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**ICT ENTREPRENEUR**

**“A European University-Business Alliance aiming to foster the entrepreneurial spirit of ICT students”**

**LIFELONG LEARNING PROGRAMME**

**Erasmus+ Higher Education - Strategic Partnerships**   
**Key Action 2**

**Cooperation for Innovation and the exchange of good practices**

**November 2015**

**OUTPUT 10: CONSOLIDATED REPORT**

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**1 Introduction**

This consolidated report provides the main findings from a consortium of partners from several EU countries participating in the ICT Entrepreneur (ICTe) project. They have all conducted research in their local countries and with at least two other EU countries including those not operating in the consortium. The organisations based their research on existing entrepreneurship and accelerator programmes in their respective countries aiming to identify the existing gaps in terms of the target groups, the problems that the organisations are currently facing, their best practices, the format and the structure of their programmes. The results and knowledge gained from each partner will be used to formulate the ICTe innovative entrepreneurship training package for ICT students/graduates.

**2 Project Context/Introduction to the project**

ICTe is an EU-funded project under the Erasmus+ Knowledge Alliances Programme. The ultimate aim of this project is to enhance the entrepreneurship levels of ICT graduates and student. The aim is to offer a high-quality, pre-accelerator entrepreneurship and business awareness programme. This will assist the participants in developing the necessary entrepreneurship mindset in order to be able to participate in competing accelerator/entrepreneurship programmes.

The first stage of the project was to conduct a literature review at national, European and international level, to identify the existing entrepreneurship landscape for ICT students/graduates and the best practices utilised across different organisations and nations. Thus, existing programmes and best practices in each participating country and in other EU countries that aim to enhance the awareness of ICT students and graduates about their career options were studied. To this end, each partner implemented a survey in its country and brought together the various initiatives carried out at national level and relevant information on the implementing agencies.

Our mission was to gain an in-depth understanding of the subject matter through a comprehensive and large-scale study. To this end, all partners visited entrepreneurship centres, accelerators, science/technological hubs, business schools, incubators and universities in their region and in another two European country, in ordered to analyse the existing programmes, to identify the best practices, their successes and their gaps. Specific emphasis was given on:

* Strengths and weaknesses of existing centres/incubators/accelerators
* Best practices identification
* Existing gaps
* Perceptions of ICT students/graduates about the alternative career option of becoming an entrepreneur
* Perceptions of universities/research centres/ about the potential of our entrepreneurship package.

More specifically the needs and perceptions of the following four target groups were examined:

A) ICT students and graduates (goal: more than 1000 to o participate in the survey survey)

B) Careers’ Services/Graduates Department/Doctoral Departments at Universities

C) Company builders: Incubators, Entrepreneurship Centres, Accelerators, Science and Technological hubs, business schools.

D) VCs/Business Angels

**3** **National Initiatives/projects/news from each ICT Partner Country**

The national reports from each of the partner countries were varied in their focus and particular emphasis; Cyprus and Germany gave an overview of initiatives within their countries as a whole, whilst the reports from the UK and Portugal focused on specific organisations such as Higher Education Institutions. Spain particularly focused on the relevant centers in Spain that are helping graduates with ICT backgrounds. Below is a summary and highlights of the initiatives, projects and news taken from the reports from each partner country:

**CYPRUS**

The time frame for fostering and reigniting entrepreneurship in Cyprus is the year 2020, which aligns also with the EU2020 agenda.

Several entrepreneurial activities including disruptive innovation tech start-ups, hackathons, meet-ups and a start-up accelerator are sprouting fast in Cyprus. All of these initiatives need support: mentoring, funding and a supportive legal framework together with a strong supportive voice of the industry. With geography no longer being a totally decisive factor, access to customers and markets is largely driven by expertise and innovation and here Cyprus has three additional key strengths: a robust professional services sector, favorable tax legislation and energy resources. A favorable tax break to VCs incentivizing them to invest in Cypriot start-ups focusing on, but not limited to, areas such as mobile technology, ‘cleantech’, solar power, advanced vehicle technologies, smart grids wind energy, green and blue technologies could propel the economy out of the slump and into growth.

Even though the Cypriot relevant ecosystem is relatively young, there has been a significant development over the past years. For instance, three years ago, private initiatives have led to the creation of angel investor organisations, accelerators, enterprise-enabling organisations such as ‘Junior Achievement Cyprus’, the ‘Cyprus Association of Research and Innovation Enterprises’ and the ‘Cypriot Enterprise Link’ which, amongst other initiatives, introduced Hack Cyprus – the first series of hackathons and first code schools in Cyprus; and of course university incubators such as Diogenes (University of Cyprus), Entice (CIIM), the Microsoft Innovation Centre (MIC at European University Cyprus) and Helix (University of Nicosia).

This innovative environment is enhanced by entrepreneurship events such as the Cyprus Entrepreneurship Competition, Startup Weekend Cyprus, Hack Cyprus Insights Tech Conference, TEDx Nicosia and so forth. Furthermore, the Government of Cyprus through the Ministry of Commerce, Industry and Tourism have been launching new schemes that boost and enhance entrepreneurship,

**GERMANY**

Most of the funded programmes and national initiatives in Germany are subsidized by the government (federal states). Their aim is to accelerate the transfer of technological knowledge into developing business ideas. Therefore they are often organizing network events between technological-based start-ups or offer financial supporting for startups in the early stage. Especially the chambers focus on providing workshops dealing with business and judicial topics, but they also offer additional training opportunities.

Mostly every university has an institution (so called “Start up Centers”) which is offering trainings, business simulation, organizing competitions. Career Services in Germany are not focused on entrepreneurs, so they mostly don’t offer training packages e.g., instead of this they offer application trainings. Special offers for -students are hard to find.

There are also some blogs for the Start-Up-Community which provides useful and actual information inside the entrepreneur-scene about new products, new trends and developments etc. in the field of ICT (see list below).

Initiatives which provide co-working place and promote networking for people in creative, media or digital business have gotten more popular in the last years. They connect peoples to starting new projects together and also consult business start-up persons.

**PORTUGAL**

Various examples of start-up initiatives and programmes such as**:**

*Start-up BRAGA an* Innovation Hub, located in the city of Braga, in the North Region of Portugal, created with the aim of support the creation and development of entrepreneurial projects with a high potential to compete in the international markets.

*Start-up LISBOA*  which supports the creations of new start-up’s and track these companies during their first years of activities. Hosts about 122 new companies, in the areas of tech, commerce and tourism.

*Blue Start* is a programme developed by Portugal Telecom, aiming to support the development of new technology based project and creation of new technology based start-ups. Working in close cooperation with innovation hubs, incubators and science and technology parks, with facilities to foster these companies, Blue Start focuses on the support to the development of the ideas, prototyping processes, access to the market and design of business models.

*LX Factory*  which is a creative island occupied by corporations and professionals of the industry serves also has stage for a diverse set of happenings related to fashion, publicity, communication, fine arts, architecture, music, etc., attracting numerous visitors to rediscover Alcântara through an engaged dynamics.

**SPAIN**

There are not many initiatives developed in Spain related to accelerators specialized in graduates and students. Although, there are many universities with specialist studies and degrees, creating an accelerator for them is something different. In most of the situations it is the only one and it consists of continuing working at the laboratory but using an office when needed.

**UNITED KINGDOM**

In 2008, the Department of Business, Enterprise and Regulatory Reform reported on the Government's renewed strategy and vision to make the United Kingdom (UK) the most enterprising economy in the world and the best place to start and grow a business. It laid out a new enterprise policy framework around five separate but interlinked themes as key enablers for the country's enterprise performance: culture of enterprise, knowledge and skills, access to finance, regulatory framework, and business innovation.

The current UK Government laid out a similar vision in July 2010 during their first year of office. Here the need for an enterprising culture - in which everyone with talent is inspired to take up the challenge of turning their ideas into successful enterprises - and the need for enterprise education was reiterated.

The need for enterprise education and entrepreneurship opportunities for students in higher education - including postgraduate research students - was highlighted in the 2012 Wilson Review of Business-University Collaboration commissioned as part of the 2011 White Paper.

As a result, most of the universities in the UK have entrepreneurship education as a key provision usually within business schools and it is common to see “start-up” centres, business incubators and accelerators within university campuses dedicated to encouraging enterprise and entrepreneurship amongst undergraduate and postgraduate students including those with ICT backgrounds.

In 2012, the Quality Assurance Agency for Higher Education produced a “guidance for UK Higher Education Providers” in enterprise and entrepreneurship. The QAA makes a distinction between enterprise and entrepreneurship education.

According to the QAA, “*enterprise education is defined as the process of equipping students (or graduates) with an enhanced capacity to generate ideas and the skills to make them happen. Entrepreneurship education equips students with the additional knowledge, attributes and capabilities required to apply these abilities in the context of setting up a new venture or business.”*

The QAA has set out the key inputs and outputs or entrepreneurship programmes at Higher Education which is adhered to by universities visited for this project.

In 2013, the Department for Business Innovation and Skills (DBIS) produced a report: “Enterprise Education Impact in Higher Education and Further Education” which indicated that 30% of Higher Education Institutions (HEI) had a formal course in enterprise and entrepreneurship and 60% had units in their courses. Which means that 90% have some element of formal enterprise and entrepreneurship education. The study also found that informal enterprise and entrepreneurship education provision was well established in HEI as over 60% of institutions offered practical learning. However, the study concluded that *while enterprise and entrepreneurship education appears to be strengthening it is not yet widely embedded in the full range of vocational learning…”*

The UK institutions visited for this report confirm the DBIS statement that a majority of HEIs offer formal entrepreneurship education, well established practical learning, informal enterprise and entrepreneurship support. However, there were some disparities on the extent of provision due to the differences in the size and background of the institutions visited.

Despite the fact that the UK government and QAA have widely disseminated the entrepreneurship and enterprise agenda. The concept of entrepreneurship is still evolving and is not always understood or embraced, even by the student populace within the HEI context. For example, the exact meaning of the term “entrepreneurial mindset” was not always clearly defined in the discussions with the institutions visited.

However, many of the larger HEIs in the UK such as Oxford, Imperial College and Cambridge have well-established start-up support structures such as incubators, accelerators and entrepreneurship programmes which are often linked with their regional ecosystem of innovation research and knowledge transfer initiatives, science and technology parks, angel investors and venture capitalists

**4. Summaries from each in -country local visits: strengths and weaknesses, best practices, existing gaps**

**CYPRUS**

**Strengths**

* Cyprus Business Angels Network (CyBAN) is the only Angel Investment Network in Cyprus aiming to connect innovative fast growth companies to equity finance through ‘experienced’ angel investors.
* The Cypriot Enterprise Link (CEL) is a youth-led organization aimed to connect and support the Cypriot entrepreneurial talent in order to form a local and a global entrepreneurial network supported by events, meetups, workshops and projects.
* Local tertiary level institutions and universities are now getting actively involved as well by cultivating the entrepreneurial mindset and culture in its students. For instance the Entrepreneurship Center which was formed by the University of Cyprus aims to introduce its students to the entrepreneurial ecosystem.
* Universities are also creating their own incubators in collaboration with other organisations such as Microsoft. Local accelerators and incubators are being established, like Chrysalis leap, ENTICE and IDEA, aiming to facilitate the creation of innovative sustainable start-ups with a global outlook, whilst contributing in the further development of the Cypriot entrepreneurship ecosystem. This will hopefully build a wave of start-up operations.
* Events are increasingly being organised and this is attracting more attention from participants, trainers, media, mentors, etc. For instance, the organization of events like STARTUP LIVE CYPRUS has empowered entrepreneurs who are learning the basics of founding startups and launching successful ventures
* The Government is realizing the significance of assisting and facilitating start-ups and young would-be-entrepreneurs. Thus it has developed and launched various schemes, like the Funding Scheme for the support of Youth Entrepreneurship, the Funding Scheme for the support of Young Business Women and the Funding Scheme for the Enhancement of Entrepreneurial Innovation, which aims to develop, support and promote entrepreneurship among young people by using their knowledge, training and talents.

**Weaknesses**

* Financing is very limited as compared to other European countries. The current financial crisis is not helping in the investment in new ideas, which is partially why funding is limited. Furthermore, the economic situation often acts as a deterrent for the growth and development of business ideas due to the way that government inhibits the establishment of startups through time consuming applications, bureaucracy, the lack of innovation and the ability to understand the way young entrepreneurs and millennials are acting and working.
* Lack of collaboration between institutions creating a silo mentality and thus inhibit progress.
* It seems that the youth culture has distanced itself from entrepreneurial and innovative activity. This can be attributed to the full employment conditions of the past where all graduates were getting absorbed by the labor requirements of the country. Also the civil service would employ a large number of graduates.
* Low success rate as only 1-2% of start-ups succeed as there is a high percentage of failure. These numbers are discouraging further entries in the entrepreneurial arena. This may be attributed to the small size of the local market.
* Lack of information: many initiatives and relevant activities are being missed simply because people don’t find out about them, as for example was noted in the HELIX interview. People and organisations seem to be hogging useful information and resources.
* Lack of research: more research (e.g. market research, product research, online businesses, etc.) needs to be conducted, thus opening the doors to available opportunities

**Best practices**

* It is admittedly a challenge to identify best practices in Cyprus. Due to the country’s size, the small market, the fact that initiatives are just now beginning in addition to other factors as mentioned above, Cyprus has yet to establish an appropriate environment where best practices and benchmarks can be identified.
* However events such as HACK CYPRUS 2013 was sponsored by CYTAMOBILE Vodafone and others with the purpose of providing teenagers, age 13-19 the chance to participate in innovative workshops.
* Another identified best practice is the collaboration of universities with private companies and other stakeholders for the enhancement of an entrepreneurial ecosystem.
* Pilot testing is a very useful tool which has been found to assist in corrective actions thus it is recommended that it is included in all start-up drives

**GERMANY**

**Strengths**

* Most of the start-up advisory centers offer the opportunity of financial support, connecting the young entrepreneurs with experts and specialist. They also offer the opportunity to answer different questions about rights and legal forms and help to prepare a business plan. Most of the courses are free of charge for students. One institution, which is financially supported by a foundation, mentioned that it would be a great advantage not to be driven by the market: they don’t have to sell their consultancy offers.
* There is mostly no selection process, entrepreneurs of every branch can take part in the coaching program or in lessons. This attracts also the attention for the offers in general and fosters the awareness for the need of additional competences within the context of successful entrepreneurship.
* Invest decisions made using rigorous process of assessing important aspects such as are experience, market potential and growth opportunities, a clear and sustainable USP, proofed concept/business model and most important: complement capabilities and skills within the team. This intensive analysis means that the investment decision is based on a high probability of success in view of the business idea.
* Courses are delivered by academics, entrepreneurs or mix of speakers. Some centers arrange individually meetings. Start-up founders can meet consultants and it is possible to have a detailed talk about priorities, visions, risks etc. and possible funding opportunities. Other strength is that the most of the universities organize a lot of events where many new entrepreneurs meet each other and they can exchange information, perhaps building start up teams if they have similar business ideas. The students can participate in many competitions and additionally they become the opportunity for a business simulation center.

**Weaknesses**

* Low capacity for individual coaching was mentioned and that in some start-up advisory centers, lack of employees to fulfill all requests.
* Lack of international cooperation, lack of information sharing with businesses outside of the EU.

**Best practices:**

Some interview partners didn’t want to mention any best practices, because they consider their whole offerings/package as “best practices”.

**Existing gaps:**

* Programs are mostly delivered to individuals and so often a lack of collaborations with others isn’t an integral part of most of the institutions which have been interviewed. Need to focus on connecting with other experts and create teams to strengthen their competences and show them how to set up an entrepreneur-team.
* Except of the Chamber of Industry and Commerce and the Hans Lindner Foundation there is no engagement in international programs, no international cooperation. This could also be an existing gap

**SPAIN-** **Overview of strengths, weaknesses, best practices and gaps existing**

* The institutions that were visited include FUNDACIÓN QUORUM, VALENCIA LAB, INSTITUTO IDEAS, ZITEK, PARQUE CIENTÍFICO DE MADRID and PROGRAMA DE INVESTIGACIÓN Y EMPRESAS.
* Offerings by these institutions include: Network of mentors and collaborators ,Technological partners proposals, International markets, Finance research and sales opportunities , Quality implementations, Intellectual and industrial property advice, ICT services , Europe oriented services, Training depending on the different periods of a European project ,- Advice about European finance and Information about European projects
* Two very innovative institutions in terms of management that work with spinoff: FUNDACIÓN QUORUM and VALENCIA LAB; another two that focused on management, and offer a good ICT service and support are INSTITUTO IDEAS and ZITEK.
* The aim of Fundación Quórum, as managing agency of the UMH Science and Business Park in Elche, is to encourage and coordinate the actions of the companies and the University regarding to Science, Innovation and Technological Development. They also carry out and manage all those activities that help to promote and improve competitiveness among companies through the technological transfer of the university research.

**UNITED KINGDOM**

**Strengths**

* All the UK institutions visited in this study namely, Imperial College London, Cambridge University, Oxford University, Portsmouth University, Kingston University and Worcester University provided start- up support to their students including those with ICT backgrounds. Incubators, accelerators and entrepreneurship centres were present in all the institutions except Kingston which was in the process of setting up an incubator, but nonetheless supported their students who wanted to start up businesses. All institutions offered postgraduate courses in Entrepreneurship and Innovation at postgraduate levels either as a stand-alone course or as part of a postgraduate programme such as an MBA as in the case of Said Business School, Oxford University. The postgraduate courses on offer to all eligible students were often fee paying and run for one year as indicated above. The courses are delivered by academics, entrepreneurs and a mix of speakers. For example, at Portsmouth, students learn from their long history of expertise in *Innovation Management and Entrepreneurship.*
* In addition to the formal postgraduate programmes, the entrepreneurship centres within the institutions provided free practical business support to all students at undergraduate and postgraduate levels including ICT background students. There was no differentiation between ICT background and other background students in the provision of entrepreneurships support in most cases. However, for Imperial College, many students have ICT backgrounds and all of the institutions indicated that most of the startup businesses were related to the use of IT/Technology. Portsmouth University for example have students who had set up an on-line training company, Worcester had a student who had set up an on-line legal services business and were using the business incubators in their respective universities to grow their star-ups.
* All the entrepreneurship centres at the institutions and Google’s *Campus London* provided training, lectures, seminars, information about getting financial support and help with the preparation of business plans. Most of the training courses and seminars were often offered free of charge for students and networking with entrepreneurs with experts is encouraged through networking events.
* A key strength, is that most of the entrepreneurship centers had events and meetings for students to meet with experts and specialist. Start-ups can meet consultants and talk about their specific business needs and in some cases even meet possible investors. For example, initiatives such as the *Silicon Valley Comes to Oxford* event allows Oxford’s entrepreneurs to meet with Silicon Valley entrepreneurs and investors.
* All the universities and centres organised networking events for student entrepreneurs to meet each other, exchange information and even build start- up teams if they have similar business ideas. Students are also encouraged to participate in competitions.
* In most of the institutions visited, social entrepreneurship is also encouraged even amongst ICT background and ICT students.
* Google Campus London is one of many UK based, business led, start-up support facility that provides, incubation, acceleration and practical workshops and events to encourage entrepreneurial activities.

**Weaknesses**

* All the institutions visited provided academic and practical support for entrepreneurial activities. However, there is little evidence from these institutions to show the impact and contribution of their entrepreneurial activities on the wider UK economy. This is could be because more time is needed for there to be a demonstration of any significant impact. Also, most of these institutions did not have evidence of measurements put in place to demonstrate the direct impact of their entrepreneurial programmes.
* There was too much focus on the provision of group entrepreneurial activities and less on individual support. There was a lack of one- to- one entrepreneurship coaching support given to students on the postgraduate courses. However, the Cambridge Judge Business School postgraduate entrepreneurship course offers mentoring support to students since it is largely an on-line course with a three week residential at the start of the course.
* In some of the smaller entrepreneurship centres, there was not enough evidence of the financial investment given to start -ups by investors. However, rent free workspace was provided in all the incubators for students.
* All the institutions indicated that ICT background entrepreneurs sometimes found it hard to trust potential business partners with their inventions and as such would miss opportunities to collaborate with other business students and even potential investors. Another concern was the fact that there was a lack of selling skills and weak communication skills amongst ICT background students. The centres tend to provide practical and conventional learning opportunities to deal with the challenges faced by the ICT students but solutions offered seem more convergent in nature. There was limited evidence of divergent solutions to adapt and deal with needs as they arise, even if not covered in the postgraduate curriculum. For example, limited evidence provided to show how ICT background students are helped to specifically build trust and develop their selling skills in the programmes offered.
* Another weakness was the lack of extensive collaboration with other institutions within the UK. However, Oxford, Cambridge and Imperial College did show some evidence of joint collaborative events. Worcester University would like to see for instance more knowledge sharing and collaborative events with neighboring Universities in the three counties of Gloucestershire, Hertfordshire and Worcestershire.

**Best practices:**

* All the organisations insisted on the importance of using practical events outside of the classroom to help students develop their entrepreneurial mindset. The use of the local ecosystem of established entrepreneurs, local enterprise partnerships, local banks and other networks within the local business community to provide practical support for start-ups were also evident and a good examples of best practice.

**Existing gaps:**

A key area that all institutions agreed could be improved was the need to provide practical training on selling skills. Also, all the institutions agreed that there was a need to encourage better collaborations with other departments within institutions to reduce “silo” mentality and also encourage collaboration with other institutions within the UK and in Europe as a whole.

* All institutions agreed women with ICT backgrounds needs to be encouraged and supported as they were often under represented as entrepreneurs. Although, Google Campus London has initiatives such as *women@campus,* it was agreed by all participants that more had to be done to support female entrepreneurs with a ICT background.

**5 EU visits: strengths and weaknesses, best practices, existing gaps**

Each partner in the ICT project had the task of visiting two other EU/International initiatives to conduct a needs analysis. Below is a table showing the list of EU countries that were visited by the partners and the summary of strengths, weaknesses, best practice and existing gapsidentified:

**Table 1**

|  |  |  |
| --- | --- | --- |
| **ICT Partner Country** | **EU /International Country Visit 1** | **EU /International Country Visit 2** |
| **CYPRUS** | **Athens-Greece,** | **Italy** |
| **GERMANY** | **Austria** | **Belgium** |
|  |  |  |
|  |  |  |
|  |  |  |
| **PORTUGAL** | **France** | **France** |
| **SPAIN** | **Limerick (Ireland)** | **Limerick (Ireland)** |
| **UNITED KINGDOM** | **Netherlands-Amsterdam** | **Roterdam** |

**CYPRUS Partners Report on EU visits**

As shown Table 1, GrantXpert and European University of Cyprus conducted visits within the EU. GrantXpert visited Orange Grove, Found.ation and The Cube in Athens and EUC visited H-Farm and Trentino Sviluppo in Italy. The following is a summary of the strengths, weaknesses and best practices of this various organisations taken from the CYPRUS National Report:

**Strengths of the organisations visited in Greece**

* The organisations visited have utilised European and other initiatives which combine competition and training.
* Organisations visited have identified and taken on board various mentors which are successful in their practices and willing to share their knowledge. Orange Grove offers an extensive mentoring program.
* Networking facilitation. For instance, Orange Grove has a large network of experienced people in the Netherlands and Greece who are visiting the working space in order to meet with young entrepreneurs and exchange ideas and views.
* Great emphasis on the personal skills of the attendees and they help them in their personal development.

**Weaknesses of organisations visited in Greece**

* Lack of funding opportunities. It is difficult to find access to capital.
* Although they have decent networks of experts, an even wider network would provide more opportunities.
* The “employee mentality” is a huge problem.
* Limited communication among incubators and accelerator programmes in Greece
* The lack of a market which can absorb an idea.
* Lack of skilled developers.
* Absence of local investors for financial support of start-ups.

**Best practices of the organisations visited in Greece**

* They organize several events, seminars, workshops, competitions, short meetings on a regular basis in order to develop the entrepreneurial culture among young people and/or to help them enhance their knowledge and skills.
* The duration of courses is highly flexible depending on the available time of participants and their needs.
* Identifying funds not only from local sources but also from international.
* Co-working spaces provide an appropriate innovative environment.
* Well-adjusted curricula according to the needs of the market and the participants.
* The mentoring programs are tailor made
* Follow ups and other networking activities

**Strengths of organisations in Italy**

* In H-Farm possibly a big strength is that it is situated in a dedicated space, in farm land in open fields.
* Participants are expected to fully commit themselves to the enterprise during the whole program cycle.
* Start-ups obviously need funding and H-FARM has backed such operations (over 80 start-ups) with over 20 million Euros in the last decade.
* Specialisation in accelerator programmes are a strength of both organisations
* Specialisation within the organization
* Within Trentino Sviluppo training is very targeted with very high-tech labs e.g. Mechatronics labs
* Trentino Sviluppo get involved in innovative activities such as: experimental apps, video games on a treadmill.

**Weaknesses of organisations visited in Italy**

* The assembled start-up teams would be stronger if they consisted of a bigger range of specialisations.
* Although they have decent networks of experts, an even bigger network would provide more opportunities.
* Even though there are financing opportunities a higher percentage to more operations would be more beneficial.

**Best practice of organisations visited in Italy**

* A best practice of H-FARM is its dedicated facilities and its development of a ‘creative village’ where all needs are satisfied on location.
* Enough funding is secured for the start-ups. This increases the chance of success.
* Specialization
* Trentino Sviluppo is not strictly a money-making concern
* Trentino Sviluppo provides personalised consultation and that is an important best practice
* Other examples include funding opportunities, personalized consultation and support for startups over extended periods.

**Germany Partner Report on EU Visits (Chamber of Commerce Austria and Betacowork in Brussels)**

**Strengths: Organisations in Austria**

* As strength is to mention that the chamber of commerce Vorarlberg/Austria is well known by potential entrepreneurs because it exists for over 25 years and it’s like a kind of umbrella organization for lots of business people (individual enterprises as well as large companies). The chamber also is highly regarded by other institution. In Austria the entrepreneurship training costs 490 €, but half of the costs can be refunded and young entrepreneurs even three quarters of the whole amount.
* The key to Betacowork’s success is its community of members and the facilitation of contacts and opportunities by the team that host them. It is located at ICAB Business & Technology Incubator, a technology incubator that offers great premises in a modern looking building made to impress. Another strength is that the enterprise promotes itself with the help of a low budget. They make use of word of mouth recommendation.)

**Weaknesses:**

* There are more and more coworking spaces around Belgium. To be an attractive place to work Betacoworkers has to offer interesting terms and conditions like a free coworking day, Coworking-VISAs for international coworkers. But because of a low budget, high rates of monthly rent and personal capacity it is often a strong competition between the co-working spaces. They try to get some extra money/budget by applying in funded projects with other partners (e.g. in the ERASMUS prorgamme), but this isn’t always successful.

**Best practices:**

* Some of the best practices of Betacoworkers are illustrated in the achievements of the entrepreneurs that have been highly successful indicating the innovative environment created at Betacowork.

**Existing Gaps**

* Betacowork also mentioned that there should be more possibilities/funding programmes in Europe which will allow small companies to offer better service for their target group. Not only more manpower is needed, financial support has to be available in a timely manner.
* Also, the chamber of Commerce Vorarlberg mentioned that land-covered cooperation should be intensified and the cooperation of consultancy-business-research should be more enhanced by the EU.

**Portugal Partner Report on EU Visits (University of Emlyon and Incubator of Emlyon)**

**Strengths**

* The slogan of EMLYON is “Educating entrepreneurs for the world”. All students in this university have to attend at least one entrepreneurship course which drives a culture of entrepreneurship.
* The focus of EMLYON’s entrepreneurship programmes is on creativity and soft skills (learn by doing). Students are often asked to solve a social problem or other areas of knowledge (e.g. engineering).
* The Incubator of EMLYON was considered the best incubator in France. It is open to students and investigators as well as to entrepreneurs out of the university.
* Multiple opportunities to meet and network with established decision-makers and entrepreneurs
* Method of contact of the courses in both organisations is face to face combined with eLearning (conferences, workshops, tutoring, field work, in-company stay, coaching). Expert tutors and a collaborative platform are also used.
* The incubator of EMLYON presented a surprisingly high rate of success in terms of businesses created, what is certainly related with the regular tracking of the projects' progress.

**Weaknesses**

* EMLYON is a private organization and fees are significantly higher when compared with other institutions
* In the opinion of EMLYON, development of professors training in the entrepreneurship field and the “upgrade” to a technological park were the aspects that could be improved.
* In France, or at least in these two organisations, curiously the barrier referred was similar to Portugal: culture, mentality of the individuals and society.
* Students don’t have enough support from teachers because they usually don't know how to deal and surpass this lack of capabilities

**Best practice**

* All students in this university have to attend at least one entrepreneurship course which drives a culture of entrepreneurship.
* The aim is learning by developing a project that can be done in articulation with the incubator.
* It was observed that the institutions visited in France are well known by their excellence in the field of entrepreneurship, aiming to “build global entrepreneurs” as their main purpose.
* Both university and incubator put a great effort in the implementation of a real entrepreneurship culture.

**Existing gaps**

* In the field of entrepreneurship, education is crucial to enhance the formation of entrepreneurship teachers, encourage risk taking among students and motivate them to engage in multidisciplinary teams.
* Problems where identified in relation with the soft skills (e.g. difficulties in communication); lack of sensitivity to market (in terms of knowledge and market)
* The inexistence of multidisciplinary teams was other constraint that these individuals face when they decide to start-up.rientation).

**Spain Partner Report on EU Visits** (and UNIVERSITY OF LIMERICK: NEXUS and LIMERICK INSITUTE OF TECHNOLOGY)

**Strengths**

* Strong set of offerings with activities including: Registration of businesses, Accounting, Legal and administrative support , Provision of office premises, Training courses ,Workshops , Networking, Funding, Corporative advice, Intensive entrepreneurial studio-based programme, One to one work with entrepreneurs, Mentoring, Corporate research and advice, Funding help, Network building, Themed workshops.
* The University of Limerick ‘s Nexus Startup Business Development Programme is an informative forum and progression tool for new start-up companies possessing innovative and exciting ideas, instigating a balanced understanding of the importance of a start-up company and personal development of its founder. A key strength is learning by doing is encouraged.
* Have developed 6 Entrepreneurship/ Incubation/ Acceleration centers which have supported the creation of 150 innovative businesses
* Offers funding to accelerate growth – for example the Enterprise Ladder Fund which has supported 13 companies
* Strong alumni network
* Offers course accreditation and a strong network of businesses that they can regularly network with
* The main strength of LIT was that it was developed by a group of incubator centres, taking all the best practice from each centre.

**Weaknesses**

* Lack of international collaboration within L.I.T – however this is countered by very strong international collaboration
* Within the University of Limerick the times that courses ran meant it was not open to professional employed people seeking to start up a business
* Lack of experience from students on University of Limerick enterprise courses

**Best Practice**

* LIT followed a good plan and had good access to funds to support business creation
* Both organisations demonstrate strong aftercare, placing the right resources in place to foster business creation e.g University of Limerick takes student on a journey developing a new venture with international potential to complete a 2 year investor ready Strategic Commerical Plan.

**Existing Gaps**

* Great collaboration on an EU level

**United Kingdom Report on EU Visits (Amsterdam Centre for Entrepreneurship and Erasmus Centre for Entrepreneurship)**

**Strengths:**

* Excellent action learning provided in the postgraduate courses and also practical business support through the business incubation by both institutions. ACE’s practical entrepreneurship “initiatives inspire, stimulate and raise the bar for students, researchers and entrepreneurs.” Both the academic and practical support provided by the ACE and ECE are have been quite successful.
* The institutions visited have specifically designed programmes for ICT background students to meet their specific needs and prove to be quite successful in the outcomes demonstrated.

**Weaknesses:**

* Limited collaboration with other institutions in the UK to share best practices and could form more EU partnerships to encourage knowledge sharing.

**Best practices:**

* Evidence of strong one- to- one, targeted and practical support given to entrepreneurs with ICT background, access to funding, and also on protecting their IP etc.

**Existing Gaps:**

* Lack of collaboration between EU institutions. Need to create a forum for more knowledge sharing at the EU level. There is a need for more one- to -one support given to ICT entrepreneurs due to their specific needs.

**6 Suggestions on modules to be included in the ICT package**

Below are the suggestions on potential ICT package modules contained in the partner country reports following their local and EU visits.

Table 2

|  |  |
| --- | --- |
| **Cyprus**   * Opportunity sizing and market research * Presentation skills, Pitching skills, How to talk to investors * Business modeling * Raising finance * Negotiations * Legal aspects * Recognition of failure and Management of Failure * Communication within and outside the team * Networking activities * Applicable Market – Market feed * Building an Entrepreneurial mentality and culture * Practical Accounting and Finance * Dissemination * Business courses * Soft skills in general * Business Feasibility * Business Marketing * Industry and Market-Specific Training * Team building * Market testing * Internet and digital marketing | **Germany**   * Sales competence, juridical basic knowledge, know-how and an innovative business idea. It is also important that the courses are delivered by mix of speakers. Workshops (with max. 15 participants) for selected topics with duration of one to two days are also an option. * It is also important that initiatives offer clear conceptional trainings and programs, which are concentrated upon the essentials, obligatory trainings are sometimes helpful to emphasizes this. * Open and clear communication with participants is helpful for both sides. Start-up-advisory centers should also strongly advice against the founding of a company when the business idea seems probably will not be successful due to personal circumstances or characteristics of the potential founder. * Build network connections, connections with consultants, advisors, investors and financial institutes. |
|  | **Spain**   * Ventures – The era of globalization * Information Management – research methods * Financial issues relating to SME’s * Marketing and Sales * Professional Aspects * Lean Start Up ( MVP, Spilt testing, pivot, Business model canvas) * Learning by doing * Learning in a team |
| **United Kingdom -**  The following are the most popular topic that all, the institutions visited recommended should be covered:   * Entrepreneurial Mindset Development * Selling Skills * Identify enterprise opportunities * IP Knowledge * Innovation Management * Legal Issues * Commercialisation * Softer skills: Communication/Working in Teams * Lean Start-Up and Business Canvass Model   **Portugal**  Taking into account the results of the interviews, there is some consensus regarding the inclusion of the following subjects in an entrepreneurship programme directed to ICT students   * Entrepreneurial culture; * Team building; * Communication and negotiation techniques * Finances; * Basic management tools; * Internationalisation; * Business models; * Marketing and market research; * Soft skills in general. |  |

**7 Perceptions of visiting organizations about the potential of our ICT package**

All national reports indicated a positive feedback and perceptions by the organisations visited about the potential of the ICTe package. The local, EU and International organisations visited have shown an interest in the results and would like to see future opportunities for exchange of knowledge and collaboration. The German report for instance stated the following: *“The visited initiatives are interested in the results of our studies especially in the structure of the new training package. They are willing to compare the results of the ICTe project with their actual training instruments. One benefit to stay in touch with the project partners could be to establish a sustainable cooperation mechanism which could stimulate the mutual learning through activities of exchange and/or common development*.”

**8 Conclusions**

The national reports written by the various ICT project partners provides a comprehensive report on the state of entrepreneurship education and practical support provided across Europe. This has provided the ICTe project with a rich data source to enable the goal of creating a training package which is innovative, practical and cutting edge for ICT background doctoral entrepreneurs and students. This report provided the highlights of the key strengths, weaknesses, best practices and exiting gaps as stated in the national reports of ICT project partners.

The local and EU institution and organisation visits conducted by all the partner countries namely Cyprus, Germany, , Portugal, Spain and United Kingdom resulted also in a positive feedback about the perceptions of the ICTe project and useful recommendations of suggested modules for the ICT entrepreneurship training package.

This report will inform the process of planning and preparing a ICT entrepreneurship training package and pilot which will rival that the top and most successful institutions in Europe mentioned in this report.

The findings of the ICT survey should also inform the planning and preparation of the ICTe package. See Appendix II.

**Annex I: Partner National Reports**

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**Annex II: ICT Questionnaire Findings**

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