Teaming for excellence

Building high quality research across Europe through partnership

1. Introduction

Europe is being held back by persistent disparities in its research and innovation capabilities which are the key to future prosperity. Competitors across the world are ratcheting up their investments in knowledge. Yet many EU countries and regions, often with distinguished traditions of achievement in science, lack the high quality research capacity adequate to the challenges of today and tomorrow.

To promote a more balanced development of the European Research Area, the European Commission has set out a strategy for the creation of "stairways to excellence" through teaming initiatives. The objective of teaming is to establish, reinforce and develop partnerships between countries and regional research actors and international leading counterparts. Teaming[1] initiatives under Horizon 2020 will leverage support from the Cohesion Funds to help countries and regions build critical mass from existing pockets of excellence and move to a positive spiral of development in research and innovation.

In this proposal, we - a group of Europe's premier research institutions[2] - bring our experience to bear in demonstrating the benefits of teaming; we identify the critical success factors and suggest how teaming could be practically delivered in liaison with other Horizon 2020 instruments and the Cohesion Funds. In annex, we give concrete illustrations of how teaming can build on existing partnerships to develop excellent research capability.

We believe that teaming can help to transform the dynamics of research in less-research intensive parts of Europe, but if it is to be effective, a common political vision is needed. We are bringing forward the proposal now as a contribution to the debate on Horizon 2020 and its future implementation methods. The challenge is urgent but such a goal can only be met with realistic expectations and long-term commitment, especially in the prevailing economic conditions. All parties will need to work together to make this opportunity a reality.

[1] Horizon 2020 includes both "twinning" and "teaming" initiatives (see box on page 4), the differences being in the scale and level of maturity of the partnership involved. For simplicity, we focus on teaming, however the position set out in this paper applies for the most part also to the twinning concept.

[2] See the list of signatories at the end of this document.

2. Smart investment in research and innovation to create stairways to excellence

Research and innovation - the creation and productive use of knowledge – are vital if Europe is to tackle major societal challenges and if its countries and regions are to hold their own in the global economy. As the Aarhus declaration[3] - "Investing in excellence – preparing for tomorrow" - shows, there is no substitute for excellence in research. Quality standards are set in the global context and second class research is largely irrelevant. International competition in research is brutal, but exposure to competition is essential to the health of Europe's research and innovation system.

At its best, Europe's research is truly world-leading, but there are significant differences in performance across the continent. A fundamental problem is lack of investment – few countries are close to meeting the EU's target for national research expenditure of 3% of GDP. More investment is evidently necessary, but to make a real difference, it must be *smart* investment. This is particularly true for the creation of stairways to excellence. It means:

- *Investment must be targeted*. Excellence tends to emerge not across-the-board but in particular areas or fields, involving highly-concentrated effort. There is a critical mass effect, because research is a collective activity, involving intense interactions between researchers, and depends on high quality, up-to-date facilities and equipment.
- *It must have a regional/national rationale.* Although research is global, excellent research activity cannot be sustained in the long term as a "castle in the desert", isolated from the local environment and economy. On the contrary, it relies on being properly embedded with regional and national structures and networks, and its economic and social value to the country and region will only be realised if it can thus become part of the "innovation system".
- *It must be sustained*. Research is a long-term endeavour; research capacity and reputations may take many years to build. Funding must be excellence-based but significant new initiatives will need nurturing as they move from infancy to maturity.
- *It must be accompanied by a broad effort to modernise research culture.* High-quality research only flourishes where there is a real "culture of excellence" and favourable institutional conditions, for example incentive structures focused on merit, ready access to information and networks, transparent and responsive procedures and flexible working arrangements.

Teaming is designed to support stairways to excellence built according to these principles. Teaming projects will establish (a) the scientific and technical basis for new or significantly enhanced centres of research excellence in countries and regions with limited existing research capacities, along with the detailed planning for their construction and operation, and (b) the commitment amongst all relevant parties to their development. Achievement of these objectives will lead to the investment of resources from the Cohesion Funds, to finance the necessary infrastructure and make the new centres of excellence a concrete reality.

The ***multiplier effect, through the link with Cohesion Funds*** makes teaming a potentially very powerful instrument, especially in Europe's less-research intensive countries and regions. The

[3] *www.**excellence**2012.dk/the-**aarhus**-**declaration***

European Commission's proposals for 2014-2020 require that Cohesion Fund investment in research and innovation will be conditional on the establishment of "Research and Innovation Strategies for Smart Specialisation" (see box)[4]. Such strategies could involve, for example, identifying situations where pockets of excellence have the potential to be translated into tangible and durable Centres of Excellence. Teaming is an excellent means to accelerate this process and to provide the necessary quality assurance; nevertheless, we do not suggest it should be a pre-condition for Cohesion Fund investment in a new or enhanced Centre of Excellence.

Research and Innovation Strategies for Smart Specialisation

To ensure that the EU's Cohesion Funds can be used more efficiently and synergies between different EU, national and regional policies, as well as public and private investments, can be increased, future cohesion policy will involve more focussed investment, based on more effective strategic programming. Research, technological development and innovation is the first in a list of 11 specific policy targets, and Cohesion Fund investments in this area are subject to the principle of conditionality – they must be based on research and innovation strategies for Smart Specialisation elaborated by the national/regional managing authorities, and agreed with the European Commission.

Smart specialisation means **identifying the unique characteristics and assets of each country and region**, highlighting each region's **competitive advantages**, and rallying regional stakeholders and resources around an **excellence-driven vision of their future**. It also means strengthening regional innovation systems, maximising knowledge flows and spreading the benefits of innovation throughout the entire regional economy. Rather than being a strategy imposed from above, smart specialisation involves **businesses, research centres and universities working together** to identify a Member State or region's most promising areas of specialisation, but also the weaknesses that hamper innovation.

Properly set up, we therefore believe that teaming initiatives will provide sustainable "anchor points" of excellence in less-research intensive countries and regions of Europe: a means to exploit and develop the enormous latent resource of Europe's scientists and help reverse the brain drain of talented, especially young, scientists.

3. The rationale for teaming

Teaming means partnership

Teaming is a mechanism to support partnership between countries and regional research actors and leading international leading counterparts, with the objective of creating and developing viable and sustainable scientific institutions of international excellence.

The required inputs and the appropriate style of successful partnering can differ considerably across different settings. By implementing teaming alongside the related twinning mechanism (see box), a variety of scales and configurations of partnership will be possible. For example, it could be envisaged that one or more existing research actors in a region, with a common interest in a particular field, come together with one or more international research partner(s) to build up a new

[4] For further information see the Smart Specialisation Platform at http://s3platform.jrc.ec.europa.eu

specialised institution; another possibility would be that a regional administration works with an international partner to implant a "subsidiary" in the region.

Teaming and twinning

Flexible instruments for a variety of partnerships

Building scientific excellence is a long-term process which, to be successful, must be integrated with broader regional economic and institutional development. Partnership is a powerful means to promote excellence, and two related schemes – "twinning" and "teaming" - have been proposed by the European Commission to provide a very flexible support mechanism for partnerships, at a variety of different scales and stages (ie from their initiation up to the achievement of a fully-fledged centre of excellence).

> *Twinning* facilitates partnerships between regional research entities which have a substantial potential for excellence and capacity to innovate and international leading counterparts. Typically, these initiatives will be of limited scale (eg with the aim of strengthening a defined field of research) and/or will support the formation of viable *new* partnerships; they will involve activities such as staff exchanges, expert visits, conferences and training.
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> *Teaming* will support the planning of larger-scale activities aimed at creating or significantly enhancing an international centre of excellence. It will, inter alia, enable existing partnerships between regional institutions and international research partners to move to a new level of integration and excellence and/or the establishment, through parternship, of new centres of excellence of significant scale.

Both twinning and teaming should allow for a variety of partnership models and configurations, adapted to the regional and scientific realities.

A number of features differentiate the teaming concept from traditional approaches to research networking promoted by past framework programmes, making it a potentially powerful means to promote regional excellence:

1. Teaming is not about incremental development, it is designed to provide *a "high speed lift" to excellence*¸ through highly focused and intensive support to create research environments and new centres of excellence. A successful teaming initiative will have the momentum to break through local barriers to scientific excellence.
2. Teaming is part of *an integrated and comprehensive strategy for institution-building*, which involves not only the combination of competences coming from the different partners but also progressive development of the mix of activities characteristic of a significant scientific research organisation (core research; training at masters and doctoral levels; networking of various kinds; support for, and development of, young scientists; and exchange of scientists and doctoral students in both directions, etc.).
3. Institution-building involves *an extended timescale for development and support.* Teaming therefore aims at the careful preparation of a business plan which, when subsequently implemented, can involve other Horizon 2020 instruments and other national/international grants, in various combinations.

4. Another crucial aspect of teaming initiatives is the development of, and active engagement in, *institutional linkages, for example with academic, educational and industrial partners at regional, national and international levels*.

Building on the existing potential

The essence of partnership is the combination of resources and expertise on the basis of mutual interest from two sides. Most EU countries have strong scientific traditions; excellence is not geographically bounded and the potential for excellence can be found right across the European Union. The potential for high-quality research in the less- research intensive parts of Europe is already apparent from their scientific results and publications as well as the many existing relationships that have been established with international research partners. Such partnerships are based on a balance of contributions and mutual benefit; some examples are given in annex. These show that the opportunities for successful investment often tend to emerge "bottom-up", from favourable conjunctions of circumstances which are not wholly predictable and yet signal a strong development potential.

Our experience suggests that the combination of regional actors and international leading counterpart has a crucial importance for a number of reasons.

- Excellence breeds excellence. There is no better way to spread the notion of excellence, and the habit of striving towards excellence, than by inserting individuals and institutions into an environment where excellence is already the main driving factor. But excellence is multidimensional and systemic; in other words, scientific excellence flourishes with best-practice leadership, management, administration, performance evaluation, and so on. This "excellence culture" is not easy to achieve or re-create, and international leading research organisations permanently adjust the necessary systems and methods which sustain it. Moreover, it is sometimes easier and faster for an institution or a national system to impose rules of excellence in the context of international cooperation than to develop the same level of excellence (and the tools to measure it against international competition) in an isolated context.
- Having high international "name-recognition" and reputation, such international leading partners can confer greater visibility, credibility and prestige on the future regional centres of excellence to which they will contribute. External parties will have more confidence that these institutions meet the highest standards of best practice in all areas. The international partner can bring immediate access to significant networks and channels of information and knowhow, strong interdisciplinary, international and intersectoral linkages, highly developed research infrastructure and specialized facilities.
- International leading research organisations also have well-established and effective arrangements for career planning and development, involving possibilities of advancement from an early stage, based on merit. These are the preconditions for attracting leading researchers whose expertise and motivation are the core of any excellent scientific institution. Furthermore, being generally highly internationalized themselves, these organisations are in many cases already hosting "diaspora" scientists from the partner

country, who often keep close contact with their home communities and may become highly motivated to drive forward a teaming initiative.

- International leading research organisations have long experience and know the conditions for successful co-operation and partnering. Their willingness to make the necessary investment, to engage their time and reputations to a teaming initiative, is a warrant of its real potential. Moreover, their expertise in knowledge transfer can be invaluable in developing links with the regional innovation actors and the long term "embedding" of the new institution in the regional innovation landscape.

4. Conditions for successful teaming

If teaming is to have an optimal impact, it must be implemented in a highly flexible way, based on a principle of mutual benefit - a "win-win" prospect. Both parties – national and region actors and international leading counterpart(s) – will make significant long-term contributions which must be based on a symmetric, on-going commitment, not a simple consultancy-style relationship. Correspondingly, there will be significant potential risks, including reputational damage.

While a variety of organisational models is possible, it is vital that the necessary success factors are understood and properly taken into account. The analysis above indicates that the key success factors are the following:

- *The opportunity for teaming must be assessed "bottom-up",* on the basis of the real propensities of the region. There must be a sound technical prospect which can be properly embedded in the regional economy. Strategic assessment, without an empirical basis in the scientific and regional structure, is likely to lead to unsustainable "castles in the desert".
- There must be *clarity and transparency of process* – a level playing field for identifying opportunities and determining the appropriate arrangements for teaming, tailored to the circumstances. If there are competing ideas and/or parallel interests on the part of different countries and regional research actors and/or international leading esearch organisations in a particular initiative, for example, possibilities should exist to reconfigure proposals to provide an optimal partnership. It makes no sense for teaming initiatives to create "duplicate" institutions across the EU and further fragment the landscape.
- *Management autonomy is essential*. One important objective of teaming is to make a sharp transition and develop a model of excellence which can be consolidated and spread. The national and regional authorities must provide conditions that ensure the development of a culture of excellence. It would contradict this goal if the new institutions created by teaming initiatives were forced to comply with uncompetitive administrative conditions or follow particular management practices. Management must be based solely on the principle of excellence.
- As the central purpose of developing regional research excellence is to support social and economic development on the basis of smart specialisation strategies*, teaming initiatives must be flanked by measures to enable the consolidation and spreading of excellence and circulation of knowledge and expertise in the local economy*. These must include a regional and national commitment to put in place the institutional conditions appropriate to an

"advanced research culture", in line with the principles of the European Research Area. Issues such as salary structures, visas, gender policies, ethical standards, transparency and independence of hiring, evaluation, knowledge transfer mechanisms, would need to be covered, as well as possibilities for support liaison and networking with business.

- *A clear and legally unequivocal understanding of the responsibilities and rights of the various actors will be needed*, covering for example the arrangements for governance and leadership, the types of contributions required from each party, intellectual property management, performance standards and evaluation/assessment requirements. Stages in the development of the project should be clearly defined within a framework of long term commitment, and with safeguards to maintain focus and avoid "mission drift", within a clear perspective for the long-term "ownership" of the institution.
- *Financial and other resources must be secure for the whole development period*. Adequate input from local authorities and institutions is an absolute requirement for developing sustainable centres of excellence, including adequate financial input which serves as testimony to the project being the result of a rigorous priority-setting exercise. A realistic view would need to be taken on the "absorption capacity" of the region, and all teaming initiatives that go ahead should contribute to, and be explicitly provided for under the regional Smart Specialisation Strategy.

5. Practical implementation

Specifications for implementing the teaming concept are currently being debated as part of the on-going political negotiation of Horizon 2020. Not wishing to enter this debate directly, we nevertheless suggest that the following principles should be respected.

The creation of new or significantly enhanced Centres of Excellence in less research-intensive parts of Europe, which is the long term perspective of teaming projects, should be a key priority for the EU in the next budgetary period 2014-2020.

Horizon 2020 teaming projects should be part of a synergetic and co-ordinated approach to funding, which ensures adequate support while respecting the essential principles and specific objectives of the various EU instruments. In particular, a distinction must be made between the vocation of Horizon 2020 teaming projects, based strictly on the criterion of excellence, and the funding of major investments in infrastructure, equipment and staffing, etc., where the main financing is likely to come from the Cohesion Funds. We would expect the majority of funding to be dispensed in the host region/country; teaming is not intended to provide major subsidies for the international counterparts in themselves.

The crucial role for teaming projects in Horizon 2020 is to develop, test and give a strong initial momentum towards new and enhanced Centres of Excellence, by initiating new initiatives and developing existing partnerships to a point of maturity where effective decisions can be made for significant further investment with a high potential for success. Horizon 2020 should therefore provide the context both for selection of ideas for new and enhanced Centres of Excellence, via transparent and excellence-based evaluation of proposals, and the development of these ideas into full-scale plans and commitments. The latter would include the proposed scientific programme of

the Centre, the planning for institutional design, financing and project management, and building the necessary strong partnership and mutual commitments between the regional and national actors and the international research counterpart.

While we strongly support the inclusion of teaming and twinning in Horizon 2020, the development of Centres of Excellence based on the teaming concept can, of course, be done without the involvement of a Horizon 2020 teaming project. The examples in annex demonstrate that teaming is already taking place in many locations and areas of science. In some cases at least, such initiatives have already established the viability of a proposed Centre of Excellence, with a well-defined business plan and development strategy. In these cases, the national and regional authorities have all the necessary bases to decide on whether full-scale investment should go ahead.

With Horizon 2020 teaming projects giving an initial impetus, the fully-fledged implementation of an enhanced Centre of Excellence, financed by cohesion funds and national sources, will create the basis for accessing competitive funding on a sustainable, long-term footing. This would include funding from Horizon 2020, both through other activities devoted to "widening participation" such as ERA chairs and Marie Skłodowska-Curie Actions, and conventional research project funding.

Horizon 2020 support for teaming should draw experience from, and further develop, the methods adopted under the 7th and previous framework programmes, in particular in the field of research infrastructures and regional potential. We anticipate that teaming projects will develop creative approaches to the combination of competences within the respective partnerships, and for the long term association of the international research counterpart with the Centre of Excellence, including by means of exchanges of personnel, and the provision of research facilities in the early stages of operation. These possibilities should be enhanced by the flexibility allowed for under the proposed new Cohesion Fund regulations, including for example the possibility of support from different instruments to the same project and the possibility of cross regional transfers of funds.

Horizon 2020 teaming projects should be based on a simple grant model, which would finance all the associated activities. Moreover, to ensure high-quality investments, competition for funding under Horizon H2020 must be open and transparent. To avoid duplication and/or inefficient use of resources (including those of the international research partners) it should be possible to reconfigure and, where circumstances dictate, to integrate different proposals.

Regional and national administrations should be fully engaged in teaming initiatives from the process of application for funding onwards. Close liaison will be needed with the process of establishing regional Smart Specialisation Strategies, and their subsequent detailed elaboration and implementation, as well as coherent action and effective flow of information between the teaming project and the other actors and authorities engaged both in research and innovation and in regional development.

6. Conclusions and next steps

Teaming can provide a strong impetus towards sustainable scientific excellence on a regional basis, helping countries and regions to shift up a gear in the development of scientific and innovation capacities and make a breakthrough into a new level of research capability, while modernising their research culture. It is tailored to fit the European Union's strategy for building research and innovation across the continent and make full use of the tight coupling which will be established between Horizon 2020 and future cohesion policy.

Properly set up, we believe teaming has a strong potential for boosting the impact of regional research and innovation investments, enabling the creation of Centres of Excellence in a range of scales and with a variable geometry of regional partners. As shown by the examples in annex, Europe's premier research organisations are already engaged in numerous partnerships and we are ready to play our part in making the teaming concept a reality, so as to bring these capacity-building efforts to a new level.

To meet these goals, teaming must, however, be part of broader regional strategies for research and innovation, in which the main infrastructural investments will generally be made under the Cohesion Funds. And success will depend on the full commitment of regional and national authorities on a long term basis, because they must ensure that the necessary infrastructural financing and framework conditions are in place.

We now need to build a common political vision. We invite the political actors to consider what we have put forward. We must have realistic expectations of what can be achieved and how long it will take. But if the idea is to become a practical reality with the launch of Horizon 2020 at the beginning of 2014 then all parties need to work together.

List of signing organizations

	Organization	**Participant**
1.	Centre National de la Recherche Scientifique (CNRS)	Alain Fuchs
2.	Consejo Superior de Investigaciones Cientificas (CSIC)	Emilio Lora Tamayo
3.	Consiglio Nazionale delle Ricerche (CNR)	Luigi Nicolais
4.	École Polytechnique Fédérale de Lausanne (EPFL)	Philippe Gillet
5.	European Association of Research and Technology Organisations (EARTO)	Maria Khorsand
6.	Institut Pasteur	Alice Dautry
7.	League of European Research Universities (LERU)[5]	Bernd Huber (Ludwig-Maximilians-Universität München) Leszek Borysiewicz (University of Cambridge) Malcolm Grant (University College London)
8.	Max Planck Society	Peter Gruss
9.	Radboud Universiteit Nijmegen	Gerard. J. M. Meijer

[5] further members are Universiteit van Amsterdam, Universitat de Barcelona, University of Edinburgh, Albert-Ludwigs-Universität Freiburg, Université de Genève, Universität Heidelberg, Helsingin yliopisto, Universiteit Leiden, KU Leuven, Imperial College London, Lunds universitet, Università degli Studi di Milano, University of Oxford, Université Pierre et Marie Curie, Université Paris-Sud 11, Université de Strasbourg, Universiteit Utrecht, Universität Zürich

Annex – Examples of existing partnerships

Max Planck Society institutes in Dresden

Successful implantation of scientific excellence in the former DDR

These new institutes – centres of excellence on Molecular Cell Biology and Genetics, Chemical Physics of Solids, and Physics of Complex Systems - are some of the fruits of ambitious efforts by the then West German Max Planck Society to seed topflight research institutes throughout formerly communist East Germany. Known as the "Aufbau Ost" – the phrase means "building up the East" – the project resulted in 20 new outposts of the society within 7 years. A decade later the region draws scientists from around the world to study topics as diverse as human evolution, gravitational physics, and the way cells become organs. But the success of Max Planck's Aufbau Ost wasn't quick and easy, and it isn't complete. Furthermore the region's universities, which after reunification underwent a more gradual reformation than the East German Academies, in parts still lag behind their Western counterparts. And Eastern Germany's industrial base, which largely started from the scratch two decades ago, still struggles.

So when it came to finance the new institutes the Max Planck Society took a longer view. Although the society received a 5% budget increase for nearly a decade to fund the expansion, institutes in the West faced flat budgets for several years and four were ultimately closed. On the other hand, extra infrastructure funding for the Eastern States, provided by the European Union and the German "solidarity pact" will terminate in 2013 and 2019 respectively.

It can already be seen that Aufbau Ost institutes have an important spinoff effect on the regions. The Technical University of Dresden was declared to be one of eleven "excellence" universities in Germany in June 2012. This "seal of excellence" has been achieved through the significant contribution of three now well-established Max Planck Institutes in Dresden.

Collaboration between the Institut Pasteur and the Hellenic Pasteur Institute

The debt crisis has had a big impact on research in Greece, leading to a regrouping of institutions and implementation of new initiatives. The Hellenic Pasteur Institute, a private non-profit organization under the supervision of the General Secretariat of the Scientific and Technological Research and the Greek Ministry of Health has developed a scientific programme in accordance with national priorities. It is the only institution in Greece which combines surveillance of infectious diseases, neurodegenerative diseases and cancer. Significant efforts have been made, with promising results for the development of new generation vaccines against hepatitis C primarily and leishmaniasis and application of innovative methods such as gene therapy and transplantation of genetically modified cells with increased therapeutic capabilities in the fight against certain neurodegenerative diseases. The Hellenic Pasteur Institute has animal facilities, accredited laboratories for the diagnosis of bacterial diseases viral parasite (ISO 15189), five National Reference Centres accredited by the World Health Organisation, and a platform in immunology. In the framework of a long lasting partnership, the recent creation of a joint programme between the Institut Pasteur and the Hellenic Pasteur Institute on neurodegenerative diseases opens a promising avenue to a series of new collaborations with international research institutions in Asia, offers significant growth potential and serves as model for other type of initiatives.

KU Leuven- University of Malta Centre of Excellence on Adaptation to Climate Change

An international partnership illustrating the potential for sustained scientific excellence

Based on a longtime bottom-up collaboration between the chairs of environmental law at KU Leuven and the University of Malta, a Malta Legal Forum on Adaptation to Climate Change was set up in 2010. KU Leuven brought in its network of specialised colleagues of EU 15 universities and the University of Malta brought in its domestic expertise.

Malta has a long history on the topic: it put the issue of climate change on the agenda of the UN General Assembly already decades ago, has since been an active party on all UN initiatives on climate change, and a Maltese national was deputy SG of the UN and chair of the UNFCCC secretariat for years. Malta has appointed a Climate Ambassador to defend its interests in the matter, given its own specific position as a small island state, and has developed a multidisciplinary expertise on the issue over the years. The Malta Legal Forum aims at advising the EU institutions on legal aspects of adaptation to climate change (which is does presently, in particular DG Climate Action), and to develop the typical activities of an academic group: teaching, research, scientific advice.

Based on this successful cooperation and anticipating the new EU R&I and regional policies, the involved academics have developed the plan for the setting up of a Multidisciplinary Centre of Excellence on Adaptation to Climate Change. A research (and financial) plan has been developed, focusing on social science and humanities (SSH) aspects, supported by expertise from non-SSH disciplines. Anticipating the Smart Specialisation Strategy (SSS) of Malta, contacts have been made with all political parties in Malta, the Government, the involved ministries, the Maltese representation to the EU, societal stakeholders, etc, to get support for the inclusion of the Centre in the Maltese SSS. In the course of 2013 it is hoped that the necessary work will be finalised for the start of the new Regional and Research and Innovation policies of the EU.

The "Top 500 Innovators Programme" collaboration between Poland and the University of Cambridge

This programme is an initiative supported by the Polish Ministry of Science and Higher Education with a view to improving the Polish scientific community's understanding of how knowledge is transformed into innovation with a social and economic impact. It aims to bring the brightest and most able Polish scientists, drawn from across a number of Polish universities, to learn about innovation by living and training in an innovation cluster. The University of Cambridge, through its Innovation and tech transfer division (Cambridge Enterprise), will deliver this by giving visiting Polish scientists the opportunity to be immersed in a vibrant and sustainable high tech cluster that has at its heart a university with a deep understanding of the importance of innovation.

The program is a two-month residential intensive course, involving an initial cohort of 25 (possibly to be increased to 40 in future cohorts). There are three core activities: research management and team management; practical aspects of commercialism of research results; and science to business cooperation. A team of experts from across the University and the business community will provide 240 hours of training and personal development. Topics covered will include finance, entrepreneurship, product marketing and IP management. Visitors will also be participating in projects and case studies. The personal development aspect will cover team building, interpersonal skills and how to brainstorm creative ideas.

The expectation is that, by the end of the course, participants will return to their country with an understanding of commercialisation that they can apply to their own areas of research. It is hoped that they will act as innovation ambassadors and role models.

Long-term strategic partnership in neurorehabilitation between TECNALIA and the University of Belgrade

In 2007 the Health Division of TECNALIA (Fundacion Technalia Research and Innovation, San Sebastian) started with a long-term strategic partnership in the business area of neurorehabilitation. Applying the concept of Open Innovation the new business area right from its conception in 2006 was built counting on strategic relationships with university partners. For each research line a university partner was identified in order to have access to complementary expertise from basic research and to concentrate TECNALIA's efforts on the next step in the innovation funnel.

The successful collaboration with the Biomedical Engineering group of the University of Belgrade in the area of neurorehabilitation consists not only in access to complementary expertise but also to other faculties, other Serbian universities and – especially important in this field– to the rehabilitation facilities of the Zotovic Institute that allow the testing of new rehabilitation devices in spinal cord injured and stroke subjects. Motivated by the successful collaboration TECNALIA decided to open its subsidiary in Belgrade. TECNALIA Serbia allows an even closer collaboration with the Biomedical Engineering group, serves as primary contact for South East European projects/tenders and supports all TECNALIA business areas regarding technology watch and business contacts in the region.