



THEMATIC UNIVERSITY-BUSINESS FORUM

UNIVERSITIES AND BUSINESSES
Building Euroregional Ecosystems

FORUM REPORT

18-19th October 2016,
Miramar Palace, San Sebastián - Spain



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Organizers



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List of Acronyms

Acronyms	
CEO	Chief Executive Officer
ECTS	European Credit Transfer System
EHEA	European Higher Education Area
EIT	European Institute of Innovation and Technology
HE	Higher Education
HEI	Higher Education Institution
IP	Intellectual Property
JADE	European Confederation of Junior Enterprises
KICs	Knowledge and Innovation Communities
LEED	Local Economic and Employment Development
MSCA	Marie Skłodowska-Curie Actions
OECD	Organisation for Economic Co-operation and Development
RDI	Research Development Innovation
SME	Small and medium enterprise
UBC	University-Business Cooperation
UBForum	University-Business Forum
VET	Vocational Education and Training

1.0 Introduction

The European Commission established the University Business Forum (UB Forum) in 2008 to advance, facilitate and support cooperation between universities and businesses. It brings together a wide range of stakeholders (higher education institutions, companies, business associations, intermediaries, and public authorities) at the European level to facilitate them in the transfer and sharing of knowledge, and building sustainable partnerships for innovation, entrepreneurship and creativity. UB Forums provide a space for open debate, exchange of ideas, networking, mutual learning and highlighting best practice examples of cooperation between universities and businesses.¹

In this context, it is recognised that universities and the business community need to develop strong cooperation, through their complementary roles in generating new knowledge and innovations, and in supporting the development of key skills and competences needed by business and industry. Highly skilled people can increase the creativity and innovative potential of the organisations they manage or work for.

Consequently, universities and graduates are increasingly encouraged to adopt entrepreneurial behaviours, and to establish their own spin-off and start-up companies. Both higher education institutions and business are active in technology, research and development thereby creating opportunities for mutually beneficial relationships and knowledge sharing.

Following the first UB Forum in 2008, there has been a series of events in Member States with the most recent one taking place in Donostia - San Sebastián, Spain, in October 2016.² The UB Forum in San Sebastián was organised by the European Commission and the Basque Government,³ with the collaboration of the Universities in the Basque Country⁴ and their partner Universities in Aquitaine,⁵ Euskampus Foundation,⁶ ConfeBask⁷ (the Basque Business Confederation) and the City of Donostia-San Sebastián.⁸

The two-day event brought together representatives from the private sector, public authorities and higher education institutions from across Europe and the world. The event engaged and encouraged interaction between participants through keynote speeches, interactive workshops, networking activities, project showcases and discussions. The programme is detailed in Annex A.

The thematic focus of the UB Forum was “*Universities and Businesses: Building Euroregional Ecosystems*”. The UBF focused on the Euro-regional perspective for trans-border

university-business cooperation under joint strategies of border-regions’ development, for which the ‘Basque Country - Nouvelle Aquitaine Euro-region’ can pose tangible examples of responsible, durable and fruitful partnerships to promote knowledge and innovation ecosystems involving universities, companies, public administration bodies, and society at large. Other key issues covered were:

- **Trans-border University-Business Cooperation...** Although borders can be designed to inhibit mobility, they have also been area of collaboration, creativity and innovation. In the complex relations between higher education and businesses, the trans-border aspect of cooperation means not just increased complexity but also more enhanced opportunities for innovation;
- **Cultural entrepreneurship...** Universities, companies, public institutions and other social actors find in cultural entrepreneurship a challenging and increasingly vibrant arena for exchange and cooperation. The aim of this session was to shed light on how new kind of partnerships can improve the conditions for cultural entrepreneurs around Europe; strengthen their roots in local communities and help them deliver a meaningful reinterpretation of our shared cultural heritage;
- **University-Business Cooperation and the impact on urban, territorial and regional development...** Universities and higher education institutions play a very important role in the socio-economic development and transformation of their community. Their contribution has always been linked to collaboration with different stakeholders in the region. However, are we facing a period in which the role of universities in relation to the impact on its territory is changing? What are the new challenges that society is facing which require new forms of cooperation between universities and business?

¹ http://ec.europa.eu/education/tools/university-business_en.htm

² <http://www.ubforum-basquecountry.eu/>

³ <http://www.euskadi.eus/gobierno-vasco/inicio/>

⁴ <http://www.ehu.es/en/en-home> , <http://www.deusto.es/cs/Satellite/deusto/en/university-deusto>, <http://www.mondragon.edu/eu>

⁵ <http://www.univerzities.com/france/aquitaine/>

⁶ <http://euskampus.ehu.es/?lang=en>

⁷ <http://www.confebask.es/>

⁸ <http://www.donostia.eus/>

2.0 Highlights of the San Sebastián UB Forum

The UBF San Sebastián provided participants with a unique insight into a cross-border UB collaboration that spans countries, cultures, sectors, and governance structures. The presentations ranged widely across the opportunities generated through effective and sustainable university-business cooperation. They underlined the importance of trust, an enabling and supportive governance framework, and an ability to innovate across sectors and organisational structures.

A particular cross-border collaboration was a key focus of this UBF, and is the Euroregion Euskadi-Aquitaine.⁹ It shows

how a well-structured and ‘enabled’ partnership can work together with other initiatives at the local, urban, and sub-regional level to build a strong base for entrepreneurship and innovation. And, it shows how investment into physical infrastructure (particularly funded through EU regional funds) eases the ability of universities and businesses across challenging geographical landscapes can work together – from the extensive landscape of Aquitaine to the Pyrenees and the more mountainous features of the Basque country.



Figure 1: The UBForum venue: Miramar Palace

⁹<http://www.aquitaine-euskadi.eu/en/>

There were important lessons from those who participated in the programme.

1. The presentations showed that what can start as a small-scale collaboration can develop into a formally recognised cross-border collaboration with a strong joint approach to governance.
2. Trust is fundamental in collaborating across the many 'spaces' of UBC – these range across physical space, governance space, sector spaces, science and other disciplinary spaces.
3. Trust engenders 'sharing' across the many spaces, and sharing of knowledge and research infrastructures acts as an important multiplier for entrepreneurship and innovative potential.
4. UBC is not just about 'hard science' but is also about exploration, culture, risk-taking and vision.
5. Mobility does not have to be just that of the 'practitioners' involved in UBC. A particular example of one of the leading Basque restaurants showed how a very 'locally focused' business, sourcing ingredients from the locality, could generate significant inward mobility of customers from across the globe, to experience cooking that is at the leading innovative edge in creativity and quality.
6. Universities who team with regional and local business bring a global perspective to the partnership through their research networks.

There were other important perspectives from the presentations. They showed that well-targeted funding is important in enabling collaboration to grow and to become sustainable, and the EU mobility initiatives have been important in providing the conditions for partners to work across national and regional regulatory and funding frameworks. They showed the importance of a vibrant innovation ecosystem in helping to retain highly-skilled graduates who come from universities with real-world business experience.



Figure 2: From left to right, Peter Baur (DG Education, Youth, Sport and Culture, European Commission), Iñigo Urkullu (President of the Basque Government), Cristina Uriarte (Minister for Education, Linguistic Policy and Culture, Basque Government), Adolfo Morais (Vice-Minister for Universities, Basque Government), and Iñaki Goirizelaia (Rector, University of the Basque Country).

3.0 Speakers and moderators

The speakers, panellists, presenters, rapporteurs and moderators who contributed to the Donostia-San Sebastián UBForum are noted below. Further details about the speakers can be accessed on the Forum website: <http://www.ubforum-basquecountry.eu/speakers.php>

Moderators

Igor Campillo -

Euskampus Fundazioa, Basque Country

Bart Kamp,

Orkestra Institute, Basque Country

Speakers

Peter Baur -

European Commission, DG Education and Culture, Belgium

Andde Sainte-Marie -

Conseiller Régional of Conseil Régional
Nouvelle-Aquitaine, France

Iñigo Urkullu -

Lehendakaria - President of the Basque Government,
Basque Country

Pedro Miguel Etxenike -

Professor of the University of the Basque Country and
President of Donostia International Physics Center,
Basque Country

Helene Jacquet -

Directrice générale des services adjointe déléguée au
pôle recherche, international, partenariats et innovation,
University of Bordeaux, France

Josean Alija -

Chef, Nerua Restaurant, Bilbao, Basque Country

Nekane Balluerka -

Vice-rector for post-graduate studies and international
relations, University of the Basque Country,
Basque Country

Xabier Erdocia -

MA+D, Basque Country

Borja Lizari -

CEO, Kiro Robotics, Basque Country

Virginie Rosa -

R&D Director, Sport Controle, France

Cristina Uriarte -

Sailburua - Minister of Education, Linguistic Policy and
Culture of the Basque Government, Basque Country

Kevin Morgan -

Professor of Governance and Development, Cardiff
University, United Kingdom

Marc Moulin -

Director, European Grouping of Territorial Cooperation
Aquitaine-Euskadi Euroregion, France

Panellists

Carlos Pereda -

Basque Companies ConFederation – Confebask,
Basque Country

Stefan Chaligne -

Secretary General, Union des Industries et Métiers de la
Métallurgie du Loiret Région d'Orléans, France

Josep Bordonau -

Director of Education, KIC Innoenergy Iberia, Spain

Mona Boyé -

Scouting and Program Manager, Ksilink,
Strasbourg, France

Luis Norberto Lopez de la Calle -

University of the Basque Country, Center for Advanced
Manufacturing in Aeronautics, Basque Country

Denis Crowley -

European Commission, DG Education and Culture, Belgium

Christoph Weckerle -

Zurich University of Arts, Director for Department of
Cultural Analysis, Switzerland

Mona Herter -

Secretary general, JADE - European Confederation of
Junior Enterprises, Belgium

Lars Gustavsson -

Director for new products development, Orona,
Basque Country

Presenters

Salustiano Mato -

Rector, University of Vigo, Spain

Benjamin Böhle-Roitelet -

Founder + more ekito / grand builder, Ambassadeur La
FRENCH TECH -OCEAN TECH, France

Janosch Nieden -

Director, EUCOR - The European Campus EVTZ, France)
(together with Coralie Bajas), France

Paco Dubosq -

Vice-président, GIPSO - Groupement des Industries
Pharmaceutiques et de Santé du Sud-Ouest/Chargé
de mission santé "bénévole" - Fondation Bordeaux
Université, France

Juan María Collantes -

University of the Basque Country, Basque Country

Stephane Dellier -

AMCAD Engineering, France

Eija Källström -

Director of International Projects, Arcada University of
Applied Sciences, Finland

Clara Montero -

Director for Cultural programming, Azkuna Zentroa,
Bilbao, Basque Country

Monika Sapielak -

CEO, Centre for Creative Practices/Artconnected,
Wicklow, Ireland

Jesús Briones -

Program Manager, El Muro, Madrid, Spain

Richard Sant -

Head of Careers and Employability, University of the Arts
London, United Kingdom

Jose Mari Aizega -

Director, Basque Culinary Center, Basque Country

Pablo García -

Manager for Program Nanocathedral, Fundación
Catedral Santa María de Vitoria, Basque Country

Cristina Tapia -

International manager, Confederación Española de
Junior Empresas, Spain

Roberto Uribe-Etxebarria -

Mondragon University, Basque Country

Maurizio Marchese -

Pro-rector, University of Trento, Italy

Miren Larrea -

Orkestra Institute, Basque Country

James Carlsen -

University of Agder, Norway

Arturo Alvarado -

Rector, Mondragon – México University, Mexico

Iñaki Heras -

Professor at Department of Management, University of
the Basque Country, Basque Country

José Pietri -

Mindshare Consulting, Paris, France

Facilitators

[Iñaki Goirizelaia](#) -
Rector, University of the Basque Country,
Basque Country

[Jaime Cuenca](#) -
Institute of Leisure Studies, Deusto University,
Basque Country

[Jon Altuna](#) -
Academic Vice-Rector, Mondragon University,
Basque Country

Rapporteurs

[Tim Smithers](#) -
CEO, TSRI, Basque Country

[Heike Fischbach](#) -
Harz University of Applied Sciences, Germany

[John Edwards](#) -
JRC for S3, European Commission, Belgium

4.0 Day 1

4.1 Welcoming speeches



Peter Baur, European Commission, DG Education and Culture, gave a general welcome covering the UBF developments by the European Commission, citing the Erasmus+ programme and the Knowledge Alliances with their goal to developing the cooperation between Higher Education Institutions (HEI) and Businesses, the European Institute of Innovation and Technology (EIT¹⁰) with its Knowledge Innovation Communities (KICs) implementing co-location centres for innovation, combining sectoral, regional, national and international cooperation in innovation, the Marie Skłodowska-Curie Actions (MSCA¹¹) which are bringing companies and researchers together.



Andde Saint-Marie, Conseiller Régional of Conseil Régional Nouvelle-Aquitaine, echoed these thoughts. Aquitaine was a strong region largely thanks to the essential contribution of its universities to progression and innovation. Particularly through the Euroregion Euskadi-Aquitaine, universities are at the heart of the regional development. The cross-border regional cooperation and innovation are driven by the universities, which in turn strongly drive the European focus underlying the Euroregion. Innovation in key sectors has placed the Euroregion in a unique position with strong prospects for the future.



The President of the Basque Government (Lehendakaria), **Iñigo Urkullu**, was pleased to welcome the University-Business Forum participants to Donostia- San Sebastián, the European Capital of Culture 2016. The link to the European cultural initiative put cultural entrepreneurship firmly on the agenda and it was with great pleasure that this sector was included in the Forum for the first time. Cultural Entrepreneurship provided an ideal arena to forge cooperation with a view to sustainable development across sectors, a topic at the heart of the strategy for the Basque Country.

He invited Forum participants to forge links, exchange ideas and encourage start-ups to cooperate across borders, to live the European dimension that was evident in the region. Cross-border cooperation as it existed in the Basque Country – Nouvelle Aquitaine Euroregion currently was being expanded to include the region of Navarra which will further unite the smaller regions to pool their expertise and to develop effective cooperation involving all stakeholders.

¹⁰<https://eit.europa.eu/>

¹¹<https://ec.europa.eu/programmes/horizon2020/en/h2020-section/marie-skłodowska-curie-actions>

4.2 Keynote speeches

The first keynote presentation focused on “Basic Research? Yes, of course”, and was given by Professor **Pedro Miguel Etxenike** - Professor of the University of the Basque Country and President of Donostia International Physics Center.



The speech by **Professor Pedro Miguel Etxenike** was a passionate defence for investment in basic risk-taking research in science, emphasizing the positive relationship between wealth and investment in basic research and science. Arguing that university-business collaboration can only be successful when both partners fulfil their specific missions, he highlighted examples from the United States where the relationships between universities and business are the key to the innovation ecosystem.

In the United States the national annual endowment amounts to about \$40 billion for basic science, compared to \$170 million for humanities and \$150 million for Arts. Disruptive technologies emerge from basic knowledge and research, although curiosity-driven research is also crucial for development. Without it, there is a risk of a lock-in to a process of the incremental development of earlier research.

CEOs of the major US companies, such as IBM, GE, and Kodak have lobbied the US Congress to continue to invest Federal funding into university research. They were not advocating short-term business research (which business can do itself), but highlighted the need for resources to support long-term basic research. Without adequate Federal support the extent and quality of risk-taking university research would deteriorate.

Challenges for the progress of Science

- Overcome the barriers between disciplines
- Connect with relevant social needs
- Increase public interest
- Assure a diversified work force in science and
- Increase in a balanced way the investment in R&D

<http://www.neriaguggephembilbac.com/en/cartel/>

Figure 3: The challenges for science

Professor Etxenike noted that a new mission has recently been agreed for the Basque university system. It is a dual mission to protect and advance basic research, and to make it more easily translatable into applications and technologies in a geographically rooted fashion. Maintaining and developing the regional innovation ecosystem is essential, and the universities are fundamentally important in this context as centres of excellence.

Universities need autonomy to set their research objectives, build long-term stability for research activities, and achieve a balance between teaching and research to attract excellent students in order to produce the future researchers. This helps to maintain and develop the regional innovation ecosystem. The Basque Country has a long way to go to reach the US investment levels in basic science. In the future, collaborative societies will be those that are better based for success.



Helène Jacquet



Nekane Balluerka

Helène Jacquet (Directrice générale des services adjointe déléguée au pôle recherche, international, partenariats et innovation, University of Bordeaux, France) and **Nekane Balluerka** (Vice-rector for post-graduate studies and international relations, University of the Basque Country) presented the second keynote. Titled “Sustainable regional co-operation in Higher Education and Research: Basque Country – Nouvelle Aquitaine” they reviewed the Basque Country and Nouvelle Aquitaine Euroregion¹² collaboration in higher education and research.

The cross-border collaboration has long roots but was formalised in 2011 when the Euroregion was officially established. In 2016 as a result of the regional reform in France, the Euroregion was expanded with the expansion of Aquitaine into Nouvelle Aquitaine. In future, the region will grow further with the accession of Navarre.

A key actor in the cross-border higher education and research collaboration is the Euroregional Campus of International Excellence¹³ which helps expand the collaboration between the University of the Basque Country (UPV/EHU) and Bordeaux University. Since 2011, the nationally driven excellence initiatives in Spain and France, namely the UPV/EHU’s EUSKAMPUS¹⁴ and Bordeaux University’s IdEx¹⁵ have pursued close cross-border collaboration in education and research to benefit 114,000 students, nearly 10,000 researchers, 4,500 administrative staff, and local economies on both sides of the border.

The operational strategy of the Euroregional campus builds on the respective strengths of Euskampus and IdEx Bordeaux, and aims to diversify opportunities for staff,

students and partners. The aim is to develop new joint academic programmes, increase cross-campus mobility, promote RDI and knowledge transfer in the shared areas of excellence and promote the campus worldwide. It will contribute to develop a Euroregional knowledge-based identity.

In 2014 the Euroregional Campus of International Excellence consolidated their activities, and now there is ‘fluent’ cooperation – joint studies, shared research and innovation spaces with growing mobility between the partners. A helpdesk offers services to universities, communities and businesses, and occasionally also finance support.

Double degrees are being offered (oenology, sports, finance, bioinformatics), and there are two cross-border laboratories in nanomaterials and advanced manufacturing. 30 PhD positions with shared supervision (in co-tutelle) are being provided with soft skills training. Collaborative research has resulted in a 100% increase in publications since 2013 compared to 2000–2012. Joint proposals to Horizon 2020, Erasmus+, and EIT KICs have been successful.

¹² <http://www.aquitaine-euskadi.eu/>

¹³ <http://www.ehubaq.eu/>

¹⁴ <http://euskampus.ehu.es/?lang=en>

¹⁵ <http://idex.u-bordeaux.fr/>

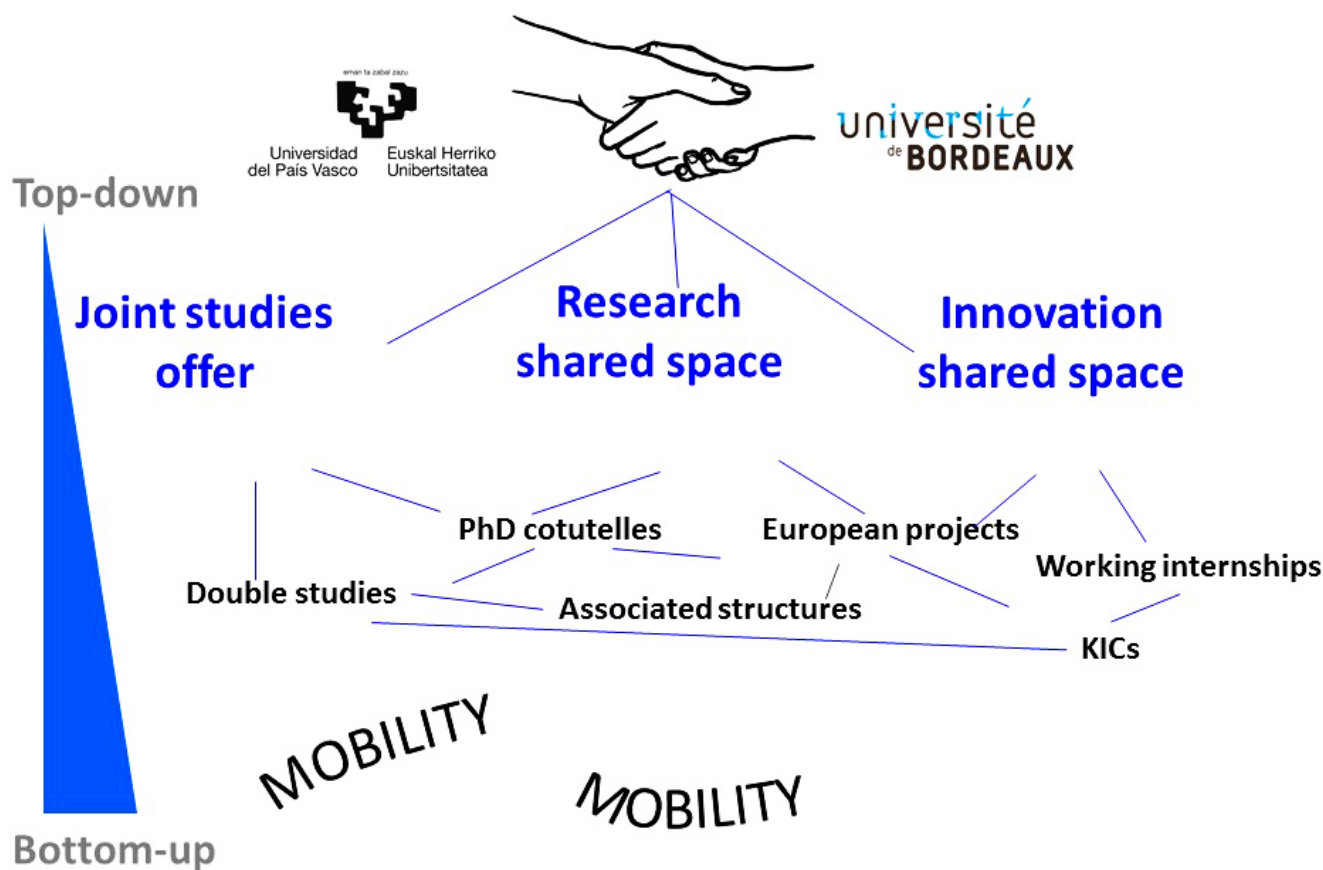


Figure 4: Key success factors of the Euroregional Campus

From the original top-down project promoted by university leaders, the Euroregional Campus has developed into a community-driven action which is increasingly grounded on a quadruple helix model. This is evident from the development of the participation in the Euroregional campus symposiums. The first Symposium in 2014 started a new stage in the collaboration by the signature of a comprehensive convention to institutionalise the Alliance. The 2nd Symposium in November 2015 was the confirmation of the appropriation of the Alliance by the communities by bringing together 380 participants from all stakeholders focusing on administration, innovative pedagogies, and industry relations.

At the same time, pilot projects have been replaced by a more formalised institutional strategy with collaborative efforts in health and well-being, particularly in chronic diseases and active ageing (Chronicity Valley¹⁵), oenology, ocean action exports, and blue growth and oceanography. The Euroregional campus is also becoming a driver of a collaborative smart specialisation strategy, by focusing on international visibility.

In the next phase, the Euroregional campus will improve the system for postgraduate double degrees, consolidate the (co-tutelle) PhD community with shared supervision, and develop more shared laboratories. There remains a need for improved funding for PhDs and for enhancement of mobility for administrative staff. Equally there is also a need to develop a Euroregional internship programme for students as well as innovative training platforms focused on marine and other common industry sectors.

The partners aim to work more closely with EIT KICs in collaborative research, with an aim to become a Research and Innovation Centre in the future KIC for advanced manufacturing. Together they will promote trans-disciplinary research to address global challenges. By opening the networks of one partner to the other (in Latin America and North Africa) and vice versa the Euroregional Campus will create a network of networks multiplying their global reach. Finally, they will build common efforts with other inter-regional cross-border alliances.

¹⁵ <http://www.aquitaine.fr/actions/territoire-durable-et-solidaire/sante-durable/maladies-chroniques-la-chronicity-valley>

4.3 Panel discussion – Smart and innovative strategies for Higher Education in Europe in the University–Business context

The first panel discussion examined “Smart and innovative strategies for Higher Education (HE) in Europe in the University–Business context”. The session was moderated by Bart Kamp (Orkestra – the Basque Institute of Competitiveness¹⁷), and the participants were:

- **Carlos Pereda** (Basque Companies ConFederation – Confebask¹⁸);
- **Stefan Chaligne** (Secretary General, Union des Industries et Métiers de la Métallurgie du Loiret Région d'Orléans¹⁹, France);
- **Josep Bordonau** (Director of Education, KIC Innoenergy Iberia²⁰, Spain);
- **Mona Boyé** (Scouting and Program Manager, Ksilink²¹, Strasbourg, France).



Bart Kamp



Carlos Pereda

Bart Kamp introduced the session, noting that the aim was to gain an understanding as to whether UBC is happening on a wide scale, and to look at cooperation in training, research, trans-regional cooperation across borders. He reviewed the need to consider what is the right scale of a territory for partnering – a region, cross-border constellation, or at a European scale. Cooperation is driven by the size of companies and their particular research and innovation needs.

The four panel members then introduced themselves. **Carlos Pereda** noted that his organisation was representing companies in Basque country. **Stefan Chaligne** stated that cooperation with universities is well established in France in engineering which is of relevance to his company. **Josep Bordonau** gave the perspective from a member of an EIT Knowledge Innovation Community (KIC²²), noting that KIC collaboration enables locally based innovation ecosystems to link through co-location centres²³ to the European level. **Mona Boyé** spoke from the context of a public-private partnership between companies and universities (Strasbourg and Heidelberg) in Germany and France.

Bart Kamp asked whether more should be done, and by who, so as to accelerate the levels of UBC. **Carlos Pereda** responded by emphasising good governance, and a strong regional embedding of the key players in the ecosystem. Intersectoral and interpersonal relationships are important in creating a culture of collaboration. **Stefan Chaligne** noted that it is important to share good governance, to mutually understand how each partners' governance system operates, so that big decisions can be taken quickly and effectively. So, people with a 'double profile' (boundary- spanning expertise) can be valuable.



Josep Bordonau



Stefan Chaligne

Bart Kamp considered the terms of UBC, examining what factors are driving companies to collaborate. **Josep Bordonau** stated that SMEs are looking for global ties, and the KIC is an important facilitator. It also can link students from around the world to local companies. Therefore, the KIC is a geographical bridging facility, managing mobility at many scales. **Mona Boyé** identified needs to provide effective information and understanding of businesses, to know what can be achieved if a link is created with a university – so mediators are helpful.

¹⁷ <http://www.orkestra.deusto.es/en/>

¹⁸ <http://www.confebask.es/>

¹⁹ <http://www.ui45.com/>

²⁰ <http://www.kic-innoenergy.com/office/iberia/>

²¹ <http://www.ksilink.com/>

²² <https://eit.europa.eu/activities/innovation-communities> "The EIT's Knowledge and Innovation Communities (KICs) are partnerships that bring together businesses, research centres and universities."

²³ <https://eit.europa.eu/map-types/co-location-centre-clc>

Kevin Morgan asked **Carlos Pereda** to respond to the OECD²⁴ identification of serious problems in university-business engagement in the Basque region, and to highlight what can universities do to improve relationships with business. **Carlos Pereda** responded that in UBC the universities often do not know companies well enough, and vice versa. **Stefan Chaigne** observed that there is a structural problem where in France SMEs cannot approach a university to undertake research. **Mona Boyé** noted that technology transfer offices in universities can help bridge to company needs. They also can mediate between the academic desire to publish (a slow process) and the company need to absorb research advances quickly.

Questions from the audience first addressed the process of internationalisation and UBC. The panel noted that there is a new generation of mobile and multilingual students who provide a resource base for companies (and universities) to internationalise. A KIC has a long-term focus (15 years+) so it is able to develop links more 'naturally' over a long time-period, rather than on a short-term or ad hoc basis. The EIT KIC has an innovation manager, and they try to separate background and foreground intellectual property (IP). There is a legal mechanism in a consortium agreement with a section on IP.



Mona Boyé

Mona Boyé was asked about the need for trust among partners, and admitted that there was an initial language and cultural barrier between stakeholders across the Rhine and in Switzerland, Germany, and France. Meetings, discussions and continuous dialogue are important in building understanding (especially about how to bridge the time dimensions of research production and business need) and developing trust. The relationships were industry-driven, and succeeded best where the university system was receptive to their needs.

4.4 Start-up testimonials

Three contributions then provided tangible examples of the benefits of university-business collaboration across the Basque Country – Nouvelle Aquitaine Euroregion.



Xabier Erdocia

MA+D – Xabier Erdocia²⁵. This start-up company focuses on waste recovery engineering. It is a spin-off from the University of the Basque Country, and was created in 2014, located in San Sebastian, and it was based on University research cluster activities. It has more than 10 years of experience within the group in recovery of agroforestry and agricultural biomass waste. The main objective of the company is to develop high value-added products from the recovered biomass, which can be sold commercially.

The processes are based on the extraction of various bio-components for further use and the creation of bio-environmentally friendly components. The overarching aim is to support companies to become more environmentally friendly through recycling their waste which will enhance their corporate image and ultimately save them money. Currently, a range of research projects are ongoing which also include consultancy.



Borja Lizari

Kiro Robotics – Borja Lizari²⁶, CEO. Mondragon University²⁷, Basque Country. The company employs 40 people, and has six years of activity. It was established in 2010 within the Mondragon Corporation²⁸. The focus is on robotics for healthcare, benefitting from the combined skill-sets of automation and medical developments. It has moved from being an engineering company with pharmaceutical input, to a pharmaceutical company with engineering input which was necessary to get the robot to market. Its main product is a robot that prepares the dosages for intravenous treatments for cancer patients, which improves the safety for the patient as well as the technicians.

²⁴ <https://www.oecd.org/spain/oecdreviewsofregionalinnovationbasquecountryspain.htm>

²⁵ <http://valorizacion.modoprueba.es/> and <http://www.ehu.eus/en/web/biorp/home>

²⁶ <http://www.kirogrifols.com/about/>

²⁷ Mondragon University is a non-profit cooperative private university in the Basque Country, officially established and recognised in 1997. It is part of Mondragon Corporation. Its main campus is in Mondragón, Gipuzkoa. Wikipedia

²⁸ <http://www.mondragon-corporation.com/eng/>

A first prototype of the robot was ready in 2012, and a private hospital in San Sebastian, with a core interest in testing new technologies, supported the testing and refining of the prototype. The successful prototyping attracted investment from a pharmaceutical company which bought half of the shares of the spin-off. This enabled international expansion.

Since 2015, there is significant interest from and growth in the American market, which is supported through collaboration with for instance Yale University. However, international expansion requires a different approach through the set-up of local representatives, and setting-up subsidiary companies. The growth potential for the product is good as market penetration is low. However, product placement can take a significant amount of time as negotiations with hospitals may take substantial time (e.g. with one hospital in France negotiations took 2 years).



Sport Controle – Virginie Rosa, R&D Director²⁹. Prof. Sophie Herrera, who was involved in the start-up from the University of Bordeaux, apologised for Virginie's absence and presented Virginie's slides. Sport Controle was founded in 2008 out of the University of Bordeaux, France, as a network of health specialists with biomechanical and physiological expertise. The aim was to combine the expertise into "ergomedical" design to develop products and services to make sports safer and healthier for athletes and teams to maximise performance.

This included the development of proprietary software, which helps to model the best possible products for the specific needs of individual athletes. The individual product design and development involves an iterative process of computer simulation, medical lab testing and live testing involving scientifically validated approaches. Products that have been realised include for instance a specific surf wetsuit with optimum thermo-regulatory properties, or the testing of sun protection products.

²⁹ <http://sport-controle.com/>

5.0 Breakout Sessions

5.1 Trans-border University-Business Cooperation

This breakout session showcased five successful stories of trans-border university-business cooperation in action.



Igor Campillo



Tim Smithers

The session was moderated by **Igor Campillo**, Euskampus Fundazioa, Basque Country, on behalf of Iñaki Goirizelaia, Rector of the University of the Basque Country, and the rapporteur was **Tim Smithers** (CEO, TSRI, Basque Country).



Benjamin Böhle-Roitelet

Benjamin Böhle-Roitelet, (Founder+more ekito, Ambassadeur La FRENCH TECH - OCEAN TECH³⁰) presented the activities of French Tech,³¹ which represents start-up communities in France, and also French start-ups internationally “via its 12 French Tech hubs: New York, Israel, Tokyo, San Francisco, Montreal, Cape Town, Hong Kong, Moscow, Barcelona, London, Abidjan, and Seoul”. Ocean Tech is a large start-up with bases in Toulouse, Nice, Avignon and Corsica. It has strong government support.³² Their current development focuses on building a residency building for university researchers and start-ups, and another for collaboration. They are re-thinking the ways in which they work with French universities. There is tech-transfer but it is not sufficiently business oriented, so building the OCEAN³³ ecosystem will help deliver improved transfer. When asked how they prepare students to be more entrepreneurial, he responded that one important training activity is learning to fail, and starting up again.

Tim Smithers noted that this initiative was diffusing a traditional border between universities and businesses by building an interaction space to disintermediate traditional borders. He asked if that approach would work as successfully in the Spanish context as it has in France, and Benjamin Böhle-Roitelet responded that they have worked well with businesses in Barcelona, and that the process is transferrable.

³⁰ <http://www.ocean-livinglab.eu/actualite/ecosysteme-ocean-tech/>

³¹ <http://bonjourlafrenchtech.com/>

³² <http://en.lafrenchtech.com/government-support/>

³³ <http://www.ocean-livinglab.eu/un-label-french-tech-pour-la-ocean-tech-83281>



Janosch Nieden (Director, EUCOR³⁴ - The European Campus EVTZ, France) (together with Coralie Bajas) presented Eucor - the European Campus, an example of cross-border academic cooperation in a border region of France, Germany, and Switzerland (Upper Rhine tri-national region). The region has a high density of SMEs and education and research institutions, and is a fast-developing economic area with five universities (Freiburg, Karlsruhe, Strasbourg, Basel, University of Haute-Alsace Mulhouse), 60 other HEIs, and 50 research institutes. There are 160,000 higher education students and 20,000 researchers. Central coordination is in Strasbourg.

Since 2010 they have agreed a tri-national strategy for cross-border excellence that includes SMEs. In 2014 it became Eucor (the European Campus), and in 2016 it became a legal entity based in Freiburg. It preserves the autonomy of the institutions, but has joint administration, doctoral candidates, dual degrees, research projects and service departments, common research infrastructures to attract international researchers, joint professorships, and aims to be a trans-border role model.

It has received 2 million Euros through the Interreg programme, including establishing the common infrastructure and establishing the profile of a common science and research area, along with a common communication strategy. Effort has been put into trust-building activities, links to chambers of commerce and business networks, being more politically aware, and developing activities beyond the tri-region upper Rhine area (for example through a US liaison office in New York). They are involved with the Entrepreneurship Beyond Borders project,³⁵ aim to build a common culture, and create an interdisciplinary cross-border network of entrepreneurs. There are eight partners in France (Université de Strasbourg – the coordinator; Université de Haute-Alsace; Start Hop; Association pour le Développement des Entreprises et des Compétences; SEMIA Incubateur; Alsace Tech; Région Grand Est; Conseil Départemental du Bas-Rhin), and Eucor is an associated partner.

Janosch Nieden explained how they structure joint professorships. This was described as work in progress, and there is a work package in the Interreg project where a standard operating procedure across partner institutions will be developed. At the governance level, there is a President elected for three years, with a federal approach to governance. It is clearly important that there is a focus on how the rest of the world sees them (identity) rather than how they see themselves. An important aspect of Eucor is making researchers and knowledge more mobile because they currently have to deal with different systems.



Paco Dubosq (Vice-président, GIPSO³⁶ - Groupement des Industries Pharmaceutiques et de Santé du Sud-Ouest/Chargé de mission santé "bénévole" - Fondation Bordeaux Université, France) presented the activities of GIPSO, which was founded in 1976 and has over 40 years of activity in academic-industry cooperation, also involving regional governance. Its focus is on big Pharma businesses, and also SMEs (200-300 employees). Financed through membership fees and events, its core mission is to exchange good practice and knowledge across members, for example through think tanks which bring together academic researchers and industry professionals.

GIPSO can organise projects on topics of relevance to industry, and it aims also to help in regional development activities, for example in aiming to ensure that skill development meets the needs of regional employers. It collaborates further in the cross-border partnership, through participation in international activities, an annual forum, conferences, debates, and the Rencontres Industries Bio-Santé Aquitaine-Euskadi³⁷. The main activities in France (which are sector specific for Pharma) have extended well into cooperation with business in the Basque country.

³⁴ <http://www.eucor-uni.org/en>

³⁵ <http://entrepreneurship.unistra.fr>

³⁶ <http://www.gipso.org/>

³⁷ http://www.gipso.org/services_projets.php?req=display&id=50



Juan-Marí Collantes and Stéphane Dellier (University of the Basque Country/ AMCAD Engineering³⁸, Basque Country/France) presented "STAN Tool³⁹, from a theory in the lab to an industry standard". STAN Tool is an innovative product developed in the university, but they were initially unsure as to how to commercialise it, how to deal with IPR and how to sell it. They partnered with the Centre National d'Etudes Spatiales (CNES⁴⁰) who provided funds and commercial knowledge. CNES and UPV/EHU agreed to

share rights 50/50, patent it (2008), register the name, and license it in 2011 (10 years after the first academic paper noting the innovations).

AMCAD Engineering was founded in 2004 by three PhDs out of the University of Limoges, and was already working with CNES on other projects. They integrated the STAN tool into their products, and have continued to develop it. There is now a framework agreement between CNES, AMCAD and University of the Basque Country to maintain a development and commercialisation pathway. The UB relationship continues to be strong through the STAN tool university programme (2015⁴¹). *"The goal of the STAN tool University Program is to support educational institutions and academic research groups with software donations for qualified programs. By making STAN tool readily available for instruction and academic research, AMCAD is helping students to go a step further in their design projects in terms of creativity and innovation"*.

Important observations from the presentation are that personal connections helped to identify further contacts. Their initial experience with university knowledge transfer agencies was poor (they were less an enabler, and more a bureaucratic process that slowed the speed of collaboration), there was a lack of funding to support UBC, and it remains challenging to get researchers interested in UBC and commercialisation.

Key point for the success:

- The personal relations (the Limoges connection!) *Speaking French also helped...*
- Motivated people (moving the lines in their respective administration)

Main challenges:

- Getting bureaucracies from two Institutions – two countries – to agree. *Some of the technical people involved (as Geoffroy Soubercaze-Pun from CNES) made a huge effort to put all this in place and we are grateful to them*
- Customer education on new method

5 - Key elements and major difficulties

Figure 5: Key points for success of the STAN tool programme

³⁸ <http://www.amcad-engineering.com/>

³⁹ https://www.maurymw.com/MW_RF/Stability_Analysis.php

⁴⁰ <https://cnes.fr/en/web/CNES-en/3773-about-cnes.php>

⁴¹ <http://www.microwavejournal.com/articles/24184-amcad-engineering-launches-stan-tool-university-program>



Eija Källström (Director of International Projects, Arcada University of Applied Sciences, Finland) “Cross-border assignment (CBA⁴²) – a powerful tool for university-business cooperation”. She reviewed the activities of the Nordic-Baltic Network for Internationalisation of SMEs (NOBANET), whose activities include supporting SMEs wanting to go international, and providing students with a more practice-oriented learning experience. Nobanet provides highly structured intermediation across the sectors. Cross-border assignments (CBA) are a tool to help stakeholders explore UBC⁴³. SMEs come to work with them, or they can link through apps such as Skype, and a matching process is undertaken to link students to business needs.

HEIs from eight countries are involved: Denmark, Estonia, Finland, Iceland, Latvia, Lithuania, Norway, and Sweden. And: *“The concrete objectives of NOBANET are to: Develop new learning materials on internationalization of SMEs; Implement real-life projects on internationalization; Develop partner HEIs curricula to include internationalization of SMEs; Create models for sustainable cooperation between HEIs and SMEs; Compile a handbook: Internationalization of Nordic and Baltic SMEs.”*⁴⁴

In 2016-2017 the network is focusing strongly on SME internationalisation through an e-learning course on ecommerce and e-business worth 10 ECTS points. A new collaborative pedagogical approach is introduced where students, faculty, and SMEs co-develop e-shops.

- The CBAs provide a genuine learning environment, where students and SMEs work closely together across national borders
- The CBAs directly link SMEs with faculty and students abroad; i.e. with their target markets

Figure 6: Key advantages of cross-border assignments (CBA)

⁴² <https://edusme.eu/eng/cba>

⁴³ <http://www.nordicbalticnet.info/universitybusiness-cooperation>

⁴⁴ <http://www.nordicbalticnet.info/>

5.2 Cultural entrepreneurship

Cultural entrepreneurship offers universities, companies, public institutions and other social actors a creative environment for exchange and cooperation. Across Europe more than five million people work in cultural entrepreneurship, and for UBC key considerations revolve around the conditions to support cultural entrepreneurs in Europe, and how cooperation between the various stakeholders can be facilitated. Cultural entrepreneurs are often deeply rooted in their local communities where shared identities are built and maintained.



Jaime Cuenca



Heike Fischbach

Jaime Cuenca, Moderator (Institute of Leisure Studies, Deusto University, Basque Country), was supported by rapporteur **Heike Fischbach** (Harz University of Applied Sciences, Germany) in exploring and summarising the key points of the presentations.



Clara Montero

Clara Montero (Director for Cultural Programming, Azkuna Zentroa, Bilbao, Basque Country⁴⁵) introduced the different roles that the Azkuna Zentroa in Bilbao undertakes in the professional and economic development of cultural agents. The Azkuna centre provides access to public services and a creative space for physical activities. It has a media library, and a varied cultural programme including films, arts, festivals, and other live performances. There is a particular focus on providing opportunities for young artists to acquire professional experience. Close cooperation with a local university led to a video gaming festival, involving an international competition where the winner received funding to develop their gaming idea.

Other activities included an academically-orientated festival on feminism, using a variety of media, and an international symposium on creatorship which highlighted the need to provide support for individuals who were considering changing careers and moving to the creative sector.



Figure 7: The culture space of the Azkuna Zentroa

⁴⁵ <http://www.azkunazentroa.eus/az/cast/inicio>

Further areas of work include dance collaborations for young dancers and choreographers, and facilities supporting young artists in residence. There is a realisation though that UBC could be improved to facilitate the transition from degree programmes in arts and culture, to the life of work and being able to develop a feasible career as a cultural worker. For the Zentroa this involves closer cooperation with full and part-time artists, as well as developing their audience through focused, high quality programming, thereby increasing the presence of culture in communities and across cities.



Monica Sapielak

Monica Sapielak (CEO and co-founder, Centre for Creative Practices, Dublin⁴⁶) reviewed the development of the Irish centre, from a start-up to a landmark in the cultural community in Dublin. She specifically addressed the role of universities in facilitating and preparing individuals to be business-minded, because business skills were generally not part of the arts curriculum. Too often the prevailing image was of an artist having to cope with many part-time jobs.

Central to the success of the Centre has been a mentorship programme, developed through a social enterprise. The programme is practical, focused on business, and most importantly it is directly applicable. It involves a change in vocabulary from cultural workers asking for money or funds, to presenting opportunities, and realising that being creative also means being entrepreneurial, focused on problem solving with immense capacity for innovation. The creative sector globally has huge potential and therefore it mattered greatly to support the development of this skillset.

WHY IT MATTERS?

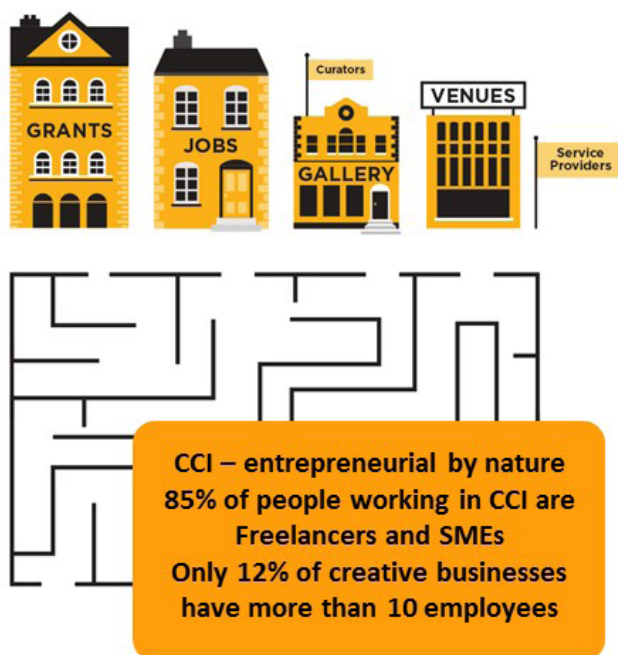
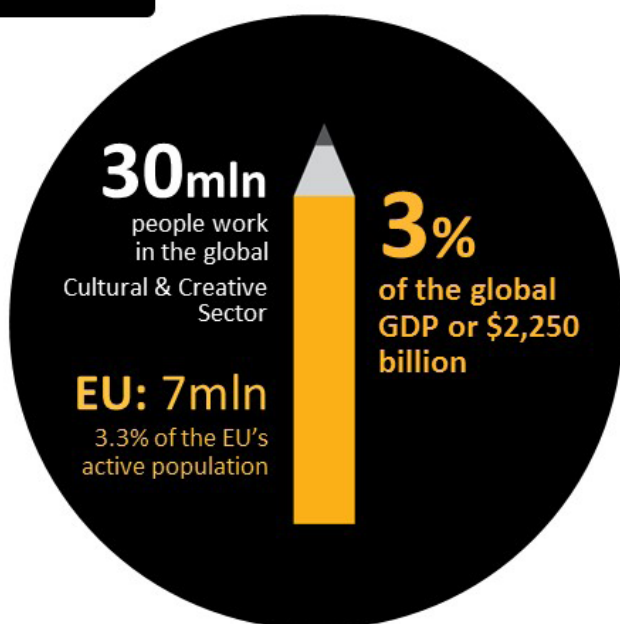


Figure 8: Importance of the creative sector worldwide

A clear message was that while higher education institutions were very good at developing artistic skills, they often lacked the meaningful entrepreneurial education elements necessary to make it a financially-viable profession. One suggestion was to open teaching to include people from successful creative businesses. Universities should also provide environments to support incubators, start-ups, and facilitate networks of creative businesses to create and sustain local ecosystems.

The following two presentations picked up on this theme, and highlighted examples of how entrepreneurship education can be better incorporated in university education.

⁴⁶ <http://cfcp.ie/>



Jesús Briones (Programme Manager, El Muro, Madrid, Spain⁴⁷) outlined how theatre and performance training can be used to develop entrepreneurial and people skills. Many potential cultural entrepreneurs were not skilled at “selling” their ideas. Theatre works strongly on emotions, and this initiative helps people develop soft-skills such as story-telling, and to understand body language to interpret people’s reactions.

He highlighted the importance to build audiences, and include them in decision-making processes, thereby to enhance the marketing of products. El Muro have successfully implemented workshops in several universities, using theatre as a teaching method. This helps to improve self-confidence, presentation skills, communication and self-projection skills. Ultimately this helps participants to develop pathways to being a cultural entrepreneur.



A solution for the lack of entrepreneurial skills education was presented by **Richard Sant** (Head of Careers and Employability, University of the Arts London (UAL), United Kingdom⁴⁸). UAL have developed a creative attributes framework which integrates the development of an enterprising mindset into the creative curriculum. The framework includes three sets of attributes that focus on applying learning in practical contexts. They enhance communication skills (such as story-telling capacities highlighted previously by Jesús Briones), foster curiosity, and encourage self-directed lifelong learning. When integrated into the curricula students can better develop the skills to prepare them for the realities of a life as an artist.



Several of these points were echoed by **Cristina Tapia** (Junior Enterprise in Fine Arts, Spain) who provided a student perspective. She highlighted the disconnect between what and how students learn about the arts, and the general perception of the population about “being an artist”. There was often a popular perception that artists were informal people who led hedonistic lives, and therefore, art was not a viable career option. This led to a loss of talented students who were deterred by this perception.

She considered that this situation may be related to many university teachers not being involved in real-life projects, and although they may be experts at teaching art, they may not also possess business skills. A solution could possibly be found in Junior Enterprise, where students develop and implement projects that are supported by teaching staff, alumni and practising artists. This facilitates realistic applications of art and an entrepreneurial lifestyle, also providing teaching and learning opportunities for all stakeholders involved. This approach, starting as early as the first semester, allows the integration of the student perspective throughout the teaching and learning experience, improving business skills and raising the perception of art as a career.

The remaining two presentations provided examples of integrating the community into a cultural project, and the encouragement of social entrepreneurship within training of chefs.



Jose Mari Aizega (Director, Basque Culinary Center, Basque Country⁴⁹) explained how the profession of being a chef needed to be clearly differentiated from that of a cook. Graduates of regular cooking schools do not possess the technical and creative skills required in the innovative Basque cuisine. Therefore, in cooperation with Mondragon university, the Basque Culinary Centre was created which offers study programmes at BSc and MA level to 450 students, with a focus on innovation. The Culinary Centre works closely together with industry to apply research within the centre, and it functions as a business incubator and accelerator.

⁴⁷ <http://www.elmuro.es/>

⁴⁸ <http://www.arts.ac.uk/about-ual/teaching-and-learning/careers-and-employability/creative-attributes-framework/>

⁴⁹ <http://www.bculinary.com/es/home>



Figure 9: Experiential learning is essential

The Centre clearly recognises its potential to affect social change. As a result, a prize was launched for gastronomic initiatives that support the greater social good. Additionally, to enhance the enterprise skills and innovation capacity further, an interdisciplinary degree was launched with a focus on experiential learning, where students learn their skills in real restaurant environments with real customers.

The course also offers an entrepreneurship specialisation, which more than 40% of the students select. Through its unique role and integration of the artistic culinary skills through experiential learning and the support of social enterprises, the Basque Culinary Centre connects universities and businesses directly with communities and the local culture.



The Nanocathedral project ([Andrea Lazzeri](#), University of Pisa⁵⁰) took a different approach to link and connect universities, culture and communities. It is a network of 19 partners including universities, public bodies and companies from six countries. The partners cooperate to develop new materials and nanoproducts to protect and restore historical buildings. The project started in 2015, and a key aim of the project is to develop sustainable solutions for the preservation of monumental architecture (such as cathedrals), visitor attractions and other contemporary architecture.

In order to achieve public awareness, it is planned to open up restoration sites to the public, for example through tours that make the restoration work visible, and the in-situ experimentation with the newly developed nano-materials very accessible. Through this approach the project has managed to highlight the importance of the architecture, and the work and care required to maintain heritage sites, while at the same time testing innovative approaches.

⁵⁰ <http://www.nanocathedral.eu/>

A lively discussion ensued around the presentations focussing at first on universities' abilities and capacities to prepare creative students for a career in the creative industries. It was noted again that universities excelled at preparing students for the technical aspects, but entrepreneurship was often neglected. The framework of University of the Arts London (UAL) was a good step, but the discussion also highlighted that the students were expecting more business and entrepreneurial support from universities.

The discussion then moved to consider the more general attitude towards the arts and the education system, which often forced children and young students to select subjects that did not clearly fit with real life activities in the arts. A real concern was that the dichotomy between being creative and making money was not well covered.

It was however important to recognise that this situation also existed in many other sectors, and a possible solution could be to work more across sectors. It was also vital to recognise that culture and creativity build bridges between people and thus should be recognised as an important sector, to break down barriers and to understand the possibilities that the sector and education offered.

At the EU level the continuing work will be important to build thematic coherence for the arts, covering the further modernisation of higher education, focusing on employability skills, innovative teaching and learning, and embedding students in the learning process. This could further encourage knowledge transfer, demystify the arts and culture sector and develop a broader audience. Opening up 'forbidden areas', such as in the cathedral project, were unique opportunities to engage audiences and people.

Part of this transformation should maybe include a look at how universities are ranked and rated, particularly the over-riding focus on research excellence was seen as unsupportive of culture and the arts. It was therefore important to create different motivators for academics to engage in entrepreneurial thinking, and this could possibly be done through measures such as the framework used by UAL.

Heike Fischbach summarised the key challenges from the breakout session. She noted that the creative sector was people centred and focused on emotions which could not be measured in terms of cost, benefits and return on investment. Many artists have multiple jobs and are often low paid, but it was key to create an awareness that **cities lived through their culture and arts**. It was therefore important to recognise the innovation capacity of artists and support a change in attitude that earning money through art was achievable. A key task was therefore to **develop viable business models and help creatives in this process**.

Emerging trends that could be seen to transform this situation were on the one hand **the inclusion of the student voice in the development of focused study programmes** that encourage entrepreneurial thinking. Frameworks such as the employability framework from UAL are a step in the right direction with the focus on establishing "artist" as a viable profession. Part of this could be achieved through strengthening the roots of culture and art in the community through cultural spaces that are open to the public. This **required building an audience** which could be achieved through for instance opening up cross-sectoral projects to engage the community.

5.3 University-Business Cooperation and the impact on urban, territorial and regional development

Higher education institutions play a very important role in the socio-economic development and transformation of their communities and regions, particularly when they collaborate with different stakeholders in the region. This session considered how the roles of HEIs may be changing in the appearance of new challenges that society is facing, and which may require new forms of university-business cooperation.

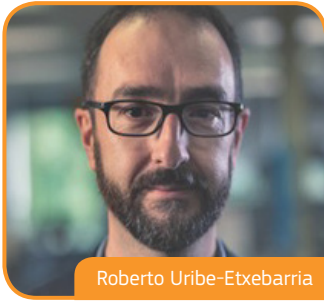


Jon Altuna



John Edwards

Coordinator **Jon Altuna** (Academic vice-rector, Mondragon University, Basque Country) was supported by rapporteur **John Edwards** (JRC for S3, European Commission) in leading the discussion and summarising the key outcomes of this breakout session.



Roberto Uribe-Etxebarria

Roberto Uribe-Etxebarria (Mondragon University, Basque Country): Collaborative Research and Knowledge Transfer Model of Mondragon University (MU). He outlined the collaborative research and knowledge transfer model of Mondragon University, with focus on the Faculty of Engineering. Mondragon University has developed a structured approach to industry collaboration, building on its nature as a member of the Mondragon group of co-operatives. MU has 17 long term collaborative research and knowledge transfer contracts with industry partners, and over 300 projects per year, two-thirds of them funded by industry. MU is the national leader in Spain in terms of the income generated from applied research per academic staff member.

Collaborative research and knowledge transfer model

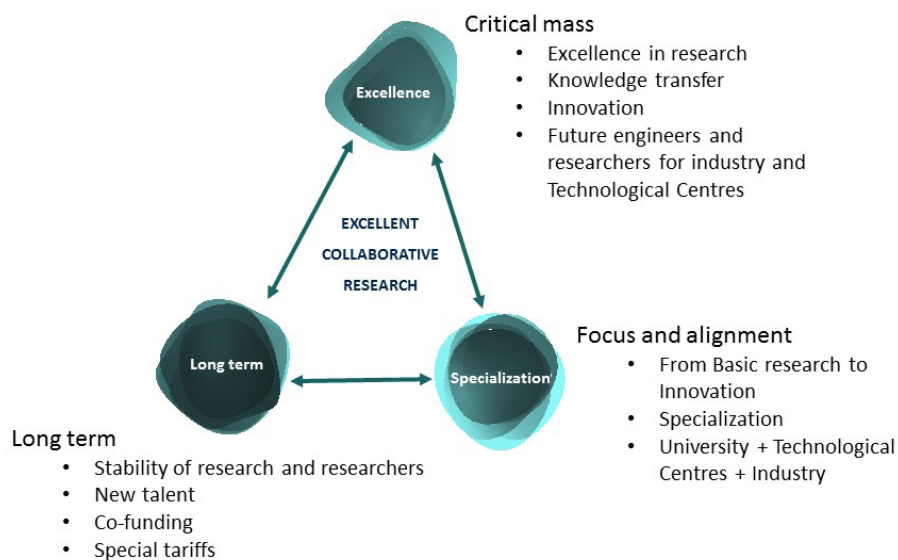


Figure 10: Collaborative Knowledge Transfer Model

Based on the three principles of excellence, long-term partnerships and specialisation, the MU collaborative research and knowledge transfer model is directed by a permanent committee. The committee involves university, company (including local firms from outside of the co-operative movement) and other technology partners, and it develops a four-year technology roadmap on future technology needs within a particular industry. This roadmap is used to identify a series of potential projects with budgets which can be offered to the industry partners. Specific projects are implemented according to the needs of the industry partners, each with their own characteristics and dynamics through project teams involving academic staff, doctoral researchers and students. The outputs from the projects are monitored and fed back into the permanent committee.

Benefits that arise from the MU model (in addition to income and the technological outputs) include the development of

mutual trust among the participants, a commitment to expand R&D activities within the companies, alignment between university research and company needs, genuine university-industry collaboration (rather than a customer-supplier model), and a culture of external monitoring as well as idea generation to promote innovation.

The model also enhances the ability to evaluate and respond to the new industry trends and development trajectories, and helps develop a new generation of technicians and researchers. Finally, the model helps overcome the challenge of building critical mass, as the long-term university-industry relationships imply that Mondragon University undertakes “research with industry, rather than for industry”.

Students play an important role in MU collaborative research and knowledge transfer. There are over 5000 students in professional training courses. All undergraduate

and master students complete a one year full-time industrial/research project. 80% of PhD students are funded by companies (for example through industrial doctorates), and students complete projects each semester.

The results are positive, and the Basque graduate tracking system shows that after 3.5 years of their graduation over 90% of the 2012 MU graduates were occupied (96% engineering, 93% business, 95% humanities/education), either as working or studying, and 24% were employed by the firm where they completed the final year project. Graduate retention levels were high with 91% of the MU graduates remaining in the Basque Country.⁵¹

The subsequent discussion focused on the potential tension between local utility and pursuit of world class excellence, as well as a need for international alliances. In R&D and knowledge transfer, world class excellence and local utility are fully compatible: MU undertakes 100% of its R&D work with local Basque companies, which often compete globally. MU has created links with foreign research centres to ensure international experience for students. The university and its partner firms have recognised the challenge in attracting

international students, and work together to bring in people who know different cultures. Mondragon University has also developed international outreach activities which export the unique university model outside of the Basque Country.

There was also a question about the measures that MU has taken to address the tendency towards a “culture of disengagement” which may be unintentionally enhanced by engineering studies, for example evidenced in the over-representation of people with engineering studies, and lacking exposure to multidisciplinary learning, and exposure to the humanities and social sciences.

To avoid such a situation, all engineering students at MU complete a mandatory humanities/social sciences module. The University has also embedded soft skill development in study programmes. Furthermore, it implements project-based and problem-based learning. Engineering students complete six semester projects, which involve working with engineers of different specialisations (but not necessarily cross-faculty collaboration). Currently the university is developing a modular model of engineering studies.



Maurizio Marchese

Maurizio Marchese (University of Trento, Italy) explained how the KIC EIT Digital is embedding innovation and creativity in ICT education in Europe and Trento in Italy. The key mechanism to achieve this goal are KICs (Knowledge Innovation Communities) which bring together leading HEIs, research labs and companies to form dynamic cross-border partnerships. One of the KICs is EIT Digital, which has a mission to develop innovative products and services and train new generation of entrepreneurs in areas of ICT that suffer from a gap between skills supply and demand. In 2015 there were 500,000 unfilled ICT posts in Europe, and by 2020 this number is projected to grow to 1.3 million.

The University of Trento (Italy, 17,000 students) is the Italian EIT Digital node, supported by national ICT firms as well as multi-national corporations (MNC) and SMEs. With the help of EIT Digital, Trento University has taken steps to address the gap between the demand and offer of ICT skills with the help of an EIT Digital Master School in ICT Innovation, EIT Digital Doctoral Training Centres, and an EIT Digital Professional School.

EIT Digital Master School has a uniform double degree structure shared by 21 European universities. Three quarters of the programme is based on eight technical majors (90 ECTS each) and the rest on an innovation and entrepreneurship minor (30 ECTS). The EIT Digital Master School in Trento offers new flexible programmes, including a core curriculum with innovation and entrepreneurship minor that focus on soft skills and research based on real-world industry challenges. The learning experience embeds international mobility and work-based learning, and students spend one year in Trento and the second year elsewhere in Europe.

For the final year project a student spends six months in a company (with enterprise, not for enterprise). Currently, EIT Digital is running eight double degree programmes which enrol 600 students in Europe, including 60 in Trento in 2016-2017. The programme has produced more than 500 graduates. In 2017, local ICT innovation programmes will be launched to all interested local students. All EIT Digital graduates have been employed by the regional or European ecosystems. A key challenge is graduate retention by smaller co-location centres or nodes such as Trento which need to address the brain drain.

Doctoral Training Centres (DTCs), such as EIT Digital DTC in Trento, offer Industrial PhD programmes recognising that only a small minority of PhD candidates make a career as permanent research staff (3.5% according to the UK estimate) and need to develop skills for life after academia. Doctoral candidates are affiliated in DTCs which are characterised by a regional and thematic focus, critical mass and involvement by industry which also provides scholarship. Unlike the EIT Digital Master programmes, the

⁵¹ Estudio de Incorporación a la Vida Laboral Promoción Universitaria de Grado de 2012, Lanbide 2016.

PhD candidates follow a standard doctoral programme, but complete additional modules on innovation and entrepreneurship learning, covering opportunity recognition (1 week), business model and development (100 hours) and grow and harvest (1-2 weeks) towards industrial leadership in the digital industry.

There is also a 6-month innovation/business period at an incubation structure as well as a 6-month mandatory international mobility period. DTCs offer win-win benefits to PhD students, companies and universities. For students, they offer a high profile European ICT programme with skills and expertise for life after the PhD, a network of 18 universities and over 100 industry partners, and financial support for innovation and entrepreneurship education, European mobility, and 6-months of industry experience. For companies the DTCs offer access to future ICT leaders and managers. Companies are involved in the student selection process, they benefit from industry-relevant student projects, and can pre-screen potential new hires during the 6-month industry training. For universities, the DTCs offer access to funding for both education and RDI, to networks of HEIs and enterprises, and a direct link with employers.

The Professional School in Trento offers blended courses available on the EIT Digital platform focusing on two fields: privacy, security and trust, and health and well-being. Challenges for the EIT Digital evolve around the long-term sustainability of programmes, and building effective and

sustainable university-business alliances. There are also issues whether to develop hybrid education programmes that combine technical content and entrepreneurial content, or to develop a separate offer.

The subsequent discussion focused on three themes: organisation of work-based learning, embedding business development experience in PhD programmes, and turning brain drain into brain circulation. Some EIT Digital co-location centres have faced challenges in organising work-placed learning for PhD candidates in business and science, while in the case of engineering students it tends to be easier. Trento has drawn on its established community of industry partners willing to offer internships despite logistical challenges. Like many other universities, Trento has also an online market place where firms can publish their jobs.

There was also interest in the way the Trento colocation centre has embedded business development experience in EIT Digital PhD studies. Funding support comes from the EIT Digital (under “*extra activities, mobility and business development experience*”). Currently, most PhD students follow the industrial links to do their mobility in a company, but few have put forward their own idea and three PhD students have launched their companies. The University of Trento was encouraged to develop their international connections in order to transform the brain drain into brain circulation. Here the University of Trento’s small size and flexibility is an asset.



Miren Larrea



James Carlsen

Miren Larrea (Orkestra Basque Institute of Competitiveness, Deusto Foundation, Basque Country) and **James Carlsen**, (University of Agder, Norway) highlighted the usefulness of action research in building long term collaboration between HEIs and regional actors such as companies and policy-makers. Defined as a strategy for change through the co-generation of knowledge between regional actors and researchers, action research offers solutions to open-ended problems, but typically requires time-consuming co-creation.

Formed in 2006, Orkestra Basque Institute of Competitiveness works to enhance the Basque Country’s competitiveness and to improve citizens’ well-being. A significant feature of the Orkestra’s approach is the use of action research which – despite political changes – has helped develop trust and long term collaboration between Orkestra and the government. An example of this is “Gipuzkoa Sarean”, an ongoing action research and learning process that since 2009 has involved Orkestra researchers and policy makers from the Provincial Council of Gipuzkoa, and 11 local development agencies.

This learning process has survived consecutive government changes, although each of the three governments has brought in new focus areas: enhancing collaboration, changing power relations, and improving efficiency. The process has generated practical tools such as a reflection tool “Building Bridges” which is based on a set of questions divided into four sequential steps that guide the reflection process to address the disconnection between different levels of government that affects policy implementation (see Figure 11). The tool can be used to encourage bottom-up participation in the definition of sustainable territorial development strategies such as smart specialisation strategies. It can also improve territorial governance, making policy-making more efficient and promoting democracy.

How to develop strategies for territorial development? Action Research

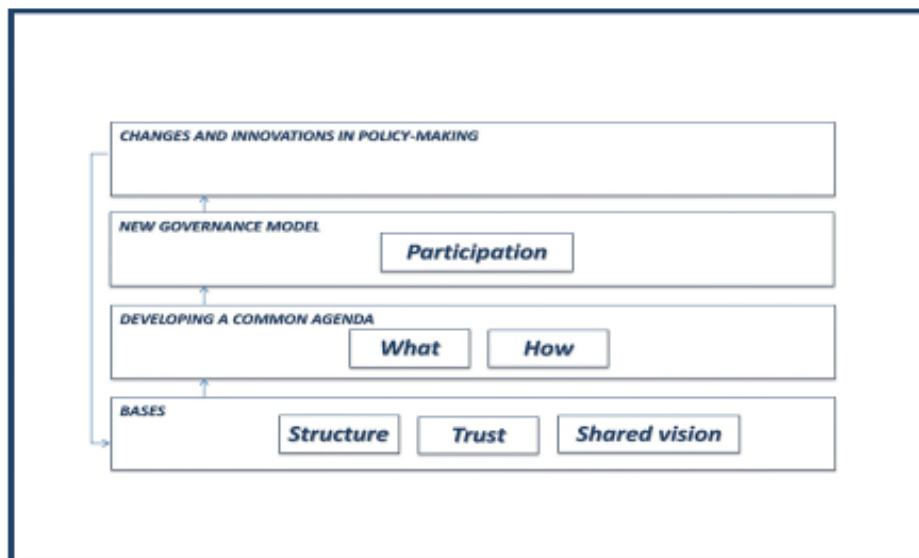


Figure 11: Action Research for Territorial Development

While specialised university-based units such as Orkestra often have experience in the co-creation of knowledge, HEI participation in this type of process is often a challenge, because HEIs are not usually structured for co-creation, and have limited or no incentives for co-creation of knowledge with regional actors even if the third mission has been formally established.

Since university academic staff career progress is based on publications, there is also often little time to co-create. In the case of the University of Agder, while vocationally oriented fields such as nursing and teacher education have developed institutionalised collaboration with regional actors through students' work-based learning, in other fields co-generation of knowledge is often left at the discretion of individual researchers who may have an interest in collaboration with regional actors.

The subsequent discussion provided ideas on how to

'mainstream' engagement in teaching and research in order to overcome the risk of marginalisation related to third mission activities, and on how to evaluate the input of knowledge creation processes and feedback the results to the process. For example, the University of Cardiff and NESTA (a UK Innovation Foundation) have developed a randomised control-based evaluation system to generate data when rolling-out innovation. In the case of Orkestra's collaboration with the Gipuzkoa government no formal evaluation system was used. Instead, weekly meetings were established which embedded learning, negotiation and collaboration, involving ongoing evaluation and feedback.

The mechanisms and approaches of this learning process had passed the test of time and were based on a structured approach and spaces for dialogue which had helped create trust and a shared vision. In the absence of trust, the best way forward would be to start with a small project.



Arturo Alvarado Hierro

Arturo Alvarado Hierro (University of Mondragon - México, Mexico), outlined how in 2010 Mondragon University (Basque Country, ES) launched an international outreach and colocation effort with the help of Mondragon Educación Internacional (MEI). It is a joint-venture of the university, Alecop and Mondragon Corporation. MEI's mission is to promote and manage universities globally, by leveraging the MU experience to establish linkages and partnerships and by creating a network of international HEIs. Currently the network includes two HEIs in Colombia and Mexico, and four training centres in Saudi Arabia.

Mondragon University Mexico is located close to Mexico City in Queretaro, an important growth hub with the fastest growing GDP in the country. MU Mexico supports the development of this region where manufacturing constitutes 30% of the regional GDP. Important economic drivers include the automobile and aerospace sectors, with Queretaro absorbing half of the foreign direct investments in Mexico. Mondragon University Mexico's business collaboration is driven by the needs of the region and the specific industry sectors that it has capacity to contribute to.

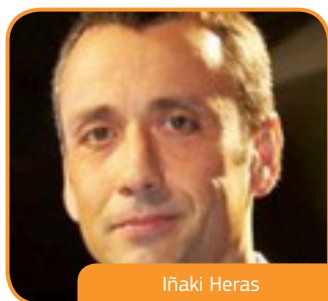
It has aligned its regional development strategy with the national and regional strategies, in order to offer 'world class' solutions to local needs through partnerships. MU Mexico is for example active in urban and territorial development through supporting Queretaro's Smart City concept, and has worked for industry collaboration in embedded systems, bringing together the three biggest employers to work on skills development. This helps to avoid competing for skilled labour, and hiring each other's employees.

In human capital and skills development MU Mexico has moved away from the traditional teacher-centred education by introducing project-based learning, cooperative studies, joint degrees, and student life plans. MU Mexico also offers radical entrepreneurship learning where students create

a cooperative company in teams and learn business by completing authentic projects for clients. This model (Team Academy, FI), called LEINN according to its Spanish acronym for leadership, entrepreneurship and innovation (Liderazgo, Emprendimiento e Innovación) is delivered in collaboration with Haaga Helia University of Applied Sciences (FI) which trains the Mexican coaches and offers accreditation. MU Mexico also provides specific skills for regional development linked to big data, streaming, and front end programming (Socratic Arts, VERTICE-IT).

Key challenges for MU Mexico's regional development include a pervasive competitor-based mindset in the fast-growing region. There is a lack of collaboration between universities and also limited collaboration between companies.

The subsequent discussion focused on the student background and widening access strategies. Mexico has the highest inequality rates according to the OECD standards. As a private institution, MU Mexico has tuition fees ranging from 5000 to 8000 Euros and recruits (upper) middle class students from private schools, but it also has a scholarship fund. To build civic engagement skills, MU Mexico, like other HEIs in Mexico, requires students to undertake community engagement. Here MU Mexico also uses life plans including self-evaluation of their learning.



Iñaki Heras

Iñaki Heras (UPV/EHU University of the Basque Country) spoke about a multi-stakeholder approach to cooperation with local SMEs in times of crisis. Iñaki Heras provided an overview of the Garaituz programme which has targeted Gipuzkoa's vulnerable SMEs that are struggling with shrinking domestic markets, and are experiencing difficulties to access international markets. In line with the European strategies, the Provincial Government of Gipuzkoa has promoted a range of regional development initiatives to support business creation and development.

Early 2014, the Provincial Government and related development agencies (grouped together in Garapen, the Basque Association of Development Agencies), agreed to take action to help vulnerable SMEs in Gipuzkoa. On the basis of a diagnosis of the main challenges of the SMEs (completed in July 2016), it was decided that the interventions of the Garaituz programme would focus on:

- The design and implementation of emergency viability plans for SMEs in crisis;
- The definition or redefinition and implementation of the SME management models;
- Improving of productivity and competitiveness.

99 local SMEs were identified on the basis of a competitive call, and a multidisciplinary and multi-stakeholder programme was developed with well-defined tasks for each actor:

- Garapen took the role of the overall coordination of the programme;
- 30 consulting firms designed and helped implement the SMEs' viability plans;
- The University of the Basque Country UPV/EHU, particularly its Gipuzkoa Campus, was charged with the definition and implementation of the management models of the SMEs;

- Tknika, a public agency for innovation of the Basque VET sector, took the lead of improving the productivity and competitiveness of the SMEs;
- The provincial government of Gipuzkoa funded the project by combining national and EU funds.

Directly involved stakeholders



Figure 12: The Tknika project ecosystem

The university actions were based on a cooperation agreement between the Provincial Government and the UPV/EHU. Under the leadership of the Vice President of the Gipuzkoa Campus, the work was delivered by the university's expert staff from the business and engineering faculties in both San Sebastián-Donostia and Bilbao. Key agents of change in the SMEs were final year undergraduate and postgraduate students as well as recent university graduates who completed 6 to 7 month internships in SMEs.

The one-year project engaged 33 UPV/EHU lecturers and 84 students and recent graduates, mainly from business studies, but also from other study areas. Recognising that there are no one-size-fits-all solutions for struggling SMEs, a working team was established for each SME to build trust, generate and obtain data to understand the situation of the SME, promote networking, and make sustainable and consistent improvements.

In order to ensure that the internship programme would be useful to all parties, each "Garaituz fellow" attended a specifically designed 60-hour course (Programa de formación en asesoramiento a pequeñas y medianas empresas para el cambio y la mejora en la gestión), that trained them to carry out consultancy in SME business management. The course was delivered by the staff of the UPV/EHU and Deusto University as well as professional consultants with experience in SME reorganisation and improvement.

While the general objectives of the Garaituz programme were aligned with the mission and objectives of the UPV/EHU and its Gipuzkoa Campus, UPV/EHU also established three specific goals for its participation in the programme: 1) to offer distinct added value to the participating SMEs; 2) to develop a network for improving knowledge, expertise and partnerships; and, 3) to offer students and recent graduates SME-based internships in order to develop their professional competences and skills.

The outcomes of the Garaituz programme have been positive. The overwhelming majority of the SMEs that provided feedback on their participation (90% of 84 SMEs) were very positive about the project. The roles of students and graduates in the success of the programme was seen as crucial, and 26% of them were subsequently employed by the SMEs in high value jobs (financial, communication, management), while they all benefited from the access to industry-oriented training and action learning. Also, the university staff valued to experience which was very different from a standard consultancy work, and helped develop ongoing contacts with SMEs.

Questions focused on the funding levels and sources of the programme as well as the degree of tailoring solutions for each SME. The UPV/EHU's work mainly focused on developing sales, and a tailored programme was created for each SME. The project was aligned with the regional strategy and participating firms were involved in the project through a public tender. Each firm received funding from the local government (about 1 million Euros per 100 firms, including the costs of internships).



Jose Pietri

Jose Pietri (Mindshare Consulting Paris: Innovation Alliance - SMEs and HEIs in innovation partnership SHIP project) presented "Innovation Alliance"⁵² which is an Erasmus+ project that builds sustainable collaborative relationships between HEIs and SMEs. The aim of the project is two-fold: to allow SMEs to boost their innovation capacity and competitiveness through academic research; and, to provide opportunities for HEIs to multiply the outlets through which they can generate direct economic benefit from their research. Underpinning the project is the new economic development paradigm, where university-SME alliances are a key to the regional innovation ecosystems, the University is a regional evolution mechanism, with surrounding innovation hubs (MIT, Stanford, Cambridge).

The Regional Innovation *Eco-System*



Figure 13: The regional innovation eco-system of the "Innovation Alliances" project

⁵² www.innovationalliance.eu

Some of the identified benefits for the HEIs that take part in Innovation Alliances include the opportunity to access the body of knowledge in academia, and monetising their R&D. HEIs are also better placed to contribute to the local economic development, and develop a more active role in business/government interaction. Local governments, such as Saxony-Anhalt in Germany, take part because they want to address their context specific challenges. For example, to drive the local economic development, address demographic changes (such as the population decline in Saxony-Anhalt) or productivity and income gaps.

Two specific goals of the programme are: 1) to train SMEs to engage with HEI research; and, 2) supply HEIs with case study guides to facilitate innovation transfer. The key experiences from the alliances have been brought together in an Alliance Toolkit, covering a 'How to guide' and more than 50 documents and other material to initiate alliances.

Part of the work is captured in 'Alliance Actionable Actions' which involves the development of: a) support programme road maps which stress the role of agencies as a signposting broker; b) an SME/HEI innovation programme; c) a training programme to demystify innovation; d) a register of HEI know-how on promotion; e) a knowledge centre route map to help companies identify needs and solve technical problems; and f) collaborative activities and improvement targets.

The project consists of four sub-alliances, funded by the European Commission, to build sustainable collaborative links between HEIs and SMEs, and help SMEs boost their innovation capacity:

- Cross-border Innovation Alliance (UK/Northern Ireland) enhances collaborations to improve SMEs' access university research and training. The alliance builds upon over thirty years of close collaboration between economic development agencies that build up economies that suffered through years of conflict during the Northern Ireland 'Troubles';
- The Software Testing Alliance (Spain) brings together stakeholders in Spain (Valencia, Barcelona, San Sebastian, Madrid), and recently also Amsterdam, to improve the innovation and technology transfer from Universities to companies (especially SMEs);
- The Regional Alliance in Halle (Germany) brings together key stakeholders for innovation and technology transfer such as cities, HEIs, research institutes, chambers of commerce and SMEs. Based on the study of the impact of science on the regional industry, the project has developed an action plan to unleash the local innovation potential (e.g. through enhanced innovation marketing) in order to drive economic development in a region which suffers from a loss of population;

- The Capital City National Alliance (Romania) is fostering green energy and sustainable products and services. The alliance focuses on improving the competitiveness of industrial sectors, the interaction between consumers, SMEs, universities, research centres and public authorities. Its key focus is on patenting, platforms for SMEs and technology transfer.

John Edwards summarised the key outcomes from the breakout session on University-Business Cooperation and its impact on urban, territorial and regional development the following day in the plenary. He highlighted three key lessons:

- 1. Higher education institutions matter.** HEIs contribute to 'institutional thickness' in their regions, and their contribution to the regional innovation ecosystems is delivered in many different ways. For example, by institutions in their own right (such as Mondragon University), as part of new institutions (e.g. SME support), amplifiers of institutions (e.g. action research in Gipuzkoa and Norway) and contributors to soft institutions. All presentations stressed the time needed to build trust and social capital.
- 2. Universities connect locally and globally.** All presentations showed the importance of the physical proximity and the relationships with local industry and local/regional government. Universities are anchor institutions that keep people and companies in one place. They can effectively network internationally and hence 'represent' the regional ecosystem, which was the case of the University of Trento and EIT Digital. While policy borrowing is risky, some of the ideas can be exported as was evidenced by the example of Mondragon University Mexico. Universities must increasingly source talent and ideas globally. Brain circulation is becoming more prevalent while also employers looking for international and collaborative approaches.
- 3. Universities can tackle societal challenges.** Grand societal challenges have been highlighted in the Horizon 2020 and they can also offer the basis for modernisation of universities. Societal challenges call for new models of innovation, such as industry with industry or innovation with society and citizens science, which implies co-creation of knowledge. Specialisation can be one way to help bridge the research and engagement divide (e.g. Mondragon University).

5.4 University-Business Cooperation and Cultural Entrepreneurship in practice

The conference programme was supplemented by two site visits which allowed an insight into local university-business cooperation and cultural entrepreneurship in practice. The destinations were the **San Sebastián Aquarium** which is a key tourist destination as well as a key part of the local innovation ecosystem, and the **Tabakalera**, a former tobacco factory which has been transformed into an open community culture production and learning space as well as a catalyst for public-private collaboration.

The Aquarium⁵³ collaborates with the University of the Basque Country and the Technological Centre Azti-Tecnalia by deploying collaborative actions in the fields of training, research and dissemination of scientific and technological activities. It is also one of the most popular attractions in the Basque Country, with 300,000 visits a year.

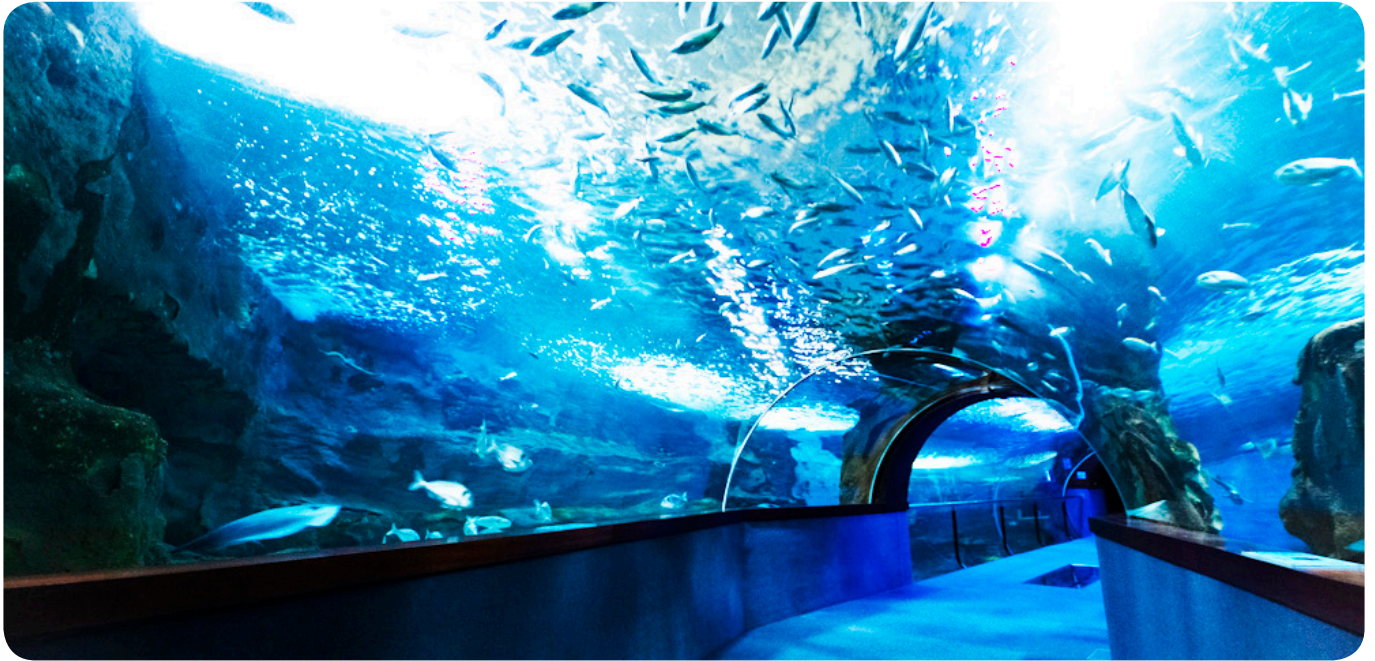


Figure 14: Accompanying visit to the San Sebastian aquarium

⁵³ <http://aquariumss.com/>

Tabakalera⁵⁴ plays a key role as a catalyst of public-private collaborations in order to develop culture as a driver of sustainable growth for the city of San Sebastian and the whole Basque Country. The main goal of Tabakalera's cultural project is to promote the creation of contemporary culture in different creative fields and in all its stages (research, production, exhibition), as well as to generate and share knowledge. Tabakalera is a centre for contemporary culture that has two purposes: to be a place of production, and to offer a programme of public activities. As well as being a place which helps artists and creators turn professional, it also puts together a programme for different audiences, and makes outreach tools available for the general public. It also houses a host of private foundations, festivals and initiatives which contribute to the cultural ecosystem.



Figure 15: The Tabakalera: An open community culture and art space

⁵⁴ <http://tabakalera.eu/>

6.0 Day 2: Plenary Sessions

6.1 Opening Speech



Marc Moulin (Director, European Grouping of Territorial Cooperation Aquitaine-Euskadi Euroregion⁵⁵) presented the Euroregional strategy for 2014-2020⁵⁶, which has been designed to strengthen the European profile of the two regions through cross-border collaboration. It was formalised in 2011, and is part of the European Grouping of Territorial Cooperation⁵⁷ (which is coordinated by the Committee of the Regions).

Shared governance⁵⁸ is through an Assembly of 20 members from the two regions with a Presidency that alternates every two years. A Director is based in Hendaye (France), and an executive committee of 6 members advises the Director. Four priorities are currently set for 2014-2020, based around the Europe 2020 Strategy: Euroregional citizenship, building an economy of knowledge, sustainable land, and open governance.

In respect of the knowledge economy they focus on competitiveness in six economic sectors: aeronautics and transport, health and bio-health, agriculture and food, sustainable wood, renewable energies, marine resources and coastal areas. Tools that are used to deploy the strategy include access to EU funding programmes (economy, innovation and research funding streams), a call for funded projects (again, in the areas of economy, innovation and research), and the development of strategic partnerships.

Three cooperation areas exist at present: POCTEFA⁵⁹, Atlantic area, and SUDOE. The 2015 call for projects has funded activities in Chronicity Valley⁶⁰, Seanergy⁶¹ (Biarritz), Ocean Living Lab, and EVA (Euskadi vin Aquitaine⁶²). 2016 projects are Euskabiom, Blueshare, Turquoise 00, and AAOE.

Strategic partnerships emphasise student mobility, the Euroregional Campus of international Excellence, and Interclustering Aquitaine-Euskadi. Current developments include creating a new space for new collaborative projects.

6.2 Keynote Presentations



“Higher education and S3: towards the engaged university” was the theme for **Kevin Morgan** (Professor of Governance and Development, Cardiff University, United Kingdom).⁶³ A university that becomes engaged with its region and community requires organisational change, and involves an open and honest discussion of the problems, and we need to see ourselves as others see us.

Universities have been struggling with the third mission of knowledge exchange at an international level, because they have historically been mainly nationally-focused institutions. The third mission is strongly nationally and regionally focused, and support for change has included the smart specialisation platform (S3⁶⁴) which is an EU regional innovation programme that aims to stimulate international engagement for the third mission activities.

⁵⁵ <http://www.aquitaine-euskadi.eu/en/leuroregion/lequipe/>

⁵⁶ <http://www.aquitaine-euskadi.eu/en/strategie/plan-strategique-2014-2020/>

⁵⁷ <https://portal.cor.europa.eu/egtc/Pages/welcome.aspx>

⁵⁸ <http://www.aquitaine-euskadi.eu/en/leuroregion/gouvernance/>

⁵⁹ An Interreg project <https://www.poctefa.eu/>

⁶⁰ <http://www.aquitaine.fr/actions/territoire-durable-et-solidaire/sante-durable/maladies-chroniques-la-chronicity-valley>

⁶¹ <http://seanergy-convention.com/>

⁶² <http://innovin.fr/index.php/fr/medias/toutes-les-actus/585-seminaire-euskadi-vin-aquitaine>

⁶³ <http://www.cardiff.ac.uk/people/view/35240-morgan-kevin>

⁶⁴ <http://s3platform.jrc.ec.europa.eu/>

Universities across Europe still range widely, from the more isolated 'ivory tower' institutions, through the entrepreneurial university (driven by the creation and exploitation of intellectual property and the triple helix model), to the fully engaged university that is part of regional (and national) innovation ecosystem. However, change has been uneven across countries. For example, until the 1983 law on university reform in Spain it was illegal to transfer research from a university to a business, so cultural legacies can be significant challenges. Furthermore, the demand for knowledge exchange is particularly relevant in less developed regions.

However, while engagement is essential, and organisational change is taking place to enable it, the working patterns of academic researchers have not changed dramatically. Statistics from the Higher Education Funding Council for England (UK) show that academic researchers on average spend only 7% of their time in business spin-off activity. The capacity of researchers to effectively engage with business depends on their personal activity and institutional policy. They may be research or teaching led. Institutional autonomy can enable them to engage. The urban and regional context (sub-national) will determine collaboration potential (for example the absorption capacity of local businesses). University strategy (leadership, values, goals) will send messages about engagement, and organisational capacity (businesses support facilities for example) will affect the ability to engage.

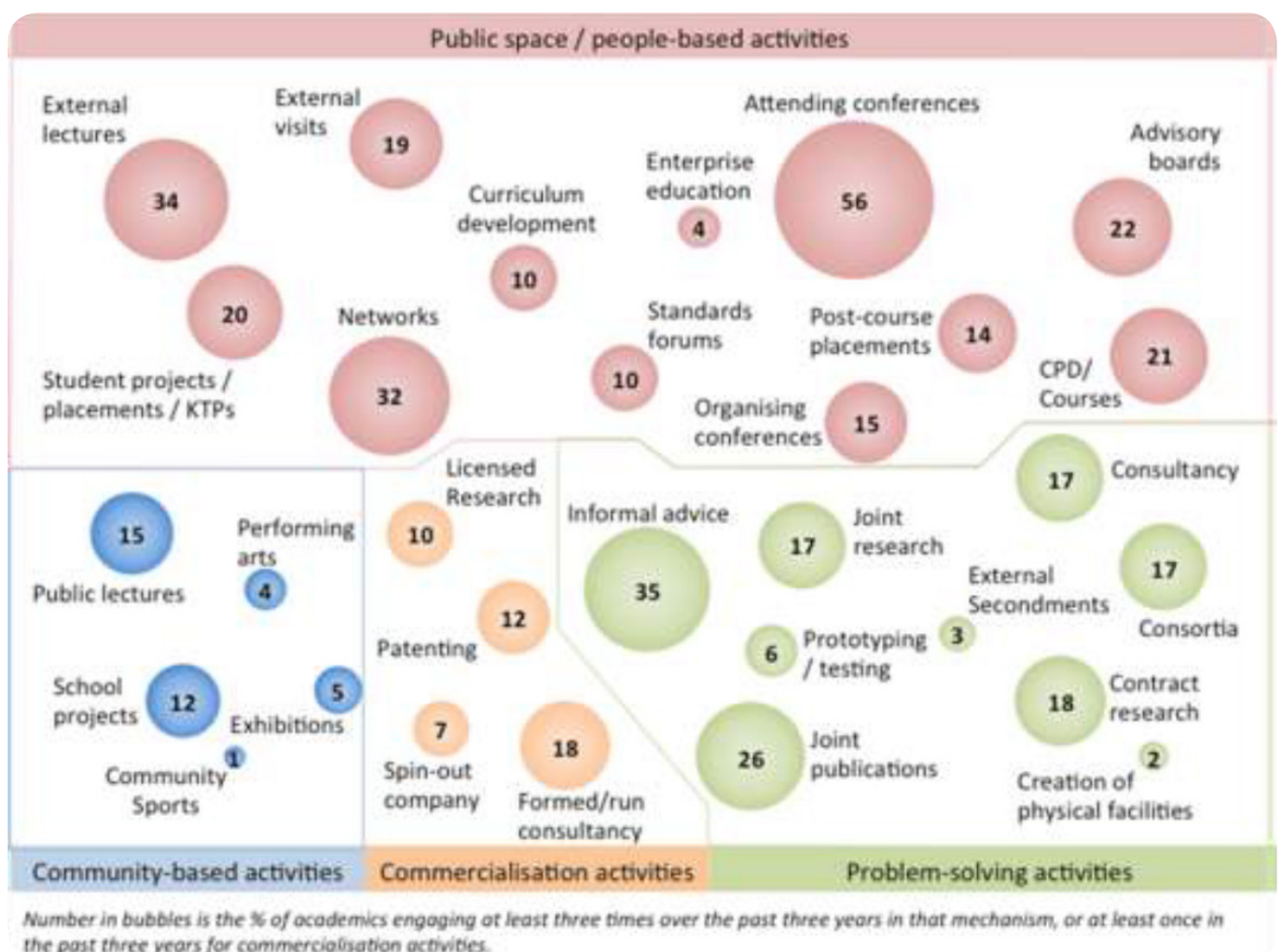


Figure 16: Kinds and types of Knowledge Exchange activities of UK academic staff (HEFCE 2016)

Universities further need to overcome their science ‘silos’, and to build more comprehensive interdisciplinary collaboration. Professor Morgan noted initiatives such as the S3 funded HESS – Higher Education for Smart Specialisation project. This has selected two regions (Navarra in Spain, and North East Romania) to align human capital to S3 priorities, strengthen HE contribution to regional innovation ecosystems, and foster organisational change in HEIs.

Another relevant regional collaboration and third mission engagement is Campus Iberus.⁶⁶ This is located in the Ebro valley in Spain, across four autonomous regions and involving four universities: University of Zaragoza in Aragon, Public University of Navarra in Navarra, University of La Rioja in La Rioja and the University of Lleida in Catalunya. Private and public sector stakeholders are strongly embedded in a partnership that is developing smart specialisation strategies in four sectors: agri-food and nutrition; sustainable energy and environment; technology for quality of life: materials science and health technologies; and, cultural heritage and territorial development.

Organisational commitment to a regional innovation ecosystem is evident in the University of Cardiff Innovation Campus⁶⁷, which is an investment of £300 million. Four centres will provide a fully collaborative environment for UBC. The first brings together experts in conditions such as schizophrenia, Alzheimer’s disease and stem cell cancer research. Then there is a Brain Research Imaging Centre (CUBRIC). Innovation Central is a collaborative environment for researchers and business/industry to turn research into real-world solutions. Finally, there is a Translational Research Facility which will house two international research institutes on Compound Semiconductors, and the Cardiff Catalysis Institute (CCI) focusing on chemical sciences.⁶⁸

Complementing the more ‘hard science’ initiatives, the Social Science Research Park SPARK will co-locate social scientists (research areas such as big data, public service innovation, crime and security, and public health) with those in business and policy who are addressing social challenges.



Josean Alija

A particularly culinary focus on innovation was given in the presentation “*Innovation, the way to essence*” by **Josean Alija**⁷⁰ (Chef, Nerua Restaurant, Bilbao, Basque Country). Whereas most presentations in the UBF had been focusing on cross-border collaboration, Josean Alija gave a very individual perspective on innovation within a local/regional context. However, this particular innovation which generates quality recognition through three Michelin Stars for his restaurant, showed how internal regional innovation can become an export-oriented global business. The food experience for customers involves multi-disciplinary approaches, covering areas such as economics, business strategy, pricing, marketing, the chemistry of food and cooking, the ergonomics and design of the restaurant environment. His cooking style has influenced chefs internationally, and diners come from around the world to experience the food in the restaurant. This is therefore a form of locally-driven ‘inward investment’.

⁶⁵ <http://smartspecialisationhub.org/higher-ed-smart-spec-hess/>

⁶⁶ <http://www.campusiberus.es/?lang=en>

⁶⁷ <http://www.cardiff.ac.uk/innovation>

⁶⁸ <http://www.cardiff.ac.uk/innovation/campus-investment/translational-research-facility>

⁶⁹ <http://www.cardiff.ac.uk/innovation/campus-investment/innovation-central/spark>

⁷⁰ <http://www.neruaguggenheimbilbao.com/en/josean-alija/>



Innovation, the way
to the essence

Josean Alija
www.joseanalija.com

Figure 17: Extracting the essence of culinary innovation - Josean Alija

He emphasised that for him innovation was personal, and regardless of discipline or sector, innovation is aiming to improve things. The philosophy of the restaurant is 'the core' i.e. to be at the heart of the city and the region. 'Experience' also is essential for diners. Gastronomy involves a team effort to ensure that every guest leaves the restaurant having enjoyed the experience and discovered something new.

A first step was to create an individual style, which is based on personal preferences and then trying out things, taking risks. Once this has crystallised, the overall dining experience needs to be taken into account. In the instance of Alija's restaurant, it is a high-tech space bursting with innovation to create the optimum work environment for the chefs, who are responsible for creating the culinary experience. Especially knowledgeable front-of-house staff also contribute to making the overall experience outstanding.

Individual signature dishes as well as the constantly changing menu (which takes around 1 year to develop⁷¹) are driven by seasonality as well as by locally and regionally available

ingredients (90% of the ingredients are locally sourced), so that the local environment and the economy is championed and strengthened through the cuisine. During the year-long development period, work processes are optimised to ensure the menu is deliverable to time and in sequence. This frequently required experimentation which was inspired by scientific laboratories. Most recently the team explored the essence of green coffee, which is used as a flavour enhancer, while equally providing unique taste experiences. Innovation also concerns detailed forward planning, In the autumn of 2016 the menu for 2017 was already decided and was in the experimentation and resourcing stage.

Powerful imagery is used to provide insights into the processes behind the dishes and can communicate globally. This is supported through the blog which provides further insights, explanations of signature dishes, thus involving the audience and creating demand for this kind of gastronomical experience. In the end, this type of luxury gastronomy experience, required creativity, innovation capacity, and extreme attention to detail, while at the same time, it was a team effort to create it.

⁷¹ <http://www.neruaquggenheimbilbao.com/en/carta/>

6.3 Panel Discussion – Keys for Successful Higher Education and Business collaboration

The panel was moderated by **Igor Campillo**⁷², Euskampus Fundazioa, Basque Country. Panel members were:

- **Lars Gustavsson** (Director for new products development, Orona, Basque Country)
- **Luis Norberto Lopez de la Calle** (University of the Basque Country, Center for Advanced Manufacturing in Aeronautics, Basque Country⁷³)
- **Denis Crowley** (European Commission, DG Education and Culture, Innovation in education, EIT and MSCA)
- **Christoph Weckerle** (Zurich University of Arts, Director for Department of cultural analysis, Switzerland⁷⁴)
- **Mona Herter** (Secretary general, JADE - European Confederation of Junior Enterprises, Belgium⁷⁵)

The panel discussion on Keys for Successful Higher Education and Business collaboration brought together speakers representing business, higher education institutions, students and the European Commission. The speakers highlighted the role of open innovation, the role of students as a catalyst of change, and the need to expand UBC to government-academia-business collaboration, and to move beyond traditional focus on technology transfer to education into civic engagement.



Lars Gustavsson

Lars Gustavsson from Orona, highlighted the role of open innovation as the only way to win the uneven battle of ‘David against Goliath’, by sharing the experience of UB collaboration from the perspective of a consolidated lift industry which has limited room for innovation. Orona, the 5th biggest elevator company in the EU and number 10 worldwide, needs to keep up with multinational companies which have 10 to 15 times the resources available to Orona. To win the uneven battle, Orona is committed to open innovation and distributed research and innovation with external research centres and HEIs such as Mondragon University.

The long-term efforts to bridge the innovation gap between Orona and the leading multinational corporations began two decades ago. The key challenge in UBC is building trust, integration and consistency. Trust is a fundamental element as the firm needs to share intimate strategy details with its university partners and the university partner needs to develop an ownership of the company project. Collaboration is based on personal relationships. Building trust requires continuous efforts as each new company staff needs to be trained to value the long term UB collaboration and the time and resources invested in it.

Collaboration brings benefits in the form of new recruits. The company can pre-screen potential new hires, and they identify that people with the best attitude, combined with solid education, are the ideal employees. In the last ten years Orona has multiplied its RDI efforts 13 times, and Basques are committed, energetic, and believe they can win.

⁷² <http://euskampus.ehu.es/euskampus-fundazioa/taskforce/?lang=en>

⁷³ <http://www.ehu.es/manufacturing/en-presentacion-cv.php?id=19>

⁷⁴ <https://www.zhdk.ch/?person/detail&id=10807>

⁷⁵ <http://www.jadenet.org/jade-team/>



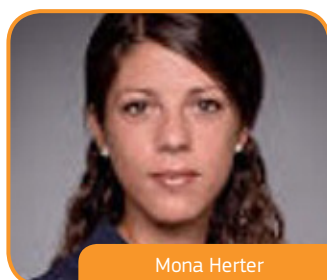
Denis Crowley

Denis Crowley from the European Commission highlighted the need for core long term stability in the UB collaboration, dialogue between universities, businesses and authorities, as well as broader engagement beyond R&D and technology transfer, encompassing teaching and learning and outreach to the society. The Brexit vote showed that universities must do much more to engage with the general public to demonstrate their value and relevance. UBC challenges HEIs' business-as-usual attitude in many ways. It requires stability, embeddedness and going beyond the obvious questions. Positions in HEIs such as a Dean of Engagement can offer an incentive to young academics for UBC and engagement. Triangular discussions between academia, government and industry are particularly powerful in the regional context.



Christoph Weckerle

Christoph Weckerle of Zurich University of the Arts advocated the use of risky and open-ended projects which respond to "What If" questions, in order to bridge the gap between universities and business. Arts institutions can play a key role in facilitating more risky projects, because artists are used to such approaches, and have knowledge and experience in visualising, processing and discussing projects which take place in unusual settings. For example, the Zürich University of Arts is going beyond its traditional structures in order to open a space for risky projects. Challenges here relate to managing uncertainty, reinventing evaluation methods, reorganising financial and non-financial resources, creating alternative institutions, and developing management skills for risky projects.



Mona Herter

Mona Herter from JADE, the European Confederation of Junior Enterprises, highlighted the role of students in UB collaboration by introducing the Junior Enterprise, an international student-run programme which fosters learning by doing, bridging universities and businesses, entrepreneurial skills development, employability and growth. The recipe for success in UB collaboration is a focus on students who can become real change agents in the firms.

Students are best prepared for the world of work when their curriculum facilitates entrepreneurship and the development of soft skills. Junior enterprise can act as catalyst to UB cooperation, empower students as producers of knowledge, and equip students with soft skills. Junior Enterprise alumni are 20% more likely than other students to have a job on leaving university.

One way to help companies expand internationally is to capitalise on the opportunities that Junior Enterprise Network offers opportunities for cross border cooperation globally in Brazil, Indonesia and Canada. The Junior Enterprise consulting projects typically range from R&D activities, to marketing and promotion where students' social media, language and soft skills help SMEs improve their performance, brand and communication. Since a Junior Enterprise's services are requested especially by local SME's, they contribute to local economy. Businesses have access to fresh and innovative ideas and students gain hands-on experience.



Luis Norberto Lopez de la Calle

Luis Norberto Lopez de la Calle from the UPV/EHU highlighted the Advanced Manufacturing Centre for Aeronautics in the Basque Country which represents a new type of public-private Triple Helix partnership model for UB collaboration in Spain. The centre, which was scheduled to be established in the end of 2016, follows the example of advanced manufacturing centres such as the much bigger structure in Sheffield. It aims to bridge the 'Valley of Death' in innovation, by offering support to over 20 firms in machine tool making. The Basque Government will provide funds to establish the centre which will be managed by UPV/EHU. Firms will pay for the services, keeping the IPR. Up to 70 to 80% of the costs will be covered by firms. The centre will offer employment to up to 12 technicians as well as academic staff and graduate students. Each project will be followed by the company technician working in the same space for the same goal.

6.4 Summary and Closing

The closing remarks summarised the key thoughts of the UBForum event. **Denis Crowley**, of the European Commission, thanked the organisers for an inspiring and insightful event that highlighted the relevance of cross-border cooperation for progress in Europe. The co-operation between the Basque country and the Region Nouvelle-Aquitaine was an example to others and further co-operations like this would be critical for future European development. But while there was a strong focus on the interregional cooperation, the global perspective was clearly addressed.

Bringing together all the different actors and stakeholders, the University Business Forum set out to create better dialogue between universities and businesses and that certainly has been achieved. Adding the cultural and creative dimension to this communicative process was highly valuable in that it highlighted a different approach to addressing future challenges. This is a focus that needed to be maintained going forward alongside supporting interdisciplinary and

multidisciplinary approaches, which will be of increasing interest to businesses. Denis Crowley invited everyone to the next European, University Business Forum in Brussels, which will take place on 6-7th April 2017.

Echoing some of Denis Crowley's observations, **Marc Moulin**, Director of the European Grouping of Territorial Cooperation Aquitaine-Euskadi Euroregion, highlighted the importance of cross-border cooperation, particularly for university-business development. An expansion with the inclusion of new regions will provide new opportunities. The strategic development of the Euroregion across different sectors brings together mutual interests, and will set the foundations for fruitful future cooperation. A key component was student mobility in this regard. Students were seen as the ambassadors of the region and its innovation capacity, and therefore it was the responsibility of the universities, businesses and the region as a whole to provide opportunities to gain practical experience and learn new skills in this environment.



Cristina Uriarte

Cristina Uriarte - Sailburua - Minister of Education, Linguistic Policy and Culture of the Basque Government, thanked everyone for attending the UBForum and particular thanks went to the speakers and participants for sharing their experience and knowledge. Her hope was that the Forum had provided a fruitful ground for new co-operations to form. She thanked the organisers as well as the supporting organisations for making the event a reality.

She highlighted the importance of the close links of education and business who have contributed to making the region a centre for research and innovation. In this context, higher education institutions played a key role to build supporting structures. Over the past years, the cooperation with the Nouvelle-Aquitaine region has strongly influenced developments and has been moving both regions forward in the right direction. The inclusion of the culture and arts sector has brought important new insights and opportunities, and the role of San Sebastian as the European Capital of Culture 2016 has provided a unique opportunity to expand cooperation and cross-sector learning. She hoped that the UBForum event provided a platform for all to learn, share knowledge and forge links.



Figure 18: Students from Musikene, the Higher School of Music of the Basque Country rounded out the Forum event. Like the Nerua restaurant, Musikene is an example where regional innovation and excellence becomes a global attraction. Its innovative curriculum combines specialist music education with a humanistic curriculum and encourages entrepreneurship relevant soft-skills. Additionally, Musikene has become a focal point in the cultural life of San Sebastián offering an extensive programme of performances and thus providing extremely focused preparation for their working life to the students. More information at: <http://musikene.eus/en>.

7.0 Optional Workshop “HEInnovate – Self-assessment tool and methodology

HEInnovate (<http://www.heinnovate.eu>) is a joint initiative of the European Commission, DG Education and Culture and the OECD LEED forum, supported by a panel of six independent experts. The origins of HEInnovate can be traced back to the 2011 University-Business Forum theme of “Engines of Innovation - Entrepreneurial Universities”. HEInnovate is a self-assessment methodology and tool for higher education institutions (Universities, University Colleges, Polytechnics, etc.). It assesses the entrepreneurial and innovation environment of university institutions using a series of 37 statements across seven categories. HEInnovate

is not intended as a benchmarking instrument, but rather enables institutions to assess their unique approach towards enterprise and innovation given their specific contexts.

After extensive user consultation, it was relaunched in November 2015 with improvements made to the functionality and user experience, adjustments to the statements used for self-assessment as well as the addition of features. Over 2000 organisations across Europe have registered for HEInnovate since its original launch in 2015, with a number of countries having undergone country reviews.

HEInnovate asks participants to rate their institution using 37 statements across the following seven categories, which are seen as core features for an innovative institution:

- Leadership and Governance;
- Organisational Capacity: Funding, People and Incentives;
- Entrepreneurial Teaching and Learning;
- Preparing and Supporting Entrepreneurs;
- Knowledge Exchange and Collaboration;
- The Internationalised Institution;
- Measuring Impact.

The tool is designed so that it can be completed by individuals and groups of people who can then compare their assessments of their own institution. HEInnovate is intended to open up discussion and debate within institutions, to highlight potential areas for improvement, develop strategies and monitor their own progress.

The workshop was designed as an interactive session exploring participants experience of the tool. There was great interest in the tool, its functionality as well as the experiences of other universities and the ways in which they had applied the tool. Institutions are keenly aware of the opportunities that such a tool can generate in terms of encouraging reforms.

The screenshot shows the homepage of the HEInnovate tool. At the top right, there are logos for the European Union and the OECD. Below these is the HEInnovate logo, which consists of a series of colored dots above the word "heinnovate". To the right of the logo is a navigation menu with icons and labels: HOME PAGE, RESOURCES, TRAINING MATERIALS, NEWS & EVENTS, ABOUT HEINNOVATE, SEARCH, and SIGN IN. The main content area features a large heading: "How innovative is your higher education institution?". Below the heading is a paragraph of text explaining the tool's purpose and a "START NOW" button. To the right of the text is a circular graphic containing various icons related to education and innovation, with a globe at the bottom left. At the bottom of the page, there is a section titled "About HEInnovate".

heinnovate

HOME PAGE RESOURCES TRAINING MATERIALS NEWS & EVENTS ABOUT HEINNOVATE SEARCH SIGN IN

How innovative is your higher education institution?

Being an entrepreneurial higher education institution depends upon individuals, and innovative ways of doing things. There is no 'unique' approach, but a variety of ways in which HEIs behave entrepreneurially, for example, in how they manage resources and build organisational capacity, involve external stakeholders into their leadership and governance, create and nurture synergies between teaching, research and their societal engagement, as well as knowledge exchange. This also includes recognising and building on what already exists.

Now in its third year, HEInnovate has been used by 100s of institutions across Europe to assess their entrepreneurial and innovative potential.

START NOW

About HEInnovate

Figure 19: Screenshot of the HEInnovate tool

Annex A: Conference programme

October 17th 2017

17:00 Dialogue with Public Institutions, Regional Universities and Business representatives:
Promoting University-Business collaboration

Organized by KMPG

20:00 Town Hall Reception: Donostia 2016

For speakers and organizers

October 18th 2017

08:00 Registration

09:00 Welcome words

Peter Baur, European Commission, Education and Culture

Andde Sainte-Marie, Conseiller Régional of Conseil Régional Nouvelle-Aquitaine

Iñigo Urkullu, Lehendakaria - Presidente of the Basque Government

09:30 Keynote K1.1: “Basic research? Yes, of course”

Prof. Pedro Miguel Etxenike

Professor of the University of the Basque Country and President of Donostia International Physics Center

10:00 Panel P1 “Smart and innovative strategies for Higher Education in Europe in the University-Business context”

Moderated by **Bart Kamp**, Orkestra Institute, Basque Country

- **Carlos Pereda** (Basque Companies Federation – Confebask, Basque Country)
- **Stefan Chaligne** (Secretary General, Union des Industries et Métiers de la Métallurgie du Loiret Région d'Orléans, France)
- **Josep Bordonau** (Director of Education, KIC Innoenergy Iberia, Spain)
- **Mona Boyé** (Scouting and Program Manager, Ksilink, Strasbourg, France)

- 11:15** Coffee break
- 11:45** Keynote K1.2: “Sustainable regional co-operation in Higher Education and Research: Basque Country – Nouvelle Aquitaine”
Helene Jacquet (Directrice générale des services adjointe déléguée au pôle recherche, international, partenariats et innovation, University of Bordeaux, France)
Nekane Balluerka (Vice-rector for post-graduate studies and international relations, University of the Basque Country)

- 12:10** Start-Up Testimonials of the Euskadi Region
 MASD – **Xabier Erdocia**
 Kiro Robotics – **Borja Lizari**, CEO
 Sport Controle – **Virginie Rosa**, R&D Director

- 12:40 – 14:00** Lunch break

- 14:00** Conclusions of the “Dialogue Promoting University-Business collaboration in the Basque Country” - KPMG

- 14:30** BREAKOUT SESSIONS

SESSION 1

Trans-border University-Business Cooperation

- **Coordinator:** **Iñaki Goirizelaia**, Rector, University of the Basque Country
- **Rapporteur:** **Tim Smithers** (CEO, TSRI, Basque Country)

Workshop 1.1	Workshop 1.2
<ul style="list-style-type: none"> • Benjamin Böhle-Roitelet (Founder + more ekito / grand builder, Ambassadeur La FRENCH TECH -OCEAN TECH) • Janosch Nieden (Director, EUCOR - The European Campus EVTZ, France) 	<ul style="list-style-type: none"> • Paco Dubosq (Vice-président, GIPSO - Groupement des Industries Pharmaceutiques et de Santé du Sud-Ouest/Chargé de mission santé “bénévole” - Fondation Bordeaux Université, France) • Juan María Collantes/Stephane Dellier (University of the Basque Country/ AMCAD Engineering, Basque Country/France) • Eija Källström (Director International Projects, Arcada University of Applied Sciences, Finland)

SESSION 2

Cultural entrepreneurship

- **Coordinator:** **Jaime Cuenca** (Institute of Leisure Studies, Deusto University, Basque Country)
- **Rapporteur:** **Heike Fischbach** (Harz University of Applied Sciences, Germany)

Workshop 2.1	Workshop 2.2
<ul style="list-style-type: none">• Clara Montero (Director for Cultural programming, Azkuna Zentroa, Bilbao, Basque Country)• Monika Sapielak (CEO, Centre for Creative Practices/Artconnected, Wicklow, Ireland)• Jesús Briones (Program Manager, El Muro, Madrid, Spain)	<ul style="list-style-type: none">• Richard Sant (Head of Careers and Employability, University of the Arts London, United Kingdom)• Jose Mari Aizega (Director, Basque Culinary Center, Basque Country)• Pablo García (Manager for Program Nanocathedral, Fundación Catedral Santa María de Vitoria, Basque Country)• Cristina Tapia (International manager, Confederación Española de Junior Empresas, Spain)

SESSION 3

University-Business Cooperation and the impact on urban, territorial and regional development

- **Coordinator:** **Jon Altuna** (Academic vice-rector, Mondragon University, Basque Country)
- **Rapporteur:** **John Edwards** (JRC for S3, European Commission)

Workshop 3.1	Workshop 3.2
<ul style="list-style-type: none">• Roberto Uribe-Etxebarria (Mondragon University, Basque Country)• Maurizio Marchese (Pro-rector, University of Trento, Italy)• Miren Larrea/James Carlsen (Orkestra Institute, Basque Country)	<ul style="list-style-type: none">• Arturo Alvarado (Rector, University of Mondragon - México, Mexico)• Iñaki Heras (Professor, Department of Management, University of the Basque Country)• José Pietri (Mindshare Consulting, Paris, France)

16:30

Departure to Site Visits

- Aquarium
- Tabakalera

20:00

Dinner at a local restaurant (Sociedad Gastronómica de Donostia)

October 19th 2017

- 09:00** **Opening of the second day**
Marc Moulin
(Director, European Grouping of Territorial Cooperation Aquitaine-Euskadi Euroregion)
- 09:15** **Wrap-up of breakout sessions**
Rapporteurs of Breakout Sessions followed by discussion
- 10:00** **Keynote K2.1: “Higher education and S3: towards the engaged university”**
Kevin Morgan (Prof. of Governance and Development and Dean for Engagement, Cardiff University, United Kingdom)
- 10:25** **Keynote K2.2: “Culinary innovation”**
Josean Alija (Chef, Nerua Restaurant, Bilbao, Basque Country) (to be confirmed)
- 10:45** **Coffee break**
- 11:15** **Panel discussion P2: Keys for Successful Higher Education and Business collaboration.**
- **Moderated by Igor Campillo**, Euskampus Fundazioa, Basque Country
 - **Lars Gustavsson** (Director for new products development, Orona, Basque Country)
 - **Luis Norberto Lopez de la Calle** (University of the Basque Country, Center for Advanced Manufacturing in Aeronautics, Basque Country)
 - **Denis Crowley** (European Commission)
 - **Christoph Weckerle** (Zurich University of Arts, Director for Department of cultural analysis, Switzerland)
 - **Mona Herter** (Secretary General, JADE - European Confederation of Junior Enterprises, Belgium)
- 12:30** **Wrap-up and Closing**
Cristina Uriarte, Sailburua - Minister of Education, Linguistic Policy and Culture of the Basque Government
- 12:45** **Musical performance (by students of the Higher School of Music of the Basque Country – Musikene)**
- 13:15** **Lunch**
- 15:00** **Satellite Workshop - HEInnovate**
HEInnovate workshop for HEI representatives: HEInnovate Workshop

Annex B: Input Paper for the UBForum

18 - 19th October 2016

Miramar Palace, San Sebastián - Spain

Introduction

The European Commission provides support to universities and businesses in strengthening the knowledge triangle (education-research-innovation) through many actions and initiatives. One of the long term initiative is the University-Business Forums (UBForum). Since 2008, 20 UBForums have been organised: 6 high-level UBForums in Brussels and 13 thematic events in the Member States, with the most recent one in Helsinki in June 2016.

UBForums facilitate the dissemination of good practice, encourage networking and mutual exchange of experience and provide an environment for the development of partnerships between higher education and business. The UBForum activities aim to:

- Encourage the transfer and sharing of knowledge;
- Create long-term partnerships and opportunities;
- Drive innovation, entrepreneurship and creativity.

UBForums have generated many new ideas, some of which have been translated into European policy tools. Notable examples include Knowledge Alliances under Erasmus+ and more recently HEInnovate, which is a self-assessment tool for higher education institutions to both measure and develop their innovative capabilities, and to learn from case studies and other training materials.

The upcoming thematic UBForum in October 2016 is unique in the sense that for the first time in the UBForum history, it will be hosted by a Euroregion which promotes common interests across the border and cooperates for the common good of the cross-border population.

The Euroregion Aquitaine-Euskadi brings together the combined strengths of the French region of Aquitaine and the Autonomous Community of the Basque Country/Euskadi on the Spanish side of the border. The conference will take place in San Sebastián/Donostia in the Basque Country, the European Capitol of Culture 2016, renowned for the world's highest number of Michelin star restaurants per capita. The co-organising partners are the European Commission Directorate General for Education and Culture and the Education,

Language Policy and Culture Department of the Basque Government, in collaboration with:

- The European Grouping of Territorial Cooperation of the Euroregion Aquitaine-Euskadi;
- The three universities of the Basque Country: the University of the Basque Country - Euskal Herriko Unibertsitatea (UPV-EHU), University of Deusto and Mondragon University;
- Bordeaux University – the leading university in Aquitaine;
- Basque Business Federation – Confebask;
- The city of Donostia-San Sebastián and the Donostia-San Sebastián 2016 European Capital of Culture;
- Euskampus Fundazioa.

The focus of this UBForum is on trans-border university-business cooperation, cultural entrepreneurship, and the role of university-business cooperation in urban, territorial and regional development.

Specifically, it will examine the Euro-regional perspective of trans-border university-business cooperation, using joint strategies of border-regions' development. The 'Basque Country – Nouvelle Aquitaine Euro-region' provides tangible examples of responsible, durable and fruitful partnerships to promote knowledge and innovation ecosystems involving universities, companies, public administration bodies, and society at large.

As the 2016 European Capital of Culture, Donostia-San Sebastián offers a unique opportunity and context to share knowledge and tackle creative and cultural entrepreneurship as well as university-business cooperation in a cultural and heritage context. At the same time, the Forum will also consider the Civic Business system developed in the Basque Country as a model that contributes special features to the debate in University-Business Cooperation and its impact in regional development.

THE EUROREGION AQUITAINE-EUSKADI KEY FACTS⁷⁶

Location. A cross-border region of 50,000 km² combining Aquitaine in Southwest of France and the Basque Country in Northern Spain.

Governance and members. The Euroregion Aquitaine-Euskadi EGCT was established as a 'European Grouping of Territorial Cooperation' in 2011. Its members are the Autonomous Community of the Basque Country and the Region of Aquitaine, which since early 2016 was merged to form 'Nouvelle Aquitaine', consisting of Aquitaine-Limousin-Poitou-Charentes. In March 2016, the Euroregion expanded again with the accession of the Autonomous Community of Navarra in northern Spain. The Euroregion has a presidency which rotates every two years between Aquitaine and the Basque Country. Its assembly with 20 members has an equal representation from both regions. A secretariat of six members is led by the Director.

Population. The 5.4 million population is spread across the Euroregion, with six out of ten people in Aquitaine. During the past decade, the population grew in Aquitaine (+10.5%) but is declining in the Basque Country. The Basque Country population is ageing at a high rate, and it has a smaller share of youth under 25 years (22%) than Aquitaine (+29%) or the EU average (27%). The Euroregion population, particularly the Basque population, benefits from a higher average life expectancy and a lower risk of poverty than Europeans on average.

Employment and unemployment. Under 67% in 2012, the Euroregion is behind the Europe 2020 employment target of 75% for 20 to 64 year olds (EU: 68.5%). The unemployment rate in the Basque Country was 15% but 10% in Aquitaine. Since 2009 the economic and financial crisis has destroyed jobs particularly for the youth in the Basque Country: the data from the second quarter of 2016 shows that 32% (14,800) of young people aged 16 to 24 were unemployed, compared 14% for the general population (8.6% for EU-28).⁷⁷

Highly skilled workforce. The Euroregion has a highly skilled labour force: 28% of the population of 24-65 years and 32% of the employees have higher education degrees. The figures are particularly high for the Basque country (47% and 54%). The Basque Country which has the highest share of workforce with tertiary education among Spanish Autonomous Communities. Close to 50% of 30-34 year olds have attained higher education, significantly above the Europe 2020 targets (40%), the EU average (38%) and Spain (42%).

Low rates of early school leaving. In 2012, the Euroregion early school leaving rate was at 10.3%, approaching the ET 2020 goal of 10% among 18-24 years old, and significantly better than the EU average of 12.8%. The Basque Country has already reached the target.

Strong commitment to RDI. The Euroregion's RDI expenditure was 1.8% of the GDP in 2012 (EU 2%), behind the Europe 2020 target of 3%, but the number of researchers is increasing particularly in the Basque Country where it doubled from 2000 to 2009 (10,518 in 2009 compared to 5,039 in 2000). In the Basque Country private firms concentrate 74% of the R&D workforce, compared to 58% in Aquitaine.

⁷⁶ Unless otherwise indicated, data in this section are based on the Stratégie de Développement Territorial Aquitaine-Euskadi 2014-2020. <http://www.aquitaine-euskadi.eu/> <http://www.aquitaine-euskadi.eu/strategie/plan-strategique-2014-2020/>

⁷⁷ [En.eustat.eus](http://en.eustat.eus); <http://archyworldys.com/the-unemployment-rate-fell-to-13-9-in-the-basque-country-in-the-second-quarter-of-2016/>

1.0 The Euroregion governance and strategic development

The Euroregion Aquitaine-Euskadi (Akitania-Euskadi euroeskualdea) brings together the two regions of Aquitaine in the South West of France and the Basque Country in the North of Spain. The Euroregion stands out in the European landscape of regions thanks to its highly skilled population and advanced industry in sectors such as aerospace, advanced manufacturing, automobile industry, as well as gastronomy and tourism. There is also a well-developed support system for RDI, clusters and higher education institutions.

The cross-border collaboration between the region of Aquitaine and the Basque Country is managed by the Euroregion Aquitaine-Euskadi (EGTC) which was established

in 2011. Its mission is to promote the social, economic and cultural development of its members, represent the Euroregion at the local, national and European levels and implement funded programmes. The EGTC has a financial autonomy and has since 2012 managed the joint regional funds. In addition, the EU cross-border, cross-national and interregional funds, and other EU and national funds are used to support the cross-border collaboration. Collaborative efforts focus on higher education and R&D, technological innovation, enterprise collaboration, tourism and cross-border logistics (e.g. *Transfermuga*⁷⁸) as well as regional identity building through support for language learning, culture and a joint branding.

AQUITAINE, THE BASQUE COUNTRY AND THE EUROREGION AQUITAINE-EUSKADI

Aquitaine is one of France's 22 old administrative regions comprising five departments in the south-east of France (Dordogne, Gironde, les Landes, Lot-et-Garonne and Pyrénées-Atlantiques). In January 2016, as a result of a major regional reform, which reduced the number of regions and delegated them new powers, Aquitaine was merged with the regions of Poitou-Charentes and Limousin to form 'Nouvelle-Aquitaine'. In the new regional governance system, Nouvelle-Aquitaine, like the rest of the 12 regions, was granted greater powers over economic development, innovation and internationalisation, vocational education and training, upper secondary education and the management of European cohesion funding. At the same time, higher education and innovation policies remain centrally steered and focus on excellence-based agglomeration and clusters.

The Autonomous Community of the Basque Country has since 1979 benefited from greater responsibilities and control of direct spending than autonomous communities in Spain in general, allowing it to steer the long term development of the Basque skills and RDI. Along with the region of Navarre, the historical Basque provinces – Alava, Biscaya and Gipuzkoa – are the only jurisdictions in Spain that have a fiscal autonomy and own tax system. Consequently, the Basque Country exercises broad competencies in science, technology and industry, education and research.

The formal cross-border collaboration between Aquitaine and the Basque Country goes back at least 30 years. In 1982, the EU support for the cross-border collaboration started through the POCTEFA cross-border operational programme for France, Andorra and Spain (Programme Opérationnel de Coopération Transfrontalière France-Andorre-Espagne). In 1989, Aquitaine and the Basque Country concluded a formal collaboration agreement. In 2009 joint funds 'Fonds commun Aquitaine-Euskadi' were launched. In 2011, the Euroregion Aquitaine-Euskadi was officially established as a European Grouping of Territorial Cooperation (EGTC) with financial autonomy. More recently a cross-border transport authority was established to facilitate the cross-border logistics and mobility. Local governments collaborate through Eurocité Basque Bayonne-Saint-Sebastien with 25 communes in France and 14 in the Basque Country, and the consortium Bidasoa-Txingudi, which joined the Eurocité in 2001.

⁷⁸ TRANSFERMUGA which improve logistics and mobility within the cross-border region, along the Bayonne-San Sebastian corridor. The collaboration has brought along a Cross-border Transport Authority, a permanent bus connection and the Transfermuga website with 4-lingual information (Basque, Spanish, French, English) on different transport options.

The Euroregion collaboration is steered with the help of the Development Strategy of Aquitaine-Euskadi 2014-2020⁷⁹ (Stratégie de Développement Territorial Aquitaine-Euskadi 2014-2020). The strategy focuses on four key priorities with over 40 collaborative activities:

- Euroregion Citizenship;
- Knowledge-based Economy, Innovation and Enterprise Competitiveness;
- Sustainable Region;
- Open Governance.

The Euroregion's six strategic specialisations have been identified drawing on the synergies of the smart specialisation strategies of the Basque Country and Aquitaine. They are:

- Aerospace and transport;
- Health and biohealth;
- Agriculture and agro-food industry;
- Sustainable wood construction;
- Renewable energies;
- Marine and littoral resources.

Higher education and RDI play an important part in the Euroregion's Development Strategy. Part of this action is channelled through the cross-border Euroregional Campus of International Excellence (Euroregional Campus in what follows) which combines the strengths of the University of Bordeaux and the University of the Basque Country (UPV/EHU) to enhance cross-border mobility, joint education provision in fields of regional relevance (e.g. Oceanography), as well as R&D activities in shared areas of excellence. Higher education institutions play an important role in the six strategic specialisations of the Euroregion, for example in the health fields where the focus is on the "Chronicity Valley" also delivered through the Euroregional Campus. Other cross-border networks of higher education institutions networks include EAN and PYREN.

CROSS-BORDER HIGHER EDUCATION AND RDI INITIATIVES

Euroregional Campus of International Excellence builds on the expanding collaboration between the University of the Basque Country (UPV/EHU) and Bordeaux University. Since 2011, the excellence initiatives of the UPV/EHU (EUSKAMPUS) and Bordeaux University (IdEx) have pursued

cross-border collaboration in education and research. A cross-border Euroregional Campus of International Excellence was launched in November 2014 to benefit not only 100,000 students and 18,000 researchers, but also local economies. The aim is to develop new joint academic programmes, increase cross-campus mobility, promote RDI and knowledge transfer in the shared areas of excellence and promote the campus worldwide.⁸⁰

Chronicity Valley is a regional innovation programme which brings together health organisations, the academia, and firms to address the regional challenges of ageing and chronic illnesses through cross-border collaboration. The key partners are the University of Bordeaux and the Basque Foundation for Innovation and Research on Health (Bioef), with the participation of UPV/EHU.

The Ocean Experience Platform is a new university-led initiative which responds to the RDI and skills needs of the local water sports industry with 5,000 jobs and an annual turnover of 1.5 billion euros. The Platform brings together the University of Bordeaux, the University of the Basque Country, the EUSKAMPUS Foundation, public authorities and the EuroSIMA Cluster Association representing the interests of 180 firms, 122 brands and 58 service providers in surfing and water sports. The Platform offers co-creation spaces (Living Lab) linked to national enterprise initiatives (French Tech), a creativity facility and a start-up accelerator (CreaSport Incubator) as well as a Master's programme to address new skills needs, and prepare students for managerial jobs and self-employment⁸¹. The programme combines work-based learning, courses delivered by professionals, internationalisation and mobility.

AEN – the university network Aquitaine-Euskadi-Navarre, established in 1994, brings together 20 higher education institutions and other HE-related organisations in Aquitaine (15 members), Basque Country (3 universities) and Navarra (2 universities). It develops a cross-border higher education and research area, by promoting mobility, double degrees, research and enterprise collaboration. The network shares good practice and strengthens a common regional identity.⁸²

PYREN (Education, training, languages) is a partnership between the Campus Iberus (that brings together the University de Zaragoza, the Public University of Navarre, The University of La Rioja, and the University of Lleida) and University of Pau et des Pays de l'Adour to develop a cross-border euro-campus with multidisciplinary, trilingual higher education, including mobility, internships and career services. The students of 22 specialisations or study pathways have access to open education in fields complementary to their specialisations. They can study in the partner universities for 1-2 semesters or do an industry internship.

⁷⁹ Stratégie de Développement Territorial Aquitaine-Euskadi 2014-2020. <http://www.aquitaine-euskadi.eu/> <http://www.aquitaine-euskadi.eu/strategie/plan-strategique-2014-2020/>

⁸⁰ <http://www.ehubaq.eu/about/about-ehubaq#sthash.so2iVaiz.vvi1RNGV.dpuf>

⁸¹ http://idex.u-bordeaux.fr/files/Master_Management_Action_sports_-_Sports_de_glisse_2016-2017_Info_candidats-es.pdf

⁸² <http://www.aquitaine-euskadi-navarre.com/>

2.0 The Basque Country tertiary education system

The Basque Country has developed a dense and diverse network of education providers, including a public university, which serves eight out of every ten students, three private universities and nearly a hundred vocational education and training centres. There are also five international schools and more than dozen official language schools. Bilbao is home to Digipen⁸³, the Institute of Technology Europe Bilbao which offers training in game design, while the first Gastronomy University in the world, the Basque Culinary Center⁸⁴, (a faculty of Mondragon University) is located in San Sebastián, collaborating with the top chefs.

The Basque University System, steered by the Basque Government, consists of three universities – the University of the Basque Country, the University of Deusto and Mondragon University – with a combined student enrolment of about 70,000 students (2013-2014 data). In addition, 44,000 students outside of the Basque Government System are studying in the San Sebastián campus of TECNUM – the private University of Navarra.

The Basque University System

The University of the Basque Country/Euskal Herriko Unibertsitatea (UPV/EHU)⁸⁵ is a large public research-based multi-faculty university which caters to about 80% of the students in the Basque University System: it has 56,820 students, 5,507 academic and 1,895 administrative staff. UPV/EHU is based on a multi-campus model with regional campuses in Alava, Bizkaia and Gipuzkoa. The UPV/EHU's leading initiative is **Euskampus – the Campus of International Excellence programme**. UPV/EHU is also developing a world class cross-border **Euroregional campus with the University of Bordeaux**. The UPV/EHU is responsible for 65% of the research carried out in the Basque Country. UPV/EHU is included in the top 500 universities in the Shanghai ranking.

The University of Deusto / Deustuko Unibertsitatea⁸⁶ is a private non-profit university with 8,200 students, 629 academic staff and 550 administrative staff spread across 6 faculties in the two campuses of Bilbao and San Sebastián. Deusto was established by Jesuits in 1886 and maintains a strong commitment to social responsibility both locally and globally. It offers degree programmes in Law, Business, Humanities, Engineering, Languages and Communication, Psychology and Education, International Relations, Theology, Social Work and Tourism.

Mondragon University / Mondragon Unibertsitatea⁸⁷ is a private non-elitist industry-facing university and a co-operative member of the Mondragon Corporation with 4,080 students and 445 staff. Its four faculties (and a polytechnic school) are distributed in 8 campuses in Gipuzkoa and Bizkaia. Mondragon offers undergraduate degree programmes in Engineering, Business, Education, Humanities and Gastronomic Sciences (Basque Culinary Center). Mondragon has a focus on demand-led education including dual studies, learning by doing and soft skills development. It has a unique cooperative governance system and structured industry collaboration model.

⁸³ <https://www.digipen.es/>

⁸⁴ <http://www.bculinary.com/es/home>

⁸⁵ <https://www.ehu.eus/es>

⁸⁶ <http://www.deusto.es>

⁸⁷ <http://www.mondragon.edu/en>

The Basque Government steers the Basque University system through multi-annual University Plans, launched in 2002-2003.⁸⁸ The University Plans provide a shared vision of the Basque University System agreed with the three universities in terms of the strategic direction, lines of action and quantitative targets. The current University Plan for 2015-2018⁸⁹ is aligned with a number of other Basque strategies in science technology and innovation, internationalisation, labour market, environment etc. In line with the Basque Science, Technology and Innovation Plan 2020, the aim is to increase university-industry collaboration to support regional smart specialisations. The university plan also supports the Aquitainia-Euskadi Strategic Plan through the strategic alliance between the UPV/EHU and Bordeaux University, notably the cross-border Euroregional Campus..

The internationally recognised Basque Vocational Education and Training System – which includes Higher VET – plays a key role in the Basque economy’s competitiveness. 65% of jobs in Basque companies – 70% in industry – require a vocational training certificate. The Basque VET System involves about 100 public and private centres which are training about 30,000 students. VET centres offer formal and specialized VET to both workers and unemployed as well as services to SMEs.⁹⁰ Vocational training offers around 150 training cycles adapted to the different professional requirements. **The Basque Government steers the development of the VET sector with the help of multiannual VET Plans.** The current IV VET Plan for 2015–2020 provides for the strategic transformation of the VET system to ensure that it meet the demands of the future. Key elements of the new VET model were developed with public and private stakeholders:

Key elements of the Basque VET model⁹¹

- An integrated training model for students, the working population and the unemployed;
- Focus on RDI, continuous improvement and teacher training. Innovation in new methodologies, such as Collaborative Challenge-based Learning, and learning environments as well SME innovation support based on TKgune project.⁹² Innovation support is provided by the Innovation Centre for Vocational Training Tknika;
- Focus on active entrepreneurship and creativity to transfer the entrepreneurial culture to students and VET centres. The Basque Institute for Applied Creativity in VET (IdeaTk) introduces methods in creative thinking in teacher training;
- Specialised Network Nodes of VET centres for different industry sectors to provide immediate response to meet the business needs;
- A reformed Dual VET model (based on 4-year experimentation);
- The Basque Framework for Qualifications and Professional Specialisations that ensures a rapid response to the needs of firms and people for higher-level training and specialisations.

⁸⁸ The University Plans were launched in 2000-2003 covering first the UPV-EHU, and later extended to the University of Deusto (2005) and Mondragon (2007)

⁸⁹ Gobierno Vasco (2014). Plan Universitario 2015-2018. http://www.hezkuntza.ejgv.euskadi.eus/r43-573/es/contenidos/informacion/dia3/es_2024/adjuntos/plan_uni_2015_2018_c.pdf

⁹⁰ <http://www.tknika.eus/liferay/documents/17114/1465069/TKgune-Programme-Case-Study.pdf/00a4efcb-7be4-4e09-a5d8-084f8276e683>

⁹¹ Gobierno Vasco (2016). FP Euskadi Lanbide Heziketa New. No 2. 2016. <http://fp.euskadinews.com/en/index.html>

⁹² <http://www.tknika.eus/liferay/documents/17114/1465069/TKgune-Programme-Case-Study.pdf/00a4efcb-7be4-4e09-a5d8-084f8276e683>

3.0 The Basque Country innovation ecosystem

The Basque Country has a strong regional innovation system which has provided a model for European regional innovation initiatives and the idea of smart specialisation.⁹³ Since its establishment in 1979⁹⁴, the autonomous Basque government has strengthened the manufacturing base in medium-technology goods through support for innovation and cluster development. The innovation system has successfully supported the Basque economy which grew steadily from the 1990s to 2008, with emphasis on the development of a network of technology centres that work closely with local firms and clusters.

The Basque Country's **status as a strong innovator among the group of innovation followers** has been recently confirmed by the 2016 Regional Innovation Scorebook, despite the decline in performance (-6%) since 2014. The relative strengths of the Basque Country, compared to EU-28 include highly educated workforce, innovative SMEs which collaborate with each other, and employment in knowledge-intensive industries. It also has high scores for exports of medium and high tech products⁹⁵

The Basque Science, Technology and Innovation Council coordinates the strategic development of the innovation ecosystem. The composition of the Council, which is chaired by the President of the Basque government, was extended in 2014: now in addition to the representatives of Basque Government and the three provincial councils, the members include also universities, technology corporations, companies, and key agencies (Ikerbasque, Innobasque and Jakiunde). The Council is the supreme body for providing coordination and strategic direction to the Basque Science, Technology and Innovation System. It is responsible for the approval of the multiannual plans for science, technology and innovation (PCTi). The previous plan for 2015 and particularly the current plan for 2020 (PCTi Euskadi 2020) represent **a shift of focus from incremental innovation within the medium technology industries, towards more radical innovation in new industries and smart specialisation.**

PCTi Euskadi 2020 - the Science, Technology and Innovation Plan for 2020⁹⁶ will grow the public-private investment in RDI by 44% to €11.1m: one third of this investment will come from public sources, mainly Basque Government, and over 60% from private sources.⁹⁷ Through smart specialisation the plan will match the market pull and technology push by bringing together research oriented towards the demand of the market and society and research driven by advances in science and technology. The plan highlights the **Basque 'smart' specialisations – advanced manufacturing; energy, biosciences and health – as well as four areas of opportunity** – agro-food, regional planning and urban regeneration, ecosystems, and cultural and creative industries. With an increasing focus on results, the strategy aims to steer the STI effort to address the social challenges of the Basque County, strengthen industrial leadership through public-private partnerships, raise the levels of excellence, and ensure the development of necessary human capital. Technological infrastructure at the service of companies include universities, hospitals, world-class research centres, cooperative research centres and technology centres.

The Basque STI System consists of 3 subsystems with 120 accredited agents:

- The scientific subsystem, consisting of the Research Structures of the Universities and the Basic and Excellence Research Centres (BERCs);
- The technology and innovation subsystem, consisting of Technology Centres, Cooperative Research Centres (CRCs or CICs), R&D business units and supply and demand Intermediary Agents;
- The health subsystem, consisting of the Institutes of Health Research (IHS) and Health R&D Organizations.

⁹³ Puukka J. D. Charles, J. Gines Morá and M.H. Nazare (2013), Higher Education in Regional and City Development: The Basque Country, Spain 2013, OECD. <http://dx.doi.org/10.1787/9789264200180-en>

⁹⁴ Since the 1979 Spanish devolution, the central government in Madrid retains some oversight of research policy and provides funding for competitive grants and national research centres under the Spanish National Research Council (CSIC). The autonomous communities have the responsibility for block funding of universities (this does not explicitly cover research), for providing additional funds for research grants and a wide range of innovation programmes and agencies. Provinces and municipalities may

support innovation, but without funding university core programmes. Funding is also available from the EU Horizon 2020 and Cohesion Funding.

⁹⁵ Regional innovation scoreboard for Spain is available at:

https://ec.europa.eu/growth/industry/innovation/facts-figures/regional_en

⁹⁶ https://www.irekia.euskadi.eus/uploads/attachments/6312/PCTI_Euskadi_2020_en.pdf?1429183477

⁹⁷ <https://ec.europa.eu/growth/tools-databases/regional-innovation-monitor/policy-document/science-technology-and-innovation-plan-pcti-euskadi-2020>

Self-standing agencies that support the STI ecosystem include **Innobasque** that brings together public and private stakeholders to promote innovation and innovation culture, **Ikerbasque**, the Basque Foundation for Science that focuses on international talent attraction and retention, and **SPRI**, a Basque business development agency, with works to attract inward investments to the Basque Country.

The Basque County has two important Technology Platforms, IK4 Research Alliance and the Tecnalia Corporation, which employ 2,800 people worldwide in RDI functions.⁹⁸ **The Basque Technology Parks** in Álava, Bizkaia and Gipuzkoa are home to research centres, technology centres, innovation promoters and cutting edge organisations. They host nearly 430 companies, providing about 16,000 jobs and have a turnover of over €4 billion. Almost 5 000 people are engaged in RDI. Activities associated with the Technology Parks account for 5.5% of GDP, 5.4% of employment and 5.8% of corporate tax revenue.

The Basque Country has also developed a coordinated interagency plan for the **Basque Entrepreneurship System**. It works for the revival of the Basque entrepreneurial mindset, increases the idea take up and new initiatives that reach the market, promotes the startup growth and supports intrapreneurship. **BIC Business and Innovation Centres** are startup creation hubs which promote the creation and incubation of new innovative and technology-based enterprises. Since their establishment they have supported the creation of 2,000 businesses, which have generated 10,500 jobs, and tutored more than 4,000 entrepreneurs.⁹⁹ New initiatives include “StartUP! Basque Industry 4.0” (BIND4.0), a public-private accelerator which collaborates with major firms to attract the best industry startups to the Basque Country. With major companies located in the Basque country, the initiative supports the growth, acceleration and market placement of these recently-created companies.¹⁰⁰

⁹⁸ TECNALIA – The Tecnalia Corporation is made up of Tecnalia Research & Innovation and the Azti and Neiker technology centres. Tecnalia Research & Innovation has over 1,400 employees from 30 nationalities, 21 offices worldwide and 4,000 international clients. IK4 Research Alliance is a private and independent alliance of technology centres, which employs over 1,300 professionals.

⁹⁹ <http://www.spri.eus/en/entrepreneurship/start-up-creation-hubs-in-the-basque-country>

¹⁰⁰ Companies involved include ABB, CAF, CIE Automotive, Danobatgroup, Euskaltel, Iberdrola, ITP, Mercedes-Benz, Michelin, Microsoft, Repsol-Petronor and Siemens . See more: <http://www.spri.eus/en/news-spri/news/new-international-programme-to-attract-the-best-industry-4-0-startups-to-the-basque-country>

4.0 The Aquitaine higher education system

The French region of Aquitaine enrolls over 115,000 higher education students (2013–2014 data¹⁰¹). The growing system consists of three universities – the University of Bordeaux, the University Bordeaux Montaigne and the UPPA (Université de Pau et des pays de l'Adour) and their six institutes of technology – as well as eight engineering schools, four schools of commerce and management, three centres of technological and industrial training, two arts schools, three 'grandes écoles', and Sciences po Bordeaux and UBA (Institut de journalisme de Bordeaux-Aquitaine).

Bordeaux, the leading city of Aquitaine, is a major concentration of higher education with main university campuses. In 2014, Bordeaux was ranked Top 5 in the list of the "Best French cities for University Study".

4.1 Agglomeration of higher education and knowledge organisations

In France, higher education is steered by the national government although decentralisation has allocated greater powers at the institutional and regional levels. **The national higher education policy has since 1990s promoted agglomeration of higher education and knowledge organisations** to increase international competitiveness and a more coherent higher education and research system. While the major focus has been on the capitol region of Ile-de-France, the policy has also brought along significant changes in regions such as Aquitaine, and notably its leading city Bordeaux.

In Bordeaux, the agglomeration of knowledge organisations began in 1997 when the **Bordeaux university cluster 'Pole universitaire de Bordeaux' was established. Ten years later in 2007, the University of Bordeaux Research and Higher Education - Bordeaux PRES** was created comprising four Bordeaux-based universities and later five, when the 'institute polytechnique de Bordeaux' joined the ranks in 2009.¹⁰² The Law on HE and Research of 2013 revised the PRES system introducing the so called ComUEs (communautés d'universités et établissements). In early 2015, the Bordeaux PRES was reorganised into **the Aquitaine ComUE** (la communauté d'universités et

établissements d'Aquitaine) bringing together the founding HEIs from Bordeaux and Pau: the University of Bordeaux, University Bordeaux Montaigne, University of Pau and des Pays de l'Adour, Bordeaux INP, Sciences Po Bordeaux, Bordeaux Sciences Agro.

In 2016, after the creation of Nouvelle-Aquitaine, also La Rochelle University, 180 km north of Bordeaux, joined the Aquitaine ComUE.¹⁰³ In addition to these HEIs, ComUE partners include the university hospital and other health organisations, the regional rectors' conference and specialised higher education institutions.¹⁰⁴ The Aquitaine ComUE implements the common areas of work of its members around their main missions, for example the digital strategy and implements a project for the improvement of the quality of student life.

In 2010, the French government launched the '**Investments for the Future' scheme** (Plan Investissements d'Avenir -PIA) to finance major transformative projects to shape the future of France. A ten-year budget of €22 billion was earmarked for higher education and research identified as key priorities. These investments target e.g. the creation of more than ten world-class clusters of excellence in higher education and research, including the **University of Bordeaux Initiative of Excellence (IdEx Bordeaux)**.¹⁰⁵

4.2 Clusters of excellence in training (Pôles d'excellence de formation)¹⁰⁶

The decentralisation of powers in France has enhanced the role of the French regions in vocational and professional education. The Region of Aquitaine has launched new engineering schools and, as elsewhere in France, progress has been made in the offer of apprenticeships for the youth (16 to 25 years). In 2013, Aquitaine's offer covered: 380 trainings, 55 training centres for trainees. More than 19,000 trainees employed in firms in key regional industry sector.¹⁰⁷ The region offers support for both trainees and for small firms (less than 10 staff) who take these trainees.

Aquitaine has also developed two clusters of excellence in training – one in leather products (Cuir and Lux) and another

¹⁰¹ http://ec.europa.eu/eurostat/estat-navtree-portlet-prod/BulkDownloadListing?sort=1&downfile=data%2Feduc_uae_enrt06.tsv.gz

¹⁰² The founding members of PRES were: l'école nationale supérieure d'électronique, informatique et radiocommunications de Bordeaux, l'école nationale supérieure de chimie et de physique de Bordeaux, l'institut d'études politiques de Bordeaux et l'école nationale d'ingénieurs des travaux agricoles de Bordeaux

¹⁰³ Poitiers and Limoges, which are also placed in Nouvelle Aquitaine have so far not followed the suit but have stayed in the old ComUE.

¹⁰⁴ Full list of partners: Bordeaux university hospital centre, Institut Bergonié (Centre

régional de lutte contre le cancer), Rectors' conference of Bordeaux Aquitaine (CROUS of Bordeaux Aquitaine), National scientific research centre (Centre national de la recherche scientifique), École nationale supérieure d'architecture et de paysage de Bordeaux, KEDGE Business School, École supérieure des technologies industrielles avancées (ESTIA), École nationale de la magistrature, École nationale supérieure d'arts et métiers - centre de Bordeaux (ENSAM), École des beaux-arts de Bordeaux. www.aquitaine.fr

¹⁰⁵ <http://www.aquitaine.fr/actions/formation-jeunesse/poles-d-excellence-de-formation>

¹⁰⁶ <http://www.aquitaine.fr/actions/formation-jeunesse/apprentissage>

in aerospace. These clusters with secondary and higher education institutions offer general, technological and professional training and implement the regional council's strategy to address the needs of the enterprises for skilled workforce and to support, maintain, adapt and raise the level of competences of job seekers and employees in the region. The Aerocampus Aquitaine is a state of the art 26 hectare campus with 150 staff in the refurbished Latresne airport which has been transformed from a military airport into a world class training centre to meet the needs of the global and regional aerospace cluster. It is the only campus in

Europe to offer aerospace training spanning from the school leaving certificate (bac pro) to higher education engineering degrees. The campus relies on the joint mobilisation of the state, region, enterprises, industrial groups, relevant associations etc. Since its launch in 2011, Aerocampus Aquitaine has grown the student numbers from 85 to 260 in 2015 with guaranteed jobs for graduates. The operational budget of €4 million including €2.5 million from the Region of Aquitaine. Recently a new branch Aerocampus Auvergne has been launched in Aulnat.

The key universities in Aquitaine

The University of Bordeaux¹⁰⁸ is a multi-field research-based institution which brings together 53,000 students and 5,000 academic staff for study and research in 7 educational entities (4 colleges, 2 institutes and 1 school), 70 research laboratories and 18 international joint research laboratories. Re-established on the basis of a merger of the former Bordeaux-I, Bordeaux-II and Bordeaux-IV universities, Bordeaux University is among the top 200 universities in the Shanghai ranking for 2016.¹⁰⁹ In 2011, the Bordeaux Initiative of Excellence **IdEx Bordeaux**¹¹⁰ was launched in collaboration with other knowledge organisations, the Regional Government and the Urban Community of Bordeaux with the aim to transform the university into a world class research university by 2020. The innovative research, education and knowledge transfer programmes are financed with the income from the €700 million endowment granted to IdEx Bordeaux as well as matched funding. IdEx Bordeaux makes a strong contribution to the RDI ecosystem by bringing together key research players in cutting-edge scientific fields: neuroscience, health technologies, public health, future materials, environment & climate, archaeology, optics-photonics-laser and ICT. The centres of excellence are backed by innovative educational programmes. The university also coordinates other projects under the 'Investments for the Future' scheme concerning higher education and research in the Bordeaux area.¹¹¹

The University Bordeaux Montaigne¹¹² (former Bordeaux-III) brings together 15,000 students and 1,300 academic and administrative for study and research in the arts, languages, literature and human and social sciences. Bordeaux's humanist university has an exploratory, multi-

lingual and civic-minded vocation. It offers 138 nationally recognised diplomas across the three university faculties or UFRs – Humanities, Languages and Civilisations, and Territorial and Communication Sciences – and two university institutes: the Bordeaux Montaigne University Institute of Technology, (IUT), and the Bordeaux Aquitaine Institute of Journalism (IJBA), situated in the Bordeaux Sainte-Croix neighbourhood. The university offers teaching in English and Spanish at the Agen University Centre (Centre Universitaire d'Agén). The university is also associated with the teacher training college for the Aquitaine region (ESPE d'Aquitaine). The large campus is based in the Bordeaux suburbia across the communes of Talence, Pessac and Gradignan.

The UPPA (Université de Pau et des pays de l'Adour)¹¹³ is a multidisciplinary institution with 11 000 students. Ranked 12th out of 80 universities for student support and success in their degree courses, UPPA offers initial or continuing education, work/study programmes or apprenticeships, and Bachelor's, Master's and vocational degrees and Doctorates through five Teaching and Research units and two Doctoral schools. UPPA also includes two University Institutes of Technology, an IAE University School of Management, two engineering schools, a continuing education department and an apprenticeship training centre. UPPA holds close links with local stakeholders, multinational companies, SMEs/SMIs and local authorities, making it a major player in the economic development of southern Aquitaine. Located close to the Spanish border on five UPPA is well placed to develop cross-border cooperation with Spain, e.g. through the PYREN Project: IDEFI (Initiative for excellence in innovative training) funded by "Investment for the Future" scheme, covering scholarships, internships in companies and double degrees.

¹⁰⁸ www.u-bordeaux.com

¹⁰⁹ <http://www.shanghairanking.com/World-University-Rankings/University-of-Bordeaux.html>

¹¹⁰ Founding members are the University of Bordeaux, CNRS, Inserm, Sciences Po Bordeaux, Bordeaux INP, Bordeaux Sciences Agro, Bordeaux Montaigne University. Partners: Bordeaux University Hospital, Inra, Inria, Irstea, CEA, Ifremer, Aquitaine Regional Government, Urban Community of Bordeaux.

¹¹¹ Clusters of Excellence (LabEx), Facilities of Excellence (EquipEx), University Hospital Institute (IHU) and Technology Transfer Office (SATT)

¹¹² <http://www.u-bordeaux-montaigne.fr/>; <http://www.u-bordeaux-montaigne.fr/en/university/discover-bordeaux-montaigne.html>

¹¹³ <http://www.univ-pau.fr/fr/index.html>

5.0 The Aquitaine innovation ecosystem

Apart from Ile-de-France, Aquitaine is the Number One among the French regions in terms of regional budget allocation to RDI.¹¹⁴ During the period 2007-2013, Aquitaine invested 74% of the ERDF funds into knowledge and innovation economy. The regional innovation ecosystem is based on the development of value chains and scientific clusters of excellence (pôles scientifiques d'excellence). The regional strategy supports innovation by clustering and coordinating the public and private actors and encouraging them to insert innovation at all levels of economy and education. The regional government provides support for industrial activities and has developed a strong offer of technological training by establishing new engineering schools, in addition to other VET-related offers. The regional policy also supports knowledge transfer, collaborative projects and modernisation of the production tools and new technologies for firms to access the global markets, as well as new modes of social enterprise and production and environmental sustainability.¹¹⁵

According to the Regional Innovation Scoreboard 2016 which is based on data prior to the regional reform, France's South Western Region (Sud-Est Region) covering Aquitaine,

Midi-Pyrénées and Limousin, is a strong innovator, despite a 4% decline from 2014. Its relative strengths compared to the EU28 lie in the higher education attainment level as well as business and public sector R&D expenditure. The relative strengths in the regional innovation system also include exports of medium and high tech products.¹¹⁶

The regional development strategy has for over 15 years targeted innovation and transformation of traditional sectors, intermediary and emerging sector to address the global and local challenges such as ageing and energy transition.¹¹⁷ Aquitaine's industry sectors fall into three categories:¹¹⁸

- Consolidated sectors: Aerospace and defence, agrofood, wine, wood, construction;
- Intermediary sectors: Health and digital industry;
- Emerging sectors or sectors in transformation: Water and winter sports, aqua & hydrotherapy, renewable energies.

The Aquitaine smart specialisation strategy process has identified 11 key themes for specialisation:¹¹⁹

- Chemistry as a source of new materials;
- Plant-based industry (biomass et bioraffineries);
- Laser systems, photonics and imaging, or from light to the object;
- Precision farming and eco-efficient agrifood;
- Sustainable wood-based eco-construction;
- Geosciences, metrology / monitoring for sustainable management of natural resources, or Preserving natural resources through technologies;
- embedded software and connected objects, or when intelligence enters the objects;
- Intelligent delivery of assets for the well-being and health or Less administration, better care;
- Pathway of integrated care and technical assistance to the patient, or life farther ahead;
- Systems and data for clean and smart mobility, or movement Invigorate;
- Competitive factory centred around the human factor or Rethinking the factory.

¹¹⁴ <http://www.enseignementsup-recherche.gouv.fr/reperes/public/chiffres/france/reg.htm>, Rubrique : les budgets de RT des collectivités territoriales, onglet RTREG3

¹¹⁵ <http://www.aquitaine.fr/actions/innovation-et-emploi>

¹¹⁶ https://ec.europa.eu/growth/industry/innovation/facts-figures/regional_en ; <http://ec.europa.eu/DocsRoom/documents/17892>

¹¹⁷ <http://www.aquitaine.fr/actions/innovation-et-emploi>

The key development agency is **Aquitaine Développement Innovation** which leads the region's economic development by connecting innovation and industrial development, in close partnership with clusters.¹²⁰ It was established in 2016, on the basis of a merger of two agencies with ten years of experience: 2ADI with the mission to support structuring industries and SMI performance, and to attract foreign investors was merged with Innovalis which focused on business innovation, start-ups and European projects.

The region of Aquitaine has a strong focus of cluster development which has been supported by central government policies. Aquitaine has close to 40 (37) clusters industries, five of them acknowledged as Poles of Competitiveness.¹²¹

- Aerospace in collaboration with Midi-Pyrénées (now included in the new larger region Occitanie);
- Agrofood;
- Route des Lasers – Photonics;
- PolAvenia- Geosciences for energy and environment;
- Wood and forestry products and materials.

The Regional government through **Aquitaine Développement Innovation**, supports the Interclustering in order to share expertise and facilitate “cross-fertilization” between the clusters. The most successful cluster which has been acknowledge as a ‘global cluster’ by the French state is focused on aerospace.

Poles of competitiveness

Poles of competitiveness (“pôles de compétitivité”) are a French industrial policy tool, which since 2004 have developed place-based clusters of firms, higher education institutions and research organisations to economic growth and job creation. Over 70 state-acknowledged clusters were created by end 2014. In the current third phase (2013-2018) the policy has a shared governance between the state and the regions, and a strong goal to create concrete innovations. Over 50% of the state investment (€1.5 million for 2004-2008) was concentrated in seven global clusters including the Aerospace Valley in the South Western France.

Aerospace Valley

Created in 2005, with 860 members from both industry and academia, Aerospace Valley is the most significant innovation “pôle de compétitivité” in France in the field of aeronautics, space and embedded systems. The cluster covers the two geographically adjacent regions of South-West France, i.e. Aquitaine and Midi-Pyrénées. With 124,000 employees in industry, Aerospace Valley represents one third of the French aerospace workforce. The 8,500 researchers and scientists in the Aerospace Valley territory, represent 45% of the R&D staff employed in the aerospace sector in France. Up to October 2015, Aerospace Valley has obtained funding for 450 R&D projects with an accumulated value of €1.1 billion. Aerospace Valley aims to create 35,000-40,000 new jobs by 2025. www.aerospace-valley.com

¹¹⁸ Region Aquitaine (2017) L'AVENIR S'ÉCRIT EN AQT. Strategie de specialisation intelligente en Aquitaine. <http://www.aquitaine-developpement-innovation.com/media/18002/2014-10-23-Strategie-de-Specialisation-Intelligente-en-AquitaineLIGHT.pdf> Available at <http://www.aquitaine-developpement-innovation.com/ressources-documentaires-1.html#V7sfgl9OJTw> (see previous page)

¹¹⁹ Region Aquitaine (2017) L'AVENIR S'ÉCRIT EN AQT. Strategie de specialisation

intelligente en Aquitaine. <http://www.aquitaine-developpement-innovation.com/media/18002/2014-10-23-Strategie-de-Specialisation-Intelligente-en-AquitaineLIGHT.pdf> Available at <http://www.aquitaine-developpement-innovation.com/ressources-documentaires-1.html#V7sfgl9OJTw> (see previous page)

¹²⁰ <http://www.aquitaine-developpement-innovation.com/home.html>

¹²¹ <http://www.aquitaine-developpement-innovation.com/poles-et-clusters-aquitains-2014.html#V8XIUY9OJQM>

