Orientation paper: EPO Observatory

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1. Introduction

Lying at the heart of any patent system is an inherent contract: the applicant to whom the patent is granted receives legal protection in return for making the invention public. This simple tenet underpins not just the European Patent Convention (EPC), but the very mission and operations of the European Patent Office (EPO). The EPO is on the one hand built on a first-rate patent granting process that provides applicants with high quality patents. On the other, resources have been devoted to building world class databases of patent information and making it freely available to all those who wish to foray into the world of patent information.

But the world of patent information is also an expanding world. With the global increase in applications, prior art and the associated patent data has increased exponentially. In response, the EPO has persevered in providing patent information by striking agreements with partners around the world to ensure the collections remain up to date and complete. New tools such as Espacenet 2.0 have also been developed to ensure that the information is retrievable and accessible.

This relentless focus on patent information has proved decisive for the EPO in fulfilling its mission. It has helped the EPO ensure that the quality of its products remains high, and that search products, for example, remain one of the jewels in the EPO's array of services. At the same time, it has also made sure that patent information continues to be readily available to the public. Researchers, scientists and inventors have been able to look at prior art and take the next inventive step. In taking those inventive steps, innovators have pushed society forward on a journey that has continually advanced the state of the art. The combination of prior art and bright minds has delivered breakthrough after breakthrough in developing solutions to some of society's most pressing issues. At the same time, it has been possible to model data and analyse patent information to gain strategic insight on trends and developments in innovation. Businesses have been able to use such data to take effective strategic decisions in pursuit of economic growth.

In recent years, the EPO has sought to capitalise on new possibilities by shifting its focus from providing patent information to patent knowledge. In undertaking this change, the EPO has aimed to provide greater understanding of how patent information and patents in general can be leveraged to the greatest extent possible and deliver the greatest possible impact. The EPO's Chief Economist Unit, for example, has ramped up production of ground-breaking studies that provide valuable insight into innovation trends and support effective policy decisions. Similarly, the PATLIB 2.0 programme has sought to increase the capabilities of the PATLIB network in helping small and medium-sized enterprises (SMEs), universities and researchers understand how patents and patent information can drive growth. Major conferences have also taken place to debate game-changing technologies.

Altogether, these measures have helped to leverage the power of information and to foster general debate on topical issues across the patent landscape. Over its lifetime, the EPO has gradually moved from simply providing data, to using its vast information and knowledge resources to break open topical subjects, such as plastics technologies, additive printing, blockchain technology and artificial intelligence.

However, our understanding of the latest trends and developments in the innovation ecosystem has been informed by a collection of individual initiatives by the EPO and other actors. A benchmarking exercise carried out by the EPO has revealed that while the EPO produced some 105 "products", (studies, reports and articles), there was still great scope for promoting and exchanging on this knowledge. Furthermore, while some institutions carry out knowledge exchange activities, the fact

remains that there is no central focal point, no permanent network or structure that exists in which the expertise of multiple stakeholders from across Europe can be brought to bear in assessing the phenomenal patent information that exists. There is still great scope for a specialised forum in which representatives from across the whole innovation system can launch a fulsome dialogue based on deep analyses of patenting trends.

The current absence of such a structure lies in direct contradiction to the EPO's current strategy. In SP2023, the EPO put in place five strategic goals which ultimately aim to achieve not just a more sustainable institution, but also a more sustainable patent system. From the injection of new talent in Goal 1 to efforts to reinforcing governance in Goal 5, the EPO's Strategic Plan is about implementing measures that will make sure the EPO is there to serve its users effectively in the long term. It is about working with stakeholders from across the innovation system to plan ahead and deliver benefits long into the future. In doing so, the EPO aims to ensure that subsequent generations have an EPO and patent system that are effective and powerful.

Yet this will be increasingly hard without a suitable forum in which to debate future evolutions in patenting activity. The fact that there is no *inclusive* platform is also notable. The Strategic Plan has underscored that effective action can only be achieved by engaging with stakeholders across the innovation spectrum. The innovation ecosystem is a complex and rich web of players specialised in an array of activities. Without their input and feedback, it will be increasingly difficult to understand the many complexities of the European innovation system, let alone develop measures to support it.

Furthermore, the EPO has an institutional responsibility to actively encourage debate. Data may be objective but its interpretation is often subjective. As a European institution founded on European values and ideals, the EPO is committed to ensuring that we draw strength from a plurality of views and to understanding the different ways in which data can be interpreted – especially at a time when debate on some subjects in society has been led by polemics and unverified information.

The EPO is therefore proposing the creation of a dedicated and unique patent Observatory. The Observatory will contribute to a deeper, more comprehensive understanding of important issues related to the future of innovation and technology and of their impact on the patent system. In turn, this will help the EPO, the European Patent Network and civil society to anticipate developments and address future challenges. The output of the Observatory will be discussion and debate based on analyses and studies, the subjects of which can be proposed by the stakeholders. When it comes to participation, the underlying ethos of the Observatory will be *driven by expertise, yet accessible to all.*

This orientation paper is the outcome of an initial exchange of views with member states on the creation of the Observatory. In addition to delving deeper into the background, the paper builds on feedback received at the annual meeting on co-operation held in May 2021. It outlines a potential structure for the Observatory's organisation, including different streams: technology and innovation, legal and innovation policies, diversity and transformation. In turn the organisation of the Observatory will aim to fulfil the principle underpinning the project: a fact- and evidence-based approach, transparency, traceability of information generated in the discussions, diversity, inclusiveness, collaboration, and subsidiarity.

Conceived as a dynamic platform, it will bring together the information and knowledge produced by the EPO, add value by consulting stakeholders and facilitate exchange with civil society. The Observatory will provide the EPO and its stakeholders with insights into developments in the

innovation sector and patent landscape. Capitalising on this knowledge, the EPO and its partners will be in the position to better respond to present challenges, anticipate change and take measures leading to economic, social and environmental progress.

2.   Patent information at the EPO

As the authority responsible for the search and examination of European patent applications, the EPO has always understood the importance of patent information as a central pillar of the European patent system, a global flagship for quality and legal certainty. Throughout its life, the EPO has therefore expanded its patent information capacities by forging agreements with partners around the world to obtain patent information. It has built advanced databases to house the data and tools it makes available. It has developed networks to support its patent data efforts, set up intelligence units to produce landmark studies that provide decision-makers with insight and maximised outreach efforts to raise awareness on patent information.

2.1.   Assets and resources

2.1.1.   Leading tools and databases

In the course of its lifetime, the EPO has dedicated resources to building a world-class database of patent information and a host of patent tools and networks. The EPO is the sole office in the world to provide free access to databases containing over 130 million patent documents – the oldest dating back to 1782. Launched in November 2019, the current version of **Espacenet** contains 1.5 billion technical records and is currently used by 690 000 visitors/month. With this tool, users can, for example, search and find patent publications, access machine-translated patent documents, track the progress of emerging technologies, find solutions to technical problems, and see what their competitors are developing. All of our patent information services – from Espacenet to more advanced subscription products such as GPI or PATSTAT; or even our linked open data and bulk data collections – are all designed to support our users, promote innovation and foster the growth of an IP-driven economy.

2.1.2.   The power of networks and co-operation

Beyond building the world's largest collection of patent and non-patent literature and developing cutting-edge tools to exploit it, the EPO has also co-operated with partners across Europe to create dynamic patent information networks. These networks have helped the EPO both to obtain information and to disseminate it.

Since 1990, the EPO has been active in supporting and fostering the growth of the **PATLIB network**. Currently, the network spans around 330 centres offering IP-based advice and services to local industry, SMEs, researchers and individuals. In 2019, at the PATLIB Summit in Porto, Portugal, the EPO and the PATLIB centres decided to revamp the PATLIB network. The outcome was a list of recommendations to bring its patent information centres to the next level within the framework of the PATLIB 2.0 project. This project is part of the EPO's Strategic Plan 2023 and aims to build a digital community that shares knowledge effectively and supports businesses across Europe with best-in-class expertise. Through this project, the EPO champions a commitment to enhancing the economic and societal value of patents.

On top of its **Standing Advisory Committee (SACEPO)** and its working parties, which have recently been expanded in terms of their scope and geographical coverage, the EPO co-operates closely with well-established and renowned networks of patent information professionals. Together with the Patent Documentation Group and with its member states through the European Patent Network, the EPO has participated in several projects and initiatives to collect and disseminate patent data and information. Flagship projects include the quality-at-source initiative to improve the quality of incoming patent applications, and the Federated Register, which provides a single point of access to reliable post-grant- bibliographic and legal status information on European patents.

On the global stage, the EPO is also an active member of other top intellectual property forums – the **Trilateral and the IP5** – created together with the world's leading IP offices (CNIPA, JPO, KIPO and USPTO) and WIPO. With these partners, the EPO has actively led the design and implementation of multiple joint projects and initiatives to improve global access to and outreach of patent information. These include the common citation document and the landmark Global Dossier initiative, which were both developed with the strong support of the Trilateral and IP5 Industry, including the user association BusinessEurope. As the leading International Search Authority (ISA) under the PCT, the EPO has also co-operated closely with WIPO to develop policies and standards that facilitate access to and dissemination of patent data, in addition to improving its quality and harmonisation.

Internal networks within the EPO have also been developed and have played a key role in assessing and discussing the availability of high-quality patent data and the use of tools. Following the spread of computer-implemented inventions (CII) to many areas of technology, the EPO set up its internal **CII network**. Today, the network includes patent examiners from all relevant technology areas, as well as legal experts, who contribute to harmonising examination practices, drafting the EPO Guidelines for Examination and producing comparative studies with other patent offices. More generally, their work is complemented by input from the **Continuous Knowledge Transfer (CKT)** network, which started as a bottom-up, collaborative initiative providing peer-to-peer knowledge. Today, the network is a key part of learning and development activities for examiners and formalities officers, hosting hundreds of events each year that help staff to work even more efficiently and contributing to the development of tools and databases.

2.1.3. Business intelligence

To maximise the potential added value of its cutting-edge patent data, the EPO took several measures in the context of SP2023, including the creation of a **Chief Business Analyst Unit**. With responsibility for a portfolio of business intelligence products, the unit was set up primarily to support the EPO in increasing predictability when planning its core search and examination tasks, as well as allocating budgets and resources.

In addition, the Chief Business Analyst Unit also provides stakeholders with reliable, up-to-date patent statistics that can help business leaders and policymakers to take better informed, evidence-based decisions. To improve the outreach and visibility of this information, the EPO has also developed online platforms and tools including the EPO data hub app and the EPO Patent Index. Both are freely accessible via the epo.org website, bringing a wealth of on-demand information to the fingertips of users on modern platforms.

2.2. From patent information to patent knowledge

While patent information is a powerful resource in itself, it is the understanding of that information and how to use it that stands to have the greatest benefit on our society. As such, the EPO has concentrated its efforts on moving from patent information to patent knowledge. This is a change that aims for users to leverage the greatest possible impact from patents.

In addition to shifting the focus of networks such as PATLIB, the EPO has ramped up its patent knowledge and intelligence through the release of in-depth reports, produced by the EPO's Chief Economist Unit (CEU). In recent years the CEU has built a reputation as a highly respected IP think tank producing insightful studies on topics related to intellectual property rights (IPR), and particularly patents. The CEU's studies on IPR-intensive industries, commercialisation and the economic impact of patents, along with its landscaping reports on major technology trends, partly produced in partnership with renowned research centres and international or European organisations/agencies, have become a benchmark for scientific and economic studies on IP. Supported by broad communications activities, the reports have provided a wealth of information on developing trends for businesses and policymakers alike, thereby supporting sound and informed decisions.

In parallel, the EPO's Patent Knowledge team has a wealth of experience in the field of analysing and visualising large patent data sets to generate business intelligence. With reports focused on future emerging technologies (FET-a), its patent analytics studies provide detailed data sets and key insights into new, high-potential technologies. The reports are designed to offer a snapshot of these technologies, taken in the light of publicly available patent data.

In recent years, the EPO has therefore redoubled its efforts to communicate on patent knowledge, with the aim of generating as much awareness as possible, and to spread that knowledge. The EPO has sought to share the findings of its studies with a wider audience, using a variety of channels such as podcasts, social media, video and other forms of digital media. When the EPO-IEA study on patents and low-carbon energy technologies was released in April 2021, the report generated 126 tier-one media clippings and reached 117 000 users on social media. Similarly, the campaign for the EPO's *Patents for Tomorrow's Plastics* generated a total of 401 media reports and reached 65 000 users within just two weeks of release.

In addition, the EPO has sought to leverage the power of a devoted communications network comprising communications representatives from the national IP offices of the European Patent Network. Since the launch of the Communication Correspondents' Network (CoCoNet) back in 2013, the communications teams of the EPC contracting states, the EPO, the EUIPO and the CPVO have regularly co-operated to convey more impactful messages to larger segments of society. The network leverages the power of communications professionals within each IP office to amplify communications across the EPO. Its work expands the reach of communications messages and products, with the national IP offices best placed to communicate with stakeholders in each individual member state.

2.3. Lessons learnt and future opportunities

The progress made in making patent information and knowledge available has therefore been considerable. But as with all journeys, there is always room for improvement in the light of lessons learnt. The EPO is an organisation based on feedback loops and a commitment to excellence and constantly evaluates opportunities for improvement.

On that basis, the EPO set up a specific programme under its Strategic Plan to prepare for a possible observatory. This programme consisted of four stages: benchmarking, conceptualising content, organisational impact and implementation. The objective of the benchmarking study was to map the wealth of knowledge products generated by the EPO ("internal mapping"), and to understand better the activities and governance of other observatories elsewhere ("external benchmarking").

Aside from mapping some 105 EPO knowledge products, the benchmarking exercise revealed that an observatory could deliver a number of advantages: firstly, it would allow the EPO to deliver its knowledge products to stakeholders in a more harmonised manner; secondly, such harmonisation would help ensure access to knowledge products for stakeholders; and, thirdly, a more efficient approach could lead to exchanges with a wider range of external stakeholders. In terms of external benchmarking, some 25 other observatory-like entities were researched, though there is no common definition of what an observatory does or should do, and they different greatly in both their structure and the scope of their activities.

The EPO's own experience also shows that addressing a number of other, more specific issues would generate benefits for users. The focus here is on understanding the diversity of the innovation ecosystem, enhancing mapping and visualisation of data to support policy makers, producing more user-friendly and accessible information, and enhancing outreach efforts.

Understand the diversity of the patent system – Innovation ecosystems are highly diverse and need to be better understood when providing insight. For example, there are substantial differences in the nature and lifecycles of technologies. In addition, there are differences in how IP rights are used to secure investments, enable collaboration and commercialise innovative solutions. These need to be better understood in order to demonstrate the transformative role played by IP rights. Generating actionable insights on the use of patents – especially by academia and SMEs – therefore means delving deeper into the microeconomic contributions made by the various societal and economic sectors, and IP's role in catalysing technology transformations.

Support effective decision-making – Political leaders and institutions increasingly face demands for action on pressing challenges such as climate change and global health issues. Innovative solutions are part of the answer. Promoting innovation can accelerate society's progress towards a more sustainable future, as set out by the United Nations in its 17 Sustainable Development Goals (SDGs). Going forward, the focus will be on leveraging patent intelligence to give public and private sector leaders the tools they need to make smarter decisions that help emerging technologies thrive. In practice, this will mean enhancing patent data mapping and visualisation to:

- provide stakeholders with accurate, cutting-edge insights on emerging technologies that allow them to steer their R&D efforts beyond the state-of-the-art
- gain a deeper understanding of existing technologies and their ecosystems to promote new ideas and solutions
- enable targeted, high-impact private and public funding
- foster commercial partnerships aimed at bringing innovative and sustainable technologies to market, potentially with a geographical mapping of the key actors in the relevant technology within local ecosystems.

Provide user-friendly and accessible information – Related to mapping and visualisation, producing high-impact patent information also hinges on making the technical information displayed in patent applications more user friendly and accessible. Despite the considerable progress in the

fields of patent information and patent knowledge, and past efforts to raise awareness of IP rights in recent decades, the actual usage of studies and findings remains limited to specific industry sectors and groups, i.e. large and multinational enterprises or IP specialists in high-GDP countries. Entities such as universities, research centres and SMEs, and likewise individual inventors, are still in the process of coming to fully understand how patents can help them to commercialise innovative solutions and recoup R&D investments. This is largely due to the legal complexity of the patent system, and IP systems in general, and to post-grant patent costs, mainly associated with litigation, technology funding and commercialisation bottlenecks.

The challenge is to reach out to specific groups and professionals – such as youngsters, scientists, investors – who are not familiar with the technicalities of the patent system, and may not even be aware of its potential impact on them. Developing tailor-made approaches can help. Adapting patent knowledge so that it "speaks" to these different groups in a way that is clear and understandable is a crucial first step. Adding interactive features and cross-linking patent data with relevant external information sources is another way to encourage a more diverse group of individuals to participate in innovation.

Enhance communication – New products and communication channels need to be exploited further to reach out to broader audiences with more targeted messaging. Multimedia products and digital channels have proven effective tools for conveying complex messages in an engaging way, while social networks have democratised dissemination of these messages and enhanced innovation-related communication.

The EPO's European Inventor Award – along with the Young Inventor Prize to be launched this year – will also play a vital role in raising the profile of individual innovators. Both initiatives have significant multiplying effects in terms of communication. In the future, they will feed into the work done by the Observatory, notably in terms of reaching out to scientists and the younger generations.

Raising awareness of IP across Europe, however, is a challenge that calls for a joint response. Building on the shared understanding that national offices are best placed to communicate at the local level with tailored messages, CoCoNet has proven an excellent forum for conceiving and implementing joint Europe-wide campaigns for the Observatory.

3. The Observatory: new horizons for patent knowledge

Building on the EPO's past experience, and the lessons learnt from it, there is now a tremendous opportunity to put in place a new entity that is better placed to unlock the true potential of patent information. With the right structure and support, the EPO's unrivalled collection of patent data and information can be combined with stakeholder input and expertise to deliver the next generation of IP knowledge, one that is better suited to serve all actors in the innovation ecosystem. Talents from the European Patent Network are invited to play a far-reaching role in this transformation.

The EPO therefore plans to create a patent observatory. This Observatory will organise and mobilise a network that brings together multidisciplinary skills and IP expertise to foster innovation right across Europe and build a stronger European patent system. By involving stakeholders in a holistic, inclusive debate, the Observatory will identify ways in which the patent system can develop further in order to stimulate innovation, economic growth, employment, competitiveness and sustainable development.

In line with its guiding principles, the Observatory's activities will be driven by debates based on accurate, impartial and verifiable information. It will aim to help build a sustainable future for innovation by broadening the patent ecosystem's outreach and enhancing access to IP and technology-related knowledge.

The Observatory will also evaluate its activities by monitoring their impact and identifying gaps both in patent and IP-related knowledge and in the understanding of complex technological concepts. This monitoring process will feed into the EPO's patent knowledge services, helping them to evolve into advanced patent intelligence services that include enhanced mapping and visualisation of existing technological solutions.

By bringing together a diverse range of views, perspectives and expertise, the Observatory will aim to:

- **Improve** the understanding of technologies and technological landscapes via the mapping and visualisation of patent and non-patent literature and related data
- **Transform** patent information into patent knowledge and a deeper understanding of the evolving needs of EPO stakeholders and the public in terms of data-based evidence and specific knowledge, CEU studies, etc.
- **Share** innovation-related knowledge and best practices
- **Disseminate** knowledge, in particular through wider access to expert debates and exchanges
- **Raise awareness** of innovation and patents and its contribution to sustainable development
- **Drive** innovation with better decision-making
- **Contribute** to shaping a patent system that is smarter and more sustainable
- **Create** impact (multiplier effect) and foster new ways of thinking
- **"Connect the dots"** between the different stakeholders developing innovative solutions or impacted by technology-related developments.

3.1. Building a diverse, inclusive network with a broader outreach

The Observatory will bring together experts from the European Patent Network and from across civil society, including from the public and private sectors, industry and academia at the national, pan-European and international levels. A non-exhaustive list of parties from the public sector that could be involved or interested in participating in the Observatory's activities includes representatives of the EPO's governing bodies, or individuals nominated by them, and of European and international organisations.

The Observatory will facilitate the participation of organisations with specialist knowledge that can provide momentum, expertise and credibility in areas of competence such as:

- **Innovation-related finance**: European Innovation Council (EIC), European Investment Bank (EIB), European Investment Fund (EIF), European Institute of Innovation and Technology (EIT) and Organisation for Economic Co-operation and Development (OECD)
- **Energy**: International Energy Agency (IEA), International Renewable Energy Agency (IRENA) and Energy Community
- **Public health**: European Medicine Agency (EMA) and World Health Organisation (WHO
- **Digital technologies and technical standards**: European Committee for Standardization (CEN), European Committee for Electrotechnical Standardization (CENELEC) and European

Telecommunications Standards Institute (ETSI), Institute of Electrical and Electronics Engineers (IEEE) and International Organization for Standardization (ISO).

In terms of the private sector, the Observatory will feature experts from international, European and national bodies and associations representing both a broad range of fields, including economics, finance and research, and a broad range of IP and innovation stakeholders. The public sector will be represented by a balanced range of experts from non-governmental organisations and non-profit service providers. Members will be selected according to criteria to be developed on the basis of the Observatory's guiding principles (see below).

Public bodies promoting innovation and technology transfer, institutions involved in research or IP education, science parks and innovation centres, as well as entrepreneurs, individual inventors, and start-ups, will also be invited to share their perspectives and best practices in the context of stream-based initiatives.

3.2. Guiding principles

The following principles will guide the Observatory's work:

- **Evidence-based approach drawing on clearly sourced data:** the Observatory's debates will be underpinned by reliable, up-to-date patent data that can help business leaders and policy makers to take better informed, evidence-based decisions. Clear sourcing of data will make it fully traceable, creating a solid, scientific foundation for discussions based on hard facts.
- **Transparency**: By creating a digital space open to all innovation stakeholders, the Observatory will showcase the full range of the EPO's patent knowledge activities, making them more accessible to a non-specialist audience with regular, clear reporting.
- **Diversity**: Open to all stakeholders – regardless of their geographical origin, gender or age – the Observatory will break down any barriers, creating scope for a broader, richer IP debate.
- **Inclusiveness**: The Observatory will invite both supporters and opponents of the patent system to share their views and will welcome participants from all corners of the innovation community. It will aim to strike the right balance between involving a broad range of participants and ensuring the optimum number in terms of efficiency and the ability to achieve its goals.
- **Collaboration:** By working closely with the EPO's member states and user associations, as well as a whole range of private and public sector players, the Observatory will aim to bring stakeholders together to raise overall awareness of IP's potential benefits.
- **Creating synergies:** Building further on the collaboration principle, the Observatory will ensure that its co-operation with other stakeholders produces a combined effect that is greater than the sum of the effects of their individual activities.
- **Avoiding duplication of effort:** The Observatory will avoid duplicating the efforts of other stakeholders in carrying out its activities. Its focus will remain on creating added value and a structure that is unique in its position to offer capabilities beyond those that are found in the present innovation ecosystem.
- **Subsidiarity:** The Observatory will aim to add value to existing patent knowledge initiatives at a national and international level, and a new dimension to the global IP debate.

4. Dynamics driving the Observatory

4.1. Output

4.1.1. Sharing views and supporting active debate

The Observatory aims to become a centre for disruptive debate and analysis of the European patent system's impact on innovation, competitiveness, economic growth and sustainability. It will set the stage for insightful discussions; create an infrastructure that encourages open dialogue; and provide consultation tools that enable stakeholders to debate topical issues and ground-breaking innovation.

Debate and digital participation will revolve around the three topic-based streams (see section 4.3). Beyond forging a deeper understanding of the patent system, the Observatory will also create knowledge that shapes the future of the innovation ecosystem, evaluate the output of the innovation framework and prompt stakeholders to engage with innovation processes and developments in the patent system. Participants will be invited to topic-based discussions that mark the first step towards developing networks related to the three streams.

Discussions will focus on statistical data, reports and studies produced by the EPO. Studies focused on one or a subset of European Patent Organisation countries may be carried out in collaboration with their national offices to expand the scope of topics and questions that can be addressed, as well as the range of national data sources. By creating a network of such sources, the Observatory will deepen discussions on specific technologies and industries.

The Observatory will also have a role in proposing analyses and reports. It may suggest topics of interest for potential studies and surveys to be carried out by the Chief Economist, Patent Knowledge and Chief Business Analyst units. These studies, or the preparatory work for them, may also be performed by experts participating in the Academic Research Programme. They, in turn, will be complemented by a new series of policy papers by external guest experts, constantly involving more experts in the innovation debate.

Discussions will be organised in formats such as seminars, round tables, TED talks, workshops and conferences, with contributions from the EPO units that produce knowledge. In addition to representatives of the different stakeholders, the Observatory will aim to foster public participation whenever possible, while still ensuring levels of participation that allow for meaningful debate.

4.1.2. Outreach

While debate and discussion may be the primary aim of the Observatory, raising awareness of the findings and the work of the Observatory will be crucial in order to have a positive impact on the innovation sector, in addition to specialist stakeholders.

To broaden its outreach, the Observatory may therefore propose awareness-raising campaigns to be carried out at a European or national level in close liaison with partners and stakeholders. These communication activities will also disseminate the research, evidence and patent-related intelligence produced and supported by the EPO. This in turn will help trigger greater participation.

Drawing on the expertise of the European Patent Academy, the Observatory will also aim to support educational activities, by organising training and developing supporting materials. In this way, the

Observatory will pioneer discussions on complex subjects and, with the Academy's support, it will transform technical, policy and scientific output into transformative learning.

Outreach, participation – and also greater transparency – will be supported by new digital tools. New communication channels will help connect wide audiences. Similarly, technologies associated with the new normal, such as virtual conferencing facilities, will support a greater degree of participation, regardless of geographic location. New digital tools specifically designed to promote information sharing will also be used to facilitate a seamless exchange of information between stakeholders and to support other forms of input such as calls for interest, calls for evidence and consultations.

4.2. The structure

In recent decades the EPO has built up and strengthened multiple networks involving various stakeholder groups. Past experience shows that expertise often gets trapped in pockets of small groups or subject-based fora pursuing highly specific objectives within a certain mandate. The EPO has supported these networks with relevant data-based insights and evidence in the past and will continue to do so in the future. However, the Observatory provides an opportunity to create a more expansive network under one umbrella. This will give all interested stakeholders more seamless access to data-based insights and patent knowledge, acting as a gateway to a more inclusive, sustainable and transparent patent system.

The Observatory will adopt a lean and agile approach, dedicated to learning from its experiences in order to improve. Adapting constantly to today's fast-changing business environment, the Observatory will also keep a finger on the pulse of innovation. By bringing together IP's brightest minds in challenging projects that embrace radically new ways of tackling problems, the Observatory aims to have a tangible positive impact on the innovation ecosystem.

People – IP thought leaders with bold ideas – will be the driving force behind the Observatory. Beyond drawing on the EPO's rich pool of internal talent, the Observatory will also issue calls for national experts to join the Observatory on secondments. In line with its guiding principles, the Observatory will aim to ensure broad geographical and sectorial coverage, bringing multidisciplinary expertise to bear on problems discussed by groups of individuals from different backgrounds, age groups and countries.

The Observatory may recommend studies and surveys to be carried out by the EPO or in collaboration with other organisations, as well as awareness campaigns to benefit the IP and innovation community. A board representing its different stakeholders will be set up to define and prioritise these recommendations.

Primarily, however, the Observatory will operate as a **digital hub** offering access to patent knowledge (pull) and conducting regular outreach activities (push). A digital library of relevant materials will be hosted on a special section of epo.org. Thanks to digital videoconferencing technology, discussions will contribute to environmental sustainability and reinforce collaboration across borders and technical sectors.

By holding them online, participation in Observatory meetings will be scaled to enable meaningful and focused exchanges. Digital conferences will be organised using a modular approach, based on "hot topics" emerging from the streams. A physical plenary will be convened during the EPO's campus week and in-person events will be organised as and when the need arises. Some Observatory sessions will also be opened up to the general public via digital conferencing platforms.

The Observatory will prepare a **biannual work plan** to ensure a multidisciplinary approach to the most relevant innovation and patent-related issues. A yearly overview of its activities will be presented to the TOSC and the Administrative Council and published as an annex to the EPO's Annual Review.

4.3. Start-up streams

In its start-up phase the Observatory's activities will be organised around three main streams:

- technology intelligence
- legal and innovation policies
- diversity and transformation

4.3.1. Stream 1: technology intelligence stream

In the technology intelligence stream, trends and technological developments at a national, pan-European and international level will be discussed around the following clusters:

- materials and production
- agri-food
- electronics
- health and well-being
- infrastructure, mechanics
- energy
- mobility, space technologies
- digital

As technologies mature and evolve, clusters may be added or reorganised accordingly.

This stream will map critical technology developments (i.e. drivers of ongoing transformations and newly emerging technologies with disruptive potential) and identify their respective pan-European innovation ecosystems, along with their key components.

On this basis, discussions will aim to promote co-ordination and collaboration among the key players to bring innovative solutions to market. Networking discussions will focus on:

- improving skills and knowledge of defining and analysing technical problems and generating potential solutions through horizon-scanning of existing or new technical solutions
- increasing the visibility of market facilitators, intermediaries and the public and private funding available at national, EU and international levels, as well as at the different stages of the innovation cycle
- showcasing best practices in using IP and technical solutions to foster partnerships
- raising awareness of "physical" infrastructures to support innovation such as incubators, accelerators and science parks
- increasing the visibility and availability of public-domain technologies, technologies available for licensing and open data
- creating a platform for exchanges between all key actors in the innovation ecosystem

4.3.2. Stream 2: legal and innovation policies

A second stream revolving around legal and innovation policies will span five areas for discussion. Firstly, patents, patent knowledge and intelligence will be analysed in the context of the broader innovation framework, related economic tools (i.e. public funding and taxation) and branches of the law (i.e. competition law and trade law).

Secondly, patents will be studied in the context of the IP system, with a focus on closely related types of IP right – notably designs – and trade secrets. Thirdly, the legal and innovation policies stream will also provide a forum for delving deeper into legal "hot topics" such as artificial intelligence, biotechnology and genomics. Fourthly, essential legal debates touching upon convergence of practice will also be tackled. Finally, this stream also covers topical issues and debates, such as licensing around COVID-19 technologies or standard-essential patents and focus on "last-mile" considerations in the patent system, such as the tangible impact of legal and innovation policies.

Discussions will draw on the expertise of both internal units and external stakeholders, with patent lawyers and judges' networks playing a key role. The epi, BusinessEurope and legal research centres will also be regularly invited to participate in discussions, with other participants selected according to the topic on the table.

4.3.3. Stream 3: diversity and transformation

The third stream will focus on repackaging the insights generated by the other two streams to make them clear, understandable and accessible to a non-specialist audience. In practice, that means redesigning content in multiple formats to address different stakeholder groups. Overall, this stream aims to:

- increase the diversity and inclusion of under-represented actors in the innovation ecosystem such as women, young people, SMEs, universities and research centres
- expand the younger generation's skills and knowledge in terms of defining and analysing technical problems and generating potential solutions by horizon-scanning existing technical solutions
- raise awareness of the various tools available to secure the results of investments in new products and processes
- make the patent system understandable to non-specialist audiences

Another of this stream's key objectives is to promote sustainable innovation by transforming data on sustainable technologies and patent examiner insights into communications that non-specialists can understand. This will help a broader audience to grasp complex technological concepts related to sustainability.

5. Next steps

Member states and stakeholders are kindly invited to provide feedback on this orientation paper by 4 March 2022.

The EPO aims to submit its blueprint for the Observatory to the Administrative Council for its opinion in June 2022.