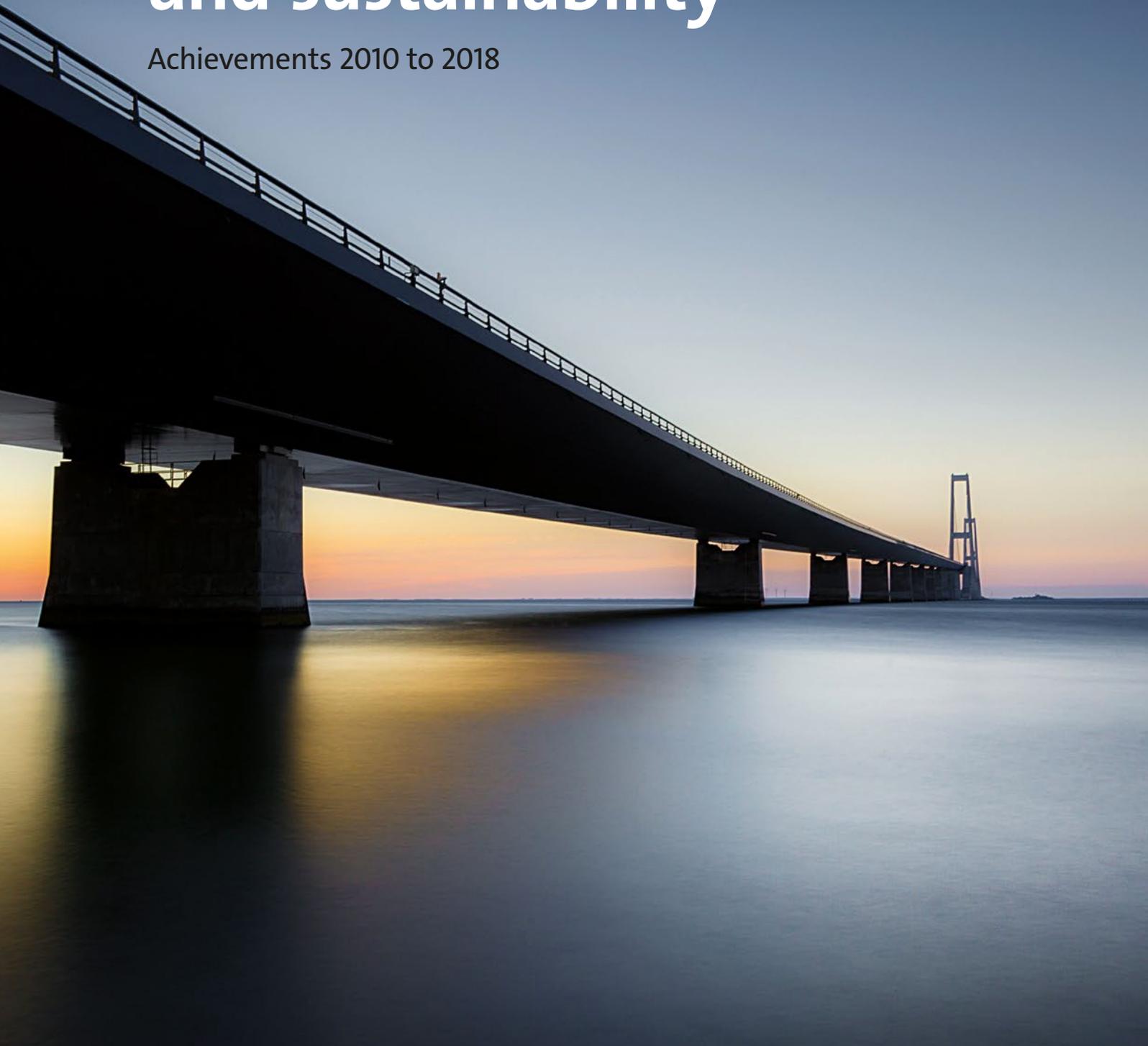




Europäisches  
Patentamt  
European  
Patent Office  
Office européen  
des brevets

# Modernising the EPO for excellence and sustainability

Achievements 2010 to 2018



# Modernising for excellence and sustainability



## **Benoît Battistelli**

President of the European Patent Office

Benoît Battistelli took up his position as President of the European Patent Office in July 2010. His initial mandate was extended by three years (to June 2018), following the unanimous approval of his results and programmes by the Administrative Council of the European Patent Organisation in June 2014.

Before joining the EPO, Mr Battistelli was director general of the French National Institute of Industrial Property from May 2004. He was also elected chair of the Administrative Council of the European Patent Organisation in March 2009. During his career, Mr Battistelli has held several high-profile positions concerned with innovation, competitiveness and external economic relations – for example, as French trade commissioner to Poland, Italy, India and Turkey.

**FOREWORD** Since its opening in 1977, the EPO has played an essential role in Europe's innovation sector. From the moment we opened our doors, our Office has always been there to grant legally robust patents to all those who want to protect their inventions. In doing so, we have been able to support inventors by allowing them to profit from their creativity, their hard work and their investments. A performant European Patent Office is therefore a necessity.

When I started my mandate in 2010, there was a widely shared understanding among the different stakeholders that the long-term sustainability of the Office was at stake. If we were to continue serving the inventors of the future, if we were to honour our responsibilities to our member states, and if we were to protect the interests of our staff, long-standing issues would have to be addressed.

Thanks to an ambitious series of reforms, the EPO of today is a vastly different organisation to that which existed in 2010. We are more competitive, more efficient, more financially secure and ready to face the challenges of tomorrow. That has major positive implications for our stakeholders. Our member states have helped secure a more effective European wide patent system. Our staff can still benefit from a competitive social package while their long-term assets are better protected. But, above all, inventors in Europe and around the world have access to higher quality, more timely and competitive services, and will continue to do so long into the future.

To have been centrally involved in this project has been an immense privilege. I have worked with a creative and energetic management team and have witnessed first-hand the commitment of a dedicated and hardworking staff. Our users have given us valuable feedback so the reforms deliver the services they need. And our member states have supported all necessary decisions which gave the Office the support to pursue our ambitious and challenging aims. Without any of these elements, the EPO would not have been successful in eventually mastering its own destiny, as I believe it has done.

I would like to thank warmly all those involved in this endeavour, particularly the staff and management of the Office. The pace of the reforms may have been demanding but we can all be collectively proud of the results. Building upon the hard work of our predecessors, we have worked together to create a brighter, more sustainable future for the EPO.

I hope you will enjoy reading about our transformation.

**Benoît Battistelli**  
President of the European Patent Office

Co-operation  
Productivity  
Quality  
Performance  
Co-operation  
Co-operation  
Performance  
Quality  
Transparency  
Efficiency  
Transparency  
Co-operation  
Productivity  
Efficiency  
Transparency  
Efficiency  
Quality

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# Executive Summary

In 2010 the EPO faced a number of challenges. Among others, they included a substantial growth in patent applications in all regions of the globe; increasing complexity of patent applications; diverse national requirements within the European patent system; and a warning issued by an independent consultancy that the EPO was at risk of not being able to finance its long-term liabilities. In response, an intense programme of reforms and projects have been implemented across the organisation to improve services and made sure the EPO is a more efficient, competitive and financially sustainable organisation.

## Delivering High Quality Services



**New tools and free access services** – the EPO developed ways to provide quicker, easier and simpler access to comprehensive patent information. They include single access points to data (Global

Dossier, Federated European Patent register), a translation tool to break down the language barrier (Patent Translate) and the introduction of the most refined patent classification system in the world (Cooperative Patent Classification).

**Better services at the right cost** – Patent applicants at the EPO now benefit from a more timely patent granting process after the implementation of the Early Certainty initiative. A European patent can now cover up to 44 countries and a market of some 700 million people thanks to validation agreements, and international reach has been extended with new Patent Cooperation Treaty (PCT)

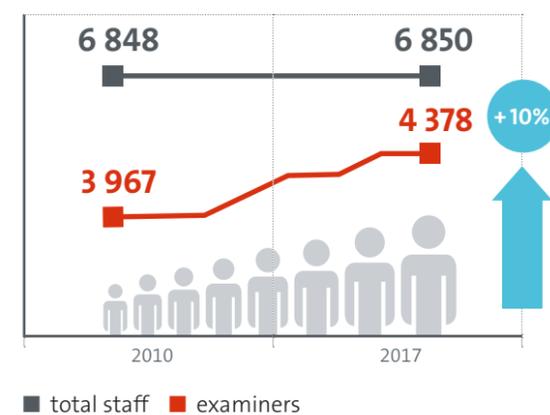
services. Users will also save 25 million euros every year as a result of fee freezes and reductions. Those savings are set to be expanded further with the upcoming Unitary Patent, for which the EPO has finalised its legal and technical preparation.

**More user feedback** – User feedback is gathered through a multitude of channels, including extensive user surveys that have confirmed increasing levels of satisfaction with the EPO's products and services, year after year.

## A more efficient and competitive public organisation

**A more efficient patent granting process** – A full reorganisation of the EPO's core business is set to increase efficiency and quality by implementing a fully digitalised, end-to-end patent granting process. A focus on our core business has allowed the Office to increase its examination capacity by 10%, while the overall EPO headcount has remained stable. This has been supported by significant

## Greater examiner capacity

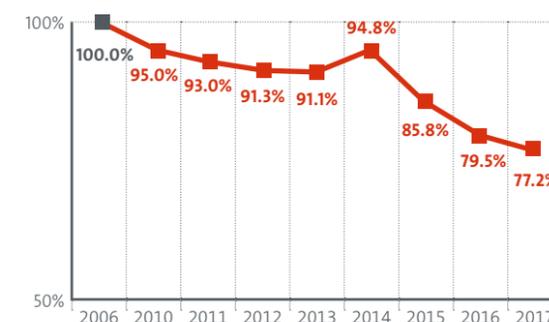


investments of 140 million euro in 114 IT projects, while a fully ISO certified quality management system has prioritised quality above all else.

As a result of these actions, the EPO has achieved its best performance to date: production has increased by 36% since 2010 and the stock of outstanding work has been reduced by 27% during the last three years. A reform of the Boards of Appeal implemented since 2016 will also bring greater efficiency to tackle backlogs and increase their independence.

**A Stronger Financial Situation** – The combination of higher performance and better cost control – EPO's unit cost is now just 77.2% of what it was in 2006 – has allowed the EPO to achieve its best financial results. The annual standardised operating result has grown from +70 million euros in 2010 to +468 million euros in 2017. An extra 861 million euros has been injected into the EPO's pension fund.

## Unit cost index



■ Unit cost index – inflation adjusted operating result

## Modernised Working Conditions

**A renewed Human Resources policy** – Through the implementation of more than 20 projects of its HR roadmap, the Office has profoundly reviewed its social framework and working conditions, providing more clarity, fairness and sustainability, as illustrated by a new Career and Performance Management system that is now based on performance and merit. The reforms also ensured that EPO staff continue

to benefit from an extensive social package that compares favourably to other international organisations and the private sector.

**State-of-the-art buildings** – A new building in The Hague co-designed by renowned architects Jean Nouvel (Paris) and Diederik Dam (Amsterdam) is set to offer innovative and environmental friendly state-of-the-art office premises. This building of 85 000 sqm was finalised within its initial budgetary envelope.

## An Influential Global Player

**Strengthened European Patent Network** – The EPN was reengineered in 2011 to create a stronger and more efficient organisation. 150 million euros were invested in 28 projects implemented between 2011 and 2018.

**Enhanced Co-operation at global stage** – Co-operation with the world's largest patent offices (EPO, SIPO, USPTO, KIPO, and JIPO) has produced projects that avoid the duplication of work and facilitate the spread of patent information. Enhanced bilateral co-operation with numerous partners has also allowed the EPO to obtain a number of other breakthroughs, such as validation agreements and the ability to offer patent information to its users from around the world. That means 800 million records, containing over 100 million patent documents and stored in over 120 specialised databases.

## Social Responsibility and Transparency

As a responsible public institution, the EPO has increased the transparency of its activities through multiple channels: documents submitted to the Administrative Council and specific annual reports on key topics such as social conditions and quality are published. The annual results and major developments at the EPO are given at an annual press conference and attract wide coverage in the media. The Office has also invested increasing amounts in activities that raise awareness on the importance of patents for the economy, such as the European Inventor Award or the eight extensive studies that have been developed in partnership with other institutions and which reveal trends in technology and patents.

# A patent office for Europe

**INTRODUCTION** The European Patent Organisation was founded in 1973 by the European Patent Convention to set up a central entity responsible for the examination and granting of patents valid in its member states. The result – the European Patent Office – started its operations in 1977. Over the last forty years the Office has successfully developed its activities, expanding steadily the number of contracting states (from 7 in 1977 to 38 in 2011) and has attracted more and more users, thanks to the high quality of its products and services.

As an independent international organisation the EPO has had to define its own rules to regulate not only its core business but also the social aspects associated with a large institution, such as a secure pension system, good schools, and strict health and safety measures. Its budget – 2.3 billion euro in 2018 – is entirely self-financed through the fees generated by the services it offers. While some international organisations rely on contributions from member states, the EPO shares some of its revenue. 50% of the renewal fees paid by the user after the grant of a European patent are distributed between the 38 member states, depending on the validation rate in each country. In 2017 this represented a total of 500 million euro. The Office must also ensure that it can finance all its long-term and short-term liabilities by the revenues it generates.

To meet an ever-increasing demand for patents, the EPO developed a strategy to invest in its

infrastructure, its IT tools and staff. Competitive working conditions and a comprehensive social package are offered to attract highly-qualified employees who are able to work in the three official languages of the Office (English, French, German). From a few hundred employees at the end of the 1970s, the EPO's diverse workforce flourished to reach around 6 800 in 2010, since when it has remained stable. Most of the EPO's diverse workforce is comprised of specialised engineers working as patent examiners (4 400 in 2018) but it includes a broad range of professional talent, including lawyers, translators and specialist administrators.

The Office has also been successful in providing specific technical solutions to support the work of patent offices, especially dedicated IT tools such as patent information databases and powerful search engines. Thanks to its expertise and the quality of its services, the EPO became a highly-regarded partner by other patent offices worldwide and a rich and fruitful co-operation has developed both within and outside Europe.

## The need to adapt and reform

In 2010, and after thirty years of existence, the EPO had to address a number of significant challenges, notably:

- A substantial growth in patent applications in all regions of the globe (reaching two million in 2010). The increase generated growing backlogs of unexamined patent applications in many patent offices, including the EPO, which in turn increased legal uncertainty between

competitors. The trend was particularly troublesome for fast-evolving technologies, such as digital communications and computers, where companies need rapid feedback on the patentability of an invention;

- Patent applications have become more and more complex, often involving different types of technologies and requiring the combination of different expertise within a patent office. At the same time prior art was growing, particularly in China and the rest of Asia. Difficulties in mastering this extensive information and the language barrier also threatened to undermine an examiner's ability to conduct a comprehensive examination process, which forms the base of a solid patent;
- The expansion of the European Patent Organisation from 7 to 38 member states – all with different characteristics and needs – called for a review of co-operation activities between the EPO and national patent offices. Moreover, limitations to the enforcement of the European patent were increasingly at odds with a globalised economy, the development of the European single market and the needs of international economic actors. SMEs and universities in particular were in need of more affordable protection for their inventions;
- The Office was at risk of not being able to finance all its liabilities. 85% of the Office's expenses were attributed to the social package and from the years 2000's the Office started to see the first major departures of pensioners. As a result the EPO had to find the right balance between maintaining an attractive package for employees and controlling rising costs, against a historical backdrop of difficult social relations;
- Patents were attracting greater public attention, especially in sensitive domains such as biotechnology. Questions were also being raised about the effectiveness of patents in supporting innovation, as litigation grew in sectors such as the telecommunication sector. Large patent portfolios owned by global companies similarly increased concern over the transparency of patent offices and the patent granting process.



The EPO's Isar building in Munich

The global financial crisis of 2007-2008 had once again highlighted the dangers of financial insecurity in large institutions. It catalysed the EPO into taking action that would ensure the Office's ability to cover its long-term liabilities. When President Battistelli was elected in 2010, there was therefore a common understanding among the 38 member states that a profound review of the Office's structures and operations was required. Long-standing issues would have to be addressed to ensure the EPO became a more sustainable organisation, better equipped to provide a reliable service to innovators long into the future.

## Developing the strategy

Two important audits were commissioned in 2010 from leading independent consultancies. Deloitte reviewed the EPO's finances and modelled future financial scenarios, while PA Consulting carried out a comprehensive assessment of the EPO's IT tools and capabilities. The main outcomes were published in the format of two publicly accessible reports in January 2011. Significantly, they confirmed that the EPO was not adequately prepared to face future challenges and that the EPO would face great difficulties in financing its long-term liabilities. These results were shared and discussed with the different stakeholders, in particular the member states, the user community and the staff.

To react effectively to these findings, the Office presented a strategy based on Quality and Efficiency in 2011. A series of roadmaps followed, which aimed to improve the EPO's performance in five key areas; Quality, Buildings, IT, Co-operation and Human Resources. They laid out precise programmes of actions, calendars and budgets and adhered to a set of essential orientations:

- to enhance the quality of the services provided by the EPO to the user community, by improving the timeliness of the procedures, the responsiveness to their requests, the comprehensiveness of the examination, the accessibility to the information, and the exchanges with user associations;
- to control costs, in order to avoid regular and substantial increases of fees paid by users;
- to increase the efficiency of the Office and develop its activities, in order to be able to generate the necessary resources and to continue funding a high social package;
- to improve the working and management conditions, by providing more tools to the managers and more flexibility to the staff;
- to become a more open and transparent institution, participating in public debate.

*“Under Benoît Battistelli’s presidency, the European Patent Office has built upon its successful history to reach new heights and to prepare for a promising future. The Administrative Council had numerous and great expectations – many of them have been fulfilled, at a remarkable pace. An ambitious reform programme has been launched and is today already implemented to a large extent. Time will certainly prove how significant and fruitful Benoît Battistelli’s mandate will have been for the protection of intellectual property, in Europe and beyond.”*

Christoph Ernst (May 2018), Head of the German delegation, Chairman of the Council since October 2017

*“During the mandate of President Battistelli, the EPO went through a very comprehensive transformation process, implementing numerous reforms. It was certainly sometimes quite challenging for the management, the staff and the Council but it put the Office back on track. The extremely positive results can be measured in several key areas, making this entity much more efficient and improving sharply the quality of service to the users. The Council was fully associated to this process, from the approval of the proposals until the monitoring of the results. These achievements will reinforce without any doubt the long-term sustainability of the Organisation.”*

Jesper Kongstad (May 2018), former Head of the Danish delegation, Chairman of the Council from 2010 to 2017

Internally, a concerted social agenda was concluded in November 2010 and a joint Communiqué with the staff representation was signed in February 2011.

A series of proposals was subsequently presented and discussed with all the EPO's stakeholders. They were then proposed to the EPO's Administrative Council, where most of the proposals required a ¾ qualified majority to pass. This ensured that any measures to be taken had a high level of support among the EPO's member states.

Intermediary results were presented in 2014 and the roadmaps' programmes were further updated. In 2018, the final reports were submitted to the Council of the Organisation. The actions that the EPO has taken have achieved a range of extremely positive results for the EPO, which are summarised in the following pages.

The last eight years have been a striking story of successful modernisation in Europe's second largest international institution, in the face of a number of challenges. It is also believed to be one of the widest programmes of reforms experienced by a public agency, especially at international level.

# Management team (2010 - 2018)

## Vice-President DG 1



Guillaume Minnoye  
(2011 - 2017)



Alberto Casado  
(2017 - 2018)  
previously Vice-President  
DG 2 (2012 - 2017)

## Vice-President DG 2



Peter Vermeij  
(2010 - 2012)

## Vice-President DG 4



Brian Mc Ginley  
(2010 - 2012)



Željko Topić  
(2012 - 2018)

## Vice-President DG 5



Raimund Lutz  
(2011 - 2018)

## Chief Information Officer



René Kraft  
(since 2011)

## Principal Director Human Resources



Wolfram Förster  
(2010 - 2012)



Elodie Bergot  
(since 2013)

## Principal Director Controlling Office



Robert Dunstan  
(2011 - 2014)



Aidan Kendrick  
(since 2015)

## Chief Operating Officers



Roberta Romano-Götsch  
(since 2017)



Karin Seegert  
(since 2017)



Grant Philpott  
(since 2017)

## Chief of staff



Gilles Requena  
(since 2017)  
previously Advisor/  
Head of Cabinet of the  
President

## Chief Finance Officer



Francisco Del Pozo  
(2010 - 2017)



Vincent Kos  
(since 2017)

# 1 Patent landscape

**The transformation of the EPO** over the past years was instigated as a response to the growing demands of a modern global IP system. Among those challenges was a strong growth in the number of patent applications being filed. Filing rates at the five IP5 offices in Europe, Japan, Republic of Korea, China and the USA were going up every year and annual worldwide patent applications have now surpassed three million.

The EPO itself has faced a constantly growing volume of patent applications year-on-year from 2011, from both within and outside of Europe. This evolving patent landscape has been one of the fundamental drivers for change at the EPO.



# Challenges of a changing world

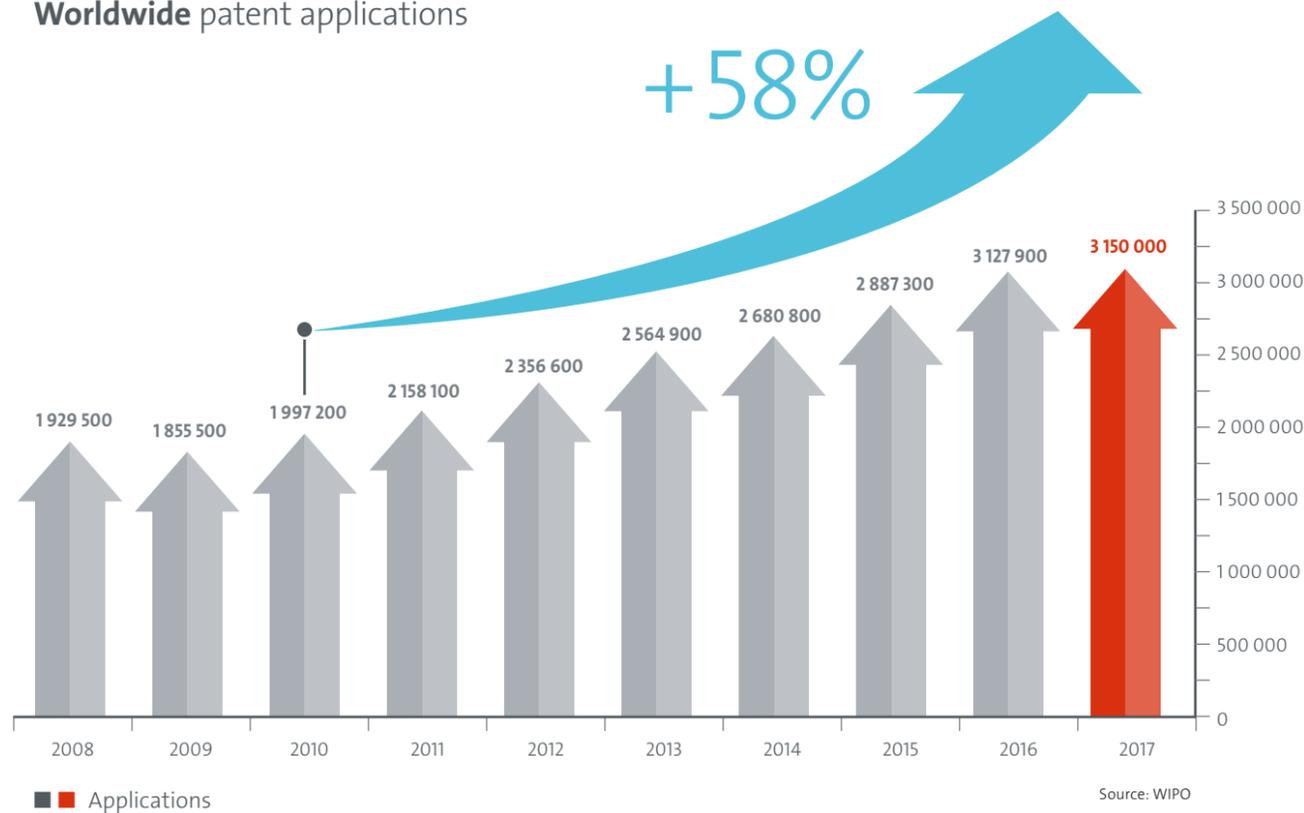
Patent applications at the EPO have increased steadily in the last eight years. After the financial crisis of 2008, sustained growth in demand resumed from 2010, defining the patent landscape and leaving patent offices facing ever-growing workloads.

### Applications grow worldwide

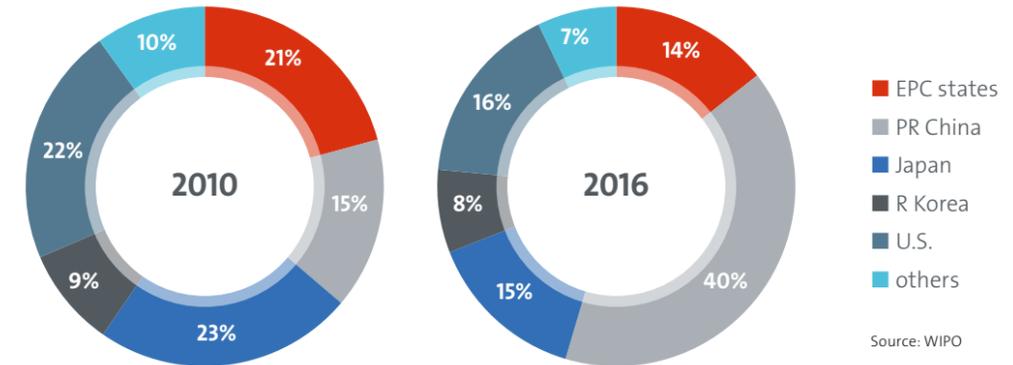
From 1 997 200 in 2010, the total number of patent applications worldwide has increased by an average 6.7% each year to reach an estimated 3 150 000 in 2017 (Source: WIPO). While the number of applications has been growing steadily, the origin of those patent applications has evolved. Different

regions and countries have witnessed fluctuations in their geographical share of applications. An increasingly large proportion of these applications now originates from China. In 2010, China was filing just 15% of the global patent applications. Yet eight years later that figure had grown to 40% of the global total. Conversely, the US, Japan, Republic of Korea and the EPO have all seen their share of applications diminish, even though the total number of applications has risen overall. There is no indication that the demand for patents is set to relent in the near future, either on a regional or global level. On the contrary, emerging markets are increasingly maturing into technology developers, using the patent system more intensively.

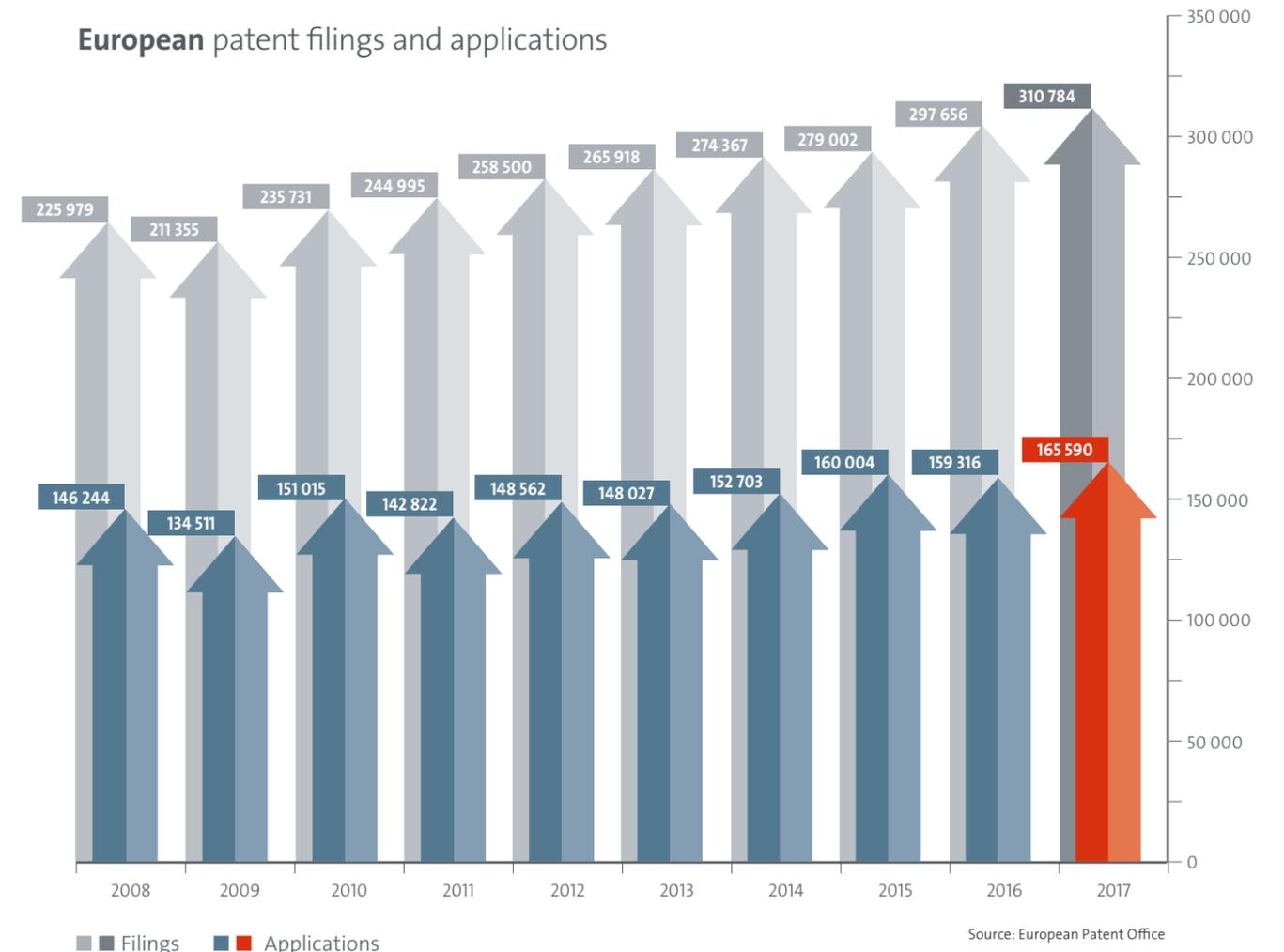
### Worldwide patent applications



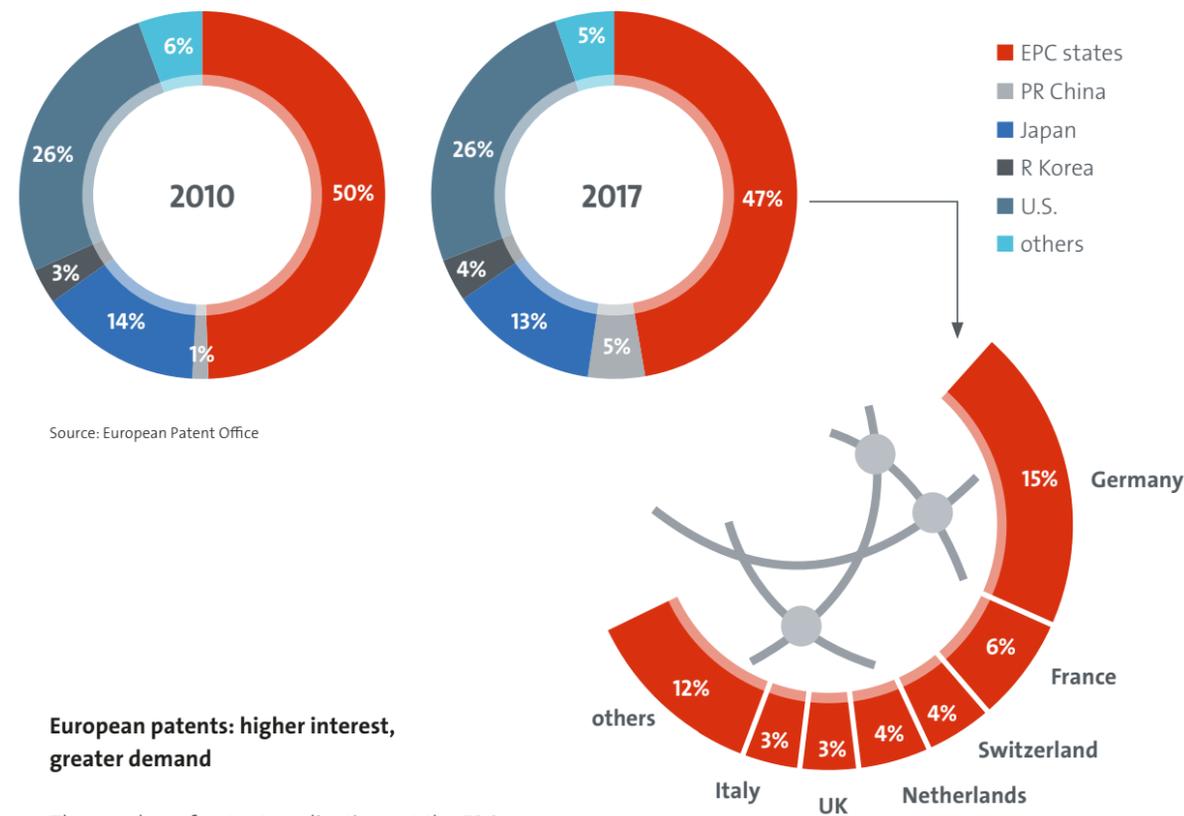
### Worldwide patent applications – Origin



### European patent filings and applications



### European patent applications – Origin



Source: European Patent Office

#### European patents: higher interest, greater demand

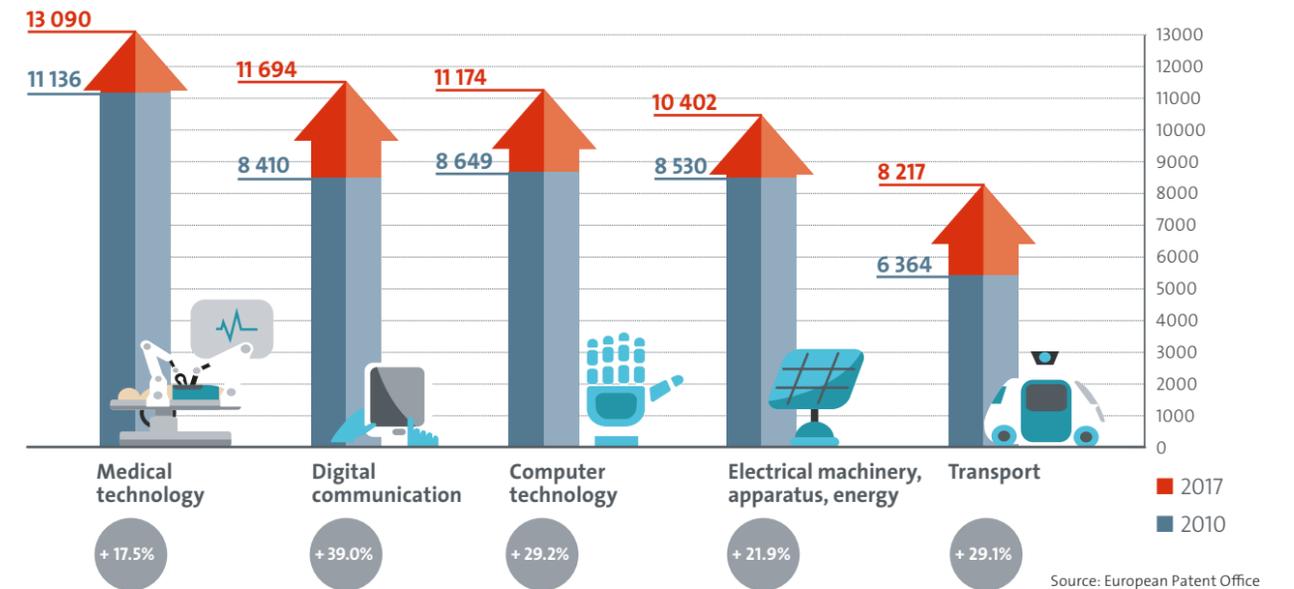
The number of patent applications at the EPO grew steadily at an average rate of 1.3% per year between 2010 and 2017. A patent application represents the point at which an inventor confirms his intention to actually proceed with his application and attempt to obtain a patent for his innovation. The number of applications each year represents accurately a patent office's incoming workload because it tells us how many inventions will need to undergo the patent granting process.

Applications have now reached an all-time high of over 165 590. The Office has therefore had to adjust to an overall growth in demand of 10% in the last eight years. The EPO is responsible for processing almost half of all patent applications in Europe, with the other half being processed by national patent offices. This balance has remained stable since 2010. As well as a growing workload for the EPO, the rise in applications demonstrates a sustained high interest in the

European economy from companies all over the world, as well as indicating their readiness to market products here.

In the same period, European patent filings grew on average by 4% each year between 2010 and 2017. A patent filing is an initial step taken by an inventor to obtain a patent. As a result they help us to understand how many inventions are being considered for patent protection in the near future and how much general interest there is in obtaining intellectual property protection at any given time. The sustained high growth in the last eight years indicates consistently increasing interest from inventors in obtaining protection for their innovations in Europe. In 2017 there was a record 310 784 patent filings at the EPO.

### Top technology fields



Source: European Patent Office

#### Diversification and internationalisation of the applications

While the ratio between applications from EPO member states and non-member states was 50/50 in 2010, it moved to 47/53 in 2017. In 2017, patent applications at the EPO came from 116 different countries but with very diverse volume (US = 26% of the total, Germany 15%, Japan 13%, France 6%, China 5% and Republic of Korea 4%). During the period 2010-2017, the number of applications from within Europe grew by 4.9%, indicating that home-grown inventors are more active. The number of patent applications per million inhabitants – another measure of an innovative economy – has also revealed a strong innovation sector in Europe: all top eight of the 'most innovative' countries are European. In addition, the EU average of 134 European patent applications per million inhabitants has now overtaken the United States (130 per million).

#### Sustained growth in multiple sectors

In 2017, the top five technology fields with the largest number of applications were Medical Technology (13 090), Digital Communication (11 694), Computer Technology (11 174), Electrical machinery, apparatus and energy (10 402) and Transport (8 217). All of these fields have also been among the fastest growing at the EPO. Between 2010 and 2017, Digital communication experienced an overall growth rate of 39%, closely followed by Computer technology (29.2%) and Transport (29.1%). Although Medical technology has experienced a more moderate overall growth of 17.5%, it has consistently ranked as the number one field for the number of patent applications each year since 2010.

These fields are covering fast-evolving technologies for which applicants need an early view in the process on the patentability of their inventions, which has some direct consequences on the EPO workload management.

# 2 Addressing users' needs

**The EPO is a user-orientated organisation,** constantly assessing how it can deliver better services that respond to the needs of patent applicants.

By gathering extensive feedback from users, new tools and initiatives have been developed that have facilitated access to patent information from around the world, broken down language barriers, and offered new services that make the application process faster, easier and more cost effective.

At the same time, the quality of the European patent system has attracted new countries, helping to expand the potential coverage of a European patent to 44 countries and some 700 million people.



# Delivering high quality services

The EPO has a responsibility to provide patent applicants from around the world with the highest quality patent protection in Europe. But to successfully deliver the very best products and services, an organisation has to adapt constantly to evolutions in its environment. For the EPO, the last eight years have been defined by intensified efforts to ensure we meet the needs of our users.

New initiatives have been developed to ensure that they can depend on legally robust patents that are continually reaching new levels in quality. Yet, those same patents are now also being delivered faster.

As the patent office of Europe, the EPO has struck agreements with other countries to increase the geographic scope of a European patent, and a single application can now provide patent protection in up to 44 countries. Meanwhile, the cost of our products has remained stable, and even decreased for some services. The number of services has also expanded with rapid developments in patent information that help businesses to take well-informed decisions and new translation tools to break down language barriers.

Extensive feedback has been gathered through multiple channels to assess exactly what our users require – and how the EPO can best deliver. As a result, applicants at the EPO are supported by a host of new and responsive services that are contributing to a vibrant innovation sector and a stronger European economy.

## Addressing users' needs

What do users of a balanced patent system fundamentally need? Quality. Only a high quality patent system can respond to the needs of the multiple stakeholders. Applicants need solid legal protection which will help them to develop their business. Competitors of the applicant want reassurance that the granted protection is strictly limited to the competitor's invention and will not hinder further inventive solutions. Wider society needs reassurance that the patent – an exception to competition laws – was granted only after a solid and dependable examination process. And finally the patent system itself, which is fully integrated in the modern economy, must be capable of responding to a changing environment. How is a patent office able to ensure high quality processes in a fast evolving environment?

Through extensive dialogue with the user community, the following requirements were identified:

- **Easy access to the most comprehensive prior art in science and technology:** before investing in R&D, companies need to establish the most accurate state of play in their technological field. Otherwise, they risk wasting resources on a patent application for an invention that was never patentable.

- **Timely information about the patentability of an invention:** both the applicant and its competitors need to know at an early stage the strengths and weaknesses of a patent application. This information can have an impact on important future business decisions, and a long delay in the application process can therefore be detrimental to effective decision making.
- **High legal certainty:** since its development in the 19th century, the patent system has included an ever-expanding range of patentable inventions. Inventions have become more digital and increasingly complex. Similarly, the boundaries between what is patentable and what is not patentable are sometimes difficult to find, such as in the case of biotechnology.
- **Cost-effective protection:** with the globalisation of the economy, applicants want to be able to protect their inventions in more markets. Yet often the budget available for intellectual property has not risen in parallel. Solutions are therefore needed to maintain and even reduce the cost of patent protection.

To meet these requirements, the EPO has developed a range of innovative services, tools and measures that are improving the patent application process for our applicants.

## ACCESS TO THE RICHEST TECHNICAL KNOWLEDGE

Patent information is central to technological innovation. Scientists and engineers can research patents published by other inventors in their field and build on their predecessors' solutions to develop improved processes, products and inventions. The databases support not only Research and Development, but also help companies to make the right strategic decisions on market trends, potential partners, suppliers, customers and competitors. For examiners, information

The EPO currently receives **20 000 requests** for translation per working day.



is vital for revealing existing patents in force anywhere else in the world. Patents can only be granted for truly new inventions, so they must have access to the most comprehensive collection of documents to decide what is and what is no longer patentable, as well as the tools to identify the most relevant information in the most efficient way.

The EPO has long been a pioneer in providing free access to patent-related data. Our public databases contain more than 100 million documents and are accessible free of charge on our website. They comprise the largest and most relevant source of information on state-of-the-art technology available anywhere in the world.

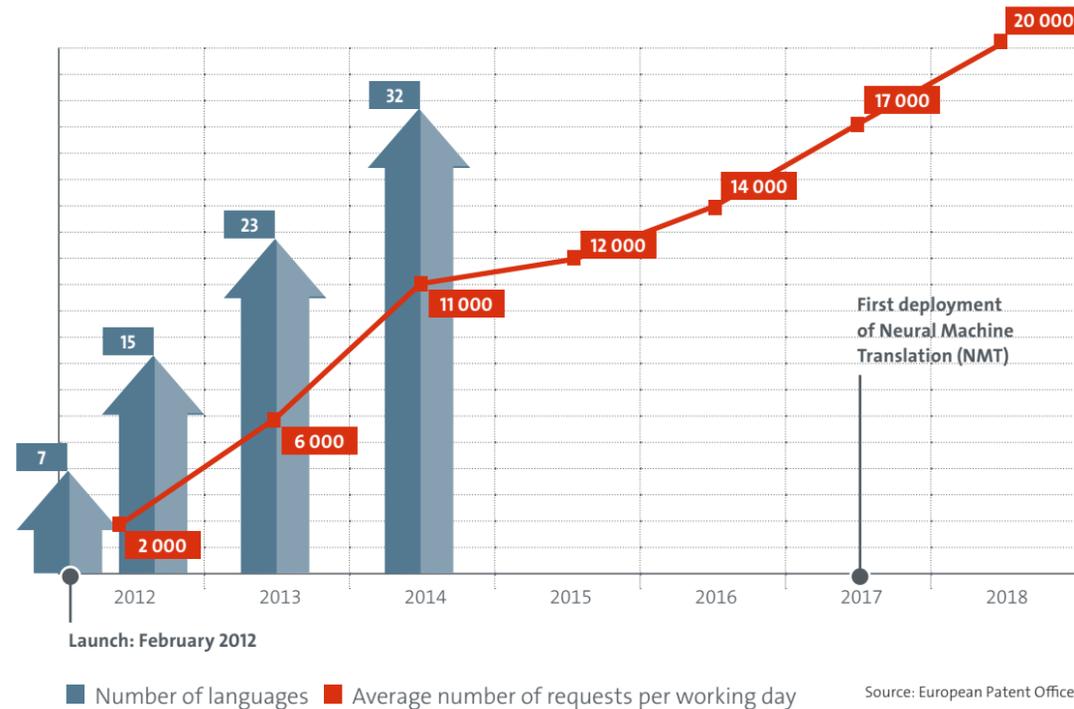
### Patent Translate – breaking down the language barrier

Patents are in force across the globe and the corresponding patent documents are filed in many different languages. This can provide a barrier to inventors who wish to understand the existing 'prior art', or information relating to patents that already exists. In 2011 the EPO set about breaking down this language barrier by teaming up with Google on a pioneering machine translation project.

*“The fruitful relationship between the EPO and the Chambers' network has helped to boost innovation, competitiveness and economic growth for thousands of European SMEs. Many co-operation agreements were signed. Needs were transformed into results, all across Europe and abroad. After these eight successful years, we are confident that this legacy will continue to shape the work of the European Patent Office for the years to come.”*

Arnaldo Abruzzini, CEO Eurochambres (May 2018)

## Patent Translate – Number of languages and translation requests



Each partner brought the essential elements that would make it a success: the EPO had a rich deposit of high quality human translations of the same patents in different languages; Google was a global leading provider of machine translation technology covering the widest scope of languages.

The new system, Patent Translate, has been developed to provide multilingual access to a vast collection of patent documents. It now covers the 28 languages of the EPO's member states, plus Chinese, Japanese, Korean and Russian and has proved to be of great benefit to companies, inventors and scientists worldwide. Patent Translate allows them to cut translation costs and better orient their R&D by accessing patents relevant to their inventions in their own language. This project has benefited significantly from close co-operation with the national patent offices of our member states and with the biggest patent offices all over the world, which have made their data available to the EPO. Furthermore opening

up the patents of Asia to users who do not understand the major Asian languages is one of the greatest achievements of Patent Translate.

In 2017 a major landmark was achieved when Patent Translate adopted a new technology called "neural machine translation" (NMT), putting the EPO's co-operation with Google at the forefront of machine translation technologies. Consequently, Patent Translate has achieved new levels of precision, recognising styles of writing based on context and able to make accurate translations accordingly. Neural networks even bring the added benefit that computers can now use what they learn from one language pair to improve the translations of another language pair. With the vast quantity of data used for training, the machine begins to predict how the language is structured, how words are used, and how to develop its own sentences in the other language, based on the relationships in previously seen language pairs.

To maintain confidentiality throughout the process, all Patent Translate requests are collected via an EPO access point and sent anonymously

to Google. It guarantees that a user's interest in a specific technology will be kept secret. The EPO currently receives 20 000 requests for translation per working day. The development of this new tool also contributed to achieving a breakthrough in the negotiations for a new EU patent – the Unitary Patent – by addressing concerns about possible high translation costs.

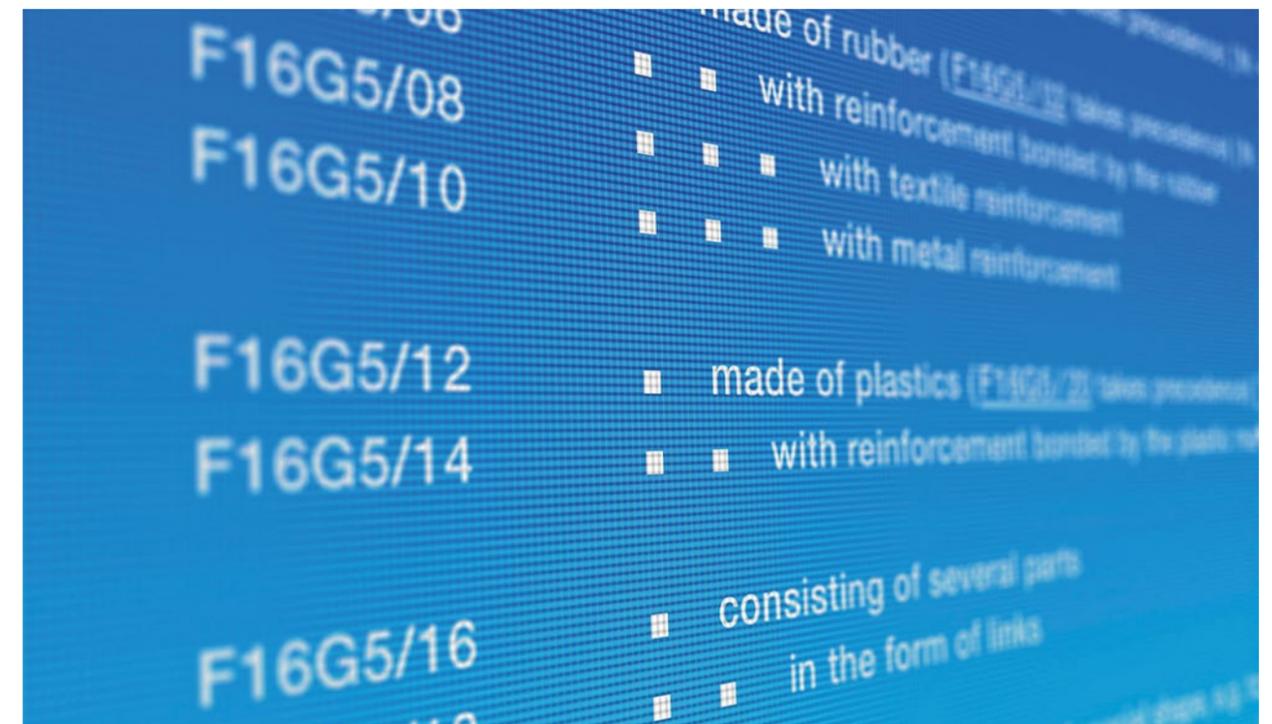
### Cooperative Patent Classification – the most accurate index of patent technologies

As the internet provides access to more documents from around the world, searching for relevant information becomes harder. Searchers are now exposed to many more potentially relevant documents than ever before. Classification systems – which place different types of inventions in different categories – bring order to the potential chaos. As particular patentable technologies have developed, so has the number of patent documents.

This issue was officially recognised in a joint statement by the EPO and United States Patent

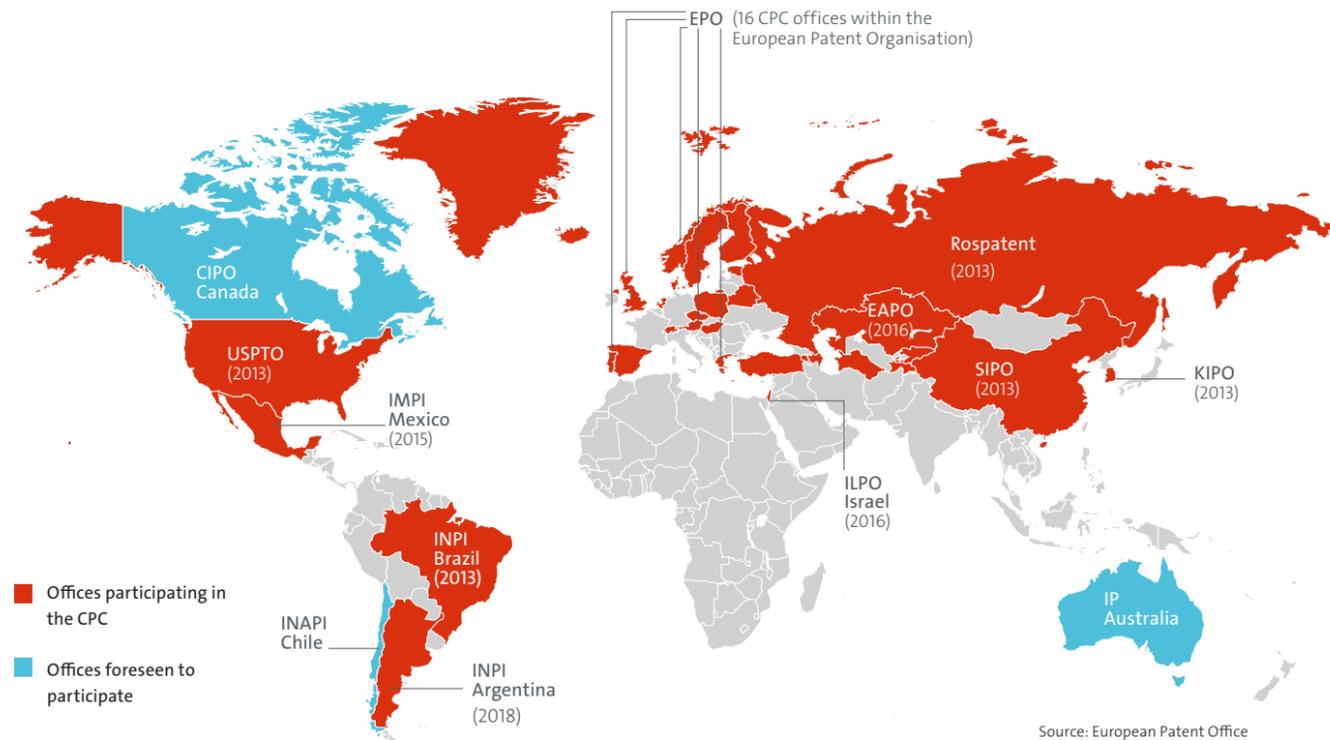
and Trademark Office on 25 October 2010. It laid the foundations for a more refined classification system, better equipped to address the growing diversity of inventions:

"In view of the significant benefit to stakeholders of developing a transparent and harmonised approach to a global classification system for patent documents; in order to make the search process more effective; and in the belief that co-operation between their two offices will facilitate progress in undertaking classification harmonisation projects under the IP5 Common Hybrid Classification initiative, the USPTO and the EPO have agreed together to work toward the formation of a partnership to explore the development of a joint classification system based on the EPO Classification system (ECLA) that will incorporate the best classification practices of the two offices. This system would be aligned with the World Intellectual Property Organization (WIPO) classification standards and the International Patent Classification (IPC) structure. Accordingly, they have initiated discussions on governance and operational aspects of such a partnership."



Extract of new Cooperative Patent Classification (CPC)

## 26 Patent Offices classifying according to CPC



Source: European Patent Office

By combining the best features of the EPO classification system (ECLA) with that of the USPTO, the two offices have put in place the most extensive, robust and continually evolving classification scheme for all fields of technology. Searches that focus on particular inventive features have become easier and more efficient as a result. The new Cooperative Patent Classification (CPC) system has been integrated into Espacenet, the EPO's free-to-access database. With information on inventions and technical developments published since 1836, searches by non-experts have also become easier and more effective, opening up the world of patent information to a wider audience.

The EPO's commitment to the CPC has been ongoing. In the years since it became operational, the EPO has invested significantly in training activities to help extend the CPC scheme to other offices and to contribute to greater harmonisation

in the patent system. Its high quality has been widely acknowledged and has helped the CPC to become a worldwide standard. Currently it is used by 26 patent offices around the world, including 16 EPO member states and other large patent offices, such as those of the United States, China, Republic of Korea, Russia, Canada, Australia and Brazil.

With more, better-classified information in our databases, and free instant translation tools, patent information has truly come of age. Inventors and applicants now have access to the highest quality and most extensive patent data to help them make informed decisions on what to develop and protect. Examiners – both at the EPO and at numerous other offices using our systems – are the other main beneficiaries of these new, superior tools. They are essential for helping examiners to assess the novelty and inventiveness of patent applications. For the applicant and the office this leads to higher quality applications and granted patents.

## DIVERSE DATA, A SINGLE POINT OF ACCESS

In today's global technology market, businesses often file patents for their inventions in multiple countries at the same time. Keeping track of simultaneous applications is a major challenge for companies and inventors, even though many patents are linked as a "family" (applications for the same invention filed at multiple offices) through common priority dates. In order to help users monitor their files around the globe, we launched several initiatives to provide a single point of access to information. These information gateways allow users to keep track of how their applications are progressing at different patent offices, helping them to manage their applications more effectively and thus save time and money.

### Global Dossier

As part of its co-operation in the group of the five largest IP offices in the world (known as the "IP5"), the EPO together with China's State Intellectual

Property Office (SIPO) introduced a new service in 2014 called the "Global Dossier". It provides a free online file inspection (also known as a "file wrapper") service that allows users to access SIPO's publicly available documents directly on the EPO website, via the European Patent Register or Espacenet. In addition, automatic machine translation is built in to provide English language versions of the original Chinese documents. In 2015 the Global Dossier service was extended to include file wrapper data from the remaining IP5 offices, namely KIPO, JPO and the USPTO.

The same service is also used by patent examiners from all IP5 offices and beyond. This effective and efficient re-use of search and examination results from other offices for a family of patent applications has contributed to increased efficiency and quality of the patent prosecution service. The Global Dossier is one of the most significant outcomes of IP5 co-operation. It greatly increases the efficiency of typical patent user practices across a family of IP5 dossiers. By creating a link to the WIPO CASE system, to include the file wrappers of the patent offices of Canada and WIPO International Bureau, it is gradually becoming a true "global dossier".

## EPO Global Dossier – European Patent Register

EPO file wrappers since 06/14

USPTO file wrappers since 06/15

SIPO file wrappers since 06/14

KIPO and JPO file wrappers since 04/15

### Checking legal status across Europe

The need to provide simplified access to information isn't just a challenge we face at the global level. It's also an issue within the European patent system. When a European patent is granted, it becomes a bundle of national patents. Each one becomes the responsibility of the respective country creating a need for consolidated information. As a response, the EPO and its member states developed the Federated European Patent Register service. In the past, all the national registers had to be consulted separately. Under the new service, users can obtain a simple, clear and comprehensive overview of the legal status of a European patent across the various participating countries.

The first phase of this project, called "deep linking", allows users of the European Patent Register to click on links taking them directly to entries in the national patent register that correspond to a European patent. The number of member states providing access to the online registers of national patent offices in this way has already reached 33, and one extension state – Bosnia and Herzegovina – is also participating. A similar function is progressively being added to Espacenet, allowing users to find the legal status for national applications in 16 member states. The effort required to obtain consolidated information on the legal status of patents throughout Europe has been greatly reduced.

Under the second phase of the Federated European Patent Register, the most important legal status data of all the participating states –

currently 27 – is displayed on a single screen. Unlike the first phase, users can avoid being directed to entries in national patent registers. The system automatically collects the data "live" from the registers of the various patent offices, collates it, and presents it in summary form, allowing users to get an instant impression of where the European patent is in force and where it has lapsed.

### Bringing together search results from around the world

The Common Citation Document (CCD) application provides single point access to up-to-date citation data for patent applications at the IP5 Offices and at several EPO member states. It consolidates the prior art cited by all participating offices for the family members of a patent application, thus enabling the search results for the same invention produced by several offices to be visualised on a single page. The service is used by several thousand users every month.

## IMPROVING TIMELINESS

Applicants need to be able to rely on a patent granting process that delivers their IP rights in a predictable, timely manner. As demand has risen throughout the patent system, intellectual property offices have been placed under increasing pressure to provide their services within a time that is considered reasonable by the user.

In 2010, the Office decided to increase its capacities to treat these flows of applications by investing heavily in new tools and human resources. Moreover, a dedicated programme called "Early Certainty from Search" was launched in 2014. The goal of the initiative was to provide more information to EPO applicants and the public on the viability of each and every patent application early in the patent grant process. Users would be able to take decisions with more certainty and in a timely manner on whether to progress with their applications or not.

Under this initiative, the EPO set itself the challenging goal of delivering all searches with a written opinion within six months of receipt. The rapid achievement of this goal after only two years was due to a focus on managerial action and a concerted effort from staff. Capacity and productivity was increased and advanced techniques and tools introduced that helped to set priorities and manage workloads. With search under control, it was time to extend timeliness goals to include examination and opposition. The goal for completion of examination was set at within 12 months on average from valid request for examination. Completion of opposition was set at within 15 months on average from the end of the opposition period.

From 2016, the focus shifted to reducing the stock of outstanding examination work and decreasing the time necessary for opposition. Improvements were implemented that simplified and streamlined the patent grant process. The measures taken focused on increasing contact between the examiner and the applicant, particularly at an early stage in the procedure. New options such as beginning the examination procedure with a telephone consultation to clarify the understanding of the file helped to reduce the number of intermediate actions needed to arrive at a patentable set of claims. Likewise, the use of e-mail exchanges during telephone consultations or oral proceedings held as video-conferences brought more effective exchanges which in turn contributed to a further reduced number of actions before grant. Furthermore, new instructions encouraged examiners to be proactive in indicating potentially patentable matter.

*"The recent reforms of the EPO, including improvement of timeliness and examination quality, responded to business needs and its efforts and achievements are fully recognised by industry stakeholders"*

Dr. Song Liuping, Senior Vice President Huawei (May 2018)

Other actions to help applicants and third parties to accelerate the prosecution of individual applications were introduced. The acceleration programme known as PACE was revised to ensure its fair and effective use by applicants. New processes were introduced to handle applicant enquiries as to when the next action could be expected and escalation procedures were devised and implemented.

A first major step to improve performance in opposition was taken with the introduction of a new streamlined process for processing opposition cases in 2016. Administrative processes that had traditionally been carried out sequentially were reengineered to be done in parallel and straightforward oppositions, which make up the vast majority of cases, would be brought to conclusion with fewer written exchanges of positions between the parties and the EPO before coming to a conclusion. Logistics such as optimising room scheduling helped to ensure all resources were in place for faster processing. At the start of 2018, the number of examiners involved in opposition was reduced to just over 500 to provide a concentrated body of examiners to improve even further the quality of the opposition procedure through greater timeliness, more predictability of outcome and more consistency of procedure.

The results of these measures have been significant. Our users can now expect a quicker response from the EPO at all stages at the patent granting process. The EPO first reached its six month target for search in 2017 and it now stands at just 4.8 months instead of 9.2 a few years ago. Examination times have fallen from 27 to 22.1 months and oppositions to 22.0 months. In addition to an overall improvement in timeliness, the measures

## Speeding up work processes – Early Certainty targets



### Search reports

We deliver search reports within 6 months of receipt.

Actual Search timelines

**4.8 months**



### Examination time

We are reducing examination times to just 12 months on average by 2020

Actual Examination timeliness

**22.1 months**



### Opposition time

We aim to conclude oppositions to newly granted patents in just 15 months on average.

Actual duration of oppositions

**22.0 months**

have led to a 27% reduction in stock expressed in months of activities since 2014. Now that stock is predicted to fall further and the Office is well on course to meet its demanding timeliness targets by the end of 2020.

Further recent exchanges with the user community have illustrated that their needs have become increasingly diverse. More flexibility in the timing of the patent granting process, especially during the examination phase, could be considered by the Office in the future.

## FACILITATING WORLDWIDE PATENT PROTECTION AT THE RIGHT COST

The globalisation of the economy and the emergence of new markets in all regions has created a need for patent offices to work together. That co-operation can help simplify formalities for the users and avoid redundancies in the procedures and duplication of work between offices. In particular, a leading role in the Patent Cooperation Treaty (PCT)

system and a focus on validation agreements has delivered greater harmonisation, simplified procedures and savings for users. After careful preparation the EPO also stands ready to deliver the Unitary Patent to applicants requiring simplified, cost-effective protection in EU member states.

### Fostering the role of the EPO as an international platform

The EPO supports its applicants in pursuing a global patent strategy with a single application by acting as an International Search Authority (ISA) under the Patent Cooperation Treaty (PCT). The EPO is in fact the world's largest ISA and prides itself on its worldwide reputation for providing the highest quality International Search Reports (ISR). By 2010, the PCT had already become of the EPO's most sought-after services. The Office delivered 69 000 PCT search reports and granted 35 000 patents based on Euro-PCT applications – more than 56% of the EPO's total applications. Since 2013, procedural reforms and quality actions have been launched, and a series of new products and services have been implemented:

**PCT Timeliness** – Timeliness in issuing PCT work products has considerably improved between 2012 and 2018, partly due to the Early Certainty

programme launched in 2014 and the PCT Paperless service implemented in 2016. In 2017, 97% of EPO's PCT search reports were published at 18 months (against 80% in 2012) and 92% of EPO's PCT examination reports were issued at 28 months (against 76% in 2012).

**New PCT Products** – New PCT products are now offered free of charge. For instance, top-up searches are carried out by the EPO in the PCT examination process to take all intermediate prior art into consideration. Provisional opinions are also sent to applicants in the PCT non-unity procedure. In addition, the search strategies followed by EPO examiners are annexed to PCT search reports to provide extra transparency.

**New PCT Tools** – New PCT online tools and services are now available to PCT users. For example, applicants may file their PCT applications and subsequent documents at the EPO in all of its capacities using WIPO's ePCT, the payment of PCT fees can be made via automatic debiting or with credit cards and PCT file inspection is now available in the European Register.

**Ongoing Improvements** – Procedural improvements have been made to evolve to the needs of the users and offer extra convenience. For example, the PCT Direct service allows applicants to explain any changes concerning the priority application already searched by the EPO, and the new non-unity procedure upon entry into the European phase permits users to select the invention of their choice as a reference and pay for additional searches.

**Reduced Costs** – As a result of effective cost saving measures the EPO is in a position to lower some of its fees. PCT-related fee reductions were introduced in April 2018, including a 5% reduction of PCT search and examination fees. A further reduction was applied to the EP examination fee applicable to Euro-PCT applications already examined by the EPO in PCT proceedings, taking the final reduction from 50% to 75%.

**New Services** – New products and services for PCT users will be introduced in 2018 with the EPO joining WIPO-DAS for the electronic exchange

of priority documents. Documents will also be accepted in a more user-friendly format (DOCX) as a valid format when filing applications, and the EPO will participate in the IP5's Collaborative Search and Examination Pilot.

As a result of these improvements the EPO has reinforced its role as a key player in the PCT system, offering a wide variety of services and products of the highest quality and delivered in a timely manner. 79 000 PCT search reports – or 34% of the world's total – and 68 000 European patents were granted on the basis of Euro-PCT applications in 2017. Given that these granted patents comprise over 64% of the total grants at the EPO, there is little doubt that the continuing development of the PCT will continue to be essential for the future of the EPO.

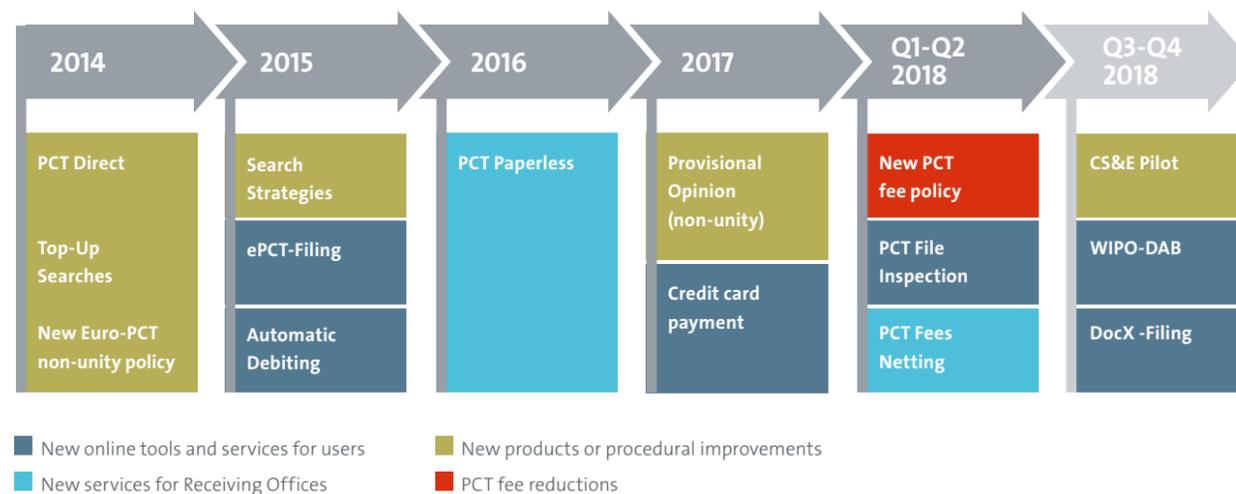
### Cost-effective protection within Europe – the Unitary Patent

In 2012 the EU member states took a historic decision and gave the go-ahead for introducing an EU-wide patent – the European patent with unitary effect. As the European intergovernmental organisation with responsibility for patents in Europe, the EPO was chosen to grant and administer this long-awaited improvement to the European patent system. Constructive discussions between the EPO and the EU institutions in 2011 and 2012 confirmed that the EPO was the right office for a new patent that would provide unitary legal protection for inventions automatically valid in up to 26 EU countries.

*"I have no doubt that the quality of this Unitary Patent will be great since the European Patent Office will be responsible for issuing and administering it."*

Michel Barnier, EU Commissioner for Internal Market and Services (2013)

## EPO PCT Strategy Timeline (key projects)



## Objectives of the Unitary Patent package



The Select Committee of the Administrative Council of the European Patent Organisation was created as the body responsible for implementing the Unitary Patent system at the EPO. Its main work was concluded successfully in December 2015, when it adopted the required secondary legislation for the Unitary Patent, proposed by the Office. The legislation includes rules relating to Unitary Patent protection, fees, budgetary and

financial rules and rules relating to the distribution of fees among the participating member states. As a result of this diligent and timely preparation, the EPO is legally, technically and operationally ready to deliver the Unitary Patent as soon as the remaining member states have completed their national ratification processes.

With a Unitary Patent, it will not be necessary to validate and translate the European patent, nor have it administered nationally in each and every state separately. Together with a dedicated unified patent litigation system, the Unitary Patent will simplify post-grant administration and litigation procedures and significantly lower the costs for patent owners. It represents an advantage for businesses in Europe, especially SMEs and research institutes, and will also make Europe even more attractive for inventors from all over the world. An EPO publication on 12 SME case studies published in 2017 showed that the simplified administration of the Unitary Patent, with its reduced costs and greater legal certainty, will be particularly beneficial for SMEs looking to enter new markets, which were previously unconsidered.

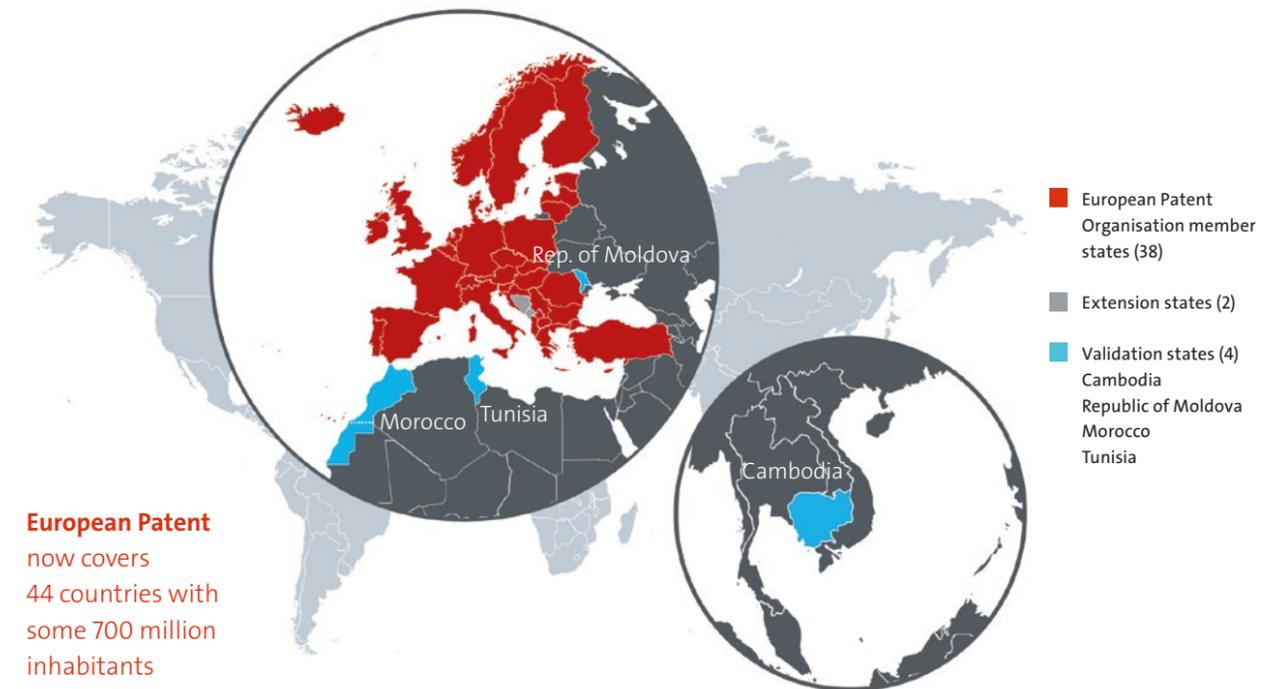
In terms of post-grant costs, companies will benefit from patent protection in up to 26 countries for the cost of just four. Annual renewal fees for the unitary patent are equivalent to the cost of patent protection in the four major countries under the classical European patent system.

After 40 years in the making, the Unitary Patent is within reach, and Europe will finally soon see the creation of a genuinely uniform European market for innovation. For the Unitary Patent to enter

*“The introduction of the Unitary Patent and the Unified Patent Court is a major reform not only of the European patent system but more fundamentally of innovation policy in Europe. Under the leadership of its President, the European Patent Office has demonstrated a consistent and clear commitment to greater European integration, with optimal implementation of the unitary patent and has also worked on the establishment of an attractive scheme for European companies and in particular SMEs, universities and scientific research centers by proposing an accessible fee level.”*

Jérôme Debrulle, Chairman of the Select Committee for the Unitary Patent and Head of the Belgium delegation (May 2018)

## European patent system extends beyond Europe



into force, the treaty creating the Unified Patent Court needs to be ratified by at least 13 countries, including France, Germany and the UK. The current state of play of the national ratification procedures should allow the Unitary Patent to start in 2019.

The Unitary Patent package has been widely supported for the essential role that it will play in supporting innovation, economic growth and reinforcing the competitiveness of European companies. It will play a part in Europe's ability to feature as a leading market for patents and innovation.

In October 2017 a team of economists from the EPO, the University of Colorado Boulder and the London School of Economics published the study “Patents, Trade and FDI in the European Union”. It revealed that the improved harmonisation of Europe's patent system has the potential to increase trade and Foreign Direct Investment (FDI) in high-tech sectors by up to 2% and 15% respectively in the EU, leading to annual gains of EUR 14.6 billion in trade and EUR 1.8 billion in FDI.

### Extending the reach of European patents

While steady progress has been made in achieving cost effective protection within Europe, the geographical coverage of European patents has extended beyond Europe during the same period. Since 2010, the EPO has worked intensively with different countries outside the European Patent Organisation to set up a new privileged partnership: the validation agreements.

The deal supporting this new scheme is simple. The recipient country recognises a European Patent as if it were a national one, while the EPO commits to co-operation activities that support the development of a more robust patent system.

*“The European Patent Office has achieved a higher service level, making it faster, more predictable and service-minded, while keeping a constant focus on quality. We also appreciate the successful extension of the European patent system to non-European countries.”*

Gabriele Mohsler, VP Patent Development, Licensing & Patent Development, Ericsson (May 2018)

For the national patent offices of the validation country, the validation system represents an efficient way of streamlining its examiners' workload because it avoids re-doing work already done by the EPO. Consequently, the national office in the validation country can focus its resources on direct support for national innovation and enter into long-term, sustained technical co-operation with the EPO. This co-operation is customised to the priorities of the national office. Activities range from programmes that raise awareness on patents to the development of advanced examination skills, depending on the national context. The validation agreements can also contribute to attracting foreign direct investments, given the clear relationship between robust patents in a country and the transfer of technology to its market.

# EUR 25 Mio.

As a result of the **fee changes with effect from 1. April 2018** applicants will already benefit of a reduction by an amount of EUR 25 Mio. in 2018. The benefit will increase in the years thereafter reaching an expected amount of EUR 50 Mio. in 2022.

For the EPO, validation agreements further improve the services offered to applicants since patent protection can be obtained in even more countries on the basis of a single application. Their increasing popularity underlines how the principles and values of the European patent system are increasingly attractive internationally.

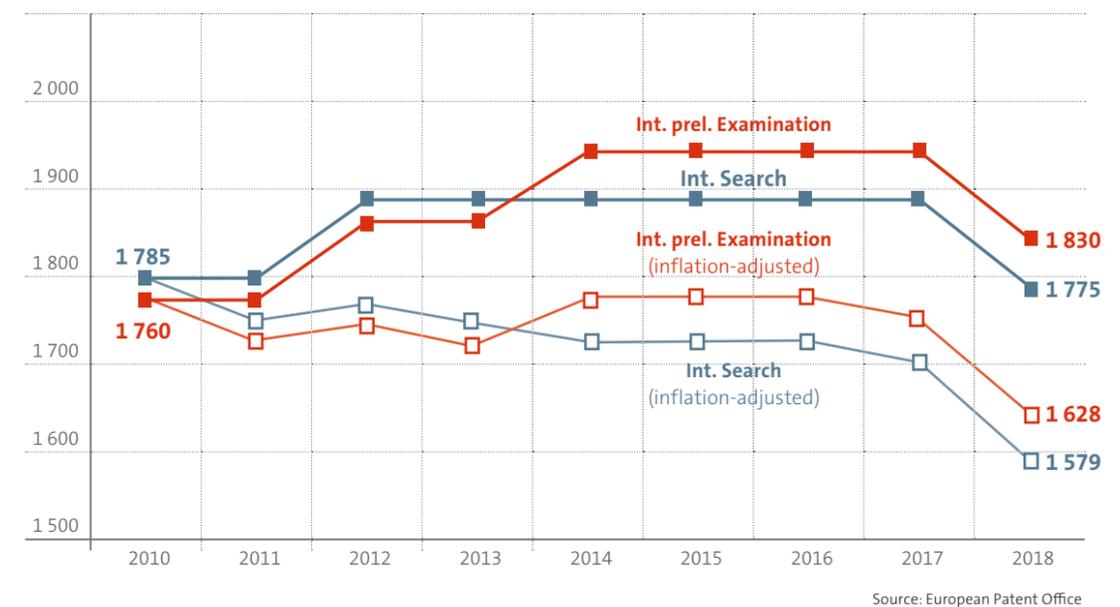
In 2015, the first validation agreement entered into force with Morocco, followed by the Republic of Moldova. The scheme was extended to Tunisia in 2017 and Cambodia in 2018. Today the EPO manages the world's largest regional patent system: with a single patent application at the EPO, it is possible for inventors today to reach a market of some 700 million people in 44 countries. The integration of a number of other European, Asian and African countries is also in quite advanced stage of negotiations: Angola, Brunei Darussalam, Georgia, Lao PDR and the African Organisation for Intellectual Property (OAPI) which encompasses 17 countries in Western and Central Africa.

### An adjusted fee policy

Under the European Patent Convention the EPO is required to be a self-financed organisation. The obligation entails great responsibility when determining appropriate fees for applicants. They need to balance the EPO's ability to fund its operations while still ensuring that the patents are cost-effective for our Users. Over the years the EPO has kept its own costs under strict control, despite rising demand. At the same time productivity has increased. Applicants are now benefitting directly from these achievements as cost control and increasing productivity translates directly into fee reductions.

For the fee adjustments in 2014 and 2016, the Office proposed a deviation from the concept of an across-the-board fee adjustment and kept the level of the international PCT search fee unchanged. The Office also reduced the international search fee by EUR 100 from 1 April 2018.

### PCT Fee level



The same applies to the fee for international preliminary examination, which has remained stable since 2014 and was reduced by EUR 100 as of 1 April 2018. In addition the Office has managed to successfully absorb inflation for the benefit of the applicants. Finally, for the first time ever, the biennial fee increase was not implemented for all fees set for the period April 2018 – April 2020. As a result, PCT fees in 2018 are close to or even below the level of 2010.

In the past, paper filing was used frequently. This process created a considerable workload for the EPO as a result of the need to scan and digitalise applications. By introducing fee incentives for character coded filings, applicants have benefited from savings resulting from a decrease in digital scanning and other manual work. Refunding of fees was also facilitated at different stages of the patent granting process and in the appeal stage, representing a yearly cost of several million euros born by the Office.

## A CLEARER AND HARMONISED LEGAL FRAMEWORK

Legal clarity is a matter of high priority for users of the patent system. However, the same patent application is often processed in parallel by different patent offices in the world. Each may apply different sets of rules and adhere to different practices, which can cause multiple requirements for companies and additional burden when drafting patent applications. This is why the EPO multiplied its efforts to bring more clarity to the European patent legal framework and to progress on patent law harmonisation at the international level.

### Providing legal clarity on European patent law: the example of biotechnology

The EPO attaches the utmost importance to harmonised European patent law so that users of the patent system can rely on clear and uniform interpretation of legislation.

Biotechnology is one such area where the EPO has managed to achieve a predictable patent granting process despite a number of challenges. EU legislation in the field of biotechnology is contained in the Directive on the legal protection of biotechnological inventions ("Biotechnology Directive"). From the very moment that the EU

implemented this directive, the EPO made its content an integral part of the EPC legal framework to ensure a consistent approach towards biotechnological inventions across Europe. For the same reason, the EPO also voluntarily follows the rulings of the European Court of Justice on the correct interpretation of the Biotechnology Directive, and has incorporated such rulings into its working practice in biotechnology.

The Biotechnology Directive does not regulate each and every question in detail and is a complex matter when defining what is patentable, and what is not. The EU Directive adopted in 1998 tried to strike the right balance between different interests at stake. However a growing number of actors with widely diverging views expressed their dissatisfaction in the course of the implementation of the directive.

In November 2016 the European Commission adopted a notice intended to provide more clarity on the issue of patentability of biotechnology inventions. As a result, the EPO initiated a further adaptation of its legal framework in close coordination with its Contracting States. The amended provisions in the EPC Implementing Regulations clarified that plants and animals exclusively obtained by biological processes such as crossing and selection are not patentable and it took effect on 1 July 2017. The clarification was welcomed by the Contracting States, EU institutions and national parliaments alike. It was immediately reflected in the Guidelines for Examination to inform applicants extensively about the new practice.

In the same context and in order to promote information and transparency in the area of plant innovation, the EPO concluded an agreement with the Community Plant Variety Office (CPVO), an EU agency, in 2016. The agreement formalised the inter-institutional relationship between the EPO and the CPVO and constituted an important step in promoting high quality decisions in both



In July 2011, Heads of Offices and representatives from Denmark, France, Germany, Japan, UK, the USA and the EPO gathered upon the invitation of President Benoît Battistelli at Tegernsee (Germany) for a meeting to consider the state of affairs concerning patent law harmonisation.

institutions. Two workshops and a public conference organised in 2016 and 2017 contributed to increasing technical awareness and legal expertise and helped to ensure that stakeholders maintain their confidence in the quality of the European patent system. The co-operation continues on important issues such as access to databases and other working tools in order to further enhance the quality of European patents.

### Patent Law Harmonisation

Patent law harmonisation at the international level is a long-term prospect that is addressed in multiple fora. It covers a wide range of issues from procedural aspects to substantive patent law. While progress on more technical elements is easier to foster (e.g. the CPC for harmonised international classification of prior art), it becomes much more challenging when the core of the legal texts funding the patent protection is discussed. Different international treaties, especially the Paris Convention and the TRIPs agreement already provide a skeleton of substantive patent provisions internationally recognised. Yet important divergences exist, particularly between the US system and most other countries. A further element of complication is that adapting national patent law is seen as an essential regalian prerog-

ative for which patent offices are not always in the driving seat.

To break the stalemate and progress on this issue, the EPO took an initiative in 2011 setting out on an ambitious path to introduce greater harmonisation on substantive patent law harmonisation. The very same year, the US legislator passed the America Invents Act providing more alignment with European norms on a number of issues relevant to harmonisation. At the same time, Japan made significant changes to its grace period provision. With such important shifts in the international landscape, it was time to take stock of the new situation. Thus, the so-called Tegernsee Group was formed on a proposal of the EPO in July 2011, comprising delegations from Denmark, Germany, France, the United Kingdom, Japan, the United States and the EPO, to carry out technical fact-finding work of a technical nature on substantive patent law harmonisation.

This was a watershed moment. Until then, the harmonisation process had largely consisted of delegations meeting in various fora to exchange information on their respective laws, attempting to export their own system. The Tegernsee Group

*"AIPPI greatly appreciates the outstanding achievements of EPO, which delivers increasingly high quality services and plays a leading role in international cooperation and the harmonisation of patent laws and practice, which benefit all the stakeholders in Europe and around the world. The EPO has been especially considerate of the needs of its users. The fruitful cooperation, including with the personal involvement of EPO President and his colleagues, has been very important and helpful for AIPPI."*

Hao Ma, President of the International Association for the Protection of IP (AIPPI) (May 2018)

changed that, as an effort was made to document in detail the state of the law in each of the three major blocs and to understand the differences between the systems as well as the policy objectives of the various norms, engendering real dialogue amongst participants.

In 2013, the Tegernsee Survey was carried out in the US, Japan and Europe, allowing offices to collect data and opinions that would allow the results to be compared in an unprecedented process. This shifted perceptions regarding the appetite of users for harmonisation, and their willingness to compromise. A Final Consolidated Tegernsee Report was issued in June 2014, concluding a work cycle on the grace period, 18-month publication, conflicting applications and prior user rights.

In 2014, harmonisation work moved into two different fora. The Industry Trilateral (composed of representatives from BUSINESSEUROPE, AIPLA, IPO and JIPA), began work on a package of norms. This project is the driving force of the harmonisation process characterised by participants open to new ideas who have accepted that harmonisation entails change and compromise, with the goal of ensuring the emergence of a system of coherent rules which are fit for purpose.

In parallel, offices have continued their work within the so-called B+ Sub-Group (comprising delegations from Canada, Denmark, Germany, Republic of Korea, Hungary, Japan, Spain, the

United Kingdom, the United States and the EPO, currently chaired by Australia) and B+ Work Streams, providing important background information to the Industry Trilateral and engaging in constructive dialogue on their proposals. The tandem is working well, even though harmonisation remains a project of major proportions which will certainly continue for several more years.

Since 2010, the EPO has consistently and successfully performed its role of facilitator in this process, through his outreach to users, as well as through its outreach it has organised to promote dialogue between users and offices and the expertise it has brought to the table. When substantive patent law harmonisation comes to pass, it will be a benefit to all stakeholders, allowing for efficient work-sharing and cost reductions for the acquisition and management of patent rights world-wide.

## LISTENING TO OUR USERS

A patent office must ensure that it has a clear understanding of the needs of its users, which are diverse and constantly evolving. Institutions can sometimes be reluctant to be too close to their users or customers on the basis that it could affect their independence and neutrality. Yet, at the same time users may not appreciate big administrations acting as a black box or taking initiatives which are not entirely in line with their business needs. To find the right balance, the EPO has multiplied initiatives which aim to create a climate of confidence with users, in full transparency on its activities, results and projects. The EPO has developed or put in place a range of opportunities for users to provide feedback, so we can continue to improve our services and ensure reforms deliver direct benefits for our customers.

*“AIPLA would like to congratulate President Battistelli for his years of dedicated service and tireless efforts to elevate the work of the EPO. He will be known for seeking input from stakeholders and sharing his vision of the transformation of the EPO and nurtured a close relationship with AIPLA during the many speaking engagements and meetings he held with AIPLA.”*

Lisa K. Jorgenson, Executive Director, American Intellectual Property Law Association (AIPLA) (May 2018)

### More direct contacts

For years, the Office had regular contacts mostly with European user associations and organised conferences within Europe such as PATLIB, EPOP-IC and its annual user days. Taking full account of its evolution as international platform, the Office decided to extend its channels of exchanges of communication more widely at global level.

This complements the process of consultation with users which involves regular meetings of the EPO President and senior management with user groups and associations from around the world to provide first-hand information about the Office's services, and to collect their input and feedback on improvements.

In 2012, in the context of the IP5 plurilateral framework, the EPO proposed to associate more closely the users to the discussion of the five biggest patent offices in the world. Since then, a part of each meeting is dedicated to direct exchanges between the top management of the five patent offices and user associations of the five regions (Europe, US, China, Japan, Republic of Korea). Their involvement has constantly

*“During the last eight years, the EPO delivered high-quality services in a challenging and evolving IP environment. IPO particularly applauds the organisation's efforts to institutionalise outreach activities that gather stakeholder input as part of the EPO's culture of continuous improvement.”*

Mark W. Lauroesch, Executive Director, Intellectual Property Owners Association (IPO) (May 2018)

increased with the set-up of specific working groups at a more technical level meeting during the year in order to prepare topics to be addressed during the IP5 Heads meeting.

In 2016, the EPO organised its very first conference outside Europe specifically to enhance knowledge of the patent application processes at the EPO in Information and Computer Technology. The goal was to equip users with the latest information on drafting applications so they have the best possible chance of leading quickly to a granted patent with the highest level of legal certainty.



The Standing Advisory Committee before the EPO (SACEPO) Working Party on Quality (pictured at their meeting in January 2018) was created to engage with users and gather feedback on quality at the Office. The group includes representatives from user associations in all IP5 jurisdictions, as well as delegates from European industry and practice.

*"We very much appreciate EPO's willingness to carry on an open dialogue with applicants."*

Daniel Woeseob Shim, Director of European IP Affairs, Samsung (May 2018)

In January 2017, the EPO held its first ever annual Standing Advisory Committee before the EPO (SACEPO) Working Party on Quality Meeting. This new SACEPO sub-committee was created to provide another channel to gather feedback on quality at the Office based on the experiences of the EPO's major user groups. External delegates included representatives from user associations from all IP5 jurisdictions as well as representatives from European industry and practice. The meeting focused on addressing users' needs and it was appreciated not least because it allowed in-depth exchanges with EPO legal and operational experts.

**Multiple avenues for input**

The EPO not only reaches out to key industry bodies, it also aims for direct personal contacts through feedback forms, e-mails, helplines and contacts with Key Account Managers (KAMs). KAMs accompany users via interactive training and workshops in their adoption of new electronic tools and procedures and ensure that the benefits of automation are maximised. With a portfolio of 250 applicants with large filing num-

*"JETRO and the EPO enjoy a long and fruitful partnership, which has flourished in President Battistelli tenure. President Battistelli has demonstrated a strong commitment to improving the quality and reducing the backlog. JETRO appreciated the open and frank discussions that were held regularly, including the annual bilateral EPO-JETRO Euro IP Group meeting. Japan Industry is very appreciative of the fact that our suggestions were listened to and acted upon."*

Masayoshi Watanabe, Director General, JETRO Düsseldorf (May 2018)

bers in 2010 the support now extends to over 650 accounts in member states. The next phase will see its expansion beyond Europe.

Thanks to our "Praktika extern" programme for example, which places EPO patent examiners with companies, we receive direct feedback about our services in areas such as the quality and efficiency of our procedures. Since 2012 the EPO offers a Single Customer Service Point which makes it easier for users to contact the Office via a central point either via phone (including an international toll-free phone number), via email or via a contact e-form.

Listening to our users is vital to keep abreast of their working methods, their needs and concerns. To this end, various channels exist to exchange with them: the OCC (Online Communication Committee from epi) meets annually to exchange with IP professional representatives having practical experience of the EPO online systems, such as e-Drex, Mailbox, CMS, security systems, the electronic fee payment.

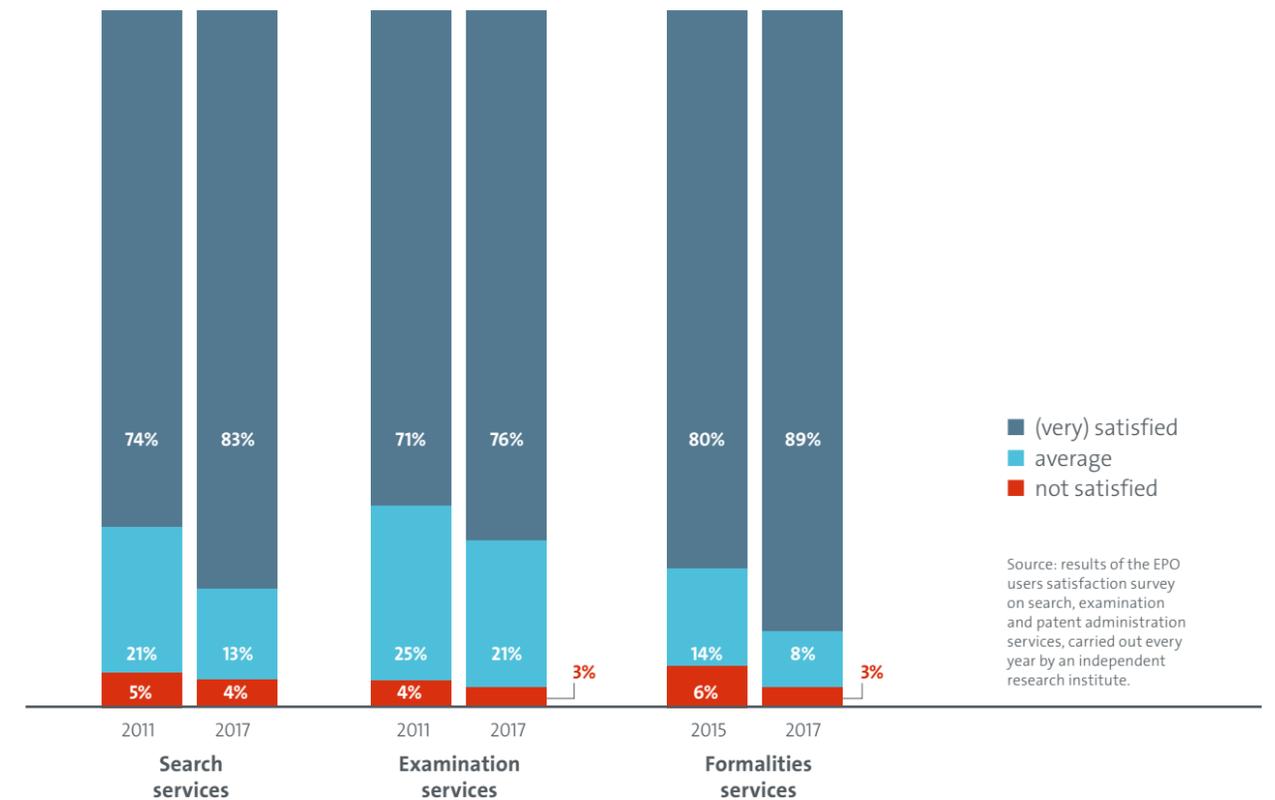
**Higher overall user satisfaction levels**

User surveys cover all core services of the EPO and are conducted by external market research companies to ensure they are independent. Around 3 000 interviews are completed each year. Over the last 8 years, the user satisfaction survey results show an increase in overall satisfaction with the EPO's services and prod-

**2017 IAM survey**

**Sixth consecutive Intellectual Asset Management (IAM) survey in which the EPO has ranked number 1 for quality of products and services**

**High customer satisfaction**



Source: results of the EPO users satisfaction survey on search, examination and patent administration services, carried out every year by an independent research institute.

ucts. Between 2011 and 2017, the percentage of satisfied or very satisfied users moved from 74% to 83% for search services, from 71% to 76% for examination services; between 2015 and 2017, the percentage of satisfied or very satisfied users with the formalities services moved from 80% to 89%.

Since 2010, Intellectual Asset Management (IAM) magazine has been publishing the results of surveys it has carried out on IP matters. In all the yearly rankings, the EPO was ranked n°1 for its quality by hundreds of participants to the survey from all regions of the world. In 2017, the EPO obtained its best ever results: among the respondents, 93% of the Operating Companies and Non Practicing Entities rated the quality of the EPO as Excellent/Very-Good/Good (4% Adequate; 3% Poor); 95% of the Private Practitioners rated it also as Excellent/Very-Good/Good (5% Poor).

*"Increased productivity, addressing timeliness, reducing backlogs and focus on quality have been constant industry's wishes to improve the European patent system. The EPO under the leadership of Benoît Battistelli has worked diligently and efficiently to deliver on this agenda. We feel that a lot has been achieved and the organisation has set itself on the right path for the years to come, to remain one of the best patent offices in the world and to be the tool that innovative industry needs to be competitive."*

Thierry Sueur, Chairman of BUSINESSEUROPE's Patent Working Group (May 2018)

# 3 Boosting efficiency

**Competition, a continuous growth in patent applications and increasing complexity of inventions** have required the EPO to become more efficient and productive – while maintaining the high level of quality the users rightly expect.

As a result of sustained efforts to increase efficiency and performance, the EPO is well positioned to face future challenges. The patent granting process has been reorganised, supported by a modern IT infrastructure, a more efficient use of resources, careful control of costs and – above all – a rigorous Quality Management System.

The result has been an increase in performance and quality throughout our organisation and has ultimately enabled the EPO to become a more financially sustainable and competitive organisation.



# A more efficient and competitive public organisation

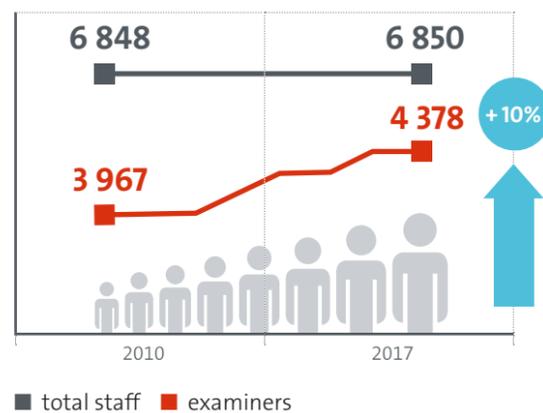
The EPO today enjoys an excellent reputation among IP specialists across the globe for the quality of its products and services. A highly-trained examiner workforce of well over 4 000 engineers and scientists search and examine applications using state-of-the-art tools and efficient processes to deliver high quality patents that stand out for their legal certainty. They provide a reliable basis on which inventors and technology investors around the world can base effective decisions.

However, the EPO operates in an ever more challenging environment that has become more and more competitive. Patent offices around the globe have undertaken efforts to increase their capacity and improve the quality of the products and services they provide to users in the global market of technology and innovation. This also means that inventors and businesses today have a greater choice when it comes to deciding where to apply for a patent and which patent office's services

they use. Today's global patent system is one that has to cope with ever-increasing technological complexity, which in turn requires greater levels of expert knowledge and the capacity to handle ever-growing numbers of patent applications.

The EPO has reinforced its position through careful implementation of a Quality and Efficiency strategy and by addressing some long-standing issues. For the core business this meant improving productivity and quality in parallel. Costs also had to be brought under control to maintain the attractiveness of the patent system, particularly with regard to fees. Waiting times for applicants had to be shortened and a modern, fully digitalised end-to-end patenting process introduced. This structural review also addressed the appeal system at the EPO. As a result of the different projects which were implemented, the Office was able to increase substantially its performance and to improve its financial situation.

## Greater examiner capacity



## FOCUS ON THE PATENT GRANTING PROCESS

Every patent office has to solve a difficult problem: they are expected to master an increasing volume of patent applications and deliver high quality rights and services to the users in due time, while avoiding an increase in their expenses. At the fundamental level, the question became 'how can we deliver more higher-quality patents, more quickly?' The EPO found a solution in a wide range of actions that aimed to increase the capacity and performance of the patent granting process.

## Increasing the capacity

With most of the expenses and long-term liabilities of the Office arising from social costs, the hiring of new staff has to be carefully considered. Up until 2010, no in-depth review of the Office's processes had been undertaken, presenting the EPO with a valuable opportunity to restructure several areas. This restructuring allowed the Office in 2011 to implement a policy that maintained a constant overall number of employees, while reallocating free posts to the EPO's core business – the patent granting process.

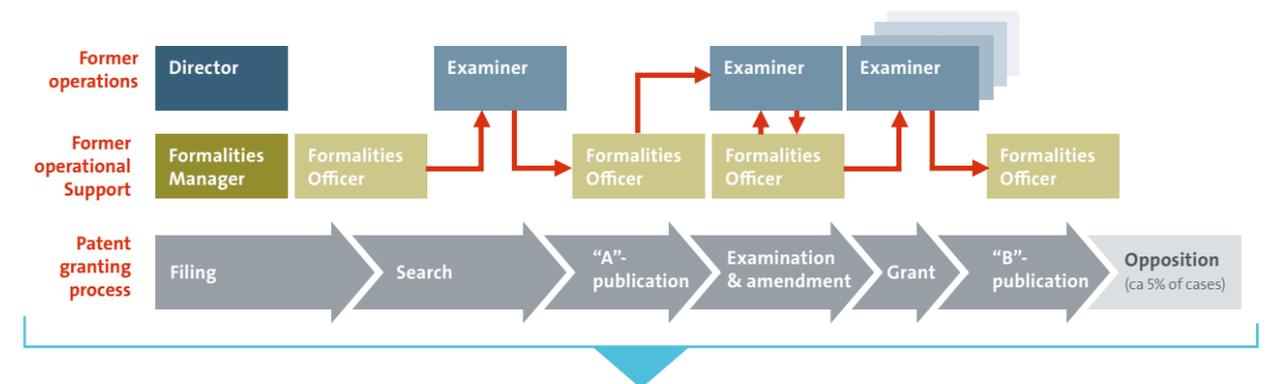
A stable headcount was successfully achieved throughout the whole period. Between 2010 and 2017 the total staff was kept stable at around 6 850. Yet in the same period, the examiner workforce increased by 10,3% to reach 4 378, meaning an additional 400 posts had been successfully allocated to the EPO's core business of granting patents. The outcome was achieved through a combination of more automation of tasks in the patent granting process, a simplification of the procedure and reduction of formalities and a more dynamic outsourcing policy in non-core areas.

Over a period of eight years, increased examiner capacity translated into increased production. New examiners, once trained, also contributed to the major production improvements witnessed from 2015 onwards. In parallel, major productivity increases were achieved as a result of better and more extensive training for examiners and formalities officers, as well as improvements to practices, procedures and IT tools. The increase in productivity was also positively affected by the impact of a new Career and Performance Management system (see page 58). For the first time, it introduced a system that encouraged higher performance by recognising an individual's contributions to the EPO's common strategic goals.

## Re-engineering the process

In 2018 a revised internal structure of the EPO's patent granting process was implemented to reflect changes in the patenting activities of industry. The new DG1 has been structured in three sectors which mirror the industrial reality and reflect changing trends in major areas of patenting activity: information and communications technology; mobility and mechatronics; healthcare,

## Separate operations and support up to 2017



## Unified end-to-end patent granting process from 2018

Chief Operating Officer	
<b>Director Search &amp; Examination</b> – One examiner assigned to the application; still three examiners take final decision to grant or refuse – Same team of 5-9 formalities officers working with 60+ examiners – All correspondence, fee payments, updates to records (e.g. change of address, attorney, owner etc.)	<b>Director Opposition</b> – Examiners 30% – Team of FOs – All administration

biotechnology and chemistry. By replacing the previously fragmented silo-structure of 14 clusters with three large sectors, the EPO has made its operational structure more agile and responsive to technological change. Business continuity with high quality is assured in each sector by the three new Chief Operating Officers, while in parallel the leaner senior management team can take faster business and operational decisions.

The reorganisation was also designed to take advantage of increasing digitalisation and implement a true end-to-end patent granting process. The new DG 1 Patent Granting Process is now responsible for the entire procedure from filing to granting and opposition. Examiners and formalities officers work jointly on the process from start to finish, under the responsibility of operational directors. The resulting elimination of so-called “hand-over points” is set to reduce sources of potential delay and error and the concentration of expertise in search, examination and opposition will lead to better quality, timeliness and efficiency. In addition, new specialised directorates now deal with opposition procedures, helping to improve both timeliness and coherence of the different decisions taken by the units.

The reorganisation concerned 5 000 staff members and was achieved in just six months, with no negative impact on the performance during the transitional phase. The EPO now has 68 large

directorates and five Opposition directorates consisting of around 4 378 examiners and 619 formalities officers, organised into teams led by an operational director.

It is expected that the new structure of DG 1 will support the Office in meeting the high expectations of users and the public through the continuous improvement of both quality and performance.

#### Reinforcing quality

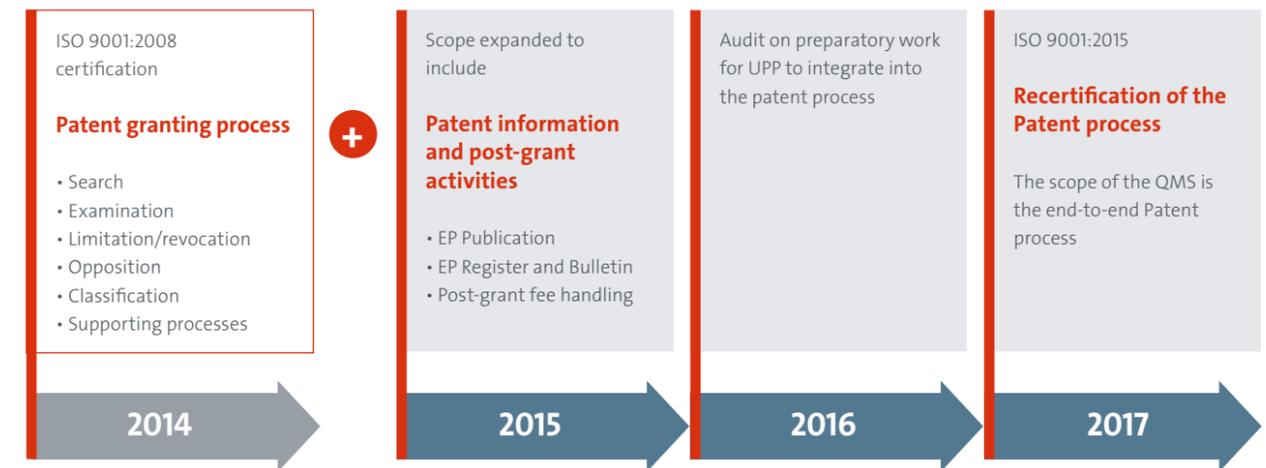
By 2010 the growing demand for patents meant that around 800 000 live files were being dealt with at any one time by the EPO and its departments were interacting 5 million times with applicants every year. In 2011, the EPO set out to modernise its quality management system (QMS), to ensure that the Office was able to maintain the quality of its products and services in light of these high volumes.

Within three years, the EPO’s Quality Management System had been certified according to the international quality standard ISO 9001. A year later, in December 2015, this ISO 9001 certification had been achieved for the entire end-to-end patent granting process, to also include patent information and post-grant activities. The EPO is the only IP5 office to have an ISO 9001 certification for its entire, end-to-end patent grant process.



Following the receipt of ISO 9001 certification for its patent granting process in 2014, the EPO has also achieved certification for its patent information and post-grant activities. On 15 December 2015 Götz Blechschmidt, Managing Director of the German Society for the Certification of Quality Assurance Systems handed over the certificate to President Benoît Battistelli.

## ISO 9001 certification for end-to-end patent grant process



The Office has maintained its focus on independent verification of its Quality Management System and obtained ISO recertification in December 2017, following the restructuring of its patent granting process and the reorganisation of DG1. New control systems have been put in place to improve identification, correction and management of non-conforming products to ensure continuous improvement of product quality and processes.

These processes are backed up by a set of key performance indicators encompassing results of extensive user surveys, rigorous internal audits and comprehensive operational quality controls that monitor progress and help set the right priorities. These indicators are regularly published in the EPO’s Annual Quality Report to give all users a transparent account of the measures being taken in the field of quality – a field in which the EPO has become a market leader.

In addition to reinforcing controls, the quality of output has increased due to the continuing expansion of patent databases that are made available to its staff. EPO patent examiners now have access to the world’s largest collection of prior art to perform their searches and which consists of over 1.3 billion technical records from 179 databases.

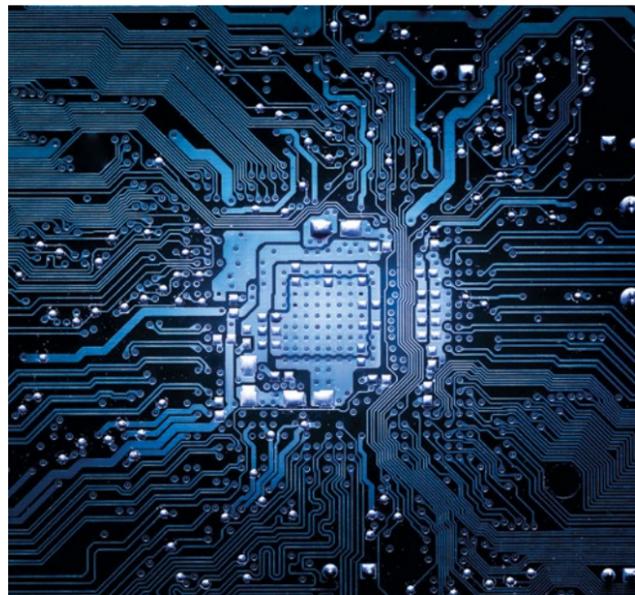
Constant efforts have also been made to ensure that the EPO continues to expand its available patent data in emerging areas, such as in standards documentation. Standards define sets of characteristics or qualities for products, processes, services or materials. They are usually issued by standards development organisations (SDOs) on the basis of consensus amongst the relevant economic stakeholders. But this also means patents and standards have sometimes intersected, particularly during the last decade in the field of information and communications technologies. The EPO has been keenly aware of this issue for some time, and has established excellent relations with the major standard-setting organisations.

As a result, the EPO has been able to set up 13 searchable standards databases and make them available to its examiners. EPO databases today contain over three million documents relating to standards, making them the most comprehensive collection of any patent office worldwide. Our examiners are consulting standards documents more and more often during the patent examination process and, consequently, citing them ever more frequently in their search reports. Only a few hundred of these documents were cited in EPO search reports a decade ago, but the number has risen steadily to a total of over 22 000 in 2017.

## INSTALLING STATE-OF-THE-ART IT

In 2010, the Office found itself in a similar position to other organisations worldwide, with automation becoming increasingly fundamental to the day-to-day operations of the core business. For the Office, additional factors such as the growing number of users carrying out electronic transactions with the Office, the rapid growth of patent documentation and the increasing reliance of other patent offices on the IT services offered by the EPO presented significant IT challenges. The EPO has been a pioneer for IT tools since the 1980s. However, the agglomeration of various IT infrastructures within the EPO in subsequent years made a systemic change much more challenging.

At the same time, the external IT environment was undergoing radical change. An IT study commissioned by the Office in 2010 outlined a number of emerging opportunities brought on by lower-cost computing power and storage. In particular, it identified factors that were set to change the IT landscape, such as the emerging technologies surrounding “big data”, an increasing use of cloud-based infrastructure and software



services and the growing importance of mobile services. Against this backdrop, increasing threats posed by cyber attacks demanded that tougher IT security measures were prioritised. To respond to these opportunities and challenges, a comprehensive IT roadmap was formulated to re-engineer business processes and develop a programme of specific IT-enabled business changes.

### Examiner and Formalities Support

Over the past 8 years the Office has undertaken a dual approach to the modernisation of its IT systems. On one side, the EPO has made continual investments to improve the legacy systems that directly support examiners and formalities officers in their daily work. In parallel, work has been done to prepare and develop new architecture that would transform the use of IT support in the patent granting process.

Work on the new architecture started with the examiner tool for direct editing of the publication of the patent application on-line (eDrex). This laid the foundations for eDossier, which is currently in development and which is set to bring about a completely paperless handling of the whole patent grant process. In parallel, examiner search tools have been transformed by the creation of a tool that delivers potentially relevant prior art documents before the examiner has even opened the file (Pre-search). The introduction of a non-Boolean search environment (ANSERA) has also improved the accuracy of results and offers completely new ways of finding and selecting documents. Together with the new Standards Databases (SDO) and the automated pre-classification system (Pre-Cla), this new search world is being seamlessly integrated (under the name of EPOQUE 2.0) with the traditional Boolean searching from EPOQUE to create a single, more efficient search environment for examiners.

Since 2010 our data collections for search have grown from 91 databases with 400 million technical records to 179 databases with **1.3 billion technical records**

### Support for internal and external systems

For external users, the EPO has progressively modernised the tools available to European patent and PCT applicants. An updated web browser version of online filing using the new architecture (CMS Filing) has been implemented, together with a new emergency channel for filing in the event of difficulties (WebForm Filing) and modernised payment methods (credit card). A further update to include National Office filings (Hosted Filing) is the next step on this journey. The patent information service – espacenet – has also been progressively updated with access to registers of member states (Federated Register) and now gives access via one platform to the full text of the global patent collection.

To better support both internal and external users, investments in improving the data collections at the EPO have continued. In particular, the complete image archive of patent documents has been converted to full-text (BNS OCR). Patent translate is now used systematically to create full-text English versions of all incoming documents (Bulk MT).

In co-operation with EPO member states, the Quality at Source project has allowed the creation of full-text versions of national patent publications going back over 40 years. The latest step

towards a fully digital end-to-end process is to allow applicants to directly submit their original word processor document (DocX) throughout the patent granting process (XML Filing) for use by examiners and in publication. This also eliminates the need for expensive conversions from PDF and paper. Other improvements include;

- automated support for the Common Patent Classification; creation of a tool that allows applicants to see in one place the citations from all five IP5 Offices (Common Citation Document), the systematic loading of front and back file collections of Asian documentation from Japan, Korea and China
- the creation of a tool to allow applicants to see the contents of an application being processed in any of the IP5 or other participating offices (Global Dossier)
- the introduction of the system of prioritisation for examiners based on Early Certainty, initially for Search and later for Examination and Opposition (EC)
- preparations for processing requests for Unitary Effect (UNIP) at the EPO
- the reorganisation of DG1 and DG2 into the new end-to-end structure

*“During the term of President Battistelli, the Office has developed an excellent co-operation with EPO member states during a period of enormous progress in industry, research and development and intellectual property. These efforts, as well as an overhaul of EPO’s IT and information systems has helped to create a modern, user orientated office which is essential to a strong European patent system.”*

Borghildur Erlingdóttir, Head of the Icelandic delegation to the Council (May 2018)



### IT security

Secure delivery of IT services is a prerequisite for modernisation and the Office has taken a strict and pragmatic approach towards the enhancement of IT security. It has included identifying and addressing specific areas related to ensuring business continuity, such as disaster recovery and network traffic control. In addition, a series of assessments was instigated to identify vulnerabilities that could put critical information at risk and to develop and execute a prioritised action plan to address these. Most recently, modern solutions aimed at securing access to our critical information assets have been put in place (HPA, IAM) to better support remote working from independent devices. In addition, specialist external data centres and disaster recovery sites are used to ensure that EPO data is kept in the most secure environment, which adhere to the strictest legal and technical criteria, and international public and private best practices.

These actions have reinforced the EPO's secure IT environment and the security of its connections, which are constantly re-assessed and upgraded in response to new and emerging threats.

### Infrastructure

Over the course of the last eight years, the EPO IT department has increasingly aligned its infrastruc-

ture strategy with mainstream technologies and trends (Virtualisation, Infrastructure as a Service, Software defined Storage, Tier IV Data Centres, etc). This has allowed the Office to obtain cost-effective and readily-available access to both the infrastructure and the resources required to deliver its IT services. In addition, a series of new technologies (Elastic Search, NoSQL, SDS) have been adopted and are now positioned at the heart of the services that support both the intellectual work of the examiner and the provision of patent information to National Offices and the general public.

Between 2011 and 2018, the EPO undertook an intensive programme of IT transformation with the implementation of 114 projects, supported by the budget of the IT roadmap of 140 million Euro. The overall gains in efficiency that have been achieved have allowed 150 Full Time Equivalent Posts to be reallocated from support services to the patent granting process. The changes have also ensured that the Office's IT landscape is better prepared to face future challenges and to support the Office in its pursuit of quality and efficiency.

## IMPROVING THE INDEPENDENCE AND EFFICIENCY OF THE BOARDS OF APPEAL

One of the most visible structural changes achieved in recent years has been a significant reform of the EPO's Boards of Appeal (BoA). Since their founding the BoA have acted effectively and been recognised as an independent judiciary, despite being part of the Office under the European Patent Convention. However, two factors drove the need for change. Firstly, perceptions of the Boards' independence needed to be improved and secondly, the number of pending cases of the BoA had risen dramatically. By 2010 those pending cases had grown into a backlog that represented four years of work, creating concern in the user community. Two previous attempts to reform had failed, in 1995 and 2004. But, keenly aware of the need to have a performant BoA to support the European Patent System, the EPO and its member

states renewed efforts to deliver a solution that had previously proved elusive.

Discussions on the organisational structure of the Boards of Appeal regained momentum in 2014. The Office took the opportunity to initiate a comprehensive reform package to reinforce the status, efficiency and long-term sustainability of the EPO's appeal system. The reform was approved with an overwhelming majority in the Administrative Council in June 2016.

The Boards of Appeal, together with their registries and support services, were reorganised into a separate organisational unit, the "Boards of Appeal Unit". To further increase their managerial autonomy and organisational independence, the Boards of Appeal Unit is now headed by a President of the Boards of Appeal, to whom the President of the Office has delegated his managerial and administrative competences. Carl Josefsson was elected as the first President of the Boards of Appeal and started his mandate in March 2017.

The President of the BoA is hierarchically independent from the President of the Office and is responsible for his management activities solely to the Administrative Council. A separate building in Haar, Munich, now accommodates the Boards of Appeal Unit, reinforcing an understanding that parties of appeal proceedings are appearing before an independent body.



The new office building of the Boards of Appeal Unit in Haar, Munich

*"The structural reform of the Boards of Appeal is a chance for a new start, giving us the opportunity to reinforce our culture of judicial independence. We are committed to increasing timeliness and reducing the number of pending cases, while at the same time maintaining the high quality that users rightfully expect from a judicial authority which renders decisions at final instance."*

Carl Josefsson, President of the Boards of Appeal (May 2018)

To further increase the autonomy of the Boards of Appeal, it was decided to increase the extent to which they are able to cover their own costs over the next few years (from 5% to 20% cost coverage, according to the orientation adopted by the Council in 2016). This is to be achieved primarily by enhancing the boards' efficiency. In addition, provisions dealing with the prevention of post-service conflicts of interest have been strengthened to enhance the perception of independence of the BoA.

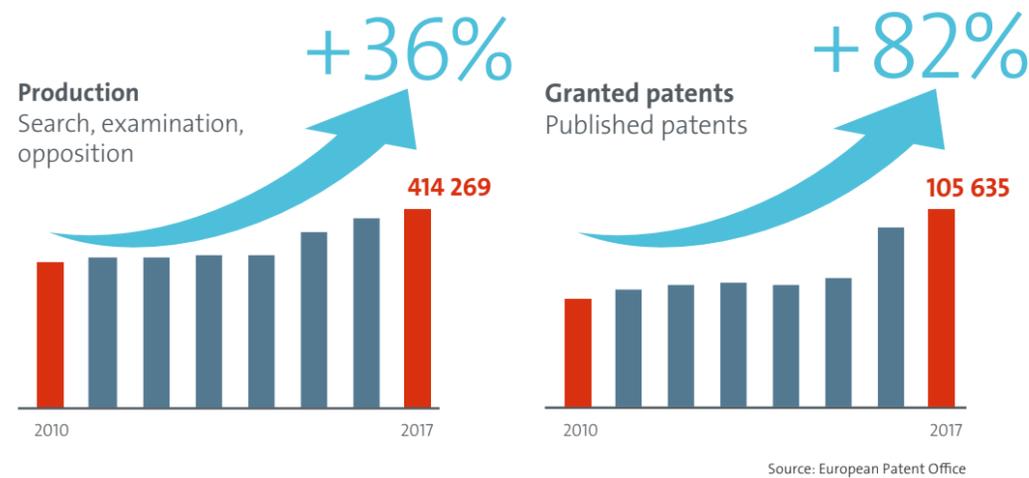
The Rules of Procedure of the Boards of Appeal are also currently under revision following consultation with users. The new set of rules will allow the Boards of Appeal to continue to provide high quality decisions within a streamlined appeal procedure.

### PERFORMANCE OF THE PATENT GRANTING PROCESS UP AGAIN

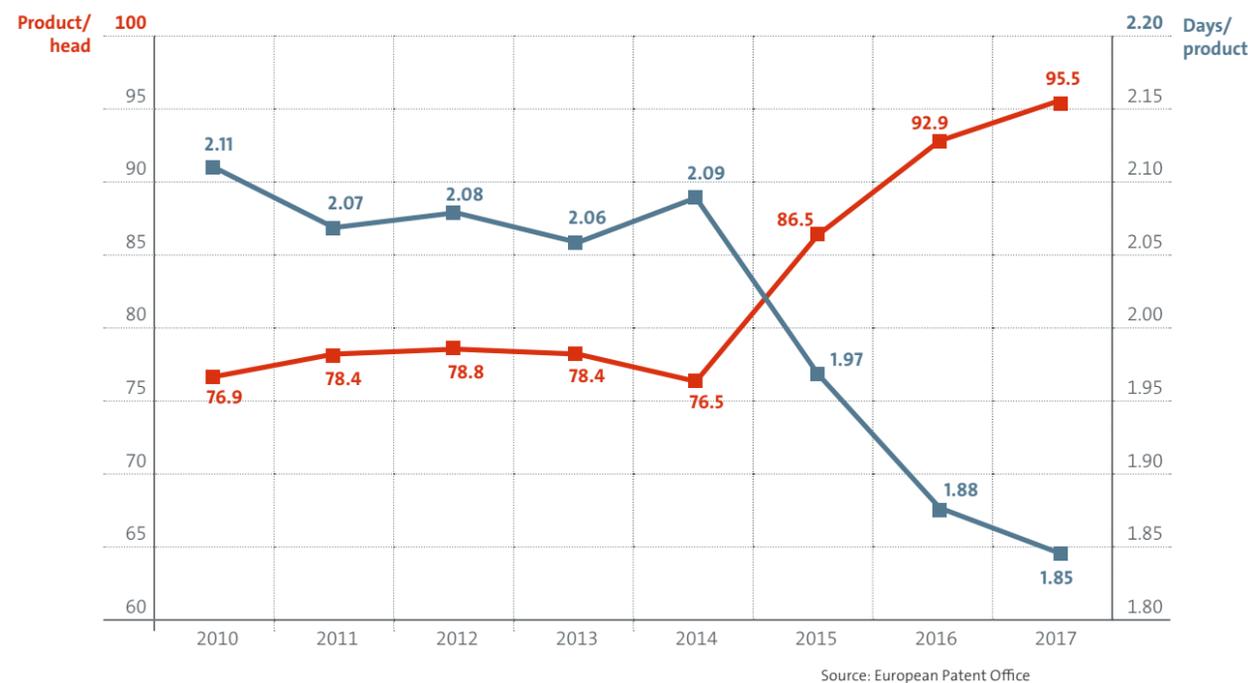
Today the Office is reaping the benefits of its Quality and Efficiency strategy. Investments are being made in tools and resources that give

both staff and managers the right conditions to continuously improve performance. The EPO also continues to keep costs stable. Productivity is going up year-by-year and improved internal processes enable the Office to handle an increasing number of applications without compromising the high level of quality for which we have always been recognised.

The EPO meets the **strong rise in demand**



### Record levels of productivity

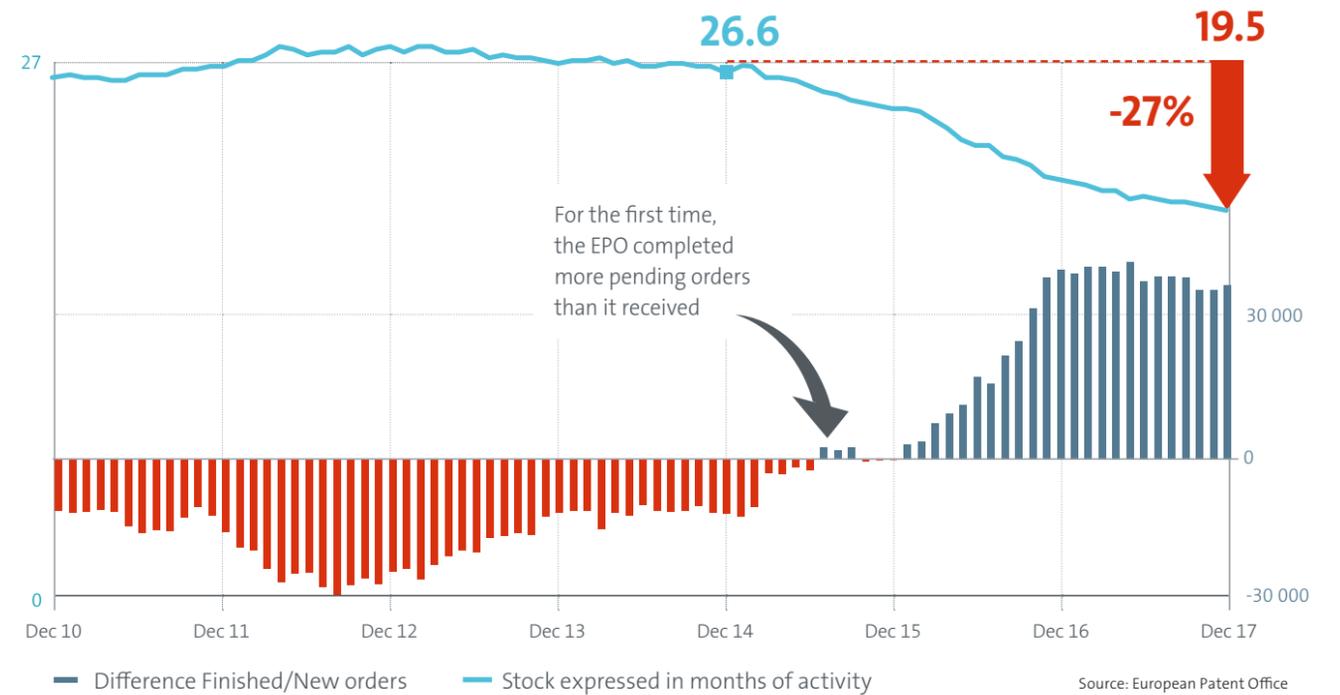


In 2017, the EPO achieved its best ever results in terms of production, productivity, timeliness and quality and continued to reduce its backlog. The number of search, examination and opposition products broke the 400 000 mark for the first time in the EPO's history (414 269). It represents an increase of 36% compared to the level of production in 2010. The average individual productivity of a patent examiner has risen from 76,6 SEO products per year in 2010 to 95,5 in 2017.

*“Visionary management policies and structural changes in many challenging areas at the EPO aim to make the Office “fit for the future”. That framework of strategic roadmaps set in motion in recent years will continue to bring new directions and opportunities for IP stakeholders at the European and national level for the benefit of the patent system.”*

Alicja Adamczak, Head of the Polish delegation (May 2018)

### Stock of the patent granting process



Higher production has also helped the EPO to reach a crucial turning point: since 2015 the EPO has been completing more pending orders for products than it receives. As a result, the EPO has managed to reduce its stock by 27%, in terms of months of pending work products, between January 2015 and December 2017. In 2017, the EPO granted 105 635 patents, an increase of 82% compared to 2010. During this period the grant rate was maintained at around 55%, illustrating the consistent and strict application of the rules, even with a high output. At the same time, internal audits and external surveys demonstrated marked increases in quality.

*“President Battistelli attended FICPI’s Munich Forum in Sept 2010 at a time when there was a fair amount of criticism of the Office for the backlogs and an unnecessarily complicated and restrictive time limits for filing a divisional application. During his tenure the rules on the time limits for filing divisional applications have been changed and the backlog monster has been defeated.”*

Douglas Deeth, President of International Federation of Intellectual Property Attorneys (FICPI) (May 2018)

## STRENGTHENING THE FINANCIAL SITUATION

A study by Deloitte on the EPO's financial situation was published in 2011. It concluded that the Office's high level of social liabilities, combined with a lack of progress in becoming more efficient, was putting the long-term financial sustainability of the Office at risk. Specifically, the analysis by Deloitte had set out to assess four different scenarios for the EPO finances in the future. It concluded that equity and liquidity would deteriorate under all four scenarios, if no serious action was taken by the Office.

The findings lay in stark contrast to the EPO's mission. As a self-financing organisation, the EPO has an obligation to ensure it can ably finance its activities and long-term liabilities. In addition, it has to avoid passing on costs to the member states or the users so as not to increase the burden on Europe's innovation sector. This situation is not unique to the EPO: every organisation in

Europe is facing the challenge of how to guarantee its ability to fund all of its pension liabilities in thirty or forty years' time. It provided the impetus for a series of subsequent reforms that helped to transform the EPO into a more competitive organisation and secure its long-term financial health, as described in this document.

Ultimately, increased performance and a stringent control of costs have reversed the scenario and restored the financial health of the Organisation. In a second study published in 2016, Deloitte evaluated the EPO's results and their effect on the Office's finances. They concluded that the EPO's was one of the fastest transformations they had witnessed, especially for a public organisation. According to their report, the majority of recommendations contained in the 2010 Financial Study had been successfully addressed and implemented. Above all, the Office has managed to put itself in a stronger financial situation that has helped to safeguard the future of the EPO – a European organisation that has proved to be fundamental for a healthy European innovation sector and the economy.

*"The EPO's high level of competitiveness could not have been achieved without an effective budgetary policy, namely efficient and transparent budget execution, tangible cost reductions and sound and sustainable financial management during the last eight years."*

Lex Kaufhold, Head of the Luxembourg delegation, Chairman of the Budget and Finance Committee (May 2018)

The measures taken by the Office to increase productivity and available capacity generated an additional 30% in income from procedural fees between 2010 and 2017. As a result of higher performance, the standardised operating result of the Office grew from EUR +70 million in 2010 to EUR +394 million euros in 2017. Standardised employee benefits – which have generated great liabilities for the office in the past – have been brought under control. In 2010 those expenses represented almost 80% of the total revenue but have been reduced to around 66% presently. High cash surpluses have been generated in the 2010-17 period (EUR +2.4 billion) and the EPO is now in a stronger overall financial position both in its ability to finance future liabilities and in its treasury.

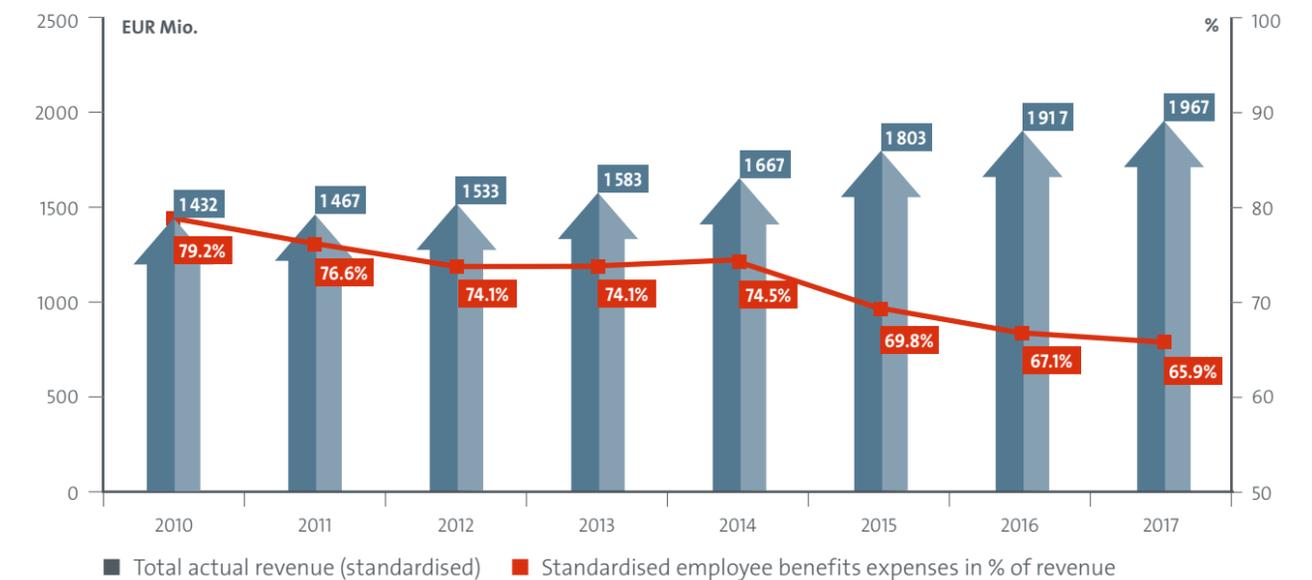


Operating budgetary surplus and **standardised operating result**

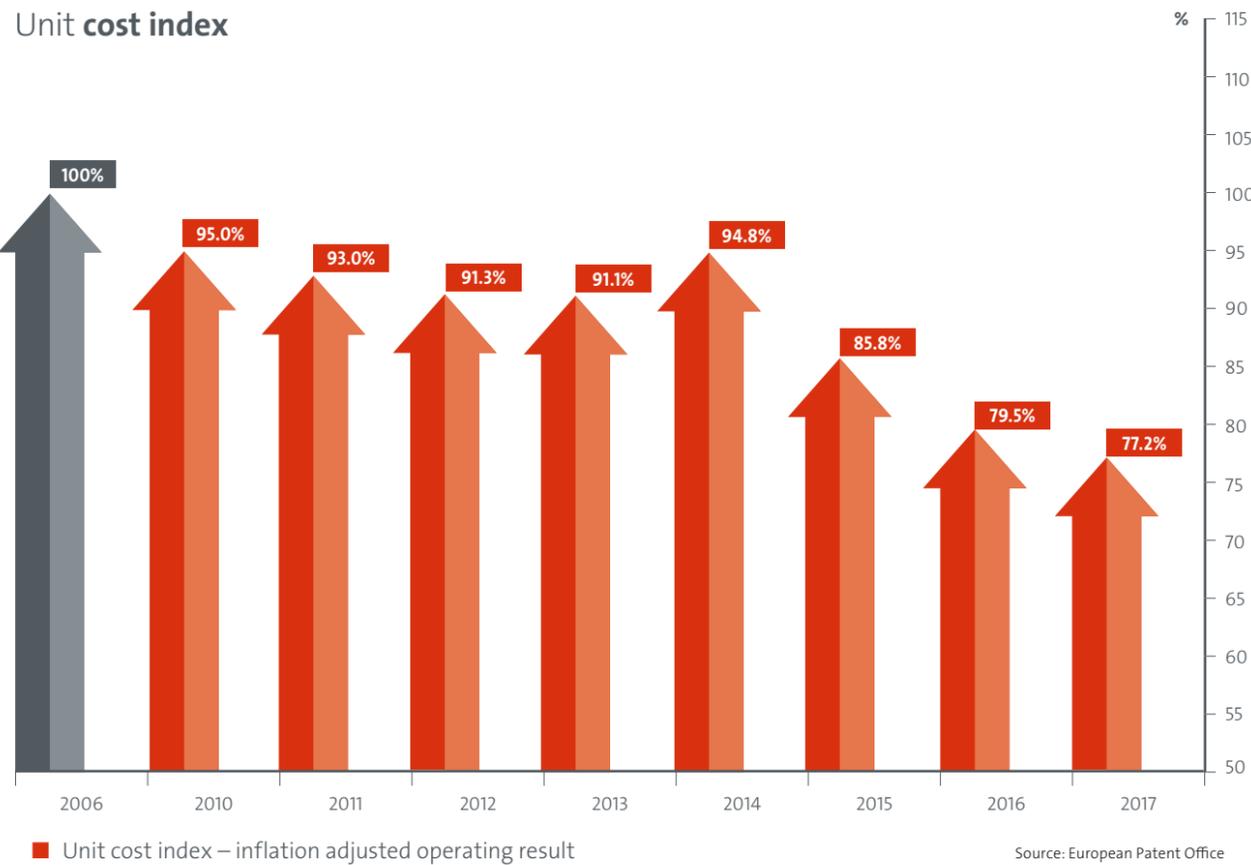


Source: European Patent Office

Total revenue vs. standardised **employee benefit expenses**



Source: European Patent Office



#### One key performance indicator of the EPO: Unit Cost

Careful control of costs requires that an organisation has a full picture of how its expenses are evolving and how they can be measured. The Unit Cost (UC) methodology was introduced 12 years ago to identify the cost of each unit of work produced. In turn this helps to measure cost efficiency, enhance cost awareness and support cost coverage and pricing calculations. The Unit Cost

is calculated for all the main stages of the patent granting process to ensure a complete economic overview: Filing, Search, Examination, Opposition and Appeal. The costs of the non-patent granting activities of Patent Information, Technical Co-operation and European Patent Academy are also considered.

From a basis of '100' defined in 2006, the Unit Cost has fallen continuously during the period of reform, starkly illustrating how the EPO has be-

*“The EPO is rightly considered the world leading patent office. Since 2010 it has taken future challenges more seriously, concentrated its efforts on financial sustainability in the long term. Numerous fundamental reforms were adopted to achieve their highest quality search and now examinations are also processed with great efficiency.”*

Josef Kratochvil, Head of the Czech delegation, Deputy Chairman of the Council (May 2018)

come a more cost-effective organisation. In March 2018, the UC stood at just 77.2%, the best result since its introduction.

#### Cash injections into the RFPSS and new investment policy

The EPO’s pension system has been strengthened as a direct consequence of the Office’s financial recovery. It is comprised predominantly of a Reserve Fund for Pensions and Social Security (RFPSS), which is funded by contributions from the Office (2/3) and by the employee (1/3), as well as the financial performance of the fund itself. In addition to these standard contributions, positive results have allowed the Office to make significant, additional injections totalling EUR 861 million into the RFPSS over the last six years – without any contribution from the staff. The combination of regular contributions, extra cash injections and the performance of the fund have enabled the RFPSS to reach a total of EUR 8.2 billion at the end of 2017, compared to just EUR 3.9 billion in 2010.

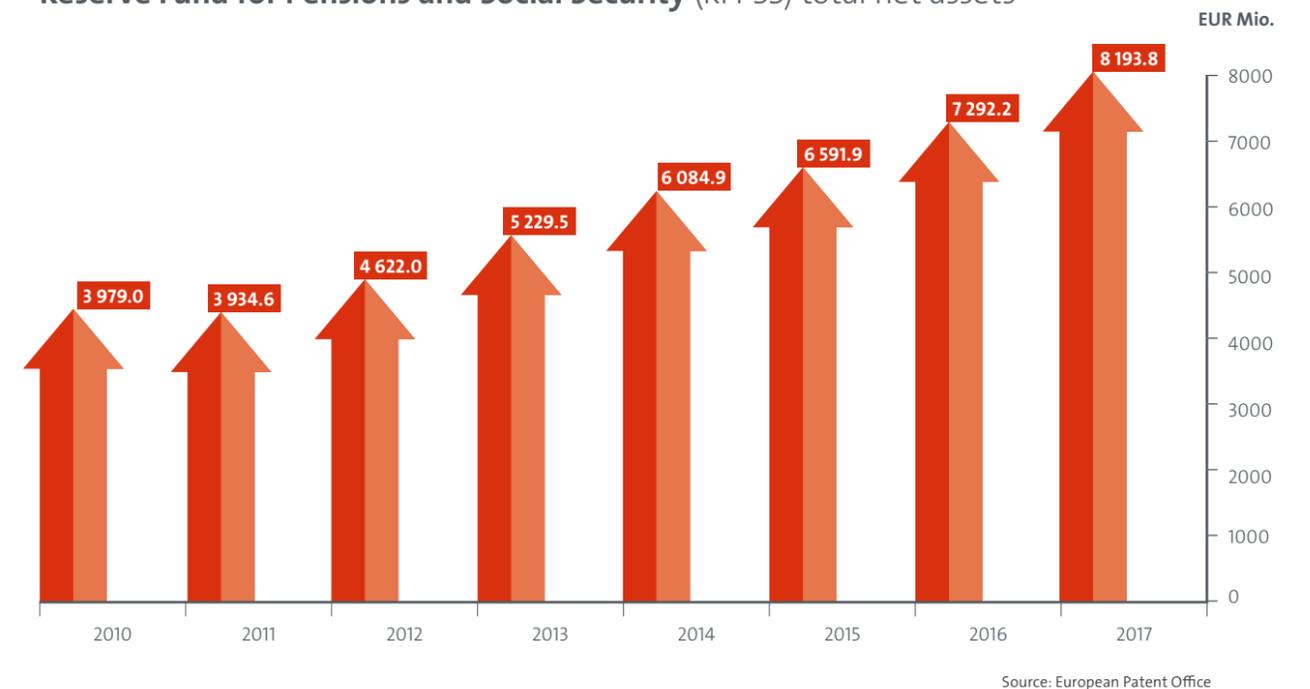
Following the introduction of new investment guidelines in December 2017, the Office is also

**EUR 861 Mio.**  
The amount of cash injected into the RFPSS in the last six years

now in a position to manage its treasury more actively and efficiently, which is expected to generate higher returns and thus further improve the overall financial position of the organisation.

Today, the Office generates all the necessary income to meet its commitments and secure its role as a self-financing organisation. This independence is essential for the proper functioning of the Office and safeguards the generous social package for staff against external financial challenges.

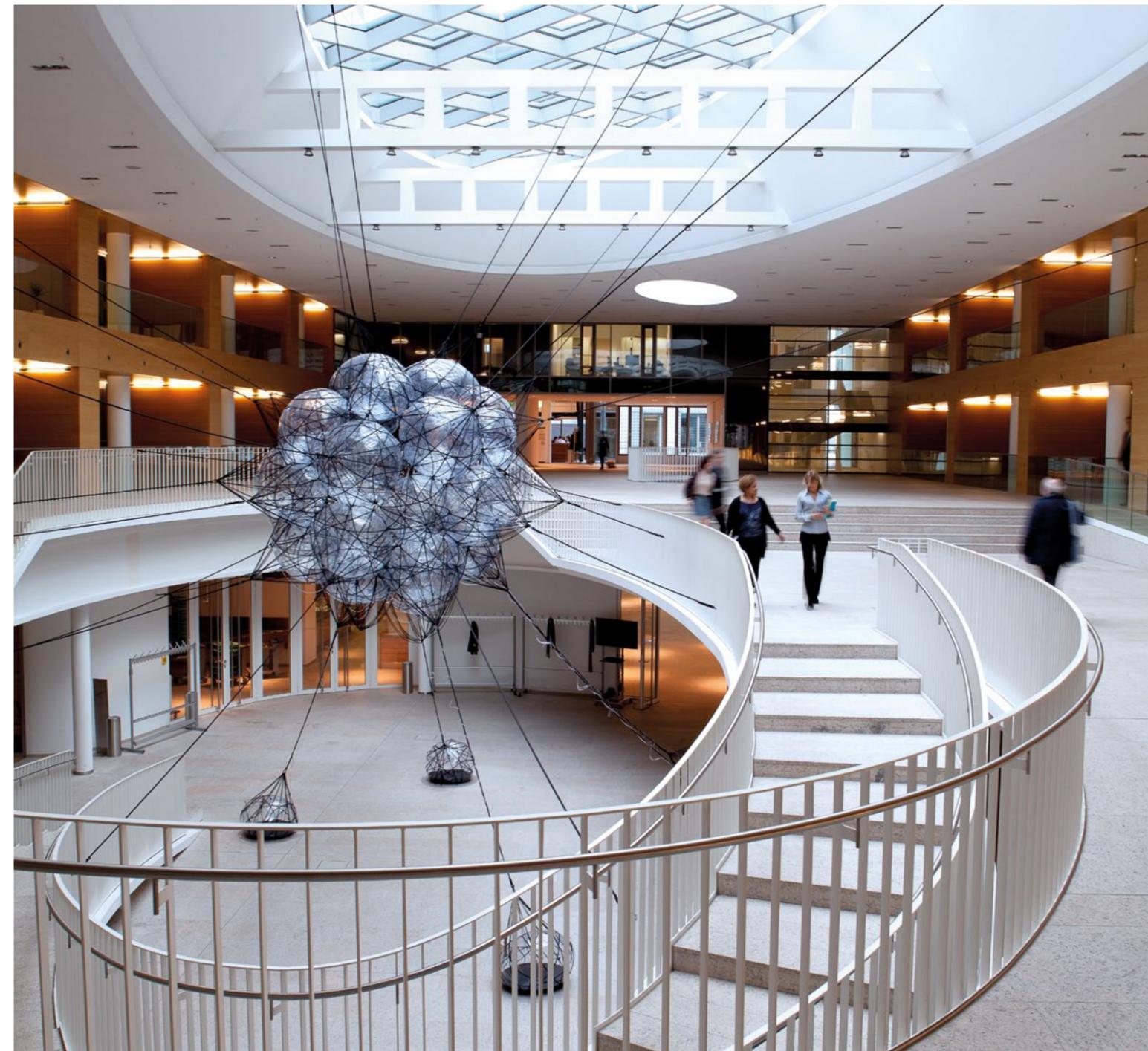
#### Reserve Fund for Pensions and Social Security (RFPSS) total net assets



# 4 Modernising working conditions

**The Office's ability to develop its operational capacity** and performance while maintaining and improving its quality, is strongly influenced by staff motivation and engagement. With the HR roadmap the Office implemented a sound Human Resources management supporting the business strategy, ensuring a sustainable future for the EPO and, at the same time, maintaining attractive working conditions and social package for staff, pensioners and family members.

**To support today's modern way of working** the Office substantially invested in a state-of-the-art infrastructure that fosters motivation, encourages teamwork and interaction and provides the highest level of security. The new state-of-the-art building in The Hague, designed by renowned architects is a visible symbol of the EPOs desire to provide EPO staff with an environmentally sustainable and modern work place.



# Ensuring best-in-class working conditions

Providing staff with an excellent working environment is a top priority for the Office. To meet that goal the Office has implemented its most ambitious programme of projects and reforms ever seen at the EPO in this field. Implemented on the basis of two dedicated strategic roadmaps (Human Resources, Building), this challenging agenda has proved beneficial for both the management and the staff of the Office.

As an employer, the EPO is fully aware that its staff constitutes one of its most valuable assets for delivering high performance over the long-term. The Office is therefore fully committed to ensuring best-in-class working conditions for all EPO employees, to attracting and developing the best talent in Europe and to promoting a constructive and transparent social dialogue.

Our buildings have the potential to contribute to the EPO's Quality and Efficiency strategy. But a number of elements need to be considered to ensure an efficient use of building resources. Investments have to be made correctly and with great care, the latest smart concepts for office accommodation must be deployed and all available resources have to be used efficiently. Through consideration of these and other factors, the Office has been able to ensure state-of-the-art conditions in an environmentally sustainable modern, safe workplace. These improved conditions have enabled staff to perform to the highest levels by simplifying communication, enhancing knowledge exchange and encouraging co-operation among colleagues and the EPO's various departments.

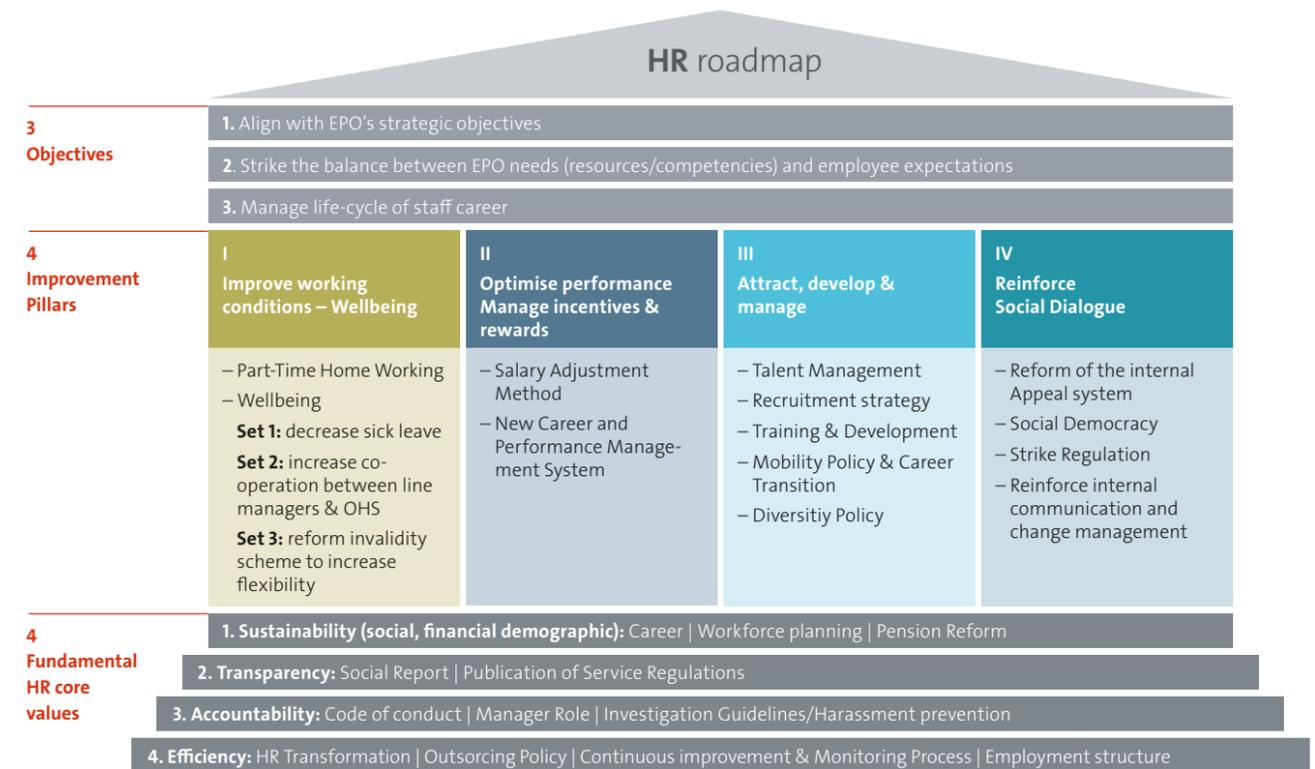
## INVESTING IN PEOPLE

Having started its life in 1977 with just a few hundred employees, the EPO's workforce today represents 35 different nationalities and numbers around 6 850 staff members. They include 4 378 highly trained, trilingual patent examiners operating at the cutting edge of technology, and covering all technical fields. The EPO's workforce is the main driver for the success of the institution and its employees can expect to benefit accordingly from a generous social package in recognition of their work.

Yet the EPO's social liabilities do not stop at its core staff. As a self-financed international organisation, the EPO is also obliged to assume responsibility for other tasks that are usually assigned to States, such as the provision of social security, pensions, education, and the creation of labour laws. Then the pension and social security schemes currently cover more than 23 000 employees, their relatives and pensioners.

All these tasks demand that the EPO is able to meet these commitments and finance its liabilities in the long term, not just in the immediate future. Despite these considerable obligations – and against a backdrop of social tension – the growth in staff members up until 2011 had not been accompanied by any significant revisions of either the employment regulations or the EPO's human resources management.

The Office therefore set out to reach a more positive financial outlook. It was to be achieved by increasing the Office's operational performance to meet the expectations of its users while simultaneously controlling costs. Human Resource management was set to play a pivotal role in this process.



### A Human Resources roadmap to serve the vision and strategy

In 2011 the Administrative Council unanimously adopted a strategic Human Resources Roadmap, outlining the Office's vision for adapting the social framework and its human resources management. The Roadmap, updated in 2014, provided a programme of actions that entirely reviewed the EPO's social framework with the aim of equipping management and staff to address future challenges. The human resources strategy was underpinned by three main objectives, namely:

- to strike an appropriate balance between operational needs and employee expectations;
- to manage employee conditions and career path development in the most efficient and effective manner; and
- to ensure that the HR strategy remained closely aligned at all times to the EPO's overall strategic objectives.

In order to achieve these ambitious objectives, the scope of the HR roadmap was broad and its objectives far-reaching, making it the most ambitious programme of HR reforms to date. It comprised more than 20 projects that were developed and implemented over seven years to align HR management with the strategy of the EPO and ensure consistency between the various social policies:

One of the challenges for the EPO was to align the specific needs of the Office with national and international standards and best practices. To do this successfully the reforms followed a rigorous methodology that included fact-finding-based analysis and benchmarking with other international organisations and national frameworks. Transparent proposals were then presented detailing the legal, financial and social impact of each. The reforms were discussed with staff representatives and with the member states in both ad hoc discussions and formal consultation and approval processes, and adopted within a predefined timeline.

### The most prominent HR reforms were:

2011	part-time home working
2012	code of conduct; anti-harassment policy; internal appeal system; outsourcing policy
2013	wellbeing measures; strike regulations; investigation guidelines
2014	social democracy; salary adjustment method; career and performance system
2015	sick leave and incapacity scheme
2016	healthcare insurance scheme; post-service integrity regulations for Boards of Appeal members
2017	internal justice system (appeal, disciplinary, ethics and compliance)
2018	employment framework and contract policy

#### Dynamic and agile workforce management

The former career system which stemmed from the origins of the Office had been amended only marginally over the years and by 2010 had reached its financial, demographic and social limits. Rapid and automatic career progression had disconnected an individual's rewards from his performance and had led to uncontrolled increases in staff expenditure, as well as demotivation and the feeling of unfairness among employees.

Introducing a modern, state-of-the-art career and performance management system was the HR roadmap's major project and the key component in helping to ensure the Office's long-term social, financial and demographic sustainability. The reform struck a balance between the EPO's operational needs and an employee's long-term career expectations. At the same time, it was developed within the framework of a financially and demographically sustainable career and performance management model.

The reform introduced a close relationship between collective and individual performance, and the achievement of the objectives and missions of the EPO. The performance management system has progressively evolved from an outdated, bureaucratic system towards a more mature system. It is now based on cascading general strategic goals into operational individual objectives, where regular

feedback provides a responsive and adaptable workforce that fulfils business requirements.

Having an effective workforce also relies on staff having the right skills. In a rapidly changing environment, EPO staff must continuously adapt their skills and knowledge to carry out their duties effectively. Structural reforms were therefore accompanied by a complete review of the EPO's talent strategy. The EPO has placed more importance on strategic workforce planning so that it can respond more effectively to business needs. A focus on core policy has allowed the recruitment of close to 1 000 patent examiners over the last eight years and training efforts have contributed to the increase of production, productivity and timeliness. Meanwhile an active sourcing strategy, the creation of talent pipelines with universities, promotion of diversity and a more streamlined recruitment procedure have helped position the EPO as a class-leading employer.

These reforms have been complemented by a fundamental review of the employment framework of the EPO in March 2018. Following support from the member states, 2018 saw the introduction of new employment guidelines that allow for up to 20% of the total headcount to be employed on fixed-term contracts. To ensure that the EPO can continue to make long term investments in its employees, fixed term contracts can be converted into permanent positions. Unlike many other national or international organisations, conditions for fixed-term contract staff are aligned with those of permanent staff on remuneration and the social package and entry and end salaries for current employees.

In the recruitment policy applied during the last eight years, particular care has been taken to ensure diversity. 35 nationalities are represented among the staff in 2018, compared to 30 in 2010, which has been supported by the introduction of specific language contracts as of 2012. Promotion of women in the management of the Office was also fostered and has helped to achieve higher representation in management, where 22% of managers are female in 2018. Among the top management, seven out of 23 appointments to the position of principal directors since 2011 have been allocated to female employees (30%). However, more progress remains to be made given that women currently represent 33% of all EPO staff.

### Maintaining a high social package

Figures in EUR/1000	2011 Actuals	2012 Actuals	2013 Actuals	2014 Actuals	2015 Actuals	2016 Actuals	2017 Actuals
Salary Mass	599 581	617 794	639 624	667 859	688 857	691 251	713 260
Av salary adjustment in %	0.19%	3.70%	2.30%	1.70%	1.10%	2.00%	3.20%
Allowances	172 710	179 749	183 917	203 865	229 606	218 742	236 127
Rewards in EUR	14 696	39 293	14 142	14 462	17 720	21 926	15 552

Most recently, the new career structure supported the reorganisation of the patent granting process, by introducing new roles, new career opportunities and two career paths (managerial and technical career paths). Since 2015, 250 team managers and 80 senior experts have been appointed to empower smaller teams and strengthen quality assurance and efficiency.

#### Maintaining a high social package

Over the last eight years, the EPO has considerably improved its working conditions. Benchmarking assessments have confirmed that the EPO compares favourably in terms of both salaries and remuneration with other international organisations and the private sector (source: social study 2016). On top of attractive salaries and pension benefits, EPO staff enjoy comprehensive allowances that are applicable to their specific situations, such as expatriation allowance, education allowance and childcare.

In 2014, the Office obtained the approval of the Council to continue to apply a revised yearly salary adjustment method, with some safeguards, which aimed to guarantee the purchasing power of the employees for the period 2014 - 2020.

From 2011 to 2017, the salary mass of EPO staff has increased by 19% and the allowances by 36.7% while during the same period, the overall number of employees has remained at the same level. In 2018, a typical patent examiner in the most common grade, working in Germany, married, with two dependent children and expatriate status, can expect a total net monthly remuneration of approximately 12 124.20 euros, net of taxation.

Contrary to the reforms implemented by other institutions, the positive results in financial terms achieved by the EPO were not obtained by cuts to the social benefits of staff.

#### Promoting wellbeing

Following a successful pilot scheme, Part-Time Home Working (PTHW) has been developed since 2012. Since that time PTHW participation has grown steadily and there are now 1 800 participants in the scheme, representing 26% of all employees. Based on an agreement between managers and staff, PTHW has been praised by both. Studies have demonstrated that it had a positive impact on productivity and work-life balance.

As in many public entities, the EPO was facing in 2010 a high rate of sickness leave and, more worryingly, a trend to medicalise social relations, which translated into more instances of long-term

### Sick leave per FTE has declined by 41% since 2011



sick leave and invalidity. Several reforms on sickness management and wellbeing have supported the move from a culture of disability benefits to an employment integration culture. The Office is now equipped with a comprehensive framework based on early prevention of incapacity, focusing on health recovery, the return to work and a strong link between the individual and their continuing employment. As a result, all components of sick leave have sharply decreased by 41%. This was achieved through awareness campaigns, promotion of a culture of prevention, integration and dialogue between management, teams and occupational health specialists.

### Change management and social dialogue

Improving social dialogue at the EPO has been one of the most challenging tasks for the management of the Office. Structural weaknesses in social dialogue have been present since the very beginning of the Office's history, ever since the EPO opened its doors in 1977 with a day of strike. The EPO has been impacted by the lack of any real culture of negotiation. Instead of a dialogue in which social partners can commit to a deal, a litigation culture has developed in which internal means of redress are used extensively to contest managerial decisions – even when they are set to be favourable to staff (in 2012, staff representatives filed an appeal against the part-time home working scheme, highly appreciated by the staff).

The general framework governing social dialogue had proved insufficient for developing effective

social dialogue: the Central Staff Committee was not directly elected by the staff; the right to strike was not recognised in the Service Regulations whereas multiple forms of work stoppage of indefinite duration were de facto common practice; and trade unions were not formally recognised, even though the main trade union SUEPO plays an active role in practice and accounts for the vast majority of staff representatives positions.

Moreover, the rapid implementation of the five strategic roadmaps and their numerous reforms during the last eight years had caused concerns among some staff. The aim to achieve greater efficiency in the patent granting process was seen by some to conflict with the academic, independent culture of the Office as it moved to a more service-oriented agency. In response, demonstrations were held by part of the staff on occasion in front of EPO buildings, which was sometimes reported in the media.

The external perception of the EPO was also being affected by defamation campaigns, public attacks against the core business of the EPO, repetitive attempts to block the proper functioning of internal statutory bodies of the Office, and even threats against moderate staff representatives. Yet at the same time, staff were instrumental in achieving rapid increases in the Office's performance during the period of reform. Individual and collective efforts throughout the organisation demonstrated a level of support for new strategic goals and a willingness to move forward.



Staff demonstrating in front of the Isar building

Determined to promote a more effective social dialogue, the Office implemented a wide range of social dialogue initiatives and reinforced rules and regulations designed to protect staff:

Social dialogue is a field where progress can always be made and despite many initiatives of the management, it has not reached the expected level of maturity yet. However, some important changes have been achieved for the first time in the history of the Office, even against a backdrop of intense reform. Some progress towards a less litigious culture is already perceivable: currently more than 60% of individual issues are solved by dialogue between the staff member and his manager and do not reach the internal appeal system. The changes have helped to better define the roles of the social partners and clarify a stronger framework for social dialogue.

“As demonstrated by the benchmark analysis, the EPO has been highly successful, in comparison to other institutions, in introducing consistent changes within the organisation. This is particularly conspicuous when considering the short timeframe in which those changes were introduced and the strong constraints which are present at the EPO and which make this organisation peculiar (e.g. managerial approach, fragmented culture, legal framework, 5 offices in 4 different European countries)”. 2016 Social Study, PricewaterhouseCoopers

The HR roadmap projects and plans have paved the way for future successes that will need to be consolidated in the next period. EPO's staff and management will now have to make the best use of a modernised entity, deeply rooted in its public service mission.

### Social dialogue initiatives

- 2010-2011** Definition of a social agenda identifying issues to be addressed, jointly signed by the President of the Office and the Chairman of the Central Staff Committee
- 2012** Appointment of a staff representative as Chair of the EPO Appeals Committee (in charge of solving employment law disputes), following the reform of the system;
- 2013** Acknowledgement of the right to strike enshrined in the Service Regulations, including a clearly defined framework for its implementation;
- 2014** organisation of the first Office-wide professional elections;
- 2014** The General Consultative Committee where social issues are discussed is chaired by the President of the Office himself, raising the representation of the management of the Office to the highest level, in particular with the five Vice-Presidents of the Office;
- 2015-2016** Discussions on the recognition of trade unions in the EPO's legal framework and the signature of a MoU with FFPE;
- 2016** Publication of a comprehensive Social Study (including a staff survey) directed by PwC and a wide occupational health and safety risk assessment performed by high level experts, with the involvement of the staff representation;
- 2016** Organisation of the first Office-wide Social Conference, with the participation of staff, managers, staff representatives, unions and delegations of the member states;
- 2016-2018** Implementation of Focus Groups, in which staff can provide their views directly to the management on any kind of project or reform:



Around 350 stakeholders took part in the first Social Conference in the history of the EPO, following the publishing of three reports on the situation of the EPO.



## STATE-OF-THE ART BUILDINGS

The EPO is present in five locations across four countries: the headquarters in Munich (3 800 employees), an important branch in The Hague (2 700 employees), an office in Berlin (240 employees) and in Vienna (95 employees) and a bureau in Brussels (4 employees). The buildings where the staff are located are diverse in size, age and style.

Through the implementation of its Building roadmap, the Office has been able to address a number of issues across its sites. For three of them (The Hague, Berlin, Vienna), extensive renovation has been necessary. With an increasing security threat in Europe, the EPO has also had to reinforce security arrangements to ensure the safety of its staff. In addition there has been a constant need to create a more efficient use of space, as well as to offer the very latest working environments, the most significant of which has been the construction of a brand new building in The Hague.

### New Main in The Hague

The Main Building (old tower) in The Hague was finished in 1971. But by 2002 it was in desperate need of thorough renovation, just to be able meet basic standards. After a first unsuccessful attempt

in 2002-2007, there was an increasingly urgent need to address the issue as concrete parts of the façade fell into a state of disrepair. In December 2010 the Office obtained from the Council the approval to construct a new building. Following a wide-spread international competition, “New Main” was co-designed by renowned architects Jean Nouvel (Paris) and Diederik Dam (Amsterdam). The project foresaw the construction of a tall steel building with a sophisticated double glass façade. At around 100m high and 150m long, the new 85 000 square meter building would be an impressive new landmark on the Rijswijk horizon.

Now fully constructed, the new building is a bold example of contemporary architecture and symbolises the EPO’s mission to foster innovation in Europe. New Main is not only inspired by its local surroundings but also exhibits numerous innovative features: It uses geothermal heat pumps, has solar panels and makes extensive use of energy

*“The EPO is a driving force for innovation and the new building is a shining example and a proof of determination to quality. The architects show the importance of innovation in Europe.”*

Mark Rutte, Prime Minister of the Netherlands (2014)

### Focus on the environment

Since 2009 the Office has operated an environmental policy based on EMAS, the EU's Eco-Management and Audit Scheme. All investments in its infrastructure aim to minimise the EPO operations' impact on the environment. Between 2011 and 2016 the Office managed to reduce its electricity consumption by 11%, its heat consumption by 14% and its total energy consumption by almost 30%. As an organisation that supports innovation the EPO will continue to innovate in its approach to environmental management. Investigating novel methods for limiting waste, installing new building technologies and even encouraging biodiversity are all potentially set to play a role. By implementing this policy effectively and achieving our objectives, the EPO is continuing with its mission to provide the highest-quality patents while also building an environmentally sound future.

efficient LED lighting throughout the building. The space between the thermal wall and the glass exterior wall also provides natural ventilation. The construction took place without any disturbance to staff working in other buildings on site, and within the initial budgetary envelope.

After the inauguration of the New Main in June 2018, staff members will be transferred to their new state-of-the-art working environment and

the old tower will be demolished. Two other buildings rented by the EPO in The Hague – Le Croisé and Rijsvoort – can also now be emptied. Both rental agreements will be terminated with effect from 1 January 2019 and will generate savings of approximately 5.4 million euros per year for the EPO.

### Modernisation in all sites

In addition to the EPO's new building in The Hague, the Office has invested in renovations at its other sites. In Berlin, construction work was started in mid-2017 and will be finished in 2023, after close co-operation with the building owner, the German government, and an intensive planning phase under the lead of the German authorities. In Vienna, a new driveway to the main entrance has been put in place and the ground floor and the canteen have been renovated. In Munich, following the end of the renovation of the Isar building, the rental of the Capitellum building was stopped in 2014, achieving savings of approximately EUR 4.3 million per year. As part of the implementation of the 2016 package reform, the EPO Boards of Appeal were also provided with their own building in Haar, Munich, in October 2017. All in all, an ambitious Building roadmap that started in 2011 has delivered all its projects in time.

*“Our proposal is to introduce, into this earthbound port world, a flagship of noble scale and proportion whose materiality is unsettling and whose geometric abstraction, total. This building is calm and serene, nothing can touch it, it's part of the sky. It takes on the colour of the sky through the slightly iridescent clear glass of its façades and the stainless steel of the horizontal lines that give it rhythm... What we are seeking here are feelings of privilege and pleasure. The privilege of being able to appropriate the sky and the horizon as the primary materials of the architecture. The pleasure of working in a clear, open, exact world that can also be protected, closed, friendly... All this, located within this rectangle of sky whose sole ambition is to make us aware of variations in the atmosphere.”*

Jean Nouvel, architect, The Ateliers Jean Nouvel (2013)

### Enhancing the EPOs' security

One of the Office's essential duties is to safeguard its staff, visitors, information and business. In 2011 the Office defined a Security Programme that set out to implement a series of security measures, particularly those related to physical access. Following a heightened security threat in Europe, this programme was reinforced in 2016 with additional measures. They ensured that the EPO would be capable of welcoming members of the public and external visitors, while still providing a safe place of work for EPO employees. Within a few months, the EPO had adopted new rules and regulations.

The security governance was complimented by a set of further projects that contributed to the Office objective of providing a more secure environment for its staff, visitors, information and assets. The EPO card management and access control systems were replaced by new, more secure systems, and new perimeter protection measures and physical protection barriers were put in place.

By 2018, the EPO had been able to implement a series of measures that raised the level of its security, increased its threat awareness and redefined its capabilities by applying best practices, international norms and European standards.



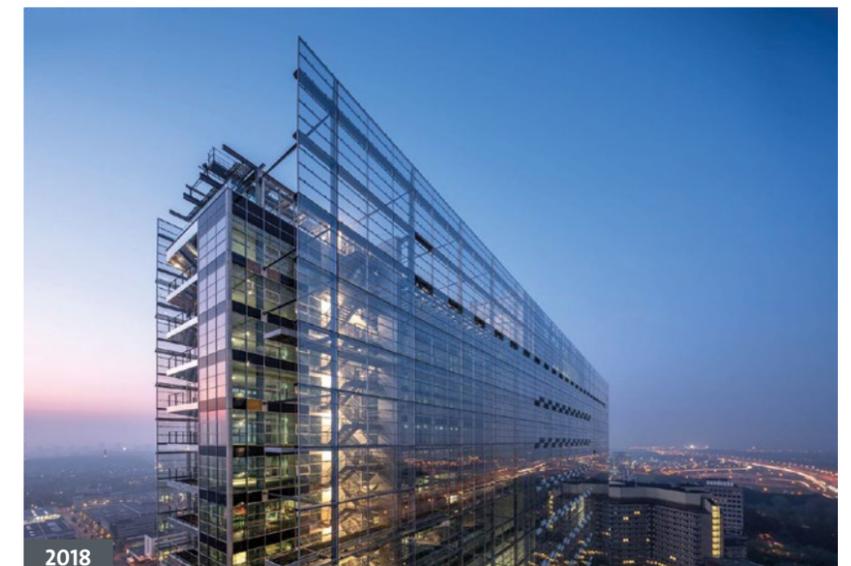
2014



2015



2017



2018

On 25 June 2014 the Prime Minister of the Netherlands Mark Rutte and President Benoit Battistelli jointly laid the foundation stone of the EPO's new main building in Rijswijk.

Co-designed by Ateliers Jean Nouvel (Paris) and Dam & Partners Architecten (Amsterdam) the new building will set a benchmark for sustainability and provide a flexible working environment of 80 000 square meters for the staff of the EPO.

# 5 Working with partners worldwide

**Co-operation with the member states and partners around the globe** is crucial to achieving the EPO's objective of developing an efficient, harmonised and quality-based European and International Patent System. Over the past years the Office intensified its co-operation activities and strengthened its position as a leading player in the European and international IP community.



# For an efficient international patent system

The high quality of European patents is recognised around the world. As a result, numerous patent offices are open to co-operation with the EPO. And that willingness to engage and cooperate is essential if the EPO is to address one of the most fundamental challenges of the patent system: prior art knows no geographical limits.

The international feature of the patent system was recognised as early as the 19th century, in the first international treaty for IP protection. But even today those same challenges persist more than ever, as markets have become more and more global, often resulting in the same patent application being filed in multiple jurisdictions. Flows of patents between the main markets have grown and today no office can efficiently address the challenges created by the global patent system on its own.

When an application is filed for the first time, it is essential that it is examined to the highest possible quality standards. Inventions which do not warrant a patent have to be eliminated at source, so that they don't generate further unnecessary work for other patent offices. This is even truer for the EPO, which is predominantly a second filing office: 80% of the patent applications we receive have already been filed somewhere else in the world. It is therefore extremely important that patent offices worldwide cooperate to avoid unnecessary duplication of work.

In addition to ensuring an effective use of resources, co-operation activities help to raise awareness on the importance of patent protection and the

potential of the European market. While the Unitary Patent and Unified Patent Court are expected to enter into force soon, co-operation between the EPO and its member states will continue to play an essential role in making the European patent system more simple, affordable and effective.

At both the European and international level, the Office has invested in a wide range of co-operation activities, creating new opportunities for partnership. The results of the last years have been obtained by multiple new tools that make life easier for our users but it would have been impossible to develop them without effective international co-operation. Positive and constructive relations with a range of international partners, from user associations and businesses to national patent offices, have proved decisive in bringing about common achievements.

## DEVELOPING THE EUROPEAN PATENT NETWORK

The EPO and its member states have been co-operating since 2006 within the European Patent Network (EPN). However, in 2010 there was a common understanding that this organisation was far from fulfilling its full potential, due mainly to excessively bureaucratic management of its activities and an inability to clearly define their scope. In 2011 the EPO decided to reengineer the process, in close coordination with the other patent offices of the EPN within a clear framework: the co-operation roadmap. This was further assisted by

increasingly close links with the EU IPO, to better coordinate their co-operation activities.

### A new approach to co-operation

The first step was to agree on the scope of co-operation, namely by defining joint activities in which the NPOs and the EPO were willing to invest. As is common among European organisations and governance structures, the share of responsibilities was defined in accordance with principles of complementarity and subsidiarity. Indeed, while the EPO might represent a unique concentration of specialised workforce for patents in Europe, no one is better placed than the Hellenic Industrial Property Organisation to raise awareness of patents among Greek universities or SMEs.

The overall aim of our co-operation was to provide users of the European patent system with relevant and high-quality patent-related services and to promote interoperability between the EPO and the national offices of the member states. To help it achieve this goal, three core areas were defined for EPN activities; training, patent-related IT services and tools, and patent information services and awareness.

Over the course of the next seven years, this clear framework helped the EPO and the NPOs to develop a wide programme of projects. They were implemented through Bilateral Co-operation Plans (BCPs), which defined a range of specific activities tailored to the specific needs of the national patent office. Through more effective coordination of the EPN and clearly defined projects, the administrative burden was greatly reduced. At the same time, the EPO set about reinforcing these co-operation activities by increasing financial support, covering 100% of all staff expenses linked to co-operation with its member states.

### Delivering better services

28 projects were implemented between 2011 and 2018, several of which highlight the productive nature of European co-operation:



Strengthening the European Patent Network – The EPO and national patent offices of member states, including its extension states at the 11th annual meeting on co-operation in Bergen, Norway in July 2017.

- Patent Translate offers automatic translation services in 28 European languages thanks to co-operation between the EPO and the NPOs that built the necessary corpora of human translations for each country.
- The Federated European Patent Register project is a concrete response to reducing user uncertainty about the legal status of European patents in the national phase. Users in 34 member states can now open the respective national register via a link from the European Patent Register. In addition, 28 national offices already display the most important post-grant legal status information of the European patent in the national phase in a common interface. The remaining offices will do this gradually.
- The twofold objective of the Quality at Source project has been to establish a front-file delivery of patent data in a harmonised format and to collect all national patent documents (bibliographic data, image, full text) from all member states from 1973 to date in digital full-text format. Quality at Source embodies the overall aim of our co-operation with member states, namely to provide the users of the European patent system with relevant and high-quality patent-related services.

- The data collected from national patent offices in the EPN forms the basis of patent information and search and examination products such as Espacenet and EPOQUE Net. Member states are also supporting the roll out of a new Espacenet. In the context of the Espacenet New project, each of the 31 participating member states has already created a “new” Espacenet interface in its own national language. The success of this project has seen further extension of its coverage to regional services such as Latipat, Arabpat and Eurasian. The new Espacenet is in use by one million users in a total of 62 countries.
- The EPO’s European Patent Academy has worked with national offices to develop training schemes that complement and enhance local training activities. The Academy’s activities have helped deliver key training initiatives in the field of search and examination and have resulted in a greater understanding of the procedures applied and tools used for a European patent.
- Harmonised examination practice is a novel meeting format for examiners. It allows examiners to exchange information and disseminate knowledge on the latest developments in patenting practices and procedures at the EPO and national offices. So far, this forum event has been held 38 times in 17 member states.

#### Facilitating access to the patent system

Since the start of its operations, the EPO has provided some NPOs (Belgium, France, Luxemburg, the Netherlands, Turkey) with search reports for the national applications they have to examine. This

The new  
Espacenet is in use  
in a total of **62**  
countries

service has been gradually extended to nine other countries (Croatia, Cyprus, Greece, Italy, Latvia, Lithuania, Malta, Monaco, San Marino) and two others will soon join (the UK, Albania). In 2012 the EPO proposed a fee reduction for these search reports in certain categories, in order to facilitate access to patent protection. A 50% reduction in fees paid by NPOs became available for applications filed by SMEs, universities, research centers, individual inventors. This reduction, funded by the EPO co-operation budget, was later increased to 75%.

For direct European patent applications, those same categories became eligible in 2014 for a 30% discount for the filing fee or examination fee related to translation. In the future, SMEs, universities, research centers, individual inventors will also benefit from the so-called “compensation scheme” for translations in relation with the future Unitary Patent.

#### Increasing professional representation across Europe

IP professionals play an important role in obtaining effective legal protection for an invention. To be able to represent a client in front of the EPO, patent attorneys must pass a specific and difficult exam: the European Qualifying Examination (EQE). However, in 2011 the EPO recognised a fundamental problem: while European inventors came from all over Europe, those who were able to represent them did not. Specifically, the Office observed that 90% of all EQE qualified attorneys in Europe were based in just seven member states. They were concentrated predominantly in Germany and the UK, and only 15 member states recorded four professional representatives or more. Such a concentration potentially limited the access of inventors to professional IP services, and ultimately, to effective IP protection.

In 2012 the Office set about redressing the situation, by embarking on a new project to further expand the number of EQE-qualified professionals throughout Europe. The Candidate Support Project was established for member states who had fewer than five EQE-qualified patent attorneys. In co-operation with the Institute of Professional

Representatives before the European Patent Office (epi), the EPO now provides dedicated coaching and classroom training to those preparing for the EQE. The yearly training is available to 10 candidates per participating country, based upon a selection made by the national offices. Since its launch, the project has admitted 99 aspiring candidates, 29 of whom have now passed the EQE. Seven of the participating 23 member states now have five or more EQE-qualified professional representatives.

#### Increased coordination with the EUIPO

In Europe there are two different authorities granting industrial property rights. The EPO is an international organisation that has been operating since 1977 and is responsible for delivering patents. The EUIPO (formerly OHIM) is an EU agency and has administered trademarks and designs since 1994. With both organisations playing central roles in Intellectual property in Europe, there are obvious reasons for the EPO and EUIPO to coordinate their initiatives and projects.

Until 2010, the two institutions had not proactively attempted to develop close relations. In 2011, EUIPO President António Campinos and EPO President Benoît Battistelli signed a comprehensive Memorandum of Understanding starting a new period of intensified co-operation. It provided a new framework for coordination that defined areas of common interest on which the two institutions could work together to raise awareness on IP and exchange know-how and best practice.

Over the following years, an extensive programme of joint activities was developed and implemented in various areas, particularly in awareness and promotion of IP:

- Coordinated interventions at global level: with the increased demand for more co-operation on IP in general, the EUIPO and the EPO coordinated their efforts to propose a joint “European offer”, based on positive past experiences (IPR / IPR2 in China). The ASEAN is a strong example of a region where this new policy was implemented.

*“Following the signature of our reinforced partnership in 2011, the co-operation between Europe’s two sister institutions has gone from strength to strength and obtained excellent results. Our joint initiatives have covered a diverse range of subjects and activities, and appealed to a wide audience. It demonstrates our capacity to develop a comprehensive IP eco-system that is benefitting the European innovation and economy.”*

António Campinos, Executive Director EUIPO (May 2018)

- Studies on the economic impact of IP: with the expertise available in the EPO and EUIPO, the two Offices published a pioneering study in 2013 that measured the importance of Intellectual Property Research (IPR) and its impact on the economy in the EU. It provided a comprehensive set of data, which was widely disseminated and used throughout Europe. After this successful attempt, further joint tools and economic studies were developed.
- Awareness sessions for decision makers: the EUIPO and the EPO aimed to improve the level of understanding on the importance of IP protection IP among European policy makers by organising regular seminars for EU and government officials in Brussels. The two Offices also developed the IP Executive Week to foster exchanges on IP among the middle and senior management of national patent offices.
- Developing an IP culture in Europe: the EUIPO and the EPO established a professional traineeship programme to improve knowledge of IP among European universities and to give the young IP professionals of tomorrow an opportunity to gain hands on experience in Europe’s two IP institutions. The Pan-European Seal has attracted participation from 45 leading universities and educational institutions across 20 member states. Since autumn 2015, more than 300 high-achieving young university graduates have benefitted from a year’s on-the-job experience at the EPO and EUIPO.

# Co-operation activities within the European Patent Network 2010-2018

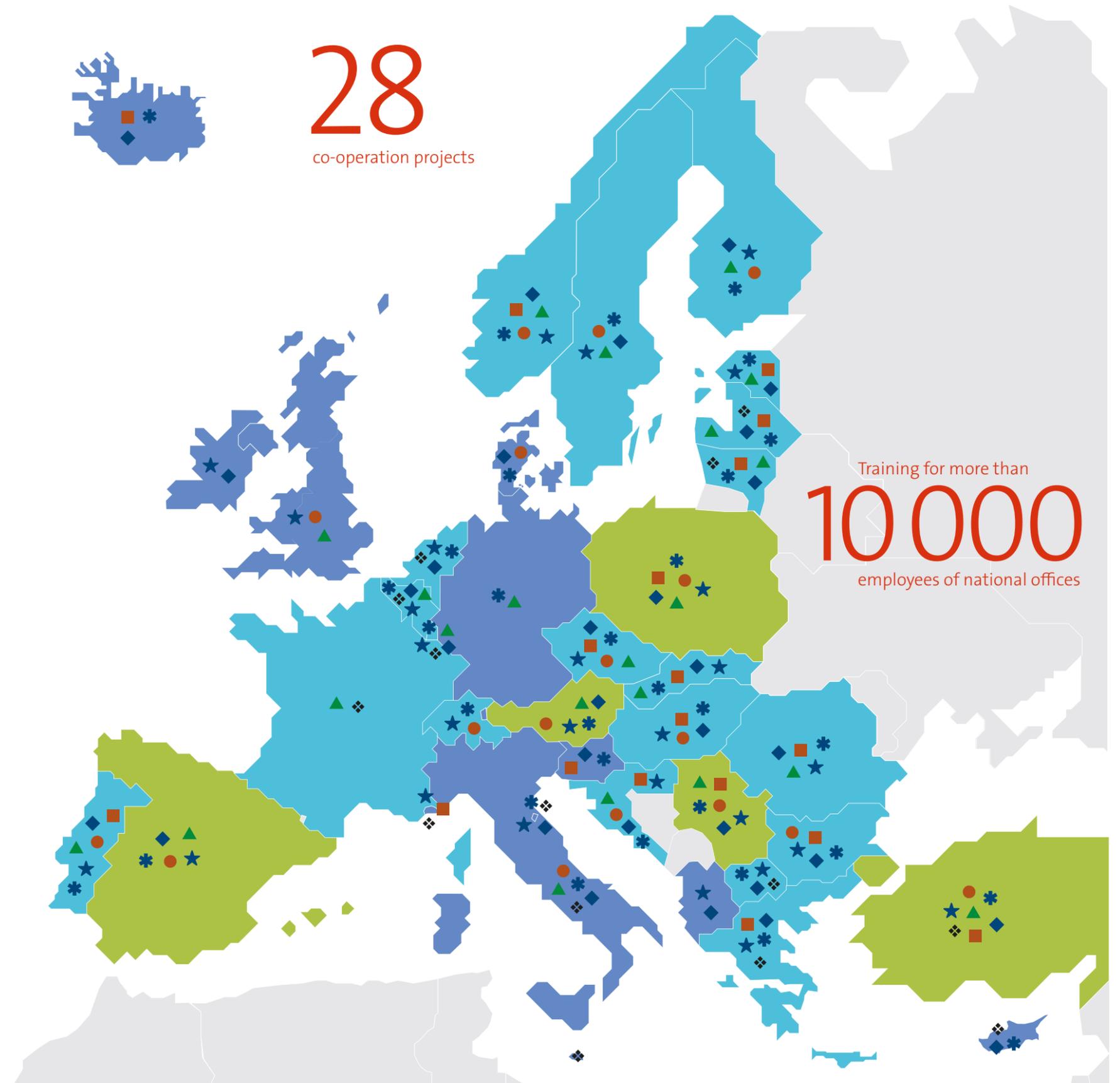
EUR **180** Mio.  
invested by the EPO

- Up to and including 10 bilateral projects between the EPO and the member state
- 11 to 14 bilateral projects between the EPO and the member state
- 15 or more bilateral projects between the EPO and the member state

More than  
**400**  
individual activities

### Selected training, IT and patent information projects directly benefitting the users of the European patent system

- ✳ Patent Translate launched. Service available in the 28 languages of the member states; handles 20 000 requests per day
- ◆ Espacenet harmonised in 31 member states. The patent search and retrieval service attracts one million users per month, viewing 40 million pages
- ★ Consolidated standard overview of all European patents viewed in any of 28 national patent registers via the Federated Register (31 000 views per month)
- Examination practice harmonised through discussion at events with 2 200 participants in 17 member states
- More professional representatives in 18 member states that had five or fewer European patent attorneys in 2012
- ▲ Enhanced patent information services now provided by 34 PATLIB centres in 18 member states (joint initiative with national office partners)
- ❖ Prior art searches conducted by the EPO on national applications made in 12 member states



## SIMPLIFYING AND MAKING THE GLOBAL PATENT SYSTEM MORE EFFICIENT

Outside Europe, the EPO has engaged into an extensive programme of co-operation activities, customised to the diverse needs and objectives of our partners. Over the last twenty years, the global patent system experienced an important shift in which numerous new players took a greater role or showed stronger interest in developing their own capacities. Emerging markets in particular placed importance on a solid patent system, able to attract foreign direct investment and foster the transfer of technologies. As a result, co-operation activities were subject to greater and greater demand.

For the EPO, increasing demand for co-operation meant that it was necessary to review and expand its activities in the field, to adapt to new demands and to ensure that it could devote enough resources to an increasing number of partners. The EPO's activities have now expanded to encompass various forms of co-operation in multiple fora:

- Trilateral (patent offices of US, Japan and the EPO)
- IP5 (patent offices of US, Japan, China, Republic of Korea and the EPO)
- PCT international authorities
- Bilateral relations with other international organisations (World Intellectual Property Or-

ganization, OECD, Office Africain de la Propriété Intellectuelle, ASEAN, Eurasian Patent Office)

- Enhanced bilateral co-operation (China, Russia, Mexico, Brazil, Argentina, Morocco, Tunisia, South Africa, Cambodia, etc.)
- Technical co-operation activities (Australia, Canada, India, New Zealand, Egypt, etc.)

### Trilateral and IP5

Trilateral co-operation was initially set up in 1983 by the EPO, JPO and USPTO – the three largest patent offices at the time – to solve common automation and workload problems. The fora saw a shift to more strategic issues after the successful transfer of technical co-operation projects from the Trilateral to the IP5 level in 2013, which also included two new global players, SIPO (China) and KIPO (Republic of Korea). Since then, Trilateral co-operation has become a forum for the discussion of global and strategic issues. From the Trilateral Conference of 2014, which the EPO hosted in Trieste (IT), offices and representatives from industry of the three regions have been dedicating their discussions to patent harmonisation topics.

Building on the successful involvement of industry at the Trilateral level, the EPO has already undertaken proactive steps in 2012 to involve representatives from industry in the IP5 regions more closely. Since the first meeting between the IP5 Heads of Office and IP5 Industry in Europe in 2012, an open dialogue with industry both at the strategic and at the working level has become an integral part of IP5 co-operation. This interaction



IP5 meeting in Valletta, Malta on 1 June 2017. From left: Yoshinori Komiya, Head of Japan Patent Office; Michelle Lee, Head of United States Patent and Trademark Office; President Benoit Battistelli; Shen Changyu, Head of State Intellectual Property Office of the People's Republic of China; Lee Young-Dae, Acting Commissioner of Korean Intellectual Property Office; and John Sandage, Deputy Director General of World Intellectual Property Organization

with industry has brought a more practical and user-oriented focus to IP5 co-operation. Due to the benefits that have been brought by close interaction with users, an open dialogue with industry is expected to remain an integral element of the IP5 for the coming decades.

Major milestones of IP5 co-operation include the Global Dossier, the Common Citation Document (CCD) database, the IP5 Patent Prosecution Highway (PPH) pilot programme launched in 2014, and the IP5 Patent Harmonisation Expert Panel created in 2012 to explore the potential of harmonising the various offices' practices and procedures.

Since the creation of the IP5 co-operation framework, the global patenting landscape has evolved significantly, not only due to newly emerging technologies, but also to increasing numbers of patent applications that are cross-filed between the IP5 offices, and to changing user needs.

At the 10th anniversary of IP5 co-operation in 2017, the IP5 offices decided to respond to these new challenges. They expanded their focus towards harmonising practices and procedures at the IP5 offices, enhanced work-sharing and the delivery of high-quality, timely search and examination results.

### Strengthening bilateral ties

The success of bilateral co-operation plans (BCPs) between the EPO and its member states showed how bilateral projects had the ability to strengthen the patent system. The recent growth in filings and applications in emerging economies also underlined the importance of working with a

*“The farsighted vision, extensive knowledge and excellent leadership of President Battistelli have deeply impressed me. Under his guidance, the EPO has reformed in many aspects and scored remarkable achievements. Mr. Battistelli has also greatly contributed to the IP5 cooperation and to the reform and advancement of the global IP system. I am glad to see that, with his energetic support and devotion, the cooperative relationship between the EPO and SIPO has been continuously strengthened and upgraded in 2017 from strategic partnership to a comprehensive strategic one, which will play an increasingly important role in promoting the economic, scientific and cultural development both in China and Europe.”*

Commissioner Shen Changyu, State Intellectual Property Office of the P.R.C. (May 2018)

variety of international partners to help strengthen intellectual property rights globally. As a result, the EPO enhanced bilateral co-operation with states outside of Europe.

One of the dominant reasons to implement BCPs is to provide national patent offices with access to specific EPO tools used in the patent examination process, in particular its search engine EPOQUE NET (used by more than 40 patent offices in the world). In return, the EPO receives from those offices their national data on patents, which are collected and integrated into EPO databases so that the data can be shared with the user community. As a result of these activities the EPO is able to maintain the most comprehensive collection of patent-related literature in the world. More than 800 million records containing over 100 million patent docu-

### PPH – the first IP5 work-sharing initiative

The Patent Prosecution Highway (PPH) is a scheme that allows offices to share work results and speed up patent prosecution procedures. It leverages fast-track patent examination procedures already available at the PPH partner offices to allow applicants to obtain corresponding patents faster and more efficiently. The PPH emerged from the framework of the Trilateral Co-operation

but gained importance when, in 2014, it was expanded to KIPO and SIPO and became the first IP5 work-sharing initiative. Since the successful establishment of the IP5 PPH the EPO has been carefully expanding its PPH network. This has been done in close coordination with European Industry and primarily with a view to facilitating efficient and inexpensive access for European

users to accelerated prosecution in foreign markets on the basis of high-quality EPO work products. In addition to the IP5, the EPO PPH network has gradually expanded to include the national patent offices of Australia, Brazil, Canada, Colombia, Israel, Malaysia, Mexico, the Philippines, the Russian Federation, the Eurasian Patent Office, and Singapore.

ments and stored in over 120 specialised databases are now made available to patent professionals across the globe. They provide unparalleled access to patent-related technical literature. It has also allowed the EPO to extend its machine translation service (Patent Translate) to languages not used by EPO member states, but which are essential for the access to a comprehensive prior art collection (Chinese, Japanese, Korean, Russian).

In addition to co-operation on technical matters, bilateral initiatives have allowed the EPO to address more strategic issues, such as the importance of quality, legal certainty, transparency and ease of use of patent systems.

The EPO enjoys a reputation as a supplier of high quality services and has constantly improved the timeliness of its patent granting process, thanks to its Early Certainty programme. As a result, other national patent offices and the EPO have based co-operation around the idea of reusing work that has already been carried out by the EPO. After all, why should a national patent office that has fewer resources commit staff and finances to redoing a search report that is already available at the EPO? There is a growing awareness among other national patent offices that resources could be saved by relying directly on the EPO's high quality products. In turn, this allows a country to re-direct their efforts to other activities that can strengthen their national patent system, such as awareness-raising programmes.

Based on this principle, various bilateral instruments are proposed according to the individual needs of each country:

- Validation agreement: the country considers the European patent as a national one, limiting the

formalities required for national recognition to the absolute minimum. This clear and simple scheme is the most attractive for foreign investors but it can necessitate the adaptation of the national legal framework beforehand

- Reinforced co-operation agreement: the national patent office relies on the corresponding EPO products during the examination phase of its own national applications
- Patent Prosecution Highway agreement

During the last eight years the EPO has reinforced its ties with historic partners and extended its co-operation to new ones. For example, the EPO and the patent office of China (SIPO) were co-operating at the technical level for thirty years. Now they have enhanced their co-operation further with the signature of a far-reaching strategic partnership, signed in 2013 and renewed in 2017. Under this framework, SIPO uses most of the EPO's tools and databases, benefits from training activities and provides the EPO upfront with highly valuable data already classified in CPC. Both Offices regularly inform each other of their projects, which helps the EPO and SIPO to develop common positions on issues in the international patent system. The exchange of staff and the regular meetings at all levels also contributes to building a solid and trusting relationship.

The deepening of relations with patent offices of other countries, such as Morocco, Mexico, Tunisia, and Brazil among others, has helped to obtain important breakthroughs on issues like validation agreements. The Office has also further established new and promising contacts with emerging countries including India, South Africa, Argentina, Vietnam etc., which are of importance for Europe-

*“Strategic, win-win, concrete and ambitious: this is what perfectly qualifies cooperation between OMPIC and the EPO. In particular, of all the challenges that we have been able to face together, two are particularly close to my heart: the validation system; Morocco had the privilege of being the first country of validation and the second concerns the Arabpat platform, the first platform of patents in Arab countries, conducted in collaboration with other partners.”*

Adil El-Maliki, Director General of the Moroccan Office of Industrial and Commercial Property (May 2018)

an stakeholders who wish to take their inventions to these expanding markets. These contacts have led to the signature of Memoranda of Understanding on co-operation and detailed work plans, whereby both the EPO and the offices concerned exchange information and experience on the patent granting procedure, legal framework, technical infrastructure, support for outreach activities, data exchange and CPC classification.

#### The EPO and WIPO

The EPO has also reinforced its ties with the World Intellectual Property Organisation (WIPO) which was first formalised in 2012 with the signature of a Memorandum of Understanding, intensifying co-operation beyond the Patent Co-operation Treaty (PCT). Seeking to base co-operation on a result-driven agenda, the Offices introduced joint annual work plans that provided a clear overview and timeline for the achievement of strategic objectives set by the heads of the two offices.

As a result of this intensive co-operation, the EPO and WIPO have been able to conceive and implement the PCT Paperless. It generates an electronic flow of Search Copies from some 40 receiving offices around the world to the EPO as PCT International Authority via the IB. The procedure is helping to improve timeliness in the PCT system.

*“WIPO and the EPO depend on each other's cooperation, collaboration and good service level. It is a very important relationship, I would like to emphasise. The EPO is our biggest service provider, by far the largest provider of international search reports and of international preliminary examination reports. We are interested in seeing the EPO continue to take leadership on quality. Generally speaking, the EPO is a centre of excellence and best practice among patent offices, which contributes enormously to the credibility of the patent system.”*

Francis Gurry, Director General of WIPO (2015)

*“IMPI expresses the deepest appreciation for all the support received from the EPO that benefits the Intellectual Property System in Mexico and the entire Latin American Region. About 750 Mexican IP Experts received training provided by EPO from 2013 to 2017. Furthermore, the participation of IMPI in many EPO forums, the assistance in the implementation of CPC and the PPH, the very first signed by EPO with a Latin American IPO, have undoubtedly contributed to rank IMPI as the first IPO in Latin America in patent granting.”*

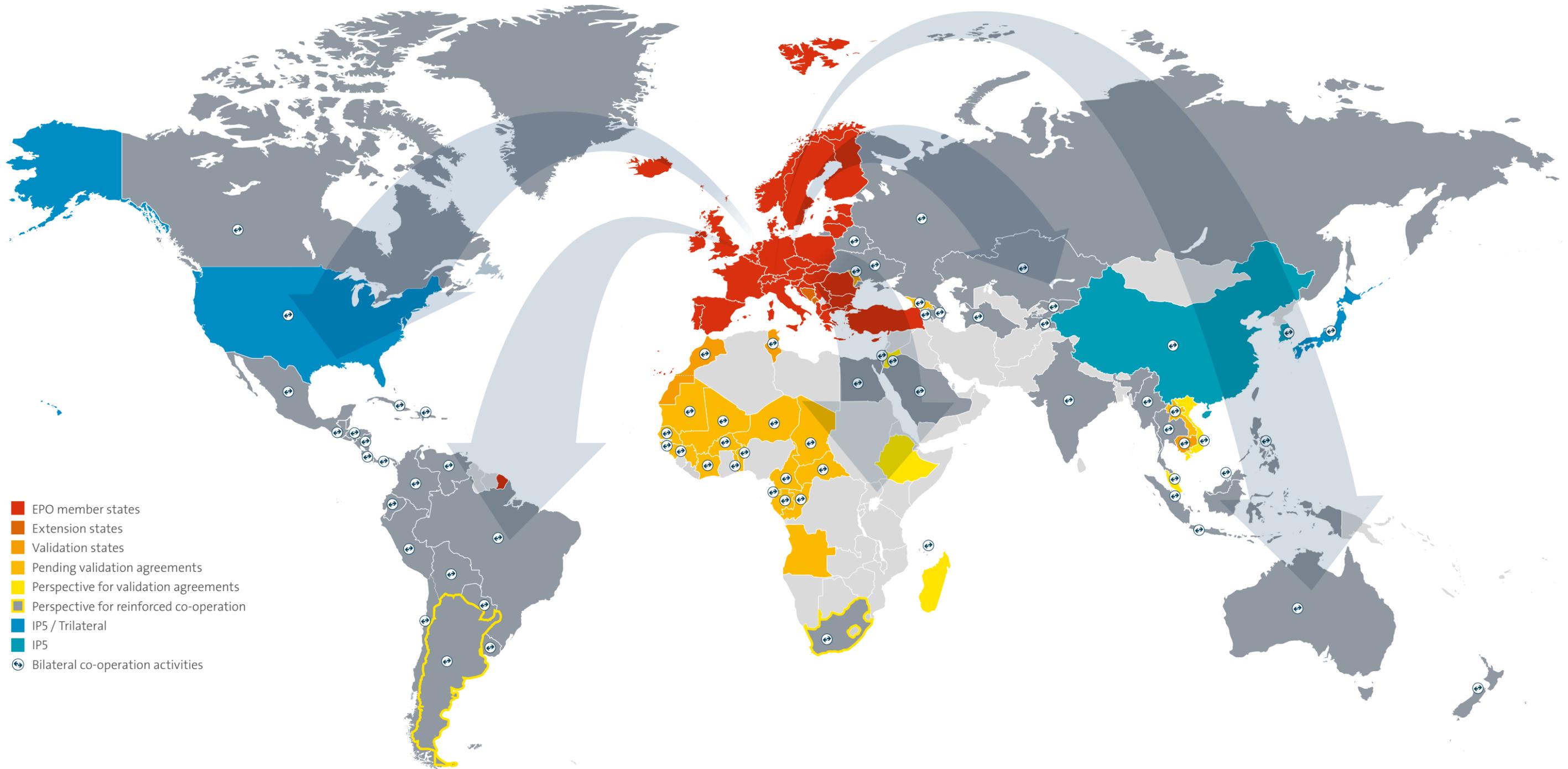
Miguel Ángel Margáin, Director General Mexican Institute of Industrial Property

The EPO and WIPO have also worked on initiatives to exploit information and communication technology that can help the international patent system to function effectively. Together they are pioneering the integration of web services in the field of online filing tools. ePCT and the newly launched Hosted Filing Submission (see page 47) have also been integrated to guarantee a cost-efficient and performant solution for filing PCT applications at the EPO. In addition, the offices joined forces to increase the quality and transparency of patent information. For example, the Global Dossier and WIPO CASE have been interlinked and other interested offices have been assisted in producing, exchanging and disseminating patent data in the spirit of the EPO's “Quality at Source” initiative.



On 18 February 2015 the Director General of WIPO, Francis Gurry, visited the EPO to renew the co-operation commitment.

# International co-operation activities



# 6 Social responsibility

**As a public institution the EPO has an obligation to ensure that its users are informed** on the latest developments and the progress that is being made to support the innovation sector.

Since 2010 the EPO has increased its levels of transparency, by providing to the public the very latest information on a variety of subjects. Documents have been published to cover a diverse range of topics, from Administrative Council documents that show the strategic decisions being taken by the Office and its member states to social reports that detail comprehensively the working conditions of our staff.

Throughout this period, an annual European Inventor Award has raised the public profile of patents and Annual results have been disseminated to the media. As a result of these and other measures, the EPO is among the most transparent international institutions.



# Transparency and awareness

Over the last eight years the EPO has improved the transparency of its activities, raised awareness on the importance and role of patents and collaborated with other institutions to support evidence-based debates.

## ACCESS TO EPO DOCUMENTATION

In order to improve transparency on the activities, projects and working conditions of the Office, the EPO has made documents and reports available to the public on its website ([www.epo.org](http://www.epo.org)).

### Transparent governance

The Administrative Council is the European Patent Organisation's governing body. Made up of delegations from the Organisation's 38 member states, it is responsible for supervising the activities of the European Patent Office, the executive body of the Organisation. A number of important decisions proposed by the Office are taken at the level of the Council, such as the adoption of the budget, modification of staff or financial regulations and changes to the rules of the European Patent Convention. During these eight years, achievements

were obtained thanks to solid governance and close co-operation between the Council and the Office. To improve it further, efforts for more transparency were undertaken.

In 2012, the documents submitted to the Administrative Council started to be published, providing the public with open and transparent information on strategic and technical decisions. Varying practices exist for publishing documents of governing bodies in International Organisations but the EPO decided to opt for an extensive approach. Under the new policy, all public documents tabled and discussed at the Administrative Council meetings, with very few exceptions, are made available after each session and published on the EPO's website.

### Visible working conditions

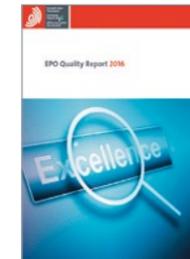
The EPO's Service Regulations define the working conditions and terms of employment particular to the EPO and safeguard the sound functioning of the Office. Since 2016, the EPO's Service Regulations have been made available online to ensure transparency on a par with other international organisations and to offer the opportunity to any interested parties to gain a comprehensive understanding of all aspects of working life at the Office. The Service Regulations also attest to the principle of strict legality of all processes within the Office and that ultimately protect the rights of EPO staff.



## REPORTING ON EPO ACTIVITIES

Like any institution, the Office has to report regularly to its supervising body – the Administrative Council – about its activities, projects and performance. Over the past years, the EPO has constantly increased the comprehensiveness and quality of the information provided, not only to its direct stakeholders but also to the public at large, with extensive information freely accessible from the EPO website.

During an annual press conference in Brussels each March, the EPO presents detailed information on the major developments at the EPO and in the patent system, including the results of the last twelve months. The event is attended by dozens of journalists and has been met with ever growing interest from the media. Wide media coverage reports extensively on the Office's activities and the most recent trends in patent filing. In the first month following the report on the 2017 annual results, more than 2 000 media reports were generated through different channels (print, online, radio / TV) in 40 countries.



### EPO Quality Report

The EPO's first Quality Report was published in 2017. It gives detailed information on the EPO's ISO 9001-certified quality management system that is used to measure and assure quality

throughout the entire patent process, from the receipt of a patent application through to the final publication of the patent. Staff recruitment policies, training, documentation and electronic tools in the patent process are also described. The report outlines the EPO's customer service and its initiatives to improve timeliness in the search, examination and opposition procedures. EPO initiatives to engage with users and collect their views are also covered in the publication as feedback represents one of the main sources for improvements to services and procedures at the Office. The EPO's Quality Report is unique among the patent offices and demonstrates the EPO's commitment to providing transparency on an issue that has come to define the EPO's products and services.



### EPO Social Report

The EPO has published its annual Social Report since 2012. It provides an up-to-date and comprehensive insight into all aspects related to EPO employees, such as the origins and demographics

of EPO staff, recruitment, and working conditions. Among the many elements of staff life, professional development at the Office, remuneration, and factors related to retirement are also covered. With the inclusion of extensive indicators, the Social Report provides answers to a range of specific and broad questions: What are the pension contributions of an EPO employee? How does the diversity of the workforce differ between places of employment? How is the level of sick leave changing in the Office? It also includes a more detailed picture of meetings with social partners. The Social Report comprises one of the most effective tools the EPO has for assessing how its workforce is evolving to meet the needs of a modern patent organisation while ensuring that the Office is in turn providing industry-leading conditions for its staff.



### EPO Environmental Report

With nearly 7 000 staff spread across several different sites, the EPO can have a significant environmental impact through its consumption of heat and electrical energy, use of water and

paper, and generation of both waste and CO<sub>2</sub> emissions. It has addressed these environmental issues by introducing an environmental management system in 2009, which meets the requirements of the Eco-Management and Audit Scheme (EMAS) and has been a significant step in mitigating its environmental impact. The Environmental Report contributes to the EPO's role as a transparent and accountable organisation and helps the Office to meet the certification standards every year. The Environmental Report underpins the EPO's commitment to sustainability, not just by evaluating past actions, but by identifying possible measures for the future. As an organisation that supports innovation through the granting of robust patents, the EPO itself continues to innovate in its approach to environmental management. Effective implementation of its policy and achievement of the set objectives support the EPO in its mission to provide highest-quality patents while also building an environmentally sound future.

## RAISING AWARENESS ON PATENTS

The core tasks of the EPO are to examine the legal validity of patent applications and to disseminate patent information. The potential economic value of an invention plays no part in our assessment of an application's compliance with the patentability criteria but it does not mean the Office has no interest in the post-grant life of patents and their role in the innovation cycle. This is why the EPO has invested in raising awareness.

### European Inventor Award

A well-functioning patent system plays a vital role in supporting innovation and economic prosperity. However, the public rarely understands this. Patents are often thought of as dull legal papers, and yet the media happily reports on new technology. Of course the most engaging stories come from real people – from inventors, their motivation and triumphs.

Starting in 2006, the European Inventor Award has been demonstrating the link between innovation and patents, by focussing attention on inventors who have been granted European patents and used them to grow their businesses, to create jobs, and to bring their new technologies to the market for all of society to enjoy. From its humble beginnings as a “gala dinner” at the end of a patent conference, the Award has grown since 2010 into a fully-fledged event

in its own right, held in inspiring settings and supported by a major media campaign running for several months each year. Among the 600 or so guests every year, the Award ceremony attracts high-level state and government representatives and European Commissioners, as well as dozens of journalists.

Every year fifteen finalists are selected by an independent, international jury composed of leading figures from science, research, industry, media, the patent system and politics. For every finalist in each annual Award, the EPO produces a complete package of films, photos and briefing materials, including economic analyses of the impact of their inventions, to share their inspiring stories to journalists in the national, international, IP and industry sector media. Each finalist becomes a “case study”, showing how inventions protected by European patents attract investment, bring new technologies to market and create jobs – they are the most eloquent ambassadors for the benefits patents bring to society.

In recent years the increased use of video and social media has helped to capture the public imagination like never before. The 2017 Award resulted in over 3 000 articles in print, online, on radio or TV, up over a quarter on the coverage from 2016. In 2017 the videos were viewed over 2 million times on Facebook and YouTube, a fourfold increase on 2016. The online public vote for the finalists – the Popular Prize – has created huge engagement via social media, with Award content and messages reaching an audience of over 5.7 million.



Artur Fischer, European Inventor Award 2014 winner in the category Lifetime achievement at the ceremony in Berlin



The winners of the European Inventor Award 2016 with Portugal's Prime Minister António Costa at the Award ceremony in Lisbon



Her Royal Highness Princess Beatrix of the Netherlands and to her right Michel Barnier, EU Commissioner for Internal Market and Services watching the European Inventor Award 2013 ceremony in Amsterdam



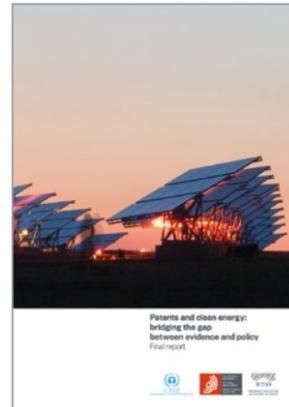
Peter Holme Jensen, European Inventor Award 2014 winner in the category SMEs at the ceremony in Berlin

Launched by the EPO in 2006, the European Inventor Award pays tribute to outstanding inventors from Europe and around the world, who have made an exceptional contribution to social development, technological progress and economic growth.

## EPO STUDIES

Innovation is the engine of competitiveness and economic growth, and the patent system plays a critical role in supporting it. As a major institution of the European economy and a leading office globally, the EPO has therefore endeavoured to monitor, explain and measure the impact of patents in today's economy, with a view to informing users of the patent system and the larger public. By doing so, we're able to use our extensive resources to contribute to public debate on patent issues, and link patent policy with economic considerations.

The EPO's public database PATSTAT and the EPO Academic Research Programme launched in 2017 aim to promote academic research and policy analyses on such issues. The EPO itself has also published several important studies in the past eight years. Often carried out in partnership with other leading international organisations, these studies reveal the potential of patent information and highlight the various facets of the economic value of patents.



### Patents and clean energy: bridging the gap between evidence and policy (September 2010)

The EPO joined forces with the United Nations Environment Programme (UNEP) and the International Centre for Trade and Sustainable Development

(ICTSD) to investigate the role of the patent system in climate change-related technologies and provide evidence to support an informed debate. A first study, on "Patents and clean energy technologies" (CETs), was published in 2010. This was followed by three EPO-UNEP studies with a regional focus on Africa (2013), Latin America (2014) and Europe (2015). In parallel, the EPO has established a new classification scheme for technical attributes of technologies that can be loosely referred to as climate change mitigation, making it much easier to retrieve patent documents that cover these technologies.



### Creating markets from research results (May 2013)

This report highlights trends in university-industry collaboration. The results were presented and discussed at a major conference in Munich in 2013, under the auspices of the European Patent Office (EPO), the Organisation

for Economic Co-operation and Development (OECD) and the Technische Universität München (TUM). The report covered the emergence of a new entrepreneurial culture within universities, the scope for improved IP policies, techniques for gaining buy-in to IP within universities and the changes that technology transfer offices (TTOs) are facing.



### IPR-intensive industries: contribution to economic performance and employment in the European Union (September 2013 and October 2016)

This joint study by the EPO and EUIPO (then OHIM) analyses the contribution of IPR-intensive sectors to the

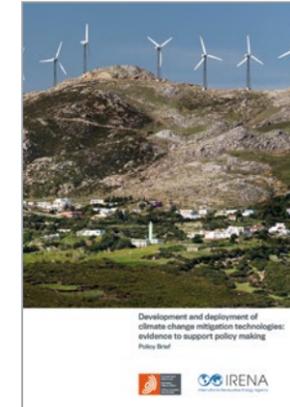
EU economy. An updated version of the study was published in October 2016. Among the main findings, it showed that IPR-intensive industries generated 27.8% of all jobs in the EU during the period 2011-2013. On average over this period, 60 million Europeans were employed by IPR-intensive industries. In addition, another 22 million jobs were generated in industries that supply goods and services to the IPR intensive industries. Taking indirect jobs into account, the total number of IPR dependent jobs rises to 82.2 million (38.1%). Over the same period, IPR-intensive industries generated more than 42% of total economic activity (GDP) in the EU, worth EUR 5.7 trillion. They also accounted for most of the EU's trade with the rest of the world and generated a trade surplus, thus helping to keep the EU's external trade in balance. IPR-intensive industries pay significantly higher wages than other industries, with a wage premium of 46% over other industries.



### Economic analysis of Unitary Patent and the Unified Patent Court (April 2014)

This report provides an economic analysis of the switch from the current system to the Unitary Patent (UP) and Unified Patent Court (UPC), based upon economic reasoning, a review of past

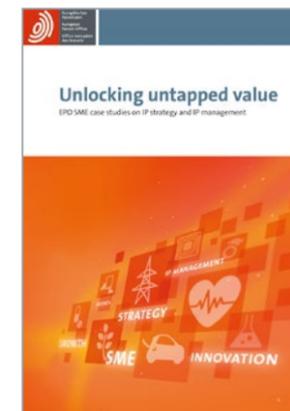
literature and a survey of patent users. Its high-level findings concluded in particular that the Unitary Patent is expected to deliver an overall benefit to patent users.



### Development and deployment of climate change mitigation technologies: evidence to support policy making (May 2017)

In co-operation with the International Renewable Energy Agency (IRENA), the EPO produced this policy brief on the latest trends in

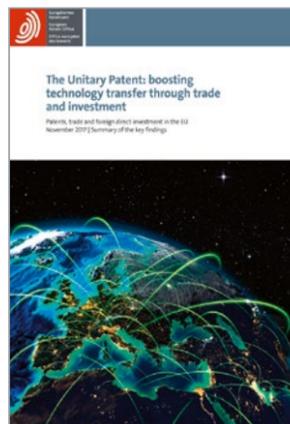
climate change mitigation technologies (CCMT) innovation and dissemination with a focus on renewable energy technologies. Among the main findings, the report found that patents support the deployment of CCMTs and that most innovation takes place in the energy sector, with renewables driving the growth. In addition it identified that inventive activity in CCMTs is mainly concentrated in a few regions of the world but diversity of inventor countries is growing.



### SME Case Studies (September 2017)

These 12 case studies on European SMEs highlight the variety of ways in which patent protection can be employed by businesses. Based on extensive interviews with senior managers, the studies provided concrete examples of SMEs from 11 different

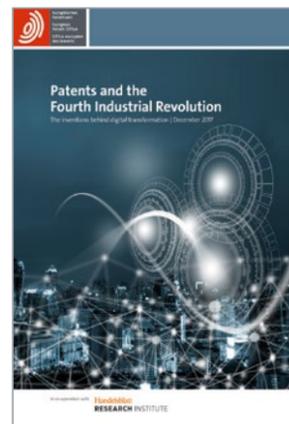
countries across Europe that are active in a wide range of sectors. The studies provide comprehensive accounts of the different ways in which IP is playing an integral role in the development of some enterprises. The examples show how SMEs are using patents as a powerful tool to support their corporate strategy and even, in some cases, as the very foundation on which they build their business.



### Patents, trade and FDI in the EU (October 2017)

Carried out by a team of economists from the EPO, University of Colorado Boulder and London School of Economics, this study shows that while patents have a positive effect on trade and

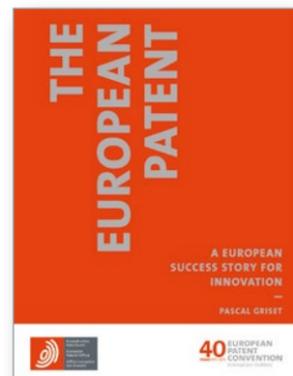
foreign direct investment (FDI) in Europe, their impact is currently hindered by the lack of truly barrier-free EU-wide patent protection. The study assessed the role of the European patent system in supporting the circulation of inventions through trade and FDI in the European Single Market. It found that patent protection had a positive impact on exports and FDI in innovative industries. However, the study also shows that the current fragmentation of the European patent system after a patent has been granted by the EPO creates barriers to the circulation of patented inventions within the EU. The Unitary Patent will address this and other shortcomings, and is expected to facilitate technology transfer through trade and FDI within the EU, particularly in countries currently less attractive for patent owners.



### Patents and the Fourth Industrial Revolution (December 2017)

In co-operation with the Handelsblatt Research Institute, the EPO published a first landscaping study to assess the emergence and development of technol-

ogies to the digital transformation process, frequently referred to as the Fourth Industrial Revolution (4IR) or Industry 4.0. The study shows that 4IR innovation is accelerating and growing more interdisciplinary due to the fact that it is driven by connected objects, data and software. Thanks to our well-established, rigorous and transparent examination practice regarding computer-implemented inventions (CII), the EPO is well prepared to address the patentability of 4IR inventions under the applicable European patent law. The study is a prime example of how the EPO's information and expertise can help to shed light on a contemporary issue that will need to be addressed by the international patent community and policy makers.



On the occasion of the **40th anniversary of the European Patent Convention**, the founding treaty of the EPO, the Office commissioned a book under the authorship of Prof. Pascal Griset, tracing back the origins of the European Patent system and its successful development over four decades.

# Conclusion

The reform of the EPO that occurred from 2010 until 2018 has been a story of extensive modernisation. The changes have enabled the EPO to progress across a number of key areas, which have delivered benefits to the EPO's users, its staff, its member states and to inventors everywhere. With a clear mandate to reform the institution, the management and the staff of the Office have worked hard to improve the quality of EPO services, to increase the efficiency of the Office and to better control costs, in order to ensure its long-term financial sustainability. The Office is accordingly perceived as a modern institution, attracting talents from all over Europe.

The EPO's modernisation was a proactive response to the challenges of an increasingly global patent system, including the arrival of new actors in innovation and the increased complexity of the patent application process. New partnerships have been proposed and new tools and standards have been developed to help simplify the patent system. Within the European Patent Network, a dynamic and fruitful co-operation with EPO member states has been carefully cultivated and enhanced. As a result of these actions, the EPO has cemented its role on the global stage as a leading force and is acknowledged as the voice of Europe for patents in multiple international fora.

There are still areas where more progress can be achieved but the Office is now grounded on a much more solid basis than it used to be and is ready to face new challenges. For example, the EPO, along with many other organisations, will have to absorb the impact of the Fourth Industrial Revolution and artificial intelligence. These have already had a profound effect on our way of working, increasing the capacity and performance of IT at a pace that has never been experienced before. They will also certainly create new challenges as much as new opportunities, but the Office is now better prepared to exploit or manage those changes accordingly.

With the upcoming implementation of the Unitary Patent, Europe will be better integrated, rendering its innovation market more attractive and facilitating access to European SMEs and universities. Thanks to its transformation, the EPO will continue to occupy a central role in this new era for patent protection in Europe and will continue to play its part in the successful development of the European economy.

# Milestones

2010 - 2018



**2010**  
Benoît Battistelli takes over as EPO President.



**2011**  
Implementing the quality and efficiency strategy: the Office launches five roadmaps with the aim of building a solid basis for the future.

**2011**  
Memorandum of Understanding on closer co-operation signed by President Benoît Battistelli and OHIM President Antonio Campinos in 2011



**2012**  
The EPO's new machine translation service, Patent Translate, removes language barriers to patent information.



**2014**  
President Benoît Battistelli and Prime Minister of the Netherlands Mark Rutte jointly lay the foundation stone of the New Main building in Rijswijk.



**2013**  
Staff and guests from around the world celebrate 40 years since the signing of the European Patent Convention. President Battistelli and Lord Mayor of Munich, Christian Ude inaugurated Bob-van-Bentham-Platz in front of the Isar building.



**2016**  
Around 350 stakeholders took part in the first Social Conference in the history of the EPO, following the publishing of three reports on the situation of the EPO.



**2015**  
Morocco becomes the 1st country for which patent protection can be obtained on the basis of a European patent application through a validation agreement. (President Battistelli, Morocco's Minister of Industry, Moulay Hafid Elalami, and OMPIC Director General Adil El-Maliki)



**2017**  
The EPO's quality management system has been re-certified under ISO 9001 (Frank Graichen, Managing Director of the external certification authority DQS, President Benoît Battistelli)



**2018**  
Delivery of the New Main in The Hague

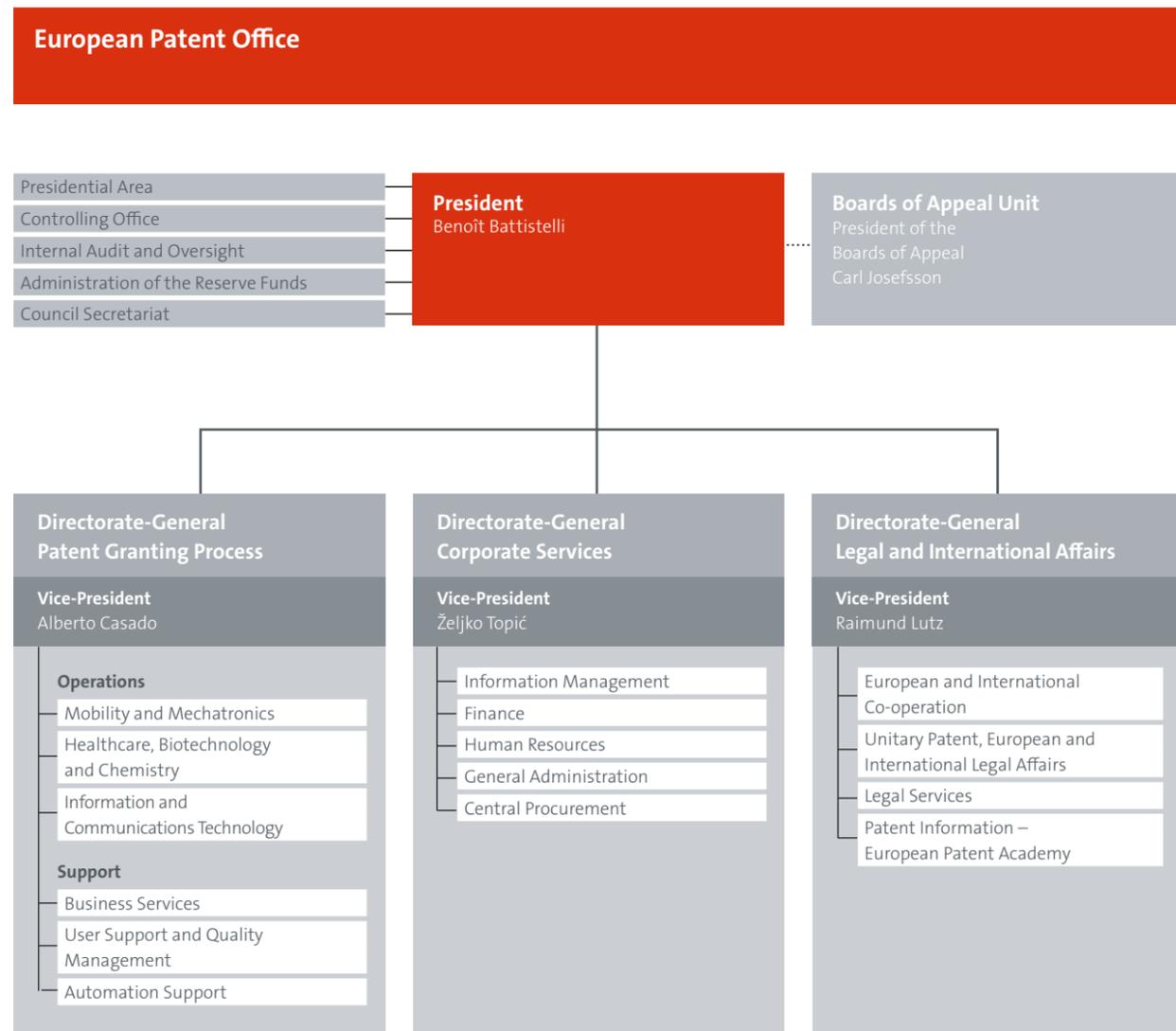


**2018**  
In 44 countries – 38 European member states, two extension states and four validation states, covering an area with over 700m inhabitants – patent protection can be obtained simultaneously with a single European patent application.

2010	2011	2012	2013	2014	2015	2016	2017	2018
<p><b>Strategy</b> Audits on EPO's finances and IT tools</p> <p><b>Co-operation / IT</b> EPO and USPTO agree to launch CPC</p> <p><b>HR</b> Definition of a social agenda with the Central Staff Committee</p>	<p><b>EPO</b> Launch of the Quality and Efficiency strategy and the five key roadmaps</p> <p><b>HR</b> Part-time home working</p> <p><b>Buildings</b> Security Programme</p> <p><b>Co-operation</b> Launch of the Tegernsee process on patent law harmonisation</p>	<p><b>Patent Granting Process</b> EU Member States give to the EPO the responsibility to administer the Unitary Patent</p> <p><b>Co-operation / IT</b> Launch of Patent translate services</p> <p><b>HR</b> Code of conduct; Anti-harassment policy; Internal appeal system; Outsourcing policy</p>	<p><b>HR</b> Well-being measures; Strike regulations; Investigation guidelines; first Social report</p> <p><b>Buildings</b> Selection of the project of Jean Nouvel and Diederick Dam for New Main in The Hague</p> <p><b>IT</b> Launch of New Epoque (search engine); automation of communications issued by patent examiners</p>	<p><b>Patent Granting Process</b> Launch of the Early Certainty pilot</p> <p><b>Quality</b> ISO 9001 certification for EPO's Quality Management System</p> <p><b>Co-operation / IT</b> EPO and SIPO launch Global Dossier</p> <p><b>HR</b> Social democracy; Salary adjustment method; Career and performance system</p> <p><b>Buildings</b> Stone laying ceremony for New Main in The Hague</p> <p><b>IT</b> Launch of CMS – online filing</p>	<p><b>Patent Granting Process</b> Backlog of pending products starts its sharp decrease</p> <p><b>Quality</b> ISO 9001 certification for entire "end-to-end" patent granting process</p> <p><b>Co-operation</b> First validation agreement with Morocco; IP5 Patent Prosecution Highway (PPH) pilot programme</p> <p><b>HR</b> Sick leave and incapacity scheme reform; launch of the discussions on the recognition of trade unions in the EPO's legal framework</p>	<p><b>Patent Granting Process</b> Reform of the Boards of Appeal</p> <p><b>IT</b> Implementation of PCT Paperless service</p> <p><b>HR</b> Healthcare insurance scheme; Social Study; First Office-wide Social Conference</p> <p><b>IT / Buildings</b> Reinforced security programme for IT and buildings</p>	<p><b>Patent Granting Process</b> Amendments of the provisions on patentability of biotechnology</p> <p><b>Quality</b> ISO recertification; first Quality report</p> <p><b>Co-operation</b> Validation agreements with Tunisia and Moldova enter into force</p> <p><b>IT</b> Patent Translate introduces "neural machine translation" (NMT)</p> <p><b>HR</b> Internal justice system reform (appeal, disciplinary, ethics and compliance)</p>	<p><b>Patent Granting Process</b> Implementation new DG patent granting process</p> <p><b>Co-operation</b> Validation agreement with Cambodia enter into force; PCT-related fee reductions</p> <p><b>HR</b> Employment framework and contract policy</p> <p><b>Buildings</b> Delivery of New Main in The Hague</p> <p><b>IT</b> e-dossier for search</p>

# Structure

## of the European Patent Office



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