Bio-All

Report on Good practises

Key findings

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BIOHEALTH GEAR BOX ALLIANCE

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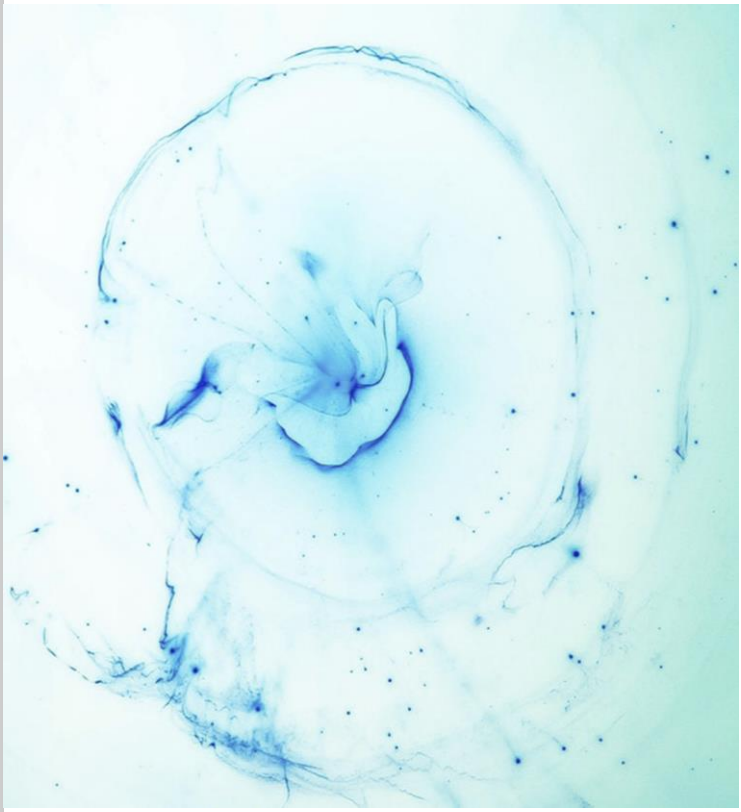
1 INTRODUCTION

ACCELERATING KNOWLEDGE AND COMPETENCES TO BOOST EFFICIENT INNOVATION AND ENTREPRENEURIAL PROCESSES IN THE BIOHEALTH SECTOR

Entrepreneurial skills — Updated training — Upstream innovation — Acceleration knowledge — Startups support

Today´s needs

New, innovative and multidisciplinary approaches to teaching and learning entrepreneurial skills and competences for Business and Academia, in the BIOHEALTH sector.



Project's Objectives

- Boost innovation and startup in the BIO-HEALTH sector;
- Update the education & collaboration schemes so that both Business and Academia can join forces in the knowledge creation & share;
- Produce multidisciplinary human resources, with technical but more importantly t-skills and entrepreneurial mindsets that allow them to respond to the fast pacing technological and societal demands and explore the innovative potential of the BIOHEALTH sector;
- Enable learners to design and manage disruptive solutions and innovative business models.

2 METHODOLOGY

CO-CREATION AND COLLABORATIVE DYNAMICS TO UNDERPIN THE DEVELOPMENT AND SUSTAINMENT OF GROUND-BREAKING EDUCATIVE ASSETS, METHODOLOGIES AND SCHEMES

The work developed within the Work Package 1, provides the necessary extensive and up-to-date theoretical and empirical backbone for the resources and activities to be carried out. Moreover, the results of these activities will also shape the roadmap (feeding the strategy with the relevant feedback of the key target-groups).

Desk-based and **field-based research** in close cooperation with Academia, Business and Incubators/Accelerators, to reveal the Good Practises in the BIOHEALTH sector.

TARGETED RESULT

1. BIOHEALTH Gear Box Blueprint: Driving Innovation and Entrepreneurship through the BIOHEALTH Sector;

→The described research on the Good Practises aims to feed the **BIOHEALTH roadmap** developed together with key actors and end-users that, based on an exhaustive mapping of the current landscapes, trends and lessons learned (state-of-play and good practices) will present possible evolution scenarios, related strategies and actions and provide recommendations for a brighter future of University-Business Cooperation and entrepreneurial and innovative processes within the sector.
The described roadmap constitutes a key element of the BIOHEALTH Gear Box Blueprint.

ENGAGED STAKEHOLDERS

Academia
- HEIs
- Staff
- Students (current and future)

Business
- Clusters, Chambers of commerce, Technology Broker, Venture Capital firms
- Established Tecnhology-based Ventures
- Start-ups, Spin-offs (Seed-stage companies)

Science parks, innovation centers
- Staff
- Users

In the context of the BIOALL project, the aims of the present analysis was to:

- Benchmark and showcase of international good practices to encourage and support the further engagement of key actors in collaborative actions, in general, and within the BIO-ALL project as well as the integration of lessons learned in current practices, fostering entrepreneurship and innovation in the BIOHEALTH sector;
- Reinforce the cooperation schemes and routines between and within key actors (Academia, Business and Incubators/ Accelerators).

Moreover it has been conducted with the intend to encourage stakeholders to engage in the project activities and to establish and sustain a solid collaborative alliance of BIOHEALTH entrepreneurs and innovators and boosters/supporters, as well as disseminate and integrate useful lessons learned into the sector and emerging pathways towards successful business creation and development processes supported and led by HEIs.

The methodology used comprised the collection of 30 good practices identified in the 3 European countries (PT, SP, IT), made possible through a set of 60 interviews to key players involved (Academia, Business and Incubators/ Accelerators). Partners had, thus, collected 10 good examples in each of these categories and each one was supported by 2 interviews (meaning that partners carried out 60 interviews with key-actors).

KEY RESEARCH TOPICS

Advanced studies on innovation or/and entrepreneurship,	***Acceleration programmes,***	***University – Business cooperation schemes,***
that already have some, extended or exclusively focus on BIOHEALTH sector;	*with a sectorial focus, preferably linked with high tech businesses in BIO areas;*	*to foster entrepreneurship and innovation in the BIOHEALTH sector.*

To collect the relative good practices and carry out the interviews, "Supporting Tools" were used which included:

- Questionnaire;
- Letter of project presentation to respondents;
- Table for data and info collection.

As mentioned the target groups were key actors in Academia, Business and Incubators/Accelerators – in each country – IT, PT and SP – plus other relevant players, including public authorities, innovation agencies, business angels and venture associations, etc.

Partners carried out the interviews to different respondents using "face to face" approach, by phone, via skype call, having the possibility to record via audio or to take notes. There are three different questionnaires, one for each key actors, i.e., Incubators/Accelerators, Academia and Business. The process comprised two steps, firstly, partners could send the questionnaires by e-mail but later it was necessary to make the interviews ("face to face", phone, skype call) to get the most information as possible.

The questionnaire was anonymous and confidential, serving only for data collection and subsequent analysis and action design. This questionnaire has open and closed questions. Only the complete questionnaires were considered. The interviews were performed in the last quarter of 2019.

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LESSONS LERNED

COMPILATION OF INTERNATIONAL GOOD PRACTICES TO BE BENCHMARKED: A REVIEW OF ITALIAN (IT), PORTUGUESE (PT) AND SPANISH (SP) CASES

GOOD PRACTICES ON ADVANCED STUDIES ON INNOVATION OR/AND ENTREPRENEURSHIP IN THE BIOHEALTH SECTOR

EDUCATIVE OFFER

Curricular units of entrepreneurship, followed by enterprise creation programs, cross-sectorial teaching and transversal programs

ADVANCED STUDIES

L'Open Science Program in IT, Global Entrepreneurship Monitoring Report in SP, scientific research activities, international research

UB COLLABORATION SCHEMES

UBC schemes in research, followed by UBC schemes in education, in the valorisation of scientific knowledge and in management

LESSONS LEARNED

Educative Offer for Entrepreneurial Competences and Processes: respondents from both PT and SP state they have workshops related to entrepreneurship; both IT and PT have idea contests; IT and SP both have Master Courses on Entrepreneurship. Only PT has a curricular unit of Entrepreneurship in some University courses, and Spanish respondents stated to have a scholarship for 40 university projects to develop a prototype.

Customized to Bio-health: In IT, PhD Health and Biomedical Sciences students must participate in seminars of cross-sectional teaching. In PT, we see that the Health Sciences Faculty has a curricular unit of Entrepreneurship in almost all courses. In SP, there is an Academic Entrepreneurs Program, that has most of its participants from the scientific areas of biotechnology and health.

Advanced Studies on Innovation and /or Entrepreneurship: starting with the similarities, both IT and SP refer to the existence of studies and research in the fields of innovation and entrepreneurship. Looking at the differences PT is the only that refers to the existence of summer schools, executive education and an Innovation and Entrepreneurship Master Course. Respondents from SP were the only that referred to the execution of a regional report on the entrepreneurial intention of students.

Customized to Bio-health: In IT, there are no specific studies for the bio-health sector. In SP, there are some studies related to biosensors and some thesis oriented to the transfer processes. In PT, there is a Master's in Science in Health Services Management.

University Business Cooperation Schemes to foster entrepreneurship and innovation: all three countries have UBC schemes in Education Research, Valorization and Management; all three also refer the Erasmus+ program and mobility/exchange programs. Respondents from IT refer to conferences and workshops on the protection of intellectual property. Respondents from PT referred to the existence of a Business School that develops courses, in close collaboration with enterprises, for professionals.

Customized to Bio-health: all three countries have UBC schemes in Education and Research. PT and IT add to that UBC Schemes in Management, and SP has UBC in valorisation.

GOOD PRACTICES ON ACCELERATION PROGRAMMES IN THE BIO-HEALTH SECTOR

STARTUPS SELECTION

Open competitive calls, evaluated by selection committees and scientific boards, based on established evaluation criteria, using in-person interviews and following a selection and evaluation process.

INCUBATOR/ACCELERATOR´S CHARACTERISTICS

Support to internationalisation, lab-to-market methodology, work space, connection with potential investors, use of agile techniques. Most of the companies incubated and/or accelerated stay in the incubation for more or less 12 months.

LESSONS LEARNED

Startups selection processes: in the 3 countries, most are selected through a competitive, open call and after selection and evaluation process by the committee or by the corporate partner. In PT moreover, the accelerators scout for startups that have or are developing solutions that fit with their strategic needs, business stakeholder decides if their company should partner with a startup.

Startup´s characteristics: in all countries innovative startups with a credible business plan, highly scalable with strong founding team with a high degree of preparation and technical competence. Mostly the main difference is the maturity stage, while in IT more the startups have at least 1 year of life and less than 3/5 years, in PT and SP are young companies, recently created with the medium-high risk of business failure.

About the startups´ sectors, in the 3countries, there are startups from Bio Health sector such as, pharma, diagnostic, biomedical, life science services, healthtech, biotechnology, biosanitary. Remark in SP, Bioinformatics and ICT related to health services sector manufacturing, energy, industry 4.0.

Characteristics of incubator/accelerator´s staff involved in the acceleration/incubation program: in the 3 countries, the staff is composed by HEI graduates. The staff has more than 10 years of previous experience in supporting and tutoring technology-based entrepreneurs. In IT the staff is people with previous experience in private companies too. In IT and SP, the average age is 40 years while in PT the staff is between 27 - 35 and in all countries there is a gender balanced team.

Regarding the process by which a startup goes through in the incubator/accelerator´s programs, in all countries more or less follow the same process: 1) technological analysis, 2) strategy identification, 3) business modelling, 4) team building, 5) business plan revamping, 6) networking. Nevertheless, each country uses specific techniques (see in detail at the full report).

Services provided by the incubator/accelerator: general services such as tutoring, establish a business model, workspace, are offered by all three countries. In IT incubators/accelerators mostly provide services around internationalisation, non-repayable grants, access to specialist advice, mentoring programs, entrepreneurial training, involvement of beneficiaries in European calls/projects. In PT, access to financing; tutoring; access to potential investors; definition and development of initial products; identification of customer segments; identification of resources; establishment of a business model; design and test products' scalability; workspace; opportunities for networking; access to university and technology resources and expertise; access to market services. In SP, access to financing; tutoring; access to potential investors; identification and access to customer segments; mapping resources; establishing a business model; workspace and support for networking.

Duration of the acceleration/incubation programs, IT and PT have acceleration programs between 6-12 months, while in SP most of them last less than 6 months.

Funding in different ways and stages. In PT, the pre-seed, typically corresponds to 30k€, in IT seed capital varies between €40k and €70k. In SP, the company is financed directly by the tractor company.

GOOD PRACTICES ON UNIVERSITY-BUSINESS COOPERATION SCHEMES TO FOSTER ENTREPRENEURSHIP AND INNOVATION IN THE BIO-HEALTH SECTOR

BUSINESS SUPPORT

Scientific events, cross design sessions, staff mobility activities, special methodologies like business canvas, international trade fairs and networking and mentoring initiatives.

UNI-BUSINESS COOPERATION

UBC in research, in education, in the valorisation of knowledge results and in management. Also activities of partnering and collaboration and the open channels of communication.

TRAINING PROGRAMS

Cross-training is the most frequent, followed by tutorials, the nomination of company tutors, definition of internal qualification plans and processes as well.

DEMO DAY

Open factory events, national young entrepreneur awards, investors' days and forums, acceleration programs and contests born from knowledge.

R&D&I PROGRAMS

National and regional funds, Innovation funding such as NEOTEC, ENISA, MIUR and the innovation hotline.

LESSONS LEARNED

Technical and practical business support activities for innovation and growth: there are some similarities in all three countries, regarding networking with experts and professionals and the attendance in scientific events, conferences and fairs/meetings. Innovation is also an encouraging measure, such as the open innovation projects in SP, the scientific initiatives to develop internal innovation in PT, or the innovation encouraging by setting up new companies which is held in IT. As for differences, only SP analyses unresolved market trends, approaching new lines of development; and in IT, there is an annual meeting, TSCO.

University-Business cooperation schemes to foster entrepreneurship and innovation: we can relate some similarities. For instance, in all three countries, there is University-Business cooperation in research and valorisation. If we speak only about IT and PT, there is also an internal organisation to develop this cooperation between University and Business.

Training to foster entrepreneurship and innovation: starting with similarities, all three countries train their employees, but in different ways. If in IT new employees are followed by a specially nominated company tutor to follow their integration, in PT there is a cross-training using tutorials to facilitate the training, and in SP, the training is structured in collaboration with the team that is already working in the company.

Demo days' experiences: there are three different approaches. In IT, there are "Open Factory" events, but in PT, there are demo days in the scope of the various contests and acceleration programs, such as the "National Young Entrepreneur Award" or the "Born from Knowledge Award", which is given by the ANI – National Innovation Agency. In SP, there are demo days oriented only to the health sector, forums of investors and days of investors, and also demo days to present the projects to investors such as Botín or Caixaimpulse.

Participation in publicly funded R&D&I programmes: in all three countries there are differences. For instance, in IT, they indicate the EU Grants, PORMARCHE, MIUR and Regional Funds by FERS. In PT, they designate the SI2E Programme or the PT 2020 incentives. As for SP, they refer the RETOS collaboration program ENISA, the FICHe accelerator, among others. As for similarities, both IT and SP refer to the H2020 European Project.

4 CONCLUSIONS

THE GOOD PRACTICES WERE IDENTIFIED, THE STRENGTHS AND WEAKNESSES ANALYSED AND BIO-ALL IS LOOKING FORWARD TO THE PROMISING FUTURE OF BIOHEALTH SECTOR

Advanced studies

Acceleration programmes

University-Business cooperation

For each of the three major sections comprising the advanced studies, the acceleration programmes and the University-Business cooperation schemes, the report presented the main features of the practice, identified the units of analysis of the case study, pointed the perspectives of the key actors involved and summarized the set of lessons learned.

The educational offer for promoting entrepreneurial competences and processes, in all the countries exists in different academic curricula settings and aims to reinforce, broaden and hone the skills and expertise of graduates and postgraduates, utilising and expanding upon previous training to meet the demands of the professional world. Specifically in BIO-HEALTH sector, the learning extends towards strategic and transversal skills, to the knowledge that is crucial for the enhancement of one's potential and resources for the construction of future professional paths. These are also strengthened with the offer of advanced studies on innovation and/or entrepreneurship.

Moreover, there is a significant established University-Business cooperation (UBC) schemes foster entrepreneurship and innovation in the Bio-Health sector but still there are several investigations that are currently in the transfer phase.

Outside of the academic offer, the incubators/accelerators, provide acceleration programmes with a sectorial focus, preferably linked with high tech businesses in BIO and Health-Tech, and have an array of competences, services which they provide to start-ups, as well as support mechanisms regarding investment needs. They stand as experienced mentors and trainers that operate in favor of the sector growth.

In this context, Bio-Health businesses themselves, seek & entail specific initiatives to develop internal innovation and growth capacities, and carry out activities to raise awareness in the areas that are more technical and practical with the aim of fostering their growth and development. They use the existing strutcures and opportunities, but yet are in need for a more focused and established sectorial support approach.

Verdict: With this report, we have realised that we must continue working to improve the array and quality of specialized advanced studies on innovation and/or entrepreneurship in the Bio-Health sector. Furthermore, we also detected space for developing University-Business cooperation (UBC) schemes to foster entrepreneurship and innovation in the Bio-Health sector. Another route for action is supporting the Bio-Health businesses to get funds (programs and investors). BIO-ALL project works to get these objectives.

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