



2 CHAPTER

FOR ACADEMICS AND NON-ACADEMICS SCIENTIFIC ENTREPRENEURSHIP

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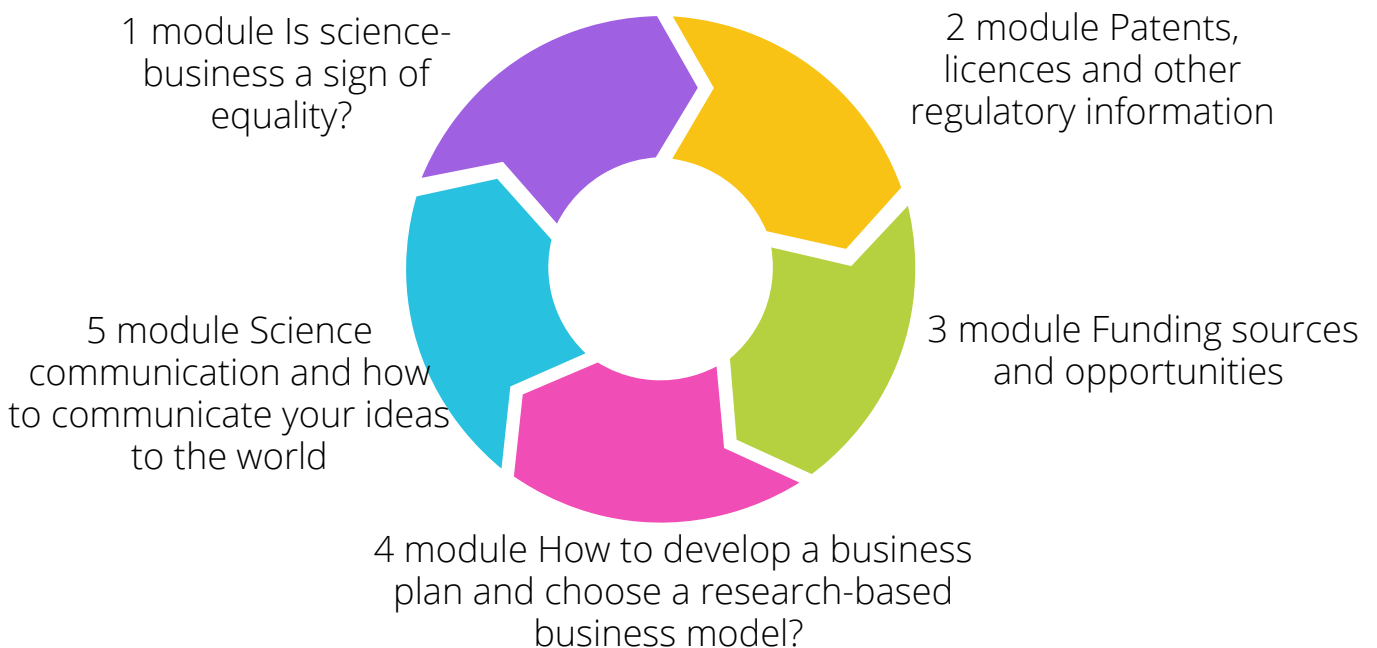


INTRODUCTION

Entrepreneurship in science is a relatively new phenomenon in the world of science and can also raise several questions about whether it is not enough to be a need to develop applicable science and find scientist. A scientist also needs to have a set of competencies related to entrepreneurship. Recent research shows that scientists do need to be developing applicable science and finding solutions based on science-business cooperation. This publication can therefore be seen as an introduction to the development of the profile of the scientist as an entrepreneur. The publication provides the basic knowledge that defines the competencies of a scientist:



In this part, academic and non-academic staff will learn about basic decision analysis techniques, what to consider when looking for funding, how to prepare to present an idea based on the Lean Canvas business model, what is important to pay attention to when preparing a presentation, and how to use the Canva.com software, which allows you to prepare quality presentations and visuals.



The structure for all 5 modules include: theoretical content of the topic, visual graphics and pictures, cases and assignments to deepen gained knowledge and make the learning more practice based.

Module 1 Is science-business a sign of equality?



Science Entrepreneurship is still in its infancy and it can be quite unusual for scientists to move from standard research to commercialised research, even thinking about choosing a business model, creating their own start-up or spin-off. Therefore, it is often important to note when researching science entrepreneurialism that:

- not all research can be commercialised;
- not all scientists can be entrepreneurs;
- knowledge and experience can lead to global research-based and innovative solutions;
- the growing importance of research and its practical applicability reflects the growing public interest in science and the potential of scientists to create entrepreneurial solutions.

In essence, this section will look at the key ingredients of what would stimulate the academic and non-academic community to develop supra-renewable solutions.



EURAXESS, 2022

Define research result and its invention

The entrepreneur must be able to take the research to the end result and clearly identify the level of innovation in the research, with innovation as the basis for the research. Sometimes it is possible to get a number of ideas from research, but these ideas need to be crystallised and evaluated, discarded, and one main and most important one selected. In this part, therefore, the entrepreneur is able to identify the main objective of the research, to foresee the main result that is applicable in the market and to address the relevant problem or need of market players.

Module 1 Is science-business a sign of equality?



Preliminary search and state of the art

The entrepreneur must be able to carry out a detailed analysis. The analysis may first be carried out by reviewing publicly available sources that are relevant to the research being carried out and its intended outcomes. If working in teams, this function can often be carried out by non-academic staff, who may have a broader perspective and not focus solely on the specific study. The search tests the uniqueness of the solution, looking for analogues and how differences from the current solution under development can be defined.

It is also appropriate to conduct a patent search to determine whether a patent already exists for the intended research results. National patent offices, as well as technology transfer centres operating privately or in universities, can be contacted and checked through specialised databases.

In essence, the purpose of this analysis is to determine whether it is possible to classify the solution sought and its result as an innovation, to decide whether it can be applied on the market and to inform the researcher, the university or other stakeholders of the commercialisation possibilities of the possible solution and of the challenges that may arise once the solution has been put on the market.

Technology Readiness Level (TRL)

Technology readiness level is a measurement system that allows you to judge the readiness level of a solution based on the parameters used. The maturity of the technology is assessed from 1 (basic principles documented) to 9 (technology released and in production). These levels are an excellent unit of assessment for measuring the development and maturity of research and its ability to reach the market. Often, the level reached is also linked to the funding arrangements, with more funding being given to ideas that are already in the pre-final stages of technology readiness.

Intellectual Property Rights (IPR)

Intellectual property is particularly often overlooked by researchers. In contract research, the intellectual property usually belongs to the client and the researcher has no right to the results. However, this is slowly changing, with researchers becoming equal co-owners or defining the division of intellectual property in contracts. However, the researcher must plan what he expects from the results, how relevant they are for his further research or whether he is willing and able to transfer the intellectual property to others.

Module 1 Is science-business a sign of equality?



Commercialisation of the research result or innovation

Commercialisation of research is the process whereby a researcher participates as a sub-investor in order to bring research to the market and to implement it in market processes. It is particularly important to note that commercialisation takes many forms:

Patenting - firstly, the results of research can be patented and the corresponding income can be generated from the use of the patent.

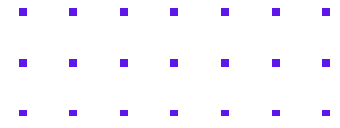
Licensing - this is used when the aim is to transfer the research results generated, not to create a company, but to find a customer. The researcher focuses on the research and generates income from the licence, while the user benefits from the research results defined in the licence.

Spin off/ Startup. When the researcher and his team are interested in the commercialisation process and in carrying it out on their own, they can get help from incubators, science and technology parks, technology transfer centres, and even attract additional funding from investors, EuFunds etc.

These five steps allow each researcher to take stock of his or her own research and how much potential there is for entrepreneurship. It is recommended to first answer the question of whether the path is of interest and whether the researcher sees the qualities in himself that would lead him not only to seek innovative scientific results but also to put them into practice.

Secondly, whether the researcher has a team that will follow the path of entrepreneurship with him/her, and thirdly, the most frequently asked questions are about the financing of scientific solutions, and then, having found the main direction, the research that can be innovative in principle, it is appropriate to prepare strategically to attract investments. We will discuss this further in the following sections.

Assignments



1 assignments

What is the aim of your research?

2 assignments

Do you have patents or do you plan to patent your research results?

3 assignments

How many years have you been working in your research field?

Who would you say is your core team?

How many articles do you have in your research area?

Who do you think are your competitors in your research field?

#1

Questions for the discussion?

1. How would you describe your main research findings?
2. Have you had the opportunity to analyse the research environment and what innovations have already been developed in your fields?
3. What level of technological readiness do you think you have reached with your research results?
4. Who do you think owns the intellectual property of your research?
5. How much funding do you think would be needed to commercialise your research?

#2

Useful links

- https://research-and-innovation.ec.europa.eu/system/files/2022-06/ec_rtd_he-investing-to-shape-our-future_0.pdf
- https://ec.europa.eu/research/participants/data/ref/h2020/wp/2014_2015/annexes/h2020-wp1415-annex-g-trl_en.pdf
- <https://euraxess.ec.europa.eu/career-development/researchers/manual-scientific-entrepreneurship>
- <https://euraxess.ec.europa.eu/>

#3

Become a co-author

This handbook is unique in that we invite everyone to co-author it. If you are an expert and work in the field of entrepreneurship, if you want to share useful information with the readers, if you are a creator of unique tasks and believe that you can contribute to entrepreneurship in one way or another, we invite you to share your information and we will add a new chapter to the handbook that you have created.

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