

SUPPORTING COMPANIES GO INTERNATIONAL FOR RESEARCH AND INNOVATION COLLABORATION – NEEDS AND GOOD PRACTICES



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EXECUTIVE SUMMARY

In today's world of global competition, EU and US companies are challenged to seek a competitive edge through advancements in research, development and innovation (RDI). Quite often these advancements in RDI are sought through international cooperation, which has several challenges. This document aims to provide support to EU and US companies that are initiating or reinforcing their RDI activities through transatlantic collaboration. The information provided and, in particular, the conclusions and recommendations are also relevant to related stakeholders such as policy makers.

The document provides support to EU and US companies pursuing transatlantic RDI cooperation through educating the companies on:

- the main barriers and needs that companies might experience when engaging in an international RDI collaboration process; and
- the support schemes¹ that might be utilised to overcome the identified barriers.

The main points presented by the document are further emphasised through examples of companies and cluster organisations (representing communities of companies) that have successfully overcome those barriers, benefited through available support schemes, and have engaged in international RDI collaborations. In this sense, the document targets specifically EU and US companies, clusters and business networks that want to establish or promote international RDI collaboration.

Through a survey and interviews conducted with relevant stakeholders, as well as desk research, it is determined that both EU and US companies share common needs. For both regions, there is a need to create partnerships with relevant RDI actors in the target market in order to innovate to meet the preferences of the target country or region market. On the other hand, there is also a need to access specialised skills, as well as to build on the company's internal knowledge and capabilities.

The main perceived barriers considered by both EU and US companies in regard to transatlantic RDI collaboration are related to the differences in Intellectual Property Rights (IPR), the difficulty in managing and sustaining transatlantic RDI collaboration and the limited access to finance, particularly for SMEs. In terms of perceived barriers specific to EU companies, the difficulty in developing partnerships between EU companies and US organisations, in particular for establishing the first contact with potential partners, is considered to be a difficult obstacle for launching international RDI cooperation. In addition, the lack of sufficient financial aid available through relevant support schemes that foster international RDI collaborations and the differing legal requirements in the EU and US are also regarded as perceived barriers for EU companies. For US companies pursuing transatlantic RDI collaboration, the main perceived barrier is related with the difficulty to access different standards and regulations in the EU.

As detailed within this document, there are considerable support schemes available that assist EU and US companies in overcoming the above-mentioned barriers. In reference to the EU, it is relevant to highlight the services and support provided by the Enterprise Europe Network (EEN), which addresses several perceived barriers to go international. In particular, it supports the development of partnerships and cooperation potential, as well as the management and sustainment of transatlantic RDI collaboration, through its large network of business and innovation support organisations, particularly in different US States. The EEN also addresses differences in IPR by providing, through its representatives, consulting services related with IPR, contributing to raising awareness of patent protection, trademarks and copyright². Furthermore, it provides relevant contact points for the

¹ For the purpose of this report, support schemes are defined as relevant programmes, initiatives or support organisations that promote the enhancement of international RDI collaboration between the EU and the US.

² https://www.iprhelpdesk.eu/CS_IP_opportunity_with_the_support_of_the_EE_Network



establishment and understanding of legal requirements for collaborative agreements with US organisations. In reference to the US, the support provided by the European American Enterprise Council (EAEC) is considered to be quite important. The EAEC fosters partnerships, provides access to clients and expansion services, offers a network of experts to assist US companies in pursuit of international collaborations; thus, addressing the perceived barrier on managing and sustaining international RDI collaboration. Moreover, as part of its EEN role, EAEC provides legal and administrative initial advice meant to connect EU companies to standards and regulations experts and law firms.

In order to emphasise how perceived barriers can be overcome through utilising available support schemes, three good practice cases are highlighted. The three cases are selected based on suggestions received by experts from relevant business associations and clusters, the selected organisation's engagement in transatlantic internationalisation actions and the organisation's utilisation of relevant support schemes. These good practices cases provide an insight to the international collaboration type, strategy, current transatlantic cooperation and support schemes utilised. The first good practice focuses on the PLASTIPOLIS Cluster³, based in France, which aims to establish a permanent representation office in the US (State of Mississippi). The second good practice concerns the FireFly Wireless Networks, a Limited Liability Company (LLC) from the US, that is the leader in Visible Light Communications (VLC), also known as LiFi, and Infrared Light Communications (ILC). FireFly is co-owned by LightPointe Communications Inc. in the US, Teleconnect GmbH of Dresden (a Germany-based company formed from the former Institute of Telecommunications), and Berg and Berg Enterprises. The third good practice case involves TactoTek, a Finnish company with a US subsidiary, TactoTek Corporation.

Through analysing the main needs, perceived barriers and support schemes, as well as the identified good practices, a set of key success factors that ensure a higher probability for EU and US companies to establish effective transatlantic RDI collaborations is provided. Within this context, the following set of key success factors are suggested to EU and US companies seeking transatlantic RDI collaborations:

- Engage in trade missions, matchmaking sessions and other networking activities (e.g., Ready2Go Programme). Often government schemes are necessary and critical to assist SMEs in facilitating this initial step.
- Engage with business support organisations and networks (e.g., EEN, EUREKA, US SBA, InBIA, among others). This allows companies to obtain relevant information and capacity to further understand the elements of each region's RDI system.
- Obtain all needed information and knowledge at an initial step. There are programmes at several levels (National, Regional and Local). Companies, in particular SMEs, are not sufficiently aware of what is available. In this sense, an initial desk research to further understand the existing programmes would be extremely beneficial.
- Obtain external consultancy services. One relevant action is to engage with existing service providers that are EEN partners, such as the EAEC. It is also recommended to engage with organisations that support RDI investments within the EU (such as the EC) and the US (such as the National Science Foundation – NSF).
- Select the right partner based on specific selection criteria. The knowledge, experience, and/or technical ability of the potential partner organisation may be the highest priority in the selection process.
- Utilise the ability of their potential transatlantic partners to access necessary funding, either public or private sourced funding.

Thus, the support schemes for internationalisation play an important role in supporting the successful implementation of the

³ As defined by the EC, clusters "are groups of specialised enterprises other related supporting actors that cooperate closely together in a particular location".



factors listed above. In particular, the support schemes address the majority of actions that are needed to establish successful international RDI collaborations. They help companies in this process, through the development of matchmaking missions, resolving IPR issues, engaging innovation actors and providing relevant services to better understand the target market.



1. INTRODUCTION

A stronger science, technology and innovation (STI) partnership between the European Union (EU) and the United States (US) is beneficial for enhancing the competitiveness of both regions, and enabling the access to further research and innovation outputs. Thus, the EU's relationship with the US in research and innovation is stronger than with any other country outside Europe, namely in terms of research, development and innovation (RDI) investment, exchange of researchers and scientists, number of co-publications, among others. Furthermore, in today's world of global competition, EU and US companies are challenged to seek a competitive edge through advancements in RDI. Quite often these advancements in RDI are sought through international cooperation, which has several challenges. Within this context, this document aims to provide support to EU and US companies that are initiating or reinforcing their RDI activities through transatlantic collaboration. In particular, this document provides highly relevant information for EU and US companies that want to go international for RDI collaboration through educating the companies on the barriers and needs they might experience when engaging in an international RDI collaboration process and the support schemes that might be utilised to overcome the identified barriers. The information provided and, in particular, the conclusions and recommendations are also relevant to related stakeholders such as policy makers.

This document includes information gained through an online survey and interviews conducted with relevant stakeholders, as well as desk research (literature and document analysis). The document not only targets specifically EU and US companies. It can be beneficial to clusters and business networks that want to establish or promote international RDI collaboration on behalf of their member companies as well. In this regard, the document also provides good practices and key success factors that relate to companies, clusters and business networks with an interest in internationalisation actions between the EU and US.

Following the publication of this document, the main findings on the needs, perceived barriers and international support schemes will be disseminated through relevant networks, as well as at the events and workshops organised under the BILAT USA 4.0 project; namely the two knowledge-sharing roundtables (one in the EU and one in the US) which are addressed to cluster/network managers.



2. METHODOLOGY

The findings presented by this document are based on desk research (literature and document analysis) and complemented by direct interviews and an online survey on needs assessment for internationalisation among EU and US relevant stakeholders related with international RDI collaboration actions. In total, seven direct interviews were conducted and 28 survey replies were received. The survey targeted mainly two specific groups of organisations from the EU and US: business networks and clusters from relevant organisations and experts that have experience in RDI collaboration between the EU and the US. The analysis aimed at identifying and assessing relevant needs and perceived barriers from EU and US companies, as well as analysing relevant support schemes to review actions that support international RDI cooperation. In addition, three good practice examples of relevant cases of transatlantic internationalisation actions between the EU and US were selected and analysed. The analysis resulted in the development of a set of key success factors for supporting the international RDI collaboration process. Based on the results, a set of recommendations on how to reinforce support schemes for RDI international collaborations was developed. In this sense, the analysis was divided into the following sections:

- **EU and US companies going international section:** This section includes the identification and assessment of the main needs and perceived barriers to the internationalisation process specific to RDI collaborations. The identified and assessed needs and perceived barriers are based on desk research and complemented by targeted interviews and an online survey. In addition, support schemes that are relevant to international RDI collaborations and that might be utilised to overcome the identified barriers are also presented. For the purpose of this document, support schemes are defined as relevant programmes, initiatives or support organisations that promote the enhancement of international RDI collaboration between the EU and the US. The analysis developed under this section focuses on companies in general, but with particular attention to SMEs.
- **Good practices on going international:** This section includes a description of what is considered a “Good Practice” case and presents a set of criteria utilised to identify these good practice cases. Good practice cases were identified via past experiences from EU and US companies involved in international RDI collaboration, through desk research and inputs received from the interviewees. The cases provide insights on motivations, needs, roles and outcomes, emphasising examples of companies and cluster organisations (representing communities of companies) that have successfully overcome the perceived barriers, benefited through available support schemes, and have engaged in international RDI collaborations.
- **Key success factors section:** Through the analysis presented by the two previous sections, a support guide for international RDI collaboration is provided, defining specific critical success factors of the internationalisation process. In particular, a SWOT (Strengths, Weaknesses, Opportunities and Threats) analysis was conducted, assessing the main factors that contribute to the establishment of successful international RDI collaborations. Based on the SWOT analysis, a set of key success factors were identified, which leverage the strengths of the process, minimize and/or address the weaknesses of the process and reduce the threats to the process.



3. EU AND US COMPANIES GOING INTERNATIONAL

3.1. Overview

In the business and economic ecosystem, there is a general consensus of the advantages of having a foreign market presence, and its positive impact on a company's competitiveness. This need is related to several factors such as market saturation, opportunities for growing or scaling the business, increased domestic competition, gaining access to valuable resources (human, natural or technological) or overcoming competitors⁴. As with a foreign market presence, there are also strong benefits to establishing international RDI collaborations.

RDI collaboration has been and will remain an important aspect of the EU and US relation. According to information from the EC, the total expenditure by US companies in the EU and by EU companies in the US represents two-thirds of the total RDI expenditure of foreign-owned firms in manufacturing worldwide. In particular, the US is the largest foreign investor in the majority of EU Member States, with EU companies accounting for more than 65% of the manufacturing RDI expenditure of foreign-owned firms in the US. However, EU companies have a much higher RDI investment in the US than US companies in the EU. There is also a clear gap related to the innovation performance of EU countries compared to other global innovation leaders, such as the US, that can be improved through increased international RDI collaborations⁵.

SMEs and start-ups play an important role in the creation of growth and jobs, since they represent 90% of the total companies in both regions, acting as a source of innovation, new products and services. For the EU, the majority of SMEs exporting goods to the US are manufacturing companies, mainly concerning machinery. Thus, the EU represents one of the largest trade partners of the US, with SMEs contributing significantly to this factor⁶. For the US, SMEs play an important role in the employment and innovation process. The manufacturing industry is the leader in terms of exportation of goods, namely for electrical products, machinery, and chemicals⁷.

In terms of investment in science, the EU maintains its top position worldwide, although it is currently losing its position in terms of technology development. Countries such as China are challenging both the US and the EU with regard to technology development. Nevertheless, the majority of world scientific cooperation is still between the EU and the US. In addition, investment flows in RDI are also high between the EU and the US. In regard to the EU, several Member States have opened innovation hubs to support international RDI collaborations of companies in general, targeting particularly the US⁸.

The innovation hubs are a clear indication that there is a particular need of EU companies to establish RDI collaborations with US organisations, and vice versa. The potential needs that drive EU and US companies to seek international RDI collaborations are further analysed by this section. The presented needs are followed by an overview of the most significant perceived barriers to establishing RDI collaborations between EU and US organisations. Support schemes that are relevant to overcoming one or more of the perceived barriers are also presented to provide a complete view of the need, perceived barriers and tools available from an SME perspective.

⁴ Doole, I., and Lowe, R, 2004; Doole, I, and Lowe, R. 2005; Czinkota and Ronkainen, 2002; Hollensen, 2001

⁵ Commission Staff Working Document, Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on 'Enhancing and Focusing EU International Cooperation in Research and Innovation: A Strategic Approach', 2014

⁶ Small and Medium Sized Enterprises and the Transatlantic Trade and Investment Partnership Report, Transatlantic Trade & Investment Partnership, EU, 2014

⁷ Internationalisation of SMEs Enterprise Europe Network Internationalisation of Earth Observation companies, 2016

⁸ Commission Staff Working Document, Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on 'Enhancing and Focusing EU International Cooperation in Research and Innovation: A Strategic Approach', 2014



3.2. RDI collaboration perspective of EU companies

3.2.1. Main needs of EU companies

EU companies that are interested in pursuing international RDI collaborations with US organisations may have a range of needs that are driving the process. The objective of this sub-section is to present what may be considered as the main needs from an EU company perspective. The main needs from an EU company perspective are compared with the needs from a US company perspective and observations are made, in section 6. Through developing an understanding of the needs from an EU and US company perspective, support schemes and other mechanisms can be adjusted to be more effective in assisting the companies in achieving their particular need for international RDI collaboration.

The following are the leading needs for EU companies to pursue RDI collaborations concerning the US:

RDI Collaboration Need 1: Creating partnerships with relevant RDI actors to achieve target market goals

Internationalisation towards a new market in many cases may involve product innovation and customisation in order to meet the preferences or interests of the target country or market. In many cases this requires partnerships with RDI actors that are established in that market and understand the market. These RDI actors include private companies, universities, research institutes, public institutions that support RDI, clusters and individual researchers, among others. Therefore, companies have a need to enter markets to expand their global share. This need drives a requirement to partner with RDI organisations within that market, in many cases to achieve market goals.

The domestic market size and level of internationalisation of companies is highly related – the smaller the domestic market, the more SMEs tend to internationalise (in addition to the large enterprise), due to the small size of their domestic economy. In this sense, EU companies tend to internationalise to expand their customer base and to explore new international opportunities involving innovation.

According to the survey responses, the main reason for companies to internationalise is to develop import and export opportunities for innovative products and technology. There is a positive correlation between internationalisation and turnover, which is also related with the companies' need to expand their market capacity abroad. Irrespective of the size of the domestic market, the larger the company the more it tends to internationalise. However, the need for expanding the company's market capacity should not lead to precipitated decisions, as the internationalisation process takes time, in particular to achieve a strong position in the target market – in this case the US⁹. To reach a strong position in the target market, it is often necessary to establish an RDI collaboration in the target market to ensure product development is customised to the market characteristics and requirements.

RDI Collaboration Need 2: Tapping into specialised skills

EU companies often seek international RDI collaborations to access specialised skills. This is related with the quality of the education system in the target country and an environment that fosters innovation, in this case the US. Due to the highly technical fields that relate to many of the key sectors of Europe, there is a growing need to establish RDI collaborations that enable companies to access very specialised knowledge and skilled individuals. Therefore, it is becoming more common for EU

⁹ Internationalisation of European SMEs – Final Report, EU, 2010



companies to establish RDI collaborations with US organisations, which bring a new set of highly specialised skills to a particular challenge or specific need. In other cases, EU companies will seek RDI collaborations with US organisations that are within the same field, but complement the capabilities of the EU company, possibly contributing a new perspective or approach to a shared challenge.

RDI Collaboration Need 3: Acquiring new knowledge and skills

Unlike the RDI Collaboration Need 2, there are cases where EU companies may seek RDI collaborations to build their own internal knowledge and skills. These collaborations may be based on the sharing of knowledge and processes, instead of sourcing an RDI organisation to solve a particular challenge (previous need). Therefore, this need may be based on a longer-term perspective where the EU company wants to develop in-house a capability and recruit skilled workers that will produce innovative results on an ongoing manner. These highly skilled resources are internationally mobile and can play an important role in facilitating RDI cooperation.

3.2.2. Perceived barriers to going international

While there are clearly some strong needs that encourage EU companies to pursue international RDI collaborations, there are a number of barriers that prevent companies from going abroad. Thus, this sub-section presents a set of perceived barriers related to EU companies developing RDI collaborations with US organisations, describing the main characteristics of the perceived barrier, as well as detailing how the barriers can be addressed.

Perceived Barrier 1: Difficulty to develop partnerships and to assess cooperation potential

According to the survey replies, the difficulty in developing partnerships between EU companies and US organisations is seen as a particular barrier for further international cooperation on RDI. Thus, issues concerning the establishment of the first contact with the potential partners, assessing the cooperation potential and choosing the best opportunity were considered the most challenging aspects for establishing RDI collaborations.

In order to address this barrier, companies could engage in trade missions, matchmaking sessions and other networking activities that would provide relevant contacts and potential partnerships at an early stage. Furthermore, accessing information on potential opportunities and programmes available at the EU level could be beneficial (e.g. from EEN and the ECCP).

Perceived Barrier 2: Difficulty to manage and sustain transatlantic RDI collaborations

The challenges related with managing and sustaining RDI collaboration is perceived as a barrier for EU companies to establish RDI collaborations. This is most-likely related to: the different time zones and physical distance; ability of clearly defining the roles of each partner, namely the scope of work, deliverables and cost allocation; and the financial costs associated with fluctuating exchange rates. This perceived barrier is also related with the cultural differences between the business and scientific community from both regions¹⁰, particularly with issues concerning the development of joint consortiums (e.g. for H2020

¹⁰ Improving knowledge transfer between research institutions and industry across Europe, DG Research and Innovation, EC, 2007



projects) and the complexity of involving a US partner in this process, mainly due to bureaucratic or reporting requirements. For addressing this perceived barrier, companies should establish cooperation protocols that clearly define the relationship terms, as well as the development of regular virtual and physical meetings to manage the collaboration progress. In regard to the H2020 project opportunities, the EC has recently signed an arrangement with the US Government that aims to facilitate collaboration between EU and US partners in H2020¹¹. In addition, documents produced under the BILAT USA 4.0 project should also serve as a complementing resource for a first approach to the US market¹².

Perceived Barrier 3: Legal requirements for collaborative agreements

The third perceived barrier related with international RDI collaborations is associated with the differing legal requirements in the EU and US that impact RDI collaborative agreements. For example, there are certain requirements set-up by public authorities or funding programmes (e.g. Horizon 2020) that are mandatory and not open to negotiation and may prejudice collaborative agreements between EU and US organisations.

In this sense, accessing information on relevant legal issues and requirements in both regions and understanding the common points in developing RDI activities in the EU and US is key to overcome this perceived barrier. The establishment of dialogues with legal advisors and accessing relevant support schemes for RDI collaboration on legal advice (e.g. EEN and ECCP) are relevant tools for addressing this barrier¹³. EU funded research also now needs to reflect the latest policies on Open Science as set out by DG RTD and the implementation of specific resources such as Cloud based platforms. Open science requirements can be a hindrance for SMEs and similar rules may not exist in the US.

Perceived Barrier 4: Differences in the Intellectual Property Rights (IPR)

The differences that exist in the patent, trademark and copyright systems between the EU and US might create issues and derail a potential RDI collaboration. In particular, the problems related with trade secrets, costs and procedures in respect to IPR represent an obstacle for transatlantic collaborations as does the emerging regulations on Open Science.

For addressing this obstacle, EU companies need to take into consideration the different models that exist in both regions. In this sense, agreements between the two regions should be taken into consideration for IPR issues, which is one of the goals of the TTIP¹⁴ negotiations. Thus, it is relevant to become aware of the bilateral and regional free trade agreements (FTAs) that are being negotiated between the EU and the US (through the TTIP) that include IPR topics and regulations that could be useful for the collaborative process.

Perceived Barrier 5: Lack of adequate financial aid in internationalisation support schemes

The survey responses indicated the lack of sufficient financial aid as one of the perceived barriers of support schemes for promoting international RDI collaborations. Although, there is a high variety of relevant support programmes from different entities, there is a need to have higher amounts and perhaps more variety of financial aid available through the different

¹¹ <http://ec.europa.eu/research/iscp/index.cfm?pg=usa>

¹² Examples of potentially relevant documents: Report on academia-industry collaboration support schemes and their openness for international cooperation; Report on status of European and multinational initiatives' opening towards US; Report compiling available US funding opportunities

¹³ Improving knowledge transfer between research institutions and industry across Europe, DG Research and Innovation, EC, 2007

¹⁴ <http://ec.europa.eu/trade/policy/in-focus/ttip/>



schemes.

The main actions related with addressing this barrier concern the improvement of access to relevant information from the managing institutions regarding support schemes, as well as further information on the several opportunities that are available for international collaborations, namely for SMEs. The EC programmes are considered the most pertinent for this type of support and for providing relevant financial aid.

3.2.3. Relevant EU support schemes

This sub-section provides a description of some support schemes that are relevant to establishing international RDI collaborations concerning EU companies, in particular to the US. As previously stated, for the purpose of this document, support schemes are defined as relevant programmes, initiatives or support organisations that promote the enhancement of international RDI collaboration between the EU and the US. Each described support scheme focuses on the main added-value it could bring to companies that aim to expand their RDI activities to the US. In this sense, the following support schemes are presented:

- Enterprise Europe Network (EEN)
- Eurostars Programme (managed by EUREKA)
- European Cluster Collaboration Platform (ECCP)
- European Strategic Cluster Partnerships – Going International (ESCPs-4i)
- Horizon 2020

In addition to the above-mentioned schemes, it is also relevant to highlight the role of bilateral chambers of commerce in the process of providing internationalisation services to companies, particularly SMEs, which include RDI collaboration support.

It is also important to mention on a much larger scale there is the role of bi-lateral agreements on S&T between individual Member States and the US. Although these arrangements are not covered by this document, they are an important contribution to the high level of European and American RDI collaborations and they complement the described support schemes.

Enterprise Europe Network (EEN)¹⁵

The Enterprise Europe Network (EEN) is the largest network of business and innovation support organisations for the benefit of EU SMEs. EEN consists of around 600 members – business support organisations, including chambers of commerce and industry, technology centres and research institutes – from more than 60 countries, including 3,000 experts that provide support to SMEs seizing business opportunities in the EU Single Market. A large share of the EEN's services are tailored towards supporting EU SMEs growing their business in the EU and allowing them to benefit from EU legislation, funding opportunities and EU programmes. In particular, the "Going International" is one of the most relevant services provided by the EEN to SMEs all across Europe, which is mainly done through the identification of business partners in the target countries in matchmaking events and with the support of distance online matchmaking tools. The EEN is also found outside EU borders through the Business Cooperation Centres (BCCs). The main aims of these organisations are to facilitate business deals and cooperation between enterprises from Europe and their countries, promote technology transfer and enable research collaboration. These organisations in the third countries count on support from EEN members in Europe to achieve these goals. In the US, the EEN local contact points are located in Cleveland, Durham, New York and San Diego – one contact organisation per location.

Eurostars programme (managed by EUREKA)¹⁶

¹⁵ <https://een.ec.europa.eu/>



Another large general SME support organisation for internationalisation is the EUREKA Network, which manages the Eurostars programme. EUREKA is an intergovernmental network established in 1985, and now involving more than 45 countries and acting as an open platform for international cooperation in innovation.

EUREKA manages the Eurostars programme, initiative that offers financial support to target SMEs in Europe that devote 10% of their turnover or total Full-time Equivalents (FTEs) for international research. The programme supports international innovation projects focused on research and development with SMEs. Eurostars supports the development of marketable products, processes and services, meeting the specific needs of SMEs. In this sense, the programme supports international cooperation, bringing innovative products to new markets beyond national borders. The programme is a joint initiative between EUREKA and the EC, co-funded from the national budgets of 36 Eurostars Participating States and Partner Countries and by Horizon 2020. From 2014 to 2020, the programme has a total budget of €1.14 billion - €861 million of national funding from its countries and €287 million of EU funds. The programme has two submission deadlines per year. The next one will be in September 2017.

In addition, the Eurostars website provides information on previous success stories of other projects that received funding from the programme, as well as a full project portfolio of previously granted initiatives that include the participation of US organisations.

European Cluster Collaboration Platform (ECCP)¹⁷

The European Cluster Collaboration Platform (ECCP) operates as a service hub for cluster organisations (and their SME members) in their efforts to internationalise and integrate their activities in global value chains. It provides online quality information and networking support aiming to improve the registered clusters and their SME members' performance and increase their competitiveness through the stimulation of trans-national and international cooperation.

Within the ECCP, matchmaking events are organised to support cluster organisations and their SME members to develop partnerships and business cooperation in global markets, thus increasing their innovation capacity and competitiveness. Matchmaking events are targeted for countries that have signed Memoranda of Understanding (MoUs) with the ECCP. Current and past MoU's include the following countries: Brazil, Chile, India, Japan, Mexico, Morocco, South Korea, Tunisia and the US. The ECCP also recently organised a high-level policy workshop between the EU and the US Department of Commerce and a cluster matchmaking mission at the Hannover Messe in 2016.

European Strategic Cluster Partnerships – Going International (ESCPs-4i)¹⁸

The European Strategic Cluster Partnerships – Going International (ESCPs-4i) can play an important role in SMEs' interested in establishing international RDI collaborations, as these partnerships: (1) contribute to the emergence of new value chains that bring together in an innovative way companies from different sectors, (2) better support SMEs in global competition, and (3) may also offer at large scale innovative solutions to better address societal challenges, such as global warming and resource efficiency. At the heart of these partnerships is the idea that many of the challenges involved in targeting third country markets are too great to be managed by SMEs, existing clusters or networks alone.

ESCPs-4i are characterised according to four main features: (1) "European", as they involve a minimum of four cluster and network organisations from three different CIP participating countries; (2) "Strategic", as partnerships shall develop and implement a joint strategy promoting cross-sectoral cooperation and facilitating SME internationalisation; (3) "Clusters", as they will be composed of cluster and network organisations that are involved in offering or channelling cluster/network support services to its members; and (4) "Partnerships", as the partners shall aim at developing a long term agenda for cooperation

¹⁶ <https://www.eurostars-eureka.eu/>

¹⁷ <https://www.clustercollaboration.eu/>

¹⁸ <https://www.clustercollaboration.eu/eu-cluster-partnerships>



across sectoral boundaries.

Thus, the agglomeration of clusters and networks through partnerships have the advantage of bringing together different organisation to develop jointly innovate solutions, while also helping involved SMEs with easier access to global value chains and long-term cooperation with strategic partners from other countries.

Horizon 2020 (H2020)¹⁹

Horizon 2020 is the EU's framework programme for research and innovation for the period of 2014 to 2020. The programme aims to lead to more breakthroughs, discoveries and world-firsts by taking ideas from the lab to the market. H2020 is the largest EU research and innovation funding programme ever, with nearly €80 billion (approximately \$89.22 billion) of funding available over seven years. It replaces the Seventh Framework Programme (FP7), which ran from 2007 to 2013 with a budget of around €55 billion (approximately \$61 billion). By coupling research and innovation, H2020 brings together the existing EU RDI funding, focusing on smart investment and enabling ideas to reach the market faster.

Under the H2020 Programme, there are several initiatives that promote international RDI collaboration. A good example is the H2020 SME Instrument²⁰. The SME Instrument provides funding to EU-based SMEs for innovation projects in Europe and in countries beyond Europe. The main target group of this programme is innovative SMEs that have a clear commercial focus with a potential for growth and internationalisation actions.

Other relevant initiatives

Besides the above-mentioned support schemes and programmes, it is also relevant to highlight the work developed by other EU institutions and organisations in the promotion of this process. In particular, the actions promoted by bilateral chambers of commerce are focused on the internationalisation aspect of EU companies and are related to RDI collaborations, serving as a support service for these types of organisations, including for establishing RDI activities. The network of the Chamber of Commerce is very important, specifically to SMEs, in order to support them in entering new markets²¹.

In addition, it is relevant to highlight the work developed by other business associations that can also act as an important channel for promoting international RDI collaboration, in particular the investment and trade agencies²². These other business associations provide services that encourage companies to invest or export to other countries, serving as a point of contact in the target country. Furthermore, these other business associations operate within the interests of their members or organisations that are supported by the association.

Within this context, the table below provides information on what support schemes address the barriers described in sub-section 3.2.2. As shown in Table 1, the support schemes described address one or more of the perceived barriers for developing international RDI collaboration actions with US organisations.

¹⁹ <http://ec.europa.eu/programmes/horizon2020/>

²⁰ <http://ec.europa.eu/programmes/horizon2020/en/h2020-section/sme-instrument>

²¹ European Economic Diplomacy – Position Paper, Eurochambres, 2015

²² Study on Support Services for SMEs in International Business, ECSIP Consortium, DG Enterprise and Industry, 2013



Table 1 – Matrix on support schemes that address the perceived barriers in the EU

		Enterprise Europe Network (EEN)	Eurostars programme	European Cluster Collaboration Platform (ECCP)	European Strategic Cluster Partnerships (ESCPs-4i)	Horizon 2020 (H2020)
Perceived Barriers	Difficulty to develop partnerships and to assess cooperation potential	X		X	X	X
	Difficulty to manage and sustain transatlantic RDI collaborations	X		X		X
	Legal requirements for collaborative agreements	X				
	Differences in the Intellectual Property Rights (IPR)	X				
	Lack of adequate financial aid in internationalisation support schemes	X	X			X

The EEN is relevant for addressing all five perceived barriers described. It addresses the perceived barrier related with developing partnerships and cooperation potential, as well as the difficulty to manage and sustain transatlantic RDI collaboration, through its large network of business and innovation support organisations, particularly in different US States. It is also relevant for addressing differences in IPR by providing, through its representatives, consulting services related with IPR, contributing to raising awareness of patent protection, trademarks and copyright²³. Furthermore, it provides relevant contact points for the establishment and understanding of legal requirements for collaborative agreements with US organisations. In addition, the EEN supports addressing the lack of adequate financial aid in internationalisation support schemes through the provision of experts to assist companies in assessing the right funding programmes applicable to their business area. Regarding the ECCP, the platform acts as a relevant scheme for supporting the development of RDI partnerships and cooperation, as well as to manage and sustain them, by promoting matchmaking events for business partnerships worldwide (in particular to the US). The ESCPs-4i addresses the difficulty to develop partnerships and to assess cooperation potential through the promotion of business missions and matchmaking actions to several countries and regions, including the US (in some projects). The Eurostars programme is particularly relevant to address the perceived barrier on lack of adequate financial aid in internationalisation support schemes, due to its joint initiative with the EC, with a total budget of €1.14 billion for the period between 2014 and 2020. Regarding H2020, the programme involves a wide range of different calls and opportunities that help address the several perceived barriers, namely to support in accessing new contacts, establishing partnerships, promoting sustainable cooperation and providing direct funding through grants.

Taking this into consideration, it is advisable that companies (mainly SMEs) that aim to go international and establish RDI collaborations, utilise several programmes to ensure the greatest chance for success.

²³ https://www.iprhelpdesk.eu/CS_IP_opportunity_with_the_support_of_the_EE_Network



3.3. RDI collaboration perspective of US companies

3.3.1. Main needs of US companies

Similar to sub-section 3.2.1, US companies that are interested in pursuing international RDI collaborations with EU organisations may have a range of needs that are driving the process. This sub-section presents what may be considered the most common needs from a US company perspective. The US needs are compared with the main needs from an EU perspective and observations are made in section 6. As previously mentioned, through developing an understanding of the needs from a US and EU company perspective, support schemes and other mechanisms can be adjusted to be more effective in assisting the companies in achieving their particular need for international RDI collaborations.

The following are what may be considered the leading needs, which motivate US companies to pursue transatlantic RDI collaborations:

RDI Collaboration Need 1: Creating partnerships with relevant RDI actors to achieve target market goals

As discussed with regard to the EU RDI collaborative needs, the international RDI collaboration process regarding a new market in many cases may involve product innovation and customisation in order to meet the preferences or interests of the target country or market. In many cases this requires partnerships with RDI actors that are established in that country and understand the market. Therefore, companies have a need to enter markets to expand their share. This need drives a requirement to partner with RDI organisations within that market, in many cases to achieve market goals.

US companies tend to internationalise to expand their customer base and to explore new international opportunities involving innovation. According to the survey responses, the main reason for companies to internationalise is to develop import and export opportunities for innovative products and technology. To reach a strong position in the target market, it is often necessary to establish an RDI collaboration in the target market to ensure product development is customised to the market characteristics and requirements.

RDI Collaboration Need 2: Tapping into specialised skills

Similarly to EU companies, US companies often seek international RDI collaborations to reach specialised skills. Due to the highly technical fields that relate to many of the key sectors of the US, there is a growing need to establish RDI collaborations that can help provide access to very specialised knowledge and skilled individuals. Therefore, it is becoming more common for US companies to establish RDI collaborations with EU organisations, which bring a new set of highly specialised skills to resolve a particular challenge or specific need. In other cases, similar to EU companies, US companies will seek RDI collaborations with EU organisations that are within the same field, but complement the capabilities of the US company, possibly contributing a new perspective or approach to a shared challenge.

RDI Collaboration Need 3: Acquiring new knowledge and skills

Unlike the RDI Collaboration Need 2, and similar to EU companies, there are cases where US companies may seek RDI



collaborations to build their own internal knowledge and skills. These collaborations may be based on the sharing of knowledge and processes, instead of collaborating with other RDI organisation to solve a particular challenge (previous need). Therefore, this need may be based on a longer-term perspective where the US company wants to bring in-house capability that will produce innovative results in an ongoing manner.

RDI Collaboration Need 4: Leveraging a more direct path to market

In sectors, such as biotechnology, it may be prudent for US companies to establish RDI collaborations to take advantage of the EU's more industry friendly product testing environment, mainly related with time, cost and complexity of regulatory approval²⁴. In addition, and due to the complex market regulations in the different EU countries, the EU has established directives that allow that a device or product (in particular medical devices) can be marketed across all MS after having obtained a Conformité Européenne (CE) mark in any of the MS²⁵. This enables US companies to reach a market in a more accelerated way, thus lowering the financial risk. Of course, this need is primarily related to biopharma products and certain types of medical devices.

3.3.2. Perceived barriers to going international

While there are clearly some strong needs that encourage companies to seek international RDI collaborations, there are a number of barriers that discourage companies from going abroad. This sub-section presents a set of perceived barriers related to US companies pursuing RDI collaborations involving EU organisations. The main characteristics of the perceived barrier are presented, as well as how the barrier can be addressed.

Perceived Barrier 1: Difficulty to access different standards and regulations in the EU

According to the United States International Trade Commission (USITC) Annual Report of 2014, standards and regulations are seen by US SMEs as the main trade barriers for accessing the EU market. The different regulatory approaches in the EU, lack of participation in EU wide standards, and costs associated with these standards and procedures represent the main burdens for US companies. The different standards and regulations have an impact on RDI activities by acting as a barrier on the international production of innovative goods and on the development of RDI actions in the host country.

In this sense, US companies need to understand in advance the requirements at the EU level. This can be done through direct interaction with chambers of commerce in the US, business associations and other relevant support organisations that can provide a good starting point for this process²⁶.

Perceived Barrier 2: Difficulty to manage and sustain transatlantic RDI collaboration

Similar to the Perceived Barrier 2 for EU companies in sub-section 3.2.2, US companies also face challenges related with managing and sustaining RDI collaboration caused by some practical issues such as different time zones and physical distance between the regions, and others more operational such as the ability for clearly defining the roles of each partner (namely the

²⁴ <https://www.emergogroup.com/resources/worldwide/global-regulatory-comparison-tool>

²⁵ <http://www.nejm.org/doi/full/10.1056/NEJMhle1113918#t=article>

²⁶ World Trade Report 2016, WTO, 2016



scope of work, deliverables and cost allocation) and financial costs associated with fluctuating exchange rates. The cultural differences between the business and scientific community from both regions also acts as a barrier for establishing effective RDI collaborations, mainly due to the different requirements from EU and US companies in the development of joint RDI activities (e.g. H2020 programme initiatives).

For addressing this perceived barrier, companies can establish cooperation protocols that clearly define the relationship terms, as well as the development of regular virtual and physical meetings to manage the collaboration progress. In regard to the H2020 cooperation projects, the EC recently signed an agreement with the US Government that aims to facilitate collaboration between EU and US partners in H2020.

Perceived Barrier 3: Financial support for internationalisation

The internationalisation process can represent a risky option for companies, specifically for SMEs. A US company needs to acquire several resources for starting the international RDI collaboration process, namely related with costs of exploring the new market, RDI activities, localization, and compliance with foreign technical standards, among others. This represents a barrier for US-based companies that aim to collaborate with EU organisations. The limited access to finance, particularly for SMEs, is also perceived as a barrier for international RDI collaboration. This is related with the difficulty in obtaining working capital and financing from banks.

In order to address this obstacle, companies need to obtain funding from other relevant programmes, such as Federal and State-level support schemes and actions, allowing for enhanced internationalisation capabilities (e.g., Small Business Administration (SBA) grants and small business loans)²⁷.

Perceived Barrier 4: Differences in the Intellectual Property Rights (IPR)

Similar to the Perceived Barrier 4 for the internationalisation needs of EU companies, the differences that exist in the patent, trademark and copyright systems in both regions also represent an issue for US companies concerning RDI collaborations.

In order to address this perceived barrier, US companies can assess the existing and future agreements between the two regions. Whilst it is important for US companies to be aware of how IPR are different in the EU compared to the US, it is important to gain the support of local IPR experts to determine if there are any risks to the company's IP when entering in RDI collaborations. Furthermore, US companies that are interested in long term RDI collaborations with EU counterparts may want to stay aware of negotiations on relevant FTAs, such as the TTIP. Developing trade agreements such as the TTIP may have implications on RDI activities in the longer term, thus adding uncertainty to the potential benefits of developing RDI collaborations.

3.3.3. Relevant US support schemes

As previously described, this sub-section presents some relevant support schemes for US companies pursuing RDI collaborations with EU organisations. The support schemes presented include government agencies, an association and a US based EEN in San Diego:

- European American Enterprise Council (EAEC)

²⁷ Small and Medium-Sized Enterprises: U.S. and EU Export Activities, and Barriers and Opportunities Experienced by U.S. Firms, USITC, 2010



- International Business Innovation Association (InBIA)
- National Science Foundation (NSF)
- US International Trade Administration (ITA)
- US Small Business Administration (SBA)

European American Enterprise Council (EAEC)²⁸

The EAEC is a private enterprise and network. It aims to promote transatlantic cooperation, trade and investment opportunities between EU and US companies and institutions, fostering innovation and entrepreneurship. The EAEC includes a network of experts in the areas of ICT, infrastructure, aerospace, energy, biotech and hospitality in both regions made available for private organisations and public authorities. The business support provided by the experts assists both EU companies that want to establish themselves or invest in the US, and US companies that want to establish themselves or invest in Europe. The services include expert advice, access to clients, distribution channels and decision-making hubs. The programmes promoted by EAEC include: acceleration programmes (including the EAEC Transatlantic Acceleration Services and Programmes, supporting the launch of new businesses in Europe and North America), tradeshow programmes, foreign entrepreneurship and global start-up programmes, trade and investment trips and other on-demand services. Furthermore, EAEC supports the application of third party funding sources such Horizon 2020 funding schemes in particular those addressing SMEs and start-ups for RDI. Among the programmes and services available at EAEC, it is relevant to highlight EAEC's 4 R Transatlantic Acceleration Services and programmes, which aim to support step by step (R1 to R4: R1/Research, Planning, Pilots and Advisory, R2/Revenue Acceleration, R3/ Recruiting and R4/ROI and M&A) companies in generating revenues, establishing a subsidiary, and planning a long term sustainable presence in the destination market. Companies should demonstrate innovative and competitive solutions in their country of origin in order to access this programme.

International Business Innovation Association (InBIA)²⁹

The InBIA is an organisation of incubators in the US, with the aim to advance business incubation and entrepreneurship. Its network of incubators directly support RDI activities and the fostering of RDI domestic and international collaborations. The InBIA provides information, education, advocacy and networking resources to assist early-stage companies not only in the US but also in other parts of the world. It serves more than 2.100 members in over 60 nations. Most of its members are incubators from the US, but it also has members from other fields.

The association engages in many activities that support members' professional development, including:

- Organising conferences and specialised trainings;
- Consulting with governments and corporations on incubator development.

In this sense, InBIA organises international conferences to provide its members with advanced experience in business incubation and access to potential international partners. The association designs training courses based on the requirements of the members to support them in the business management development and national and international cooperation. In terms of the main resources, InBIA includes a set of documents that support the business incubation programme and provide guidelines on how this can be successful.

US International Trade Administration³⁰

²⁸ <http://www.eaecouncil.com/index.html>

²⁹ <https://inbia.org/>

³⁰ <http://trade.gov>



The International Trade Administration (ITA) is a US government agency that aims to strengthen the competitiveness of the US industry, to promote trade and investment, and to ensure fair trade through the rigorous enforcement of trade laws and agreements. ITA works to improve the global business environment and helps US organisations compete both at home and abroad.

With its business units, namely the Global Markets unit, the Industry and Analysis (I&A) unit and the Enforcement and Compliance unit, ITA provides an extensive range of services to US companies, including AD/CVD Counselling, Advocacy, Export Counselling, Gold Key Matching, International Buyer Program, International Company Profile, International Partner Search, Market Research, Platinum Key, Report a Trade Barrier, Privacy Shield Certification, Steel Import Licensing, Trade Compliant Filing, Trade Fair Certification and Trade Leads. In December 2012, ITA signed a Memorandum of Understanding with Enterprise Europe Network (EEN), on promoting the EU-US business cooperation and supporting the SMEs in EU and US to access the market on the other side. Even though the ITA is strongly focused on increasing trade opportunities for US companies, the agency can have an impact on RDI through its matching mechanisms and its expert guidance on regulatory matters and collaborative agreements. The agency also provides services to increase brand awareness and exposure in the target markets, as well as support for establishing partnerships.

National Science Foundation (NSF)

The NSF is an independent Federal agency that aims to “to promote the progress of science; to advance the national health, prosperity, and welfare; and to secure the national defence”. The NSF is the main source (outside the life sciences) of basic science research funding in the US. The NSF typically supports the costs associated with the US team and foreign partners are normally supported by their own funding agencies. International collaboration can be funded in most NSF proposals. However, the NSF also includes a set of programmes that target specifically internationalisation actions for the promotion of international RDI collaboration. For example, the Industry-University Cooperative Research Centers (IUCRCs) programme encourages long-term partnerships among industry, universities and government. IUCRCs contribute to the nation's research infrastructure base, enhance the intellectual capacity of the engineering and scientific workforce through the integration of research and education, and facilitate technology transfer.

Thus, there are several programmes within NSF that fund international collaboration, although most of these opportunities target only US researchers. However, there are some opportunities available for international RDI collaboration targeting US companies.

US Small Business Administration (SBA)³¹

Established in 1953, the US Small Business Administration (SBA) is an independent agency of the federal government using various means, such as loans, loan guarantees, contracts, counselling services and other forms of assistance, to assist the small business, to preserve free competitive enterprise and to maintain and strengthen the overall economy in the US. Through its network of field offices and partners, the SBA assists US companies to build and grow their businesses through its four major programmatic functions:

- Access to Capital (Business Financing): micro lending, substantial debt and equity investment capital;
- Entrepreneurial Development (Education, Information, Technical Assistance & Training): free courses;
- Government Contracting (Federal Procurement);
- Advocacy (Voice for Small Business).

³¹ <https://www.sba.gov>



In particular, it is relevant to highlight the Regional Innovation Cluster initiative, which was launched by US SBA in 2010, aiming to promote and support industry clusters for their regional economic development. Moreover, to support the small business export opportunities, SBA provides counselling, training and financing services to small companies, such as organising workshops and trainings, offering financial assistance and US Export Assistance Centres, among others. SBA can have a direct impact on the ability of US companies to conduct RDI through providing financing opportunities; thus, enabling US companies to pursue collaborative RDI efforts with EU organisations.

Within this context, the table below provides information on what support schemes address the barriers described in subsection 3.3.2. As shown by Table 2, the programmes described address one or more perceived barriers to pursuing RDI collaborations with EU organisations.

Table 2 - Matrix on support schemes that address the perceived barriers in the US

	European American Enterprise Council (EAEC)	International Business Innovation Association (InBIA)	National Science Foundation (NSF)	US International Trade Administration (ITA)	US Small Business Administration (SBA)
Perceived Barriers	Difficulty to access different standards and regulations in the EU	X		X	
	Difficulty to manage and sustain transatlantic RDI collaboration	X	X	X	
	Financial support for internationalisation	X		X	X
	Differences in the Intellectual Property Rights (IPR)	X		X	

The EAEC provides relevant support on the development of partnerships, access to clients and expansion services, offering a network of experts to assist US companies in pursuit of international collaborations, addressing the perceived barrier on managing and sustaining international RDI collaboration. It also provides support through funding schemes for international RDI collaboration. Moreover, as part of its EEN role, EAEC provides legal/administrative initial advice meant to connect EU companies to standards/regulations experts and law firms. The InBIA provides relevant support on organising conferences, trainings and consulting actions for international cooperation. The NSF supports international RDI collaboration through the provision of funding and establishment of long-term partnerships among RDI actors. The US ITA provides services to US companies on advocacy, export counselling, market research, trade certification and leads, which is relevant for both accessing standards and regulations and understanding the specificities of the EU market and IPR process. The US SBA is particularly relevant for addressing perceived barriers related with financial support for internationalisation and the specificity and size of the EU market. With regard to financial support, US SBA has business financing through a micro lending programme that provides substantial debt and equity investment capital.

With the available support schemes, it is advisable that companies (mainly SMEs) utilise several programmes to ensure the



greatest chance of success.



4. GOOD PRACTICES ON GOING INTERNATIONAL

4.1. Overview

This section showcases some examples of good practices of transatlantic RDI collaboration actions between the EU and US. As described in the previous section, both EU and US companies have several similar needs and barriers to the international RDI collaboration process. Thus, the existence of support schemes relevant to this process can act as an important tool for ensuring transatlantic cooperation is successful. In this sense, the good practices described in this section aim to assist in the understanding of different scenarios of transatlantic cooperation. The good practice scenarios assess the main description and strategy of the organisation, the transatlantic cooperation actions that exist, as well as the support schemes used for enhancing the possibilities of successful collaboration.

For the purpose of this document, a good practice case should include: the involvement of a support scheme; a clear collaborative basis with the other region (either the EU or US) through missions, matchmaking actions, or direct representation; and the establishment of joint partnerships or companies for RDI purposes. Based on this assumption, inputs from the interviewees and survey respondents were gathered and analysed, including specific suggestions of good practices, leading to the development of relevant information for selecting three good practice cases. In this sense, examples of good practices from three organisations – two private companies and one cluster – are highlighted in this section according to the following selection criteria:

- Organisations that have engaged in transatlantic RDI internationalisation actions.
- Organisations that have used an internationalisation support scheme.
- Organisations that have been highlighted during the interviews and the survey conducted in support of this document.

Although the document focuses on EU companies that seek international RDI collaboration with US organisations and on US companies that seek international RDI collaboration with EU organisations, it is relevant to highlight an example of a cluster that represents a good practice for cooperation – Good Practice 1: PLASTIPOLIS Cluster. Thus, involving a cluster in the international RDI collaboration process could serve as an effective initial step and accelerator for establishing a bridge between the EU and the US.

Taking into consideration the selection criteria defined and the analysis developed in the previous section of this document, the following three good practice cases are highlighted:

- Good Practice 1: PLASTIPOLIS Cluster
- Good Practice 2: FireFly Wireless Networks
- Good Practice 3: TactoTek



4.2. Good Practice 1: PLASTIPOLIS Cluster

PLASTIPOLIS Cluster	
Website: http://www.plastipolis.fr/	
Organisation Type: Cluster	
Sector: Plastics and composite materials	
Country: France	
<p>Description:</p> <p>Plastipolis is the only competitive cluster of plastics engineering in France. Located in Oyonnax, in the so-called Plastics Vallée of France, it brings together all the operators in the sector (companies, RDI centres, training centres, institutional entities) in the Rhône-Alpes and Franche-Comté regions. Its aim is to promote the expertise of French plastics engineering companies on a European and international level. The cluster has over 300 members, including:</p> <ul style="list-style-type: none"> • 200 companies, 90% of SMEs • 50 centres of RDI and Training • 30 institutions • 20 public authorities 	
<p>Strategy:</p> <p>In particular, Plastipolis has built its innovation strategy across different strategic technology domains that have been defined in connection with trends and challenges of the major business markets: construction, transportation, medical, packaging, energy and environment, sport and consumer goods.</p> <ul style="list-style-type: none"> • 175 achieved or ongoing projects for 450 M€ • 280 different companies, partners of projects (including 180 SMEs) • 10 new training and education programmes • 25 European projects <p>Plastipolis is also a partner in the WIINTECH2020 European Strategic Cluster Partnerships (ESCP-4i) project that aims to foster the most promising cooperation that has started within the pilot project Wiintech project – supported by DG GROW (Plastipolis was the coordinator) in the field of new materials, advanced manufacturing and clean technologies. The projects aims to have a permanent contact point in the US through an American partner.</p>	
<p>Transatlantic Cooperation:</p> <p>Participation in several joint visits since 2009 including the involvement of European companies or clusters matchmaking visits (e.g. under the Wiintech project, there was a visit to the US, both in Ohio and Mississippi). The cluster has signed MOUs with 3 US based partners regarding polymers, composites and bio-based materials:</p> <ul style="list-style-type: none"> • Memorandum of Understanding (MoU) with two clusters in Ohio (Polymer Ohio and OBIC) and one in Mississippi (MPI). • One permanent staff in Ohio for a year in 2014. <p>Plastipolis is also setting up a permanent representative office in the US (Mississippi state).</p>	
<p>Support Schemes for Internationalisation:</p> <p>Plastipolis is registered on the European Cluster Collaboration Platform (ECCP) and has participated in matchmaking missions through the platform, such as the EU-US Hannover matchmaking event, as well as in other EC projects for building partnerships and collaboration actions with relevant parties in the US.</p>	

4.3. Good Practice 2: FireFly Wireless Networks



FireFly Wireless Networks

Website: <http://www.fireflywirelessnetworks.com/>

Organisation Type: Limited Liability Company (LLC)

Sector: Visible Light Communications

Country: US (California)



Description:

FireFly is the leader in Visible Light Communications (VLC), also known as LiFi, and Infrared Light Communications (ILC). VLC and ILC products utilise light to transmit data, providing more security and avoidance of 'eavesdropping' and cyber security issues associated with WiFi.

Strategy:

FireFly has developed, tested, and brought to market successful products. Partner opportunities exist across multiple industries and sales channels, including private label/OEM, distributor/retail, and custom design integration with other technology or equipment providers. There is a high expectation for the global VLC/Light Fidelity (Li-Fi) market, which could reach \$101.3 billion by 2024 – according to Grand View Research's latest report.

In addition, LightPointe's RDI labs serve as the company's technology incubator and support the development of RDI.

Transatlantic Cooperation:


FireFly is owned by: LightPointe Communications, Inc. of San Diego, the number one manufacturer of point to point long range wireless bridges since 1998; Teleconnect GmbH of Dresden, a Germany-based company formed from the former Institute of Telecommunications; and Berg and Berg Enterprises, a \$550 million Silicon Valley private venture firm. The involvement of different RDI actors in the company's ownership, with EU and US organisations, provides a stronger basis for developing international RDI collaboration actions.

Support Schemes for Internationalisation:

Teleconnect GmbH, one of the owners of FireFly is a member of the Cool Silicon e.V. cluster from Germany, part of the ECCP, dealing with RDI in the field of energy-efficient ICT. The involvement with the ECCP is important for accessing new international RDI collaboration opportunities and in using different transatlantic networking instruments. The company was established through a private venture investment from a Silicon Valley organisation.



4.4. Good Practice 3: TactoTek




TactoTek Oy	
Website: http://www.tactotek.com	
Organisation Type: Company (SME)	
Sector: 3D Technology	
Country: Finland (with an office in the US)	
<p>Description:</p> <p>TactoTek creates injection-molded structural electronics that integrate flexible printed circuitry and discrete electronic components into mass-produced 3D injection-molded plastics. With its patented and patent pending technology, TactoTek enables differentiating and cost-effective designs with highly scalable production processes. The products are inherently durable and protected from the environment.</p> <p>TactoTek is based in Oulu, Finland and it was funded in 2011, by Conor Venture Partners, Faurecia Ventures, VTT Ventures, and Leaguer VC, private angels, TEKES, and the European Union's Horizon 2020 Research and Innovation Programme.</p> <p>TactoTek structural electronics eliminate traditional design constraints so that Original Equipment Manufacturers (OEMs) can deliver products with unique functionalities.</p>	
<p>Strategy:</p> <p>TactoTek has aligned its RDI strategy for the purpose of production upscaling. Thus, the company has built its innovation strategy to meet the increasing demand of its customers in the global automotive industry in order to become the technology leader in structural electronics for automotives.</p>	
<p>Transatlantic Cooperation:</p> <p>TactoTek's transatlantic strategic plan concerns expanding the company's capabilities to the US market. One relevant example of TactoTek's RDI collaboration with the US market concerns the patent received in the US for its 3D lighting technology.</p> <p>The company's subsidiary in the US, TactoTek Corporation, is based in Michigan and has recently expanded its operations by increasing the number of technical experts based in the country.</p>	
<p>Support Schemes for Internationalisation:</p> <p>TactoTek has received funding from the European Union's Horizon 2020 Research and Innovation Programme. It acquired a €2,5 Million grant from the Horizon 2020 SME instrument phase 2 for a duration of 18 months starting July 2016. The project aims to demonstrate mass production manufacturing volumes and quality by conducting pilot mass production of structural electronics. This will enable the company to enter the global automotive market.</p>	



5. KEY SUCCESS FACTORS

The review and analysis of the main needs that encourage EU companies to pursue international RDI collaborations with US organisations and US companies to pursue international RDI collaborations with EU organisations, as well as the presented good practices, have identified a number of relevant elements, which can contribute to the establishment of successful international RDI collaborations. This section presents a SWOT (Strengths, Weaknesses, Opportunities and Threats) analysis that assesses the main elements that contribute to the process of establishing international RDI collaborations, for EU and US companies, as well as those that are common to both EU and US companies. For example, the strengths as perceived by EU companies would include the fact that the US has a well-established RDI system to utilise; while strengths as perceived by US companies would include support schemes in place at the Federal and State levels that facilitate the RDI collaborative process on behalf of the US company.

Based on the SWOT analysis, a set of key success factors are identified, which leverage the strengths of the process, minimise and/or address the weaknesses of the process and reduce the threats to the process. By ensuring the key success factors are achieved, the EU or the US company has the highest probability of establishing an effective RDI collaboration with a US or EU organisation.

	S STRENGTHS	W WEAKNESSES
	<ul style="list-style-type: none"> - Strong support programmes in place at the EU level that facilitate the RDI collaborative process on behalf of the EU company, such as the EEN, ECCP and the Horizon 2020 (DG Research and Innovation). - The US has a well-established RDI system. - The US has a long history of collaborating internationally in RDI, and therefore in general the US RDI actors would understand the potential benefits with little need to develop interest. 	<ul style="list-style-type: none"> - IPR issues in the US and differences in comparison with the EU legal system. - The EU has limited amount of financial aid in support for establishing RDI collaborations. - The US has a highly competitive RDI system. In this sense, the EU company would be better positioned if it was already well-established in the EU before beginning the RDI collaborative process in order to offer incentives for the US organisations to collaborate.
	<ul style="list-style-type: none"> - Well established ties between the EU and US in RDI collaboration, allowing access to the knowledge created by companies that have RDI collaborations underway. 	<ul style="list-style-type: none"> - Communication barriers, mainly related with language differences, physical distance between regions and different time zones that leave short periods for real-time interaction during business hours. - SMEs have limited access to finance in support of establishing international RDI collaborations, related with the difficulty in obtaining working capital and financing from banks.
	<ul style="list-style-type: none"> - The US has the highest global RDI investment, reflecting the STI development in the country and position worldwide. This high investment reflects US companies' capacity to engage in RDI collaboration 	<ul style="list-style-type: none"> - Stagnant US Federal RDI investments due to fiscal spending limitation.







	<p>with the target market.</p> <ul style="list-style-type: none"> - The US has high-end technology based-companies with RDI investment. - Support schemes in place at the US Federal and State levels that facilitate the RDI collaborative process on behalf of the US company, in particular to SMEs, such as the US SBA and the US ITA. 	
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	 OPPORTUNITIES	 THREATS
	<ul style="list-style-type: none"> - Significant private sector capital investment available in the US market for RDI activities, in particular for product development. - The US represents a large market with highly innovative products being developed. Once a new product or process is developed, there is a large market opportunity to exploit. - Potential additional private sector funding available through the US RDI system for companies that are established in the US. 	<ul style="list-style-type: none"> - Different rules and regulations that exist at the US State and at the Federal level, namely for SMEs – there is a need to adapt to standards and to the associated costs due to the lack of economies of scale. - High US competition with big players, specifically in the technology sector. - Shifting political views and uncertainty of future policy actions at the US governmental level.
	<ul style="list-style-type: none"> - Potential additional funding available through the EC RDI system for companies established in the EU, namely through the H2020 programme. - High focus from the EU on RDI activities and high investment on removing obstacles to innovation and improving international cooperation. - Access RDI cooperation via a dynamic EU cluster community who is used to channelling RDI funds to SMEs. 	<ul style="list-style-type: none"> - Unstable political and economic situation in the EU, particularly in some specific European regions. - Different standards and regulations in the EU market, namely the varying regulatory approaches in the EU and costs associated with these standards and procedures.

Similar to the SWOT analysis, the key success factors are identified as those that are common to the EU and US companies and those that are specific to either EU companies or US companies, as identified by the relevant flag (e.g. US flag for key success factors specific to US companies seeking RDI collaborations with EU organisations).



Table 3 – Key Success Factors for companies to pursue international RDI collaboration between the EU and the US

	Key Success Factors	Main Features
	Engage in trade missions, matchmaking sessions and networking activities in the target region or country	<p>Engaging in trade missions, matchmaking sessions and other networking activities should be a priority at an initial stage of the process to establishing RDI collaborations (e.g., Ready2Go Programme – https://www.b2match.eu/ready2go).</p> <p>It is important to fully understand what RDI collaborations can be developed either in the EU or the US. This requires initial discussions with relevant entities within the region. Often government schemes are necessary and critical to assist SMEs in facilitating this initial step.</p>
	Engage with business support organisations and networks	<p>Through the active engagement with business support organisations and networks (e.g., EEN, EUREKA, US SBA, InBIA, among others), organisations can obtain relevant information and capacity to further understand the elements of each region’s RDI system, as well as receive support initiatives such as: training activities, participation in relevant workshops for sharing of best practices, assessing relevant documents, raising awareness and accessing funding opportunities for supporting international collaborations, among others. A number of EU clusters have established innovation partners in the US.</p>
	Obtain the most relevant information and knowledge from the outset	<p>Companies should gain the most relevant information and knowledge that will assist them in their international RDI collaboration efforts. For example, companies should be aware of the support schemes that exist, namely the funding opportunities available. There are programmes at several levels (National, Regional and Local) and companies, in particular SMEs, are not sufficiently aware of what is available. In this sense, an initial desk research to further understand the existing programmes would be extremely beneficial.</p> <p>In addition, trade agreements between the EU and US should also be assessed – further information on this topic is available in the following link: http://ec.europa.eu/trade/policy/countries-and-regions/countries/united-states/</p>
	Obtain external consultancy services on internationalisation, localisation, legal and financial issues	<p>External consultancy services are considered a plus for successfully engaging in international RDI collaborations, especially what may be complex collaborations involving high financial or IP risks. One relevant action to be taken under this factor is to engage with existing service providers that are EEN partners, such as the EAEC. It is also recommended to engage with organisations that support RDI investments within the EU (such as the EC) and the US (such as the National Science Foundation – NSF). Thus, organisations such as the International Business Innovation Association (InBIA) and the European Business and Innovation Centre Network (EBN) can support interactions with relevant players.</p>



	Key Success Factors	Main Features
	Select the right partner for international RDI collaboration	This may seem to be an obvious success factor. Nevertheless, it is important to establish and prioritise criteria to select the right international RDI partner. For example, the knowledge, experience, and/or technical ability of the organisation may be the highest priority in the selection process. In some cases, a partner with a history of collaborating internationally and an understanding of both regions' RDI systems may be a stronger attribute. It is also important to establish a trust relation between transatlantic partners, which allows to have longer-term cooperation partnerships.
	Obtain private sector capital investment for RDI activities	Establishing a collaboration with a US organisation that has the ability to attract private sector capital investment may be an important aspect to ensuring successful results from the collaboration. As previously detailed by the SWOT analysis, there is a large private sector capital investment community available in the US for supporting RDI activities. Some of the main instruments utilised for this purpose are: business angel (e.g., through the Tech Coast Angels and Common ANGELS), venture capital and corporate venturing, among others ³² .
	Establish collaborations with EU organisations that utilize EU and MS funding schemes	US companies can benefit significantly from collaborations with EU organisations that are knowledgeable of EC and MS RDI funding schemes, with a good track record of supplementing their RDI activities with funds available through these government schemes. This may be particular important when US companies seek RDI collaborations with EU SMEs, since funding sources will be more critical for the SME when compared to public RDI organisations. Thus, participating in programmes such as the H2020, COSME and the 3 rd Health Programme provides enhanced conditions for finding new partners, establishing terms of collaboration and engaging in new RDI topics. US companies that seek RDI collaborations with EU organisations can obtain additional funding through these programmes.

³² <https://www.oecd.org/sti/outlook/e-outlook/stipolicyprofiles/competencetoinnovate/financingbusinessrdandinnovation.htm>



6. CONCLUSIONS AND RECOMMENDATIONS

The aim of this document is to provide relevant information to companies that want to go international for RDI collaboration, through presenting the main needs, perceived barriers and relevant support schemes, as well as key success factors. This document provides an opportunity to draw conclusions on how to enhance international RDI collaboration for EU and US companies. Conclusions on support schemes that can be used, perceived barriers that companies may face, and main factors that should be considered for engaging in a successful international RDI collaboration for EU and US companies are described throughout the document with conclusions and recommendations provided below.

Analysis of Needs, Perceived Barriers and Support Schemes for EU and US companies to go international for RDI

The assessment of the EU and US needs, perceived barriers and support schemes for EU and US companies to go international for RDI collaboration provides the basis for developing a set of key success factors. In this sense, the following can be concluded from this analysis:

- **Main needs of companies seeking international RDI collaboration:** Both the EU and US companies share common needs on their RDI collaboration requirements. For both the EU and US, there is a need to create partnerships with relevant RDI actors in the target market in order to customise and innovate to meet the preferences of the target country or region market. On the other hand, both the EU and US companies perceive there is a need for international RDI collaborations in order to reach specialised skills, as well as build on a company's internal knowledge and capabilities.
- **Perceived barriers to going international:** The main perceived barriers from both EU and US companies considering RDI collaborations are related with the differences in the IPR environment. Thus, patent, trademark and copyright system differences in the EU and US might create a problem for protecting products and processes created through RDI collaborations. In particular, the problems related with trade secrets, costs and procedures in respect to IPR represent an obstacle for transatlantic internationalisation. In addition, obstacles concerning the difficulty in managing and sustaining transatlantic RDI collaboration and limited access to finance are also common to both EU and US companies. In terms of perceived barriers specific to EU companies, the difficulty in developing partnerships between EU companies and US organisations, in particular for establishing the first contact with potential partners, is considered as an obstacle for international cooperation on RDI. The lack of enough financial aid available through internationalisation support schemes that foster RDI collaborations and the differing legal requirements in the EU and US are also regarded as perceived barriers for the EU companies. For the US, the main perceived barrier is related with the difficulty to respond to the different standards and regulations in the EU.
- **Relevant support schemes:** Of the support schemes that assist in the establishment of international RDI collaborations the most relevant is the support provided by the business associations and networks in the promotion of international RDI collaboration, in particular through the bilateral chambers of commerce in each region. The schemes analysed from both regions provide relevant support for addressing the several perceived barriers that were identified. In particular, the services and support provided by the EEN from the EU, and by the EAEC from the US, address several perceived barriers.

Key success factors for RDI collaboration between the EU and US

Following the analysis developed on the main needs, perceived barriers and support schemes, the deliverable identified several



key success factors for further improving international RDI collaboration. The key success factors present some interesting conclusions:

- The majority of the identified key success factors are the same for both EU companies seeking international RDI collaborations with US organisations and US companies seeking RDI collaborations with EU organisations.
- Several key success factors focus on promoting proper interactions with relevant support organisations, as well as taking advantage of support schemes that facilitate networking. This could be explained due to the fact that selecting the right partner or partnering organisation is critical to addressing the need for international RDI collaboration.
- Key success factors indicate the importance of taking advantage of the already well established RDI collaboration between the EU and US. The knowledge created by companies that have long-term ties with EU or US organisations for RDI collaboration should be taken into account and be considered when engaging in the RDI international cooperation process.
- There is a high cultural proximity between the EU and US. However, there are specific RDI needs for the different regions of the US and countries of the EU that should be considered for establishing international RDI collaboration actions.
- For EU companies seeking RDI collaborations with US organisations, there are more opportunities related with obtaining private funding in the US compared to what may be available in the EU. The opportunity can rely on accessing these private funds and fostering RDI actions in the country.
- The EU and US clusters act as an important tool for supporting international RDI collaboration namely on opportunities regarding technology transfer, innovation and business cooperation that can already build on the well-established foundations between transatlantic RDI actors. The first good practice from the PLASTIPOLIS cluster provides a relevant example of cluster to cluster cooperation for the promotion of RDI actions between the EU and US.
- For US companies seeking RDI collaborations with EU organisations, there could be several opportunities associated with public RDI funding, although the majority are targeting EU-based organisations. To take full advantage of public RDI funding opportunities, US companies should seek EU partners experienced in accessing RDI funding schemes and pursue potential funding sources, such as H2020.

The support schemes play an important role in pursuing the identified key success factor. In particular, the schemes address the majority of support actions that are needed for improving the international RDI collaboration.

Recommendations for further improvement of internationalisation support schemes concerning RDI collaborations

Based on the analysis and conclusions provided by this document, a set of recommendations for further improvement of internationalisation support schemes in support of RDI collaborations between the EU and US is described below:

- Provide sustainability actions to ensure the international RDI collaboration is maintained after the support schemes are implemented, in particular through longer term investments.
- Increase the amount of financial support for international RDI collaboration. This could be complemented by the provision of higher amounts of support for developing matchmaking missions, transatlantic travels, mobility between private sector actors and academics, or for addressing obstacles related with regulatory complexity.
- Provide detailed guidelines to better define the application procedure and explain the required steps for participating and/or applying to the different RDI financial support schemes.
- Continue to invest on public support programmes, which are perceived by business networks and companies as the most preferred channel to receive financial support.
- Develop further cooperation agreements between the EU and the US that facilitate future international RDI



collaboration.

- Promote further cluster to cluster cooperation to increase international RDI collaboration between the EU and US. As defined by the EC, clusters “are groups of specialised enterprises other related supporting actors that cooperate closely together in a particular location”³³. This allows the promotion of innovation actions from members and companies that are part of the cluster. Therefore, EU cluster management organisations are well-positioned to facilitate RDI cooperation between their cluster members and like organisations in the US.
- Provide further opportunities within the H2020 programme in order to increase the participation of US companies in RDI collaboration projects with the EU, and EU companies in RDI collaboration projects with the US. Programmes such as the SME Instrument are considered very important for this purpose.

It is relevant to highlight the important contribution provided by the interviewees and survey respondents, in particular for supporting the identification of three good practices, and for providing insight to the recommendations for the improvement of the support schemes.

EU and US companies need to address several factors before engaging in international RDI collaboration with the other region. The support schemes available play a key role in helping companies in this process, through the development of matchmaking missions, supporting IPR issues, engaging with innovation actors and providing relevant services to better understand the target market.

³³ https://ec.europa.eu/growth/smes/cluster_en



ABBREVIATIONS

BCC	Business Cooperation Centres
DG	Directorate-General
DG GROW	Directorate-General for Internal Market, Industry, Entrepreneurship and SMEs
DG RTD	Directorate-General for Research and Innovation
DG SANTE	Directorate-General for Health and Food Safety
DoC	Department of Commerce
EAEC	European American Enterprise Council
EASME	Executive Agency for Small and Medium-sized Enterprises
EBN	European Business and Innovation Centre Network
EC	European Commission
ECCP	European Cluster Collaboration Platform
EEN	Enterprise Europe Network
ESCPs-4i	European Strategic Cluster Partnerships – Going International
EU	European Union
FDA	Food and Drug Administration
FP7	Seventh Framework Programme
FTA	Free Trade Agreement
FTE	Full-time Equivalents
H2020	Horizon 2020 EU Framework Programme
ILC	Infrared Light Communications
InBIA	International Business Innovation Association
IPR	Intellectual Property Rights
ITA	US International Trade Administration
IUCRC	Industry-University Cooperative Research Center
MoU	Memorandum of Understanding
MS	Member States
NSF	National Science Foundation
RDI	Research, Development and Innovation



SBA	US Small Business Administration
STI	Science, Technology and Innovation
SWOT	Strengths, Weaknesses, Opportunities, Threats
TTIP	Transatlantic Trade and Investment Partnership
US	United States of America
USITC	United States International Trade Commission
VLC	Visible Light Communications



REFERENCES

- Commission Staff Working Document, Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on “Enhancing and Focusing EU International Cooperation in Research and Innovation: A Strategic Approach”, 2014
- Directorate-General for Research and Innovation, <http://ec.europa.eu/research/index.cfm?pg=dg>
- Directorate-General for Research and Innovation, Horizon 2020, <http://ec.europa.eu/programmes/horizon2020/>
- EMERGO Group, <https://www.emergogroup.com/resources/worldwide/global-regulatory-comparison-tool>
- Enterprise Europe Network, <https://een.ec.europa.eu/>
- European American Enterprise Council, <http://www.eaecouncil.com/index.html>
- European Cluster Collaboration Platform, <https://www.clustercollaboration.eu/>
- European Commission, Trade, <http://ec.europa.eu/trade/policy/countries-and-regions/countries/united-states/>
- European Economic Diplomacy – Position Paper, Eurochambres, 2015
- European IPR Helpdesk, https://www.iprhelpdesk.eu/CS_IP_opportunity_with_the_support_of_the_EE_Network
- European Strategic Cluster Partnerships – Going International (ESCPs-4i), <https://www.clustercollaboration.eu/eu-cluster-partnerships>
- Eurostars (managed by EUREKA), <https://www.eurostars-eureka.eu/>
- FireFlyWiFi, <http://www.fireflywirelessnetworks.com/>
- Improving knowledge transfer between research institutions and industry across Europe, DG Research and Innovation, EC, 2007
- International Business Innovation Association (InBIA) <https://inbia.org/>
- Internationalisation of European SMEs – Final Report, EU, 2010
- Internationalisation of SMEs Enterprise Europe Network – Internationalisation of Earth Observation Companies, DG for Internal Market, Industry, Entrepreneurship and SMEs, 2016
- OECD, Financing business R&D and innovation, <https://www.oecd.org/sti/outlook/e-outlook/stipolicyprofiles/competencetoinnovate/financingbusinessrdandinnovation.htm>
- Operations Evaluation, Evaluation of i2i Research, Development and Innovation (RDI) projects, EIB, 2007
- Plastipolis, <http://www.plastipolis.fr>
- Small and Medium-Sized Enterprises: U.S. and EU Export Activities, and Barriers and Opportunities Experienced by U.S. Firms, USITC, 2010
- Small and Medium Sized Enterprises and the Transatlantic Trade and Investment Partnership Report, Transatlantic Trade & Investment Partnership, EU, 2014
- Small Business Administration, <https://www.sba.gov>
- Study on Support Services for SMEs in International Business, ECSIP Consortium, DG Enterprise and Industry, 2013
- TactoTek, <http://www.tactotek.com/>
- The New England Journal of Medicine, <http://www.nejm.org/doi/full/10.1056/NEJMh113918#t=article>
- Transatlantic Trade and Investment Partnership (TTIP), <http://ec.europa.eu/trade/policy/in-focus/ttip/>
- US International Trade Administration, <http://trade.gov>
- World Trade Report 2016, WTO, 2016

