

Торіс	H2020 – INFRAIA-2018-2020	
Short Title	EurofleetsPlus	
Title	An alliance of European marine research infrastructures to meet the evolving requirements of the research and industrial communities	
Project Number	824077	
Delivery Date	31/07/2020	
Deliverable No	7.2	
Lead Beneficiary	Royal Belgian Institute of Natural Sciences	
Dissemination Level	Public	

EXPLOITATION AND INNOVATION GUIDELINES FOR USER GROUPS







Document information				
Document Name	D7.2 – Exploitation and Innovation Guidelines for User Groups			
Document ID	EUROFLEETS_WP7_D702_170220_V1			
Revision	V2			
Revision Date	29/07/2020			
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Security	Public			

Approvals						
	Name	Organisation	Date			
Coordinator	Aodhán Fitzgerald	Marine Institute	29/07/2020			
Activity Coordinator	Serge Scory	Royal Belgian Institute of Natural Sciences	17/02/2020			
WP Leader	Serge Scory	Royal Belgian Institute of Natural Sciences	17/02/2020			

Revision Table					
Revision	Date	Modification	Author		
V1.0	17/02/2020	Full Review	Serge Scory		
V1.2	02/07/2020	Addition of Innovation Canvass	Niamh Flavin		
V2	29/07/2020	Final release	Giuseppe Magnifico & Lorenza Evangelista (CNR)		

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SUMMARY

Innovation is a key-concept of EUROFLEETS+. Therefore, Innovation management has been assigned a dedicated work package to ensure a high level of industrial collaboration in the project, sound innovation management practices, and appropriate identification and management of exploitable results to increase the impact of Eurofleets+. The partners involved in this work package forms the "Innovation Committee".

This Committee pays a special attention to the innovation perspectives of the projects submitted for transnational access grants and will help in managing the innovation that will possibly emerge from the outcomes of funded projects.

The present document introduces some basic concepts and tools for the valorisation of the R&D outcomes of the Eurofleets+-funded cruises. As so many situations and so many different exploitable results are possible, it is impossible to be exhaustive nor very detailed.

Therefore, it is recommended that PIs establish as soon as possible a dialog with the Innovation Committee to ensure that the most adequate steps for valorising the innovative results of their research are taken.





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1. Introduction

In most cases the main objective of scientific cruises and the associated research is to gather information for a better understanding of natural phenomena, their spatial and temporal evolution. In some case, however, there are outcomes that deserve specific valorisation actions. This is the case for instance when new measurements techniques and instruments are developed or when the samples taken lead to the discovery of interesting new molecules.

The large Universities and Research Centres often have their own valorisation unit. It is however not the case for all the research teams that will be funded in the frame of Eurofleets+.

The purpose of this document is to introduce some basic concepts and tools for the valorisation of the R&D results where and when needed.

2. General guidelines

In Eurofleets+, the strategy for knowledge management and protection and exploitation, is managed by the Innovation Committee and industry platform, where all industry participants are represented. This Committee is therefore the privileged interlocutor of the PIs and their team concerning the possible exploitation of their findings.

The Committee will try to be as proactive as possible, by screening funded research projects for elements that, based on their knowledge, could be prone to a valorisation and an exploitation that goes beyond the usual scientific (academic) valorisation. Researchers however are requested to also pay a special attention to these aspects and communicate with the Committee on what they consider could lead to a possible exploitation after the project.

Besides the support provided by the Committee on Innovation, there are several other resources that are available to the PIs:

- 1. As noted above, most Universities and Research Centres have their own valorisation and exploitation departments (i.e. Technology Transfer Offices, TTO, and Industrial Liaison Office, ILO). They often publish guidelines that are openly available on the web.
- 2. The European IP Helpdesk (http://www.iprhelpdesk.eu/, consulted February 17th, 2020) "is a service managed by the European Commission's Executive Agency for Small and Medium-sized Enterprises (EASME), with policy guidance provided by the European Commission's Directorate-General for Internal Market, Industry, Entrepreneurship and SMEs (DG Grow). It supports cross-border SME and research activities to manage, disseminate and valorise technologies and other Intellectual Property (IP) Rights and IP assets at an EU level. Offering a broad range of informative material, a Helpline service for direct IP support and on-site and online training, the European IP Helpdesk's main goal is to support IP capacity building along the full scale of IP practices: from awareness to strategic use and successful exploitation. This strengthening of IP competencies focuses on EU SMEs, participants and candidates in EU-funded projects, and EU innovation stakeholders for an increased translation of IP into the EU innovation ecosystem."





3. At the start of the research

At the start of the research, it might be worth having a look to existing patents in your field. The patent is an industrial property right which gives the patent owner the exclusive right to exploit an invention and exclude others from so doing as from a certain date and for a limited period. In return, the technical information relating to the invention must be disclosed in the patent application so that anyone can reproduce it.

Such preliminary search will help researchers to a.o.:

- Determine emerging, promising technologies
- Search for precise technical information
- Discover potential partners and monitor your possible competitors
- Define market trends and opportunities

Tools (like https://patents.google.com) are available online to perform efficient searches.

4. During the research

Researchers should keep detailed track of the various steps they went through to get their results and findings. Such a logbook can be essential for providing legal evidence of their intellectual rights on their findings.

5. Assessment of the maturity of the development

Before envisaging a specific protection and, eventually, the exploitation of some outcomes of the research, it is useful to assess their level of technological maturity.

The concept of Technology Readiness Levels, initially developed by NASA and adopted by the European Union for the H2020 programme in a slightly modified way, is one possible tool to perform such an assessment. It shouldn't be applied too strictly (or quantitatively) as its relevance may differ depending on the discipline considered. The European TRL are (Commission Decision C(2014)4995):

- TRL 1 basic principles observed
- TRL 2 technology concept formulated
- TRL 3 experimental proof of concept
- TRL4 technology validated in lab
- TRL 5 technology validated in relevant environment (industrially relevant environment in the case of key enabling technologies)
- TRL 6 technology demonstrated in relevant environment (industrially relevant environment in the case of key enabling technologies)
- TRL 7 system prototype demonstration in operational environment
- TRL 8 system complete and qualified
- TRL 9 actual system proven in operational environment (competitive manufacturing in the case of key enabling technologies; or in space)

It is required a systematic addressing of TRLs, allowing a new technology to evolve from conception through to research (TRLs 1-3), development (TRLs 4-6) and deployment (TRLs 7-9). Universities and





Research Centres, along with government funding sources, can focus on TRLs from 1 to 4, while the private sector focuses on TRLs from 7 to 9.

6. Exploitation

Once R&D results potentially exploitable in an innovative way are identified, it is recommended to look at possible business models. Several approaches are of course possible.

A good source of inspiration is the now widely used "Business Model Canvas" (Osterwalder, A., Y. Pigneur, and T. Clark (2010). *Business Model Generation: A Handbook for Visionaries, Game Changers, and Challengers.* Strategyzer series. Hoboken, NJ: John Wiley & Sons. ISBN 9780470876411. OCLC 648031756).

The BMC is a visual representation that facilitates iterative development (or adaptation) of new (or existing) business models. It is composed of nine blocks which helps to build a value-added proposal to customers and understand the financial in- and outflows involved in his/her business. The BMC is designed for building business models through brainstorming sessions. It provides a holistic view of the business as a whole and gives people a shared language, leading to better strategic conversations and better ideas on the table.



Figure 1 Business Model Canvas

An alternative to the BMC is the Innovation CANVAS developed by the Knowledge Transfer Network (KTN). The Innovation Canvas proposes a model of innovation which is iterative and non-linear while





still providing a clear and logical framework. It can be used as a creative platform to sketch the landscape in which researchers are developing an innovation. Use it as a diagnostic tool can provide get a better understanding of an opportunity, to improve an offer or to strengthen capacity to innovate. The Innovation CANVAS frames innovation as a continuing conversation between three core drivers: Opportunity (an end user with a specified need in an identified market), Offer (an approach to meeting the need that delivers quantified benefits) and Capability (that enables the development and delivery of the offer). The model guides the user to examine their innovation or projects strengths and weaknesses by assessing them against each of the core drivers under related topics, by scoring each one individually from 1-5. This exercise presents priority areas to address, along with potential resource tools that can be used to solve the challenges by outlining the problems you are expirencing and finally summarises the actions points which can be used to seek perspectives, ideas or contacts from colleagues or advisors. The Innovation CANVAS is available online via an <u>interactive digital tool</u> here or a pdf. version is also available for <u>download here</u>.





7. Instruments for protecting Intellectual Property

Nota Bene: depending on the context, intellectual property rights on R&D results might belong to the researcher or to her/his employing organization or shared by both. A common situation is that the author keeps the moral rights on his production, while the economic rights are owned by the employing organization. This must be checked carefully by the researcher before applying for specific protection rights and before deploying any exploitation initiative.

Copyright

"Copyright" is the exclusive right given to the creator of a creative work to reproduce the work, usually for a limited time. The creative work may be software source code, for instance. Copyright is intended





to protect the original expression of an idea in the form of a creative work, but not the idea itself. It is often complemented by a "License", defining if and how the copyrighted item might be used by third parties. In the European Union, the concept of Copyright and its application is defined by several Directives, that were recently complemented by the Directive (EU) 2019/790 "on copyright and related rights in the Digital Single Market and amending Directives 96/9/EC and 2001/29/EC", to be implemented by Member States by June 7th, 2021.

Sui generis law on databases

In the European Union, a specific type of Copyright applies to databases. The corresponding Directive (96/9/EC) protects databases by copyright if they are original. Non-original databases such as compilations of legal cases and laws, listings of advertisements or databases of scientific publications can also be protected if the investment in obtaining, verifying and presenting the data was substantial. This protection is known as the "sui generis" right, *i.e.* a specific property right for databases that is unrelated to other forms of protection such as copyright.

Patents

A patent is a right of ownership granted by a public authority on a geographical territory and for a determined period. This official right gives the patent owner the right to prohibit a third party from exploiting —in other words manufacturing, using, marketing and/or importing— the protected invention without the owner's authorization.

For an invention to "patentable", it should meet several criteria, concerning its novelty, the inventive steps it provides and its industrial applicability.

Trademark

A Trademark is a type of intellectual property consisting of a recognizable sign which identifies products or services of a particular source from those of others. Such a "sign" can have many forms, *e.g.*:

- Word trademark: one or more words, name of a product or service, brand's company name
- Figurative trademark: a logo
- Semi-figurative trademark: a word and a logo
- Slogan
- Colour(s)

Registering a Trademark is mainly useful when creating a spin-off, or marketing a product, a service or a software, in order to gain a greater –and protected– visibility. The need for it generally occurs when the development approaches the last three technology readiness levels.

Partnership agreement

A Partnership agreement can be concluded with a third party (academic or industrial) in order to ease or improve the exploitation of the results. This is an ad hoc document, that should clearly describe: the results concerned, their intellectual property status, the objective of the collaboration and the role of each partner with this respect.





8. Special cases

In some circumstances, the exploitation of the R&D results is framed by very specific legislations. This is the case for instance when ethical issues arise. Another special case is when genetic material is collected in waters under national jurisdiction, where the rules of the Nagoya protocol on Access and Benefit-sharing must be applied.

Once again, it is impossible to be exhaustive or to address *a priori* all the special cases and advice should always be sought from the Innovation Committee.

9. Credit

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