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Executive Summary

This deliverable summarizes the output of task T9.4, which is dedicated to the management of intellectual properties and rights as well as the patenting activities. It gives an overview on the different ways how to protect ideas, methods and other innovation generated within the project Hydroptics. Then, the actions that are taken to create awareness for IPR management and further trainings on this topic are discussed. Moreover, it presents the methodology for documenting the generated knowledge and how it could be monetized.

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1. Introduction

Managing and protecting the intellectual properties rights (IPR) are important tasks within any research activity. The novel technologies, methods and devices that are developed within Hydroptics could be converted into commercial products or services and, subsequently, help to strengthen Europe's technology sector. This leap in technology must be protected to stay competitive in the global world.

If a new method or technology shall be converted into a commercial product, it is highly recommended to protect the technology or design, it is based on. This prevents other companies from copying the technology without permission, one can expand the technical lead and it can increase the value and strength of a company.

Aside of direct monetarization of IPR, correct IPR management helps the reputation of a person, company, or project. While publishing scientific papers is the preferred way to stay competitive in research, patents and other ways of protecting the generated knowledge can be used similarly as an indicator for ingenuity and innovation. Generating and owning IPR are useful assets for marketing and communication, and they are a helpful tool to convince potential customers or future project partners.

This deliverable gives an overview on how the innovation within this project can be protected, the taken actions to create awareness for this crucial task and how potential legal issues could be solved within the Hydroptics project.

2. How to protect Intellectual Property Rights

Depending on the type of invention, idea or development, different ways are available to convert it into a monetary property. The most well-known way to protect an idea, is to file a patent. In certain cases, however, it might take too long or demand too many resources to file the patent, compared to the loss of the potential turnover, that could be generated through the idea in the meantime. For these cases, one could apply other ways to protect the idea/innovation/developed method. The different requirements and challenges of the available methods suitable for the Hydroptics project are topic of this section and are described in further detail. Additional and more precise information on this topic can be found at <https://intellectual-property-helpdesk.ec.europa.eu/system/files/2021-01/EU-IPR-Guide-IP-in-Europe-EN.pdf>. Aside the characteristics of the individual protection methods, examples for potential application within this European project will be given.

2.1. Copyright

This term describes the rights that creators have over their literary, scientific and artistic works. They include many types of written text, such as poems, novels, newspaper articles, but also computer programs and databases. Examples for artistic works are films, choreographies, paintings, photographs, sculpture or architecture. Similar, technical drawings, and scientific publications are also protected by copyright. While most technical and creative work underlie this protection, it should be pointed out that only the expressed work can be copyrighted, and the idea itself is not included.

In Europe, copyright protection begins as soon as the work is created and it does not require any kind of registration or formality. However, some countries allow voluntary registration/deposit of works protected by copyright, which can be useful in some legal situations. It is common to annotate the work by adding the symbol © or writing the phrase "all rights reserved", together with the year in which the work has been created. With this, the owner can point out the existence of copyright and minimize the risk of infringement.

The Berne Convention distinguishes two categories, namely economic rights and the moral rights. While the first one enables the right holders to control the use of their work and manages the right to reselling or licensing them, the second type are non-transferable and includes the author's right to claim authorship.

An often-discussed part of copyright is the duration of protection. According to the Berne Convention, moral rights last forever and economic rights must last at least during the author's lifetime plus 50 years from his death. Depending on the national legislation, this duration can be extended as well (e.g. EU: 70 years from author's death). Neighboring rights, that include media rights or related rights, last for 20 years (Rome Convention) or longer (EU: 50 years after the fixation/performance/broadcast).

Within Hydroptics, copyright could be applied, for example, for the press-releases, scientific publications and technical drawings.

2.2. Patents

The most common way to protect the invention of a product or a process is applying for a patent. It gives the patent holder the exclusive right to prevent third parties from commercially exploiting their invention for a limited period of time. In contrast to the already discussed copyright, one has to apply for the patent and disclose the invention to the public. The application can be filed either at national level, regional level or worldwide. Usually, the best route is to apply for the same level as it should later protect the product.

In order to successfully apply for a patent, the invention has to fulfill certain requirements. In particular, it has to be

- new, compared to existing knowledge in the relevant technical field,
- non-obvious, meaning that it cannot be deduced easily by someone with average knowledge in the relevant technical field,
- and there must be an industrial application.

Another important fact is its limited life time, which is 20 years from the date of filing the patent application, and can, if the annual fees are not paid, end earlier. After that time, everyone can exploit the invention without violating the patent. Within these 20 years, its owner can prevent others from making, using, selling or importing a product or a process based on the patented invention. It allows the owner to give others the permission to do so, if both parties agree on an additional contract, like a licensing agreement. Moreover, the owner can sell the patent, transferring the connected rights to someone else. It should be noted that filing a patent is a demanding process and requires a high degree of technical and legal expertise.

A major achievement within Hydroptics was the application of a patent regarding the centrifugal separator, developed at TUW (June 2021, submission number A50518/2021). These devices allow efficient separation of an organic solvent from the aqueous phase and are common in industrial applications. Within Hydroptics, a lab-scale centrifugal separator has been designed, which allows miniaturization of the whole liquid/liquid extraction unit. The patented technology will be crucial for the successful implementation of a continuous measuring online oil sensor. It is a Key Exploitable Result, that has significant chances for exploitation during or after finalization of Hydroptics.

2.3. Industrial design

To fulfill the requirements of an Industrial design, one has to meet the following requirements:

- new: must not have been disclosed to the public
- individual character: the object must differ from the overall impressions, produced by earlier designs,
- non-functionality: features, that are required by a technical function cannot be protected.

The intention of the industrial design is to protect the appearance of the whole or part of a product.

If the design is registered (registered community design, RCD), the protection is limited for 5 years and can be renewed for periods of five years, up to a total term of 25 years. Unregistered community designs (UCD) are automatically obtained but they last only for three years and cannot be extended. After that time, anyone can use the design commercially.

Depending on the markets, designs can be protected either through

- the national route (registration at a national IP office),
- the regional route (e.g. EU level),
- or the international route (the Hague System, a bundle of national designs in over 65 territories by filing a single application).

Since the focus of the Hydroptics platform lies on the development of a functional sensor unit and the housing is based on a commercially available enclosure, the industrial design will not yet be applicable for the platform. Nevertheless, it must be kept in mind, especially if the development leads to a commercially available product with a distinctive/unique design of the housing.

2.4. Trade secrets

This term includes any confidential business information that provides an advantage to an enterprise. Typical examples are technical knowledge, know-how, business plans, recipes, manufacturing processes or lists of customers. The requirements for such a trade secret are that it is secret, has a commercial value and reasonable measures have to be taken to keep it secret. Compared to some other types of protections, a trade secret can be valid for an unlimited period of time.

Closely related to trade secrets is the non-disclosure agreement (NDA). It is a legal binding contract in which one party agrees to give access to a second party confidential information. The other party agrees not to disclose this information.

Subjects of this category are managed in the CA of Hydroptics. Here, the ownership of Background and Foreground IP is clearly defined within the members of the consortium. Each partner owns the investigations individually produced. With trade secrets, knowledge can be shared with individual project partners while leakage of protectable information is avoided.

2.5. Trade Mark

This term covers the protection of a certain property of a product or service that allows the customer to identify the product itself or its commercial origin. Typical properties are the color, a logo, a name, a shape or package, or even a number. To register a trade mark successfully, it must be:

- precisely described and clear,
- distinctive,
- non-contradictory,
- non-descriptive,
- non-costumery in the language and it
- must not violate the public order or morality.

The protection is limited for 10 years but in most countries, it can be renewed indefinitely for periods of 10 years. Similar to other methods, the protection ends if the fees are not paid and, as soon as its protection ends, everyone is allowed to use the trade mark without infringing.

Like other protection methods, trade marks can be registered at different regions as well. In particular, the national route (national IP office), the regional (e.g. EU) and the international route (>100 territories with a single application, also known as Madrid System) are available.

This kind of protection is of higher relevance when commercialize a marketable product. Within the duration of Hydroptics it is not foreseen to rise an invention to a marketable product. If the consortium decides to go for a commercial product with the complete Hydroptics platform, the project logo may serve as distinctive mark and may fall under the category of trade mark. Since all partners of Hydroptics are settled in the EU, it will be reasonable to go for a regional trade mark.

2.6. Utility models

Utility models are also known as “petty patent” and they protect inventions. They give exclusive rights to its owner and prevent others from commercially using the protected invention, without authorization for a limited period of time. In Europe, for example, utility models last usually 7 to 10 years. After that period, anyone can exploit the invention without infringing the utility model.

Many countries allow the conversion of a patent application into a utility model under certain conditions, which is often used if a patent application is rejected.

At the moment, it is not applicable, but one should keep it in mind, if a filed patent is rejected.

3. Actions taken to raise the awareness for IPR within HYDROPTICS

Generating awareness about the topic “Intellectual Property Rights” is an important task within the Hydroptics project and is an active process. The project partners must be aware of its importance and keep the different ways to protect their results in mind. Only then, a potential exploitation thereof will be possible and could lead to additional businesses. Knowing about its importance minimizes the risk of knowledge leakage, as coworkers will be familiar with the risks and potential consequences.

IPR trainings, repeating reminders for this topic and a motivated IPR management are the key to a successful exploitation of the generated knowledge. The taken measures are illustrated in Figure 1 and, as one can see, they already started before the project, with setting up the Consortium Agreement. With the Hydroptics project in progress, the current tasks focus on the awareness, documenting potential innovations and ideas, and helping with their protection. After finishing the project, the impact of a successful IPR management will still be visible, as filed patents and other registered methods will be exploited.

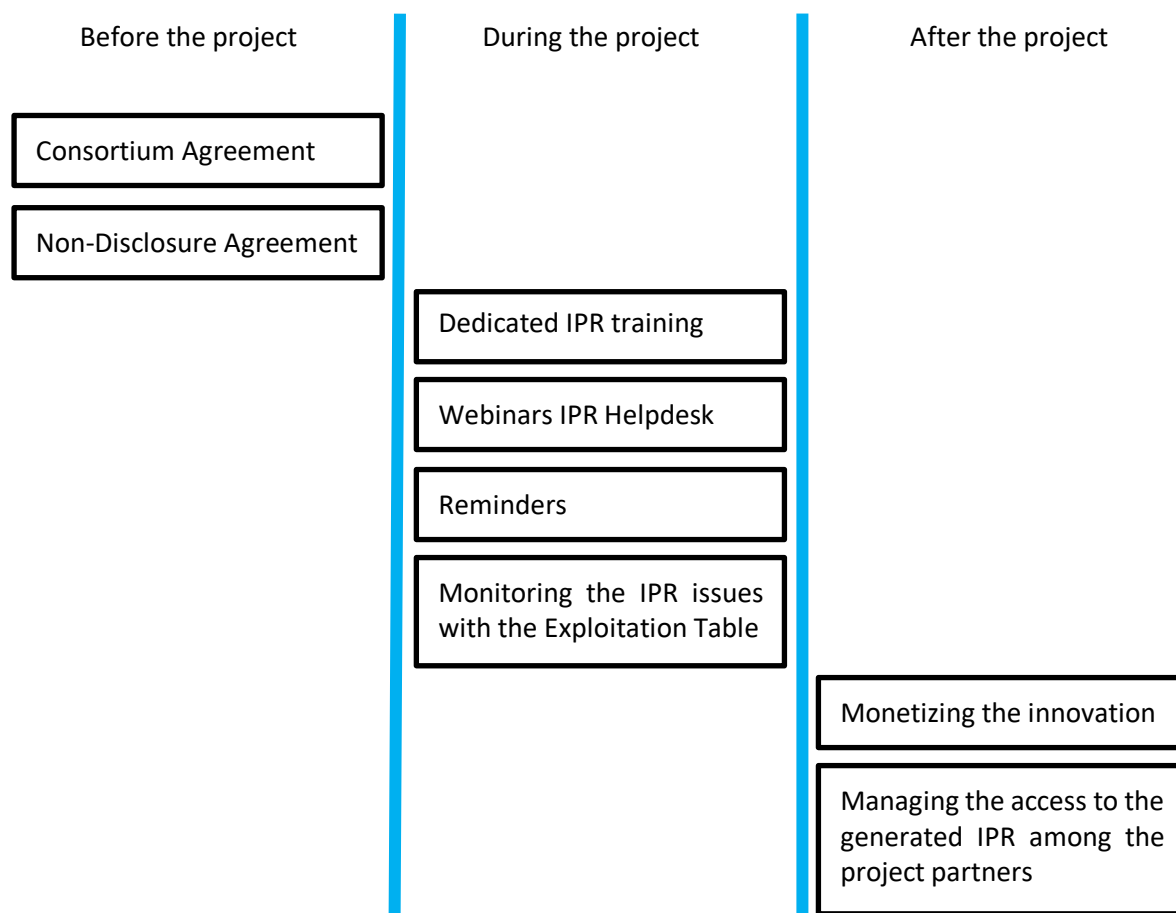


Figure 1: Illustration of the IPR management in the different phases of Hydroptics.

The already completed tasks and ongoing actions will be discussed in further detail in the following subsections.

3.1. Consortium Agreement

Collaborating with other companies, universities and other research facilities requires usually the sharing of information and knowledge transfer. To avoid any potential issues, the Hydroptics partners have signed the Consortium Agreement. Here, all members agree to a general approach on how inventions, potential patents and the generated knowledge could be protected and shared within the Consortium. For example, owners of joint results shall discuss to agree on an appropriate course of action for filing applications for patent protection or other IPR. Another regulated topic are the costs caused by the joint patent application. These costs, including the fees for maintaining the protection, shall be shared equally between the joint owners, unless otherwise agreed.

The document also lists, which project partner gives access to their assigned patents and rights in order to achieve the goals set within the project. In addition, it allows the transfer of the ownership of its own results (further details: sections 8-8.3, Consortium Agreement) to other parties. The NDA signed by all partners gives further restrictions on the handling of confidential information of other partners.

3.2. Periodic Reminder

The IPR manager QRT sends out periodic reminders to create awareness for IPR management. In particular, the project partners should review their work and identify potential innovation, that could be patented, licensed or protected in a different way. In case they are do, they should contact the IPR manager and the project coordinator to discuss and define the next steps for a successful protection.

3.3. Dedicated IPR training

A very important activity planned to create more awareness for IPR within Hydroptics is to organize a dedicated training activity for the Hydroptics members (https://intellectual-property-helpdesk.ec.europa.eu/services/training_en). It will be held online by experts on IP topics and targets SMEs, researchers and innovation support organizations. The project partners will be informed and reminded on the different strategies that are available to protect and/or monetarize their innovation. The typical duration of such a virtual training is approx. 1 h (plus 15 min Q&A). The advantage of this online course is that the project coordinator can easily encourage the project partners to attend and to deal with the topic.

Since the organizers of such a virtual training requires a minimum of 30 participants, it is planned to organize a shared event. By inviting participants of one or more related funding project, also the visibility of Hydroptics in the research community will be increased and might lead to further shared activities. In this case, data protection and IP management becomes very crucial.

3.4. Webinars provided by the IPR helpdesk

In addition to the dedicated training session for the Hydroptics project partners, webinars of the IPR helpdesk are promoted and attended throughout the project. These webinars provide valuable information on the different methods to protect the generated IP within a European project and how to avoid potential conflicts of interest. To keep up with the latest changes in IP management and to extend the knowledge, QRT as innovation manager of Hydroptics project attended a series of webinars:

- Oct. 14th, 2020: “Webinar: IP in EU funded projects”
- Oct. 6th, 2021: “European IP Helpdesk Webinar: IP in EU funded projects (H2020/HEU)”
- Oct. 19th, 2021: “European IP Helpdesk & European Patent Office Training Cooperation: From Lab to Market: Successful Technology Transfer Journeys”
- Oct. 27th, 2021: “European IP Helpdesk Webinar: Consortium Agreements”

The knowledge on solid IPR management will be further extended by attending the following courses, among others:

- Dec. 2nd, 2021: “EU - Webinar: IP Commercialisation & Licensing - Advanced”
- Dec. 15th, 2021: “EU - Webinar: Maximizing the Impact of Horizon project (2020/HEU) results”

The innovation manager is informing the consortium about upcoming events on a regular basis via reminder mails as well es during the EBM meetings.

3.5. Other Platforms

In addition to the IP helpdesk, the European Commission offers two services for European projects and SMEs to assist them regarding patents:

3.5.1. Horizon IP Scan

This new platform (part of the IP helpdesk) was launched in March 2021 and focuses on helping SMEs to manage and valorize their IP within upcoming and recently starting European Projects. It supports them in defining strategies and measures to give access to existing IP, to protect, share and exploit IP created in research and innovation collaborations.

For the case of Hydroptics, the Horizon IP Scan could help project partners, such as ALPES, QRT, IRsweep or IMEC in developing suitable IPR strategies, managing the jointly generated knowledge and to prevent potential IP conflicts.

3.5.2. IP Booster

Once a partner classified as university or public research organization wants to protect the outcome of Hydroptics, the IP manager can be supported by the IP Booster. They provide support on finding a suitable protection on the generated knowledge, help preparing the required applications, identify the best pathway for commercializing the idea/innovation and provide advice and support in negotiating technology transfer agreements.

Compared to other services, only European universities or public research organizations are allowed to apply. Moreover, they only support applications where similar IP services are not available at national level. Another requirement for universities is that they must have a participant identification code.

4. Documentation of generated IPR

4.1. Exploitation Table

Within Hydroptics, the IPRs (patents, designs, ideas) are documented in the “Exploitation Table”. This table is confidential and it lists every method, idea or concept that might lead to a saleable product, service or asset in general, during or after completion of the European project. All necessary details to clarify any potential issue have to be noted within this document by all partners. In particular, the name(s) of the responsible person(s), a short description, the type of protection planned, the title of the exploitable service/product and additional information can be found in this document.

The IPR management encourages the project partners on a regular time base (approx. every three months, and during the executive board member meetings) to update this database and to enter new exploitable or IPR related items and ideas.

Conclusions

This deliverable discusses possible routes to protect the innovations, ideas and unique methods developed within the Hydroptics project. It gives an overview on the advantages and disadvantages how knowledge can be protected, monetized and shared between the project partners in a fair way.

The project partners are informed on the different possibilities for protection of their innovation by the innovation manager on a regular basis. Additionally, the awareness of partners regarding this topic is raised by the reminder emails each 3 month and during the EBM calls, respectively. In this context, QRT always emphasizes the possibility for support when innovations made within the project should be/are discussed to be protected. Moreover, webinars and dedicated trainings are promoted and attended to keep up to date and to stay informed about the individual IPR protection strategies.

Finally, the Exploitation Table is collects all IPR related information, such as ownership, protection strategy as well as a basic description thereof. It is a living document that is continuously filled during the project duration. It allows a precise assignment of the generated knowledge.

Appendix

List of Abbreviations

IP	Intellectual Property
IPR	Intellectual Property Rights
EBM	Executive Board Member
SME	Small and medium-sized enterprises
CA	Consortium Agreement