established with the Czech Republic, Denmark, Italy, Malta, San Marino and Türkiye to facilitate transmitting high-quality prior-art data. In total, this represents the addition and integration of approximately 450 000 new documents into our prior-art data collection. The automation of this flow and standardisation of the data structure has also helped to increase quality.

The Single Access Portal saw further improvements, becoming a powerful information hub offering rapid, secure methods for exchanging information and training between NPOs and the EPO.

MICADO, the system used since the mid-90s to access Administrative Council documents, was rebuilt and integrated into the Single Access Portal. In addition to providing access to the archive of all old documents and newly published ones and capabilities such as agenda tracking, the updated version of MICADO also provides sophisticated search possibilities and state-of-the-art document filtering.

Figure 8 – Access to MICADO via the Single Access Portal



Source: EPO

Information security and cloud solutions have become a core part of our work in IT co-operation. NPOs continued to align and exchange knowledge on these topics in 2023, with a focus on implementing security features for the ANSERA-based SEARCH tool and exploring other security-related projects.

## 4.2 IP5

The heads of the five largest intellectual property offices (the EPO, the Japan Patent Office, the Korean Intellectual Property Office, the China National Intellectual Property Administration and the United States Patent and Trademark Office, collectively known as the IP5 offices), came together in June 2023 for their 16th annual meeting. The focus was the role the IP5 can play in addressing climate change through an accessible and inclusive IP system.

Reviewing ongoing initiatives and developments in IP5 co-operation, the heads endorsed the progress made by ongoing IP5 working group projects, including the implementation of the IP5 new emerging technologies/AI (NET/AI) roadmap, efforts to harmonise e-signatures, format and drawings requirements, and the exploration of creating a global assignment.

Discussing new emerging technologies and an AI roadmap with IP5 offices

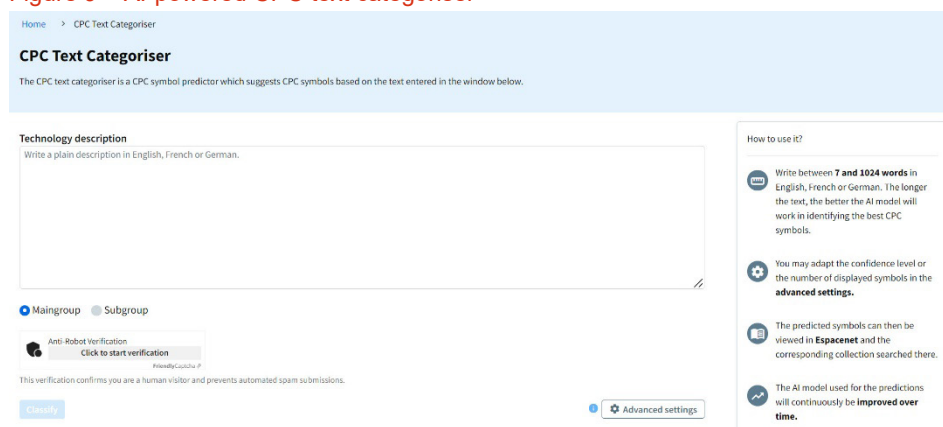
## 4.3 CPC

The EPO and USPTO created the Cooperative Patent Classification (CPC) together over ten years ago, and thirty-eight national or regional patent offices now use it. Most patents published today are indexed with the scheme, which has more than 250 000 classifying symbols. Proper use of these can greatly enhance the accuracy of patent searches.

In November 2023 we introduced a new AI-based text categoriser to help users find relevant terms in the comprehensive CPC. This online symbol predictor makes the CPC system more accessible; it can take text inputs in English, French or German and return appropriate CPC symbols instantly.

New publicly available  
AI tool predicts CPC  
symbols instantly  
based on text

Figure 9 – AI-powered CPC text categoriser



Source: EPO

Predicted CPC symbols are shown with their corresponding parents in the CPC scheme. By clicking on the suggested symbols users can go to Espacenet, where they can look for any documents that have the same classification. Advanced settings allow users to adjust the desired confidence level and see the revision dates of predicted symbols.

The CPC is a key element in the quality and efficiency of the search and examination process. It helps examiners, patent searchers, inventors and innovators easily access and understand the necessary information for about 69 million documents. By offering innovative classification services we are helping make the patent application process smoother and supporting the needs of inventors and innovators.

## 5. Contributing to long-term sustainability

In 2023 we hosted our inaugural public CodeFest, which focused on a crucial issue: reducing plastic waste. Our goal was to make patented knowledge on eco-friendly plastics more widely available, promoting innovation that supports both the circular economy and the preservation of our ecosystems. In line with the United Nations Sustainable Development Goals, particularly SDG 12, the CodeFest challenged participants to develop an AI model capable of automatically identifying patents related to green plastics. The event attracted a diverse group of participants from various backgrounds and nationalities, who engaged in weeks of coding. A panel of EPO experts in sustainability, IT and AI

CodeFest 2023:  
harnessing AI to  
reduce plastic waste  
and promote  
sustainability

selected the finalists. This event underscores the EPO's commitment to harnessing digital technology to promote environmental sustainability.

Further details on the ICT sustainability of the EPO are covered in the Environmental Report 2023.

## 5.1 Improving transparency and governance

External ISO audits were conducted in 2023; the results reaffirmed successful implementation of best practices in accordance with international standards. The audits also formally recognised our integrated management system (IMS) for its holistic management culture that focuses on continuous improvement.

One year after achieving ISO 27001 certification pertaining to information security management, we successfully passed our first surveillance audit. The objective of this was to ensure that we continue to comply with the requirements of the standard and that our information security management system (ISMS) remains effective. During the audit the auditor reviewed the ISMS documentation, interviewed key staff and evaluated our risk management processes.

We remain committed to the highest standards in information security management and prioritise information security to protect our users, staff and data across all our tools.

## 5.2 Supporting enhanced financial processes

Following the endorsement of activity-based budgeting for all external expenditure, we have made the necessary changes to our financial systems to support this in the 2024 budget. With the introduction of a new planning concept, the External Expenditure Plan (EEP) based on activities, we have improved the budget management process and laid the foundations for integrated budget reporting, leveraging data from our financial and procurement systems and SAP Analytics Cloud. In April 2023 the redesigned solution went live, and the first budget planning cycle for CA50 officially opened for input based on the new planning concept.

The redesign of the budget planning solution not only integrated a streamlined account structure but has also generated significant improvements in terms of user experience and performance. Furthermore, the financial reporting capabilities have been enhanced to provide a more complete overview of budget execution in 2024. This took us a significant step closer towards financial transparency, by allowing all units to report the purpose of expenditure and better monitor their budget consumption in a consistent manner.

Additionally, we launched a pilot of our new procurement process with a modern tool (iValua), which includes a new procurement portal for providers. The introduction of this portal is a first step towards a joint digital purchasing process, offering optimised communication, collaboration and co-operation between the EPO and our suppliers. Suppliers can use it to maintain their information and contact details, view existing or amended contracts and finalise the contract process using digital signatures.

Transformed financial systems: introducing activity-based budgeting for streamlined budget management

Looking ahead, the new activity-based budget will allow us to link sourcing requests to the approved budget, increasing the accuracy of the procurement plan.

## 6. Taking digital transformation to the next level

Technology has transformed the way we work and interact with each other. It multiplies our ability to adapt to a changing environment and be flexible. It also facilitates collaboration among staff and with users and other stakeholders. Applied to streamlined processes in patent granting or support, it can boost our efficiency and productivity.

Because technology enables the Office to process vast amounts of information easily, it underpins our aim to further improve the quality of our products and services. By leveraging the right technologies, we can analyse trends and market insights and better prepare both staff and users for the future.

Under SP2023 we laid a robust foundation for the digital transformation of our organisation, yielding tangible results and delivering significant value. We streamlined processes, enhanced efficiency and fostered innovation across various domains. However, our vision extends far beyond these accomplishments.

In SP2028 we are determined to take our digital transformation journey further, pursuing modern solutions and showing commitment to continuous improvement. We will decommission older legacy systems and platforms, replacing them with better and more modern tools.

SP2028 – pursuing  
continuous  
improvement

In IT co-operation we will also strengthen our collaboration within the European Patent Network, working even more closely together. By joining forces we can harness the power of our collective knowledge and expertise to overcome common challenges. As the rate of change continues to increase, it is key that we provide mutual support to adapt and grow.