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BEST PRACTICE GUIDE TESLA

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Launch of the €3.8m 'TESLA' project

Monday 16 April 2012
in the BMW Regional Assembly
Headquarters, Ballaghaderreen
by An Taoiseach, Mr. Enda Kenny, T.D.



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Executive Summary



TESLA AIM:

Design and deliver a suite of tools for the successful development of knowledge intensive firms with high potential to export (known as HPSUs – High Performance Start Ups).



This Best Practice Guide presents a summary of the work undertaken in the 2011-2015 TESLA project (Transnational EcoSystems, Laboratory and Actions).

A co-funded project supported by the EU through the INTERREG IVB North West Europe Programme. TESLA was led by the Border Midland and Western Regional Assembly, Ireland. Other project partners, in alphabetical order were:

- Bangor University (Wales, UK),
- Cork Institute of Technology (Ireland),
- European BIC Network (Belgium),
- INI-Novation (Germany),
- Laval- Mayenne Technopole (France),
- Lionra (Ireland) and,
- Tilburg University (Netherlands).

The aim of TESLA was, through transnational cooperation, to design and deliver a suite of tools for the successful development of knowledge intensive firms with high potential to export (known as HPSUs – High Potential Start Ups).

Through collaborative analysis and pilot actions across the North West Europe Area, TESLA achieved considerable success in enhancing the partners' regional innovation ecosystems to support firms, such as SMEs and Micro Enterprises, to secure export markets.

This Best Practice Guide presents an overview of the project activities and actions, including a number of successful Case Studies. It also discusses how the eight partners in six EU countries developed a new dispersed business ecosystem across North West Europe, to engage this important HPSU cohort.

Finally, the Guide considers the usefulness of the ecosystem concept as a tool for small business growth within the EU, framing the TESLA outputs in terms of measures of ecosystem health and sustainability.

I Introduction to TESLA

The TESLA (Transnational EcoSystems: Laboratory and Actions) project was a transnational cooperation initiative part funded by the EU INTERREG IVB North West Europe Programme (www.teslaproject.eu). TESLA was implemented between 2011 and 2015 with a total budget of 3,832,440 (euro) and a European Regional Development Fund contribution of 1,916,220 (euro).

It designed and delivered a suite of tools for the successful development of knowledge intensive firms with high potential to export. Through collaborative analysis and pilot actions, the partners' regional innovation ecosystems were enhanced in order to better support such firms, including SMEs and Micro Enterprises, to secure export markets.

Policy context

In terms of European innovation, the North West European (NWE) Zone is the principal engine of innovation growth; it is the centre of European prosperity and ultimately European economic potential. It is therefore critical that Regions within the NWE Area work closely together to ensure that best practices are jointly developed, transferred and applied, and to provide support for knowledge intensive firms that are the most efficient and effective.

The Europe 2020 Flagship Initiative Innovation Union recognises the importance of developing successful European Companies that can compete within the global marketplace. EU policy makers recognise that regions and cities are the basic spatial areas where innovation is fostered through the exchange of knowledge and the building of innovation ecosystems that support the growth of enterprises.

These innovation ecosystems are mainly provided by the interactions of public sector agencies and research institutions with companies. The effectiveness of these supports will be a key factor in achieving European growth targets. Regions and cities also represent opportunities for reciprocal supports for such firms that, within a short time frame, need to develop export markets, within the EU and into third countries.

Knowledge-Intensive Companies

The TESLA project has successfully developed and delivered a range of highly focussed and relevant supports targeted specifically at the technology, capabilities, finance and export requirements of such companies, thus ensuring that best practices are shared and new interventions are developed in the partner regions.

The cooperation was clearly focused on developing a suite of supports for Knowledge Intensive



Industries, with export potential. All of the TESLA teams in six EU countries possess extensive expertise in supporting innovation and productivity growth within their own regions.

Coming from a range of central and remote regions, they are conscious of the challenges that currently face entrepreneurs in terms of successfully developing technology-based exportable products and services for subsequent trading within the global marketplace. All collaborating organisations, who have direct engagement with potential high growth knowledge-intensive Industries, have a varied range of supports to offer within their Regional Innovation ecosystems.

They identified the development of high potential knowledge-intensive industries as a strategic priority and the need for focused supports to address the technology, finance, capability and internationalisation needs of such enterprises. Within the framework of TESLA, partners identified a range of supports which could be collaboratively piloted and developed through transnational cooperation. The primary focus was to design, pilot and assess new supports that could assist knowledge-intensive firms to grow, enter export markets and generate high value employment.

These initiatives included supports for the development of both the capabilities of the entrepreneur and product technologies, development of product portfolios, together with areas of financing and procurements on an international basis, internationalisation itself and export development.

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I Introduction to TESLA (Continued...)

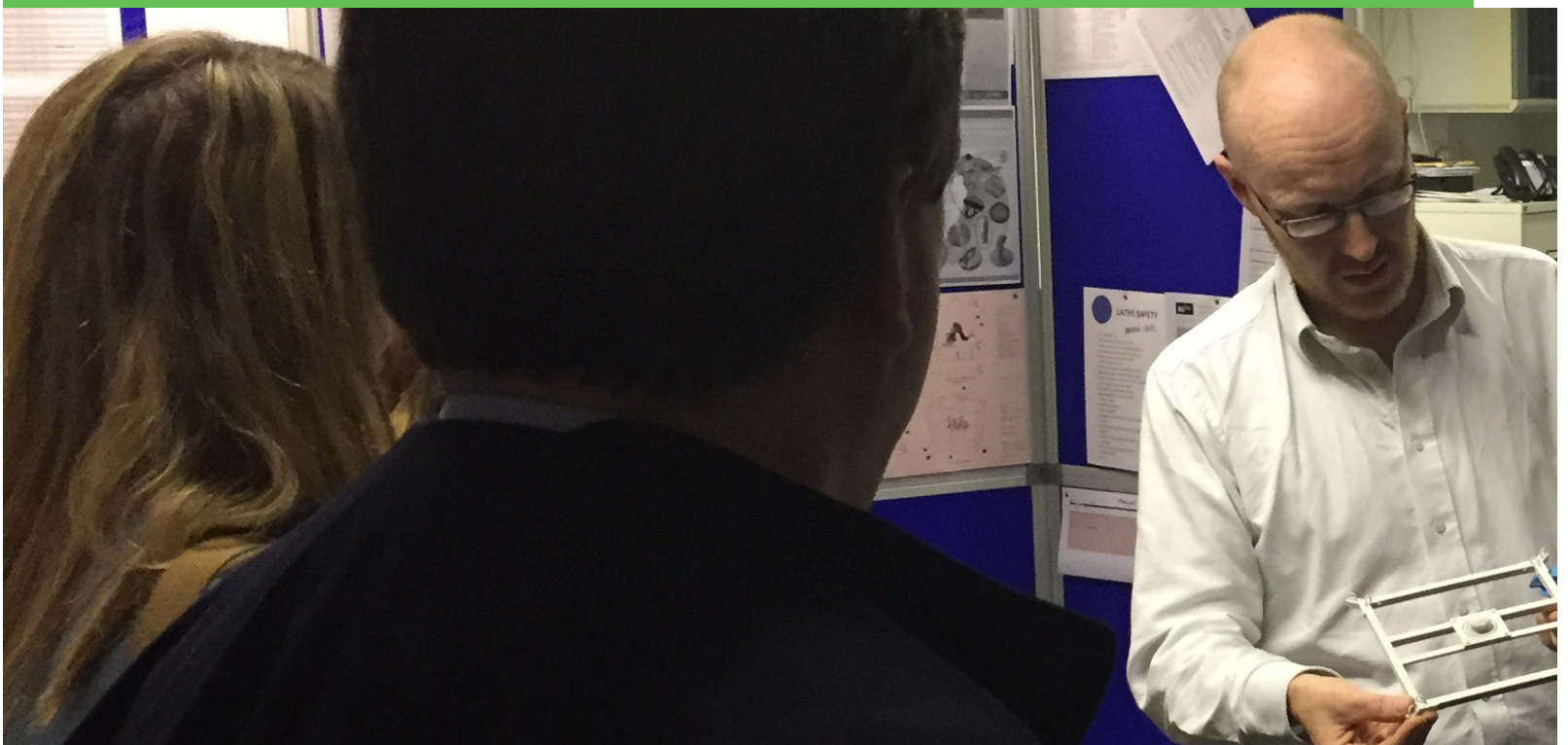
Knowledge-Intensive Companies

The project has been innovative in its approach because it brings together a range of key institutions and regional authorities from across the NW Europe area representing a cross-section of territories which reflect the geography and demography of the overall NWE cooperation zone.

All of these institutions have individually been responding to the Europe-wide challenge of growing companies with high potential to export. The TESLA project represents a pooling of the partners' expertise, energies and commitment, achieving a position where cooperation between the territories is strengthened.

A highly innovative aspect was the focus of the project on the needs of early stage technology-based enterprises with export potential, in assisting their accelerated development by using the expertise and facilities of partners on a reciprocal basis.

The project took this thematic approach rather than a sectoral approach as the needs of knowledge-intensive firms are common across many sectors and the tools developed can be applied in many sectoral contexts. TESLA has provided a test-bed to pilot 10 diverse support measures in diverse regions within the NW Europe area.





The TESLA project improved the innovation ecosystem in the North West Europe area, enabling the transfer of best practices in favour of supporting the accelerated development of knowledge-intensive enterprises. This project brought together 8 organisations with the requisite expertise and experience to elaborate and test new approaches in this important field in the North West Europe Area.

A comprehensive set of pilot actions were designed with the specific needs of knowledge-intensive firms in mind and delivered for the first time through the TESLA partnership across the participating regions. Some of the actions also focussed on enhancing the capacity of the support agencies and personnel who work with technology-based firms in incubation centres, technology transfer offices and education/research institutions.

TESLA aimed to create a shared ecosystem in which best practices in accelerating the growth of smart firms with export potential would be transferred between partner regions and the lessons disseminated throughout North West Europe.

This is in line with objective 1.3 of the NWE Programme which aims to use and improve territorial co-operation in order to strengthen the institutional and territorial framework for innovation and the transfer of knowledge within North West Europe.



I Introduction to TESLA (Continued...)

TESLA OPERATIONS

The project was assembled into a set of notional Work Packages, which brought together conceptually similar types of interventions, mainly for convenience in managing project planning and delivery:



The objective of **Work Package 1 (Driving Innovation)** was to boost the collaborative innovation capabilities of knowledge intensive companies, in particular product development and design, and the development of innovation relationships.



Work Package 2 (Internationalisation) supported knowledge intensive start-up firms in internationalising their business in order to boost their profitability and employment generation potential in their regions.



Work Package 3 (Skills and Capabilities) focussed on supporting knowledge intensive start-up companies by addressing their skills needs and encouraging major companies/public sector organisations to promote the spin out of innovative ideas and technologies.





The objective of **Work Package 4 (Entrepreneurial Finance and Procurement)** was to contribute to the creation of an ecosystem favourable to innovation and export growth by enhancing the availability of entrepreneurial finance and procurement for knowledge-intensive firms in the NW Europe region.



As the outcome of **Work Package 5 (Best Practice and Case Studies)**, this document collates the results from the implementation of the pilot actions, and presents Best Practice examples from a selection of them - exemplars in the support of early stage knowledge intensive enterprises with export potential.



Work Package 6 (Monitoring and Evaluation) provided the project partners with timely information on the physical and financial progress of the project, as well as an independent analysis of the achievement of the project's objectives.



I Introduction to TESLA (Continued...)

Geographical Scope

TESLA was horizontally integrated across all sectors in which there are early stage knowledge-intensive enterprises with export potential, in the participating regions.

The project partnership incorporated a cross section of organisations including:

- Business Innovation Centres,
- European Business Network Organisation,
- Education and Research Institutions.

All of these are relevant actors in supporting an ecosystem conducive to the testing of new support programmes for high potential technology-based enterprises.

Additionally, within each of the participating regions, partners have well-established links with stakeholder organisations, SME Development Agencies, Applied Research and Commercialisation Centres, structured on the triple helix model (linking academia, companies and the public-sector). These played key roles in the delivery of the project in terms of their inputs through regional workshops and other events supporting the delivery of TESLA.

In terms of geography, the partnership covers a wide area of the NWE Cooperation area and partner areas represent an excellent cross section of the zone that, whilst primarily metropolitan in terms of its population centres, includes a large number of remoter peripheral rural areas.

The geography and demographic profile of the partners' territories made it ideal as a test bed for pilot actions enhancing the potential for transfer of project findings and the best practices identified to wide areas of Europe which would display similar characteristics.

Therefore, horizontal and vertical integration of the project was ensured and its geographic coverage representative of the NW Europe area.





I Introduction to TESLA (Continued...)

Transnational Co-operation

The project was designed, through the development, transfer and application of leading edge supports to knowledge-intensive enterprises on a transnational basis, to have a lasting effect on the innovation ecosystem within the participating regions.

The success of these actions in terms of enhanced innovation and competitiveness supports are expected to have a long lasting effect and should, we suggest, be carried into mainstream policy-making within each of the regions.

“ A LEGACY OF THE PROJECT WILL BE A RENEWED FOCUS ON THE ACCELERATED GROWTH OF HIGH POTENTIAL TECHNOLOGY-BASED COMPANIES THROUGH IMPROVED SUPPORT STRUCTURES AND BUSINESS ENVIRONMENTS. ”

The best practices identified and the case studies on the most effective interventions in the partner regions and elsewhere in the NW Europe area here documented, represent a basis for discussion, reflection and action beyond the life of the TESLA project.

The innovative tools and supports developed and delivered through the project will lead to sustained improvements in business competitiveness and export potential. Similarly, the professionals engaged in business support services, technology transfer and incubation through their engagement in the project, will gain a sustained improvement in their own skills and competencies.

The project will therefore have an impact on regional innovation and enterprise policy approaches on the retained capacity of the participating regions to deliver targeted supports to early stage knowledge-intensive firms. There will also be a lasting impact on the beneficiary firms and on the institutions and agencies that support them.

II TESLA and Best Practice

In the course of the project, partners have examined the wider ambit of supports for Knowledge Intensive industries. They have analysed and assessed the effectiveness of each project Action and highlights of the results are documented here, a full report of project performance and outcomes being available in a separate Final Project Evaluation, Ó Siochrú and Butler (2015) (*Available at www.teslaproject.eu*).

Partners have identified that if more effective export supports are to be provided to firms, new initiatives will have to be undertaken to ensure that such supports are targeted, efficient and relevant to today's challenges. The TESLA project has achieved its stated aims of creating an ecosystem in which best practices in accelerating the progression of knowledge-intensive enterprises, have been transferred between partner regions and this is discussed in more detail in section V.

The TESLA project has identified and built upon successful initiatives across the NWE area and has facilitated the process of adaptive learning by partner regions. On a collaborative transnational basis, partners have reviewed and analysed transferable best practises, designed and delivered innovative transnational pilot actions and the resultant learning and experience was disseminated widely. Also, TESLA partners had a clear common objective to achieve a significant degree of additionality in supporting early-stage Knowledge Intensive Industries.

The expertise available to the partnership has been pooled to enable these enterprises to become successful technology-based, export-oriented businesses. The partners have built upon the successful pilot initiatives identified within each of the Work Packages to address the shared challenges identified. The approach taken to the development and implementation of the TESLA project represents an innovative transnational response to these shared challenges.

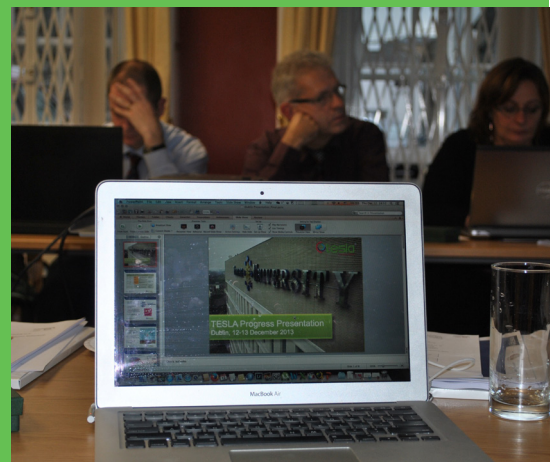
From our individual experiences, we recognise the value of collaboration between public and private organisations and knowledge institutions in different Member States to develop new approaches and to reciprocate assistance mechanisms which can enhance other regional support ecosystems.



The main actions under the TESLA project have been the collaborative participation of all partners in the design and piloting of new supports for the growth of knowledge-intensive firms with high export potential. Focussed pilot initiatives have been identified for development and delivery by the partnership, built upon the needs of knowledge-intensive firms.

In particular the project addressed its objectives across four thematic pillars, delivered through the following Work Packages and Actions:

- Work Package 1: Driving Innovation:
 - 1.1 Creative Industries;
 - 1.2 New Product Design and Development;
 - 1.3 Innovation Outreach.
- Work Package 2: Internationalisation:
 - 2.1 Internationalisation;
 - 2.2 Transnational Placement;
 - 2.3 Co-Incubation/Soft Landing.
- Work Package 3: Skills and Capabilities:
 - 3.1 Mentor Plus;
 - 3.2 Spin-ins.
- Work Package 4: Finance and Procurement for Knowledge-intensive firms:
 - 4.1 Finance;
 - 4.2 Procurement.



II TESLA and Best Practice (Continued...)

An important part of the above actions has been the direct involvement of key factors such as existing firms with export markets, State, regional and local development agencies and regional innovation clusters or similar structures where they exist, with a view to ensuring that the research and pilots undertaken can benefit from and have maximum levels of input and expertise. In addition, Work Packages (WP) 5 and 6 have been developed to capture best practices in the provision of supports to early stage knowledge-intensive firms and to monitor and evaluate the overall project. The background to this Best Practice Guide is the set of outputs that represent direct impact on high growth European enterprises and the resultant evidenced recommendations for inclusion in regional innovation ecosystem policy.



For clarity in engaging with client companies, only the individual Actions were referred to, rather than the clustering into Work Packages shown above, and therefore the following list of Actions and participating TESLA partners is renumbered accordingly:

List of TESLA Actions and Participating Partners (for each Action, the Lead Partner is underlined)		
	Action	Participating Partners
1	CREATIVE INDUSTRIES	<ul style="list-style-type: none"> • European Business Network (EBN) : Belgium • Bangor University–School of Electronic Engineering: Wales, UK • Ini-Novation: Germany
2	NEW PRODUCT DESIGN AND DEVELOPMENT	<ul style="list-style-type: none"> • Cork Institute of Technology (CIT): Ireland • Bangor University–School of Electronic Engineering • Laval Mayenne Technopole: France
3	INNOVATION OUTREACH	<ul style="list-style-type: none"> • Lionra: Ireland • Ini-Novation • Bangor University
4	INTERNATIONALISATION PILOT	<ul style="list-style-type: none"> • Cork Institute of Technology • Lionra • Ini-Novation • Laval Mayenne Technopole
5	TRANSNATIONAL PLACEMENTS	<ul style="list-style-type: none"> • Laval • Ini-Novation • Cork Institute of Technology • Lionra • European Business Network • Bangor University
6	SOFT LANDING	<ul style="list-style-type: none"> • Ini-Novation • European Business Network • Lionra • Cork Institute of Technology • Laval Mayenne Technopole
7	MENTOR PLUS	<ul style="list-style-type: none"> • Lionra • European Business Network • Ini-Novation • Laval Mayenne Technopole
8	SPIN IN	<ul style="list-style-type: none"> • Cork Institute of Technology • Lionra- Ireland • Tilburg University • Laval Mayenne Technopole
9	ENTREPRENEURIAL FINANCE	<ul style="list-style-type: none"> • Tilburg University • Laval Mayenne Technopole
10	PROCUREMENT	<ul style="list-style-type: none"> • Tilburg University • Bangor University- School of Law

III Background Information

Small and Medium Sized Enterprises

Small and medium sized enterprises (SMEs) have been recognised worldwide as having the capacity to boost employment and economic growth.

An SME is defined as any entity engaged in an economic activity, irrespective of its legal form whose staff headcount and financial ceilings fall below certain limits. Such entities defined as SMEs include self-employed persons, family businesses and partnerships or associations regularly engaged in economic activity (European Commission, 2013).

Firms being targeted in the TESLA project have the potential for high-growth, within one or both of the subgroups High-tech SMEs (HTSMEs) and Knowledge Intensive Services SMEs (KIS SMEs). HTSMEs are defined as firms with advanced knowledge and capabilities in technology which are adaptable to changing environments. KISMEs are defined as firms which provide KI professional support for other organizations.

Within the SME definition, enterprises are grouped into 3 categories:

- **Micro:** a micro enterprise is defined as an enterprise which employs less than 10 persons, whose annual turnover and/or balance sheet does not exceed 2 million.
- **Small:** a small enterprise is defined as an enterprise which employs less than 50 persons, whose annual turnover and/or balance sheet does not exceed 10 million.
- **Medium-sized:** a medium-sized enterprise is defined as an enterprise which employs less than 250 persons, whose annual turnover does not exceed 50 million and whose balance sheet total does not exceed 43 million.

Size

Casillas and Moreno (2007) state that high-growth enterprises show two main characteristics:

- (1) they experience a strong growth in size, which in most cases leads them to increase by as much as twice their initial size; and
- (2) this strong growth is concentrated in a very short period of time.

Differences in size between high-growth firms and non-high-growth firms have been observed, such that the former will be smaller than the latter (Casillas & Moreno, 2007). This negative relation between both variables is based on the idea that small firms pursue growth as a means to reach a minimum efficient size and to utilise existing idle resources.

Age

The age of a firm is an important differentiating characteristic. Younger firms will have higher and more variable growth rates as they have less understanding of activity costs and its change over time (proposed in Jovanovic's model, 1982) and are therefore by nature more risk-oriented than older firms (Shane & Venkataraman, 2000). Empirical literature has reached a consensus that for any given size, the proportional growth rate of a firm decreases with time (OECD, 2002).

Geographic Location

The geographic location of a high-growth firm presents a double interest.

(1) If employment growth is concentrated in a specific location, this can be beneficial from an employment policy perspective (OECD, 2002).

(2) Industrial clusters are high concentrations of specialised firms. Proximity to these external sources of knowledge improves access to the knowledge, and will allow firms to "substitute a portion of the externally derived knowledge for more expansive, internally generated knowledge" (Barringer et al. 2005). Due to these associated benefits, there is a characteristic presence of high-growth firms in industrial clusters.



III Background Information (Continued)

Internationalisation

Internationalisation of SMEs is becoming more prevalent, and large organizations are targeting niche markets, once a unique preserve of SMEs (Gunasekaran, et al., 1996). Therefore the need to focus improvements on step-change innovation as a sustainable source of competitive advantage, rather than focusing on incremental improvement, is increasingly important (McAdam, et al., 2010). SMEs must 're-examine and modify their competitive strategies by fully incorporating innovation within their people, processes and products'. Ghobadian, Gallear, & McAdam et al. 2010 have outlined key constructs of innovation implementation in SMEs:

- The **Leadership Construct** emphasises the crucial role of the entrepreneur or leader in driving innovation implementation. Bhasakaran's (2006) study of innovation in SMEs correlates with this proposal, stating that the leader's perception of innovation importance will affect innovation practices, development and innovative product acceptance.
- The **People and Culture Construct** is a key aspect of innovation implementation that can hinder or promote innovation through flexibility, openness and responsiveness to environmental changes.





Total Quality Management/Continuous Improvement (TQM/CI) form a 'quality-innovation continuum and represent a foundation on which to progress innovation efforts in any organization.' McAdam et al. (2010) and Burgess et al. (2005) suggest that TQM, process change and knowledge management are primary catalysts for directing management efforts to develop the complex bundle of hard and soft technologies that constitute innovation.

SMEs that have a track record of innovation are more likely to export, more likely to export successfully, and more likely to generate growth from exporting than non-innovating firms.

Both internal and ecosystem factors are important in shaping SME innovation and exporting. In terms of facilitating this process there is strong evidence for the importance of skills, research and development, capital investment and liquidity in shaping SME innovation and exports. External enablers, including 'openness' purposive links formed between SMEs and their partners, play a positive role in innovation and export growth, particularly in strong ecosystems (ERC, 2013). For SMEs there is a strong positive relationship between exporting and growth, and between exporting and innovation activity.

The ability to internationalize is critical to the growth of firms and can significantly contribute to the economic development of the local environment (Lu & Beamish, 2001). However, certain barriers and inherent risks are attributed to internationalisation that could impede growth, and numerous barriers to internationalization have been discussed in research. However (Baum et al., 2013), have emphasised that "two types of barriers consistently emerge as critical among most studies: perceived financial barriers (i.e. the perceived costs of operating abroad) and perceived market-based barriers (i.e. perceived cultural differences)."

Entry into a foreign market could engender unforeseen or unplanned costs, such as certain transaction costs and training costs in new skills and behaviours due to inexperience, external threats and adverse economic conditions (Coeurderoy et al., 2012). Having said this, evidence shows that European SMEs that export grow more than twice as fast as those that do not, while 'internationally active' SMEs are three times more likely to introduce products or services that are new to their sector than those which are entirely domestic in orientation. Therefore the effects of both innovation and exporting lead to economy-wide productivity.

“ A STUDY BY THE ENTERPRISE RESEARCH CENTRE CONCLUDES THAT YOUNG INNOVATIVE SMES NEED TO ACQUIRE EXTERNAL KNOWLEDGE IN ORDER TO FOSTER THEIR OWN INNOVATION ACTIVITY AND ARE THEREFORE CRUCIALLY DEPENDENT ON THE EXTERNAL ENVIRONMENT. ”

III Background Information (Continued)

Finance and Procurement

Entrepreneurial firms may lack financial resources and managerial competences that are fundamental for their economic performance, especially when they operate in high technology ('high-tech') industries (Gans & Stern, 2003). However, approximately half of SMEs do not use formal sources of external finance, instead depending on trade credit from suppliers or retained earnings. The primary source of external finance is the use of bank funding – such as loans, credit cards or overdrafts. Less than 1% of SMEs use equity finance (Department for Business Innovation and Skills UK, 2012). Small firms often have particular problems in accessing external finance for innovation and export development as they face commercial and technical risks associated with their innovation and/or export project. Riding et al (2012) note that during the early-stage of a company's life, exploration of market potential, product or service development is a time of uncertainty and risk, when it is particularly difficult for firms to present a robust case to potential finance providers.

The issues that SMEs encounter when trying to access financing can also be due to an incomplete range of available financial products and services, regulatory rigidities or gaps in the legal framework and informational asymmetries between small businesses and lenders. Banks may conclude that SMEs pose a greater risk than larger companies due to having lower survival rates and greater fluctuations in growth and earnings. This presents a disadvantage when obtaining financing relative to larger, more stable companies and could result in banks charging higher interest rates (OECD, 2006). This has a direct effect on growth capability as financial constraints can act as a barrier for smaller businesses engaging in exporting.



Skills and Capabilities

“Operating in an environment of great uncertainty and change, organizations often encounter a trade-off between the deepened specialization of core capability and the lack of broad-ranged resources and knowledge” - Fang et al., (2010). In light of this, it is critical that SMEs collaborate with other firms and network-based organizations to increase opportunities for participation in inter-organizational learning. High quality skills really matter for innovation and exporting, although different innovation/export strategies require very different skill sets. The importance of technical skills is also increasingly matched by the value of networking and team-working skills.

Leadership capabilities are crucial for organizational success and sustainable competitive advantage. This role is arguably even more important in SMEs than in a larger organizational context where the line that separates leadership and management responsibilities is blurred (Bamiatzi et al, 2015).

Evidence shows that the direct contribution of workforce, managerial and marketing skills to innovation and exporting is crucial to success. Furthermore, it has been found that businesses require distinctly different skill sets to pursue different market strategies. For example, employees with general or multi-tasking skills are needed for radical product innovation, whilst workers with business-specific skills facilitate incremental product innovation. Low qualified and hence inexpensive labour is claimed to be required for low cost production based on product imitation (Herrmann & Peine, 2011)

A key finding by Cooper and Park (2008) is that a region’s institutions and organizations play a vital role in attracting human capital, cultivating and incubating entrepreneurial knowledge and networks and in shaping entrepreneurial intentions. Therefore the geographical region attracts and develops human capital, around which high-tech firms are created through various programs such as spin-offs, interactions, initiatives, science parks, universities and incubation programs.

Incubation initiatives do play a fundamental role in inter-organizational learning; the incubated firm gains access to a positive environment supported by a well-developed technological infrastructure, support systems (e.g. staff recruitment for entrepreneurship activities) and arrangements such as contract management, sponsor or ownership brokerage and aid in acquiring governmental financial loans (Fang et al. 2010).

Ecosystem

Creating a conducive ecosystem to promote innovation and exporting success among SMEs would greatly promote the success of these businesses. The ecosystem becomes most valuable when SMEs take full advantage of the resources it offers. In part this reflects firms’ internal absorptive capacity but it may also depend on the businesses’ ability or willingness to develop innovation and export partnerships. This aspect is discussed in more detail later in this document.

IV TESLA Project Case Studies

1. TESLA ACTION: MENTOR PLUS

- Lead Partner: LIONRA (www.lionra.ie)
- Client: DiaNia Technologies (www.dianiatechnologies.com)

2. TESLA ACTION: PROCUREMENT

- Lead Partner: BANGOR (www.bangor.ac.uk)
- Client: Ultranyx (www.ultranyx.com)

3. TESLA ACTION: SOFT LANDING

- Lead Partner: INI-NOVATION (www.ini-novation.com)
- Client: Multiple companies

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- Client: AR+ (<http://www.areplus.fr>)



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- Client: Multiple Clients at Global Government Venturing Summit

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- PLACEMENT Lead Partner: LAVAL (www.laval-technopole.fr)
- Client: Multiple placements

12. TESLA ACTION: CREATIVE INDUSTRIES

- Lead Partner: European Business and Innovation Centre Network (www.ebn.be)
- Client: Multiple Companies





TESLA Case Study 1

Lead partner: LIONRA (www.lionra.ie)
Action: Mentor PLUS
Client: DiaNia Technologies (www.dianiatechnologies.com)

About this Case Study

This case study is based on mentoring delivered over one full day in Galway and six conference calls. The sessions aimed to address DiaNia Technologies gaps in specific skills and knowledge in relation to implementation of ISO 13485 Quality Management system in order to help the company to expand through export led growth.

Case Study Synopsis

This Case Study demonstrates how well targeted mentoring sessions can provide useful information and improve the international prospects of a relatively new company.

After the workshop DiaNia Technologies have been able to start planning and begin processes to meet National Standards Authority of Ireland (NSAI) standard as well as prepare for ISO13485 application.

This Case Study is a very good example of how by directing energy in a strategic way an organisation was able to 'implement robust Quality Management Systems (QMS) which will help towards our overall goal of achieving approval against the ISO13485 standard'.

design engineer with the Galway-based medical technology firm Creganna, decided to take a leap of faith and start her own business.

"In May 2012, I took my redundancy and a few months later set up DiaNia Technologies. Of course it was daunting, but I knew the devices I had in mind were exciting and would be well-received".

In the course of her work with Creganna, where

she had been for eight years, Kenny experienced frustration working with PTFE liners (used in medical stents and catheters), and decided to develop an alternative product.

"They are basically like a straw, but they can be hard to put into the body and often need changing. I wanted to design a series of products where I could build components onto them, but make sure they maintain a low profile so they are easy to fit into the anatomy" she said.

About DiaNia Technologies

It was while on maternity leave with her second child that Sinead Kenny, a former design engineer with the Galway-based medical technology firm Creganna, decided to take a leap of faith and start her own business.

"In May 2012, I took my redundancy and a few months later set up DiaNia Technologies. Of course it was daunting, but I knew the devices I had in mind were exciting and would be well-received".

In the course of her work with Creganna, where she had been for eight years, Kenny experienced frustration working with PTFE liners (used in medical stents and catheters), and decided to develop an alternative product.



“They are basically like a straw, but they can be hard to put into the body and often need changing. I wanted to design a series of products where I could build components onto them, but make sure they maintain a low profile so they are easy to fit into the anatomy” she said.

Kenny is working with the assistance of her husband Mark - a financial controller at another medical device company - and is now based at the National University of Ireland, Galway’s business incubation centre. She has already had her designs tested, with promising results.

“We proved technically that we can improve the surface of a device both inside and outside without effecting the bulk properties of it” said Kenny.

Three prototypes have already been made, and she hopes as many as eight will be designed once tests yield anticipated results. The breakthrough could have massive implications for health-service providers worldwide.

“It could change the way surgeons in the fields of cardio-vascular and urology medicine work. These devices could be a lot easier to insert, carry more functions and need less frequent replacement,” she said.

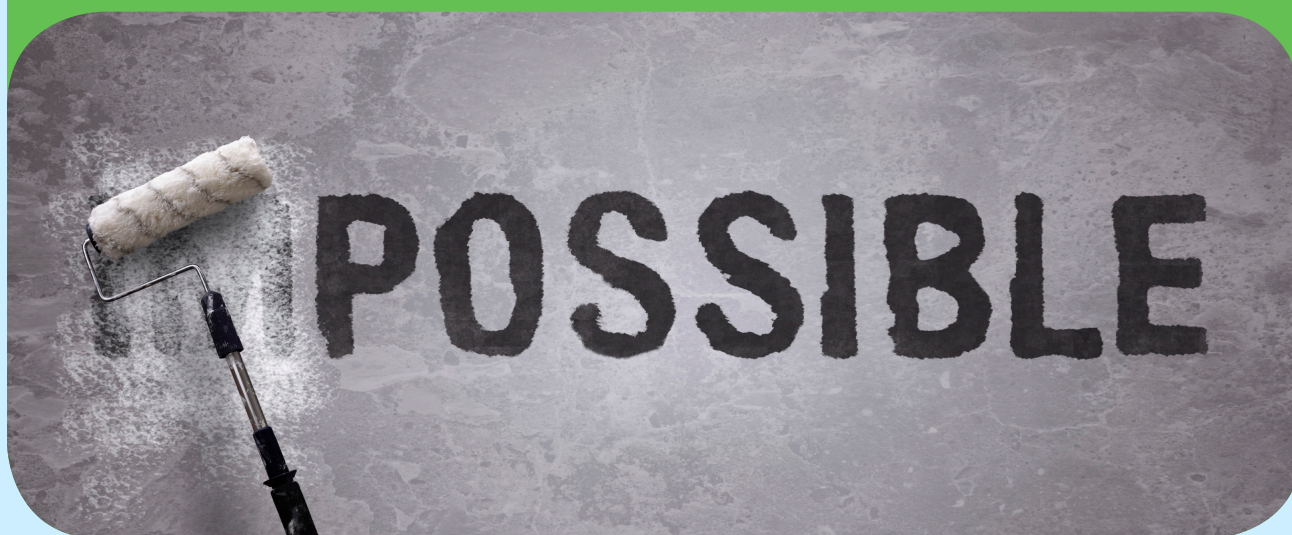
As testing continues, Kenny is in talks with a number of companies worldwide about her products, though it may be two years before revenue is generated.

She was able to invest in the set-up of her company from personal savings, but the Galway Enterprise Board did grant 20,000 (euro) for feasibility studies and vital testing. She is also on Enterprise Ireland’s New Frontiers Programme and has received innovation vouchers from them.

“The support is very impressive from validation of the idea to mentoring and networking. Galway has a proud tradition of med-tech success, and we hope to add to that,” she said.

DiaNia Technologies is an R&D company specialising in the development of medical device materials technology. The company competes on quality focused innovative features that lead to enhanced patient safety, product reliability, performance and cost-effective benefits.

The company vision is to provide a world class technology focused on customer-driven solutions and to employ science and management capabilities that can maximise the early development phase of medical devices.



TESLA Case Study 1 (Continued...)



International Market Challenge

DiaNia Technologies is currently working towards 'a pitching process to fund the business out to commercialisation'. The company is anticipating that within the next two years they will realise their full commercialisation and will diversify into International Markets.

Mentoring sessions

The purpose of the mentoring sessions was to provide the company with the necessary knowledge for the implementation of ISO 13485 Quality Management System. The specific areas for which mentoring was provided were:

1. Document Control
2. Corrective and Preventative Actions
3. Vendor Assessment
4. Quality Management Review
5. Training
6. Incoming Inspection
7. Calibration

The sessions were led by invited expert, Aisling O'Sullivan, from X-BOLT Orthopaedics Ltd, and were tailored to identify how DiaNia Technologies can overcome some typical challenges in the implementation of the ISO13485.

The number of mentoring sessions was discussed with the company in advance and they were delivered via one full day on site and six one hour sessions via conference call.

The company representative from DiaNia Technologies attended all the sessions and reported that the mentoring was very beneficial and targeted important information in a very detailed way.

DiaNia Technologies Strategy

Following the workshop DiaNia Technologies acquired a better understanding of the Quality Management Systems and control. The company representative reported:

'We learned that a vital element of following FDA and EU regulations is to ensure that our suppliers are also operating a robust quality management system. Hence in order to get approval and therefore be in a position to sell to our target customers, we must get on their supplier list which requires that we operate a QMS'.

Following the mentoring, DiaNia Technologies provided us with a list of benefits they felt had a strategic importance for the company:



1. Acquired knowledge and have the workings of a robust QMS.
2. The newly acquired knowledge will assist with the development process which will ensure that they keep track of their documentation.
3. The mentoring helped them to create a strategy for their own supply chain and ensure they implement their own QMS.

The company also implemented a number of new procedures to ensure that they:

1. Create a strategy for their planned regulatory FDA 510(k) application.
2. Started a process in showing the company's ability to use QMS which they will be able to leverage when applying for ISO13485.

DiaNia Technologies reported that following the mentoring session they acquired better understanding about:

1. Business strategy and systems.
2. Acquired the capability and the capacity to prepare an Investors-ready business plan and to present same to potential entrepreneurial finance providers.
3. Gained professional insight into individual sales and marketing strategies, researching/validating markets.
4. Acquired efficient selling and 'closing the sale' skills.
5. Gained insight and knowledge to develop a plan to internationalise the business.

The DiaNia representative's view of the workshop was very positive, quoting: "I found the mentoring sessions very useful as they provided me with crucially important information that will enable our company to sell our innovative extrusion technology to our target customers."



SUMMARY

This case study demonstrates the impact of seven well targeted mentoring sessions in transforming and expanding an organisation's strategies and potentially securing the organisation's long term future.

TESLA Case Study 2

Lead partner: BANGOR (WWW.BANGOR.AC.UK)

Action: PROCUREMENT

Client: ULTRANIX (WWW.ULTRANIX.COM)

About this Case Study

This case study is based on work undertaken during a procurement workshop in Cardiff. The workshop aimed to provide more information about public procurement procedures and experiences by addressing skill and knowledge gaps through a number of targeted talks and interventions.

Case Study Synopsis

This Case Study exemplifies how one well targeted workshop can provide useful information and improve the prospects in public sector tendering for an already developed company such as Ultranyx.

After the workshop Ultranyx have been able to start planning and extend their client base which currently predominantly comprises private sector companies, to companies from the public sector.

This Case Study is a very good example of how by directing energy in a strategic way an organisation has been able to improve their tendering, and reflect positively in the long-term future of their business.

The Case Study could also be of great interest to Public Procurers.

About Ultranyx

Ultranyx is an expert company providing High Performance Computers, computer appliances and custom engineered systems. All of their systems are designed and built explicitly to individual client requirements.

The company has extensive experience in the

design and build of complex computer systems as well as providing specialist systems for a range of sectors including finance and defence. Ultranyx delivers complete solutions by building and maintaining Information Technology infrastructures along with a high quality IT Support and Services, including: Big Data systems, Computer Appliances, Specialist Computer Systems, Server Based Computing, Storage and Data Management, Systems Architecture, IT Support Service and Data Migration.

Ultranyx' mission statement is 'Achieve Simplicity' and the company aims to make complex systems simpler, and easier to understand. Ultranyx are specialists with decades of experience in the production of large computer systems incorporating large data volumes. The company have designed and built some of the most technically challenging and mission-critical systems in the UK.

Ultranyx also provides a consultancy to help clients define their systems requirements, along with implementation and system management. The company can assist their clients in programme management, project management, system architecture, analysis and planning, system implementation, and testing and assurance.

Tendering Challenge

Given the nature of the services they provide, Ultralynx have historically relied on private clients and possess limited experiences in tendering for public sector contracts. The company have not considered extending their services to the international field and had no knowledge of the potential international opportunities available.

Mentoring sessions

The purpose of the Public Procurement workshop was to show how companies can take advantage of public procurement opportunities even if they do not have factual knowledge and understanding of public sector tendering.

Over two intense training days the workshop provided the opportunity for companies to learn

more about the fundamental elements of public sector tendering.

All together 8 training sessions (see below) were delivered by the two partners, Bangor University and Tilburg University:

1. Structure and Inner Workings of Public Procurement Procedures
2. Legal Aspects of Public Procurement Procedures
3. How to draft and prepare a winning public sector tender?
4. Tendering Strategy and Management
5. Procurement of Innovation and How to Sell Innovation to the Public Sector
6. Collaborative Bidding Techniques for HPSUs and Collaboration
7. Cross-Border Access to Public Procurement Markets: Issues and Solutions



TESLA Case Study 2 (Continued...)



8. The Enterprise Europe Network – what is it and how can it help HPSUs?

The sessions were led by invited procurement experts and were tailored to identify how HPSUs can overcome some typical challenges in tendering, such as the ability to demonstrate to Public Procurers that the company has a sufficient competency to undertake a contract.

The sessions comprised of different formats such as: formal presentations, interactive sessions; case study presentations and group exercises as this gave the opportunity to address different learning needs and skills. Group exercises were successfully used to provide constructive feedback to tenders written by start-up companies that had failed to address procurer risk aspects.

The company representative from Ultranyx attended the procurement workshop in Cardiff and he reported that the 'workshop was surprisingly useful' as it gave him a good overview and insight to procurement and tendering processes in UK and abroad.

The company representative reported that in this workshop the format of presenting the information was very good and provided a solid understanding of how processes work. The case studies had many real life examples

and the sessions were interactive thus giving an opportunity to ask many questions.

The lecturers, experts in procurement and tendering, became very useful contacts for future collaboration.

Tendering Strategy

Following the workshop, Ultranyx acquired a better understanding of the tendering process that will allow them to optimise their tender submissions in future. The workshop also enabled the company to complete the tendering documentation in a more structured way and gave good ideas for the best way to highlight the company's strengths.

Ultranyx changed and tailored their tendering strategy to suit individual procurement teams' priorities. The company also implemented a number of new procedures to ensure that they are:

1. Approaching the most relevant procurement person for specific projects.
2. Improving the formulation of their tender drafting by including most relevant points.
3. Providing more detailed information from

previous and current clients in their tender documents to give clear and appropriate evidence that they have delivered work successfully.

4. Showing understanding of the potential main risks to successful delivery of a project as well as providing a clear strategy for dealing with these risks.

5. Including enhanced staff profile information that shows that members have the right mix of skills and experience needed for specific projects as well as focusing on key elements of a given person's expertise and background that are relevant to the current tender.

Ultranyx reported that following the workshop

they were able to identify the differences between public and private sector bidding and tailor their approach accordingly. Moreover, they were able to create very useful partnerships which are currently developing further.

The Ultranyx representative's view about the workshop was very positive, quoting:

"I found the procurement workshop very useful and I will be aiming to put the knowledge gained in the workshop to good use in upcoming public sector tenders".

Ultranyx feels well prepared for targeting public sector and international institutions and they even have specific projects in mind.



SUMMARY

This case study demonstrates the impact of one workshop in transforming and expanding an organisation's strategies, thus potentially securing its long term future.

TESLA Case Study 3

Lead partner: INI-NOVATION (www.ini-novation.com)

Action: Soft Landing

Client: Multiple clients

About this Case Study

This case study is based on a successful international training programme for start-up entrepreneurs in Darmstadt to support access-to-finance – one of the most important questions regarding the establishment and expansion of a business venture. Almost 30 participants from different European countries appreciated the valuable information they received.

Case Study Synopsis

One of the most important questions for every entrepreneur is how to finance a start-up business in order to survive, to develop and to expand. The results of the training event can be summarised as follows:

- Excellent networking between different organizations and projects, synchronizing their joint activities.
- Successful seminar, attracted a big group of start-ups, which really need not only financial support but also marketing, soft-landing and coaching support.
- Very good combination of lecturers who presented the topic from different points of view to achieve better understanding among the participants, than prior to receiving financial support.
- Established different forms of collaboration between the start-ups, lecturers, representatives of two EU projects (TESLA and LILA) for further working together.
- Mixture between seminar and pitching

session with a remarkable result: expression of interest to two start-up companies from the ESA- BIC "CESAH", an Incubator in Darmstadt, Germany, to support their soft-landing with establishing an entity and incubation in Germany. The next steps for these two companies are orienting their sales internationally and expanding.

The seminar

Often when people hear the word "seminar", they immediately have the feeling that this will be something that will "kill my time", or "not so important for my real work". May be sometimes these statements are true but not this time.

What is the essence, which makes the REAL value in this case?

One of the most important questions regarding the establishment of a business venture is the financing of the start-up activities and the expansion phases. Ideas and prototypes need to be further developed for the market, the business concept has to be defined, resources have to be structured, and the first steps towards the operation have to be taken. There are several different financing sources for such steps in the

pre-seed, seed, start-up and expansion phases. However, it is not always clear in which phase what kind of funding might fit. Therefore, this seminar introduced the different forms, the impact and the unique features of available financing opportunities.

The following themes were addressed:

- Nature and characteristics of corporate financing.
- Public programs for the advancement of entrepreneurship.
- Unique characteristics of financing in the different life cycle stages of new business ventures.
- Nature, characteristics and “killer criteria” of VC financing.

The seminar was organised by the EIT ICT Labs Business Development team and financed by the EIT ICT Labs Access-to-Finance group with support of Jérôme Chifflet.

The event was supported by the Software-Cluster in Darmstadt as well as by the two EU-funded entrepreneurship support programs TESLA (www.teslaproject.eu) and LILA (www.lilaproject.eu).

Besides providing theoretical knowledge regarding financing models, concrete real-life scenario examples were used to illustrate strategic financing and the different alternative steps.



TESLA Case Study 3 (Continued...)



Current challenges faced by the participants were taken into consideration for the analysis of different financing possibilities. Practitioners gave insights to support entrepreneurs' accessing proper financing models.

"Thank you very much for the effective and efficient event. This is exactly what I needed" and "I was even contacted by one of the experts you invited, to talk about an initial investment in my business", are two examples of the positive feedback provided by the participants.

Pitching and success stories

At the end of the seminar, 6 international start-up concepts were pitched, reviewed and commented on by experts.

Two of them even achieved early success in their efforts for soft-landing in Germany: the entrepreneurs of two start-up initiatives developing the web applications "YoStar" app and "Infozone" app.

They were contacted by the Managing Director of the ESA-BIC "CESAH", an incubator in Darmstadt, Germany. "CESAH"'s Managing Director expressed his interest in supporting

their soft-landing with establishing a legal entity in Darmstadt, by providing incubation services through "CESAH" and by supporting funding applications to start-up support programs from ESA and from the Ministry of Economy of the State of Hessen.

One of the participants was a business angel from Utrecht, the Netherlands. She also expressed her gratitude for being invited and was absolutely delighted with the content, the quality and organisation, and with the lecturers of the seminar.

She expressed her interest in establishing a collaboration scheme between her business angel organisation and INI-Novation with the goal to support start-up companies. INI-Novation's management team will follow up on this promising action item. As a first step, a general collaboration agreement shall be negotiated and signed.

"Win-win" collaboration

One of the seminar participants, the founder and CEO of ThingsOnAir GmbH expressed his interests in LILA and TESLA support services.

In the actions following up on the training event, he and three other high-tech start-up companies were contacted by INI-Novation staff and TESLA internationalisation services were offered to the companies. It was decided to include all four companies in the TESLA process and to conduct the following next steps:

- a) Assess the companies' individual needs
- b) Conduct brief analyses on the target markets.
- c) Agree with the entrepreneurs on the coaching and mentoring activities that will be supported by the TESLA project.
- d) Hire coaches and mentors to provide support accordingly.
- e) Find incubators in the target countries to

Time	Agenda items	
10:00	Welcome and Introduction	Dr. h.c. Wolfgang Kniejski (EIT ICT Labs BDA)
10:15	Overview on financing models and financing mechanisms	Dr. h.c. Wolfgang Kniejski (EIT ICT Labs BDA)
11:30	Public Funds Support of Banks Business Angels	Jörg Püschel (NUK Neues Unternehmertum Rheinland e.V.)
12:30		
13:30	VC Investments – How investors think (“the business developer’s view”)	Dr. h.c. Wolfgang Kniejski (EIT ICT Labs BDA)
15:00		
15:30	VC Investments – How investors think (“the investor’s view”)	Dr. Bernd Geiger (Managing General Partner of Triangle Venture Capital Group)
17:00	Start-up Pitches	Pitch Session of 5 pre-selected high tech start-up companies
18:00	Buffet dinner and “Get together”	
20:00	End	



TESLA Case Study 3 (Continued...)

assist the internationalisation effort.

The Institutions, Organizations and Projects involved

EIT ICT Labs is one of the first Knowledge and Innovation Communities set up by the European Institute of Innovation and Technology, as an initiative of the European Union. EIT ICT Labs' mission is to drive European leadership in ICT innovation for economic growth and quality of life.

EIT ICT Labs has consistently brought together researchers, academics and business people. By linking education, research and business, EIT ICT Labs empowers ICT top talents for the future and brings ICT innovations to life. EIT ICT Labs' partners represent global companies, leading research centres, and top ranked universities in the field of ICT.

EIT ICT Labs supports innovative companies to scale up business up to European level and beyond. It provides end-to-end support from turning research results into successful innovations, stimulating the birth and growth of new and young ventures, support existing SMEs for European growth, enrich large companies with new technologies and innovation coming from research or innovative SMEs.

The **Business Development Accelerator** is the tool that is used to build the European dimension of their national actions on innovation. It is run by a team of European business developers. They manage a funnel with two phases: scouting of innovative SMEs and technologies, and coaching innovative SMEs to deliver European growth success stories.

The **Software-Cluster** is Europe's most

powerful network of companies and training & research institutions in the area of software development. The cluster region spans a wide area in the southwest of Germany around the cities of Darmstadt, Kaiserslautern, Karlsruhe, Saarbrücken and Walldorf. The cluster's main area of expertise is business software. The members of the Software-Cluster include the most important German software companies, such as SAP AG (Germany's largest software company) and Software AG (the second largest).

However, the cluster also includes numerous medium-sized companies, which are specialists and innovative leaders in their specific areas. Germany's leading computer science faculties at the universities in Darmstadt, Karlsruhe, Kaiserslautern and Saarbrücken have also been integrated into the cluster as well as leading research institutions, such as the German Research Center for Artificial Intelligence (DFKI) and the Research Center for Information Technology (FZI) in Karlsruhe. This bundling of software expertise (in the area of corporate software) within a specific region is one of a kind in the global software sector.

A Supporting project for this client group.

In addition to these TESLA supports:

LILA is a European project co-funded by the program Interreg IV-B North West Europe and lead by Promotech, Business Innovation Center in Nancy (France), in partnership with Birmingham City University (England), INI-Novation (Germany), Technoport (Luxembourg) & European Business and Innovation Centre Network (Belgium).

The project aims to foster internationalization of innovative companies in the energy and digital

economy, by involving people in a user-centered process of co-designing to validate products and services and to adapt them to the needs of each regional market.

INI-Novation GmbH provides leading edge expertise in the creation of new businesses and strong expertise in innovation management. INI-Novation serves as a specialist in transfers of technologies with practical experience in innovation finances and capital raising for SMEs as well as in development of training sessions.

INI-Novation GmbH has identified a small number of pilot actions that have been implemented

successfully in several European regions in the past. In the practical piloting phase of TESLA, INI-Novation has been involved as a 'donor partner region' sharing knowledge and practical experiences with 'recipient partner regions' with a view to implementing more advanced and enhanced models, especially in the areas of:

- Applying its integrated technology commercialization process methodology.
- Open Innovation as one of the Innovation Outreach Centers.
- Internationalization: supporting co-incubation and soft landing platform services.



SUMMARY

This case study is based on a successful international training for start-up entrepreneurs in Darmstadt to support access-to-finance.

TESLA Case Study 4



Lead partner: LIONRA (www.lionra.ie)
Action: Mentor PLUS
Client: Magiflow Gutters Ltd (www.magiflo.com)

About this Case Study

This case study is based on five mentoring sessions delivered over four full days. The sessions aimed to support Magiflow Guttering Ltd in developing sales and partnership opportunities with local and international companies.

Case Study Synopsis

This Case Study demonstrates how early access to sales support and directing energy in a strategic way can improve the national and international prospects of a relatively new company.

About Magiflow Gutters Ltd.

Magiflow Gutters Ltd. was established in 2012 and specialises in the production of a new unique shape and design of rainwater gutter that will not get clogged up with debris (see image below).



This unique design reduces the possibility of problems associated with rainwater gutters such as damage to the buildings, ice dams that could cause leaks, as well as preventing possible health risks from climbing ladders and from gutters falling off due to heavy snow.

In addition, this product provides the opportunity for rainwater harvesting as the water from magiflow gutters will be much cleaner than conventional gutters due to the lack of leaves, moss and debris that break down into a slimy mess, which will encourage bugs and worms to breed, thus spreading of potentially harmful bacteria.

A company representative Mr. Oliver Sharkey is aware that there are other products on the market that attempt to address the above issues by installing a mesh on top of the gutter but they are lacking long-term success and usually last only for a couple of seasons.

The advantage of Magiflow Gutters Ltd. product is that it can be fitted to new buildings or retrofitted to existing buildings. Moreover, this product can be fitted for less than the cost of cleaning customer's gutters twice a year.

The company wants to target building merchants



in Ireland and UK and expand their local and international sales. Potential clients are:

- Anybody who owns a building with pitched roof and who has to clean their gutter regularly.
- Building contractors.
- Architects and specifiers of building products.
- Local authority housing and government buildings with overstretched maintenance budgets.
- Anybody who is interested in rainwater harvesting.



TESLA Case Study 4 (Continued...)



Mentoring sessions

The purpose of the mentoring sessions was to provide the company with the necessary support to develop sales and partnership opportunities with local and international companies.

The mentor introduced Magiflow Gutters Ltd. to two large companies (Wavin, Ireland and National Plastics UK) that can be prospective clients. National Plastic UK agreed to start a trial introducing the Magiflo product in their Chippenham store. The mentor has already planned other sales meetings in the next few months.

The outcome of the mentoring sessions resulted in:

1. Acquiring knowledge in Business strategy and systems.

2. Acquiring the capability and capacity to prepare an Investor ready Business plan and to present same to potential entrepreneurial finance providers.

3. Gaining professional insight into individual sales and marketing strategies researching and validating markets.

4. Acquiring efficient selling and 'closing the sale' skills.

5. Gaining insight and knowledge to develop a plan to internationalise the business.

The sessions were led by Dominick Mc Groddy and were tailored to identify how Magiflow Guttering Ltd can overcome some typical challenges in being competitive in national and international markets.



Magiflow Guttering Ltd. Strategy

Following the workshop Magiflow Guttering acquired a better understanding of Sales strategies and capacity to prepare and present Business plans to potential finance providers.

The company was introduced to potential clients and had an offer to introduce their product in a building store.



SUMMARY

This case study demonstrates the impact of five well-targeted mentoring sessions in transforming and expanding an organisation's strategies and potentially securing the its long term future.



TESLA Case Study 5

Lead partner: CORK INSTITUTE OF TECHNOLOGY (WWW.CIT.IE)
Action: NEW PRODUCT DESIGN AND DEVELOPMENT (NPD&D)
Client: PMD SOLUTIONS (WWW.PMD-SOLUTIONS.COM)

About this Case Study

This case study is based on the New Product Design & Development (NPD&D) expert supports delivered to PMD Solutions (PMD), a client company of Cork Institute of Technology's Rubicon Centre business incubator. This work was aimed at allowing PMD to acquire experienced industry insight into the design, development and manufacturing roadmap required for their first product. This was achieved by an NPD&D expert carrying out a detailed review of PMD's product and providing a detailed report, which PMD used to successfully launch their new product in the shortest time and most cost effective way.

Case Study Synopsis

This case study shows how a targeted intervention with a New Product Design & Development expert can greatly reduce the time taken and lower the risks and costs associated with developing and launching a new product onto the market.

In this case PMD, a start-up company, was attempting to complete the development life-cycle for its new RespiraSense product, to assemble a cost effective supply chain to manufacture and distribute its product and implement an approved QMS (Quality Management System) in order to seek regulatory approval to launch its products in Europe.

By engaging with the expert company through the TESLA NPD&D action, PMD received a detailed report highlighting the resources, costs, times and activities that would be required to launch the product, which is critical information for a start-up company from an investment perspective.

The TESLA engagement also led to the ancillary positive outcome of PMD and the expert company forming a long-term joint venture

partnership to develop and manufacture PMD's products.

About PMD Solutions

PMD Solutions was founded by CEO Myles Murray after he was introduced to Stephen Cusack, professor of Emergency Medicine at University College Cork. This emerging global leader in ventilatory monitoring technology has developed the next industry standard in respiratory monitoring technology and has positioned it as the clinician's monitor of choice for the early detection of respiratory compromise.

Since its inception in 2011, Myles and the PMD team have developed novel technology that will revolutionise the way healthcare providers measure patient breathing. With an international focus, Myles is engaging PMD with the medical community across Europe to prepare its first CE marked product, RespiraSense - Breathing Frequency Monitor, for its market launch, while also developing marketing partnerships with distributors for the US and Asian markets. The company's mission is to establish RespiraSense as the industry standard respiratory rate monitor for the early detection of respiratory compromise by 2020. Through developing



collaborative relationships with foreign and domestic companies, Myles has excelled in reducing PMD's first products' time to market.

RespiraSense is a discrete sensor pad that patients wear on the chest. It monitors breathing continuously and alerts medical practitioners if irregularities are detected.

RespiraSense was developed by mechanical engineer graduate Myles Murray, who began working on the idea as a final-year project while studying at Cork Institute of Technology (CIT). The solution won him CIT's Entrepreneur of the Year award in 2011 and a place on the New Frontiers high-potential start-ups programme run by the Rubicon Centre, CIT's business incubator.

PMD Recruitment to TESLA New Product Design & Development Action

After attending a New Product Design & Development workshop hosted by Cork Institute of Technology, PMD completed a Needs Assessment Form which had been designed to be used transnationally by the participating TESLA partners, namely Cork Institute of Technology, Bangor University and Laval Mayenne Technopole.

The completed form allowed the project partners to review RespiraSense's current stage of development and to assess the proposed project's suitability for the TESLA New Product Design & Development action.

At the time of submission of the Needs Assessment Form the company had four employees, the product under development was a working prototype and the company was working on developing an ISO 13485 QMS. The company was looking for support in finalising the product development of RespiraSense and setting up a cost effective world-class supply chain to manufacture and distribute the product.

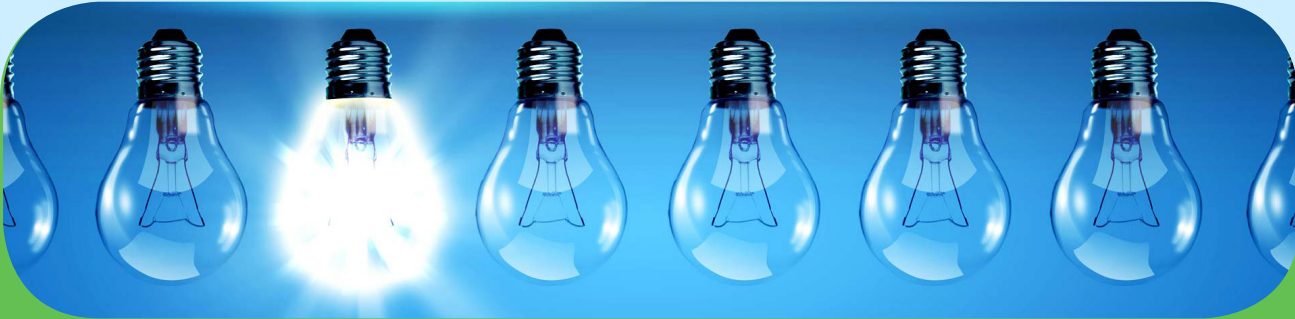
The partners deemed that the project was an ideal candidate for the TESLA NPD&D action and approved the company to participate in the action and to engage with Cork Institute of Technology's NPD&D expert company, Gentian Services Limited (Gentian) in Shannon, Ireland.

TESLA New Product Design & Development Action Engagement

CIT chaired an initial introductory meeting in June 2013 between Gentian and PMD in which Myles Murray from PMD described the current stage



TESLA Case Study 5 (Continued...)



of development of their RespiraSense product and their requirement to gain a complete understanding of what resources, costs and time-lines would be required to commercialise their first product.

Gentian gave an overview of their company and their New Product Design & Development and supply chain capabilities and resources. This included a number of case studies describing some of the previous projects completed by Gentian for client companies.

Activities carried out by NPD&D expert company (Gentian) for PMD:

The following information gathering activities were carried out by Gentian as part of the TESLA NPD&D engagement.

Three product review sessions were held between Gentian and PMD, and these were held on the following dates:

- June 4th, 2013. Initial product and project introduction at Gentian's facility in Shannon. This meeting was attended by Myles Murray of PMD, Ronan Coleman of Cork Institute of Technology and Aidan McMahon of Gentian.
- June 18th, 2013. Follow up meeting at PMD in the Rubicon Centre cork attended by Aidan McMahon of Gentian and Myles Murray of PMD.
- June 28th, 2013. Review Meeting at PMD in Rubicon Centre, Cork Institute of Technology attended by Aidan

McMahon and Alan Keane of Gentian with Myles Murray and Niall Twomey of PMD.

Internally Gentian's technical product development team held a review session to evaluate the information provided by PMD as well as the next steps in the development of the product.

The output of these reviews was a set of 31 questions issued by Gentian to PMD for review and clarification. PMD provided answers to these queries in order for Gentian to complete the TESLA NPD&D assessment.

The key project deliverable to PMD was a report from Gentian describing:

- Analysis of the current state of development of the proposed product and its position on the NPD&D life-cycle including:
 - Mechanical and industrial design review.
 - Process to manufacture adhesive piece.
 - Electronic design optimisation review.
 - Firmware validation and optimisation review.
 - Manufacturing costs estimate.
- Evaluation and statement on the company's current NPD&D organisational capabilities and resources.



- Report on the existing and required NPD&D skillsets within PMD.
 - Statement on the electronic product design manufacturing capability.
 - Provision of a resource matrix showing the resources that will be required, both internally and externally to PMD, as the product moves through the NPD&D life-cycle.
- Post TESLA engagement benefits for PMD**
- After completing the TESLA engagement a further commercial relationship developed between PMD and Gentian, to complete product development and certification of PMD's RespiraSense. Gentian is now PMD's key partner, managing the entire supply chain requirements.
- NPD&D next stage road map and the activities required to deliver on this road map.
- PMD has received regulatory approvals (CE Mark) to sell RespiraSense across the European market and is forecasting to enter 10 countries across two continents serving 6,000 beds by the end of 2015. In order to achieve this certification, Gentian implemented an ISO 13485 compliant QMS which will allow PMD to work with Gentian in developing future products and to work with other start-ups and SME's in the Medical Device sector.
- Provided detailed information on the multiple stages that are required to fully develop, test, certify, validate and launch the RespiraSense product
 - Gave detailed information on the tasks required to setup manufacturing and supply an appropriate supply chain for the product.
 - Provided detailed costings on what would be required to complete the NPD&D process for RespiraSense.
- PMD also used the report generated in the TESLA engagement as part of its due diligence in a funding round to secure seed investment from an Irish Angel investment group and to acquire official HPSU (High Potential Start Up) status and investment from Enterprise Ireland.

SUMMARY

This case study clearly demonstrates the need for support in the area of New Product Design & Development for most start-up companies. It also shows how a targeted engagement with an appropriate expert company can have a long lasting benefit for a start-up company and establish a competitive edge on an international stage.

TESLA Case Study 6



Lead partner: Laval Mayenne Technopole (www.laval-technopole.fr)

Action: Mentoring (LIONRA); Internationalisation (cit);
entrepreneurial finance (tilburg)

CLIENT: AR+ (www.areplus.fr)

About this Case Study

This case study is based on the Mentoring, Internationalisation and Entrepreneurial Finance supports delivered to AR+, a client company of Laval Mayenne Technopole. The supports provided under these actions aimed to allow AR+ to develop its commercial strategy both on a national and international level and to acquire its first clients.

This was achieved working with a commercialisation expert, through internationalisation training and attendance at two major international exhibitions.

Case Study Synopsis

This case study shows how a personalised and continuous support with in-house and external experts can greatly help a company to target its market and focus on undertaking relevant actions.

In this case AR+, a start-up company, needed support to launch its new and innovative product ARCAMtv to the national and international market and to raise funds to support the development of the company.

By engaging in commercialisation and internationalisation training programs, AR+ received a personalised support highlighting the resources, costs, times and activities that would be required to launch the product. AR+ has then been able to attend a dedicated international exhibition on its market sector and to sell its first robot and software.

About AR+ Robotics

AR+ was founded by CEO Pascal Gautier in 2009. From long experience in industrial robotics, AR+ offers the audio-visual market a number of interesting solutions for virtual studios, augmented reality, stop-motion recording and robot uptake in television and film.

The main product is the ARCAMtv system, an innovative solution operational with data numerous collection systems. The ARCAM TV software allows recording of up to 300 movements per robot, being able to program all of them as a loop. These movements can range from one second to ten minutes.

As for the man-machine interface, the system has two joysticks, three positions, three coders and eight radio buttons and can be used both in programming movements and as a manual system control. Accessories provided by the manufacturer include a dolly, a system for lens control with outboard motor, and radar to prevent accidents when used in public spaces or moving objects.

The system is already being used by some broadcasters as a subsidiary of Canal France, ITélé.

AR+ Recruitment to TESLA Actions

AR+ has been part of LMT's network since 2009 when the company was established. The product and associated services were ready to be commercialised in early 2014 and AR+ needed support to design its commercialisation strategy both on a national and international level.

AR+ completed a Needs Assessment Form which



had been designed to be used transnationally by the participating TESLA partners.

The completed form allowed the project partners to review AR+'s current stage of development and to assess the proposed projects suitability for the TESLA actions.

At the time of submission of the Needs Assessment Form the company had 2 employees and the company was looking for support to

internationalise.

The partners deemed that AR+ was an ideal candidate for the TESLA support through three different actions:

Mentoring, Internationalisation and Entrepreneurial Finance. The company was approved to participate in the actions and to engage with LMT in-house and with external experts.



TESLA Case Study 6 (Continued...)



AR+ Engagement and Actions under TESLA

- In Q1 & Q2 2014, Pascal Gautier and Dominique de Savignies (CEO & CFO at AR+) engaged in a commercialisation workshop under the TESLA mentoring action. They attended 4 days of workshops and had 2 x 1/2 days of individual mentoring. This allowed AR+ to build a commercialisation strategy, including the definition of the market targets. This led AR+ to sign its first commercial agreement with Canal+, a major French TV company.
- In September 2014, AR+ had the opportunity to exhibit at IBC in Amsterdam, the main European show for the broadcasting industry (50 000 visitors - 3500 exhibitors). TESLA supported AR+ under the internationalisation action, funding the travel to Amsterdam and hiring a mentor to work with them ahead of the show to prepare a leaflet in English and the commercial pitches. This was their first attempt to test the international broadcasting market. Exhibiting in Amsterdam led AR+ to their first international sale.
- As the market seemed to be ready for their product (300+ contacts gained in Amsterdam), AR+ took part in the internationalisation strategy workshops held by LMT & CCI International under TESLA in Q4 2014 and Q1 2015. It allowed them to define a precise international strategy and the action plan to go to international markets. Thanks to the TESLA workshops, specific goals and step-by-step actions were identified to face the reality of export!



- As AR + was entering a period of important growth in order to face increasing product requests, it became necessary to raise funds in order to get the production and the commercial resources ready. AR+ then took part in the Investor Day organised in November 2014 by LMT under the entrepreneurial finance action.

Thanks to this action, AR+ finalised at the end of April 2015 a fundraising of 200,000

euro which will allow the company to put into action an internationalisation strategy - (See Case Study on Entrepreneurial Finance).

Post TESLA engagement benefits for AR+

After completing the TESLA engagement, AR+ has been able to hire three more persons, including two new engineers and an international sales manager. They also attended their first broadcasting exhibition in Las Vegas in spring 2015.



SUMMARY

This case study clearly demonstrates the need for support in the area of internationalisation and fundraising for most start-up companies. It also shows how a targeted engagement with an appropriate expert company can have a long lasting benefit for a start-up company and establish a competitive edge on an international stage.

TESLA Case Study 7

Lead partner: LAVAL Mayenne Technopole (www.laval-technopole.fr)

Action: Entrepreneurial finance

CLIENT: Multiple companies

About this Case Study

This case study is based on the first investors' day organised by LMT and its partner KPMG to help local start-ups to raise funds in the framework of the Entrepreneurial finance action. This is the first event of this type organised in the Mayenne region of France. Here, fourteen start-ups presented their activities in front of a panel of twenty investors.

Case Study Synopsis

This case study shows how the organisation of a very specific event to match selected investors and trained start-ups, led to fundraising for several start-ups which were struggling to find funds. Indeed, start-ups on the rural territory of Mayenne, France, experience difficulties to find investors, either at an early stage, or in development.

At the local level there is only one business angel club and investors in urban areas (like Paris) are not so much interested in investing in regional projects. In order to help the start-ups in its network to raise funds, Laval Mayenne Technopole (LMT) has organized, with its KPMG partner, a new event to match local, regional and national investors with local start-ups.

About the action / The preparation

Twenty start-ups submitted their projects to LMT in order to participate in this event. LMT and its partner selected 14 entrepreneurs to pitch their projects in front of the investors.

The entrepreneurs selected to attend the investor's presentation benefited from some mentoring ahead of the event. To start with, the start-ups gave their business plan to be read and

amended by one of LMT's business advisors. Then, three pitch training sessions were organised so that entrepreneurs could practice pitching their project.

During these sessions, each entrepreneur gave a 10-minute presentation of his / her project in front of the other entrepreneurs. Afterwards, they were given feedback / comments during 20 to 30 minutes in order to improve their presentations.

The investors' day on the 27th of November, 2014

On the 27th of November, LMT organised with KPMG the first meeting of start-ups / investors in Mayenne. Fourteen start-ups presented their activities in front of a panel of twenty investors. Among them, there were crowdfunding platforms, business angel clubs, Venture Capitalists and banks.

The following companies took part in the event:

1. J'aime Ma Robe
2. HRV
3. Fidelisa
4. Soyooz
5. Are+
6. FengTech
7. WeeLeo

8. B2O
9. DLRS
10. 20tina
11. My Profil Art
12. Odaxos
13. Leech Acoustic
14. The Foire

The event took place at the 'Alliances des Saveurs' restaurant at Bonchamp-lès-Laval. The event room was divided into two areas:

« Pitch Area » : This was the area where entrepreneurs presented their pitches in front of the investors.

« Forum Area »: This was a small exhibition area, where each start-up was given some space to present their product or service.

The day started with a lunch, bringing together LMT staff and the investors in order to get to know each other better, to initiate and develop strong links.

Pitches started in the beginning of the afternoon. The companies were divided between early stage start-ups and start-ups in development. Early stage start-ups presented their project for five minutes without any questions from the investors.

Start-ups in development had ten minutes to pitch and then had to answer questions.

During the afternoon, three time slots were dedicated to the forum so that investors could get to know the start-ups better.

The day ended with a networking cocktail so that start-ups and investors could carry on with discussions.



TESLA Case Study 7 (Continued...)



The Outcomes

Since the event, four start-ups (see below) raised funds to a total amount of 800,000 (euro).

- Soyooz: A software solution for the decision making process when buying a product.
- AR +: Audiovisual robotics (See Mentoring Case study about AR +)
- Fidelisa: mobile application for business.
- Fengtech: Thermal solar energy.

Experience Feedback

This kind of event needs at least six months for preparation; including selection of the start-ups, entrepreneurs support for the pitch, establishing

a relationship with investors.

The lunch and the Forum area, in particular, were much appreciated. Indeed, the informal lunch between the LMT staff and the investors was an easy way to create and maintain strong relationships.

Investors Feedback

"I'm ready to come back! This event format seems to be good. The lunch is a good idea because it's also important that we as investors get to know each other better."

Entrepreneurs Feedback

“The contacts proved to be very good. We made many appointments with investors over the last 2 weeks. The event format was very satisfactory for us.”

Invitation leaflet to the investors' event:



SUMMARY

This case study demonstrates the impact of a well organised workshop to allow start-up companies to raise funds after pitch training sessions.

TESLA Case Study 8

Lead partner: Cork Institute of Technology
partner FOR the Action: LAVAL MAYENNE (www.laval-technopole.fr)
Action: New Product Design and Development
CLIENT: Gilles Taupin and Matthieu Robinet

About this Case Study

This case study is based on the New Product Design and Development (NPD&D) support delivered to several client companies of Laval Mayenne Technopole (LMT), with the specific example of Gilles Taupin and Matthieu Robinet. The support provided under this action was a pre-incubation support called IDfactory and using the 'Design Thinking' methodology. It allowed the entrepreneurs to validate their business idea, including market/customer aspects.

About the workshop

IDFactory is an accelerator program, allowing the entrepreneurs to go from the idea to the business plan and to validate their business idea, including market/customer aspects using an innovation approach called "Design Thinking". This programme is divided into two phases each lasting 30 hours (3 hours per week):

- Phase A: from the idea to the market validation.
- Phase B: design and financial plan.

The LMT Team uses recent and efficient methods like Business Model Canvas®, or Lean Startup. These tools allow structuring the approach, step by step. Sometimes, this can lead

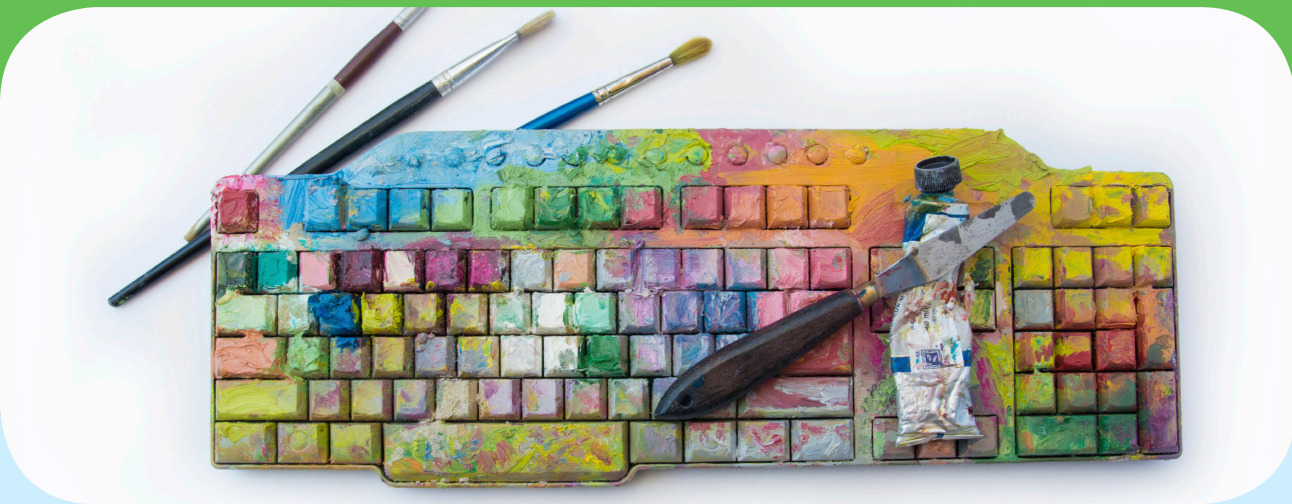
to reconsidering the whole project.

Experience Feedback

Gilles Taupin followed the IDfactory program in 2014 for his car sharing business project in rural areas: "The first day, we participated in a teambuilding game which allowed us to get to know each other.

Contrary to an individual support, the presence of other entrepreneurs is very engaging. It is very rewarding to have the other people's opinion and also give them advice on their business."

Among the tools that have most helped Gilles, the Empathy Map has been very useful. "This tool is very useful to put yourself in the place of



your customers. This allowed me to refocus my project.”

During the IDFactory program, in order to confront their business idea with the market, the entrepreneurs are encouraged to meet as many people as they can to validate the assumptions they made about their market.

At the beginning, Mathieu did not see the need for it. But throughout the interviews he carried out with possible clients, he changed his mind.

“It was essential. The interviews allowed me to re-target my project.”

During Phase B of the program, the entrepreneurs design a financial plan with the business idea validated in Phase A.

Mathieu appreciated this phase: “We are in a very professional process. We learn to present our arguments. It allows us to be more concrete about the financial part to define what we need well.”



SUMMARY

This case study demonstrates the impact of seven well targeted mentoring sessions in transforming and expanding an organisation’s strategies and potentially securing the organisation’s long term future.



TESLA Case Study 9

Lead partner: Cork Institute of Technology (www.cit.ie)

Action: Internationalisation

Client: PMD Solutions (www.pmd-solutions.com)

About this Case Study

This case study is based on Internationalisation supports provided to PMD Solutions over a 12-month period to help the company understand and access an international market. The supports enabled the company to understand the UK market for its product, identified the key players in the market, recommended the best route to market and outlined the competition. (See also PMD's involvement in TESLA Best Practice Case Study 5).

Case Study Synopsis

This case study demonstrates how individual targeted supports can help an early stage company access an international market. The support provided key market research and enabled them to reach out to the end user in an international market. It also confirmed known competitors as well as identifying additional potential competitors.

Cork Institute of Technology (CIT) and Myles worked on the idea for Respirasense as an undergraduate student. On graduation from CIT with a Mechanical Engineering Degree, Myles turned down job offers to pursue his dream of becoming an entrepreneur. Myles took part on the Genesis Enterprise Programme in the Rubicon Centre in 2012 which accelerated the development of PMD Solutions.

About PMD Solutions

PMD Solutions are based in Cork Institute of Technology's campus incubator, the Rubicon Centre. The company was founded in 2011 and is developing innovative and patient friendly technologies to support health providers' early prevention model of patient care.

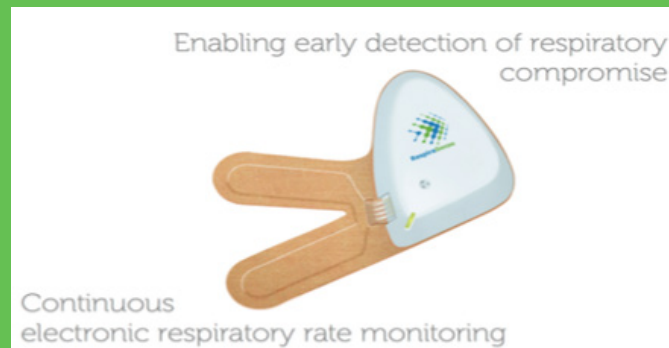
The Product: RespiraSense

The mission of PMD is to establish its product, RespiraSense, as the industry standard respiratory rate monitor for enabling the early detection of in-hospital respiratory compromise by 2020. RespiraSense:

Benefits to the Company

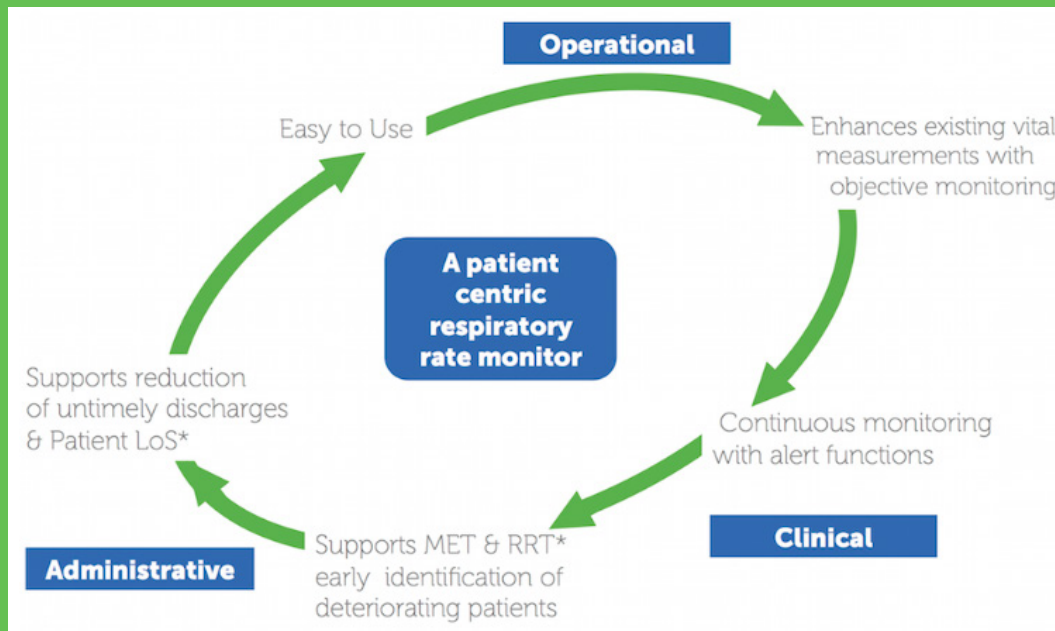
The founder, Myles Murray is a graduate of

The market research conducted provided an insight into the UK healthcare market that would





HOW RESPIRASENSE WORKS:



be very difficult to gather by an Irish Start-Up based in Ireland. In addition, given that the PMD team is small, the support enabled market research to be conducted that may not otherwise have been possible.

The market research provided an overall description of the UK healthcare system and recent relevant developments in this sector including:

- Technology Enabled Care Services resource for the selection of new technologies.
- Establishment of Clinical Commissioning Groups (CCGs) which replaced centralised organisations.
- NHS Innovation Accelerator whose stated aim is to introduce innovation into the NHS.
- Nursing Technology Fund to introduce technologies to free up nurses time.



TESLA Case Study 9 (Continued...)



The market research also outlined the competition for Respirasense – both direct and indirect. The competitors' products, status, and the key differentiators for the Respirasense product were also outlined.

The study also provided a number of key contacts in the UK for the product. The UK market research team spoke to a number of academics, medics and staff in the innovation function of hospitals to establish the value and potential use of RespiraSense in the UK's NHS.

While not all medical practitioners were ready to provide in-depth feedback on the product some were ready to trial the device which would provide the most valuable and reliable feedback to PMD.

There was a top down approach taken: from Academics down to Medics in hospitals. This approach worked well and a number of product champions and individuals who were willing to demo the product were identified. Having a clinician as a product champion was identified as the best market entry.

The medics also identified additional target markets, such as cystic fibrosis or other diseases where lung function is impaired. In addition RespiraSense could be adopted to be used in situations where patients are discharged but require ongoing monitoring.

The monitoring and reporting capabilities of RespiraSense could also be attractive to some anaerobic sports activities such as cycling, running and rowing.

SUMMARY

This case study highlights the benefit of the supports provided to an Irish SME through the TESLA project. Without this support PMD Solutions would not have been in a position to access current market intelligence without a huge cost to the company. The market reports provided to PMD have enabled the company to finalise its UK market access strategy.



TESLA Case Study 10

Lead partner: Tilburg University (www.tilburguniversity.edu)

Action: Entrepreneurial Finance

CLIENT: Multiple Clients (Captured at the Global Government Venturing Summit in February 2015, in Eindhoven)

About this Case Study

This case study is based on a Global Government Venturing (GGV) Summit, a one of a kind event that aimed to create bridges among various stakeholders of the start-up ecosystem. GGV Summit took place on 3rd and 4th February 2015 on the High Tech Campus in Eindhoven.

This event brought together start-ups, angel investors, VC funds, corporate venturing entities, accelerators and other intermediaries in order to create a space for multi-party dialogue and networking which was unprecedented in the region of Eindhoven. In a sense, we allowed different stakeholders to operate on a level playing field, especially start-ups and investors that had a unique opportunity to engage and learn from each other.

Case Study Synopsis

Throughout the duration of the TESLA project Tilburg University has been conducting research on the features and needs of a business start-up ecosystem.

Our research showed many efforts are directed either towards entrepreneurs (training programs) or investors (investor recruitment programs) but on a very isolated basis. The effects of such efforts thus fail to be multiplied and often fade away after some time. Hence it is crucial to employ a holistic approach to involving start-up ecosystem stakeholders.

Moreover, our observations point to the importance of a local start-up ecosystem, which provides a primary cradle for innovative HPSUs. Subsequently the local ecosystem in order to extend its reach and stay up to date has to be well connected to the global start-up community. With our event, GGV Summit, we tried to improve the start-up ecosystem on both levels.

About the Event

Global Government Venturing was a two-day summit that took place on 3rd and 4th February 2015. The main aim of the summit was to gather various ecosystem stakeholders to discuss, contemplate and exchange ideas related to manners in which innovation can be driven in their respective regions.

The event was organized in cooperation with Global Government Venturing, a publishing company, the Brainport Region and the Office of the Mayor of Eindhoven. The summit included eleven panel discussions, and seven cases studies provided by three entrepreneurs, two representatives of VC funds, one representative of government and one corporate venturing entity. The discussions covered a wide variety of:

1. Investing in the future: Venture Managers discussed how they see the industries of the future developing and being funded, how syndicates are being formed and the role of the cluster effect in where they

- invest.
2. Governments and Innovation: Government's role in turning start-ups into bigger businesses through procurement.
 3. Strategies for strengthening private investment in venture funds and innovative enterprises.
 4. Global Start-up Ecosystem: How to link an innovative region to others around the world.
 5. Universities and Innovation: How universities are supporting tech transfer and commercialization through a triple helix with government and corporate support to link with investors.
 6. Fast-Forwarding the Growth: Fostering entrepreneurship and innovation through private and public sector actions, such as accelerators, incubators, mentoring programs and others.

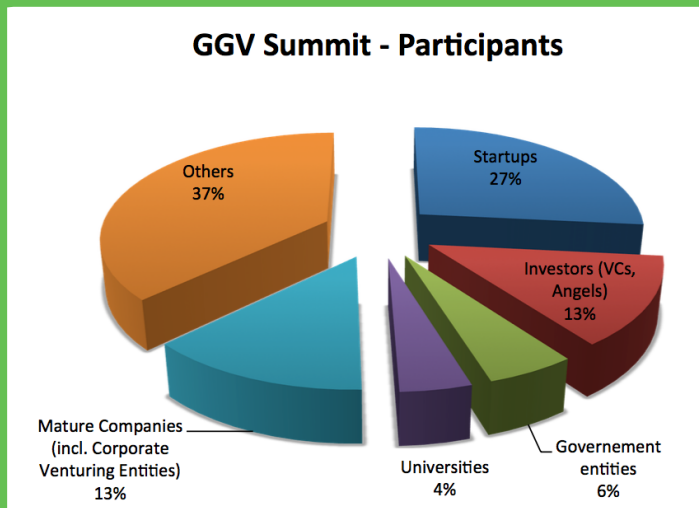
7. Investment Strategies and Innovation: Finding and selecting Venture Fund Managers and/or its merits over directly investing in entrepreneurs. What do VCs need to do to win a mandate (and do they want to)?

The main theme present in all panels, case studies and keynote speeches was related to the role of different stakeholders in the start-up ecosystem and the manners in which they can strengthen this ecosystem on local and global levels.

Participation

The event was attended by 210 participants. See the pie-chart below for the breakdown of representatives of various stakeholders.

The Preparation



TESLA Case Study 10 (Continued...)



In order to carry out an event of such magnitude, Tilburg University recognized the need to partner up with other strategic players, both regional and international.

Global Government Venturing Summit as a Part of Start-up Week

We gained the support and cooperation of Global Government Venturing, a publishing company, Brainport Development, a governmental agency that is aimed at enhancing the business ecosystem in the region and Rob van Gijssel, Mayor of Eindhoven who is an eminent supporter and promoter of the region's innovation ecosystem. Furthermore in order to attract a larger crowd and gain attention from more stakeholders, these events were branded together as **Start-up Week**.

To ensure that the event would be properly attended by start-ups we involved a local start-up organization, Eindhoven Start-ups Foundation, which helped us to promote the event within the local entrepreneurial community.

All in all, these strategic partnerships were crucial for the content and format of the event.

Moreover, Tilburg University were able to align their plans with some other local efforts and hence several events accumulated in the week of GGV summit.

In cooperation with strategic partners, the summit ran smoothly and flawlessly. Before the summit, speakers and organizing parties had a chance to engage in networking and discussions at a special Speaker's dinner. The summit itself ran over two days from early morning until late afternoon with around 210 participants in attendance. The event hosted also special guests, namely Dutch Prince Constantijn van Oranje and Neelie Kroes, former Vice-President of the European Commission and incumbent special ambassador of Start-up Delta, the Dutch government's start-up initiative. GGV summit was an integral part of Start-up Week, a chain of events that were spread across the same week between 2nd and 6th February 2015. Start-up Week included:

1. Masterclass I: Creative Industries and Innovation, *Special Guests: Michael Fox (MIT Mentor) and Andrew Romans (Rubicon Venture Capital) + 3 pitches of start-up companies*
2. Speaker's Dinner
3. GGV Summit

4. Masterclass II: How to build great companies?
Special guests: Jack Fuchs (Stanford University), Shigeo Kagami (Tokyo University) + 3 pitches of start-up companies
5. Demo Day of Startupbootcamp HighTech XL
6. Massive pitching event of companies that took part in acceleration program of Startupbootcamp HighTech XL. Note: This year there were

approximately 700 investors in attendance, some of which came to attend the whole start-up week, including the GGV summit.

The GGV summit also attracted significant attention from the Press. Organizers as well as various speakers and guests were interviewed by Financieel Dagblad (Dutch version of Financial Times), Eindhovens Dagblad and many more.



Durfkapitalisten ontdekken Noord-Brabant

Buitenlandse investeerders kwamen vorige week in groten getale af op start-upvents in Brainport Eindhoven

Helko Jessurun
Eindhoven

De afgelopen week was een groot avontuur. We hebben minister Kamp ontmoet, Neelke Kroes en koning Willem-Alexander. En natuurlijk hadden we een ongehoofde Demo Day op vrijdag. Alleen kunnen we op dit moment over onze investeerders nog niks zeggen", zegt Sjoen Strumpel van Manus Machina.

Strumpel is hoofdontwepster van Manus, een van de elf start-ups die afgelopen drie maanden op de High Tech Campus in Eindhoven deelnamen aan de startupbootcamp HighTechXL. Een snelkookpan voor innovatieve ondernemingen die onder hoge tijdsdruk hun product klaar moesten stomen voor de wereldmarkt. Manus ontwikkelde voor de game-industrie een zogeheten 'smart data glove'. Verwoede gamers hebben straks geen toetsenbord nodig, want met handbewegingen kunnen ze hun spelletjes uitvoeren. De slimme handschoen kan ook drones aansturen.

In een afgeleide Evolutie wordt de presentatie van Strumpel onderbroken,

'Deze regio is een van de meest innovatieve plekken op de planeet'

want Yu Ming Fang, een Chinese miljardair die met zijn privéjet naar Eindhoven is gevlogen, stormt het podium op. Hij wil Manus wel financieren met € 600.000. Yu ziet niet alleen brood in de markt van de wereldwijde game-industrie met een omvang van \$ 21 mrd, maar ook voor de onderhoudsmarkt van \$ 4 mrd. Yu maakte namelijk nog geen halfluur eerder bekend dat hij ook 4,50.000 in Avilar wil investeren, de bouwer van industriële drones die kunnen worden ingezet bij onderhoud en reparaties van bijvoorbeeld boorplatforms en opslagtanks.

Durkinvesteerders van Canada tot China hebben uiteindelijk de Brabantse maakindustrie ontdekt. Ze bezochten afgelopen vrijdag niet alleen de Demo Day in het Evolutie, maar waren afgelopen week ook in groten getale aanwezig op de tweedaagse Global Government Venturing Summit, die voor het eerst in Eindhoven werd gehouden.

In een zaalje in het Conference Center is James Masonson aan het rommelen op zijn computer. De organisator van de tweedaagse bijeenkomst is zijn wachtwoord vergeten. De journalist werkte onder meer bij de Financial Times en Dow Jones, maar gaf zijn baan op om zich voortaan geheel te wijden aan de wereld van de 'venture capitalists' ofwel durfkapitalisten. 'Iedereen schrijft al over grote beursgenoteerde ondernemingen, maar ik ben geïnteresseerd in welke nieuwe bedrijvigheid ontstaat.' Masonson organiseert regelmatig bijeenkomsten voor durfkapitalisten in Londen, maar nu heeft hij Eindhoven uitgekozen. 'Omdat deze regio een bijzondere geschiedenis heeft en bedrijven, leuinstellingen en overheden hier op een unieke manier samenwerken. Voor mij is deze regio een van de meest innovatieve plekken op deze planeet, maar het ontbreekt hier nog aan venture capital, riskdringend kapitaal, om start-ups voor innovatieve producten in de maakindustrie te helpen de onderneming in een volgende fase te brengen.'

Masonson hoopt dat meer durfkapitalisten naar Brabant trekken. 'Het is zo'n slimme regio maar helaas hebben de meeste durkinvesteerders nog nooit van Eindhoven gehoord. Daarom trekken bedrijven als Shapeways en Mendix naar de Verenigde Staten.'

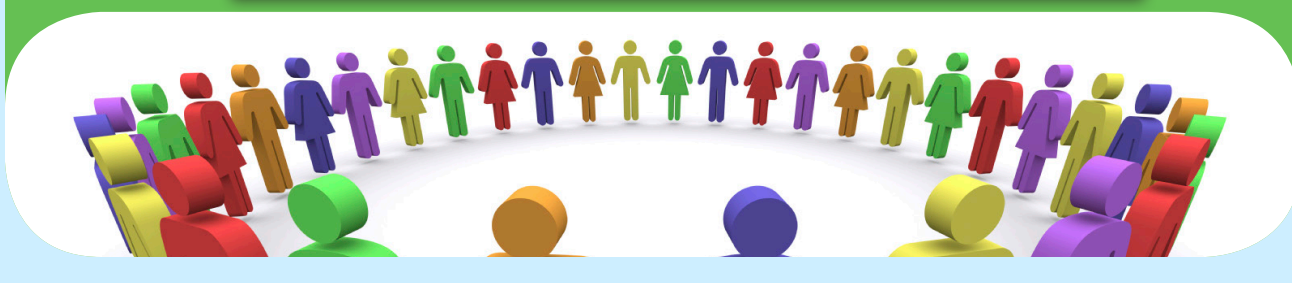
Een uitzondering was onder meer Amadeus Capital Partners. Enkele jaren geleden investeerde Amadeus in beeldschermenontwikkelaar Liquavista, een spin-out van Philips. Maar sinds het daar is uitgegapt, heeft de investeringmaatschappij geen participaties meer in de Brabantse regio. 'We staan altijd open voor investeringen in Nederland', zo laat Anne Glover weten, de ceo van Amadeus.

Ze neemt deel aan een paneldiscussie en pleit onder meer voor de verandering van aanbestedingsregels, zodat start-ups kunnen meedingen naar overheidsopdrachten of ontwikkelingsaanbestedingen. 'Overheden kunnen start-ups op weg helpen via kleine aanbestedingsbudgetten', zegt Glover.

Erik Vermeulen, senior counsel corporate en vicepresident van Philips, tevens hoogleraar ondernemersrecht en financieel recht aan Tilburg University, is niet somber over het aantrekken van buitenlandse investeerders. 'Veel investeerders wisten niet eens wat Eindhoven was. Nu ze op de tent zijn, sweeten ze erover', zegt hij. 'We zijn wereldwijd uniek in de ontwikkeling van nieuwe hardware. Op die DNA moeten we het ecosysteem hier uitbouwen en daarmee kapitaal aantrekken. Dat is ons antwoord op wat er in Silicon Valley gebeurt en waar de innovatie zich vooral beperkt tot software en sociale media.'

Toch is niet iedereen op durfkapitaal te wachten. De gebroeders Erik en Johan Plasmans hopen op een ander wereldbeeld. Ze hebben hun zeggenschap niet uit handen geven. 'We verkopen al drie jaar en doen alles met eigen geld', zegt Johan Plasmans. Maar geen vijf jaar geleden begonnen ze hun onderneming Zens. De broers ontwikkelden een apparaat waarmee smartphones via industrie draadloos kunnen worden opgeladen. 'Dat kan in de auto, in de trein, op kantoor of waar dan ook. Adapters en snoeren zijn straks overbodig', zegt Plasmans.

Hij loopt naar de nabijgelegen Starbucks en legt zijn smartphone op een inductieplaatje dat in een salontafel is ingebouwd. 'Dit is een markt van \$ 1,5 mrd. We verkopen al aan fabriekanten van kantoormeubelen en de automotive-industrie. Dus wij zijn de start-upfase voorbij.'



TESLA Case Study 10 (Continued...)



connect these stakeholders.

Main Take-outs

The Global Government Venturing Summit created a great opportunity for start-up ecosystem stakeholders to interconnect, network, discuss and put a corner stone to future cooperation. The experience and feedback showed that events of this kind are very much demanded by the business community.

Throughout the preparation and execution of the summit several observations were gathered that contributed to the knowledge framework of the TESLA project and can in the future help to organize similar events.

Connecting the dots of start-up ecosystem

There is often a false presumption that start-up ecosystem stakeholders are well connected and are very well aware of the needs and wants of the other stakeholders. This statement is however very far from the truth.

Not only do HPSUs and investors face large knowledge and relationship gaps but also other stakeholders such as universities, governments, municipalities, advisory and consulting companies, mature companies and others are still figuring out their proper role in the start-up ecosystem. Any initiative that aims to have a profound and lasting impact on the local or national start-up ecosystems has to involve and

Creating Synergies

It is very possible that other members of local or national start-up ecosystems aim to achieve similar objectives with their planned events and therefore it is crucial to partner with those players with which you can create significant synergies.

Start-ups and Investors on a Single Playing Field

Start-ups and investors rarely meet outside of pitching events or one-to-one meetings. In the case of the GGV summit investors as well as start-ups were invited as appropriate members of the start-up community and thus had a chance to network on a different level.

Moreover, start-ups attended all panel sessions and discussions and eventually concluded that they gained much more profound understanding of the investor's community than ever before.

Cooperate Locally, Connect Globally

Throughout the implementation phase of the TESLA project, we noted the strategic importance of local start-up ecosystems. Every local start-up ecosystem has its own nuances that have to be accounted for. On the other hand, a local start-up ecosystem cannot exist in a vacuum and thus has to be properly linked to other ecosystems, from which it can draw inspiration, innovation,

knowledge, and last but not the least, funding.

In the case of the GGV summit, we managed to involve a local start-up ecosystem (represented by local start-ups and Eindhoven Start-ups Foundation), local stakeholders (local investors, angels, VCs and municipality) and interconnect them with global start-up players for instance Michael Fox (MIT mentor from Silicon Valley), Marcos Batisti (Intel Capital), Andrew Romans, (Rubicon Venture Capital), Jack Fuchs (Stanford University), and Shigeo Kagami (Tokyo University).

Outcomes

The event has in the long-term produced very significant outcomes.

1. The Brainport region (Eindhoven region) was introduced and connected to Silicon Valley. Since the GGV summit representatives from Silicon Valley (for instance Michael Fox from MIT) returned to the region in order to advise local stakeholders on how to utilize and better commercialize inventions that are created in the region.
2. The local start-up community gained unprecedented access to global players.
3. The Municipality of Eindhoven considers development of start-up community as a priority. It can be concluded that the GGV summit reinforced the interest of local authorities in the start-up community, which now consider the development and support of start-ups as their policy priority. Since the GGV summit we were asked to conduct a detailed study on the Eindhoven start-up ecosystem, which would describe and clarify the specific needs of the local ecosystem and the manner in which local authorities can contribute to its development.
4. Tilburg University and the Municipality of Eindhoven continue in cooperation with Eindhoven Start-ups Foundation. The GGV summit also emphasized the importance of local start-up ecosystems and thus the Eindhoven Start-ups Foundation. Also a local start-up organization gained more recognition and became involved in several follow-up projects as a result of their participation in this summit.

Since the GGV summit several speakers of GGV summit have returned to the region in order to train, advise and mentor local start-ups. These events were very positively received and always very well attended.

SUMMARY

The evaluation of the GGV Summit was in general very positive. Around 80% of participants claimed that the program of the summit met their expectations. 79% of participants highly appreciated the networking opportunities of the summit. In addition, many participants commented on the great variety of stakeholders present and the immense chance to grow their networks. The voices from the start-up community appreciated also the learning value of the event, as they claimed they were able to get significant insight into the investor community.

TESLA Case Study 11

Lead partner: Laval mayenne (www.laval-technopole.fr)

Action: transnational placement

Client: multiple placements

About this Case Study

This case study is based on Transnational Placement experiences undertaken by staff members of Laval Mayenne Technopole, CIT, LIONRA and EBN at various locations. These placements led to strong and fruitful partnerships between the consortium partners.

Case Study Synopsis

There have been multiple placements held between LMT, CIT and GMIT on one side, and LMT and EBN on the other side. These allowed the staff to exchange best practises, benchmark their services and to get to know each other better for future collaborations.

About the action

The preparation

Planning the stay and agreeing the agenda before travel was very important for each placement, to allow optimum benefits during the placement on both sides, i.e. from the point of view both of the placee and of the host organisation.

The objectives

Ensuring clear and shared objectives was also of major importance prior to the placement. Here are some examples of objectives shared by partners before the placement actually occurred:

Example of objectives - number 1:

"It was agreed to share all knowledge of how both our organisations worked from a process and funding perspective. It was also agreed to look at the types of programme we both provided to local entrepreneurs

and determine the best practices of these programmes for future development. We agreed to meet with local entrepreneurs and give them feedback and advice on their products."

Example of objectives - 2:

"Discover how partners help the Entrepreneurs: What type of support do they provide to the Entrepreneurs? How do they help entrepreneurs develop their projects? What type of tools they use, and provide to them? Do they organize training sessions for the Entrepreneurs? What is the content of those? What type of experts do they work with? How do they manage to make the Entrepreneurs work with each other and share skills or experiment? Discover how they manage the incubator: Do they use an information system, or other homemade tools? How do they deal with the budget management?"

Example of objectives - 3:

"To get the team to meet with Warwick University personnel, to see what programmes and supports they offer to clients. To meet JMB to see what supports they could offer the Rubicon clients."

To meet the team in Coventry University and to share ideas and practices with each other. To see what things could be rolled out in the Rubicon and to see what type of partnerships could be formed.”

Example of objectives - 4:

1. “Learn about the incubator, its role in the regional ecosystem and European and international engagement.
2. Visit the NeoShop and understand potential for a pan-European scale- up of this initiative.
3. Get to know the BIC client companies exploiting cutting-edge technologies in the creative industries.
4. Present EBN’s activities in the creative industries sector, identify synergies and open up space for future collaborations.”

Example of objectives - 5:

1. “To build a relationship with the French partner.
2. For the French partner to meet with Rubicon companies that are interested in exporting to France.
3. To get feedback for the Rubicon companies on how to access the French market
4. To share practice, programmes and experiences with the French partner.”

Example of objectives - 6:

1. “Knowing the incubator activities and

team.

2. Meeting companies.
3. Explore future opportunities.
4. Presentation of our incubation and acceleration programmes.
5. Review offices management and services.
6. Visit the Neoshop and possible collaboration.
7. Explore possible joint EU projects
8. Meet with companies interested in doing business in Ireland.
9. Visit the local Virtual Reality platforms.
10. Look at the food sector and visit agricultural college.
11. Get an understanding of the Angel investment market in Laval.”

Example of objectives - 7:

1. “To learn about the entrepreneur development programmes that are delivered by Laval Mayenne Technopole.
2. To learn how Irish companies can utilise LMT’s Neoshop in Laval.
3. To compare the ways in which we delivered hands on support early.
4. To look at the various ways in which companies are funded to undertake their respective activities.”



TESLA Case Study 11 (Continued...)



The activities carried out during placements:

The activities mainly carried out throughout the placements were meeting staff members, not only those involved in the TESLA project, but also meeting local partners from the consortium partner and meeting companies and sharing knowledge.

Quotation from reports:

- *"We met with a variety of staff in Laval Mayenne Technopole and learned about two of LMT's Programmes in particular – IDEnergie and ID Factory."* (EBN to LMT)
- *"Met with several members of the Laval Mayenne management team (e.g. Director, Project Manager, Incubation Manager, Funding Manager) and discussed several programmes run in Laval Incubator".*
- *"Met with a selection of Laval Incubation clients in the Incubator and the region & participants on some of their Entrepreneurship Programmes. Discussed possible opportunities to help these companies & potential linkages with GMIT".*
- *"Visited NeoShop, ESIEA School & Agricultural High School". (CIT and GMIT to LMT)*
- *"To benefit from the Irish experience, feedback incubators TESLA partners Sandrine Trouillard and Valerie Moreau visited respectively LIONRA / GMIT and CIT in Ireland. Sandrine was able to talk with the leaders of two incubators in County Galway, including accompanying programs start-ups."*
- *Valerie Moreau, meanwhile, met with several structures related to Cork Institute of Technology, which has enabled her to initiate an exchange program between students from ESIEA Laval and CIT, and opened the possibility to students from Lycée Douanier Rousseau can perform their BTS course in Ireland. They also met around 15 Irish companies wishing to expand in France and which could then be put in contact with companies of the territory. This led for example to a partnership between the company Ventina, incubated at LMT, and the company Air Dryer whose product can now be marketed in France.'* (LMT to CIT and GMIT)

The good practices shared and outcomes:

Good practices shared and learned were mainly support programs to companies (including new product design and development, access to finance, internationalisation, student entrepreneurship, women entrepreneurs, entrepreneurs selection tools, management tools and indicators used, etc).

Amongst the good practices shared, one can highlight the following:

- Deeper relationship between the organisations, particularly between incubation/enterprise centres.
- Share of programmes to support companies.
- Opened up opportunities for partners' clients to get support on the ground in the UK.
- Development of new skills and knowledge.
- Emergence of opportunities for entrepreneurs in partners region, thus ongoing 'matchmaking' calls.

- Highly contributed to other actions, especially Actions 4&6.
- Development of 2 Erasmus+ programmes between CIT and French engineering school + PA degree.
- Collaboration on new EU bids
- Attendance of major partners events, such as Laval Virtual, Inov'd

Quotation from reports:

- "Working with Warwick Science Park & JMB partnership to get our companies into the UK market. The partners in the UK have expert knowledge in various market sectors and have a wealth of experience in getting companies their first UK sale. They have a great model for student start-ups, (Warwick Venture Limited) that we would like to investigate in the future. Also, they have a team with expertise in different areas that can be called upon as required." (CIT to Warwick)



TESLA Case Study 11 (Continued...)



- “What we learned from the placement: Improve our incubation programme and accelerator program with some of the ideas and educational content working in Galway. Use criteria for HPSUs in our incubator (the start-up has to reach 1,000,000 euro income and recruit 10 persons by year 3, plan to export). Decline the ideas of “Concept desk”, “Virtual Incubation” and “Transitioned clients” to our incubator.” (LMT to GMIT)
- “Reaffirmation of what we were doing, i.e. that we are doing a lot of the right things”.
- “Partnerships that will last beyond the lifetime of TESLA project to help Irish companies access the French market”.
- “Transfer of knowledge in other areas such as student entrepreneurship and female entrepreneurship”.
- “Knowledge of the Neo Shop”.
- “Knowing that the French partner is a trusted friend in international market that we could recommend to our clients”.
- “Angel Investment”.
- “To look for companies with high growth potential”. (CIT to LMT)
- ‘Sharing of how programmes are run in France vs New Frontiers in Ireland’. ‘Benchmarking.’ (GMIT to LMT)
- ‘Deep knowledge of a partner organisation which is also a member of the network that

we know more than before”.

“Language improvement for Laura who got the chance to speak a more business related French”. (EBN to LMT)

The lessons learned:

It has been broadly recognized that staff would not have taken the time to travel abroad and share experiences in another context other than the TESLA project and these transnational placements.

Innovation Centre managers have the same issues in supporting high potential start-up companies in North West Europe (NWE), so its essential to be able to share tools and programs to solve these issues.

What appeared to be most important was certainly that placements offered an opportunity to deepen the relationship between the consortium partners and mainly between incubation/enterprise centres in particular.

One can mention for instance the ongoing monthly ‘matchmaking’ events between the business and incubation centres and ongoing discussions between partners regarding joint submission of proposals for funding in future activities relevant to the TESLA objectives.

Visiting staff (and often hosts) usually reported multiple benefits from each trip.

For instance the CIT visits to Warwick contributed to Action 4, but they also led to sharing in-depth knowledge of their contrasting approaches to incubator practices.

Another set of CIT visits to Laval is resulting in significant redesign of one of their programmes.

EBN staff placements in LMT were considered useful since, being a network of incubation centres, they seldom have the opportunity to spend time examining the activities of a member, in depth and on-site.

Additional benefits of these placements were to the client companies, as they got the opportunity of being challenged by international experts allowing them to better face the reality of internationalisation and their level of readiness.



SUMMARY

This case study demonstrates the impact of sharing experiences between incubator and innovation centres staff members.

TESLA Case Study 12

Lead partner: European Business and Innovation Centre Network (EBN) (www.ebn.be)

Action: Creative Industries

Client: Multiple companies

About this Case Study

This case study describes a transnational methodology to assist HPSUs in the creative industries with a range of new skills using an innovative Online Collaboration Platform.

Case Study Synopsis

This pilot action aimed to provide a dynamic and creative exchange between the partner regions, enabling targeted creative industries practitioners and entrepreneurs to develop and communicate business propositions.

The action had a specific focus on training with the emphasis on delivering both to HPSUs and incubators, creating a supportive set of networks.

This pilot action was to work in unison with other TESLA actions that strengthen internationalisation opportunities of selected enterprises.

As creative industries often suffer from a lack of access to finance, it was considered important to enhance the entrepreneurial finance of the creative sector.

The Implementation

Different partners brought different skills and backgrounds, from the academic to the practical, including networking specialists:

1. **EBN (Belgium)**, the European Business and Innovation Centre (BIC) Network, specialises in dealing with BICs and start-ups;
2. **Bangor University (Wales, UK)** team

deals mostly with its network of engineering and technical partners;

3. **Tilburg University (Nederland)** specialises in the business and legal aspects of access to finance.

Through active collaboration between these scientists, academics, researchers and support agencies, the initial agreement on a common language was challenging, but once a common approach had been established, this in turn supported the development of a new **Creative Industries Tool and Development Platform**.

The Action Partners successfully delivered training workshops to Creative Industries in the regions of North West Europe. The methodology used in the different regions also needed to be different of course.

Content at the workshops and conferences was tailored to local needs, with a focus on enterprises at different stages of development, from very early to quite well developed. Workshop topics therefore varied significantly.

Quotes from companies attending the events demonstrates how the approach was appreciated:

- *"Very positive impression. Good interaction with entrepreneurs and good that the initiative is taking a bottom up approach."*
- *"Good way to give entrepreneurs a first step of training."*
- *"The quality of the entrepreneurs were very high."*
- *"Great idea of the interactive panel."*

The lessons learned:

Although the project required a certain standardization of practices and documentation, partners realized that to have an impact on the recruited Creative Industries it was necessary to adapt the content of the training and the approach depending on the maturity and the cultural characterization of the entrepreneurs involved.

**SUMMARY**

This case study demonstrates the impact of a transnational methodology that actively assists HPSUs in the creative industries with a range of new skills using an innovative Online Collaboration Platform.

V The TESLA Business Ecosystem

The TESLA (Transnational Ecosystems: Laboratory and Actions) project was set up to explore from a practical point of view how a business-support EcoSystem could be established as a means of enhancing resource-limited High growth Potential Start-Up companies (HPSUs), encouraging their viability and growth. This exploration is embodied in the acronym TESLA which envisages the interactions within the project as a self-study Laboratory in which the project Actions are considered together by Trans-national project partners and beneficiaries.

The concept of a business ecosystem, coined by Moore (1996) offers an attractive picture of the complexities of the modern business environment and makes a conceptual comparison with a biological ecosystem, defined in the New Shorter Oxford Dictionary as ‘a system of organisms occupying a habitat, together with those aspects of the physical environment with which they interact’. Using this analogy, Moore saw a business ecosystem as ‘an economic community supported by a foundation of interacting organizations and individuals – the organisms of the business world’. As Peltoniemi and Vuori (q.v.) discuss, a business ecosystem includes an interacting set of “customers, lead producers, competitors and other stakeholders.”

The ecosystem concept incorporates the sense of community and an element of shared fate, so that if the ecosystem is healthy, constituent organisms generally benefit, and conversely if it is unhealthy many suffer and are disadvantaged.

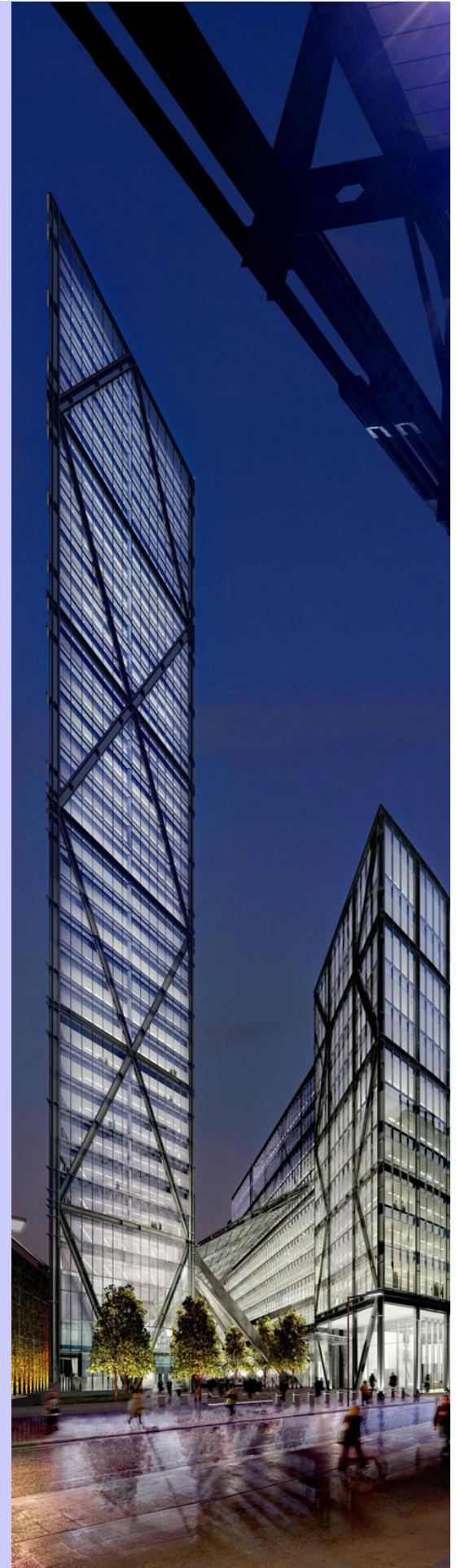
Business ecosystems have received increasing attention in recent years and may now be considered to be one of the major tools in the principles and practices of modern business management. Thus, a major recent review by Deloitte Consulting (2015) suggests that “Business Ecosystems Come of Age.” Also, the ecosystem concept is seen as an essential instrument in “stimulating innovation and competitiveness at European level” and supporting “daring creative thinking followed by actions”, as referenced in the major EU policy document, “Inspiring and Completing European Innovation Systems – the way forward to improve people’s lives”, EU High Level Group (2014).

Within the TESLA project, the term ecosystem is used in a special context, in the sense that a new ecosystem was created, including a group of trans-national business support agencies, Institutes of Higher Education and public bodies, who collaborated to support HPSUs without a focus on specific sectors. The experienced TESLA project partners believe that such companies have generic needs based on issues such as severe time- and financial-resource poverty compounded by a harsh business environment, especially resulting from the global financial crisis since 2008. Such HPSUs are already competing in different sector-specific existing (and maybe intersecting) ecosystems of interacting economic entities. However, the task of TESLA was to create a business ecosystem comprising the business support infrastructure encompassing the strong capabilities, experience and resources of its large team of experienced trans-national partners. A set of actions bringing help, skills and resources from across the partnership to the aid of HPSUs has effectively formed a virtual or distributed business ecosystem, tying the support structure and the client HPSUs together across the region of North West Europe.

We can consider that the TESLA partnership has worked cohesively in a sense as a single organisation coordinated by the TESLA Lead Partner ('BMW'), the Border, Midland and Western Regional Assembly, Ireland. In ecosystem terms, this can be seen as a virtual single organism. Some key considerations, then, in assessing what best practices have been developed through the TESLA project are:

- how this has panned out.
- how successes to date can be exploited and developed beyond the timeframe of TESLA.
- what can be learnt from the ambitious range of actions that have been undertaken with HPSUs throughout the project.

The support partnership in TESLA has played a crucial, central role in binding the ecosystem together. Vuori (2005) considered such a support activity by 'knowledge-intensive service organizations' as being that of an agent or set of agents, which we may term in this project the 'TESLA Agency', which does not imply that any new legal entity has been created. Developing the ecosystem imagery further, we can identify the TESLA Agency as a keystone organism in the business ecosystem - lansiti and Levien (2004).



V The TESLA Business (Continued...)

These authors consider that important business hubs regulate the 'health of the ecosystem', as in biology keystone organisms play a crucial role in ecosystem control and stability, and therefore in system health. These keystone organisms are not usually the most massive or numerous, but do fulfil crucial roles which have a disproportionate impact and influence on the whole community. Thus, in this project by 'providing a stable and predictable set of common assets', the TESLA Agency has supported the health and viability of the business ecosystem, and most notably that of the individual HPSUs.

Iansiti and Levien (2004) also discuss how to assess the health of an ecosystem, which they consider to be defined by three measures: productivity, robustness and niche creation.

They describe: **productivity** in a business ecosystem as the ability to transform technology and other raw materials of innovation into lower costs and new products; **robustness** as resilience to disruption, which can be crudely defined as survival rate; and **niche creation** as the ability to increase meaningful diversity through the creation of valuable new functions, or niches.

For the purposes of analysing the success of the many and varied interactions with HPSUs within the TESLA ecosystem, it is useful to examine both the positive impact that actions have shown on client companies as well as strengthening of the 'TESLA Agency keystone entity' itself. To map these outputs against TESLA, we will consider that:

- The productivity measure is indicated by business growth represented by securing venture funding, increasing turnover, higher profitability or expansion of workforce.
- The robustness measure is indicated by increases in skills, strategic expertise and substantial new links – because these point to increased inherent capability in the present or foreseeable future.
- The niche creation measure is indicated by development of new products and services, and by the move to new markets.

To assess how the TESLA Project performed according to such measures, activities can be reviewed from a number of project-related sources: the comprehensive Evaluation Report undertaken on behalf of the Tesla Project by NEXUS Business Cooperative, Ó Siochrú and Butler (2015); from event client feedback forms; and from regular formal reports of activities by individual partners, submitted by the Lead Partner to the NWE Programme Secretariat.





V The TESLA Business (Continued...)

More specifically, considering the enclosed twelve TESLA Best Practice Case Studies, which are only a selection of the many and varied interventions throughout this three year project, we highlight from each Case Study some output indicators which can be used to assess the health and effectiveness of the TESLA ecosystem. According to the above analysis, we indicate below the nature of the ecosystem health measure that each Best Practice Case Study represents as:

- **P (productivity), R (Robustness) and N (Niche creation).**
 - **Case Study (CS) 1** (Client company: DiaNia Technologies); Action name: MentorPLUS; Summary of clients' own opinion of the benefit to their company: 'better understanding and new skills'. [R]
 - **CS2** (Ultranyx); Procurement; 'put new knowledge to use'. [R]
 - **CS3** (Multiple Clients); Soft landing; 'win-win collaborations developing'. [R]
 - **CS4** (Magniflow Gutters Ltd.); Mentor Plus; 'better understanding and new intellectual capacity'. [R]
 - **CS5** (PMD Solutions); New Product Design and Development; 'evaluation and recommendations of company design capability and recommended solutions'. [R]
 - **CS6** (AR+); Triple TESLA Action Programme: Mentoring, Internationalisation, Entrepreneurial Finance; 'major development of 3 new staff hired (2 engineers and an international sales manager)'. [P]
 - **CS7** (Multiple Companies); Entrepreneurial Finance; '4 HPSUs raised Euro 800,000'.
 - **CS8** (Clients: Gilles Taupin and Matthieu Robinet); New Product Design; 'empathy map gave new insight into customers'. [R]
 - **CS9** (PMD Solutions Ltd.); Internationalisation; 'market research provided key intelligence on healthcare market, with analysis of key competitors'. [R]
 - **CS10** (Multiple Clients at Global Government Venturing Summit); Entrepreneurial Finance; 'insights into the investor community', 'major linkages between Dutch networks and US investors and Silicon Valley'. [R]
 - **CS11** (Multiple TESLA partners); Transnational Placement; 'Development of new skills and knowledge'; 'Emergence of opportunities for entrepreneurs in partner regions, thus ongoing 'matchmaking' calls'. [R]
 - **CS12** (Multiple Companies); Creative Industries; 'A valuable approach using an online platform which helped develop new partnerships across the North West Europe region'. [R] [N]
-

V The TESLA Business (Continued...)

These Case Studies show that the TESLA interventions have been valuable to the client companies, with 10 out of the 12 Case Studies contributing to the robustness [R] of clients and 2 contributing to productivity [P]. It seems that the timescale of the TESLA project is too short to report much niche creation [N] at company level, except in the support for Creative Industries (Case Study 12) as noted below.

Here the ecosystem model is useful in reminding us that nature is patient and works on very long timescales: thus we can take the success of TESLA in R and P measures to provide confidence that more N outputs will be reported by strengthened companies at a later date, i.e. beyond the timeframe of the project itself.

Furthermore, the TESLA formal evaluation, Ó Siochrú and Butler (2015), lists many aspects of the positive collaboration and sense of resource- and experience-sharing between partners of the TESLA Agency, which point to substantial robustness achieved through the project in this aspect of the ecosystem. The report also lists important examples of niche creation. Two major examples which we mention here seem to have the potential to be important scalable, valuable Europe-wide instruments as they are more widely applied and developed further in the future:

- actors in three TESLA actions (Soft-landing, Internationalisation and Mentor Plus) have developed a common approach which is planned to evolve into an Online Soft- Landing Exchange System which would itself deliver P, R and N benefits to HPSU companies.
- actors in the Creative Industries action have produced a Transnational Online Business Platform, expected to offer similarly to P, R and N benefits to HPSU companies.





VI Discussion

The importance of leveraging knowledge for the benefits of SMEs and micro enterprises in order to gain competitive advantage has been acknowledged in this Best Practice Guide. Competition in the business world has not only intensified, its nature has fundamentally changed: it has become more knowledge based, and the sources of competitive advantage have shifted from physical assets to intellectual resources. With increasing globalization, the ability to transfer and deploy knowledge has become one of the central competitive concerns for many SMEs.

The creation and sharing of knowledge by means of transnational projects is also associated with challenges. Prior research has focused to a large extent on the barriers present that complicate or even hinder the leveraging of knowledge. Transnational projects experience the challenge of getting a diverse group of individuals from different functional areas to work together for a period of time to accomplish a specific project objective. This project has been successful as it has been able to create a culture of trust and open and regular communication between its partners which has been crucial in the delivery of the project.

In reflection of this project and evidence from case studies, this project shows that knowledge has been successfully created and shared between businesses through this transnational project. So what is it that enables the knowledge processes to work well? Under wider reflection, the TESLA interventions were effective to a significant extent because the beneficiary businesses were already in strong partnership with the TESLA agency partners. Hence this relationship has heightened in terms of knowledge transfer and future relations.

“TESLA has demonstrated with specific Best Practice Case Study examples how knowledge has been successfully shared between geographically dispersed individuals and organisations, and across cultural and national boundaries. We also recognise through case study research in this document some of the benefits of knowledge transfer to individual SMEs within this project and also some areas to develop further support for the future.”

Many business experts refer to the need to overcome fragmentation of business support and to develop ecosystems that connect well, whether they are local, regional or international. TESLA has been a very complex, ambitious and exciting journey - initially for the eight transnational partners, ably led by the Irish Lead Partner, BMW, and then for more than 600 HPSUs introduced largely by experienced and well-connected local TESLA partners.

The concept of ecosystem has been shown in this Best Practice document to guide our thinking usefully and practically towards holistic thinking. This had led to actions which support innovation and competitiveness at European level through helping and strengthening individual HPSUs which surely offer Europe a high ground of opportunity in a global, rapidly-changing world.

In the spirit of this idiom, the TESLA journey has been a good one for the TESLA Agency and its clients but it has only just begun. As ecosystems need time to prove themselves, the Best Practices demonstrated here will develop and grow, hopefully finding wide avenues for impact across the European Union for decades to come as the collaborations started here lead to deeper and wider partnerships.



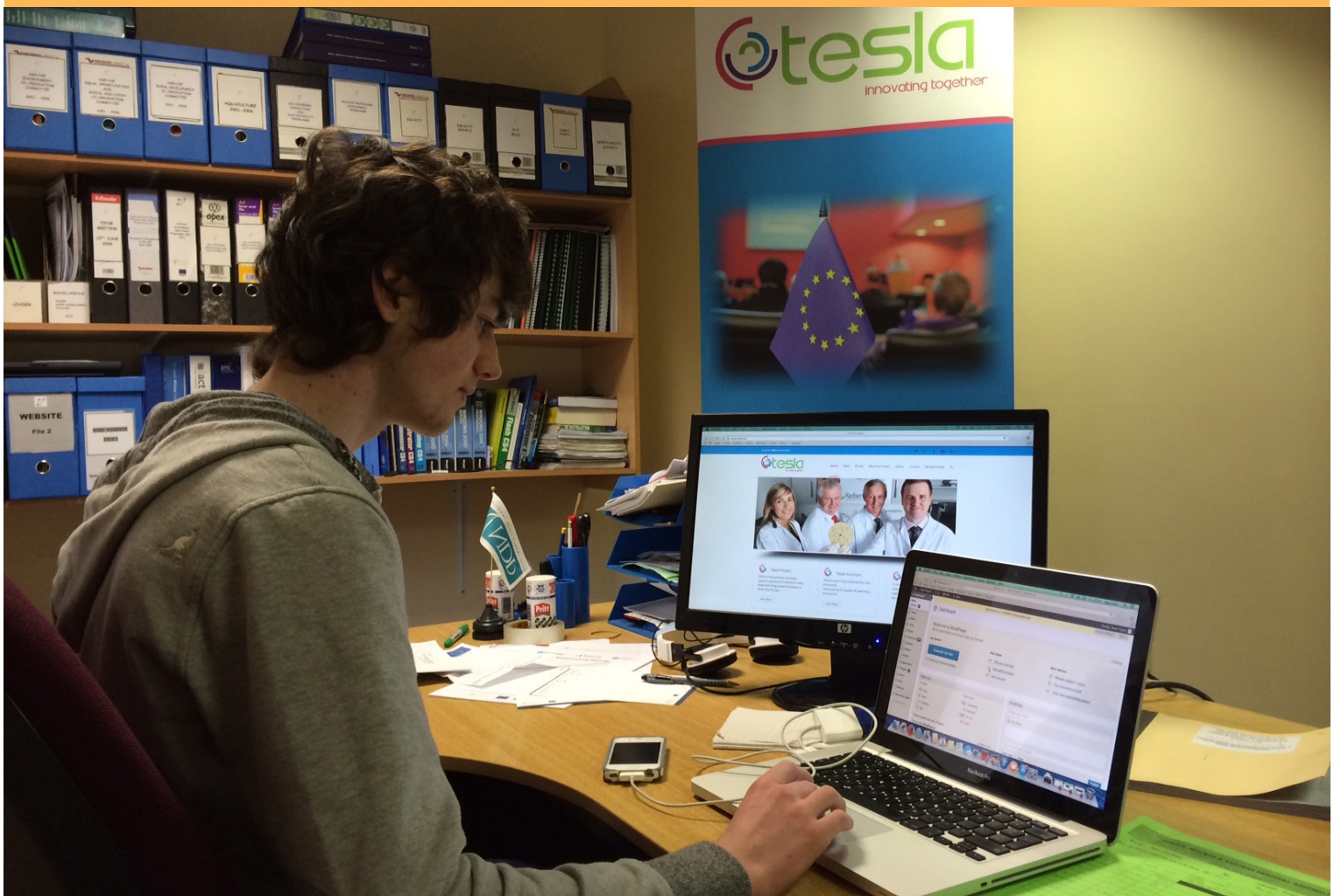
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