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D1.1 Report on the state of the art

Bio-All

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Contents

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1. Summary for non-specialist

Report on the state of the art

This Deliverable is the first outcome of the BIO-ALL project and summarizes the main results of the literature review and of the documentary collection carried out, as well as the results of field research based on the contributions provided by the main actors in the survey program. The field survey consisted of carrying out more than one hundred interviews with universities, higher education institutions (HEI), companies, incubators/accelerators and other key players in the BIOHEALTH sector through the administration of a specific questionnaire, designed, tested, translated into four languages and presented to the selected interlocutors. The questionnaire was distributed and administered nationally - in Portugal, Spain and Italy. The efforts made by the researchers met the interest and the availability of the interlocutors, demonstrating the relevance and the topicality of the topics addressed, the collaboration was positive and active, reaching the original objectives of the project. The threshold of one hundred interviews to be carried out has been reached and abundantly overcome thanks to the interests of the interlocutors and to the promising prospects that the interlocutors themselves see in the BIOHEALTH sector and to the activities connected to it and induced.

The document includes a detailed descriptive framework and a comprehensive overview of the three countries (Italy, Portugal and Spain), also includes a comparative analysis between the three countries and final considerations to support the further development of the project. Each country then received a specific in-depth analysis aimed at capturing any specificity and characteristics with respect to the overall unitary framework.

The demand and supply of educational, training, financial and consultancy services in the BIOHEALTH sector as a whole and among the companies belonging to it appear to be very dynamic, very fragmented and different from each other as it was likely to be expected given the wide and varied aggregation of activities related to the BIOHEALTH sector (BIOFood, BIOMedicine, BIOEnergy, BIOPharma, BIOBuilding, etc.) and typical of a sector in rapid affirmation and tumultuous growth.

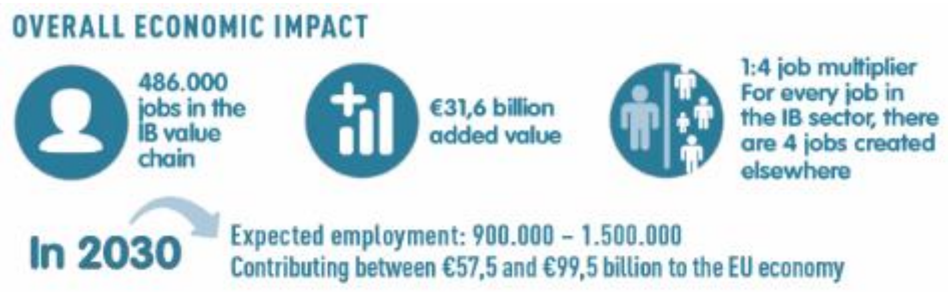
Particularly in the face of a majoritarian and unequivocal opinion on the existence of a strong demand, real and potential, of educational, training and consulting services, it is a counterpoint to a fragmented offer with non-homogeneous contents and training paths also on the part of the same universities, research centers and HEIs, incubators/accelerators and consulting companies.

UNIVPM (P3) was responsible for developing this relationship with CEEIARAGON (P7) and with the support of the Academia partners (P1 and P4).

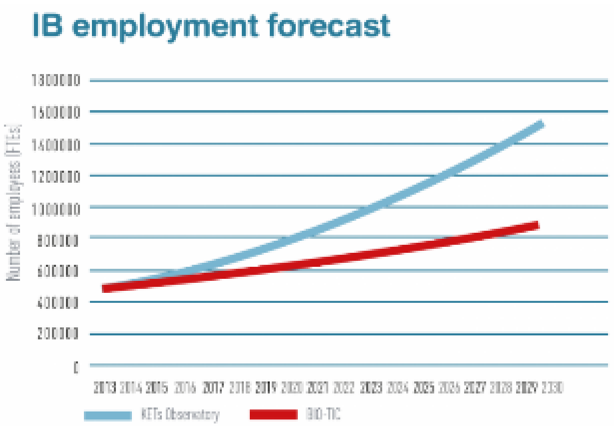
2. Introduction

The relevance and promising of Industrial Biotechnology (IB) in Europe or BIOHEALTH sector is confirmed and showed by some studies carried out at European and international level which quantify the different economic effects associated with the activities of the IB sector in Europe. These include the direct effect, i.e. the employment-related from core IB sector activities such as production of enzymes or antibiotics, as well as upstream effects (employment generated by the suppliers to the IB sector), downstream effects (employment involved with processing and integrating IB outputs) and induced effects (resulting from the spending of employees from the aforementioned categories).

The results show that total employment in the IB value chain amounts to about 486.000 Full-Time Equivalents (FTEs). About 94.000 FTEs are generated in the IB sector itself, while some 269.000 FTEs are created in the upstream part of the value chain, i.e. by the suppliers of good and services to the IB sector. In addition, some 98.000 FTEs are generated downstream of the IB sector, whereas the employment of about 25.000 people is induced by the spending of employees in the earlier categories. Along the IB value chain, more than €31 billion is generated in terms of value-added.



For every job in the IB sector, there are four jobs created elsewhere in the IB value chain. This high multiplier effect is driven especially by upstream employment in the IB sector. Higher upstream job creation is a general characteristic of chemicals and pharmaceuticals production, but this is augmented by the IB sectors' sourcing of bio-based inputs rather than fossil resources. Indeed, biomass production is much more labour intensive than fossil resource extraction, leading to a 16% higher overall upstream employment.



An outlook to 2030 shows that employment in the IB value chain may increase to well above one million FTEs. Two different growth scenarios for the IB sector have been considered. The first is the extrapolation of the historical growth rate of IB production observed in the

Key Enabling Technologies (KETs) Observatory time series. The second is the market forecast made for the IB sector in the context of the BIO-TIC market roadmap. When we apply the growth rates from both sources to current employment and calculate expected employment by 2030, we find that total employment for IB will lie between 900.000 FTEs (BIO-TIC scenario) and 1.500.000 FTEs (KETs Observatory scenario).

The IB sector is becoming an increasingly important source of employment in the chemical and pharmaceutical sector. As of 2013, the share of IB related employment in total chemicals and pharmaceutical amounted to about 5%. Assuming employment in these two sectors will remain stable, as has been observed over the past years, and combining this with the expected positive growth of IB employment, the share of IB based employment in these two sectors is anticipated to increase to between 10% and 15% by 2030, highlighting the importance of IB for maintaining employment in these key strategic EU sectors. The IB market in the EU is expected to contribute between €57,5 billion and €99,5 billion to the European Economy by 2030.

What is the sector and who are the main players?

According to the European Commission, the sectors of life sciences, biotechnology and the pharmaceuticals play an important role on the modernization of the European industry and on the achievement of a competitive knowledge-based economy. Those sciences are used in several industrial sectors such as feed processing, food, chemicals, animal health, pharmaceuticals and healthcare. The Biohealth sector helps the EU's economy growth and provides new jobs, while also supporting environmental protection, sustainable development and public health.

The Biohealth sector is growing and changing the practice of medicine by offering new and better ways to detect, treat, and prevent diseases. This sector is the intersection of healthcare, life sciences, biosciences, information technology and manufacturing. Industry sectors include biotechnology, biopharma, medical devices, contract research organizations, clinical and regulatory services, healthcare services, health IT, e-health, mobile health, electronic medical records, health informatics and biohealth security.

This sector is also increasing yields to improve food security and also to bring significant environmental, economic and nutritional benefits. This sector presents several career opportunities in the industry, non-profit organizations and in government, or even in entrepreneurship.

Everyone can create a Biohealth company, as long as the individual has the skills, idea and motivation, but in general, a bio-entrepreneur comes from one of four background types:

- The *scientist/physician/bioengineer* who comes from an academic institution (university, research foundation, non-profit research institute);
- The *scientist/physician/bioengineer* who comes from within the life science industry such as another biotechnology company;
- The *business person*, such as a former executive in the life science, pharmaceutical, or venture capital industry, who is not a scientist/physician/bioengineer;
- A *core group of individuals* that are spun-off from another life science organization within the industry.

What are the relevant policies?

The European Commission developed the Entrepreneurship Action Plan to promote Europe's economic growth. With this, the European Commission aims to reignite Europe's entrepreneurial spirit by instructing youth about entrepreneurship, promoting chances for women and other groups, facilitate administrative requests and making it accessible to captivate investors.

In order to encourage more people to become entrepreneurs, set up their own companies and create jobs in the EU. The Commission created the Erasmus for Young Entrepreneurs program to emphasize entrepreneurial stance by offering skills, knowledge and experience, augment the number of start-ups and increase their resilience, fostering the cross-border transfer of ideas, knowledge and cooperation between small firms. Also, helps small businesses to network, innovate, to internationalize and create jobs.

The EU also acts as a promoter and a facilitator of Entrepreneurship education action by making entrepreneurship education a basic feature in education systems, by giving of concepts, know-how, experience, and best practices among countries, stakeholders, and practitioners. The EU promotes Entrepreneurship education by establishing models, common tools, and projects with a high added value at EU level.

The Commission provides support networks to entrepreneurs and SMEs through:

- the Your Europe Business Portal which is a useful guide to doing business in Europe. It supports entrepreneurs with information and interactive services that assist them to expand their business abroad;
- the Enterprise Europe Network which supports SMEs and entrepreneurs access market data, reduce legal obstacles, and identify promising business partners across Europe;
- the SMEs Internationalization support page that offers information on external markets and aids European business internationalize their activities;
- the single portal on Access to Finance that helps SMEs find finance supported by the EU.

What are the specific needs of the sector in terms of education and training?

Bio-entrepreneurship comes with unique challenges that other entrepreneurial endeavours do not face. Entrepreneurship education has become far and wide viewed as key know-how necessary not only to business students but for all students and society in general despite their speciality.

Some needs of bio-entrepreneurs are mentoring, marketing support, legal consulting, management coach and access to new tech. In general, bio-entrepreneurs, on their base formation didn't receive the basics on management, entrepreneurship, financial and marketing all subjects of extreme importance for business.

Entrepreneurial education provides skills and competences that allow entrepreneurs to be more adaptable and more aware to utilize the advantages that the fast change of the market or economic circumstances offer.

Some essential Biotechnology entrepreneurial characteristics are: awareness of the unknown-unknowns, be a multidisciplined translator, understanding the purpose of negotiation, having leadership wisdom, possessing good core values and having creativity and imagination.

What offers do universities have to respond and what is missing?

Universities offer non-specific entrepreneurship training, several courses are delivered in Europe in the general areas of entrepreneurship and innovation, being the majority of those delivered by Higher Education Entities. Also, the most common courses are masters, mainly delivered by Academia. 82 higher education courses and 64 short courses were identified in Europe concerning General Entrepreneurship and Innovation, being 7 of those online courses. In general, these courses offer competences on the business model, financial management and accounting, human resource management and leadership, marketing and sales, law, entrepreneurship and innovation, organizational behaviour, competitive strategies.

Concerning the fields of Bio-entrepreneurship and Innovation, the offers are more limited, 43 higher education courses and 4 short courses were identified. This demonstrates the clear need to develop specialized education and training targeted at Bio-health entrepreneurs.

What are the needs/barriers to reach the market?

Bio-entrepreneurship comes with unique challenges other entrepreneurial endeavours do not face. These include the need for substantial capital to make incremental product development progress, longer development times, and stiffer regulatory approval requirements in order for products to be commercialized.

Innovative new products can transform industries and the pace of change has accelerated due to massive technological breakthroughs such as the internet, smartphones and wireless technology. But when it comes to innovation, not all industries are created equal.

The BIOHEALTH sector is highly complex; to break through the complexity and move innovation in this sector forward, inventors, researchers and product research and manufacturing companies must first overcome many barriers.

Regulatory affairs

The European medicines regulatory system is based on a network of around 50 regulatory authorities from the 31 EEA countries (28 EU Member States plus Iceland, Liechtenstein and Norway), the European Commission and EMA. This network is what makes the EU regulatory system unique.
Manufacturers, importers and distributors of medicines in the EU must be licensed before they can carry out those activities. The regulatory authorities of each Member State are responsible for granting licenses for such activities taking place within their respective territories. While it's necessary to enforce strict guidelines on healthcare product manufacture and distribution to prevent incompetent or unscrupulous suppliers from harming patients, the EU regulatory environment slows the innovation process considerably.

In Portugal the regulatory authority is **INFARMED** - National Authority of Medicines and Health Products.
In Spain the regulatory authority is **AEMPS** - Spanish Agency of Medicines and Medical Devices (AEMPS).
In Italy the regulatory authority is **AIFA** - Agenzia Italiana del Farmaco.

Research and Development (R&D) Costs

The Tufts Center for the Study of Drug Development estimated the average cost of bringing a new drug to market with post-approval research and development (R&D) in $2.8 billion. A single clinical trial could cost as much as $100 million, and the FDA usually approves about one in 10 clinically tested drugs. Just as significantly, it can take up to 10 years for a drug to be approved for a prescription. Even if a startup company had the $2.8 billion to develop and test the drug according to FDA rules, it still might not receive revenue for 10 years.

Intellectual Property Challenges

Intellectual property rights have always been a confusing aspect of the inventing process for the majority of individual inventors. It can be virtually impossible to navigate without professional help. Intellectual property hurdles are substantial for two reasons. First, patents are often taken out to use as legal weapons by huge companies to fight off their competitors even if they do not plan on completing trials for the drug. Second, legitimate patents are risky because they might run out, and often do before the specific entity of each member state approves the prescription,

Product distribution

Unlike consumer products, biohealth products, such as pharmaceuticals for instance, are distributed through a more complex supply chain that involves multiple parties, including medical device manufacturers and distributors, each country's National Health System purchasing and supply agency, physicians and nurses who provide the product to the end-user, and the patient, who generally has no input on product or pricing considerations. Determining how best to break into this elaborate network can be daunting, if not truly insurmountable for inventors.

Build collaborations

Companies often enter partnerships opportunistically rather than crafting a long-term collaboration plan as part of their access strategy. Effective collaborations could involve working with patients' and physicians' associations, and regulators to improve access and health-system performance.

What services are currently available to support entrepreneurs?

Incubators and accelerators are business development support programs that offer a range of support services to entrepreneurs in business creation and during the early stages of the business lifecycle. Both types of support program usually offer a package of services, containing training seminars, workshops, coaching and mentoring, business advice, networking opportunities and access to funding. In addition, incubators have traditionally offered premises for the business to operate.

Biohealth projects may be funded through EU funding schemes such as Horizon 2020, and explored actions include basic and applied research and piloting, demonstration and scale-up. National funding programs are also a hypothesis, programs such as Portugal 2020, Startup Portugal programs, Rising Startup Spain and CDTI Eurostars.

One example of a supporting tool available for Biohealth business in Portugal is the SciPort, Portugal's premier site for Health R&D projects and assets. This site is managed by Health Cluster Portugal (HCP), a private non-profit association sustained by members from business, academia, hospitals and local authorities. Entrepreneurs can use this site to search for R&D institutes, for R&D projects and for technical assistance granted in Portugal. It may also be used to identify potential collaborations for research projects or to locate technical assistance provided on a cost or commercial base in Portugal.

In Spain for instance there is the BioIncubaTech that is the High Technology Incubator for the promotion of innovation and biotechnology transfer in the field of health and food technologies to micro-SMEs. The majority of the information about funding can be found in the pages of the Ministry of Science and Innovation (MICINN), Centre for Technological and Industrial Development and Institute of Health Carlos III. A very complete european funding search engine can also be used: EURAXESS SPAIN.

In the Italian case, on the portal researchitaly a vast array of information can be found, like funding opportunities, jobs, success cases, projects, and so on. There is also the European funding search engine: EURAXESS ITALY.

3. Objectives

The general objective of present Deliverable 1.1 is to produce an up-to-date common body of knowledge on Innovation and Entrepreneurship in BIOHEALTH sector following the previous design of the guidelines and the necessary supporting tools (protocol) to a coherent implementation of the activities at a national and European level. These activities have been implemented with the active involvement of the majority of the partners and main stakeholders through a participatory and mixed approach built-on balanced use of quantitative and qualitative methods and techniques.

A report summarising the main results of the literature review and desk research carried out, as well as outcomes of the fieldwork (built-on the contributes provided by key players within the survey programme/questionnaires deployed at a national level – in Portugal, Spain and Italy – to HEIs, business, incubators/accelerators and other key actors, with the participation of 100 stakeholders). The document will include a detailed background and overview, state-of-play per country (comprising also a comparative analysis) and recommendations to support the further development of the blueprint (for more details, please refer to the outcome D1.3).

UNIVPM is responsible for the development of this report (with a maximum length of 80 pages), with the support of Academia, Business and Incubators/Accelerators partners. INOVA+ will prepare a briefing with 5 to 10 pages, to be translated (by Academia partners), released and distributed to stakeholders. Virtual Angle is responsible for preparing the ebook version of this result. This output is directly linked with Task 1.1 – Production of a common body of knowledge on the state-of-play.

4. Methodology

The structure of BIO-ALL project has been planned to ensure a clear and logical connection between all Work Packages (WP), ensuring the achievement of striving objectives in a timely and cost-efficient manner and with higher quality standards. Moreover, while promoted by an experienced and heterogeneous consortium, which will engage other stakeholders from the start, the project WP/activities will be developed by, with and for the end-users. The comprehensive structure of the project is embedded in eight WP. The progress of this methodology will be measured by the achievement of pre-defined activities and respective outputs and indicators, as follows:

WP1 In a nutshell: This WP involves preparatory measures such as in-depth desk research and fieldwork as well as the compilation of a set of successful good practices. The work developed within this WP will underpin the subsequent project activities, providing the necessary extensive and up-to-date theoretical and empirical backbone to 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).

Main activities: WP1 is divided into four coherent and complementary Tasks, according to a modular approach where each Task has a self-standing value but at the same time the results of each one will assume a reference base for the development of the following ones.

Present report, called Del 1.1, is about Task 1.1 "Production of a common body of knowledge on the state-of-play" and has been written after the design of a specific questionnaire, discussed and agreed with all interested Partners (P1, P2, P3 and P4), the design of a Letter of introduction to deliver the target groups, and the design of a database (a .xlsx file) to collect and save all answers provided by respondents.

Contributors

Led by UNIVPM (P3) and co-led by CEEIARAGÓN (P7), this Task 1.1 involved (P1, P2, P4 and all partners.

Duration

6 Months (M1-M6)

Milestones

- Publishing the Report on the State-of-the-Art (M6) – Linked to Activity 1.1 and Output Del 1.1

Output

- Del 1.1. – Report on the State-of-the-Art

To develop this deliverable the evaluative model has the following structure.

Table 1. Questionannaires and Interviews divided per Partner and Task

Tasks 1.1						
Partner	Name	Country	Academy	Business	IncubAcce	Stakeholder
P1	UBI	PT	10	10	10	3
P2	UdG	ES	10	10	10	3
P3	UNIVPM	IT	5	5	5	2
P4	INBB	IT	5	5	5	2
Total			30	30	30	10
			100			

In this study, a pre-experimental method has been used, taking each country (Portugal, Spain and Italy) as a case.

- Portuguese partners carried out the survey at the national level and share the results with UBI (P1) (deadline: 31/05/2019).

  10 from each group of key actors – Academia, Business and Incubators/Accelerators, plus 10 from other relevant players, including public authorities, innovation agencies, business angels and venture associations, etc.

- Spanish partners carried out the survey at the national level and share the results with UGR (P2) (deadline: 31/05/2019).

  10 from each group of key actors – Academia, Business and Incubators/Accelerators, plus 10 from other relevant players, including public authorities, innovation agencies, business angels and venture associations, etc.

- Italian partners carried out the survey at the national level and share the results with UNIVPM (P3) and INBB (P4) (deadline: 31/05/2019).

  10 from each group of key actors – Academia, Business and Incubators/Accelerators, plus 10 from other relevant players, including public authorities, innovation agencies, business angels and venture associations, etc.

The Partnership made an effort to identify differences in BIOHEALTH landscape in different countries in order to identify the possible influence of different policies. This effort will allow new hypotheses to be formulated but will have a low degree of external validity.

- Academia partners will co-develop a brief report on BIOHEALTH landscape mapped (deadline: 10/06/2019).
- UNIVPM (P3) with the support of CEEIRARAGON (P7) developed the final report on the State-of-the-Art (with a maximum length of 80 pages) (deadline: 30/06/2019).

Indicator

- 109 Questionnaires have been ben carried out and collected (fieldwork). Partners carried out the interviews to different respondents using "face to face" approach, by phone, via skype call or sending the agreed questionnaire by email. (Appendix 1: Questionnaires).

Collection of results

To collect the data we have created an excel sheet that will facilitate the processing and analysis of information (Appendix 2: Tab.1 Summary of the answers provided by the interviewed).

5. Results

The objective of the interview was to gather information on the state of the educational supply from the Universities, Research Centers, Incubators/Accelerators, Co-working spaces, Public Bodies, Innovation Agency, Transfer Center Technological Development Agencies, Trade Associations, Business Angels, and on the demand for training and consultancy for the development of business initiatives initiated by Spin-Off, Start-Up, students, young people and individuals in sectors related to BIO (BIO-Medicine, BIO-Pharmacy, Bio-Engineering, BIO-Agroindustry, BIO-Health, BIO-Energy, Green, etc.).

The target group was composed by Universities, Research Centers, Science and Technology Parks, Incubators/Accelerators, Co-working spaces, Public Bodies, Land Development Agencies, Agencies for Innovation and Technology Transfer, Business Associations, Business Angels, Venturing Associations, etc.

The questionnaire designed, tested and applied to collect information was anonymous and confidential, serving only for the purposes of data collection and subsequent analysis and action design.

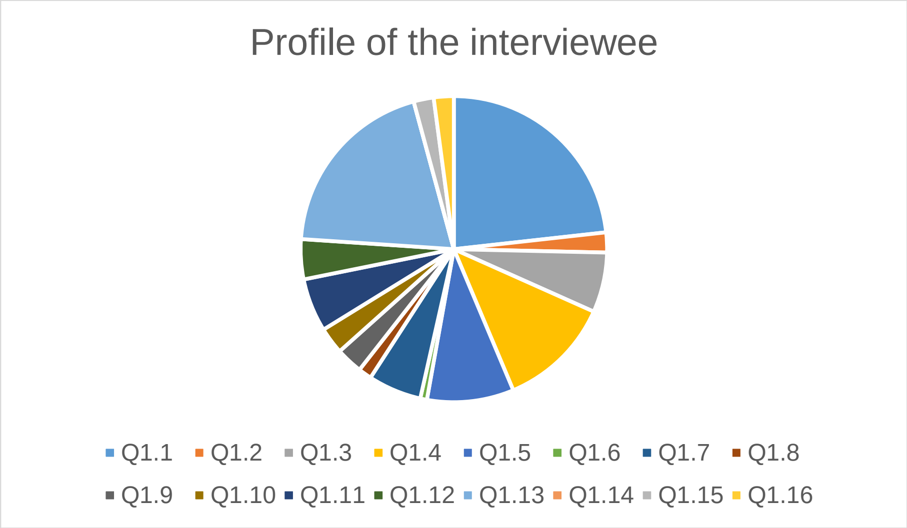
OVERALL RESULTS RELATED TO THE THREE COUNTRIES

Profile of the interviewees				
Organization	**Italy**	**Portugal**	**Spain**	**Total**
University/C Lab	14	9	10	33
Research Center	1	2	0	3
Science-Tech Park	2	4	3	9
Incubator	7	7	3	17
Accelerator	5	5	3	13
Elevator	0	0	1	1
CW Space/Fab Lab	6	2	0	8
Business service center	0	2	0	2
Inn Agency CTT	4	0	0	4
Develop Agency	2	0	2	4
Cluster agency	3	0	5	8
Public Body	1	5	0	6
Company	8	13	7	28
Business Angels	0	0	0	0
Venturing Association	0	2	1	3
Other	3	0	0	3

Table. 1 Profile of the interviewee

Source: BIO-HEALTH consortium survey, 2019

Among the 117 questionnaires received and coming from the three countries surveyed, the universities and their structures were mainly involved with 23%, followed by the "Companies" category with 20% and finally the "Incubators" category with 12%. The other categories included in the questionnaire are represented but with a high distribution and fragmentation.



Graphic 1: Profile of the interviewee;

Graphic subtitle: Q1.1 - University/C Lab, Q1.2 - Research Center, Q1.3Science-Tech Park, Q1.4 – Incubator, Q1.5 – Accelerator, Q1.6 – Elevator; Q1.7 - CW Space/Fab Lab, Q1.8 - Business service center, Q1.9 - Inn Agency CTT, Q1.10 - Develop Agency, Q.11 - Cluster agency, Q1.12 - Public Body, Q1.13 – Company, Q1.14 - Business Angels, Q1.15 - Venturing Association, Q1.16 – Other.

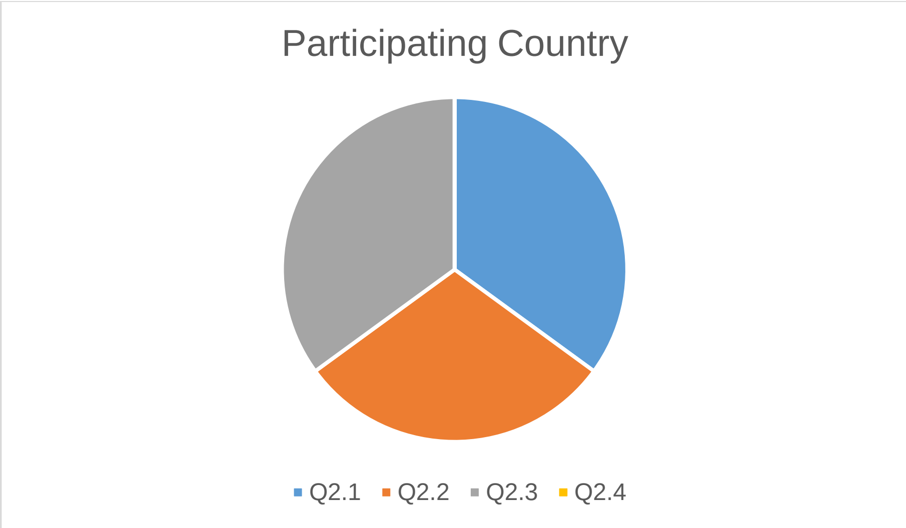
Participating Countries

Participating Countries				
Country	Italy	Portugal	Spain	Total
Questionnaires	41	41	35	117

Table. 2 Participating countries

Source: BIO-HEALTH consortium survey, 2019

The number of interviews set and indicated in the proposal and in the work plan (100) was fully respected and overlapped (117) even though the proportions between the four different types of categories envisaged (Academia, Business Agencies, Incubators / Accelerators and Stakeholder underwent slight changes.



Graphic 2: Participating countries;

Graphic subtitle: Q2.1 – Portugal, Q2.2 – Spain, Q2.3 – Italy.

EDUCATIONAL AND TRAINING SUPPLY

Educational and training services provision

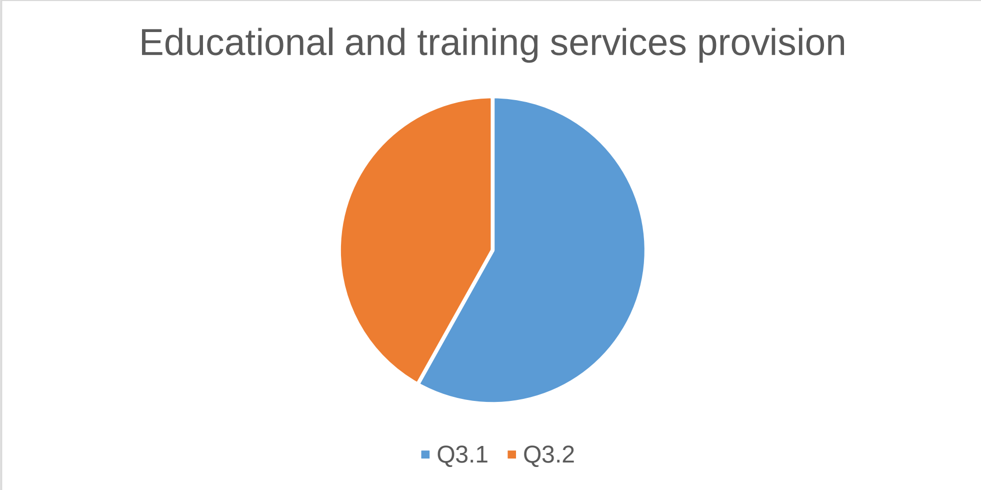
Educational and training services provision				
Answer	Italy	Portugal	Spain	Total
Yes	20	24	24	68
No	21	17	11	49

Table. 3 Educational and training services provision

Source: BIO-HEALTH consortium survey, 2019

The researchers structured the survey and consequently the questionnaire in four distinct "areas" of observation. The first concerns the Educational and Training Offer of the interviewed organization.

When asked if the organization provided educational and training services, 58% responded affirmatively while the remaining 42% negatively. It is interesting to note that not all subjects operating in this sector then provide educational and training services but also other types of services.



Graphic 3: Educational and training services provision;

Graphic subtitle: Q3.1 – Yes, Q3.2 – No.

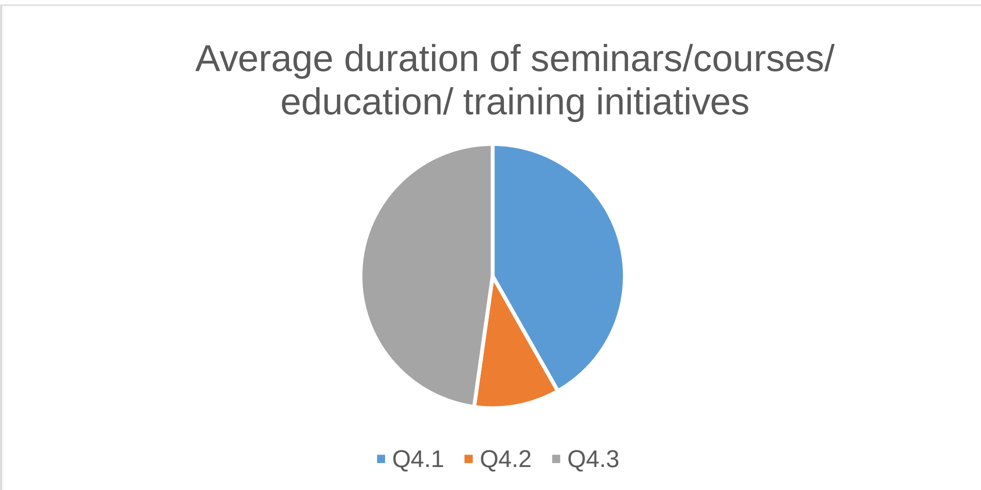
Average duration, in hours, of the seminars/courses/education/training initiatives

Average duration, in hours, of the seminars/courses/education/training initiatives?				
Answer	Italy	Portugal	Spain	Total
Yes	20	24	24	68
No	21	17	11	49

Table. 4 Average duration, in hours, of the seminars/courses/education/training initiatives?

Source: BIO-HEALTH consortium survey, 2019

The most frequent training courses and almost half of the answers have a duration of over 16 hours; the second option of around 8 hours. It is likely that they deal with different educational paths.



Graphic 4: Average duration of seminars/courses/ education/ training initiatives;

Graphic subtitle: Q4.1 – 4-8h, Q4.2 – 9-16 h, Q4.3 - >16h.

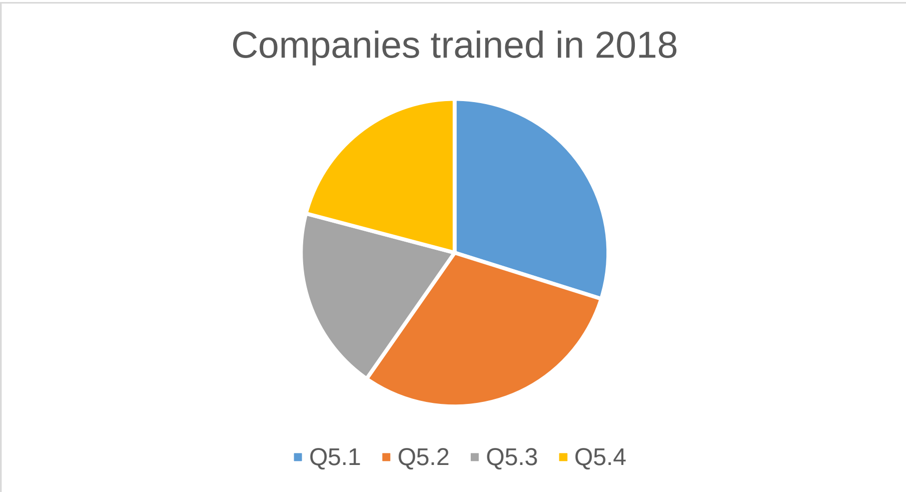
Companies trained in 2018

Companies trained in 2018				
1-10	8	8	4	20
11-30	5	8	7	20
31-50	4	4	5	13
> 50	2	4	8	14
1-10	8	8	4	20

Table. 5: Companies trained in 2018

Source: BIO-HEALTH consortium survey, 2019

The responses received indicate that in 2018 respondents provided training to a rather limited number of organizations and companies, less than 30 entities in 60% of cases.



Graphic 5: Companies trained in 2018;

Graphic subtitle: Q5.1 – 1-10, Q5.2 – 11-30, Q5.3 – 31-50, Q5.4 - >50

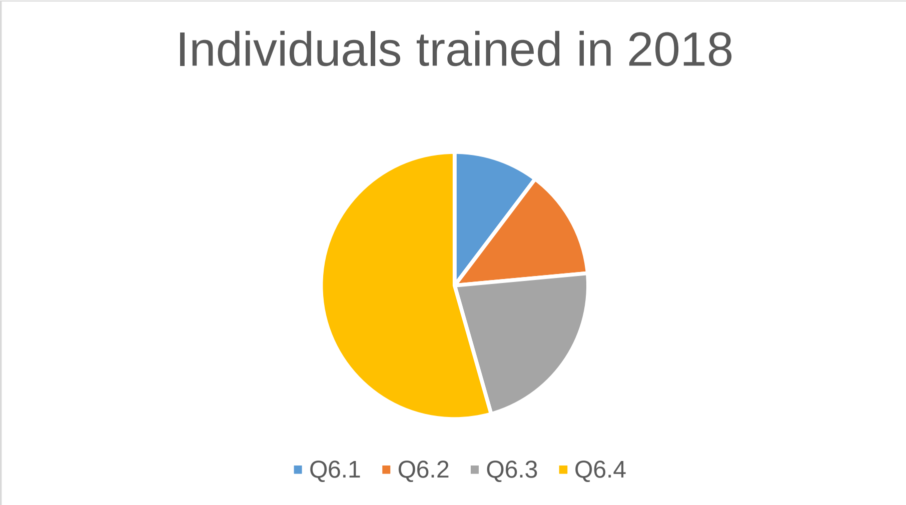
Individuals trained in 2018

Individuals trained in2018				
Answer	Italy	Portugal	Spain	Total
1-10	2	4	1	7
11-30	2	4	3	9
31-50	7	6	2	15
> 50	10	9	18	37

Table. 6: Individuals trained in 2018

Source: BIO-HEALTH consortium survey, 2019

The number of individuals trained is decidedly higher and the category most indicated by 54% of the training providers is " over 50 participants". From this, it is likely to believe that those who do entrepreneurial training do it in a structured way and on large groups.



Graphic 6: Individuals trained in 2018;

Graphic subtitle: Q6.1 – 1-10, Q6.2 – 11-30, Q6.3 – 31-50, Q6.4 - >50

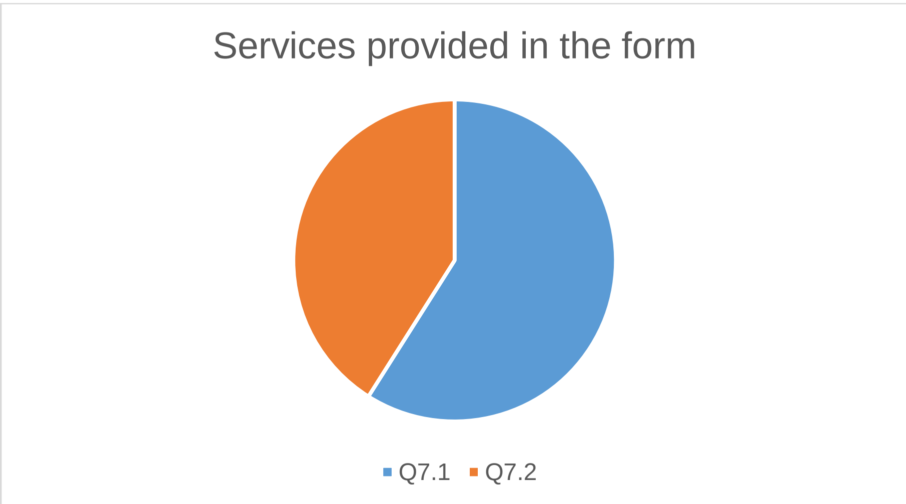
Services provided in the form

Services provided in the form				
Answer	Italy	Portugal	Spain	Total
Structured/Permanent	12	16	18	46
Occasional on request	7	15	10	32

Table. 7: Services provided in the form

Source: BIO-HEALTH consortium survey, 2019

It is a slight majority that does training and does so in a structured and/or permanent manner, while just under half does so occasionally upon request.



Graphic 7: Services provided in the form;

Graphic subtitle: Q7.1 - Structured/Permanent, Q7.2 - Occasional on request.

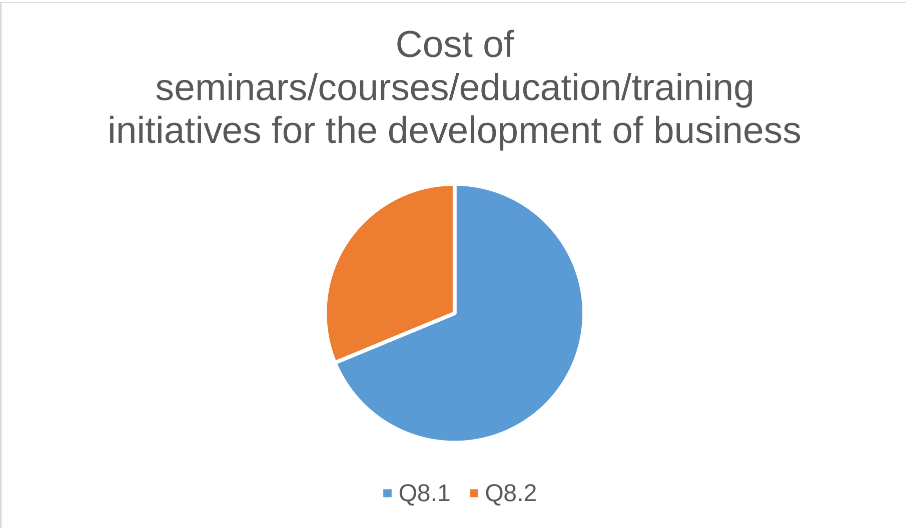
Cost of seminars/courses/education/training initiatives for the development of business

Cost of seminars/courses/education/training initiatives for the development of business				
Answer	Italy	Portugal	Spain	Total
Free of charge	14	21	20	55
Payment	7	12	6	25

Table. 8: Cost of seminars/courses/education/training initiatives for the development of business

Source: BIO-HEALTH consortium survey, 2019

In over two-thirds of the cases, the training initiatives were offered and carried out for free, without any cost for the participants while the remaining third fee. If in the first case one can think of a consistent role of the typically free educational and scholastic offer supported by the one through initiatives financed by the ESF through the regions and the public Training Centers very interesting is the data concerning who is willing to pay, to support of costs to be trained and educated to entrepreneurship.



Graphic 8: Cost of seminars/courses/education/training initiatives for the development of business;

Graphic subtitle: Q8.1 - Free of charge, Q8.2 – Payment.

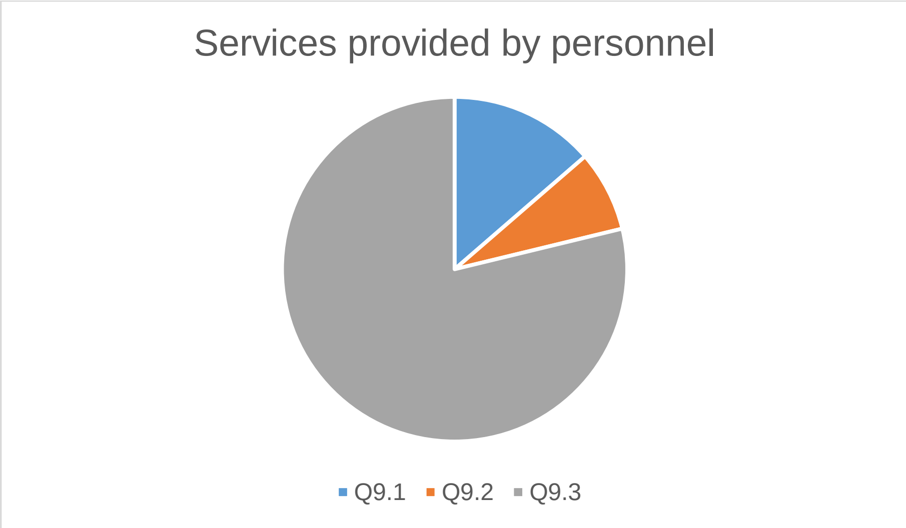
Services provided by personnel

These services are provided by personnel:				
Answer	Italy	Portugal	Spain	Total
Internal	6	2	1	9
External	1	2	2	5
Internal and External	12	19	21	52

Table. 9: These services are provided by personnel:

Source: BIO-HEALTH consortium survey, 2019

The method most frequently indicated is the use of internal and external personnel as if to indicate the need for highly specialized skills and abilities not found in a single or a few individuals. The organizations that provide training only with internal staff are minorities, as in the case of those who use exclusively external personnel.



Graphic 9: Services provided by personnel;

Graphic subtitle: Q9.1 – Internal, Q9.2 – External, Q9.3 - Internal and External.

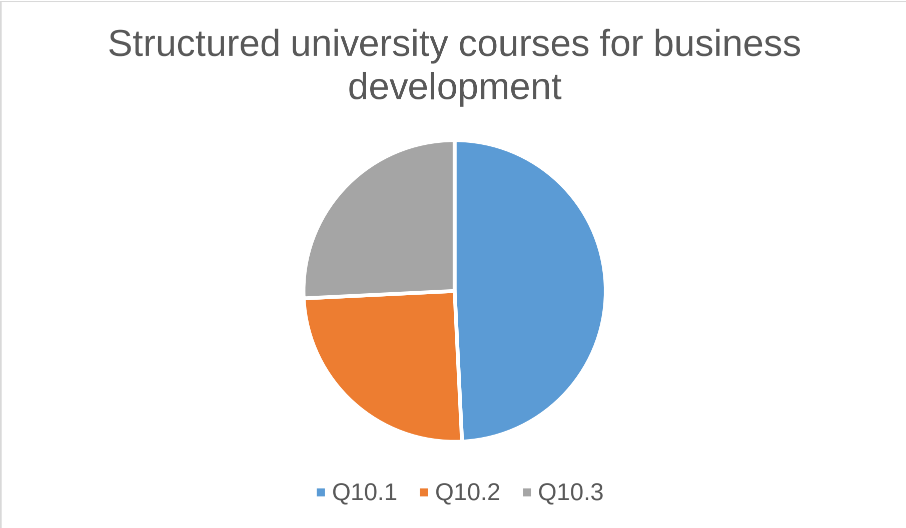
Structured university courses in your area for business development

Structured university courses in your area for business development				
Yes	17	23	23	63
No	18	8	6	32
I don't know	17	10	6	33
Yes	17	23	23	63

Table. 10: Structured university courses in your area for business development

Source: BIO-HEALTH consortium survey, 2019

Half of those interviewed are aware of the existence of a training offer from universities, or related bodies, for the development and support of new entrepreneurship, while the remaining half is divided equally between those who support it and those who declare it not to be aware of it.



Graphic 10: Structured university courses for business development;

Graphic subtitle: Q10.1 – Yes, Q10.2 – No, Q10.3 – I don't know.

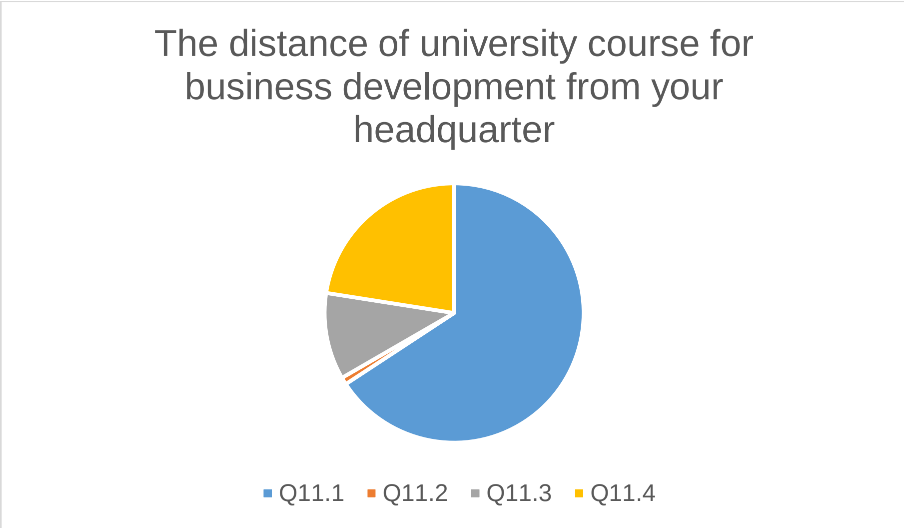
The distance of university course for business development from your headquarter

The distance of university course for business development from your headquarter				
Answer	Italy	Portugal	Spain	Total
Within 100 km	11	31	31	73
Between 101 and 200 Km	1	0	0	1
> of 200 Km	9	2	1	12
I don't know	14	8	3	25

Table. 10: The distance of university course for business development from your headquarter

Source: BIO-HEALTH consortium survey, 2019

The prevailing answer is that university courses that offer training in support of new entrepreneurship are "near home", within a radius of 100 kilometres. It seems to understand that those interested in the phenomenon know its aspects and complementary elements up to the location of the course locations.



Graphic 11: The distance of university course for business development from your headquarter;

Graphic subtitle: Q11.1 – Within 100 km, Q11.2 – Between 101 and 200 Km, Q11.3 – > of 200 Km, Q11.4 - I don't know.

CONSULTING SERVICES SUPPLY

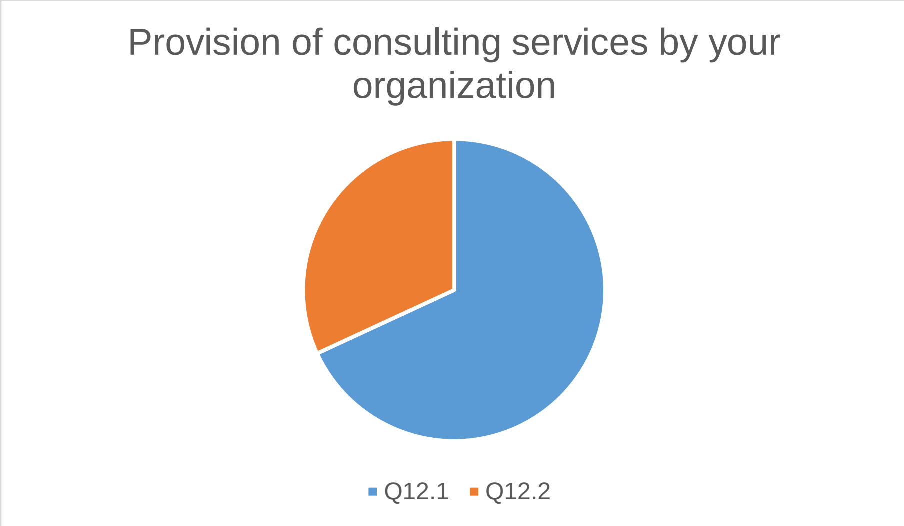
Provision of consulting services by your organization

Provision of consulting services by your organization				
Answer	Italy	Portugal	Spain	Total
Yes	29	23	27	79
No	11	18	8	37

Table. 12: Provision of consulting services by your organization

Source: BIO-HEALTH consortium survey, 2019

With a large majority, with two-thirds of those interviewed, the organizations interviewed stated that they provide spin-off consultancy services, start-ups, students, young entrepreneurs, companies, and business associations for business development. Only a third party does not provide consulting services.



Graphic 12: Provision of consulting services by your organization;

Graphic subtitle: Q12.1 – Yes, Q12.2 – No.

Type of consulting services provided

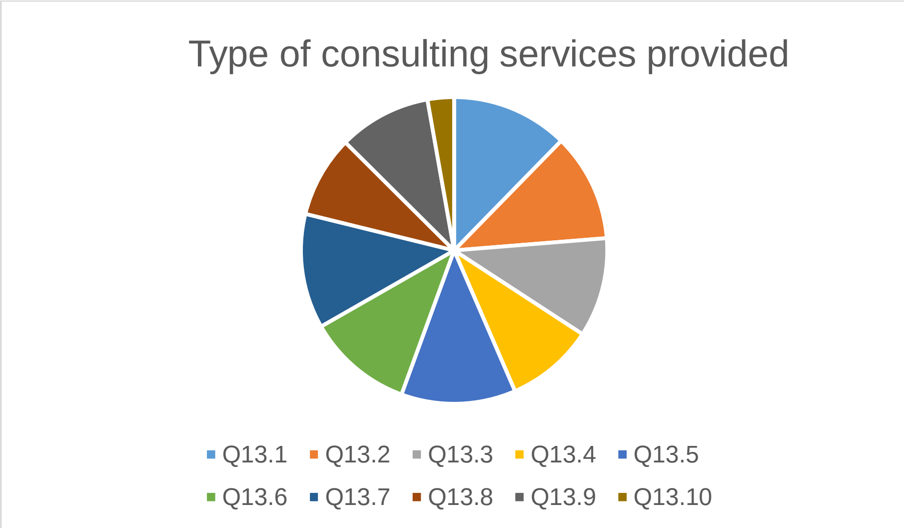
Type of consulting services provided				
Organization	Italy	Portugal	Spain	Total
Business analysis	13	16	24	53
Financial strategy	12	16	21	49
MK & Comm Act	10	17	18	45
Improving Inn Mang	13	12	15	40
Finding Cooper Opp	17	19	16	52
Support to R&D&I	14	16	18	48
Custom & mentor	17	15	20	52
Intellectual property	10	9	18	37
Technological dev	10	15	17	42
Other	0	0	4	4
No	21	17	11	49

Table. 13: Type of consulting services provided

Source: BIO-HEALTH consortium survey, 2019

Each organization has indicated more than one service offered, consistently with the profiles of these companies operating in the market, and the number of answers provided by each organization provides a substantially balanced picture in the distribution. There is almost a uniform distribution. With respect to the 117 organizations that have collaborated in the survey, there are 430 services indicated, which means that on average each company provides four different services. The most commonly provided service is the "Business

Analysis" followed by "Search for opportunities for collaboration" followed by "Support for Participation in Programs and Public Funds for Research, Innovation and Investment". The other services provided do not differ much from the three indicated and are in turn very attractive.



Graphic 13: Type of consulting services provided;

Graphic subtitle: Q13.1 - Business analysis, Q13.2 - Financial strategy, Q13.3 - MK & Comm Act, Q13.4 - Improving Inn Mang, Q13.5 - Finding Cooper Opp, Q13.6 - Support to R&D&I, Q13.7 - Custom & mentor, Q13.8 - Intellectual property, Q13.9 - Technological dev, Q13.10 – Other.

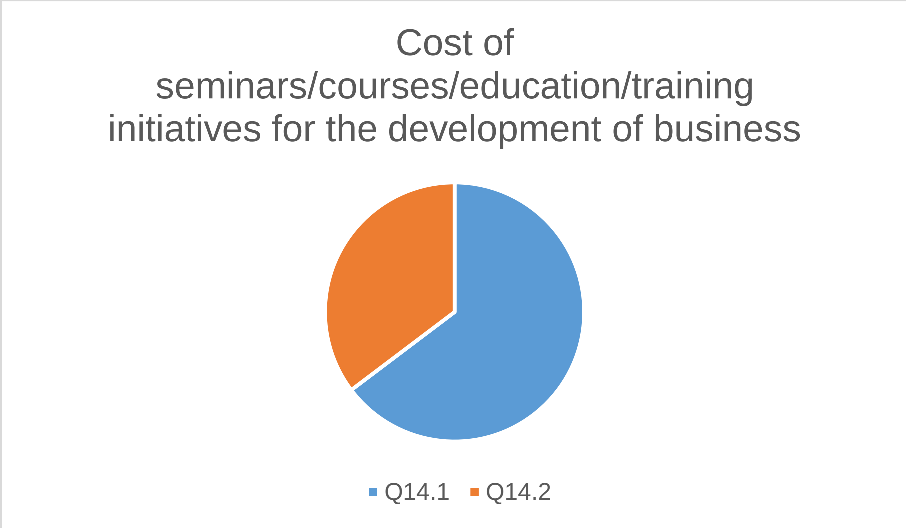
Cost of seminars/courses/education/training initiatives for the development of business

Cost of seminars/courses/education/training initiatives for the development of business				
Answer	Italy	Portugal	Spain	Total
Free of charge	15	21	19	55
Payment	14	4	12	30

Table. 14: Cost of seminars/courses/education/training initiatives for the development of business

Source: BIO-HEALTH consortium survey, 2019

Consultancy services, seminars, courses and training initiatives for business development are provided mainly free of charge, in two-thirds of the cases, and for payment in the remaining third. So there is a significant proportion of people and companies, more or less young, who are willing to pay and incur costs for the development and growth of their business.



Graphic 14: Cost of seminars/courses/education/training initiatives for the development of business;

Graphic subtitle: Q14.1 - Free of charge, Q14.2 – Payment.

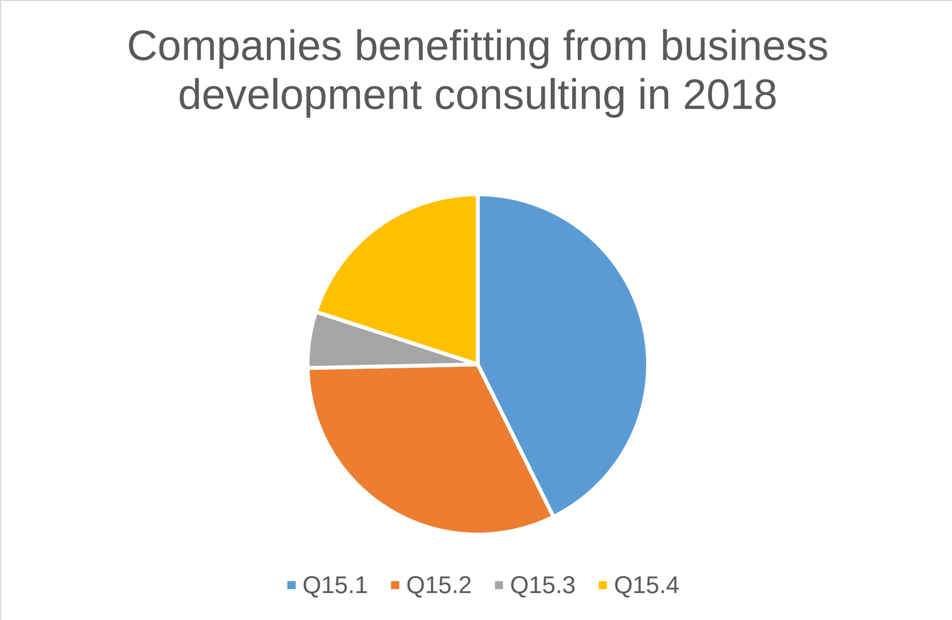
Companies benefitting of business development consulting in 2018

Companies benefitting of business development consulting in 2018				
Answer	Italy	Portugal	Spain	Total
1-10	12	12	8	32
11-30	6	9	9	24
31-50	1	1	2	4
> 50	5	2	8	15

Table. 15: Companies benefitting of business development consulting in 2018

Source: BIO-HEALTH consortium survey, 2019

Also, in this case, the numbers relating to customers and organizations/companies that use the consulting services provided by each individual company are limited, in 43% of the cases there is a maximum of 10 customers, and a third of the answers with a maximum of 30 customers. Summing up these first two categories, we come to the conclusion that the three-quarters of the companies that responded in 2018 had a maximum of 30 customer organizations.



Graphic 15: Companies benefitting from business development consulting in 2018

Graphic subtitle: Q15.1 – 1-10, Q15.2 – 11-30, Q15.3 – 31-50, Q15.4 - >50

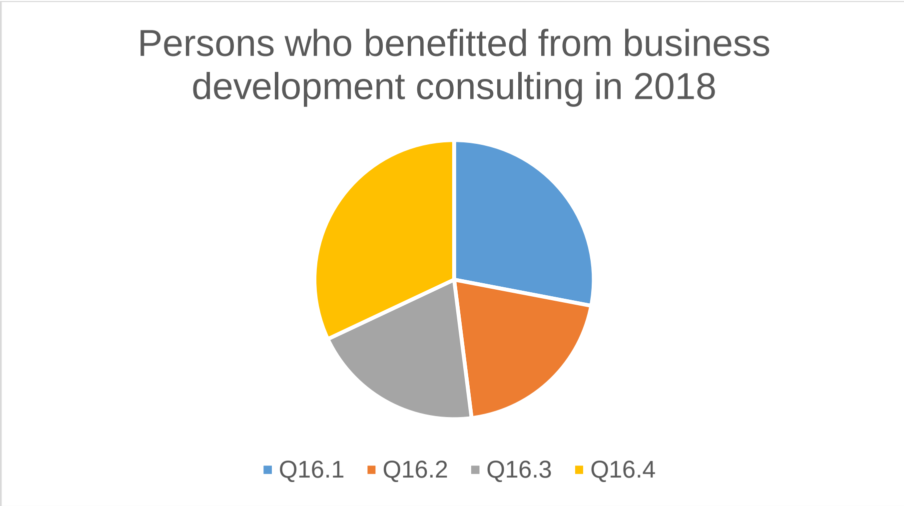
Persons who benefitted from business development consulting in 2018

Persons who benefitted from business development consulting in 2018				
Answer	Italy	Portugal	Spain	Total
1-10	7	9	5	21
11-30	6	5	4	15
31-50	5	3	7	15
> 50	7	6	11	24

Table. 16: Persons who benefitted from business development consulting in 2018

Source: BIO-HEALTH consortium survey, 2019

Also, in this case, the numbers relating to the people of the organizations/companies that use the consultancy services provided by each individual company are over 50 customers, in 28% of the cases there is a maximum of 10 people.



Graphic 16: Persons who benefitted from business development consulting in 2018;

Graphic subtitle: Q16.1 – 1-10, Q16.2 – 11-30, Q16.3 – 31-50, Q16.4 - >50

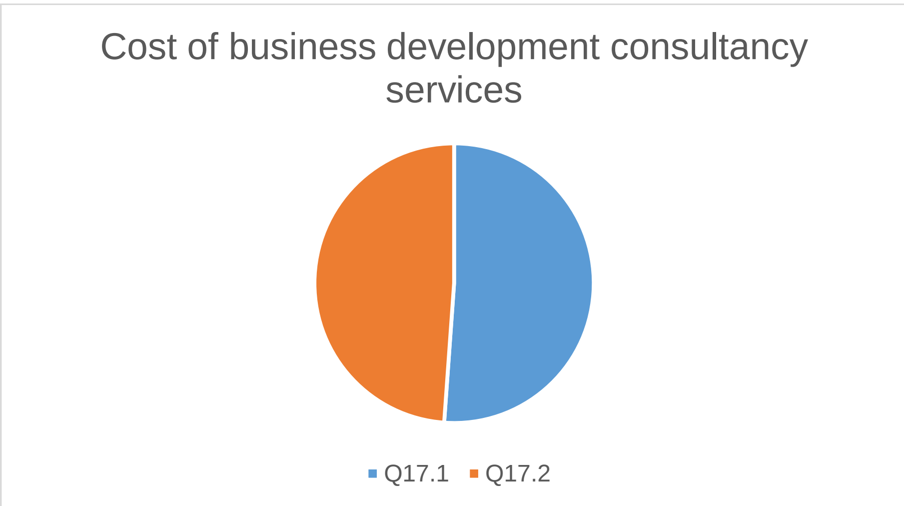
Cost of business development consultancy services

Cost of business development consultancy services				
Answer	Italy	Portugal	Spain	Total
Structured Permanent	12	12	21	45
Occasional on request	12	17	14	43

Table. 17: Cost of business development consultancy services

Source: BIO-HEALTH consortium survey, 2019

Also, in this case, the organizational structure providing these consultancy services is perfectly balanced between those who rely on a "Structured and Permanent" form and those who use "Occasional on request" structures.



Graphic 17: Cost of business development consultancy services;

Graphic subtitle: Q17.1 - Structured/Permanent, Q17.2 - Occasional on request.

EDUCATIONAL AND TRAINING DEMAND

Requests for training services

Requests for training services				
Answer	Italy	Portugal	Spain	Total
Yes	33	13	27	73
No	6	25	8	39

Table. 18: Requests for training services

Source: BIO-HEALTH consortium survey, 2019

The observation on the demand side of educational and training services is very interesting because it provides an interesting perspective, based on the so-called Demand-Pull completely different from the one previously analysed which was based on the Supply Push. Of the 112 respondents, 65% replied that they received a request for educational and training services while the remaining 35% did not. The result is extremely positive and significant because using an expression that tends to synthesize and simplify a phenomenon in the language of economists it is used to say that "The horse drinks".

Graphic 18: Requests for training services;

Graphic subtitle: Q18.1 – Yes, Q18.2 – No.

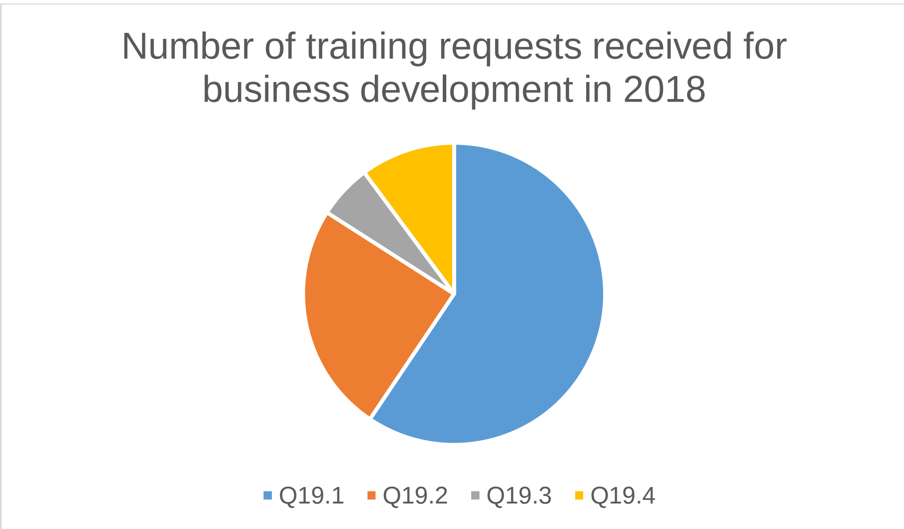
Number of training requests received for business development in 2018

Number of training requests received for business development in 2018				
Answer	Italy	Portugal	Spain	Total
1-10	14	9	18	41
11-30	3	5	9	17
31-50	1	0	3	4
> 50	2	1	4	7

Table. 19: Number of training requests received for business development in 2018

Source: BIO-HEALTH consortium survey, 2019

Also, in this case, the numbers relating to customers and organizations/companies requesting consultancy services provided by each individual company are limited, in 59% of cases there is a maximum of 10 customers, and one-fifth of replies with a maximum of 30 customers. Summing up these first two categories, we come to the conclusion that almost the four-fifths of the companies that responded in 2018 had a maximum of 30 customer organizations.



Graphic 19: Number of training requests received for business development in 2018;

Graphic subtitle: Q19.1 – 1-10, Q19.2 – 11-30, Q19.3 – 31-50, Q19.4 - >50.

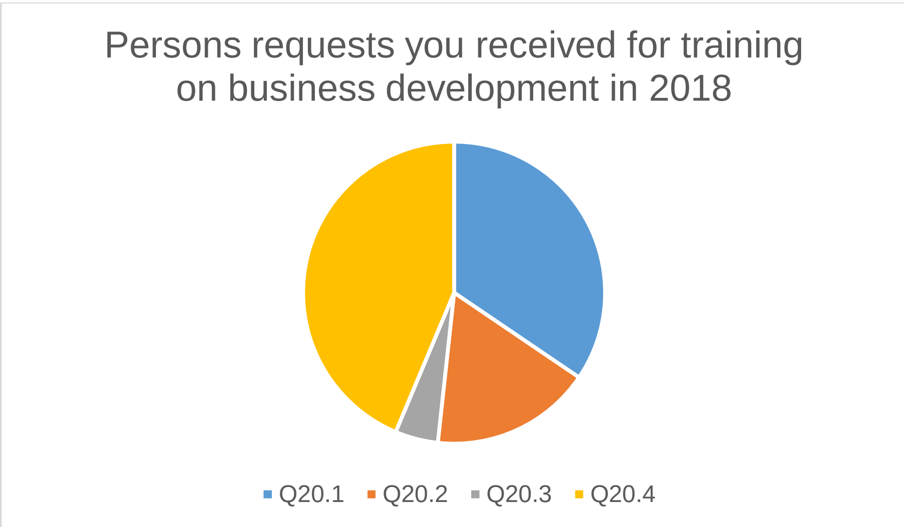
Persons requests you received for training on business development in 2018

Persons requests you received for training on business development in 2018				
Answer	Italy	Portugal	Spain	Total
1-10	9	7	14	30
11-30	6	3	6	15
31-50	2	1	1	4
> 50	21	4	13	38

Table. 20: Persons requests you received for training on business development in 2018

Source: BIO-HEALTH consortium survey, 2019

In about half of the cases, the interviewees received requests for consulting services from more than 50 people and only a third those with less than 10 people.



Graphic 20: Persons requests you received for training on business development in 2018;

Graphic subtitle: Q20.1 – 1-10, Q20.2 – 11-30, Q20.3 – 31-50, Q20.4 - >50.

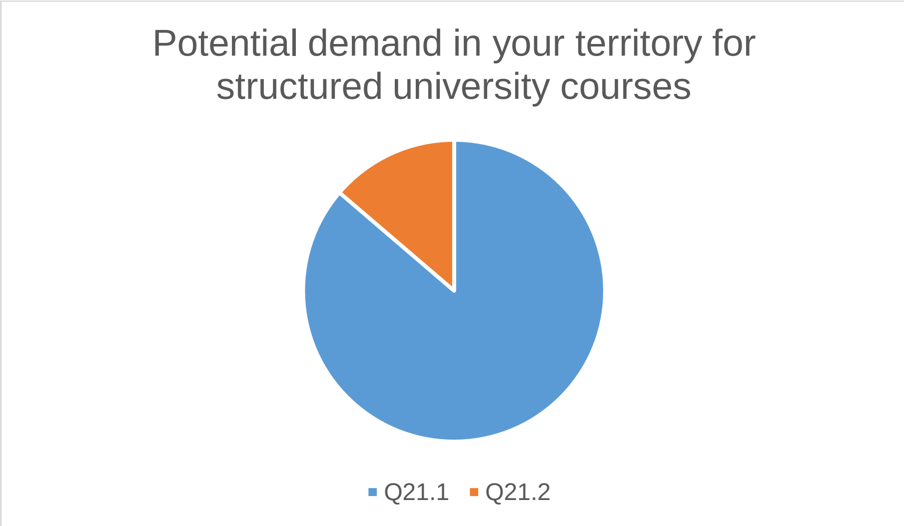
Potential demand in your territory for structured university courses

Potential demand in your territory for structured university courses				
Answer	Italy	Portugal	Spain	Total
Yes	19	38	31	88
No	8	2	4	14

Table 21: Potential demand in your territory for structured university courses

Source: BIO-HEALTH consortium survey, 2019

On the 102 responses collected there is a marked and unequivocal prevalence of opinion on the existence of potential demand for university courses aimed at supporting the development of the business of spin-offs, start-ups, students, companies (more or less young): this is indicated by 86% of respondents.



Graphic 21: Potential demand in your territory for structured university courses;

Graphic subtitle: Q21.1 – Yes, Q21.2 – No.

CONSULTING SERVICES DEMAND

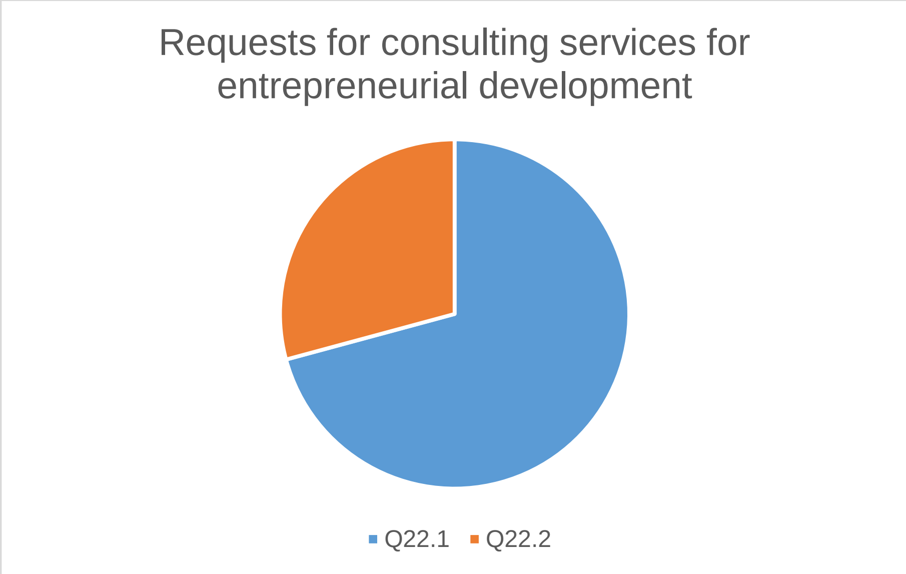
Requests for consulting services for entrepreneurial development

Requests for consulting services for entrepreneurial development				
Answer	Italy	Portugal	Spain	Total
Yes	26	22	32	80
No	11	19	3	33

Table. 22: Requests for consulting services for entrepreneurial development

Source: BIO-HEALTH consortium survey, 2019

Among the 113 responses, we find that 71% received requests for consultancy services from spin-offs, start-ups, students, companies (more or less young) to support and for business development. Only 29% did not receive any.



Graphic 22: Requests for consulting services for entrepreneurial development;

Graphic subtitle: Q22.1 – Yes, Q22.2 – No.

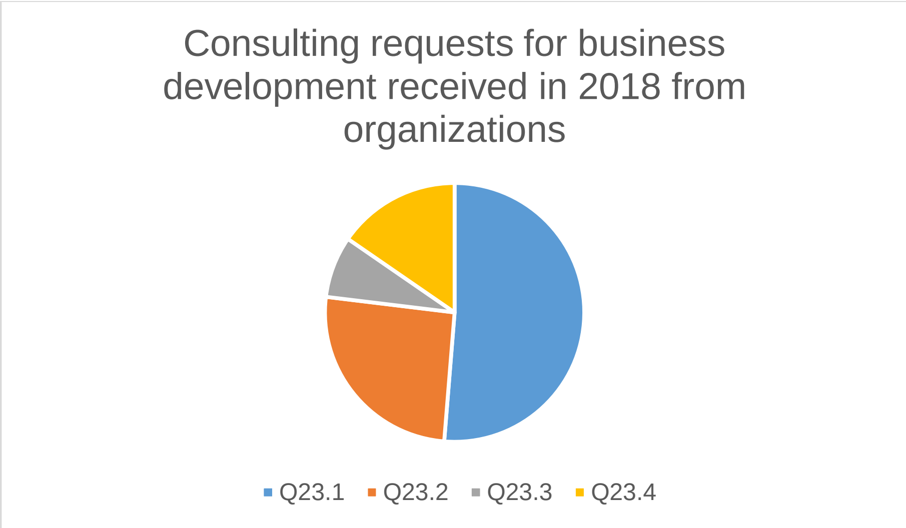
Consulting requests for business development received in 2018 from organizations

Consulting requests for business development received in 2018 from organizations				
Answer	Italy	Portugal	Spain	Total
1-10	10	14	16	40
11-30	3	8	9	20
31-50	1	0	5	6
> 50	7	0	5	12

Table. 23: Consulting requests for business development received in 2018 from organizations

Source: BIO-HEALTH consortium survey, 2019

Also, in this case, the numbers relating to customers and organizations/companies requesting consultancy services provided by each individual company are limited, in 51% of cases there is a maximum of 10 customers, and a quarter of replies with a maximum of 30 customers. Summing up these first two categories we come to the fact that around 77% of the companies that responded in 2018 had a maximum of 30 requests for consultancy from organizations/companies.



Graphic 23: Consulting requests for business development received in 2018 from organizations;

Graphic subtitle: Q23.1 – 1-10, Q23.2 – 11-30, Q23.3 – 31-50, Q23.4 - >50.

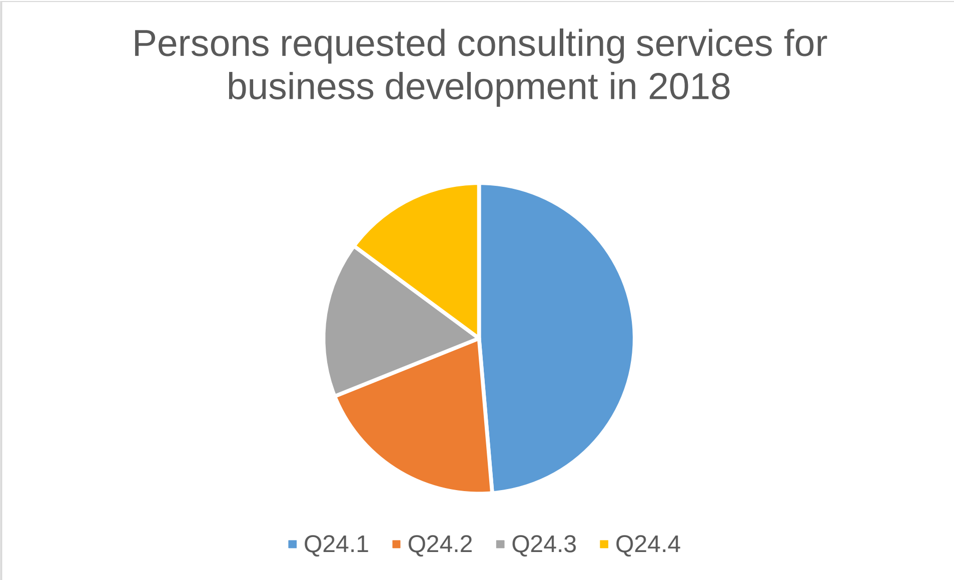
Persons requested consulting services for business development in 2018

Persons requested consulting services for business development in 2018				
Answer	Italy	Portugal	Spain	Total
1-10	8	14	14	36
11-30	4	6	5	15
31-50	3	1	8	12
> 50	2	1	8	11

Table. 24: Persons requested consulting services for business development in 2018

Source: BIO-HEALTH consortium survey, 2019

Also, in this case, the numbers relating to the people of the organizations/companies requesting consultancy services provided by each individual company are limited, in about half of the cases, there is a maximum of 10 people, while about one-fifth of the answers (20%) with a maximum of 30 customers.



Graphic 24: Persons requested consulting services for business development in 2018;

Graphic subtitle: Q23.1 – 1-10, Q23.2 – 11-30, Q23.3 – 31-50, Q23.4 - >50.

5.1. Results from Italy

Also in Italy in recent years growing attention is devoted to entrepreneurship as a motor of economic and social development (Zahra and Wright, 2016) and consequently to the supporting activities connected to it (Aernoudt, 2004; Peters et al., 2004).

In the academic and scientific field, there is a common vision on an area considered particularly important in this sense and is that of business incubation and acceleration (Gonzalez-Uribe and Leatherbee, 2017). A growing and evolving field of activity, in particular with the entry of subjects with new business models and subjects attentive to the social and environmental impact of businesses (Lall et al., 2013; Miller and Stacey, 2014).

Research and studies have been carried out on the subject, and there are still ongoing, but here we have decided to present some results and fragments of the most recent research conducted by the Social Innovation Teams (SIM), on the impact of Italian incubators and accelerators.

Before starting the presentation of the results we think it useful to briefly dwell on some definitions.

Incubator: an organization that actively supports the process of creating and developing new innovative companies through a series of services and resources offered both directly and through a network of partners (Aernoudt, 2004; Colombelli et al., 2018).

A company with a significant social impact: an organization that introduces a social innovation, that is to say, "a novel solution to a social problem that is more effective, efficient, sustainable, or just about existing solutions and for which the value created accrues primarily to society as a whole rather than private individuals "(Phills et al., 2008).

Some scientific reports and papers use the terms "incubator" and "accelerator" as synonyms, others consider them to be two distinct concepts. The most often emphasized difference is that accelerators have a lower average accompanying time than incubators (Bruneel et al., 2012; Pauwels et al., 2016). Sometimes incubators are considered to offer a more "early-stage" accelerator service. In some cases, it is highlighted that, in accelerator programs, the accompanying subjects all start their journey together as if they were a class of students while in incubators this does not happen. Given that there are no shared and unambiguous definitions, and given that incubators and accelerators have the same objective (Mian et al., 2016; Pauwels et al., 2016), in this report we will use the term incubator for both subjects.

How many Incubators in Italy

In Italy, at the end of 2017, there were 171 Incubators/accelerators and coworking space/labs that offered entrepreneurial training services and/or management support. Compared to 2016, the number of incubators registered a 5.3% growth.

The geographical spread of incubators/accelerators

Almost 60% of the incubator population is located in northern Italy. Lombardy is the region that hosts the largest number of incubators, with 25.3% of the total, followed by Emilia Romagna, with 10.6%, and Tuscany with 8.8%.

The Southern area, the island area and the North-East area represent the areas where there is the lowest number of incubators.

Legal nature of incubators

Public incubators: organizations managed exclusively by administrations or public bodies, often through the creation of "in-house" companies.

Public-private incubators: organizations whose social structure includes both public and private subjects.

Private incubators: organizations managed exclusively by private parties.

The data shows that more than 60% of Italian incubators have a private nature. Only a small percentage (less than a fifth of the total) has a public nature.

Types of incubators

In the aforementioned study, a classification of the types of incubators was drawn up in order to understand if and how much the Italian incubators are supporting organizations with a significant social impact *. This enabled the social incubator phenomenon to be analyzed and the services adopted by the various incubators to be compared.

The types identified are the following:

- Business incubator - 0% of organizations incubated with a significant social impact compared to the total.
- Mixed incubator - from one to 50% of organizations incubated with a significant social impact compared to the total.
- Social incubator - more than 50% of organizations incubated with a significant social impact compared to the total.

Half of the incubators incubate organizations with a significant social impact.

77% of social incubators have a private nature. Only 7.7% of social incubators have a public nature.

Even mixed incubators are mostly private (56.5%), while business incubators are almost equally divided between public (34.3%), public-private (25.7%) and private (40%).

The 2017 turnover of Italian incubators

The average turnover of the Italian incubator population is over one million euros, but it is raised by a small number of large incubators. In fact, the median, considerably lower, is around € 250 thousand in turnover.

Compared to 2016 (average turnover of the population equal to 1.13 M €), in 2017 there was an increase in the average turnover per incubator (15% growth)

Age of Incubators

- More than half of Italian incubators (60%) have been set up since 2012. The phenomenon of incubation in Italy is growing and recent.
- in 2017, 6 new incubators were created (and some incubators born in previous years have ceased their activities).
- The highest value in 2013: probable effect of the Growth Decree 2.0 which, by encouraging innovative start-ups, has favoured the creation of services aimed at these (from consulting, to software to incubators).

Number of incubator employees in 2017

Incubators normally have small to medium dimensions in terms of employees (around 84% have less than 8). Some incubators have a number of employees equal to 0 due to their consortium nature: in these cases, the resources are contributed directly by the members. Compared to 2016 (the average number of employees equal to 4.8), in 2017 there was a slight increase (12.5%) in the average number of employees, even if the median remained unchanged.

Number of incubation requests received

Public incubators have received on average fewer requests than private individuals and public-private ones. Compared to 2016 (average equal to 150.6 and median equal to 30), in 2017 there was a decrease in the average and a median number of incubation requests received, probably due to:

Number of incubation requests received in 2017

Growth of the self-assessment capacity of the organizations that need to be incubated, • growth of intermediaries that publish calls and carry out scouting and then direct selected companies and entrepreneurial teams to incubation partners for incubation/acceleration.

Services offered by incubators

The services most frequently provided by the incubators provided are:

- Managerial support
- Physical spaces
- Entrepreneurial and managerial training
- Support for funding research
- Administrative, legal and legal services
- Support in the management of intellectual property
- Support for the development of relationships - networking
- Support for the development and scouting of technologies

- Social impact assessment services
- Training / consulting on business ethics and Corporate Social Responsibility (CSR)

Incubators consider it very important to offer:

- Managerial support,
- Physical spaces,
- Support in search of funding,
- Support in developing relationships,
- Entrepreneurial and managerial training.

Incubators consider it quite relevant to offer:

- Support in the management of intellectual property,
- Administrative, legal and legal services,
- Support for the development and scouting of technologies.

Incubators consider offering little importance:

- Social impact assessment services
- CSR training and consulting and business ethics

In aggregate, there are no statistically significant differences compared to the 2016 analysis.

Estimates of the number of start-ups incubated in Italy in 2017, their number of employees and their turnover

The estimates indicate that the entrepreneurial teams incubated in Italy in 2017 were around 1344, while the start-ups were 2435. The latter offered work to more than 6500 employees and the total turnover in 2017 was around 556 million euros.

Compared to 2016, all estimates increased in 2017. The number of start-ups in Italy has increased from 1934 to 2435 (growth of 25.9%), the number of employees from 4583 to 6574 (growth of 43.4%) and turnover from 294 M € to 556 M € (growth 89.1%).

A factor related to the growth in the number of incubated start-ups is the increase, compared to 2016, in the number of incubators present in Italy (162 in 2016, 171 in 2017). Furthermore, a greater number of incubated start-ups influenced the estimate of the number of employees and turnover.

ATECO sector of incubated Start-Up

About 41% of incubated start-ups operate in information and communication services.

The second most represented sector concerns professional, scientific and technical activities (26.4%).

19.9% of incubated start-ups operate in manufacturing activities.

There are no statistically significant differences compared to 2016

In about 85% of incubated start-ups, the number of employees is less than 5. In 3.6% of the cases, the number of employees is higher than 20. Compared to 2016, the average number of employees in 2017 has grown slightly (growth of 12.5%) going from 2.4 to 2.7

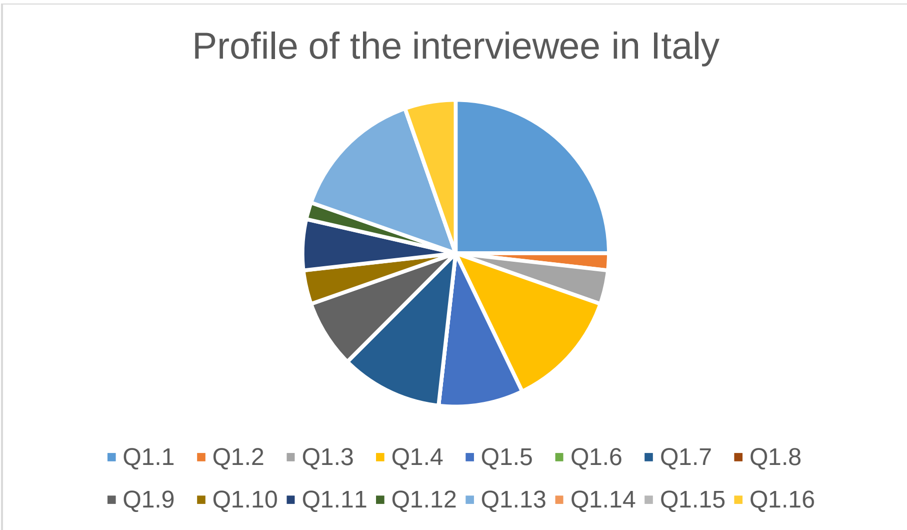
In about 44.3% of incubated start-ups, the turnover does not exceed 25 thousand euros. Furthermore, for about 68% of incubated start-ups, it does not exceed 100 thousand euros.

As for the analysis of the number of employees, also, in this case, it is possible to notice how a limited number of start-ups has a considerably higher turnover than other organizations. In fact, the median is much lower than the average.

Compared to 2016, the average turnover in 2017 has undergone a 33.3% growth from € 152.2 million in 2016 to € 228.3 million in 2017.

PROFILE OF THE INTERVIEWEE IN ITALY

Among the 41 questionnaires received, the universities and their so-called Contamination Laboratories were mainly involved, followed by the "Business" category and finally the "Incubators" category. The other categories included in the questionnaire are represented but with a high distribution and fragmentation.



Graphic 25: Profile of the interviewee in Italy;

Graphic subtitle: Q1.1 - University/C Lab, Q1.2 - Research Center, Q1.3Science-Tech Park, Q1.4 – Incubator, Q1.5 – Accelerator, Q1.6 – Elevator; Q1.7 - CW Space/Fab Lab, Q1.8 - Business service center, Q1.9 - Inn Agency CTT, Q1.10 - Develop Agency, Q.11 - Cluster agency, Q1.12 - Public Body, Q1.13 – Company, Q1.14 - Business Angels, Q1.15 - Venturing Association, Q1.16 – Other.

The number of interviews set and indicated in the proposal and in the work plan even if the proportions between the four different types of categories envisaged (Academia, Companies, Incubators/ Accelerators, and Stakeholders have not been perfectly respected.

EDUCATIONAL AND TRAINING SUPPLY

Educational and training services provision in Italy

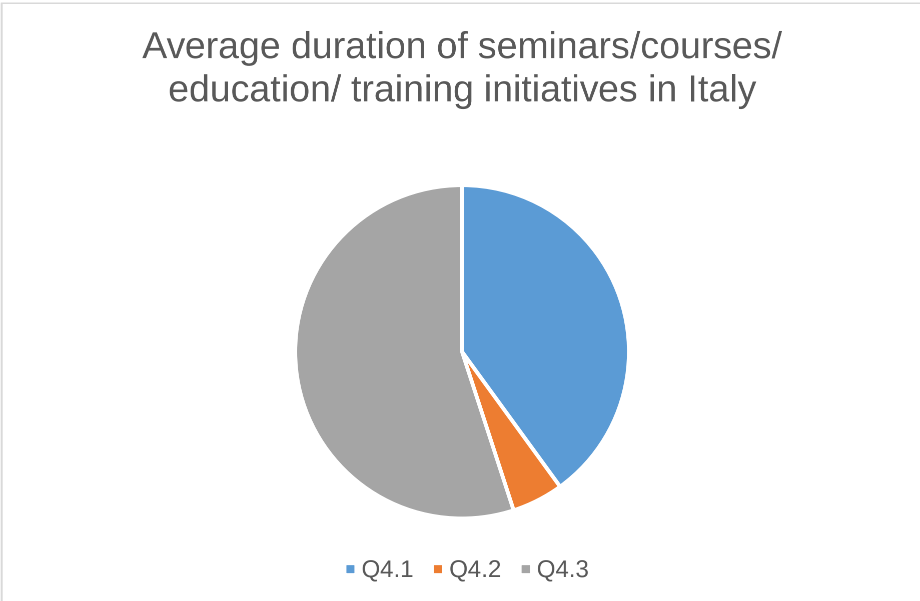
When asked if the organization provided educational and training services, almost half answered affirmatively while the remaining half negatively responded. It is interesting to note that not all subjects operating in this sector then provide educational training services but also other types of services.

Graphic 26: Educational and training services provision in Italy;

Graphic subtitle: Q3.1 – Yes, Q3.2 – No.

Average duration of seminars/courses/education/training initiatives in Italy

The most frequent training course solutions exceed 16 hours and in the second mode, they have a duration of 8 hours, imagining that they are different training initiatives.



Graphic 27: Average duration of seminars/courses/ education/ training initiatives in Italy;

Graphic subtitle: Q4.1 – 4-8h, Q4.2 – 9-16 h, Q4.3 - >16h.

Companies trained in 2018 in Italy

If Yes, how many companies have you trained in 2018?

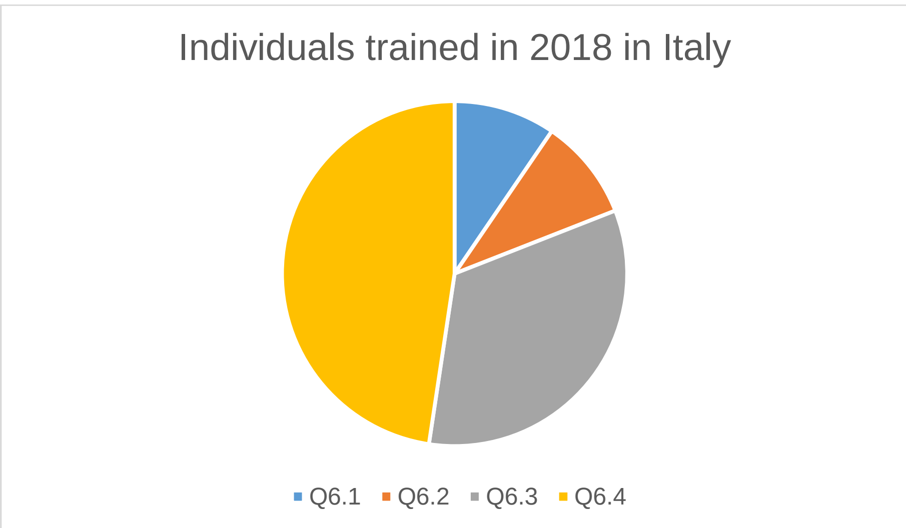
The responses received indicate that in 2018 the organizations provided training to a rather limited number of organizations and companies, up to 10 in 42% of cases and up to 30 in 26% of cases. Adding these two values shows how the training offered in two-thirds of the cases has reached a limited number of companies, up to 30.

Graphic 28: Companies trained in 2018 in Italy;

Graphic subtitle: Q5.1 – 1-10, Q5.2 – 11-30, Q5.3 – 31-50, Q5.4 - >50

Individuals trained in 2018 in Italy

The number of people trained is decidedly higher and the most suitable category for about half of training providers is the one with over 50 people. From this, it is likely to believe that those who do entrepreneurial training do it in a structured way and on large groups of people.

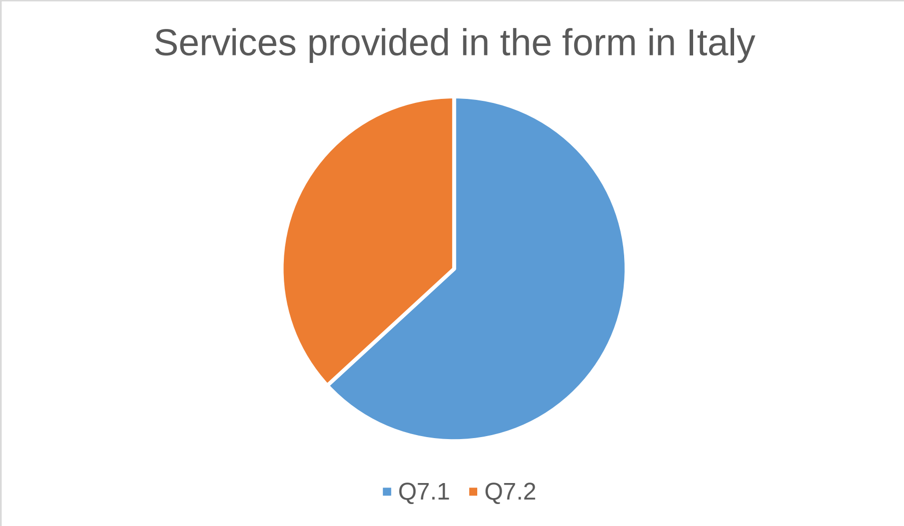


Graphic 29: Individuals trained in 2018 in Italy;

Graphic subtitle: Q6.1 – 1-10, Q6.2 – 11-30, Q6.3 – 31-50, Q6.4 - >50

Services provided in the form in Italy

Two-thirds of those who do training do so in a structured and/or permanent manner while about a third occasionally on request.

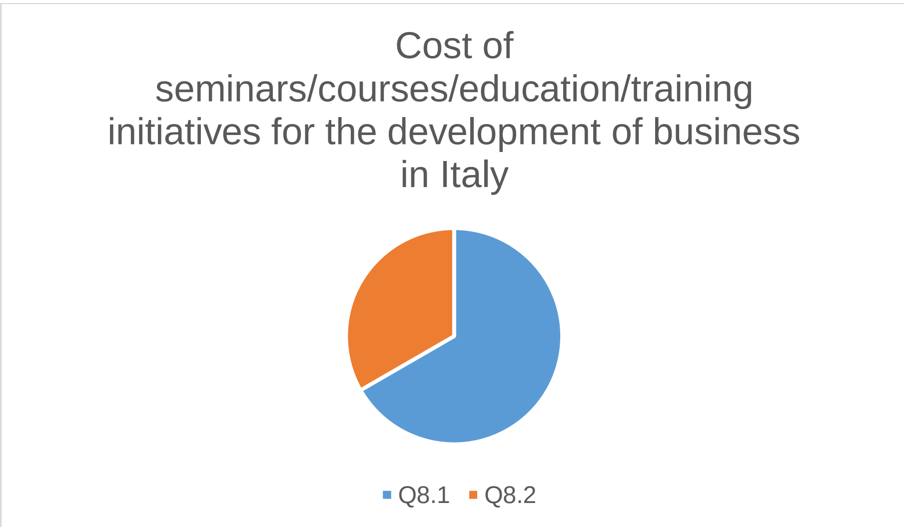


Graphic 30: Services provided in the form in Italy;

Graphic subtitle: Q7.1 - Structured/Permanent, Q7.2 - Occasional on request.

Cost of seminars/courses/education/training initiatives for the development of business in Italy

In about two-thirds of the cases, the training initiatives were offered and carried out for free, at no cost to the participants while the remaining third fee. If in the first case one can think of a consistent role of the typically free educational and scholastic offer supported by the one through initiatives financed by the ESF through the regions and the public Training Centers very interesting is the data concerning who is willing to pay, to support of costs to be trained and educated to entrepreneurship.

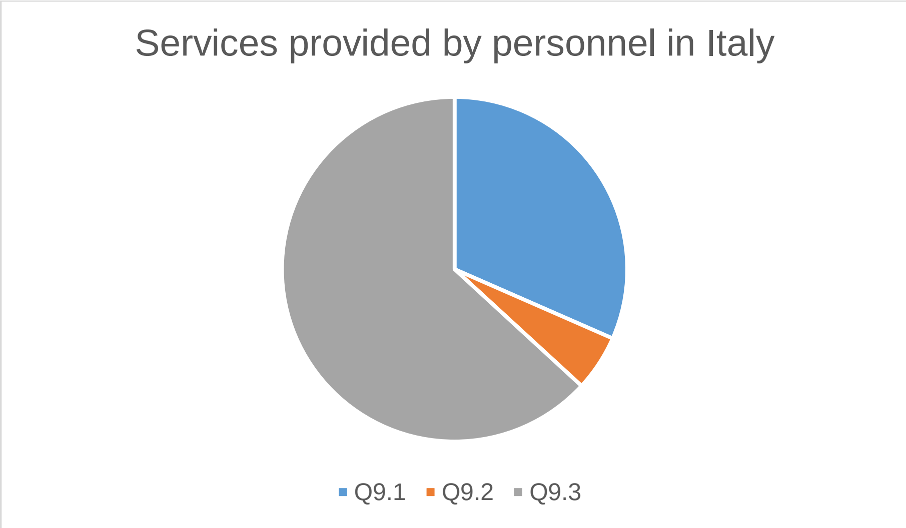


Graphic 31: Cost of seminars/courses/education/training initiatives for the development of business in Italy;

Graphic subtitle: Q8.1 - Free of charge, Q8.2 – Payment.

Services provided by personnel in Italy

The method most frequently indicated is the use of internal and external personnel as if to indicate the need for highly specialized skills and abilities not found in a single or a few individuals. The organizations that provide training only with internal staff are minorities, as in the case of those who use exclusively external personnel.

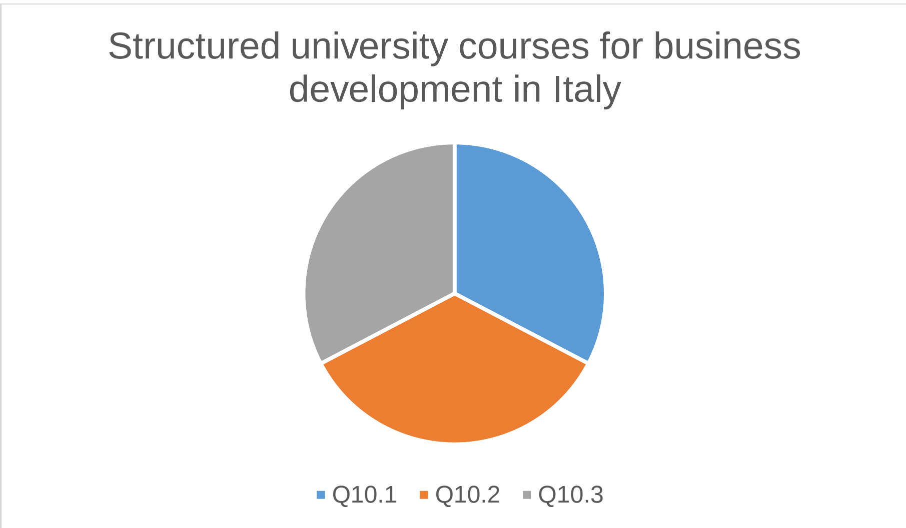


Graphic 32: Services provided by personnel in Italy;

Graphic subtitle: Q9.1 – Internal, Q9.2 – External, Q9.3 - Internal and External

Structured university courses for business development in Italy

The answers provided are distributed in a substantially uniform manner between the three possibilities provided; a third of the interviewees is aware of the existence of a training offered by the universities, or related bodies, for the development and support of the new entrepreneurship a third party that supports the absence and a third still declaring not to be at knowledge.

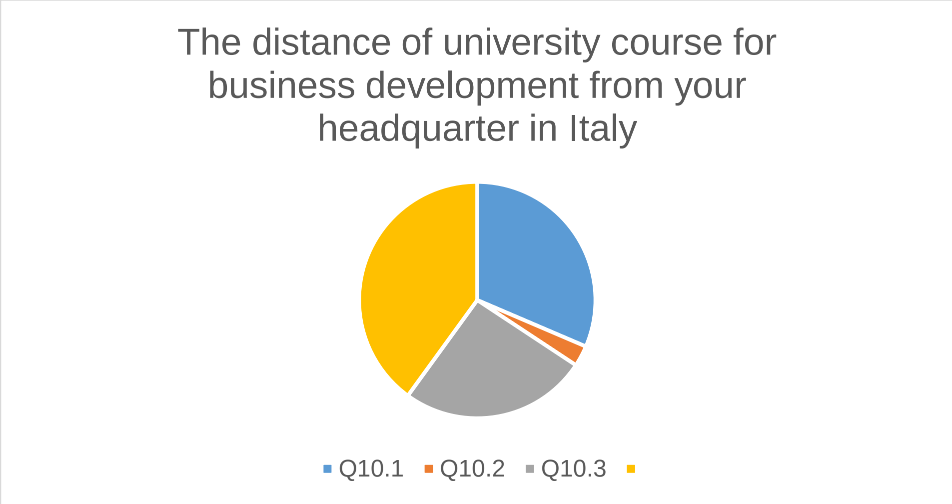


Graphic 33: Structured university courses for business development in Italy;

Graphic subtitle: Q10.1 – Yes, Q10.2 – No, Q10.3 – I don't know.

The distance of university course for business development from your headquarter in Italy

The prevalent response among the interviewees is that they do not know where university courses are offered that offer training in support of new entrepreneurship. However, it is also the group that maintains university courses within a radius of 100 km from their area of activity.



Graphic 34: The distance of university course for business development from your headquarter in Italy;

Graphic subtitle: Q11.1 – Within 100 km, Q11.2 – Between 101 and 200 Km, Q11.3 – > of 200 Km, Q11.4 - I don't know.

CONSULTING SERVICES SUPPLY

Provision of consulting services by the organization in Italy

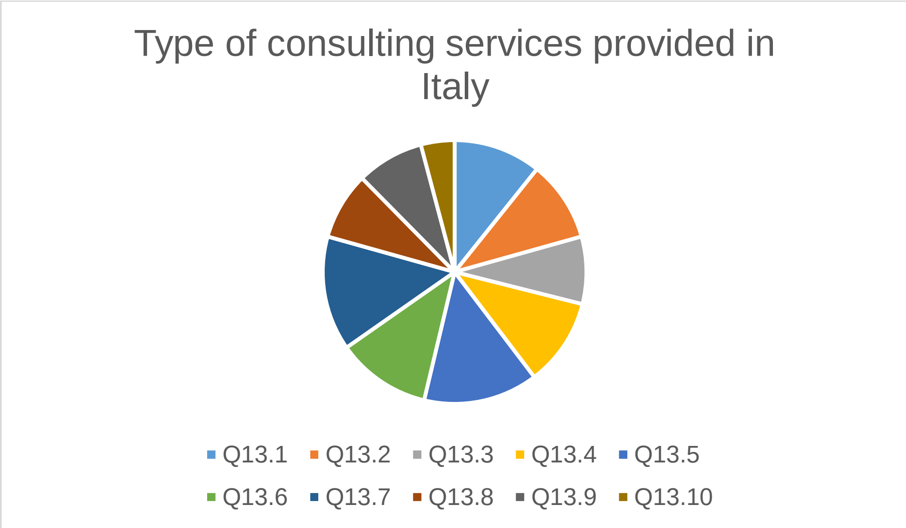
With a large majority, with about three-quarters of the answers, the organizations interviewed stated that they provide spin-off consultancy services, start-ups, students, young entrepreneurs, companies, and business associations for business development. Only a quarter does not provide consulting services.

Graphic 35: Provision of consulting services by the organization in Italy;

Graphic subtitle: Q12.1 – Yes, Q12.2 – No.

Type of consulting services provided in Italy

Each organization could indicate more than one service offered, consistently with those that are the profiles of these companies operating in the market, and the number of answers provided by each organization provides a substantially balanced picture in the distribution. There is almost a uniform distribution. In the face of the 41 organizations that have collaborated in the survey, there are 121 indications, which means that on average each company provides three different services. The most commonly provided service is the "Search for collaboration opportunities" followed by "Personalized coaching and tutoring". The other services provided do not differ much from the two indicated and are in turn very attractive.

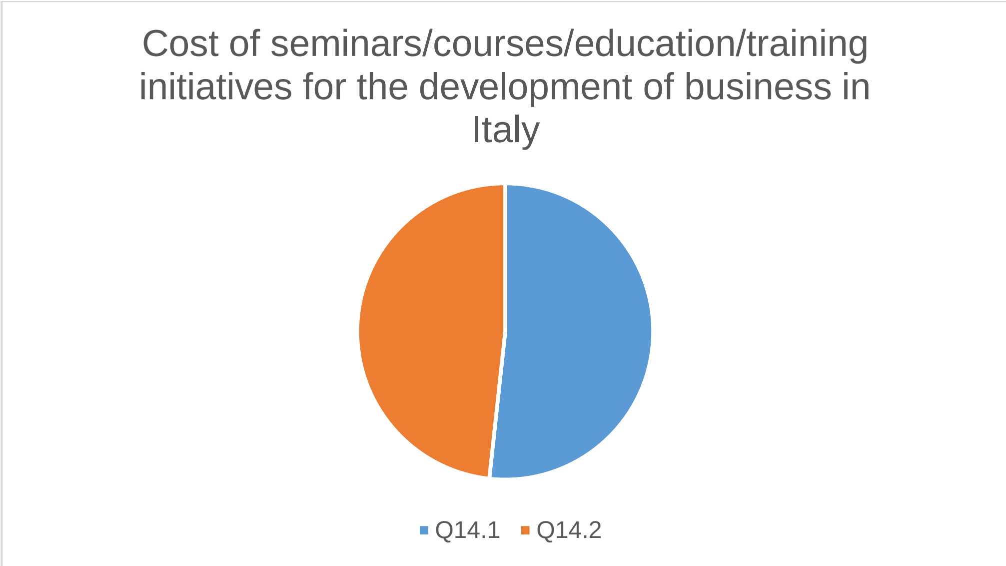


Graphic 36: Type of consulting services provided in Italy;

Graphic subtitle: Q13.1 - Business analysis, Q13.2 - Financial strategy, Q13.3 - MK & Comm Act, Q13.4 - Improving Inn Mang, Q13.5 - Finding Cooper Opp, Q13.6 - Support to R&D&I, Q13.7 - Custom & mentor, Q13.8 - Intellectual property, Q13.9 - Technological dev, Q13.10 – Other.

Cost of seminars/courses/education/training initiatives for the development of business in Italy

Consultancy services, seminars, courses and training initiatives for business development are provided in equal measure for free and for payment. So there is a significant, significant and significant proportion of people and companies, more or less young, who are willing to pay and incur costs for the development and growth of their business.

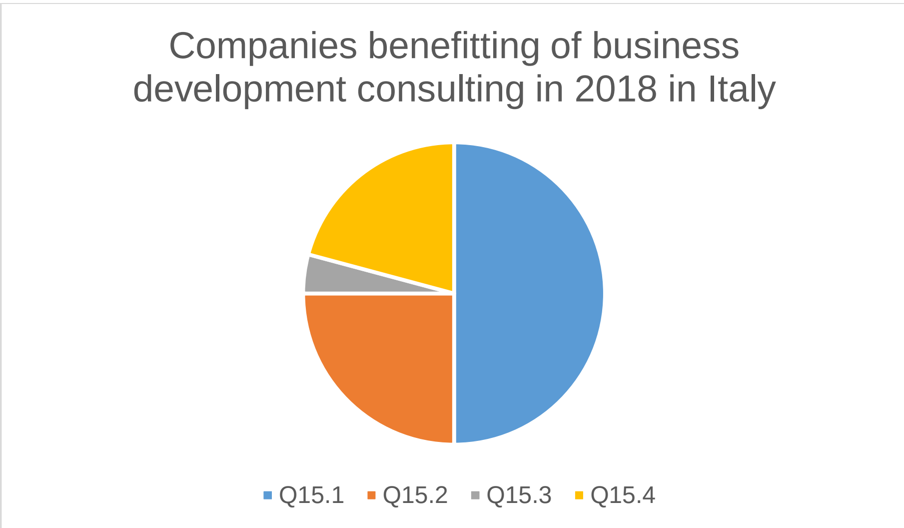


Graphic 37: Cost of seminars/courses/education/training initiatives for the development of business in Italy;

Graphic subtitle: Q14.1 - Free of charge, Q14.2 – Payment

Companies benefitting of business development consulting in 2018 in Italy

Also, in this case, the numbers relating to customers and organizations/companies that use the consultancy services provided by each individual company are limited, in half of the cases there is a maximum of 10 customers, and a quarter of the replies with a maximum of 30 customers. Summing up these first two categories, we arrive at the fact that three-quarters of the companies that responded had a maximum of 30 customer organizations in 2018.

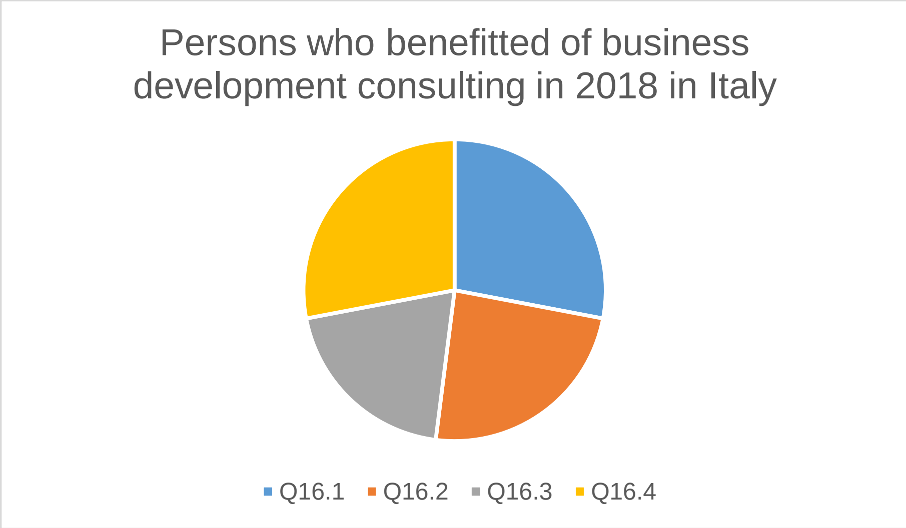


Graphic 38: Companies benefitting of business development consulting in 2018 in Italy;

Graphic subtitle: Q15.1 – 1-10, Q15.2 – 11-30, Q15.3 – 31-50, Q15.4 - >50

Persons who benefitted of business development consulting in 2018 in Italy

Also, in this case, the numbers relating to the people of the organizations/companies that use the consultancy services provided by each individual company are limited, in a third of the cases, there is a maximum of 10 people, as well as a third of the answers with a maximum of 50 customers.

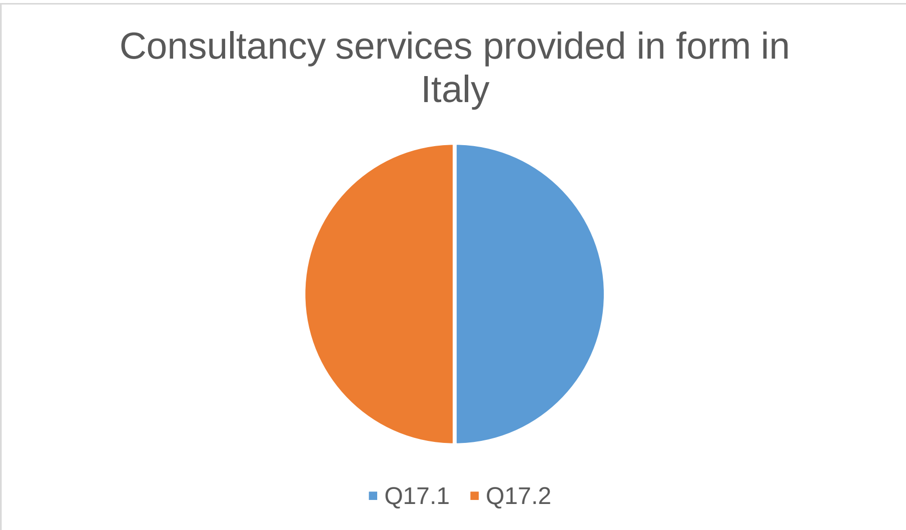


Graphic 39: Persons who benefitted of business development consulting in 2018 in Italy;

Graphic subtitle: Q16.1 – 1-10, Q16.2 – 11-30, Q16.3 – 31-50, Q16.4 - >50

Consultancy services provided in form in Italy

Also, in this case, the organizational structure providing these consultancy services is substantially balanced between those who rely on a "Structured and Permanent" form and those who resort to "Occasional on request" structures.



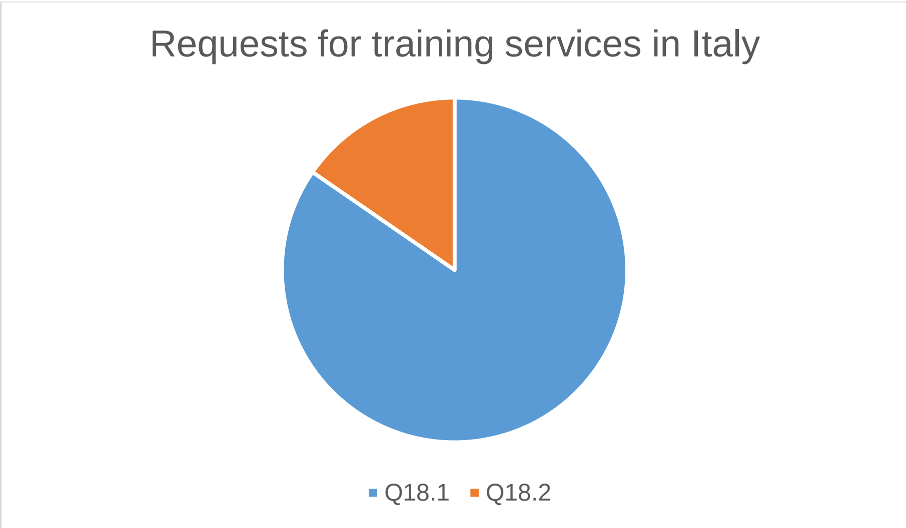
Graphic 40: Consultancy services provided in form in Italy;

Graphic subtitle: Q17.1 - Structured/Permanent, Q17.2 - Occasional on request.

EDUCATIONAL AND TRAINING DEMAND

Requests for training services in Italy

The observation on the demand side of educational and training services is very promising because it provides an interesting perspective, based on the so-called Demand-Pull completely different from the one previously analysed which was based on the Supply Push. Among the respondents, 85% replied that they received an application for educational and training services while the remaining 15% did not. The result is extremely positive and significant because using an expression that tends to synthesize and simplify a phenomenon in the language of economists it is used to say that "The horse drinks".

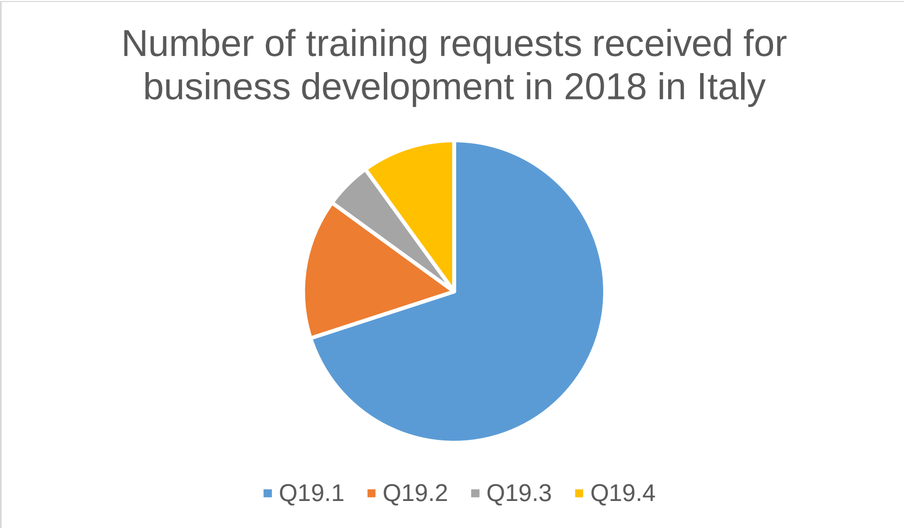


Graphic 41: Requests for training services in Italy;

Graphic subtitle: Q18.1 – Yes, Q18.2 – No.

Number of training requests received for business development in 2018 in Italy

Also, in this case, the numbers relating to customers and organizations/companies requesting consultancy services provided by each individual company are limited, in 70% of cases there is a maximum of 10 customers, and 15% of replies with a maximum of 30 customers. Summing up these first two categories, we come to the conclusion that the four-fifths of companies had a maximum of 30 client organizations in 2018.

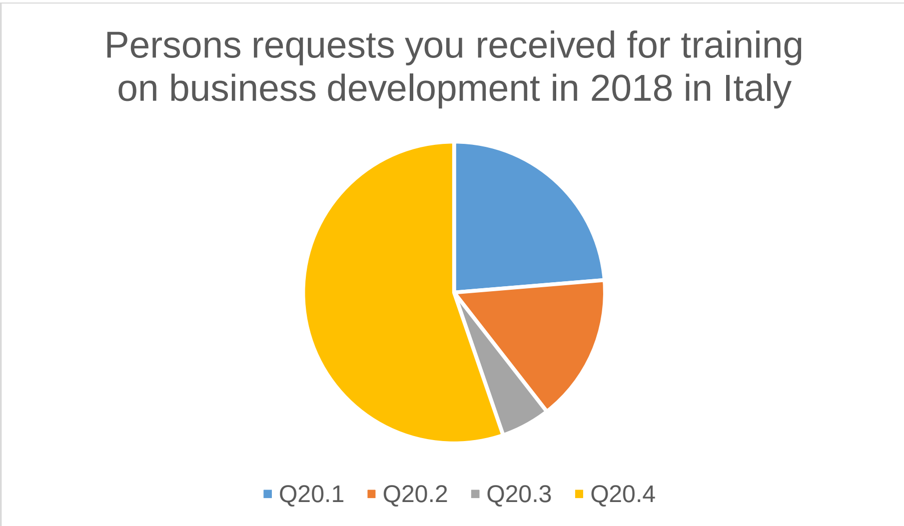


Graphic 42. Number of training requests received for business development in 2018 in Italy;

Graphic subtitle: Q19.1 – 1-10, Q19.2 – 11-30, Q19.3 – 31-50, Q19.4 - >50.

Persons requests you received for training on business development in 2018 in Italy

The numbers relating to the people of the organizations/companies requesting consultancy services provided by each individual company in over half of the cases speak of over 50 people, while about a quarter of the answers (24%) with a maximum of 10 customers.

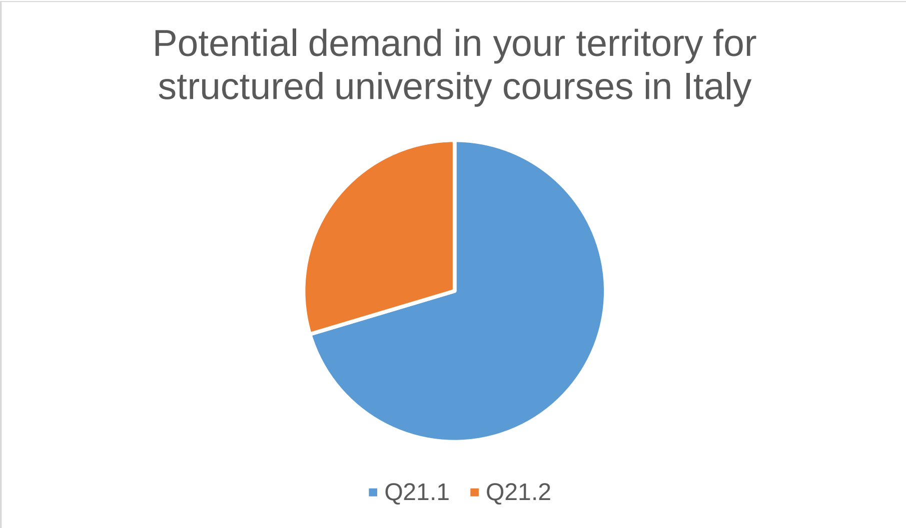


Graphic 43: Persons requests you received for training on business development in 2018 in Italy;

Graphic subtitle: Q20.1 – 1-10, Q20.2 – 11-30, Q20.3 – 31-50, Q20.4 - >50.

Potential demand in your territory for structured university courses in Italy

Among the responses collected there is a marked and unequivocal prevalence of opinion on the existence of potential demand for university courses aimed at supporting the development of the business of spin-offs, start-ups, students, companies (more or less young): 70% of respondents indicate this.



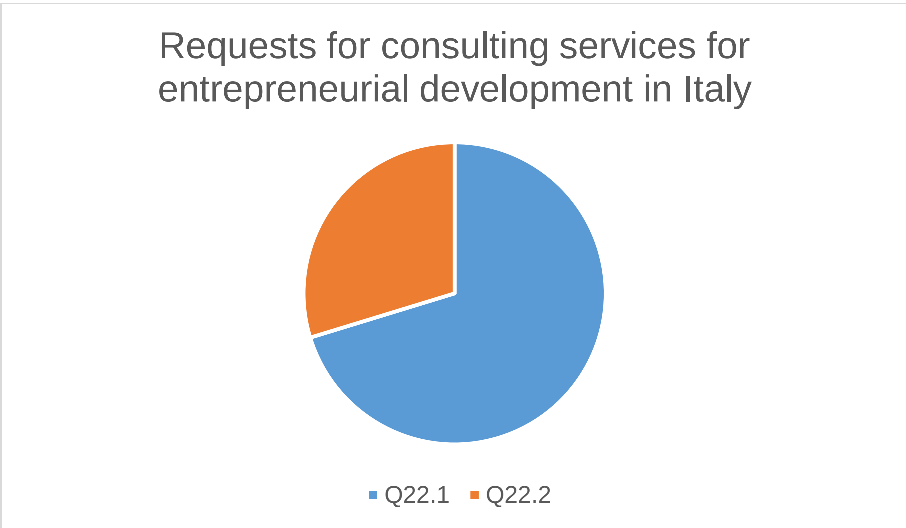
Graphic 44: Potential demand in your territory for structured university courses in Italy;

Graphic subtitle: Q21.1 – Yes, Q21.2 – No.

CONSULTING SERVICES DEMAND

Requests for consulting services for entrepreneurial development in Italy

Among the responses received we find that 70% received requests for consultancy services from spin-offs, start-ups, students, companies (more or less young) to support and for business development. Only one third did not receive any.



Graphic 45: Requests for consulting services for entrepreneurial development in Italy;

Graphic subtitle: Q22.1 – Yes, Q22.2 – No.

Consulting requests for business development received in 2018 from organizations in Italy

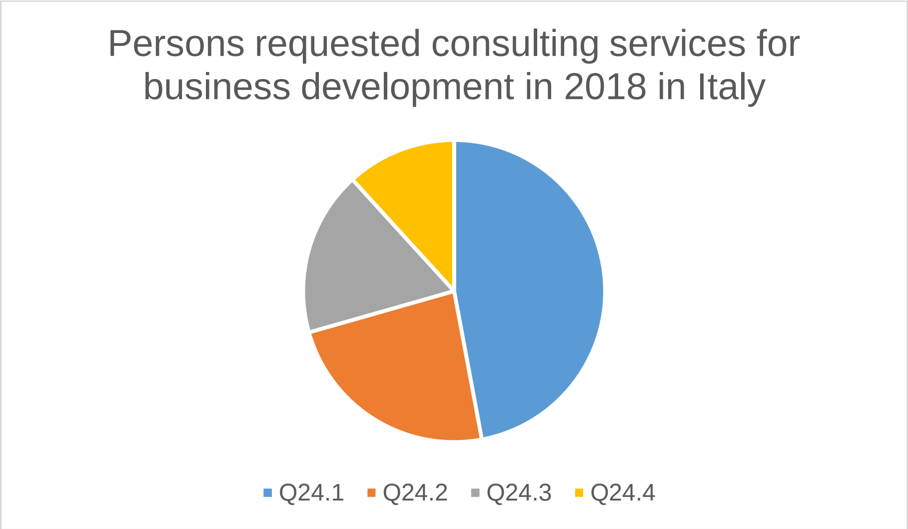
Also, in this case, the numbers relating to customers and organizations/companies requesting consultancy services provided by each individual company are limited, in about half of the cases, there is the talk of a maximum of 10 customers, while a third of the answers indicate requests from over 50 customers.

Graphic 46: Consulting requests for business development received in 2018 from organizations in Italy;

Graphic subtitle: Q23.1 – 1-10, Q23.2 – 11-30, Q23.3 – 31-50, Q23.4 - >50.

Persons requested consulting services for business development in 2018 in Italy

Also, in this case, the numbers relating to the persons of the organizations/companies requesting consultancy services provided by each individual company are limited, in about half of the cases there is talk of a maximum of 10 people, while about a quarter of the answers (24%) with a maximum of 30 customers.



Graphic 47: Persons requested consulting services for business development in 2018 in Italy;

Graphic subtitle: Q24.1 – 1-10, Q24.2 – 11-30, Q24.3 – 31-50, Q24.4 - >50.

Final considerations

Italian sample of a total of 41 respondents ranged in all the 16 types of profiles we identified in the survey design phase - Graphic 25. In particular, the profiles with the highest response density appear to be in the following areas: Universities (25%), Companies (14%), Incubators (13%), Fab Lab and co-working Spaces (11%) and Accelerators (9%). This percentage in the composition of the respondents' sample reflects quite faithfully the geography of the real operating realities in the national research and innovation system.

In the sample, there is the large majority of Universities and then Enterprises which are really the most important actors in R&D environment; but also we see that are very few or none from Business service centers, Cluster agencies and Public bodies which are actors not very present, unfortunately, on the stage.

It was a fine surprise for us to find a very high percentage of organisations delivering education and training services to the spin-off, start-ups, businesses, students, trade associations for business development. About 50% of the participants declared - Graphic 26 - that their organisation provides such typology of services. The trained organisation were in the majority of cases around 30 in 2018 and for the 49% of the cases - Graphic 29 – there were more than 50 people trained during 2018.

There was a question on "structured university courses" where the answers give us something to think about. Only 33% of respondents are aware of the courses offering; the same percentage answered: "I don't know" and the remaining 34% is not aware - Graphic 33. This gave us a clear idea of the low interest and/or the inefficient communication on the university offer concerning the business development on innovation. Then, also the answers to the next question (the distance of university offering these courses) - Graphic 34 – suggest that a part of the respondents knows the situation and give the correct answer (less of 100 km or more than 200 km). A large number (40%) answering "I don't know" give a signal of scarce interest on the topic, as it is difficult to think that in Italy there is not a university offering this kind of services in the range of 200 km.

Within almost ¾ answered yes to the question on the consulting services offered by the organisation of the interviewed. Then, looking to the questions 15 and 16, we learn that the consultancy for spin-off, start-ups, etc. is a service largely provided (Graphic 38 and 39): more than 10 companies were costumers in the 50% of the cases, during the 2018 and the people involved in the same year were, for almost the same percentage, more than 30. These data suggest us that there is a potentially large market for this kind of services also in Italy and this must inform the universities, the research centers, the public bodies in order to improve their offer of training and consultancy in the next future.

Evidence of these considerations can be found in answers of Q. 21 (Graphic 44), where it asked: "is there a potential demand on your territory for structured university courses oriented for the support of spin-offs, start-ups, students, etc. …". A large majority (70%) answered yes demonstrating the potential interest on this topic and the importance of implementing new courses on this innovative area.

5.2. Results from Spain

Spanish Incubators

The number of incubators and accelerators doubled in the last 10 years, Spain has 350 incubators and accelerators all over the country and also has 2 startup hubs: one in Madrid and the other in Catalonia. The majority of the Spanish incubators have been functioning for less than 10 years since the phenomenon of incubation in Spain is still growing and recent.

The majority of Spanish incubators are located in Madrid and Catalonia accounting for almost 50% of the country's incubators. There are three other locations that can be highlighted, them beeing Andalucía, Valencia and Euskadi.

Legal nature and type of incubators

Concerning the legal nature of the Spanish incubators, they may be classified as Public, Private or both. A small part, almost 5% has a pubic nature.

Incubators and accelerators in Spain may be classified by industry if they are specialized, or as multi-industry innovation, if they are not specialized.

Number of incubator employees and incubation requests received in 2017

Spain has several incubators and accelerators, concerning incubation they have programs for multi-industry innovation, digital entertainment, ICT and travel and tourism. Regarding acceleration programs the offer is more specialized, they have programs for logistics, cybersecurity, foodtech, social impact, environment, travel and tourism, ICT, fintech, automotive and ICT, agro-food and multi-industry innovation.

Spanish incubators normally have small to medium proportions in terms of staff, the mainstream of the incubators' staff consists of less than 10 individuals because it's a recent and rising sector. In 2017 incubators received on average fewer requests compared to 2016, because in 2015 and 2016 the number Spanish startups presented a two-digit growth and in 2017Show a smoother growth (7%), pointing to signs of consolidation within the startup community.

Services offered by incubators

Incubators and accelerators promote the growth of innovative companies and help startups grow. Some of the services offered are:

- Mentorship a
- Support in early stages

- Business advisory services to minimise lack of experience errors or management problems, and offer
- Spaces for meetings, training and networking
- Maintenance and cleaning of the spaces
- Security
- Reception services
- Accounting services
- Consulting in Intellectual Property
- Technology consulting

Most frequently provided services

Business incubators generally provide expert advice, training and administrative infrastructures, such as communication services, office space, conference rooms, office provisions, administrative assistance, and so on.

Business accelerator programs for start-ups in their earlier stages, usually offer entrepreneurs with a co-working space, mentoring, seed funding and the chance to pitch their projects after the acceleration period to venture capital, business angels and investors in a "demo day" or "investors' day".

Estimates of the number of startups incubated in 2017 and their number of employees

In 2017, Spain had:

- 4115 startups incubated
- 2543 jobs created by new startups in their first 12 months
- Startups raised €900M, which is an increase of over 350% in 5 years.

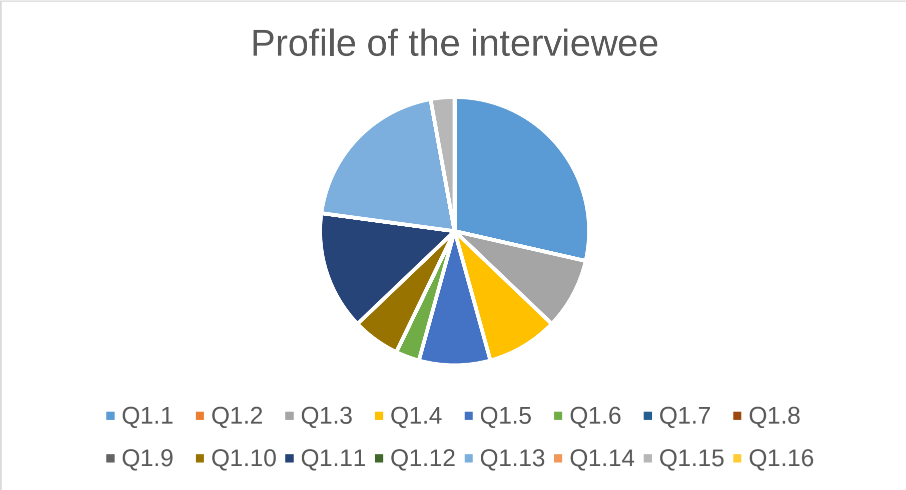
NACE sectors of incubated startups

The generality of the incubated startups are specialized in the following sectors:

- Engineering
- ICT's
- Tourism
- Health and pharmaceutical services
- Industry
- Fintech
- Information and Communication

PROFILE OF THE INTERVIEWEE IN SPAIN

Among the 35 questionnaires received, the universities and their structures were mainly involved, followed by the "Business" category and subsequently the "Cluster" category. The other categories included in the questionnaire are represented but with a high fragmentation.



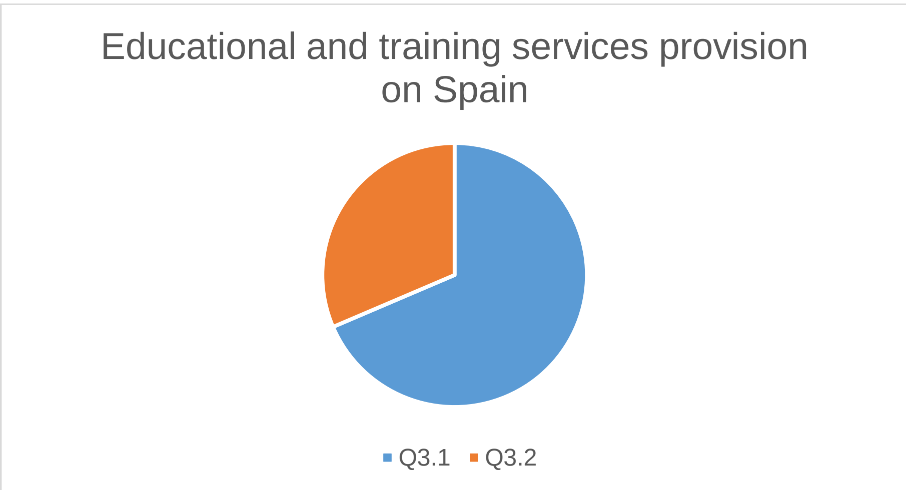
Graphic 48: Profile of the interviewee in Spain;

Graphic subtitle: Q1.1 - University/C Lab, Q1.2 - Research Center, Q1.3Science-Tech Park, Q1.4 – Incubator, Q1.5 – Accelerator, Q1.6 – Elevator; Q1.7 - CW Space/Fab Lab, Q1.8 - Business service center, Q1.9 - Inn Agency CTT, Q1.10 - Develop Agency, Q.11 - Cluster agency, Q1.12 - Public Body, Q1.13 – Company, Q1.14 - Business Angels, Q1.15 - Venturing Association, Q1.16 – Other.

EDUCATIONAL AND TRAINING SUPPLY

Provision of educational and training services to spin-offs, start-ups, businesses, students, trade associations for business development in Spain

When asked if the organization provided educational and training services over two thirds (69%) they answered affirmatively while the remaining 31% negatively. It is interesting to note that not all subjects operating in this sector then provide educational training services but also other types of services.

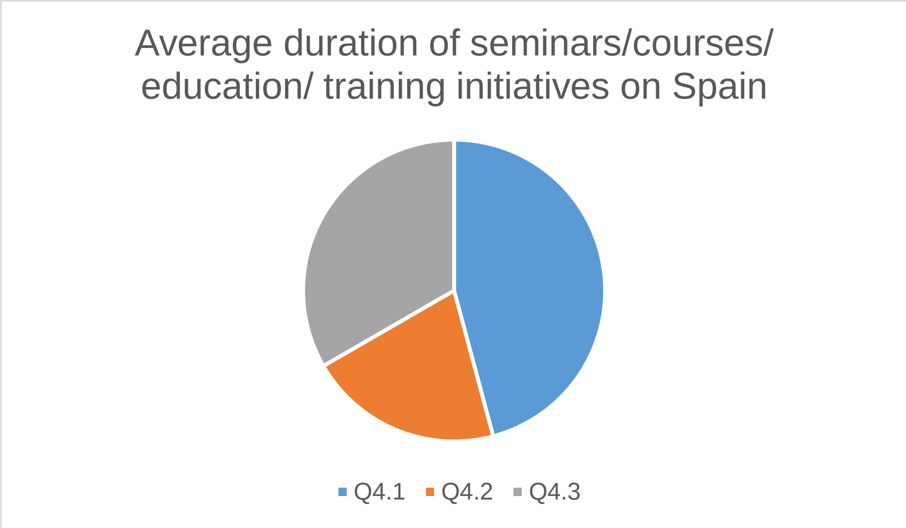


Graphic 49: Educational and training services provision in Spain;

Graphic subtitle: Q3.1 – Yes, Q3.2 – No.

Average duration, in hours, of the seminars/courses/education/training initiatives in Spain

The most frequent training course solutions (46%) have a duration of 8 hours and in the other mode, they exceed 16 hours, imagining that they are different training initiatives.

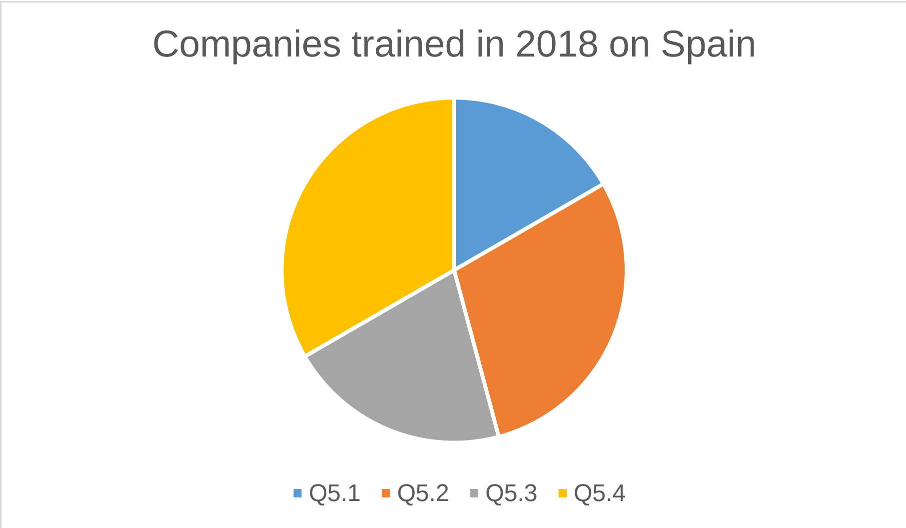


Graphic 50: Average duration of seminars/courses/ education/ training initiatives in Spain;

Graphic subtitle: Q4.1 – 4-8h, Q4.2 – 9-16 h, Q4.3 - >16h.

Companies trained in 2018 in Spain

The responses received indicate that in 2018 the organizations provided training to a rather large number of organizations and companies, over 51 entities in 33% of cases while a substantial identity of values was recorded in the other three categories considered.

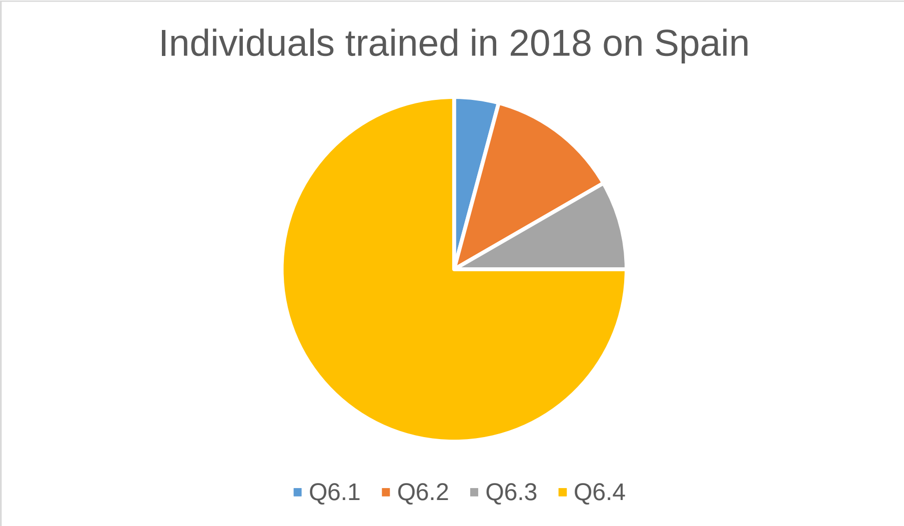


Graphic 51: Companies trained in 2018 in Spain;

Graphic subtitle: Q5.1 – 1-10, Q5.2 – 11-30, Q5.3 – 31-50, Q5.4 - >50

Persons trained in 2018 in Spain

The number of people trained is decidedly high and the category most indicated by three-quarters of training providers is the one with over 50 people. From this, it is likely to believe that those who do entrepreneurial training do it in a structured way and on large groups of people.

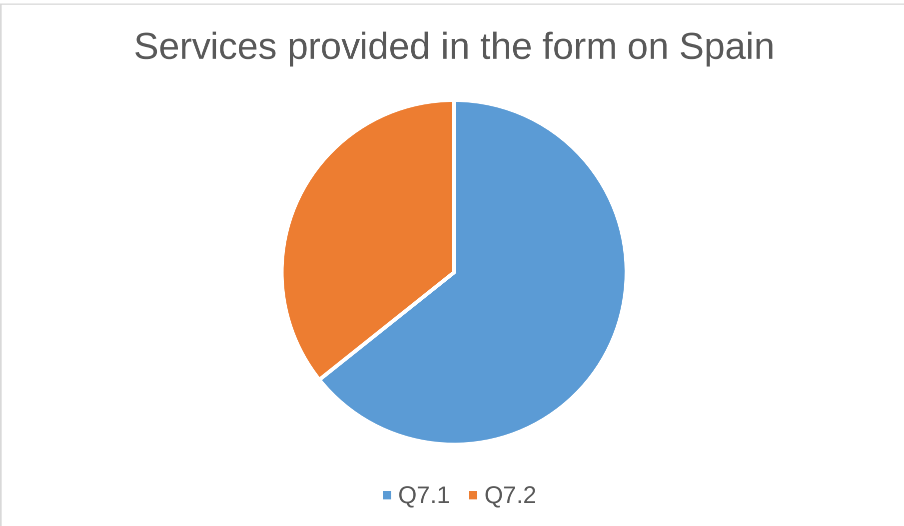


Graphic 52: Individuals trained in 2018 in Spain;

Graphic subtitle: Q6.1 – 1-10, Q6.2 – 11-30, Q6.3 – 31-50, Q6.4 - >50

Form of the services in Spain

About two-thirds of those who do training do so in a "structured and or permanent" manner while a third makes it in "occasional on request" form.

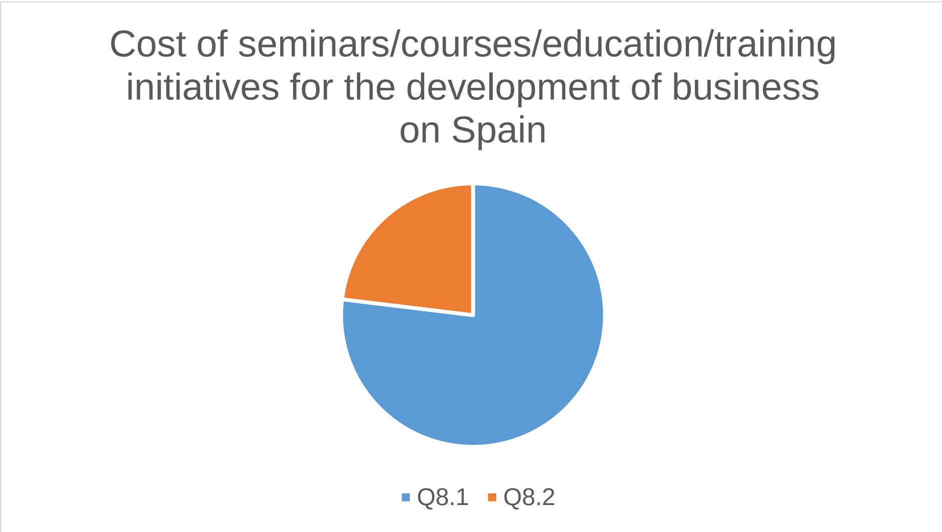


Graphic 53: Services provided in the form in Spain;

Graphic subtitle: Q7.1 - Structured/Permanent, Q7.2 - Occasional on request.

Costs of the seminars/courses/training initiatives for the development of business in Spain

In over three-quarters of cases, training initiatives were offered and carried out for free, at no cost to the participants, while the remaining quarter was paid. If in the first case one can think of a consistent role of the typically free educational and scholastic offer supported by the one through initiatives financed by the ESF through the regions and the public Training Centers very interesting is the data concerning who is willing to pay, to support of costs to be trained and educated to entrepreneurship.

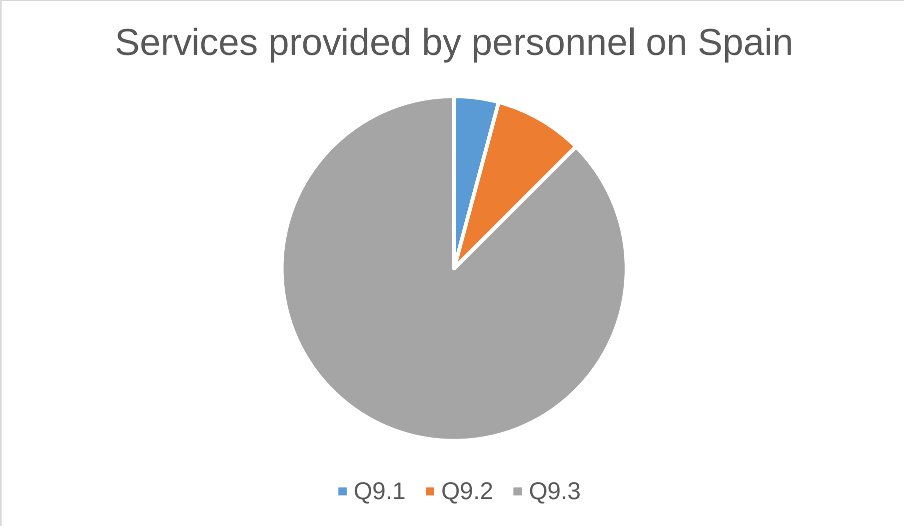


Graphic 54: Cost of seminars/courses/education/training initiatives for the development of business in Spain;

Graphic subtitle: Q8.1 - Free of charge, Q8.2 – Payment.

Services provided by personnel in Spain

The method most frequently indicated, with 88% of cases, is the use of "internal and external" personnel as if to indicate the need for highly specialized skills and abilities not found in a single or a few individuals. The organizations that provide training only with internal staff are minorities, as in the case of those who use exclusively external personnel.

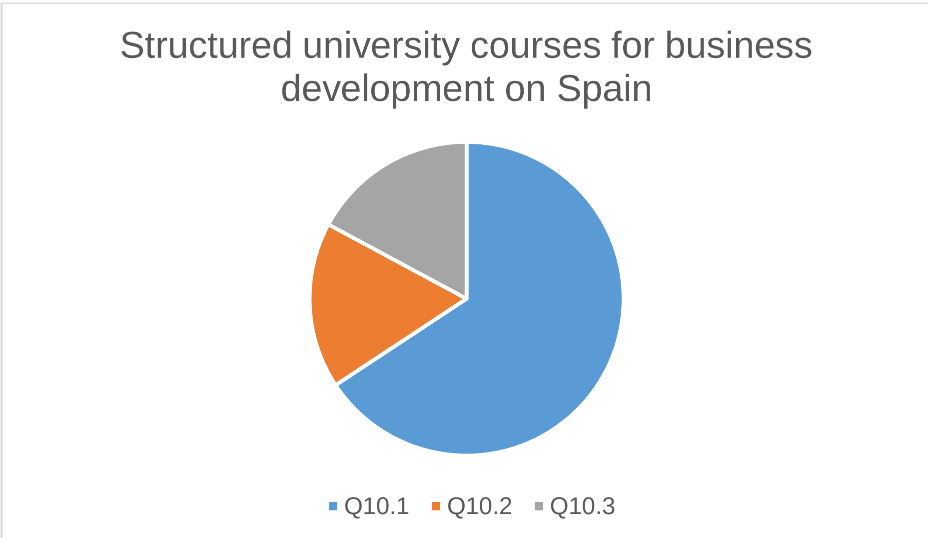


Graphic 55: Services provided by personnel in Spain;

Graphic subtitle: Q9.1 – Internal, Q9.2 – External, Q9.3 - Internal and External

Structured university courses in your area to support spin-offs, start-ups, companies, trade associations for business development in Spain

66% of those interviewed are aware of the existence of a training offered by universities, or related bodies, for the development and support of new entrepreneurship, while the remaining part is divided almost equally between those who declare they are not aware of it and who support its absence.

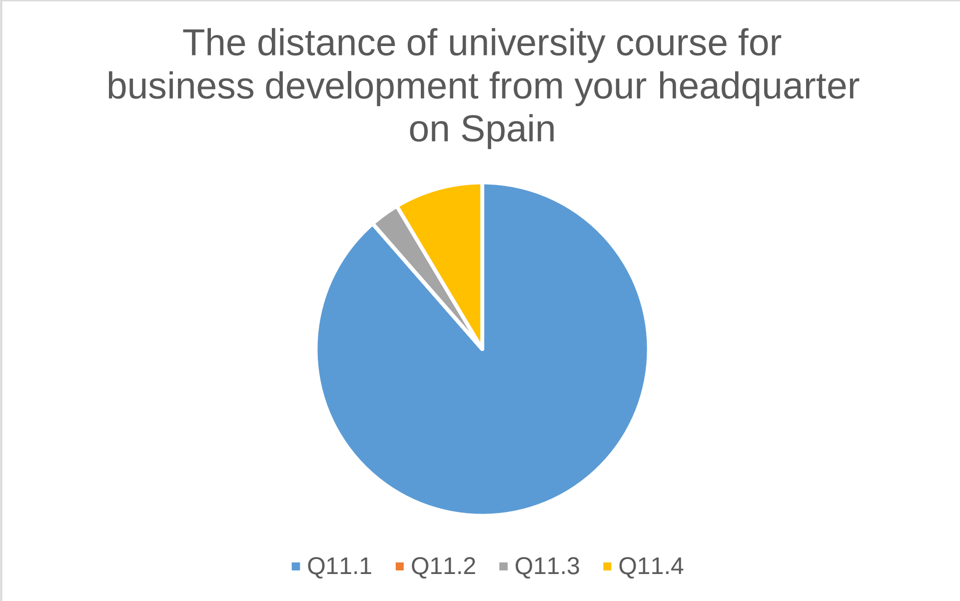


Graphic 56: Structured university courses for business development in Spain;

Graphic subtitle: Q10.1 – Yes, Q10.2 – No, Q10.3 – I don't know.

University courses distance away from your headquarters to support spin-offs, start-ups, students, companies, trade associations for business development in Spain

The prevalent response, in 89% of cases, is that university courses that offer training in support of new entrepreneurship are "near home", within a radius of 100 kilometres. It seems to understand that those interested in the phenomenon know its aspects and complementary elements up to the location of the course locations.



Graphic 57: The distance of university course for business development from your headquarter in Spain;

Graphic subtitle: Q11.1 – Within 100 km, Q11.2 – Between 101 and 200 Km, Q11.3 – > of 200 Km, Q11.4 - I don't know.

CONSULTING SERVICES SUPPLY

Consulting services provision to the spin-off, start-ups, students, companies, trade associations for business development in Spain

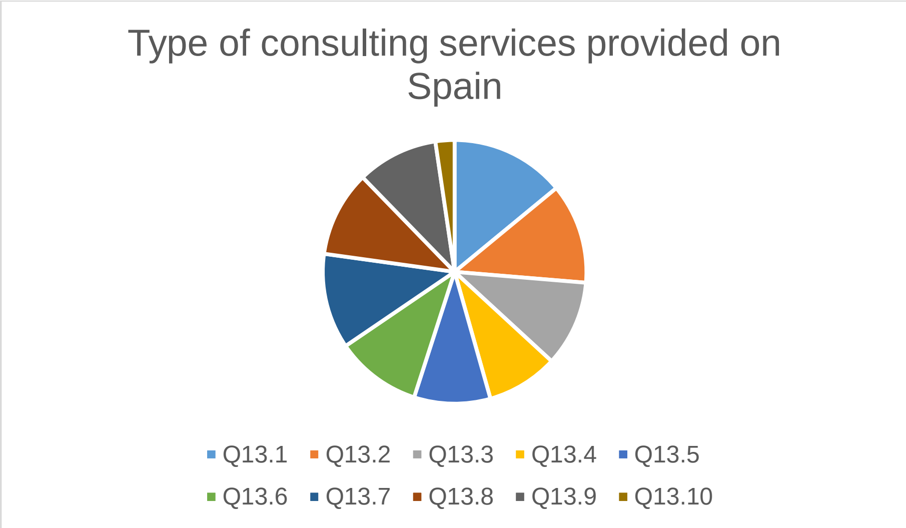
With a large majority, with 77% of the answers, the organizations interviewed stated that they provide spin-off consultancy services, to start-ups, to students, to young entrepreneurs, to companies, to business associations for business development. Only 23% do not provide consulting services.

Graphic 58: Provision of consulting services by the organization in Spain;

Graphic subtitle: Q12.1 – Yes, Q12.2 – No.

Type of consulting services provided in Spain

Each organization has indicated more than one service offered, consistently with the profiles of these companies operating in the market, and the number of answers provided by each organization provides a substantially balanced picture in the distribution. There is almost a uniform distribution. Faced with organizations that have collaborated in the survey, there are 171 indicated services, which means that on average each company provides different services. The most commonly provided service, with 14% of reports is the "Business analysis" followed with slightly lower values but substantially similar from all the other services envisaged by the survey.

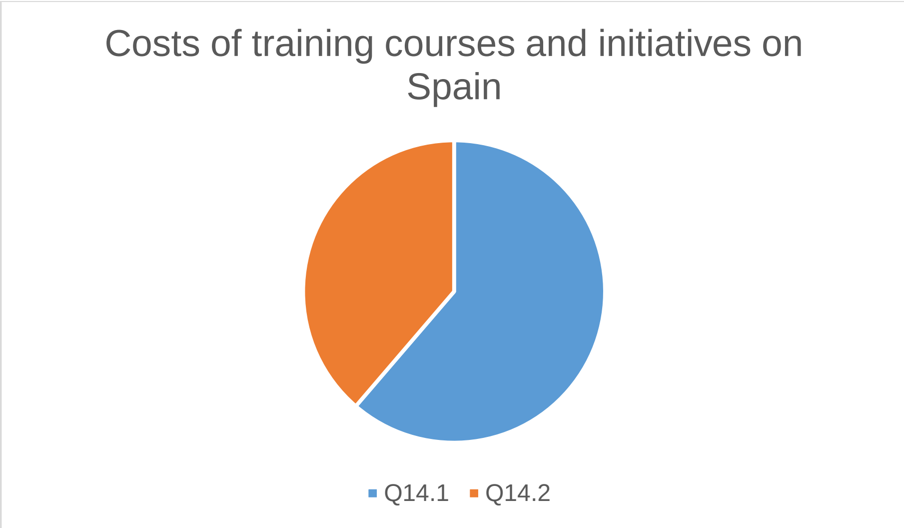


Graphic 59: Type of consulting services provided in Spain;

Graphic subtitle: Q13.1 - Business analysis, Q13.2 - Financial strategy, Q13.3 - MK & Comm Act, Q13.4 - Improving Inn Mang, Q13.5 - Finding Cooper Opp, Q13.6 - Support to R&D&I, Q13.7 - Custom & mentor, Q13.8 - Intellectual property, Q13.9 - Technological dev, Q13.10 – Other.

Costs of training courses and initiatives in Spain

Consultancy services, seminars, courses and training initiatives for business development are mainly provided free of charge, in 61% of cases, and for payment in the remaining 39%. So there is a significant and consistent proportion of people and companies, more or less young, who are willing to pay and incur costs for the development and growth of their business.

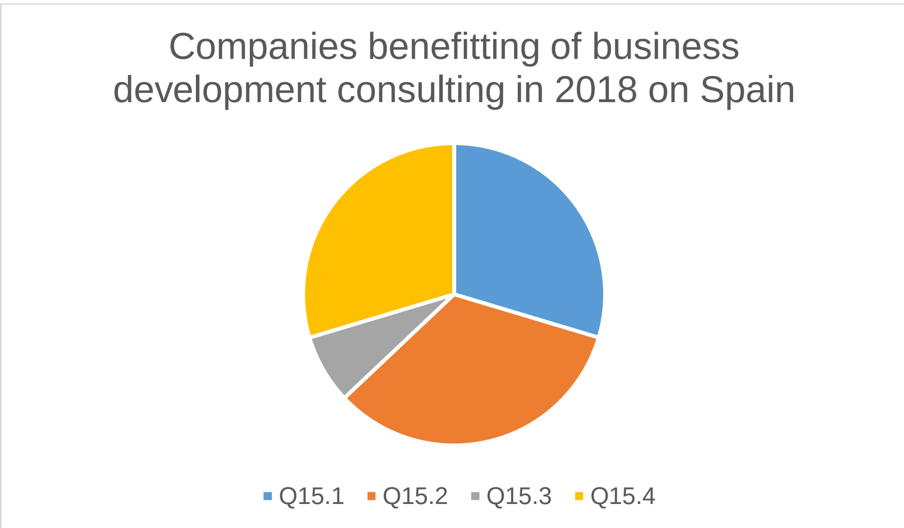


Graphic 60: Cost of seminars/courses/education/training initiatives for the development of business in Spain;

Graphic subtitle: Q14.1 - Free of charge, Q14.2 – Payment

Companies provided business development consulting in 2018 in Spain

Also, in this case, the numbers relating to customers and organizations/companies that use the consultancy services provided by each individual company are limited, in 33% of cases there is a maximum of 9 customers, and another 30% of replies with a maximum of 30 customers. Summing up these first two categories, we arrive at the fact that 60% of the companies that responded had a maximum of 30 customer organizations in 2018.

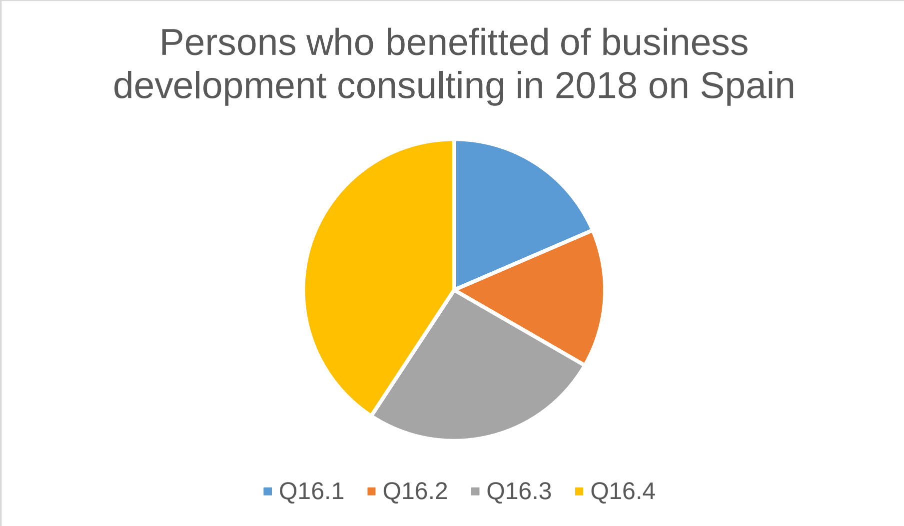


Graphic 61: Companies benefitting of business development consulting in 2018 in Spain;

Graphic subtitle: Q15.1 – 1-10, Q15.2 – 11-30, Q15.3 – 31-50, Q15.4 - >50

Persons you provided business development consulting in 2018 in Spain

The numbers relating to the people of the organizations/companies that use the consulting services provided by each individual company are substantial, in 41% of the cases there is the talk of over 50 people, as well as 26% of the answers with a number of customers between 31 and 50.

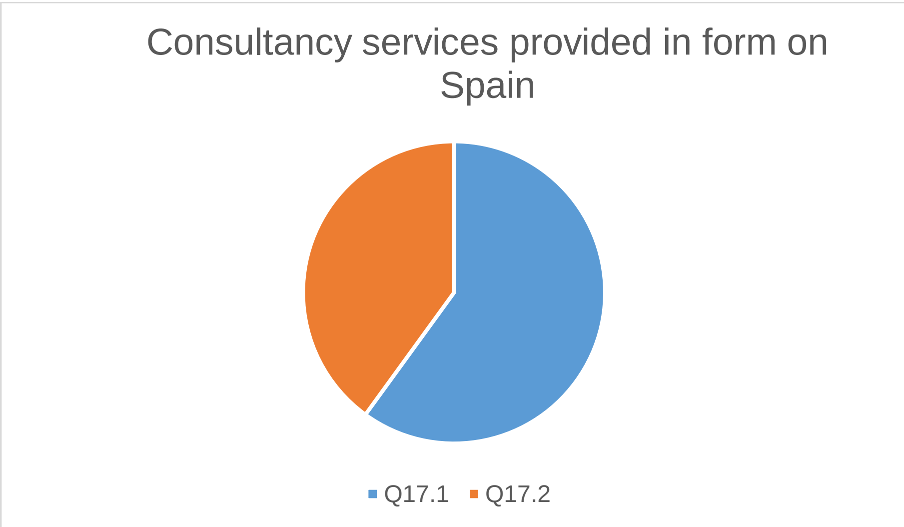


Graphic 62: Persons who benefitted of business development consulting in 2018 in Spain;

Graphic subtitle: Q16.1 – 1-10, Q16.2 – 11-30, Q16.3 – 31-50, Q16.4 - >50

Form of business development consultancy services in Spain

There is a prevalence, with 60% of the indications, of the "Structured/Permanent" organizational structures that provide these consulting services on the organizational form of those who resort to "occasional on-demand" structures, in 40% of cases.



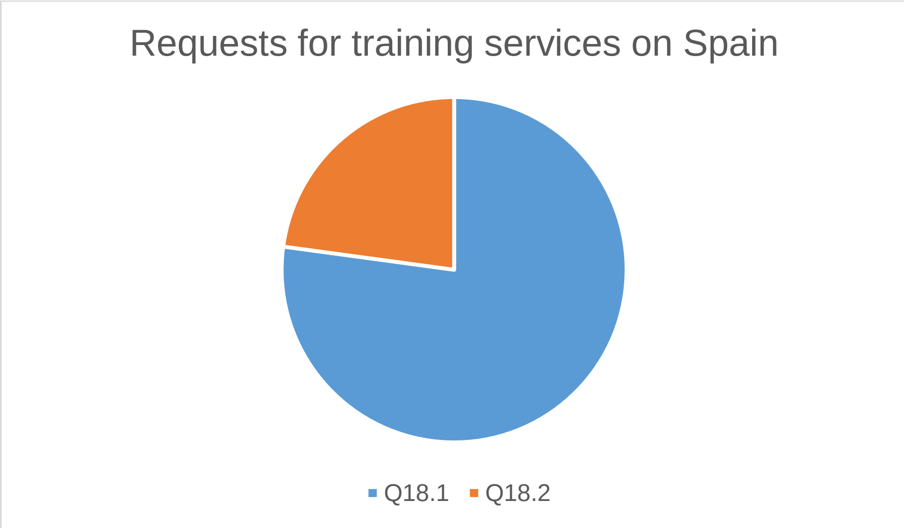
Graphic 63: Consultancy services provided in form in Spain;

Graphic subtitle: Q17.1 - Structured/Permanent, Q17.2 - Occasional on request.

EDUCATIONAL AND TRAINING DEMAND

Requests for training services from spin-offs, start-up, businesses, students, trade associations for business development in Spain

The observation on the demand side of educational and training services is very interesting because it provides an unusual perspective, based on the so-called Demand-Pull completely different from the one previously analysed which was based on the Supply Push. Of the 35 participants, 77% replied that they received an application for educational and training services while the remaining 23% did not. The result is extremely positive and significant because using an expression that tends to synthesize and simplify a phenomenon in the language of economists it is used to say that "The horse drinks".

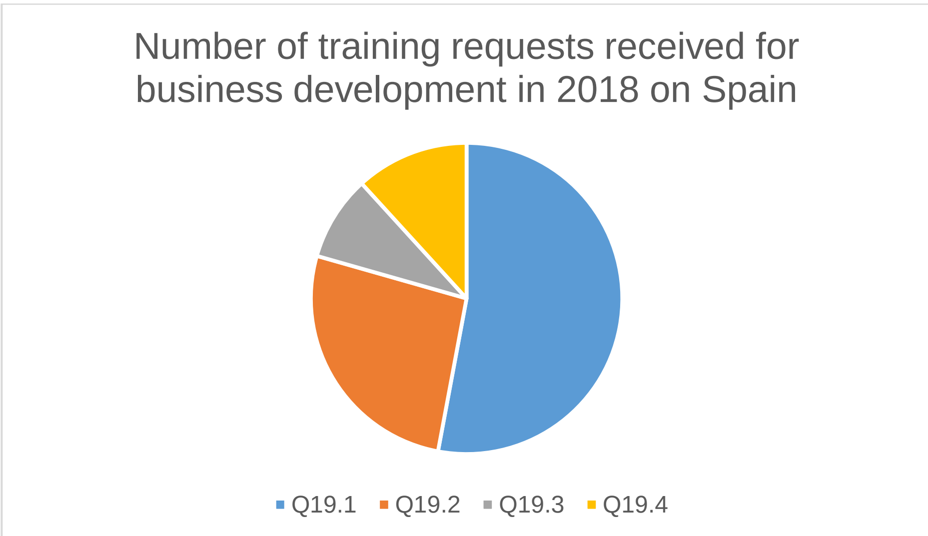


Graphic 64: Requests for training services in Spain;

Graphic subtitle: Q18.1 – Yes, Q18.2 – No.

Training requests from companies/organizations for business development in 2018 in Spain

Also, in this case, the numbers relating to customers and organizations/companies requesting consultancy services provided by each individual company are limited, in half of the cases there is a maximum of 10 clients, and a quarter of the replies with a maximum of 30 customers. Summing up these first two categories, we arrive at the fact that three-quarters of the companies that responded had a maximum of 30 customer organizations in 2018.

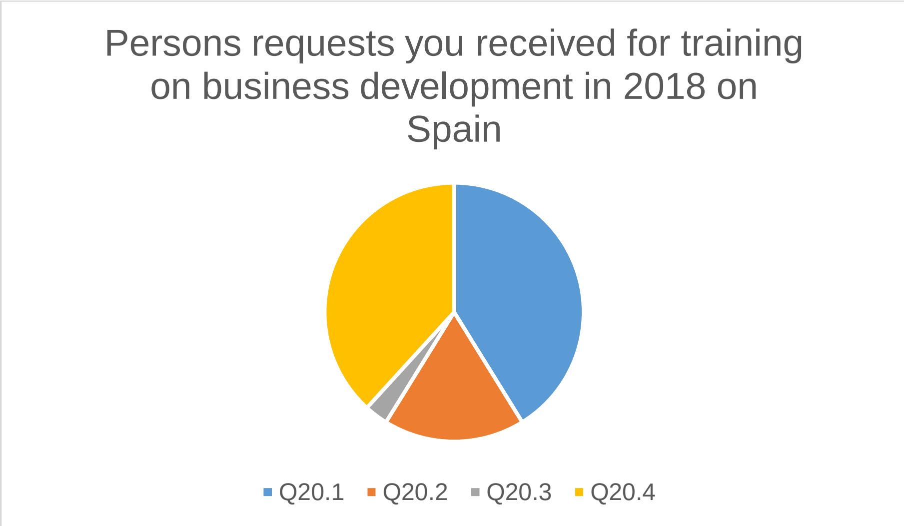


Graphic 65: Number of training requests received for business development in 2018 in Spain;

Graphic subtitle: Q19.1 – 1-10, Q19.2 – 11-30, Q19.3 – 31-50, Q19.4 - >50.

Persons received training for business development in 2018 in Spain

The numbers relating to the people of the organizations/companies requesting consultancy services provided by each individual company indicate, in almost 41% of the cases a number of customers between 1 and 10, while one-third of the answers (38%) with over 50 people.

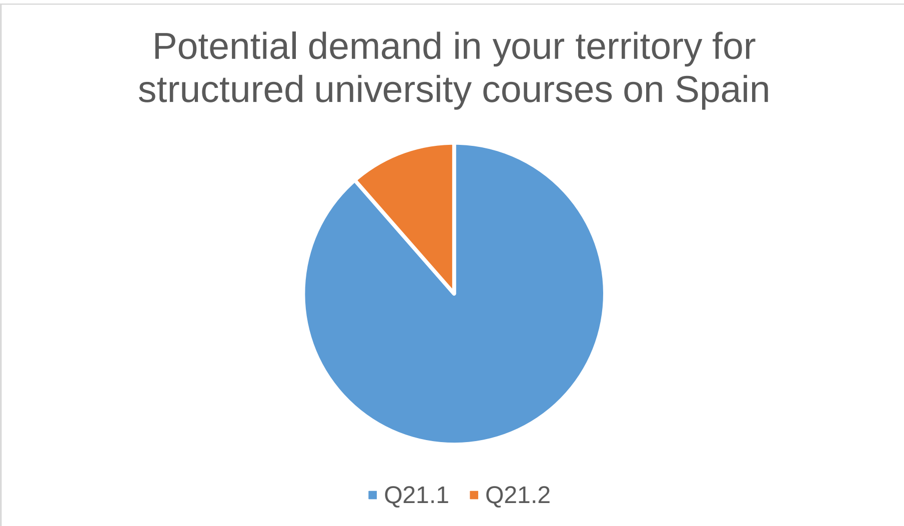


Graphic 66: Persons requests you received for training on business development in 2018 in Spain;

Graphic subtitle: Q20.1 – 1-10, Q20.2 – 11-30, Q20.3 – 31-50, Q20.4 - >50.

Potential demand on your territory for structured university courses oriented for the support of spin-offs, start-up, students and companies aiming to business development in Spain

On the 35 responses collected there is a marked and unequivocal prevalence of opinion on the existence of potential demand for university courses aimed at supporting the development of the business of spin-offs, start-up, students, companies (more or less young): indicates 89% of respondents.



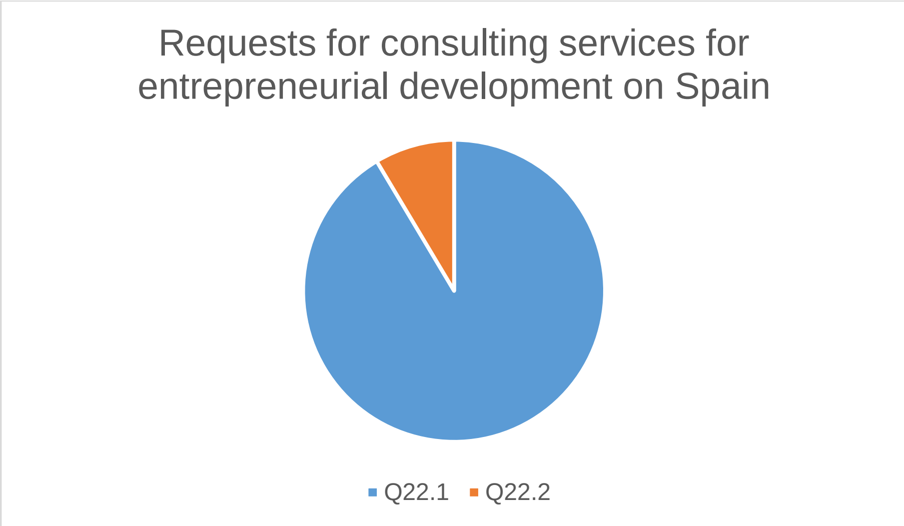
Graphic 67: Potential demand in your territory for structured university courses in Spain;

Graphic subtitle: Q21.1 – Yes, Q21.2 – No.

CONSULTING SERVICES DEMAND

Requests for consulting services for entrepreneurial development from spin-offs, start-up, students, companies and trade associations, aiming to business development in Spain

Among the 35 replies received, we find that 91% received requests for consultancy services from spin-offs, start-ups, students, companies (more or less young) in support and for business development. Only 9% did not receive any.



Graphic 68: Requests for consulting services for entrepreneurial development in Spain;

Graphic subtitle: Q22.1 – Yes, Q22.2 – No.

Consulting requests from companies/organizations for business development in 2018 in Spain

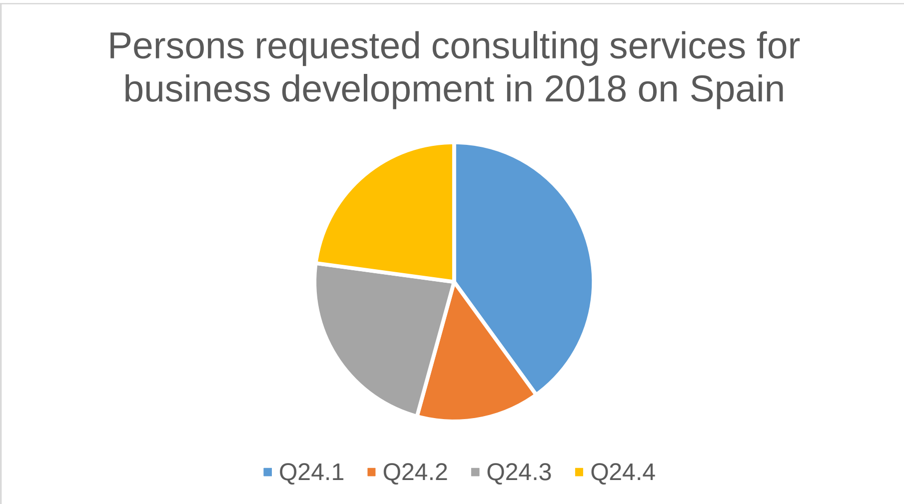
Even in this case, the numbers relating to customers and organizations/companies requesting consultancy services provided by each individual company are limited, in 46% of cases there is a maximum of 10 customers, and a quarter of replies with a maximum of 30 customers. Summing up these first two categories we come to the fact that around 72% of the companies that responded had a maximum of 30 requests for a consultancy from organizations/companies in 2018.

Graphic 69: Consulting requests for business development received in 2018 from organizations in Spain;

Graphic subtitle: Q23.1 – 1-10, Q23.2 – 11-30, Q23.3 – 31-50, Q23.4 - >50.

Persons received consulting requests for business development in 2018 in Spain

Also, in this case, the numbers relating to the persons of the organizations/companies requesting consultancy services provided by each individual company are limited; in just over a third (40% of cases) we talk about a maximum of 10 people, while about 14% of the answers with a maximum of 30 customers. Adding these two categories we can see that about half of the companies providing services stood at below 30 people served.



Graphic 70: Persons requested consulting services for business development in 2018 in Spain;

Graphic subtitle: Q24.1 – 1-10, Q24.2 – 11-30, Q24.3 – 31-50, Q24.4 - >50.

FINAL CONSIDERATION

Spanish sample of a total of 35 respondents ranged in all the 16 types of profiles we identified in the survey design phase – Graphic 48 -. In particular, the profiles with the highest response density appear to be in the following areas: Universities (29%), Companies (20%), and Clusters (20%). They are followed by the following categories: Science and Technology Parks, Incubator and Accelerator with (9%). Finally, the profiles with the lowest response density are development agency (regional, territorial, local, etc..) and Elevator, both with (6%) and (3%) respectively. This percentage in the composition of the respondents' sample reflects quite faithfully the geography of the real operating realities in the national research and innovation system.

In the sample, there is the large majority of Universities and then Enterprises which are really the most important actors in R&D environment; but also we see that Science and Technology Parks, Incubator and Accelerator are actors very present, also, on the stage.

On the educational and training supply, we can find a very high percentage of organisations delivering education and training services to the spin-off, start-ups, businesses, students, trade associations for business development. About 69% of the participants declared that their organisation provides such typology of services and they provide them in a "structured and or permanent" manner.

In 2018 these organizations provided training to a rather large number of organizations and companies, and the number of people trained is decidedly high with over 50 people.

Highlight that the most frequent training course solutions have a short duration of about 4-8 hours and in the other mode they exceed 16 hours, imagining that they are different training initiatives.

Another aspect to remark is that over three-quarters of cases, training initiatives were offered and carried out free of charge, while the remaining quarter was paid.

If in the first case one can think of a consistent role of the typically free educational and scholastic Spain offer supported by the one through initiatives financed by the ESF through the regions and the public Training Centers. Also, very interesting is the data concerning that there are people who give value to these educational and training services and are willing to pay, to support costs to be trained and educated to entrepreneurship. Which is very significant to continue working in this line

Remark, with 88% of cases, the use of "internal and external" personnel to provide this training, as if to indicate the need for highly specialized skills and abilities not found in a single or a few individuals.

Is important highlight that in Spain most of those interviewed are aware of the existence of a training offered by universities, or related bodies, for the development and support of new entrepreneurship. This gave us a clear idea of the high interest and/or efficient communication on the university offer concerning the business development on innovation.

In Referencing about the distance of university offering these courses, over 89% of the interviewed say that university courses that offer training in support of new entrepreneurship are "near home", within a radius of 100 kilometres. This gives us an idea about as Spain is doing the things, we have good communication and huge universities offering this kind of services. In spite of this situation always there are things to do and further improve.

On the other hand, on the educational and training demand, the most of the educational organizations interviewed have received requests for training services from the spin-off, start-ups, businesses, students, and trade associations for business development, about 77%.

These data show that in Spain there is a potential demand for structured university courses oriented for the support of spin-offs, start-up, students, companies and trade associations, aiming to business development.

If we compare the educational and training supply and the educational and training demand we can observe than the supply is a little bit under the demand, 69% and 77% respectively so Spain have to keep working on increasing the educational and training services and improving their quality.

Besides the fact that no more internal staff is used to provide this training, indicates the needed to train University and Public body staff, in advanced skills for Innovation and Entrepreneurship in the BIOHEALTH sector.

Concerning the consulting services supply, with a large majority (77%) of the answers, the organizations interviewed stated that they provide spin-off consultancy services, to start-ups, to students, to young entrepreneurs, to companies, to business associations for business development. These organizations offer different services according to their profiles operating in the market covering all the services needed by the relevant actors to accelerate their knowledge and competences to boost innovation and entrepreneurship in the BIOHEALTH sector.

Stand out that the organizations interviewed have provided development consulting to 30 companies and over 50 people on average. They have offered theses consultancy services in a structured and permanent way.

Also, we have to stand out that consultancy services, seminars, courses and training initiatives for business development are mainly provided free of charge, but there are people and companies, more or less young, who are willing to pay and incur costs for the development and growth of their business.

Among the 35 replies received, we find that (91%) received requests for consultancy services from spin-offs, start-ups, students, companies in support and for business development.

The numbers relating to customers and organizations/ companies requesting consultancy services provided by each individual company are limited, with a maximum of 30 requests for a consultancy from organizations/companies in 2018.

Also, in this case, the numbers relating to the persons requesting consultancy services provided by each individual company are limited, we can see that about half of the companies providing services stood at below 30 people.

If we compare the supply of the consulting services and the consulting services demand we can observe than the supply is under the demand, 77% and 91% respectively. So we should keep working in increasing the number and the quality of the organizations which provide theses consulting services.

Finally, we have to remark, that in Spain, we have to work in different aspects such as:

- Accelerate the learning of knowledge and competencies to boost efficient innovation and entrepreneurial processes, in the BIOHEALTH sector.
- Foster co-creation and collaborative dynamics between and within relevant actors of the ecosystem (including Higher Education Institutions - staff and students, Business, Incubators/Accelerators, Investors and other relevant stakeholders).

- Develop new, innovative and multidisciplinary approaches to teaching and learning entrepreneurial skills and competencies, stimulating entrepreneurship and entrepreneurial skills of higher education teaching staff and business staff (professionals), easing the exchange, flow and co-creation of educational assets and knowledge.

For which our Bio-All will help us.

5.3. Results from Portugal

Portuguese incubators

The first Portuguese incubator was created in 1987, since then the number of incubators has grown exponentially. The majority of the Portuguese incubators have been functioning for less than 5 years.

In 2017 there was an increase of 11% compared to 2016 in the number of institutions operating under the business incubation activity. According to the National Incubators Network (RNI), Portugal has more than 130 incubators all over the country with 3270 incubation spaces.

The geographical spread of incubators/accelerators

The majority of the Portuguese incubators are located in the Coastline, 20% in Lisbon, 15% in Porto and 11% in Aveiro.

Legal nature of incubators

Portuguese incubators present one of three possible legal natures, Public incubators, Private incubators or Public-Private incubators. The data shows that the majority of Portuguese incubators have a public nature.

Type of incubators

Portuguese Incubators may be classified as specialized or as not specialized.

The types identified are the following:

- Business incubator
- Social incubator
- Mixed
- Science and Technology Park
- Fab Lab
- Technology Transfer Centre

Number of incubator employees in 2017

Incubators normally have small to medium dimensions in terms of employees, almost 80% of Portuguese incubators have less than 10 employees on the day-by-day staff.

Number of incubation requests received in 2017

The number of entrepreneurial projects in the incubators of the National Incubator Network increased by 37% in 2017. More than 769 projects supported under the iniciatives: Startup Voucher, Enterprise Now, Incubation Voucher, Tourism Explorers and Spin +.

Services offered by incubators

The services most frequently provided by the incubators are:

- Mentoring and coaching
- Physical spaces
- Support in raising funds (business angels, venture capital, investment platforms, banking)
- Business analysis
- Administrative, legal and consulting services
- Consulting in Industrial Property
- Support for the search for stakeholders
- Social impact assessment services
- Support for RDI
- Marketing and commercial activities
- Financial strategy

Most frequently services provided

The generality of services offered by an incubator and/or accelerator are coaching and mentoring, support to RDI, business analysis, financial strategy and search for stakeholders.

Estimates of the number of startups incubated in 2017, their number of employees and survival rates

According to RNI in 2017, Portugal had:

- 3005startups incubated (1022 in virtual incubation and 1983 in physical incubation)
- 2543 jobs created by new startups in their first 12 months
- 80,43% survival rate of incubated startups 12 months after the start of incubation

- 67,76% survival rate of incubated startups 24 months after the start of incubation

NACE sectors of incubated startups

The generality of the incubated start-ups are specialized on these sectors:

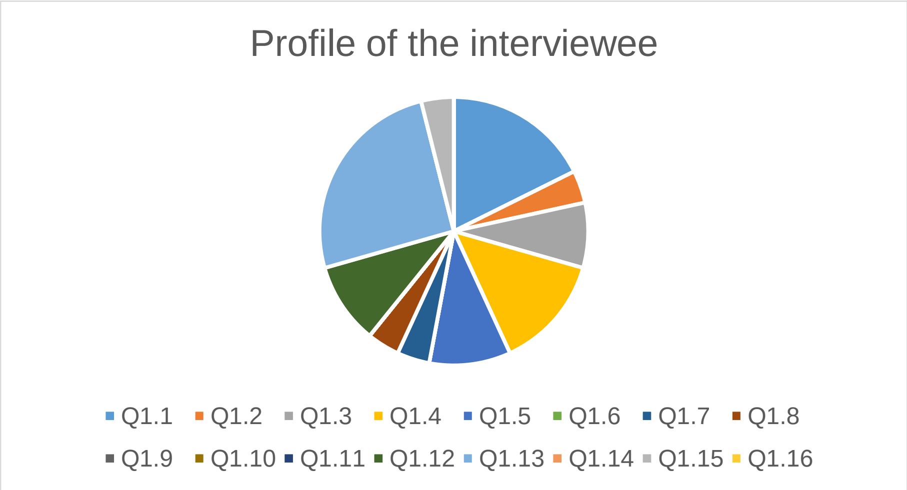
- Consulting and other similar services
- ICT's
- Tourism, catering and leisure.
- Health and pharmaceutical services
- Industry and agriculture
- Information and Communication

Almost 59% of the incubated startups are technology based, namely linked to software development in the following areas:

- Biotechnology
- Artificial Intelligence
- Robotics
- 3D printing
- Drones
- Augmented Virtual Reality
- Blockchain
- Nanotechnology

PROFILE OF THE INTERVIEWEE IN PORTUGAL

Among the 41 questionnaires collected, there was a prevalence of "Companies" that accounted to around a quarter of respondents, followed by "universities" and their so-called Contamination Laboratories, which accounted to about one fifth. The other categories included in the questionnaire are represented but with a high distribution and fragmentation.



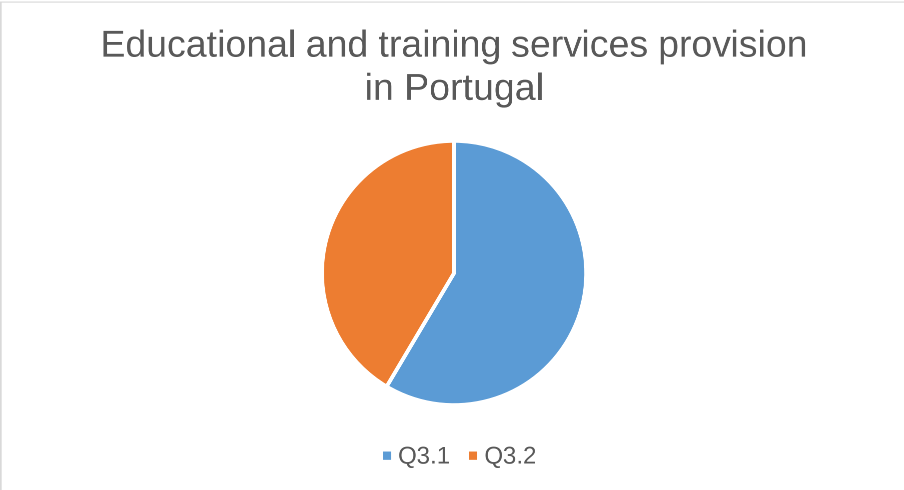
Graphic 71: Profile of the interviewee in Portugal;

Graphic subtitle: Q1.1 - University/C Lab, Q1.2 - Research Center, Q1.3 - Science-Tech Park, Q1.4 – Incubator, Q1.5 – Accelerator, Q1.6 – Elevator; Q1.7 - CW Space/Fab Lab, Q1.8 - Business service center, Q1.9 - Inn Agency CTT, Q1.10 - Develop Agency, Q.11 - Cluster agency, Q1.12 - Public Body, Q1.13 – Company, Q1.14 - Business Angels, Q1.15 - Venturing Association, Q1.16 – Other.

EDUCATIONAL AND TRAINING SUPPLY

Educational and training initiatives and courses provision in Portugal

When asked if the organization provided educational and training services, around 60% answered in the affirmative while the remainder negatively. It is interesting to note that not all subjects operating in this sector provide only educational training services but also provide other types of services.

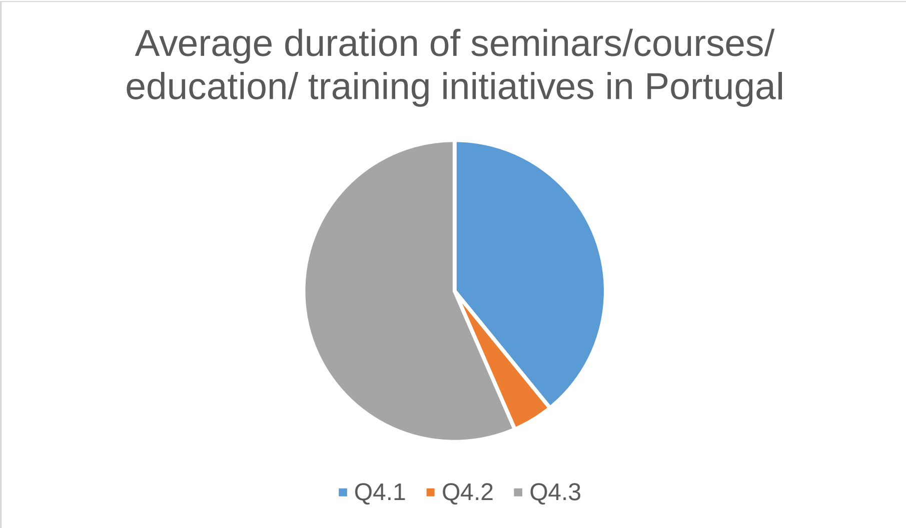


Graphic 72: Educational and training services provision in Portugal;

Graphic subtitle: Q3.1 – Yes, Q3.2 – No.

Average duration, in hours, of the seminars/courses/education/training initiatives in Portugal

The most frequent training courses have a duration of more than 16 hours (57%) followed by those that require less than 8 hours (39%), supposing that they are different training initiatives. It is likely to believe that in this last category fall the so-called "training days", the seminars, the workshops and the specific themed meetings.

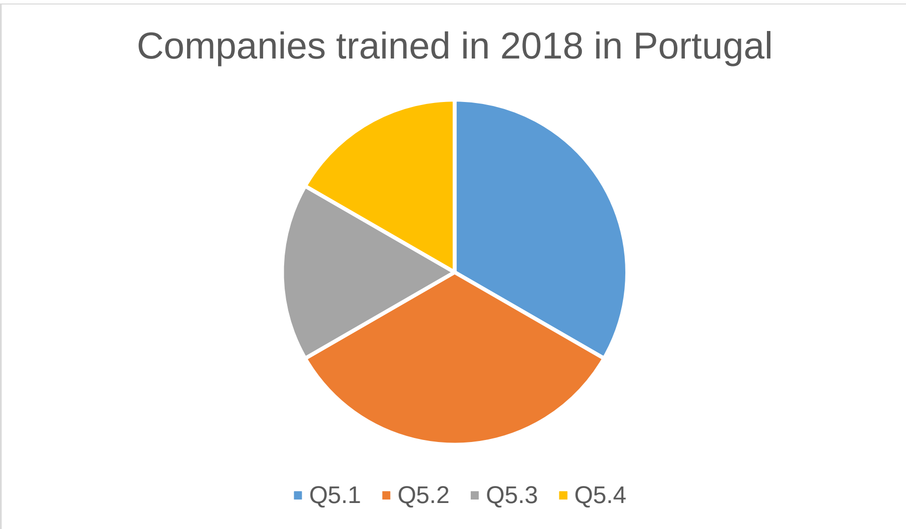


Graphic 73: Average duration of seminars/courses/ education/ training initiatives in Portugal;

Graphic subtitle: Q4.1 – 4-8h, Q4.2 – 9-16 h, Q4.3 - >16h.

Companies trained in 2018 in Portugal

The responses received indicate that in 2018 the organizations provided training to a rather limited number of organizations and companies, up to 10 in 33% of cases as well as in 33% of cases and up to 30 companies. Adding these two values shows how the training offered in about two-thirds of the cases has reached a limited number of companies, up to 30.

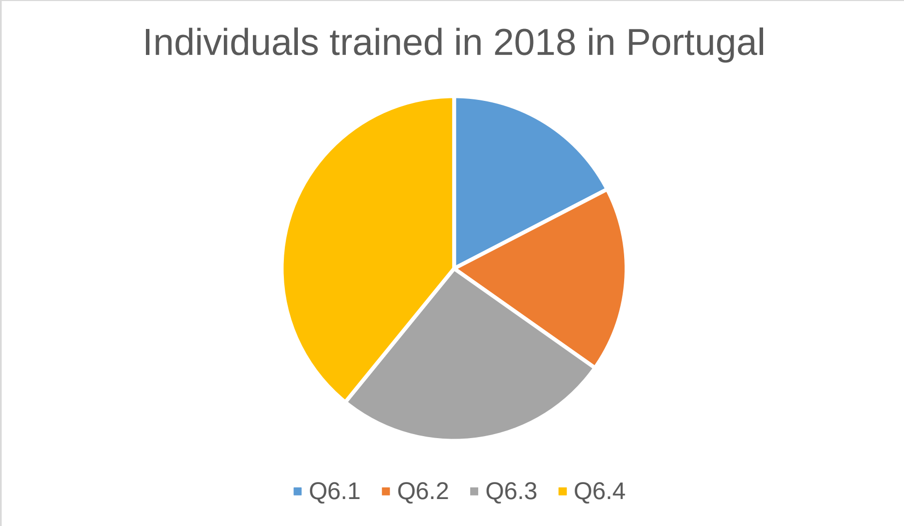


Graphic 74: Companies trained in 2018 in Portugal;

Graphic subtitle: Q5.1 – 1-10, Q5.2 – 11-30, Q5.3 – 31-50, Q5.4 - >50

Persons trained in 2018 in Portugal

The number of people trained is decidedly higher than the number of organizations served and the most indicated category by around 40% of training providers is the one with over 50 people. From this, it is likely to believe that those who do entrepreneurial training do it in a structured manner and target large groups of people.

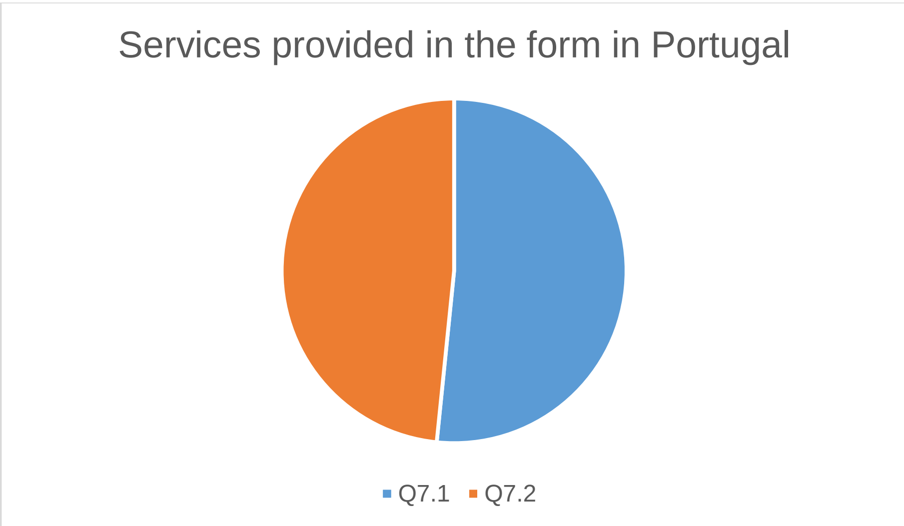


Graphic 75: Individuals trained in 2018 in Portugal;

Graphic subtitle: Q6.1 – 1-10, Q6.2 – 11-30, Q6.3 – 31-50, Q6.4 - >50

Form of the educational and training services provision in Portugal

The values substantially coincide and there is certain equality between those who provide training in a structured and / or permanent manner and those who do so occasionally upon request.

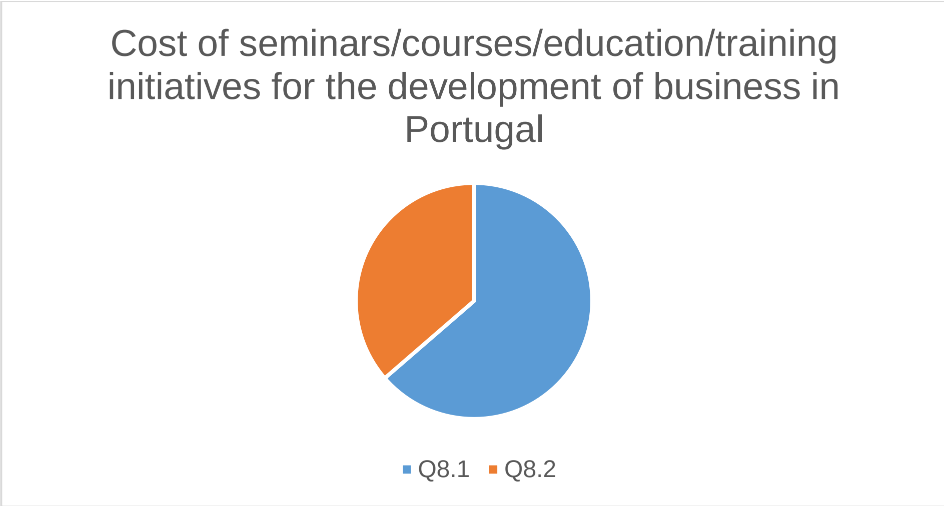


Graphic 76: Services provided in the form in Portugal;

Graphic subtitle: Q7.1 - Structured/Permanent, Q7.2 - Occasional on request.

Costs of educational services provision in Portugal

In about two-thirds of the cases, the training initiatives were offered and carried out for free, at no cost to the participants, while the remaining third request a fee. If in the first case one can think of a consistent role of the typically free educational and scholastic offer supported by the one through initiatives financed by the ESF through the regions and the public Training Centers very interesting is the data concerning who is willing to pay, to support costs to be trained and be educated in entrepreneurship.

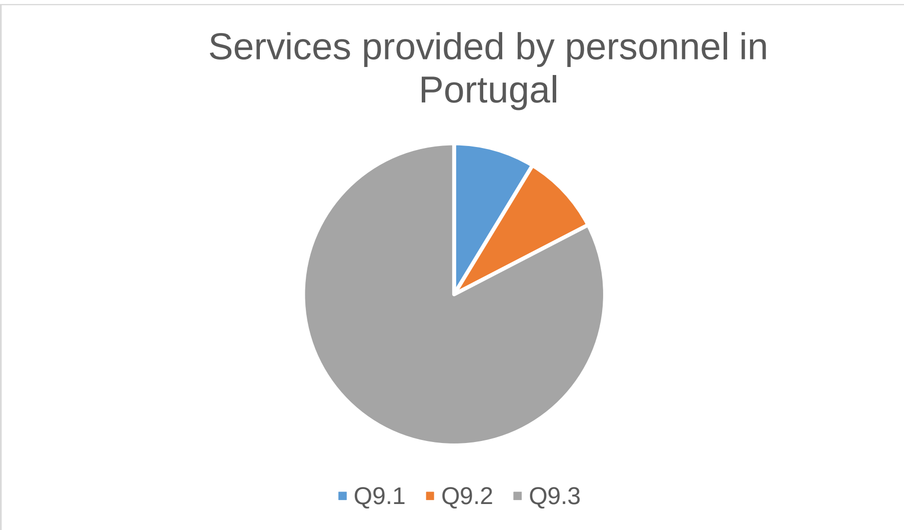


Graphic 77: Cost of seminars/courses/education/training initiatives for the development of business in Portugal;

Graphic subtitle: Q8.1 - Free of charge, Q8.2 – Payment.

Personnel providing educational and training services in Portugal

The most frequently used method is the use of "internal and external" personnel as if to indicate the need for highly specialized skills and abilities that cannot be found in a single or a few individuals. The organizations that provide training only with internal staff are minorities, as in the case of those who use exclusively external personnel.

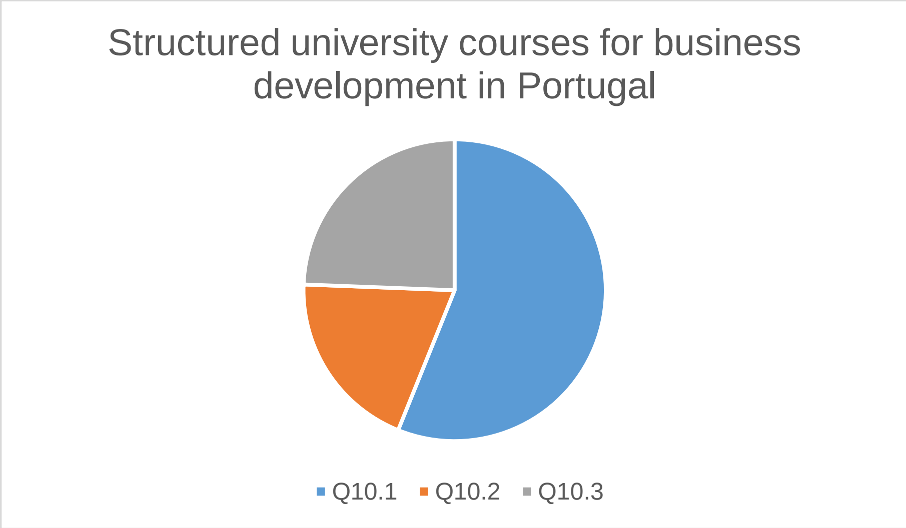


Graphic 78: Services provided by personnel in Portugal;

Graphic subtitle: Q9.1 – Internal, Q9.2 – External, Q9.3 - Internal and External

Structured university courses in your area to support spin-offs, start-ups, companies, trade associations for business development in Portugal

More than half of the respondents are aware of the existence of a training offered by the universities existing in their area, or related bodies, for the development and support of nascent entrepreneurship, while the remaining part is divided almost equally between those who declare that they are not aware of it and those who support it are absent.

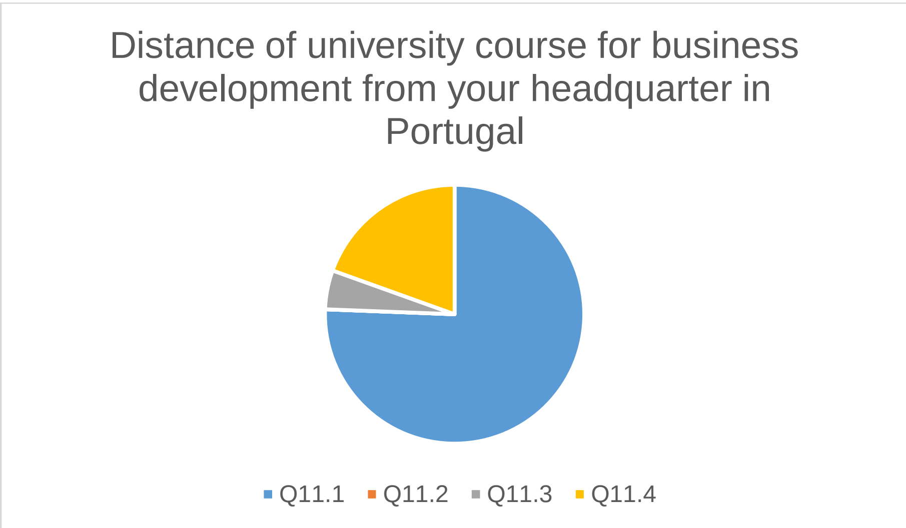


Graphic 79: Structured university courses for business development in Portugal;

Graphic subtitle: Q10.1 – Yes, Q10.2 – No, Q10.3 – I don't know.

Distance of university courses away from your headquarters in Portugal

The prevailing answer, in three-quarters of cases, is that university courses that offer training in support of nascent entrepreneurship are "close to home", within a radius of 100 kilometres. It seems to understand that those interested in the phenomenon know its aspects and complementary elements up to the location of the course locations.



Graphic 80: Distance of university course for business development from your headquarter in Portugal;

Graphic subtitle: Q11.1 – Within 100 km, Q11.2 – Between 101 and 200 Km, Q11.3 – > of 200 Km, Q11.4 - I don't know

CONSULTING SERVICES SUPPLY

Consulting services provision in Portugal

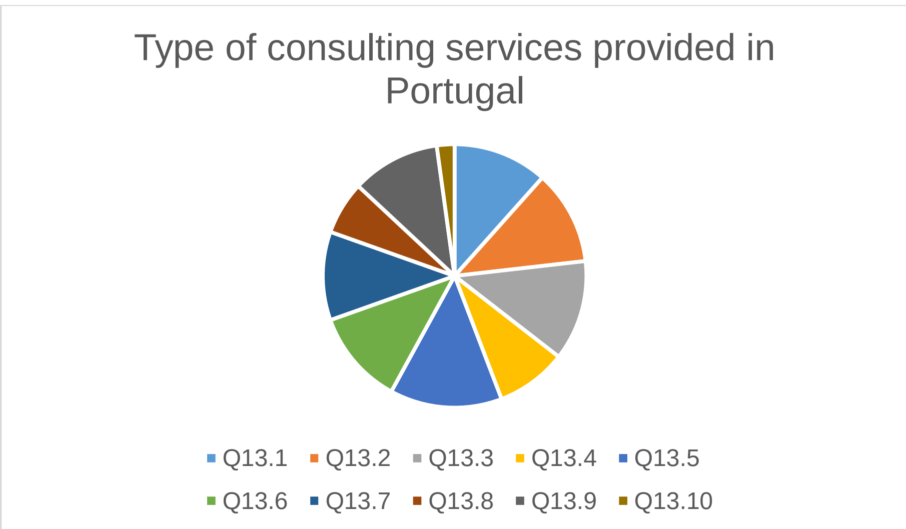
The majority of the organizations interviewed, with 56% of the answers, declare to provide consultancy services to spin-offs, to start-ups, to students, to young entrepreneurs, to companies, to trade associations for business development. The remaining part does not provide consulting services.

Graphic 81: Provision of consulting services by the organization in Portugal;

Graphic subtitle: Q12.1 – Yes, Q12.2 – No.

Type of consulting services provided in Portugal

Each organization has indicated more than one service offered, consistently with the profiles of these companies operating in the market, and the number of answers provided by each organization provides a substantially balanced picture in the distribution. There is almost a uniform distribution. In the face of the 41 organizations that have collaborated in the survey, there are 138 services indicated, which means that on average each company provides three different services. The most commonly provided service is the "Search for collaboration opportunities". The other services provided do not differ much from the first indicated and are in turn very attractive.

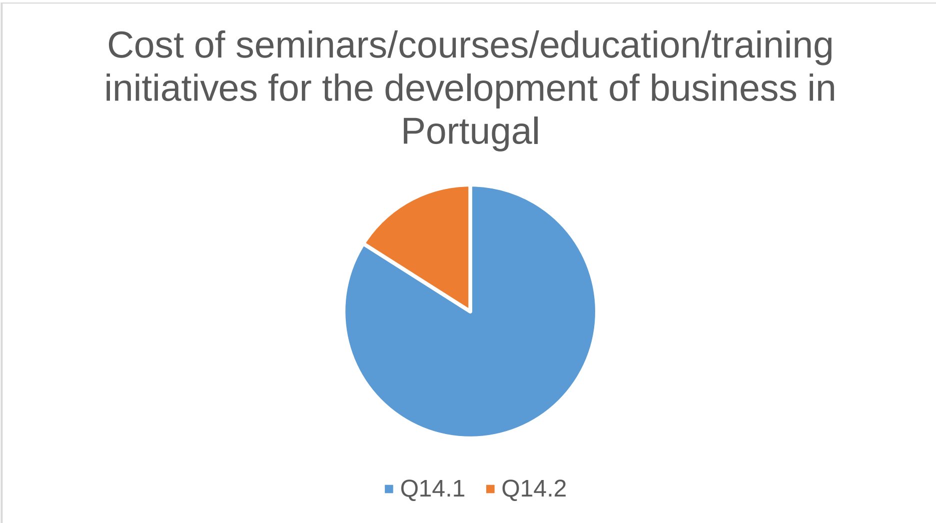


Graphic 82: Type of consulting services provided in Portugal;

Graphic subtitle: Q13.1 - Business analysis, Q13.2 - Financial strategy, Q13.3 - MK & Comm Act, Q13.4 - Improving Inn Mang, Q13.5 - Finding Cooper Opp, Q13.6 - Support to R&D&I, Q13.7 - Custom & mentor, Q13.8 - Intellectual property, Q13.9 - Technological dev, Q13.10 – Other.

Costs of the training consulting services in Portugal

The consultancy services, seminars, courses and training initiatives for business development are provided mainly free of charge, in the four quintals of cases, and for payment in the remaining fifth. So, there is a significant proportion of people and companies, more or less young, who are willing to pay and incur in costs for the development and growth of their business.

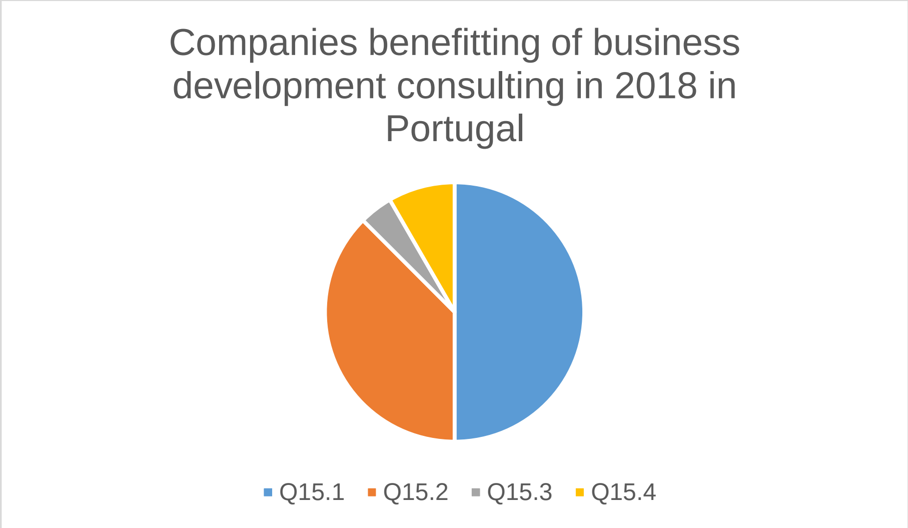


Graphic 83: Cost of seminars/courses/education/training initiatives for the development of business in Portugal;

Graphic subtitle: Q14.1 - Free of charge, Q14.2 – Payment

Companies provided in 2018 in Portugal

Also, in this case, the numbers relating to customers and organizations/companies that use the consulting services provided by each individual company are limited, in half of the cases there is a maximum of 10 customers, and a third of the answers with a maximum of 30 customers. Summing up these first two categories, we come to the fact that around 90% of the companies that responded, had a maximum of 30 customer organizations in 2018.

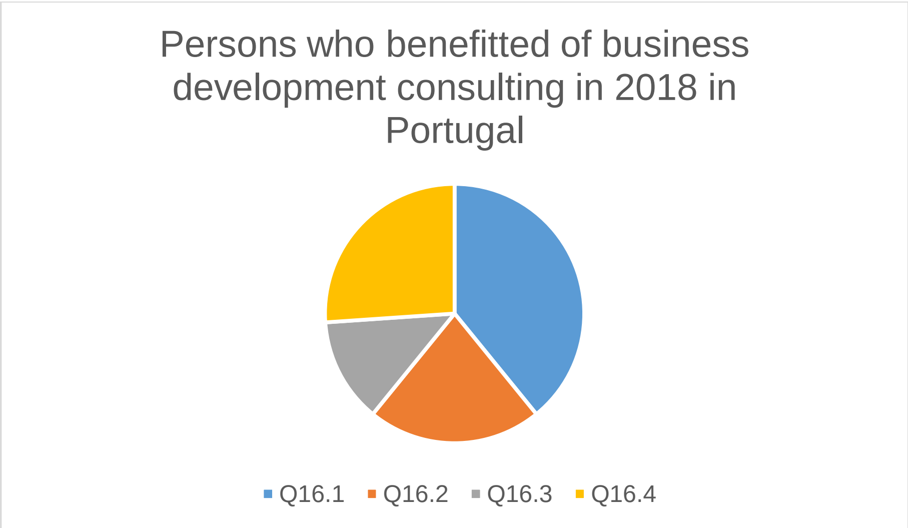


Graphic 84: Companies benefitting of business development consulting in 2018;

Graphic subtitle: Q15.1 – 1-10, Q15.2 – 11-30, Q15.3 – 31-50, Q15.4 - >50

Persons provided business development consulting in 2018 in Portugal

Also, in this case, the numbers relating to the people of the organizations/companies that use the consultancy services provided by each individual company are limited, in about a third of the cases, there is an estimation of a maximum of 10 people, as well as a quarter of the answers with over 50 customers.

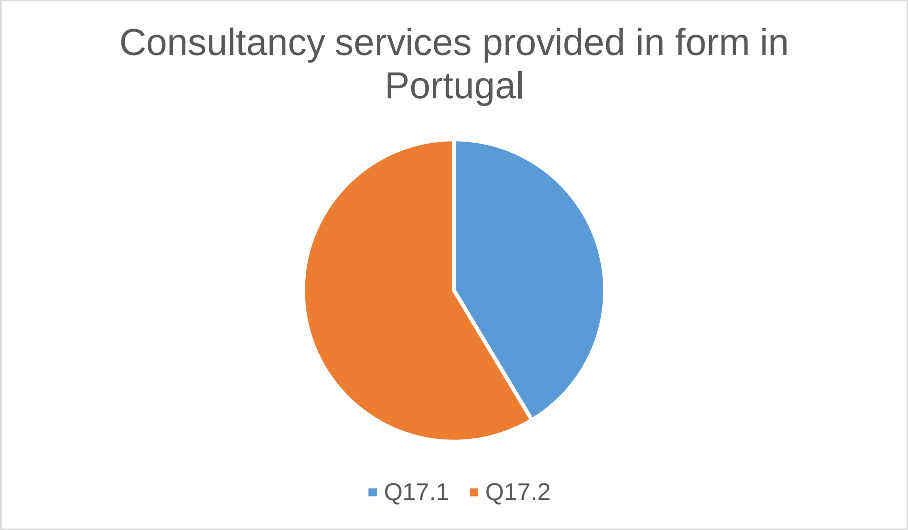


Graphic 85: Persons who benefitted of business development consulting in 2018 in Portugal;

Graphic subtitle: Q16.1 – 1-10, Q16.2 – 11-30, Q16.3 – 31-50, Q16.4 - >50

Form of the consultancy services in Portugal

In this case, the organizational structure that provides these consulting services that seems to prevail is the one that uses "occasional on-demand" structures, indicated in 59% of cases, while 41% of the answers are of a "Structured and Permanent".



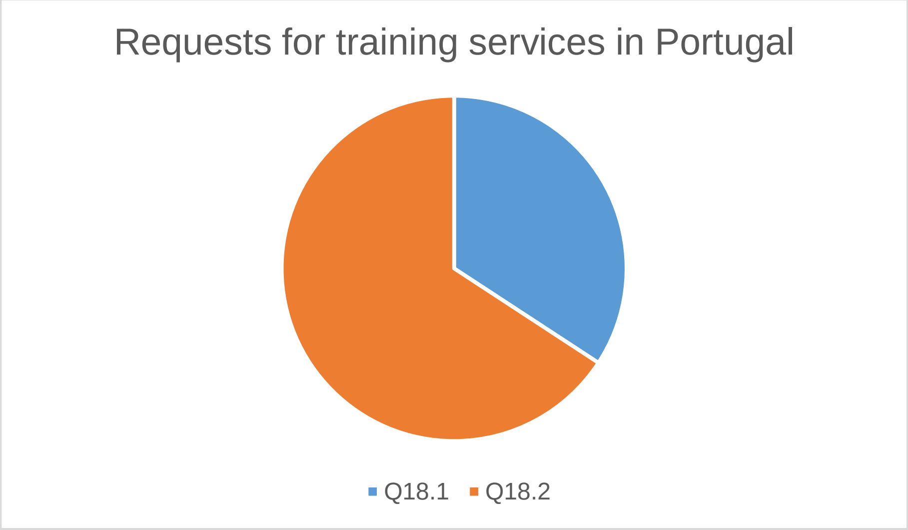
Graphic 86: Consultancy services provided in form in Portugal;

Graphic subtitle: Q17.1 - Structured/Permanent, Q17.2 - Occasional on request.

EDUCATIONAL AND TRAINING DEMAND

Requests for training services from spin-offs, start-ups, businesses, students, trade associations for business development in Portugal

The observation on the demand side of educational and training services is very interesting because it provides a perspective that deserves to be studied carefully, based on the so-called Demand Pull, completely different from the one previously analysed, which was based on the Supply Push. Of the 38 respondents, two thirds, 66% replied that they did not receive a request for educational and training services while the remaining 34% did. These results are extremely significant because the BIOHEALTH sector in Portugal is at an early stage being the demand for services not yet fully designed and thus widespread.

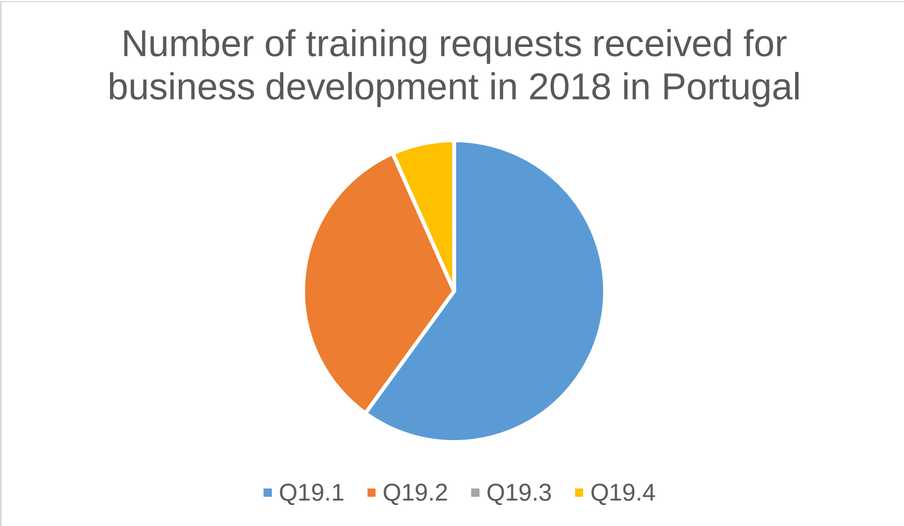


Graphic 87: Requests for training services in Portugal;

Graphic subtitle: Q18.1 – Yes, Q18.2 – No.

Training requests from companies/organizations for business development in 2018 in Portugal

Also, in this case, the numbers relating to customers and organizations/companies requesting consultancy services provided by each individual company are limited, in 60% of the cases there is a maximum of 10 clients, and a third of the answers with a maximum of 30 customers. Summing up these first two categories, we get to the fact that 93% of the companies that responded had up to 30 client organizations in 2018.

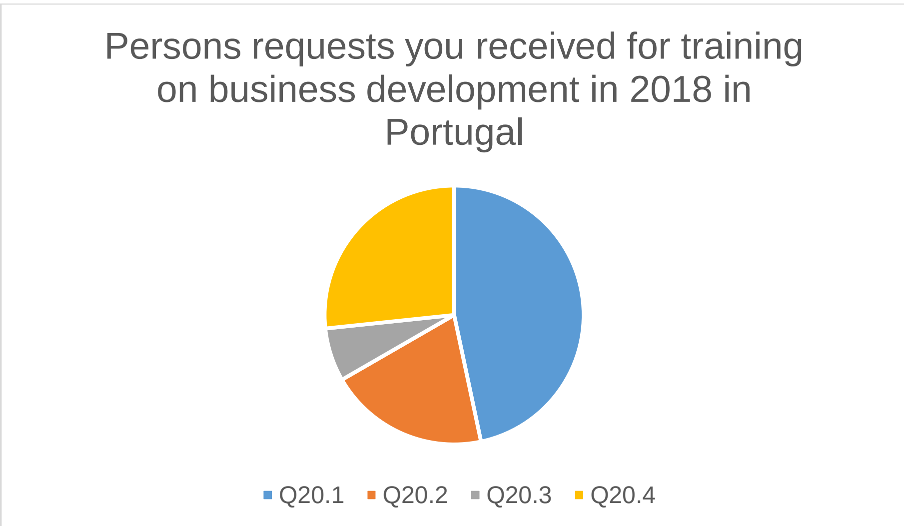


Graphic 88: Number of training requests received for business development in 2018 in Portugal;

Graphic subtitle: Q19.1 – 1-10, Q19.2 – 11-30, Q19.3 – 31-50, Q19.4 - >50.

Persons received training for business development in 2018 in Portugal

Also, in this case, the numbers relating to the people of the organizations/companies requesting consultancy services provided by each individual company are limited, in about half of the cases, there is a maximum of 10 people, while about a quarter of the answers (27%) with a maximum of 50 customers.

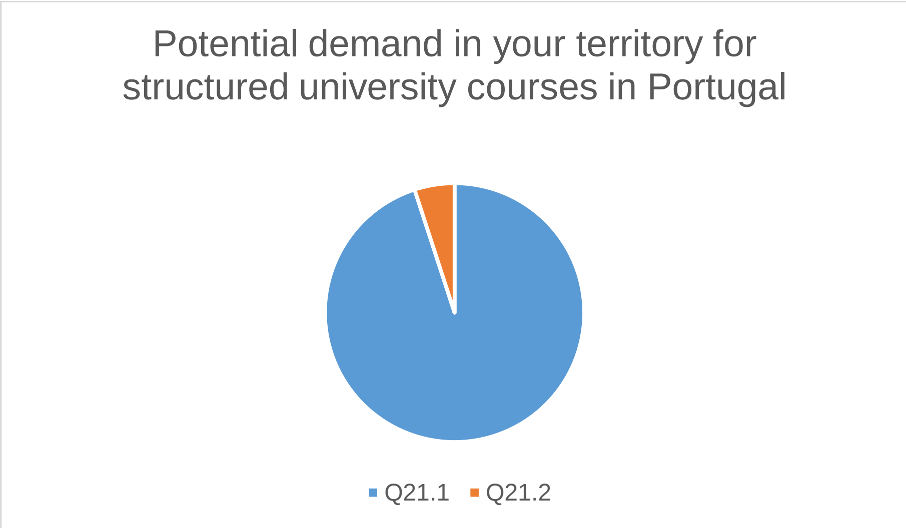


Graphic 89: Persons requests you received for training on business development in 2018 in Portugal;

Graphic subtitle: Q20.1 – 1-10, Q20.2 – 11-30, Q20.3 – 31-50, Q20.4 - >50.

Potential demand on your territory for structured university courses oriented for the support of spin-offs, start-ups, students, companies and trade associations, aiming to business development in Portugal

On the 41 responses collected, there is a marked and unequivocal prevalence of opinion on the existence of potential demand for university courses aimed at supporting the development of the spin-off business, start-ups, students, companies (more or less young): 95% of respondents indicate this.



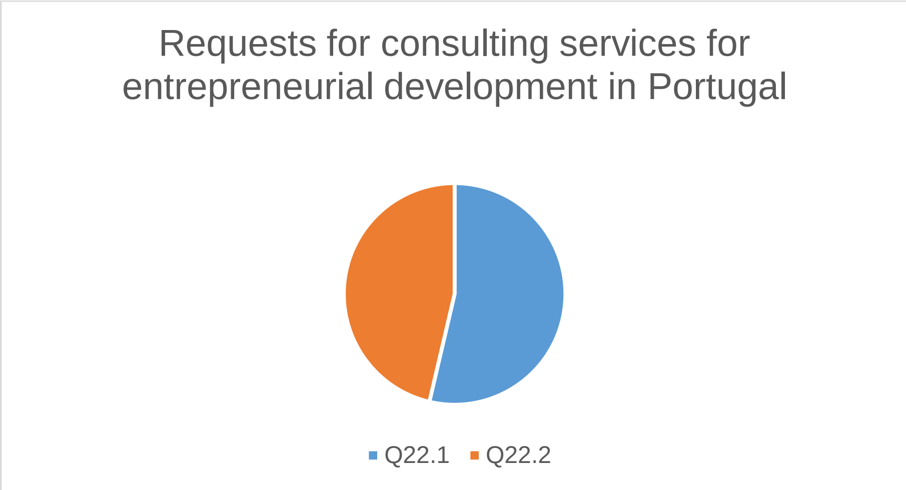
Graphic 90: Potential demand in your territory for structured university courses in Portugal;

Graphic subtitle: Q21.1 – Yes, Q21.2 – No.

CONSULTING SERVICES DEMAND

Requests received requests for consulting services for entrepreneurial development in Portugal

Among the 41 responses we find that 54% received requests for consultancy services from spin-offs, start-ups, students, companies (more or less young) to support and for business development, while 46 % has not yet received any.



Graphic 91: Requests for consulting services for entrepreneurial development in Portugal;

Graphic subtitle: Q22.1 – Yes, Q22.2 – No.

Consulting requests from companies/organizations for business development in 2018 in Portugal

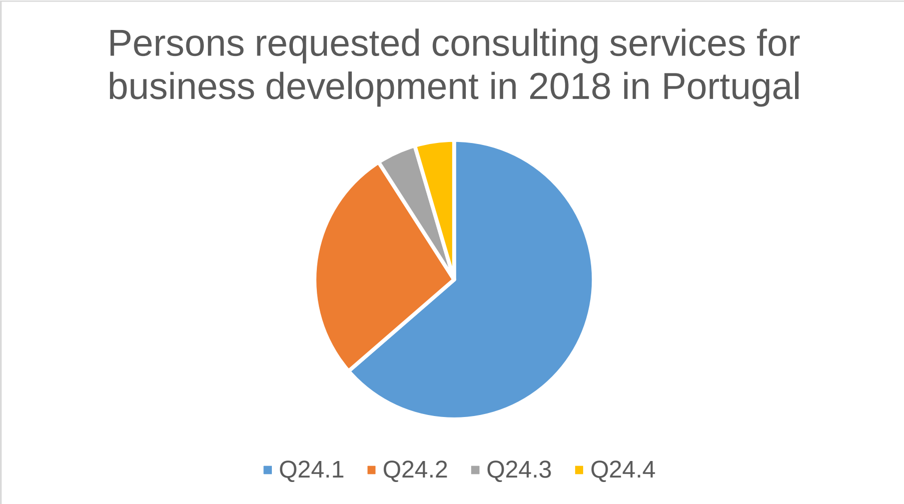
Also, in this case, the numbers relating to customers and organizations/companies requesting consultancy services provided by each individual company are limited, in 64% of cases there is a maximum of 10 clients, and 36% of replies with a maximum of 30 customers. Adding these two categories, we arrive at the fact that the companies that responded had a maximum of 30 requests for consultancy from organizations/companies in 2018.

Graphic 92: Consulting requests for business development received in 2018 from organizations in Portugal;

Graphic subtitle: Q23.1 – 1-10, Q23.2 – 11-30, Q23.3 – 31-50, Q23.4 - >50.

Persons requested consulting for business development in 2018 in Portugal

Also, in this case, the numbers relating to the persons of the organizations/companies requesting consultancy services provided by each individual company are limited, in two thirds of the cases, there is a maximum of 10 people, while about a quarter of the answers (27%) denote a maximum of 30 customers.



Graphic 93: Persons requested consulting services for business development in 2018 in Portugal;

Graphic subtitle: Q24.1 – 1-10, Q24.2 – 11-30, Q24.3 – 31-50, Q24.4 - >50.

FINAL CONSIDERATION

Regarding the structure of the sample in the 41 questionnaires collected, there were identified 10 different profiles (Graphic 71) with the prevalence of "Companies" almost 25% of respondents, followed by "universities" with 18% and their "incubators", which accounted to about one-sixth.

When asked if the organization provided educational and training services – Graphic 72 - 59% stated they do it in fact, not limiting to educational training services but also providing other types of services.

More than 50% of the respondents – Graphic 79 - know the offer of training and education provided by the universities in their area, or related bodies, for the development and support of nascent entrepreneurship, while the remaining half stated that they are not aware of it. On ¾ of the cases, 76% (Graphic 80), University courses are "close by" within a radius of 100 Km. Concerning the training duration, two different scenarios were present (Graphic 73), 57% of the interviewed affirmed that training normally has a duration of more than 16 hours and 39 % of the respondents affirmed that those initiatives generally last less than 8 hours (training day). The organizations interviewed affirmed that they trained between 1 and 30 companies in 2018 and 40 % of the respondents trained more than 50 people last year.

The education and training services provided were almost fifty-fifty between structured and /or permanent and occasional on request as can be seen in Graphic 76. Almost two-thirds of those services were carried out of free or offered to the participants (Graphic 77). 83% of the training, Graphic 78, was provided by internal and external personnel.

The majority of the respondents, 56% (Graphic 81), provide consultancy services to spin-offs, start-ups, students, young entrepreneurs, companies, or trade associations for business development. The vast variety of consulting services have been indicated – Graphic 82 - such services comprehend as most pointed the set of actions involving "Search for collaboration opportunities". Half of the organizations questioned provided consulting services to a maximum of 10 clients (Graphic 84) and the services were mostly on request (Graphic 86).

66% of the 38 respondents stressed that they did not receive a request for educational and training services while the remaining 34% did, as can be seen in Graphic 87. 90 % of the respondent received a maximum of 30 training requests (Graphic 88). Concerning the number of persons receiving training, almost 50 % of the respondents trained a maximum of 10 people and about 25% trained a maximum of 50 persons as shown in Graphic 89. These results can be explained by the early-stage development phase of the BIOHEALTH sector in Portugal, accounting for the short demand for services which are not yet fully designed and thus widespread.

There is a potential demand for university courses aimed at supporting the development of the spin-off business, start-ups, students, companies (more or less young), as almost 95% defended the need for such offer and also for other consultancy services in the entrepreneurial area.

Finally, in Portugal, different aspects need to be worked such as:

- Stimulate the development of skills and competencies to drive entrepreneurship and innovation in the Biohealth sector.
- Develop tools, programs and services specialized to support Bioentrepreneurs and business on the Biohealth sector.

6. Final considerations

If teaching to doubt, to students as well as to young start-ups and spin-off entrepreneurs, it is a fundamental activity especially in the field of science, empirical research and daily real activities, the results that emerged during the survey just concluded categorically dispel the doubts of those who at the time of submitting the proposal of the project BIOHEALTH Gear Box Alliance (BIO-ALL) believed there was no need, a real, potential and widespread demand for tools for developing entrepreneurial skills in the BIOHEALTH sector and in the sectors connected to it and induced by it. Nine out of ten respondent's claim that in the three countries considered there is a potential demand for these structured vocational educational training courses, consulting and services provided to support entrepreneurship in the BIOHEALTH sector.

The BIO-ALL project proposal was based on the reflection of the need for some Mediterranean European countries such as Italy, Spain and Portugal, differently from what is happening in the northern European countries, the USA, Canada and Japan, of the development of tools appropriate and calibrated for the development of entrepreneurial skills that are not effectively structured and included in the study programs of universities and HEI, even if they are particularly necessary in the sectors in which entrepreneurs and companies find more obstacles to the acceleration of marketing, such as biotechnology and health-related industries.

Widespread and potential demand is matched by a supply of educational, training, consular and highly fragmented, articulated, mostly small-scale and small-scale services aimed at very limited recipients, interlocutors and segments, circumscribed, almost fragmented.

The classical economic literature identifies, enumerates and classifies these characteristics and peculiarities between the emerging and innovative economic and technological sectors, not yet fully consolidated as is the case of the BIOHEALTH sector that in our case contains everything that is related to the BIO, for this reason, the call me BIO-ALL in most cases (from BIO-Food to BIO-Medicine, from BIO-Energy to BIO-Pharmaceuticals, etc.).

Here then is that in a context of nascent "productive" and "manufacturing" companies, different in terms of area and type of production and specialization, the same number of educational, training, consulting, financial and support services are born, emerge, appear and proliferate and accompanying and accelerating growth.

This is also the product of the economic crisis, markedly structural and not cyclical, and of the globalization that began in the early years of this new century and has not yet been overcome and has not yet reached a new level of balance.

The data collected and the opinions expressed by the over one hundred respondents send encouraging and supportive signals to the challenge launched and undertaken by our

Knowledge Alliance Consortium to gather European forces that will try to accelerate the learning of knowledge and skills to promote efficient innovation and entrepreneurial processes, specifically aimed at the BIOHEALTH sector. The "question" expressed by the interviewees but above all the fragmentation of the supply of services to organizations and people working in the so-called BIO-ALL sector pose the question and the need for the co-creation of collaborative dynamics between and within the relevant actors of the ecosystem (including universities, higher education institutions - staff and students, businesses, incubators/accelerators, investors, policy and decision-makers and other stakeholders), which will support innovative educational assets, methodologies and systems, intensifying the response capacity of the higher educational supply to current and future needs and supporting entrepreneurship in the sector.

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8. Appendix

8.1. Supporting tools

For "Supporting Tools" Consortium means all types of documents and materials useful to implement in efficient and effective way the research. They are:

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

Questionnaire for the interviews – English version

BIOHEALTH Gear Box Alliance (BIO-ALL)

Project number 600936-EPP-1-2018-1-PT-EPPKA2-KA

Knowledge Alliances

WP1

Questionnaire for the first interviews

WP1 Coordinators:

UNIVPM P1 – CEEIARAGON P7

March, 2019

This project has been funded with support from the European Commission. This Deliverable reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein. The development of this Deliverable has been possible due to Erasmus+ Knowledge Alliance program funds, with project number 600936-EPP-1-2018-1-PT-EPPKA2-KA.

Objective of the Questionnaire: gather information on the state of the educational supply from the Universities, Research Centers, Incubators/Accelerators, Elevators, Co-working spaces, Public Bodies, Innovation Agency, Transfer Center Technological Development Agencies, Trade Associations, Business Angels, and on the demand for training and consultancy for the development of business initiatives initiated by Spin Off, Start Up, students, young people and individuals in sectors related to BIO (BIO-Medicine, BIO-Pharmacy, Bio-Engineering, BIO-Agroindustry, BIO-Health, BIO-Energy, Green, etc.).

Target Group: Universities, Research Centers, Science and Technology Parks, Incubators/Accelerators, Elevators, Co-working spaces, Public Bodies, Land Development Agencies, Agencies for Innovation and Technology Transfer, Business Associations, Business Angels, Venturing Associations, etc.

This questionnaire is anonymous and confidential, serving only for the purposes of data collection and subsequent analysis and action design. Please complete the questionnaire by signing with a cross (X) the item you consider most appropriate. There are no correct or incorrect answers, so we ask for sincerity in your choice. Completion of the questionnaire has an estimated duration of 10 minutes.

Thank you for your availability and collaboration.

For any clarification, please contact: UBImedical@ubi.pt

Q.1 Profile of the interviewee

□ University / Contamination Lab

□ Research Center

□ Science and Technology Parks

□ Incubator

□ Accelerator

□ Elevator

□ Co-working Space / Fab Lab

□ Business services center

□ Competitiveness/Innovation Agency - Center for Technology Transfer

□ Development Agency (regional, territorial, local, etc.)

□ Cluster agency

□ Public Body (Chambers of Commerce, Region, Province, Municipality,)

□ Company

□ Business Angels

□ Venturing Association

□ Other (Please indicate …………………………………….)

Q.2 Country: □ **PT** □ **ES** □ **IT** □ **NL**

City: ………………………………………………. Address: …………………………………………………………………………………………

Website:

EDUCATIONAL AND TRAINING SUPPLY

Q.3 Does your organization provide educational and training services to spin-offs, start-ups, businesses, students, trade associations for business development? □ Yes □ No – Go to Q.10

Q.4 What was the average duration, in hours, of the seminars / courses / education / training initiatives?

□ 4-8 □ 9-16 □ > 16

Q.5 If Yes, how many companies have you trained in 2018?

□ 1-10 □ 11-30 □ 31-50 □ > 50

Q.6 If Yes, how many people have you trained in 2018?

□ 1-10 □ 11-30 □ 31-50 □ > 50

Q.7 If Yes, these services are in the form: □ Structured / Permanent □ Occasional on request

Q.8 Have the seminars / courses / education / training initiatives for the development of business initiatives been provided free of charge (i.e. as part of a funded course, ESF, etc) or paid?

□ Free of charge □ Payment

Q.9 These services are provided by personnel:

□ Internal □ External □ Internal and External

Q.10 Are there any structured university courses in your area to support spin-offs, start-ups, companies, trade associations for business development?

□ Yes □ No □ I don't know

Q.11 According to your knowledge, how many miles away from your headquarters there is a university course to support spin-offs, start-ups, students, companies, trade associations for business development?

□ Within 100 km □ Between 101 and 200 Km □ > of 200 Km □ I don't know

CONSULTING SERVICES SUPPLY

Q.12 Does your organization provide consulting services to spin-off, start-ups, students, companies, trade associations for business development? □ Yes □ No – Go to Q.18

Q.13 If Yes, What sort of consulting services provides?

□ Business analysis

□ Financial strategy

□ Marketing and commercial activities

□ Improving the innovation management

□ Finding cooperation opportunities

□ Support to participate in publicly funded R&D&I programmes

□ Customized coaching & mentoring

□ Intellectual property

□ Technological development

□ Others…..(Please indicate…………………………………….)

Q.14 Have the seminars / courses / education / training initiatives for the development of business initiatives been provided free of charge (i.e. as part of a funded course) or paid?

□ Free of charge □ Payment

Q.15 To how many companies have you provided business development consulting in 2018?

□ 1-10 □ 11-30 □ 31-50 □ > 50

Q.16 To how many people have you provided business development consulting in 2018?

□ 1-10 □ 11-30 □ 31-50 □ > 50

Q.17 These business development consultancy services have been in the form:

□ Structured / Permanent □ Occasional on request

EDUCATIONAL AND TRAINING DEMAND

Q.18 Has your organization received requests for training services from spin-offs, start-ups, businesses, students, trade associations for business development? □ Yes □ No – Go to Q.21

Q.19 If Yes, how many training requests from companies / organizations have you received for business development in the last year? □ 1-10 □ 11-30 □ 31-50 □ > 50

Q.20 If Yes, how many people have you received training requests for business development in the last year of? □ 1-10 □ 11-30 □ 31-50 □ > 50

Q.21 In your opinion is there a potential demand on your territory for structured university courses oriented for the support of spin-offs, start-ups, students, companies and trade associations, aiming to business development?

□ Yes □ No

CONSULTING SERVICES DEMAND

Q.22 Has your organization received requests for consulting services for entrepreneurial development from spin-offs, start-ups, students, companies and trade associations, aiming to business development?

□ Yes □ No

Q.23 If Yes, how many consulting requests from companies / organizations have you received for business development in 2018?

□ 1-10 □ 11-30 □ 31-50 □ > 50

Q.24 If Yes, how many people have you received consulting requests for business development in the last year?

□ 1-10 □ 11-30 □ 31-50 □ > 50

Thank you for taking our survey.

Questionnaire for the interviews – Italian version

BIOHEALTH Gear Box Alliance (BIO-ALL)

Project number 600936-EPP-1-2018-1-PT-EPPKA2-KA

Knowledge Alliances

WP1

Questionario per l'intervista

WP1 Coordinatori:

UNIVPM P1 – CEEIARAGON P7

Marzo, 2019

Questo progetto è stato finanziato con il sostegno della Commissione europea. Questo Deliverable riflette le opinioni dell'autore e la Commissione non può essere ritenuta responsabile per qualsiasi uso che possa essere fatto delle informazioni in esso contenute. Lo sviluppo di questo Deliverable è stato possibile grazie ai fondi del programma Erasmus + Knowledge Alliance, con il numero di progetto 600936-EPP-1-2018-1-PT-EPPKA2-KA.

Obiettivo del questionario: raccogliere informazioni sullo stato dell'offerta formativa da Università, Centri di ricerca, incubatori / acceleratori, ascensori, spazi di co-working, enti pubblici, agenzie per l'innovazione, agenzie di sviluppo tecnologico dei centri di trasferimento, associazioni commerciali, business angels, e sulla domanda di formazione e consulenza per lo sviluppo di iniziative imprenditoriali avviate da Spin Off, Start Up, studenti, giovani e individui in settori correlati a BIO (BIO-Medicine, BIO-Farmacia, Bio-Engineering, BIO-Agroindustry, BIO-Health, BIO-Energy, Green, ecc.).

Gruppo target: università, centri di ricerca, parchi scientifici e tecnologici, incubatori / acceleratori, ascensori, spazi di co-working, enti pubblici, agenzie per lo sviluppo del territorio, agenzie per l'innovazione e il trasferimento tecnologico, associazioni di imprese, business angels, associazioni di venture, ecc.

Il questionario è anonimo e confidenziale e serve solo ai fini della raccolta dei dati e delle successive analisi e progettazione delle azioni. Completa il questionario firmando con una croce (X) l'articolo che ritieni più appropriato. Non ci sono risposte corrette o sbagliate, quindi chiediamo sincerità nella tua scelta. Il completamento del questionario ha una durata stimata di 10 minuti.

Grazie per la sua disponibilità e collaborazione.

Per qualsiasi chiarimento, si prega di contattare: UBImedical@ubi.pt

Q.1 Profilo dell'intervistato

□ Laboratorio di Università / Laboratorio di Contaminazione

□ Centro ricerche

□ Parchi scientifici e tecnologici

□ Incubatore

□ Acceleratore

□ Ascensore

□ Spazio di co-working / Fab Lab

□ Centro servizi aziendali

□ Agenzia per la competitività / innovazione - Centro per il trasferimento di tecnologia

□ Agenzia di sviluppo (regionale, territoriale, locale, ecc.)

□ Agenzia di cluster

□ Ente pubblico (Camere di commercio, Regione, Provincia, Comune,)

□ Impresa / Compagnia

□ Business Angels

□ Associazione Venture

□ Altro (indicare ....)

Q.2 Paese: □ **PT** □ **ES** □ **IT** □ **NL**

City: .... Address: ....

Website:.........

Offerta educativa e formativa

Q.3 La sua organizzazione fornisce servizi di istruzione e formazione a spin-off, start-up, aziende, studenti, associazioni di categoria per lo sviluppo del business? □ Sì

□ No - Vai a Q.10

Q.4 Qual è stata la durata media, in ore, dei seminari / corsi / istruzione / iniziative di formazione?

□ 4-8 □ 9-16 □ > 16

Q.5 Se Sì, quante aziende avete formato nel 2018?

□ 1-10 □ 11-30 □ 31-50 □ > 50

Q.6 Se Sì, quante persone avete formato nel 2018?

□ 1-10 □ 11-30 □ 31-50 □ > 50

Q.7 Se Sì, questi servizi sono nella forma: □ Strutturato / Permanente □ Occasionale su richiesta

Q.8 I seminari / corsi / iniziative di formazione / formazione per lo sviluppo di iniziative commerciali sono stati forniti gratuitamente (vale a dire come parte di un corso finanziato, FSE, ecc.) o a pagamento?

□ Gratuito □ Pagamento

Q.9 Questi servizi sono forniti dal personale:

□ Interno □ Esterno □ Interno ed Esterno

Q.10 Ci sono corsi universitari strutturati nella sua zona per supportare spin-off, start-up, aziende, associazioni di categoria per lo sviluppo del business?

□ Sì □ No □ Non lo so

Q.11 Secondo le sue conoscenze, a quante miglia di distanza dalla tua sede c'è un corso universitario per sostenere spin-off, start-up, studenti, aziende, associazioni di categoria per lo sviluppo del business?

□ Entro 100 km □ Tra 101 e 200 Km □ > di 200 Km □ Non lo so

Offerta di servizi di consulenza

Q.12 La sua organizzazione fornisce servizi di consulenza a spin-off, start-up, studenti, aziende, associazioni di categoria per lo sviluppo del business? □ Sì

□ No - Vai a Q.18

Q.13 Se Sì, che tipo di servizi di consulenza fornisce?

□ Analisi aziendale

□ Strategia finanziaria

□ Attività di marketing e commerciali

□ Migliorare la gestione dell'innovazione

□ Trovare opportunità di cooperazione

□ Supporto per la partecipazione a programmi di ricerca e sviluppo finanziati con fondi pubblici

□ Coaching e tutoraggio personalizzati

□ Proprietà intellettuale

□ Sviluppo tecnologico

□ Altri ... (indicare ....)

D.14 I seminari / corsi / iniziative di formazione / formazione per lo sviluppo di iniziative commerciali sono stati forniti gratuitamente (vale a dire come parte di un corso finanziato) o a pagamento?

□ Gratuito □ Pagamento

D.15 A quante aziende avete fornito consulenza per lo sviluppo aziendale nel 2018?

□ 1-10 □ 11-30 □ 31-50 □ > 50

D.16 A quante persone avete fornito consulenza per lo sviluppo aziendale nel 2018?

□ 1-10 □ 11-30 □ 31-50 □ > 50

Q.17 Questi servizi di consulenza per lo sviluppo commerciale sono stati nella forma:

□ Strutturato / permanente □ Occasionale su richiesta

Domanda di servizi educativi e formativi

D.18 La sua organizzazione ha ricevuto richieste di servizi di formazione da spin-off, start-up, aziende, studenti, associazioni di categoria per lo sviluppo del business? □ Sì

□ No - Vai a Q.21

D.19 Se Sì, quante richieste di formazione da parte di aziende / organizzazioni avete ricevuto per lo sviluppo del business nel 2018? □ 1-10 □ 11-30 □ 31-50 □ > 50

Q.20 Se Sì, da quante persone avete ricevuto richieste di formazione per lo sviluppo del business nel 2018?

□ 1-10 □ 11-30 □ 31-50 □ > 50

Q.21 Secondo lei esiste una domanda potenziale sul tuo territorio per corsi universitari strutturati orientati al supporto di spin-off, start-up, studenti, aziende e associazioni di categoria, finalizzati allo sviluppo del business?

□ Sì □ No

Richiesta di servizi di consulenza

Q.22 La sua organizzazione ha ricevuto richieste di servizi di consulenza per lo sviluppo imprenditoriale da spin-off, start-up, studenti, aziende e associazioni di categoria, mirando allo sviluppo del business?

□ Sì □ No

Q.23 Se Sì, quante richieste di consulenza da parte di aziende / organizzazioni avete ricevuto per lo sviluppo del business nel 2018?

□ 1-10 □ 11-30 □ 31-50 □ > 50

Q.24 Se Sì, da quante persone avete ricevuto richieste di consulenza per lo sviluppo del business nel 2018?

□ 1-10 □ 11-30 □ 31-50 □ > 50

Grazie per aver preso parte al nostro sondaggio.

Questionário para as 1ªs entrevistas in Portuguese

BIOHEALTH Gear Box Alliance (BIO-ALL)

Projeto número 600936-EPP-1-2018-1-PT-EPPKA2-KA

Alianças do Conhecimento

WP1

Questionário para as 1ªs entrevistas

Coordenadores WP1:

UNIVPM P1 – CEEIARAGON P7

Abril, 2019

Este projeto foi financiado com o apoio da Comissão Europeia. Este Entregável reflete apenas as opiniões do autor, e a Comissão não pode ser responsabilizada por qualquer uso que possa ser feito das informações nele contidas. O desenvolvimento deste Entregável foi possível graças aos fundos do programa Erasmus + Knowledge Alliances, com o número de projeto 600936-EPP-1-2018-1-PT-EPPKA2-KA.

Objetivo do Questionário: recolher informações sobre o estado da oferta educativa das Universidades, Centros de Investigação, Incubadoras / Aceleradoras, Elevadores, espaços de co-working, Entidades Públicas, Agências de Inovação, Centros de Transferência e Desenvolvimento Tecnológico, Associações Empresariais, Business Angels e Capitais de Risco, e sobre a procura de formação e consultoria para o desenvolvimento de iniciativas empresariais iniciadas por Spin Offs, Startups, estudantes, jovens e outros indivíduos em setores relacionados com o BIO (BIO-Medicina, BIO-Farmácia, Bio-Engenharia, BIO-Agroindústria, BIO-Health, BIO-Energy, Green, etc.).

Grupo Alvo: Universidades, Centros de Investigação, Incubadoras / Aceleradoras, Elevadores, espaços de co-working, Entidades Públicas, Agências de Desenvolvimento Territorial, Agências de Inovação, Centros de Transferência e Desenvolvimento Tecnológico, Associações Empresariais, Business Angels e Capitais de Risco, etc.

Este questionário é anónimo e confidencial, servindo apenas para fins de recolha de dados e posterior análise e desenho de ações. Por favor complete o questionário assinalando com uma cruz (X) o item que considera mais apropriado. Não há respostas corretas ou incorretas, por isso pedimos sinceridade na sua escolha. A conclusão do questionário tem uma duração estimada de 10 minutos.

Obrigado pela sua disponibilidade e colaboração.

Para qualquer esclarecimento, por favor contacte: UBImedical@ubi.pt

Q.1 Perfil do entrevistado

□ Universidade / Laboratório

□ Centro de Investigação

□ Parque de Ciência e Tecnologia

□ Incubadora

□ Aceleradora

□ Elevador

□ Espaço de Co-working / Fab Lab

□ Centro de Serviços para Empresas

□ Agência de Competitividade/Inovação - Centro de Transferência de Tecnologia

□ Agência de Desenvolvimento (regional, territorial, local, etc.)

□ Cluster

□ Entidade Pública (Câmara de Comércio, Região, Comunidade Inter-Municipal, Município, etc.)

□ Empresa

□ Business Angel

□ Capital de Risco

□ Outra (Indique por favor …………………………………….)

Q.2 País: □ **PT** □ **ES** □ **IT**

Cidade: ……………………………………………….

Morada: ………………………………………………………………………………………

Website:…………………………………………………………………

OFERTA EDUCATIVA E DE FORMAÇÃO

Q.3 A sua organização oferece serviços educativos e de formação para spin-offs, startups, empresas, estudantes, associações comerciais e empresariais para apoio à criação/desenvolvimento de negócios?

□ Sim □ Não – Passe à Q.10

Q.4 Qual foi a duração média, em horas, dos seminários / cursos / recursos educativos / iniciativas de formação?

□ 4-8 □ 9-16 □ > 16

Q.5 Se respondeu afirmativamente à Q.3, quantas empresas estiveram envolvidas em formação em 2018?

□ 1-10 □ 11-30 □ 31-50 □ > 50

Q.6 Se respondeu afirmativamente à Q.3, quantas pessoas receberam formação em 2018?

□ 1-10 □ 11-30 □ 31-50 □ > 50

Q.7 Se respondeu afirmativamente à Q.3, estes serviços são no formato:

□ Estruturado / Permanente □ Ocasional sob solicitação

Q.8 Os seminários / cursos / iniciativas educativas/ formação para o desenvolvimento de iniciativas empreendedoras foram fornecidos gratuitamente (ou seja, como parte de um curso financiado, ESF, etc.) ou pagos?

□ Gratuitos □ Pagos

Q.9 Estes serviços são fornecidos por pessoal:

□ Interno □ Externo □ Interno e Externo

Q.10 Há algum curso universitário estruturado na sua área para apoiar spin-offs, startups, empresas, associações comerciais/empresariais para apoio à criação/desenvolvimento de negócios?

□ Sim □ Não □ Não sei

Q.11 De acordo com o seu conhecimento, a quantos quilómetros de distância da sua organização existe alguma oferta em termos de curso(s) universitário(s) para apoiar spin-offs, startups, estudantes, empresas, associações comerciais/empresariais para o apoio à criação/desenvolvimento de negócios?

□ Num raio de 100 km □ Entre 101 e 200 Km □ > 200 Km □ Não sei

OFERTA DE SERVIÇOS DE CONSULTORIA

Q.12 A sua organização fornece serviços de consultoria para spin-offs, startups, estudantes, empresas, associações comerciais/empresariais para o apoio à criação/desenvolvimento de negócios?

□ Sim □ Não – Passe à Q.18

Q.13 Se respondeu afirmativamente à Q.12, que tipo de serviços de consultoria fornece?

□ Análise de negócios

□ Estratégia financeira

□ Marketing e atividades comerciais

□ Melhorar a gestão da inovação

□ Encontrar oportunidades de cooperação

□ Apoio para participar em programas de I&D&I financiados por fundos públicos

□ Coaching e mentoria personalizados

□ Propriedade intelectual

□ Desenvolvimento tecnológico

□ Outros…..(Por favor indicar…………………………………….)

Q.14 Os seminários / cursos / iniciativas educativas / formação para o apoio à criação/desenvolvimento de iniciativas empreendedoras foram fornecidos gratuitamente (por exemplo, como parte de um curso financiado) ou pagos?

□ Gratuitos □ Pagos

Q.15 A quantas empresas forneceu consultoria de apoio à criação/desenvolvimento do negócio em 2018?

□ 1-10 □ 11-30 □ 31-50 □ > 50

Q.16 A quantas pessoas forneceu consultoria de apoio à criação/desenvolvimento do negócio em 2018?

□ 1-10 □ 11-30 □ 31-50 □ > 50

Q.17 Estes serviços de consultoria de apoio à criação/desenvolvimento do negócio foram no formato:

□ Estruturado / Permanente □ Ocasional sob solicitação

PROCURA EDUCATIVA E DE FORMAÇÃO

Q.18 A sua organização recebeu pedidos de serviços de formação de spin-offs, startups, empresas, estudantes, associações comerciais/empresariais para apoio à criação/desenvolvimento de negócios?

□ Sim □ Não – Passe à Q.21

Q.19 Se respondeu afirmativamente à Q.18, quantas solicitações de formação de empresas/organizações recebeu para apoio à criação/desenvolvimento de negócios no ano de 2018?

□ 1-10 □ 11-30 □ 31-50 □ > 50

Q.20 Se respondeu afirmativamente à Q.18, quantas solicitações de formação de pessoas recebeu para apoio à criação/desenvolvimento de negócios no ano de 2018?

□ 1-10 □ 11-30 □ 31-50 □ > 50

Q.21 Na sua opinião, existe na sua área geográfica uma procura potencial para cursos universitários estruturados orientados para o apoio a spin-offs, startups, estudantes, empresas e associações comerciais/empresariais, em termos de apoio à criação/desenvolvimento de negócios?

□ Sim □ Não

PROCURA DE SERVIÇOS DE CONSULTORIA

Q.22 A sua organização recebeu pedidos de serviços de consultoria para desenvolvimento empreendedor de spin-offs, startups, empresas, estudantes, associações comerciais/empresariais para apoio à criação/desenvolvimento de negócios?

□ Sim □ Não

Q.23 Se respondeu afirmativamente à Q.23, quantas solicitações de serviços de consultoria recebeu de empresas / organizações para apoio à criação/desenvolvimento de negócios no passado ano?

□ 1-10 □ 11-30 □ 31-50 □ > 50

Q.24 Se respondeu afirmativamente à Q.23, quantas solicitações de serviços de consultoria recebeu da parte de pessoas/indivíduos para apoio à criação/desenvolvimento de negócios no passado ano?

□ 1-10 □ 11-30 □ 31-50 □ > 50

Obrigado pela sua colaboração.

Questionnaire for the interviews – Spanish version

BIOHEALTH Gear Box Alliance (BIO-ALL)

Project number 600936-EPP-1-2018-1-PT-EPPKA2-KA

Knowledge Alliances

WP1

Cuestionario

Coordinadores del WP1:

UNIVPM P1 – CEEIARAGON P7

Abril, 2019

This project has been funded with support from the European Commission. This Deliverable reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein. The development of this Deliverable has been possible due to Erasmus+ Knowledge Alliance program funds, with project number 600936-EPP-1-2018-1-PT-EPPKA2-KA.

Objetivo del cuestionario: recopilar información sobre: a) el estado de la oferta educativa de las universidades, centros de investigación, incubadoras/aceleradoras, espacios de coworking, organismos públicos, agencias de innovación, agencias de desarrollo tecnológico, asociaciones empresariales, business angels, etc; b) la demanda de formación y consultoría para el desarrollo de iniciativas de negocio surgidas de spin-offs, startups, estudiantes, jóvenes y resto de emprendedores en el sector relacionado con Bio (Bio-Medicina, Bio-Farmacia, Bio-Ingeniería, Bio-Agroindustria, Bio-Salud, Bio-Energía, Verde, etc.).

Grupos objetivo: universidades, centros de investigación, parques científicos y tecnológicos, incubadoras/aceleradoras, espacios de coworking, organismos públicos, agencias de desarrollo del territorio, agencias de innovación, agencias de desarrollo tecnológico, asociaciones empresariales, business angels, asociaciones de inversores, etc.

Este cuestionario es anónimo y confidencial, sirviendo solo para los propósitos de recolección de datos y el subsecuente análisis y diseño de acciones. Por favor, complete el cuestionario marcando con una cruz (X) la respuesta que considere más adecuada. No hay respuestas correctas o incorrectas por lo que solicitamos sinceridad en la elección. Completar el cuestionario tiene una duración estimada de 10 minutos.

Gracias por su disponibilidad y colaboración.

Para cualquier duda, por favor contacte con: ugremprendedora@ugr.es

Q.1 Perfil del Entrevistado

□ Universidad

□ Centro de Investigación

□ Parque Científico y Tecnológico

□ Incubadora

□ Aceleradora

□ Espacio de Co-working / Fab Lab

□ Centro de Servicios para Empresas

□ Agencia de Innovación/Competitividad – Centro para Transferencia Tecnológica

□ Agencia de Desarrollo (regional, territorial, local, etc.)

□ Cluster / Asociación empresarial

□ Organismo público (Cámara de Comerico, Gobierno Autónomico, Diputación, Ayuntamiento)

□ Empresa

□ Business Angel

□ Asociación de Inversores

□ Otros (Por favor, indicar …………………………………….)

Q.2 País: □ **PT** □ **ES** □ **IT** □ **NL**

Ciudad: …………………………………………….

Dirección: ………………………………………………………………………………

Website:…………………………………………………………

OFERTA FORMATIVA

Q.3 ¿Proporciona su organización fomación a spin-offs, start-ups, empresas, estudiantes y asociaciones empresariales para el desarrollo de negocios?

□ Si □ No – Ir a Q.10

Q.4 ¿Cual fue la duración media, en horas, de los seminarios/cursos/programas formativos?

□ 4-8 □ 9-16 □ > 16

Q.5 En caso afirmativo, ¿a cuántas compañías ha formado en 2018?

□ 1-10 □ 11-30 □ 31-50 □ > 50

Q.6 En caso afirmativo, ¿a cuántas personas ha formado en 2018?

□ 1-10 □ 11-30 □ 31-50 □ > 50

Q.7 En caso afirmativo, esta oferta formativa es:

□ Estructural (Permanente) □ Ocasional (bajo demanda)

Q.8 ¿Son gratuitos estos cursos/seminarios/programas formativos (i.e. como parte de un programa financiado, Fundación Europea de la Ciencia, FECYT, etc) o tienen coste?

□ Gratuitos □ De pago

Q.9 Estos servicios formativos son proporcionados por personal:

□ Propio □ Externo □ Propio y Externo

Q.10 ¿Hay formación universitaria (oficial o propia) en su área, que apoye el desarrollo de negocios por parte de las spin-off, startups, empresas o asociaciones empresariales?

□ Si □ No □ Lo desconozco

Q.11 Según su conocimiento, a cuántos kilómetros de sus oficinas centrales hay una Universidad que ofrezca formación universitaria (oficial o propia) como apoyo al desarrollo de negocios por parte de las spin-off, startups, empresas o asociaciones empresariales?

□ Menos de 100 km □ Entre 101 y 200 Km □ Más de 200 Km □ Lo desconozco

OFERTA DE SERVICIOS DE CONSULTORÍA

Q.12 ¿Ofrece su organización servicios de consultoría a spin-off, start-ups, estudiantes, empresas o asociaciones empresariales para el desarrollo de negocio?

□ Yes □ No – Go to Q.18

Q.13 En caso afirmativo, ¿qué tipo de servicios de consultoría proporciona?

□ Análisis de negocio

□ Estrategia financiera

□ Actividades de marketing y comercial

□ Mejora de la gestión de la innovación

□ Localización de oportunidades de colaboración

□ Apoyo para participar en programas de financiación pública de la I+D+i

□ Mentorización y Coaching personalizado

□ Propiedad Intelectual

□ Desarrollo Tecnológico

□ Otros…..(Por favor indique: ………………………………………………….)

Q.14 ¿Son gratuitos estos servicios de consultoría (p.ej. como parte de un programa financiado) o tienen coste?

□ Gratuitos □ De pago

Q.15 En caso afirmativo, ¿a cuántas compañías ha proporcionado servicios de consultoría en 2018?

□ 1-10 □ 11-30 □ 31-50 □ > 50

Q.16 En caso afirmativo, ¿a cuántas personas ha proporcionado servicios de consultoría en 2018?

□ 1-10 □ 11-30 □ 31-50 □ > 50

Q.17 En caso afirmativo, estos servicios de consultoría los proporciona:

□ De forma regular, estructuralmente □ Ocasionalmente, bajo demanda

DEMANDA DE SERVICIOS DE FORMACIÓN

Q.18 ¿Ha recibido su organización solicitudes de formación para el desarrollo de negocios por parte de spin-offs, start-ups, empresas, estudiantes o asociaciones empresariales?

□ Si □ No – Ir a Q.21

Q.19 En caso afirmativo, ¿cuantas empresas/organizaciones han solicitado formación para el desarrollo de negocios en el último año?

□ 1-10 □ 11-30 □ 31-50 □ > 50

Q.20 En caso afirmativo, ¿cuantas personas han solicitado formación para el desarrollo de negocios en el último año?

□ 1-10 □ 11-30 □ 31-50 □ > 50

Q.21 En su opinión, ¿hay una demanda potencial en su territorio de cursos universitarios destinados a spin-offs, start-ups, estudiantes, empresas y asociaciones empresariales, con el objetivo de apoyar y fomentar el desarrollo de empresas?

□ Si □ No

DEMANDA DE SERVICIOS DE CONSULTORÍA

Q.22 ¿Ha recibido su organización solicitudes de consultoría para el desarrollo empresarial por parte de spin-offs, start-ups, empresas, estudiantes o asociaciones empresariales?

□ Si □ No

Q.23 En caso afirmativo, ¿cuantas empresas/organizaciones han solicitado servicios de consultoría para el desarrollo de negocios en el último año?

□ 1-10 □ 11-30 □ 31-50 □ > 50

Q.24 En caso afirmativo, ¿cuantas personas han solicitado servicios de consultoría para el desarrollo de negocios en el último año?

□ 1-10 □ 11-30 □ 31-50 □ > 50

¡Gracias por rellenar la encuesta!

Letter of project presentation to respondents

Ancona, 6th March 2019

Object: presentation of the BIO-ALL project and interview request via questionnaire

Dear Prof / Dott / Mr / Mrs / Mr / Miss ....,

I am writing to present you the BIO-ALL project, funded by the European Commission under the Erasmus + program, KA2 Cooperation for innovation and the exchange of good practices - Alliance of Knowledge, and why I would like to ask you some questions about the offer and to the demand for training and consultancy services that your organization provides in support of business activities in the BIO_HEALTH sector.

From January 2019 and with a duration of 3 years, the BIO-ALL project aims to strengthen the higher education system to meet the needs of entrepreneurs in the bio-health sector.

The innovative project, which lasted three years and started in January 2019, aims to develop entrepreneurial skills that are not yet structured effectively and included in the curricula of schools and universities, even if they are particularly necessary in the sectors in which entrepreneurs and businesses find more obstacles to accelerating commercialization, such as biotechnology and health-related industries.

The main objective of BIO-ALL - BIOHEALTH Gear Box Alliance is to address the specific skills gap in the BIO-HEALTH entrepreneurship support systems and in the offers and curricular activities of higher education through the design, testing and delivery of an International Joint Post-Graduation, an innovative international joint acceleration program and a virtual hub suitable for an online support network for BIOHEALTH entrepreneurs and innovators.

The partnership consists of 13 partners, coming from 4 countries (Portugal, Spain, Italy and the Netherlands). The working group brings together different and complementary skills, combining higher education institutions and business partners with different backgrounds, working in the fields of BIO and health.

To learn more about the BIO-ALL project or if you want to know how to participate in the project activities or have access to the resources produced, you can do so by contacting Prof. Maurizio Bevilacqua of the Department of Industrial Engineering and Mathematical Sciences (DIISM) of the Marche Polytechnic University at m.bevilacqua@staff.univpm.it or Dr. Claudio Sdogati at c.sdogati@staff.univpm.it, phone 3663494162, skype address: claudio_sdogati

In the next few days, we will send you a questionnaire containing some questions about the offer and demand for training and consulting services that your organization provides in support of business activities in the BIO-HEALTH sector.

The compilation will occupy it for no more than ten minutes.

Dr. Claudio Sdogati will contact you to agree with you how to carry out the interview. To save time we can make the interview by phone, via Skype or WhatsApp but if you prefer you can return the questionnaire filled in by e-mail to: c.sdogati@staff.univpm.it

Sincerely

Prof. Maurizio Bevilacqua

Università Politecnica delle Marche

Department of Industrial Engineering and Mathematical Sciences (DIISM)

Via Brecce Bianche, 12

60131 Ancona

www.univpm.it

Letter of presentation in Italian

Ancona, 4 aprile 2019

Oggetto: presentazione del progetto BIO-ALL e richiesta di intervista tramite questionario

Gentile Prof/Dott/Sig/Sig.ra/Mr/Miss …………,

Le scrivo per presentarle il progetto BIO-ALL, finanziato dalla Commissione europea nell'ambito del programma Erasmus+, KA2 Cooperazione per l'innovazione e lo scambio di buone pratiche - Alleanza della Conoscenza, e perché avrei piacere di sottoporle alcune domande relative all'offerta e alla domanda di servizi formativi e consulenziali che la sua Organizzazione eroga nell'ambito del sostegno alle attività imprenditoriali nel settore della BIO_HEALTH.

A partire dal gennaio 2019 e della durata di 3 anni, il progetto BIO-ALL mira a rafforzare il sistema di istruzione superiore per rispondere alle esigenze degli imprenditori nel settore bio-sanitario.

L'innovativo progetto, della durata di tre anni e iniziato nel gennaio 2019, mira a sviluppare competenze imprenditoriali che non sono ancora strutturate in modo efficace e inserite nei programmi di studio di scuole e università, anche se sono particolarmente necessarie nei settori in cui imprenditori e imprese trovano più ostacoli per accelerare la commercializzazione, come le industrie biotecnologiche e legate alla salute.

L'obiettivo principale di BIO-ALL - BIOHEALTH Gear Box Alliance, è affrontare lo specifico divario di competenze nei sistemi di supporto dell'imprenditorialità BIO-HEALTH e nelle offerte e nelle attività curriculari dell'istruzione superiore attraverso la progettazione, il test e la consegna di una International Joint Post-Graduation, un innovativo programma di accelerazione congiunta internazionale e un hub virtuale adatto a una rete di supporto online per gli imprenditori e gli innovatori di BIOHEALTH.

Il Partenariato è composto da 13 partner, provenienti da 4 Paesi (Portogallo, Spagna, Italia e Paesi Bassi). Il gruppo di lavoro raggruppa competenze diverse e complementari, unendo istituti di istruzione superiore e partner imprenditoriali con background diversi, impegnati nei settori del BIO e della salute.

Per saperne di più sul progetto BIO-ALL o se desidera sapere come partecipare alle attività del progetto o avere accesso alle risorse prodotte, può farlo contattando il Prof Maurizio Bevilacqua del Dipartimento di Ingegneria Industriale e Scienze Matematiche (DIISM) della Università Politecnica delle Marche al m.bevilacqua@staff.univpm.it o il Dott. Claudio Sdogati al c.sdogati@staff.univpm.it

Nei prossimi giorni Le invieremo per posta elettronica un questionario contenente alcune domande relative all'offerta e alla domanda di servizi formativi e consulenziali che la sua Organizzazione eroga nell'ambito del sostegno alle attività imprenditoriali nel settore della BIO-HEALTH.

La compilazione la occuperà per non più di dieci minuti.

La contatterà il Dott. Claudio Sdogati per concordare con Lei le modalità di effettuazione dell'intervista. Per risparmiare tempo potremo effettuare l'intervista anche per telefono, via skype o WhatsApp ma se lo preferisce potrà restituirci il questionario compilato anche per posta elettronica al: c.sdogati@staff.univpm.it

Cordiali saluti

Prof. Maurizio Bevilacqua

Università Politecnica delle Marche

Dipartimento di Ingegneria Industriale e Scienze Matematiche (DIISM)

Via Brecce Bianche, 12

60131 Ancona

www.univpm.it

Letter of presentation in Portuguese

Local………., 12 Abril 2019

Assunto: apresentação do projeto BIO-ALL e solicitação de preenchimento de questionário

Cara(o) Prof / Dr/ Sr(a) …………,

Estou a escrever-lhe para lhe apresentar o projeto BIO-ALL – "BIOHEALTH Gear Box Alliance" projeto numero 600936-EPP-1-2018-1-PT-EPPKA2-KA, financiado pela Comissão Europeia no âmbito do programa Erasmus +, KA2 Cooperação para a Inovação e o Intercâmbio de Boas Práticas – Aliança do Conhecimento.

Gostaria de lhe fazer algumas perguntas relacionadas com a oferta e procura de serviços de educação, formação e consultoria que a sua organização oferece no contexto do apoio às atividades empreendedoras/empresariais no setor BIO_SAÚDE.

O projeto BIO-ALL visa fortalecer o sistema de ensino superior, a fim de atender às necessidades dos empresários e empreendedores do setor bio-saúde.

Este projeto inovador, com duração de três anos, iniciado em janeiro de 2019, visa desenvolver competências empreendedoras que ainda não estão estruturadas de forma eficaz e incluídas nos programas de estudo das escolas e universidades, ainda que sejam particularmente necessárias nos setores em que empreendedores e empresas encontram mais obstáculos para acelerar a comercialização e o marketing, como sejam a biotecnologia e as indústrias relacionadas com a saúde.

O principal objetivo do BIO-ALL é abordar as lacunas em termos de competências específicas nos sistemas de apoio ao empreendedorismo no setor BIO-SAÚDE e nas atividades de oferta em termos curriculares do ensino superior através da conceção, teste e desenvolvimento de uma pós-graduação internacional conjunta, um programa internacional de aceleração conjunto e um hub virtual adequado para uma rede de suporte on-line para empreendedores e inovadores do setor.

A parceria é composta por 13 parceiros, provenientes de 4 países (Portugal, Espanha, Itália e Holanda). O grupo de trabalho reúne competências diferentes e complementares, unindo instituições de ensino superior e parceiros do setor empresarial das áreas BIO e Saúde com diferentes áreas de atuação.

Para saber mais acerca do projeto BIO-ALL ou se quiser saber como participar nas atividades do projeto ou ter acesso aos recursos produzidos, pode fazê-lo contactando (a)o Prof/Dr(a)/Sr(a) ……….. do Departamento …………………….. da Universidade de …… através do email xxxxx@yyyyy.

Nos próximos dias, enviaremos um questionário por e-mail contendo algumas questões relacionadas com a oferta e procura de serviços educativos, de formação e consultoria que a sua organização oferece na área do apoio às atividades empresariais e empreendedoras no setor da BIO-SAÚDE.

O preenchimento do questionário não levará mais de 10 minutos.

A(o) Prof/Dr(a)/Sr(a) ……. entrará em contacto para agendar a entrevista e / ou acordar o procedimento de preenchimento. Para economizar tempo, também podemos realizar a entrevista por telefone, via skype ou WhatsApp, mas se preferir, pode enviar-nos o questionário preenchido por e-mail para: xxxxx@yyyyy.

Melhores cumprimentos

Prof/Dr(a)/Sr(a) …….

Morada completa:

Letter of presentation in Spanish

Granada, 22 de Abril de 2019

Asunto: Presentación del proyecto BIO-ALL y solicitud para responder a un cuestionario

Estimado ………….,

Le escribo para presentar el proyecto BIOHEALTH Gear Box Alliance (BIO-ALL), financiado por la Comisión Europea bajo el programa Erasmus +, KA2 Cooperation for innovation and the exchange of good practices - Knowledge Alliance (código 600936-EPP-1-2018-1-PT-EPPKA2-KA), y del cual forma parte la Universidad de Granada.

El proyecto BIO-ALL intenta reforzar el sistema educativo universitario para satisfacer las necesidades de los emprendedores en el sector de BioSalud.

Este proyecto innovador, que durará tres años y que comenzó en enero de 2019, intenta desarrollar habilidades emprendedoras que aún no están efectivamente estructuradas e incluidas en los programas académicos de las universidades, a pesar de que son particularmente necesarios en los sectores en los cuales los emprendedores y negocios encuentran más obstáculos para acelerar la comercialización, como la biotecnología y las industrias relacionadas con la salud.

El principal objetivo de BIO-ALL es abordar las carencias en los sistemas de apoyo al emprendimiento en BioSalud y en las actividades curriculares universitarias mediante el diseño, testeo y desarrollo de un programa internacional de posgrado común, un innovador programa conjunto de aceleración de carácter internacional y un *virtual hub* que sirva de red de apoyo online para los emprendedores e innovadores del sector BioSalud.

El consorcio está compuesto por 13 socios, provenientes de cuatro países (Portugal, España, Italia y los Países Bajos). El equipo de trabajo proporciona capacidades diferentes y complementarias, uniendo instituciones universitarias con socios empresariales con diferentes orientaciones, todos relacionados con los sectores Bio y Salud.

Para tener más información sobre el proyecto BIO-ALL, o si quiere saber cómo participar más activamente en las actividades diseñadas, o accede a los recursos generados, puede contactar con los profesores María del Mar Fuentes (mfuentes@ugr.es) y Fco. Javier Melero (fjmelero@ugr.es), o con la Coordinación General de Emprendimiento de la Universidad de Granada –UGR Emprendedora (ugremprendedora@ugr.es)

En los próximos días le enviaremos un cuestionario por e-mail con algunas preguntas relacionadas con las ofertas y demandas de formación y servicios de consultoría que su entidad proporciona en el contexto del apoyo a las actividades emprendedoras en el sector BioSalud.

Rellenar el cuestionario no debe llevarle más de 10 minutos.

El profesor Fco. Javier Melero contactará con usted para concertar la forma en que se realizará la entrevista, presencial o telemáticamente. Para evitarle tomar mucho tiempo, ésta puede ser contestada por teléfono, skype, whatsapp o incluso rellenarla usted y remitirla por e-mail a fjmelero@ugr.es.

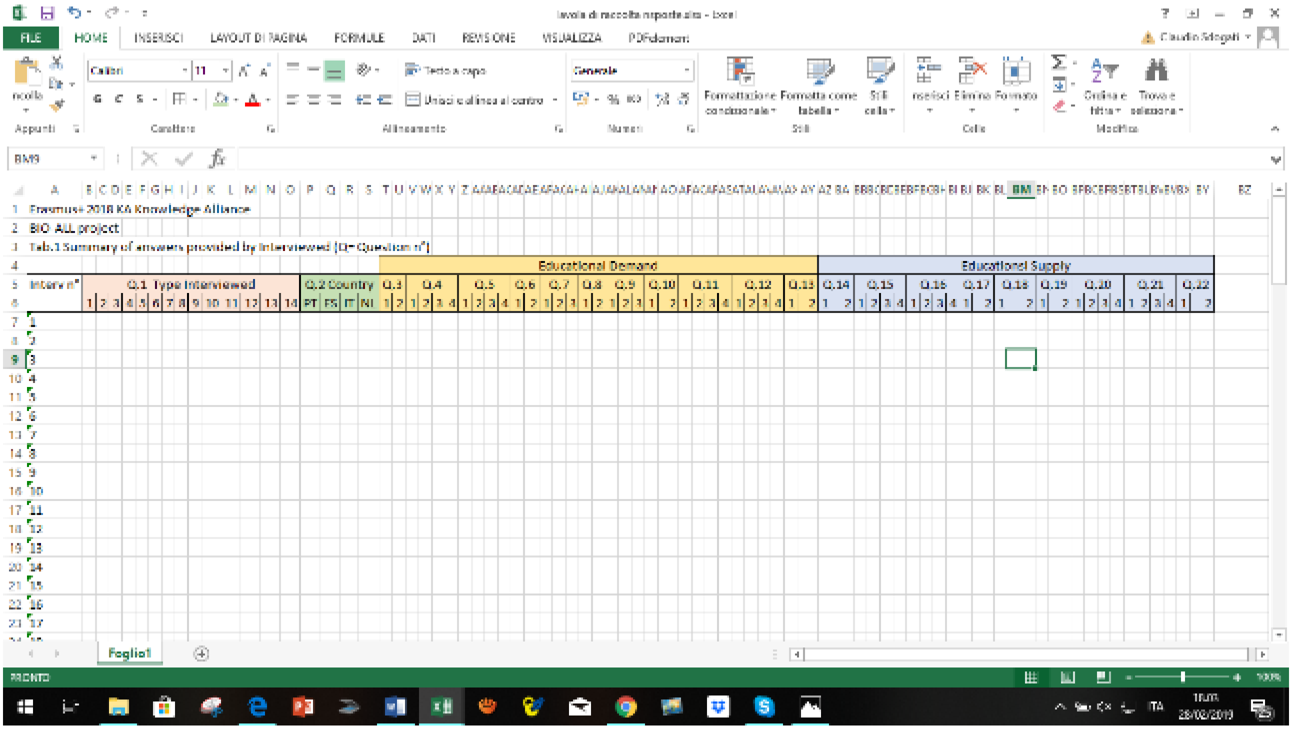
Reciba un cordial saludo

Fco. Javier Melero

Full address

8.2. Statistical

Table for data and info collection



Bio-All

BIOHEALTH GEAR BOX ALLIANCE

www.bioall.eu

Coordinator

University of Beira Interior (PT)

UNIVERSIDADE BEIRA INTERIOR

http://ubimedical.ubi.pt/

Partners

Universidad de Granada (ES)	Università Politecnica delle Marche – UNIVPM (IT)	Istituto Nazionale Biostrutture e Biosistemi (IT)	LABFIT - HPRD Lda (PT)	Asociación Cluster Granada Plaza Tecnológica y Biotecnologica (ES)	CEEIARAGÓN (ES)
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