Patenting Report Instructions

(Mentoring programme in IPR, patenting and technology offer - MeetIPRhub)

To assist you to complete your Patenting Report (PR), we have prepared bellow additional explanations for each of the questions, as well as, for some more complex questions, additional sub-questions to guide you through your PR.

NOTE: The patenting search is a craft, meaning there is no substitution for the hands-on approach. Learning-by-doing is the key approach, hence this exercise will allow you to hone your skills, whilst working on your own selected case.

You will notice that this Patenting Report (PR) is a bit of a cross-section between different type of reports connected to patents and inventions – this allows you to think about a variety of issues connected to your intellectual asset and the IPR management, in addition to the traditional patent report issues, related e.g. to patentability.

Type	Short description
Novelty/patentability search	Can I obtain a patent for my invention?
State-of-the-art search	What solutions are already known to my technical problem?
Validity search – infringement search	Is this patent valid? Can this patent be legally challenged?
Name search	Which inventions has this individual/company been involved in and/or what patents are owned by this individual/company?
Technology activity search	How has this technology developed over time and who has been involved in its development?
Freedom to operate search	Can I produce and/or commercialize this product in a certain country?
Technology offer	What is the relevant information and how do I present it so that I achieve the optimal offering of my technology to third parties?

For some of you the initial questions will be easy-to-do and will rather focus more on subsequent questions, but perhaps others have not thought about the initial questions, and this will give those participants the opportunity to think about them in a structured manner. The key goal is for you to discover more, and to be able to use the tools available to you (especially also the KnowING Hub), so there is no particular need to think you need to focus on every single question in this document. Indeed, those who have less IP knowledge might want to focus on the initial questions and leave the rest for later. Others might wish to focus more on the latter ones. However, we do urge you to try to think and write answers to as many questions as you are able.

NOTE: Please make sure to always document what you have done. The journey is equally important as the goal – this also allows us to better support you.

Let's turn now to the PR's individual questions.

Question 1: Shortly describe the problem you are solving and how your invention is solving it (i.e. describe your invention in light of the identified problem).

Keep in mind that your invention needs to solve a concrete problem – and that in order to get a patent your invention needs to address a technical problem. When describing your solution (i.e. invention) try to think if it is only one invention, or perhaps you are talking about more than one: e.g. your solution might include answers to more than one problem: e.g. your mechanism to pick something up might be relevant as a part of a technology dealing with paper waste or as part of a solution in robotics in the automotive sector.

Question 2: Following your description above (in Q1), check whether your invention is patentable. i.e., is it an invention being suitable to patent (is it for any reason excluded from patentability, is it a technical invention?)?

There are four basic requirements for patentability: (a) there must be an 'invention', belonging to any field of technology; (b) the invention must be 'susceptible of industrial application'; (c) the invention must be 'new' (novelty) and must involve an 'inventive step" (inventiveness).

For this part we focus only on whether some specific exclusion applies and if the invention is 'technical'. On the exclusion list are items, which are either abstract (e.g. discoveries or scientific theories) and/or non-technical (e.g. aesthetic creations or presentations of information). Computer programs present another challenge in this regard. There are also exceptions to patentability – these are especially relevant to those of you, who might be thinking about inventions related e.g. to surgery, therapy or diagnostic methods as well as those who have inventions related e.g. to exclusions and exceptions for biotechnological inventions. More on both is available from the link on patentability in the "clue". Many of you will have no issue with this; so you can be brief in this answer.

Clue: Sometimes it is better to check the rules/instructions for the patent examiners, then some information for applicants. For example, we suggest checking here: https://www.epo.org/law-practice/legal-texts/html/guidelines/e/g.htm for the more holistic overview on patentability; and here: https://www.epo.org/law-practice/legal-texts/html/guidelines/e/g_ii_3.htm on exclusions, from the EPO Examiners Guidelines. Note that as part of the KnowING IPR training kit we also provide a video on software patents (i.e. computer-implemented inventions), for those participants that would like or need to know more about patents related to IT solutions.

Question 3: From your description above (in Q1), now think about where the novelty and inventiveness are in your invention. What part of your solution is truly new and inventive?

Before continuing you need to first think about the novelty of your invention, since you cannot get any worthwhile IPR for something that is not novel and someone can owns the rights to it, which means you risk having legal action taken against you if you try to exploit it without their permission, since otherwise you might be infringing. Also, think of it in terms of potential market value; since

typically for an invention to have good commercial potential, it needs to be a significant improvement on prior art.

On the other hand you can have a novel idea, that is not particularly inventive – yet it might be very interesting in terms of the market. Here what one needs to be careful that the invention is not so close to something that is known that it would be 'obvious', since then it can be deemed by the patent office that it lacks the inventive step. 'Obviousness' means that it would readily occur to an expert in the relevant technology. In such case, proceeding with a patent application is likely to be a waste of time and money.

Clue: For some basic terminology check some of the KnowING IPR training materials. On the novelty, see for more here: https://www.epo.org/learning/materials/inventors-handbook/novelty/importance.html. For more on the inventive step see here for more: https://www.epo.org/learning/materials/inventors-handbook/novelty/obvious.html

Question 4: Is your invention a process or a product, i.e., is it a process and product invention?

This is a relevant issue, since you want to think about what type of invention is it, since that is also relevant for your decisions of pursuing the patent application or perhaps keeping something as a trade secret. If it is a process patent sometimes there are strong reasons to keep it as a trade secret, similarly so if the reverse engineering is easily accomplished. Furthermore, understanding this, can help you to draft your claims, i.e. the part of the patent document that includes the scope of your patent protection.

Clue: *You can also think about this later on, when you think about the similar patents you will find and what is protected by them – when thinking about this, some simple first clues can be applied; for e.g. typically some words in the claims (or description or the body of the patent) would be connected to either product (e.g. device, machine, material, tool, apparatus, vehicle, compound, composition, substance) or process (e.g. method, process, procedure) patents. Recently, an open access dataset was published with this information by Selinger et al – see here: https://dataverse.harvard.edu/dataverse/product_process_patents.*

Question 5: Now that you have thought about your invention, try to devise your strategy of searching for similar inventions - attempt to perform the initial search – this part is more about the process than the result.

5.1) Focus first on similar inventions covered by patents – find similar patents and describe your journey how you identified them by using the KnowING Hub.

Note there can be different starting points in terms of the database you use, as well as different search strategies. In terms of the database, for this part of the exercise go to KnowING Hub (https://knowing-ipr.fis.unm.si/) search query and complete this part of the exercise. Please register.

Modic et al (2021 – forthcoming) define 5 different search strategies: keyword search, search by using IPC/CPC; two combined strategies with different points of departure, one starting with keywords (more common and appropriate for searching for individual patents) and refining with

adding IPC/CPC categories, and the other starting with IPC/CPC and adding keywords, and using the so-called Y-tags. Each of the strategies has its own benefits and drawbacks.

The keywords strategy can generate significant noise; and the choice of appropriate keywords and the combinations thereof is crucial. Define the keywords too narrow, and you will end up missing relevant similar inventions, define them too broadly and the search will return a lot of results, but these will be riddled with many results that will not be relevant at all.

Patent classification or CPC/IPC searches are less dependent on the concrete terminology used in the patent document and more independent of terminology changes over time.

> ***Clue:*** *Think about COVID-19 and have a look at WIPOs PATENTSCOPE COVID-19 Index at: https://patentscope.wipo.int/search/en/covid19.jsf), where you can see a myriad of expressions used inside the patents related to COVID-19.*

Y-tags were developed due to increasing complexity of innovation and the inventions being cross-sectional. Hence, Y-tags represent general tagging of new technological developments and cross-sectional technologies. They might be especially relevant for those participants, whose inventions are in the field of IT (example also AI) or for example, climate change.

> ***Clue:*** *There have been some major changes with Y-tags recently and many of them are now collapsed together. If you are more interested in this topic, see for more here: https://forums.epo.org/revision-and-changes-on-the-cpc-y-tags-9419.*

In your answer try to address these sub-questions:

5.1.a What was your initial query? _____

5.1.b. How many results did it bring you? _____

5.1.c Which patent classifications (IPC/CPC) categories seem more common?

_____

Then refine the initial query and answer also the following questions:

5.1.d Explain how did you refine the query – in terms of keywords and if you combined it with IPC/CPC? Why (not)? Which classifications did you use? Why?_____

5.1.e How many results did it bring you? _____

5.1.f Now think back, would your patent fit into any of the common classifications? Check the EPO classification (see box below). Solely as a matter of exercise, try to think into which CPC your invention would fit best.

> ***Clue:*** *For this exercise you can see for more here: https://www.epo.org/searching-for-patents/helpful-resources/first-time-here/classification/cpc.html or here: https://www.cooperativepatentclassification.org/index.*

5.2) Which top 5 results in terms of their similarity to your invention did you identify in your first search after you have refined the search? How/why are they important?

5.3) What could your argument be as to why these patents are not problematic in terms of novelty of the potential patent application for your patent? How about in terms of temporal and geographical validity?

6.) In addition to a patent search for already known solutions, perform a product search and a publication check – starting with the tab "web" on KnowING Hub's webpage and with the publication search inside the KnowING Hub.

To claim novelty, the so-called "prior art" includes not only prior inventions included in patent documents, but as European patent office claims: "it can be anything!" Hence, it can be any evidence that your invention is already known: it can be a product on the market, a disclosure via a commercial leaflet, a research article. For this part first check on the KnowING Hub "web" tab and run the search with the publication search inside the KnowING Hub.

Clue: *For more see on prior art here: https://www.epo.org/learning/materials/inventors-handbook/novelty/prior-art.html and here: https://www.epo.org/learning/materials/inventors-handbook/novelty/searching.html*

6.1 Which 'prior art' did you find ? How?

For this do not forget to think back on your Q1 and think about the "problem" you are addressing with your invention. In terms of the product search, remember to thing both about inventions that are similar to your idea (prior art – in narrower sense), as well as those that tackle the same problem but in a different way (so-called 'competing art').

6.2 Did this prior art search change the way you think about your invention and its patentability? Why (not)?

7. Who owns the rights on the created invention?

Ownership depends upon the employment status of the authors of the invention and their use of employer resources but also of the legislation in the relevant jurisdiction. To better answer this question, one should answer to a few questions: what is the source of the funds or resources used to produce the invention? What are the legal provision regulating the relationship between the employer and the inventor and are there any agreement/contract related to the creation of the invention?.

8. Where do you think you should patent – and why? Think about the cost of applying and maintaining the patent – which costs have you considered? If licensing, also think about how you would valuate the patent in terms of its monetary value.

Where you should patent is a two-tier question. One is related to the patenting route and office (please check inside the KnowING IPR training kit the relevant issues). The second is related to where, i.e. which country, you want to pursue your patent in. The latter can be related to your strategy in terms of your production, selling or other strategies, as well as sometimes to where you

might find some competing IPRs, which you need to take into consideration. The issue also relates to predicted costs, hence it is one of the key questions.

The larger the geographical scope, the higher the cost. Think carefully about your key market(s) (which country/countries) in which your inventive product or service can be sold. How much money do you have available for patenting costs, both for applying for the patent and for maintaining it?

A valuation is a written analysis of what is «believed» the value of the technology (so it is not same as pricing!). Be prepared to: a)give it to the other side (i.e. the potential client); b)identify the sources of data; c) modify based on discussions and/or negotiations, both regarding data and the methodology. Do you typically use the 'look back' method? This means you are looking at the licensor cost or licensee replacement cost. Do you typically 'look around'? This means you try to check Industry standards or comparables. Or maybe you 'look ahead' and focus on potential license income or benefit allocations. It is worth also to look into how one might quantify value of «time» and «risk» = «uncertainty». You can look at net present value of discounted cash flow or use some Monte Carlo & decision trees. Think about what you do now, and what you could be doing. Think about where are your usual problem points – also connected to your potential licensees.

Clue: *There is a lot of interesting material related to these issues;* e.g. *Razgaitis: Dealmaking: Business Negotiations using Monte Carlo and Real Options Analysis;*

See also: SingRu Hoe, J. and David Diltz. (2012). A real options approach to valuing and negotiating licensing agreements. The Quarterly Review of Economics and Finance 52 (2012) 322– 332 – for formula and some example calculations .