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United Europe of Research and Innovation
Intercultural Cooperation at Practice

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Abstract

With its Framework Programmes for Research, technological Development and Demonstration, the European Union set up – back in the year 1984 – what have become the largest, cooperative as well as competitive research & technology programmes worldwide. Oriented towards the objective of strengthening European competitiveness, the Framework Programmes have evolved into the flagship instrument contributing to the development of a European Research Area, a single European market to the world of Science & Technology – ensuring open and transparent "trade" in skills, ideas and know-how by creating a United Europe of research and innovation. Having brought together around 400.000 researchers teams, several of them repeatedly, from Europe and the world in funded projects, the impact of the Framework Programmes though goes far beyond just providing funding for these projects. Indeed, the key strength of the Framework Programmes is that they have nurtured a culture of cooperation between the best universities, companies, research organizations in Europe and beyond, thus bringing together different actors, sectors, cultures, gender, nationalities, etc. This capability of intercultural cooperation is what Europe has developed and professionalized for over 25 years, which nowadays provides European research communities with what is a key competitive asset and advantage: contributing to solving global challenges by international, thus intercultural cooperation of the best "brains" in science, technology and innovation.

Key Words

Science and technology, innovation, competitiveness, intercultural cooperation, the european research area (ERA), "Lisbon strategy", "Europe 2020" strategy, framework programmes

Why is intercultural cooperation important?

Intercultural cooperation is understood here as multifacetted cooperation across sectors, disciplines, actors, nations, cultures gender. Intercultural cooperation has become a key feature, requirement and decisive competitive advantage, driven by the effects of globalization, the increasing complexity and speed of interactions in all areas, from economics to society and technology to name a few. To put it in Thomas Friedman's words: "In the cold war, the most frequently asked question was: 'Whose side are you on?' In globalization, the most frequently asked question is: 'To what extent are you connected to everyone?'"[1]

Intercultural challenges in wider political and economic terms can be summarized as following[2]:

• The recent growth of the European Union with membership of currently 27 nations with highly diverse histories and forms of governance, 23 different languages, and a number of different religions poses new intercultural challenges. Realising the goals that led to the formation of the European Union and maximising its potential will depend on the ability to cope with the vast diversity within –and between– the European Union nation states.

• The Global Economy with the recent acceleration in globalisation has brought new regions into focus. Mumbai and other mega-cities in India are developing at an unprecedented rate. Shanghai and other Chinese commercial centres are booming. In today's world, economic success is to a large extent based on intercultural competencies.

• The Integration of immigrants is an intercultural opportunity and challenge in itself. Millions of migrants are currently scattered across the globe. While they are contributing significantly to the economy of their host countries, they also support relatives back home and represent links to other cultures and nations to their home communities. In the host countries, the role of immigrants beyond their obvious economic relevance has become a major issue for discussion, particularly in Europe. Do they have to "integrate" themselves into the host countries environment? What would "integration" mean and require? What kind of values do the host countries nurture and represent vis-à-vis immigrants? What are the public policies and political messages needed and host countries have to convey in order to develop mature intercultural societies?

In Science, Technology and Innovation (STI) intercultural cooperation is highly required. Major grand challenges of nowadays societies are of a global nature as demonstrated by mentioning

grand challenges of nowadays societies are of a global nature as demonstrated by mentioning just the very obvious ones such as climate change, energy supply & efficient energy use, global health issues, etc. STI are key factors and essential contributors to finding solutions to these challenges. International cooperation in STI has become an imperative as global challenges require global approaches in advancing our collective knowledge, and no single nation or even region has the resources to respond adequately and effectively itself. The concept of "Open Innovation" –as much as it has become a buzz word over the last years– summarizes another major development significantly related to intercultural cooperation: innovation processes representing a complex interaction and exchange of various actors, including companies, academia, markets, users, etc. Initially published by Henry Chesbrough in the year 2003 based on his research on the innovation practices of large multinational companies, the concept of "Open Innovation" describes a new paradigm for the management of industrial innovation in the 21st century, in which firms work with external partners to both commercialize their internal innovations and to obtain a source of external innovations that can be commercialized[3].

The bottom line is, in a globalized world –particularly in STI– with ever increasing opportunities and challenges the capability of building and expanding a network of key partners on the one hand, and identifying the best suitable partners based on their expertise on the other hand has become THE competitive advantage. Intercultural cooperation represents an essential component of is capability, it is the key to unlocking and effectively using this capability in the development of cooperations across sectors, disciplines, nations, gender and cultures.

On the Way to a United Europe of Research and Innovation

Approaches of joint European research and technology policies have started to develop in the early 1970s. Starting points were Europe's fragmentation and its related competitive disadvantages compared to other major economic powers. As a consequence, a range of European initiatives and programmes in the fields of research and technology were set up and funded, and contributed to the creation of a variety of truly European projects.

However, by the end of the 1990s it became obvious, that there was no virtue in funding "more of the same" type of projects. Instead, global challenges such as energy security and climate change demanded new approaches: time was ripe for the "European Research Area", which not only represents a concept but a comprehensive vision for Europe's further development:

> The European research area should be an area where the scientific capacity and material resources in Member States can be put to best use, where national and European policies can be implemented more coherently, and where people and knowledge can circulate more freely; an area attractive both to European researchers and to the best researchers from third countries and built on respect for the common social and ethical values of Europeans and their diversity[4].

The European Research Area (ERA) is Europe's visionary response towards dealing with global challenges. It is an effort to take advantage of Europe's diversity and turn it into a comparative advantage by overcoming outdated geographical, institutional and disciplinary boundaries. The ERA extends the single European market to the world of science & technology –ensuring open and transparent "trade" in science & technology skills, ideas and know-how.

Adopted together with the "Lisbon Strategy", for the first time a "bold" objective of turning Europe into the most competitive knowledge-based economy, the ERA was adopted by the heads of states in the year 2000 and followed by the "Barcelona Objective", aiming at research investments towards 3% Gross Domestic Product by the year 2010. These steps led to a series of activities at European as well as Member States levels, creating a dynamic of benchmarking processes, analysis of strengths and weaknesses and strategy development efforts. Furthermore, during these years, Europe experienced its most substantial enlargement with 12 new Member States.

In 2008 all Member States and the European Commission agreed on a shared vision of how the European Research Area should develop by 2020.

By adopting the "2020 Vision for ERA", Member States and the Commission agreed to develop the ERA in ways that contribute to the sustainable development and competitiveness of Europe. According to the opening statement of the vision, by 2020, all players should benefit from[5]:

• The "fifth freedom" across the ERA: free circulation of researchers, knowledge and technology.

• Attractive conditions for carrying out research and investing in research & development intensive sectors in Europe.

• Healthy Europe-wide scientific competition, together with the appropriate level of

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cooperation and coordination.

In the future, the ERA should, for example:

• Offer an attractive, Europe-wide single labour market for researchers as well as single markets for knowledge and for innovative goods and services.

• Build on mutual trust and continuous dialogue between society and the scientific and technological community.

• Benefit from a strong publicly-supported research and technology base and world-class research infrastructures and capacities across Europe.

• Provide for the joint design of research, education and innovation policies and programmes at all levels.

• Address major challenges by strategic partnerships involving the Community, Member States and Associated States, based on common foresight.

• Enable Europe to speak with one voice in international fora and with its main international partners.

In the year 2010 the "Europe 2020" Strategy[6] was adoptedby Member States as the strategic framework for Europe'sdevelopment for the next ten years focussing on clever, sustainable and inclusive growth. The "Europe 2020" Strategy will be implemented through seven so called "Flagship Initiatives", the strategic plans for seven key areas.

Amongst them, the "Innovation Union" –the strategic orientation in the fields of STI– indicates the direction towards "turning ideas into jobs, green growth and social progress", thus representing a further development by integrating open innovation principles and focusing on innovation at all levels.

Ten key elements of the Innovation Union have been defined[7], most notably:

• European Innovation Partnerships to mobilise stakeholders –European, national and regional, public and private– in areas which combine tackling societal challenges with potential for Europe to become a world leader.

• New measurements and indicators geared at innovation, innovation systems, fast-growing innovative companies and an independent ranking system for universities.

• Measures to improve access to finance will be set up, particularly with respect to cross-border venture capital, involvement of the European Investment Bank and strengthen cross-border matching of innovative firms with investors.

• Existing research initiatives will be stepped up, more coherence in European and national research policies will be sought, cutting red tape and removing obstacles to researchers' mobility, such as the lack of transferability of pension rights.

• A European Design Leadership Board and a European Design Excellence Label will be set up.

• The European Commission will launch in 2011 a major research programme on public sector and social innovation and pilot a European Public Sector Innovation Scoreboard. It will launch a European Social Innovation Pilot to provide expertise for social innovators and propose social innovation as a focus of European Social Fund programmes. It will consult social partners on spreading the innovation economy to all occupational levels.

• Specific public procurement of innovative products and services by governments should be set up.

• The European Commission will make a legislative proposal to speed up and modernise standard-setting to enable interoperability and foster innovation.

• Agreement on the EU Patent will save business €250 million a year. The Commission will in 2011 make proposals for a European knowledge market for patents and licensing.

• Structural funding and state aid frameworks will be reviewed to boost innovation.

The globalization at all levels demands that European researchlooks outward. Therefore, international science & technology cooperation represents an integral part of EU STI policy

international science & technology cooperation represents an integral part of EU STI policy. Therefore, it includes programmes that enhance Europe's access to worldwide scientific expertise, attract top scientists to work in Europe, contribute to international responses to shared problems and put research at the service of EU external and development policies. This principle of openness to international science & technology cooperation is also reflected in the Europe 2020 strategy and its related flagship initiatives.

With its broad perspective towards opening cooperation and funding with all regions of the world European science & technology instruments can also be understood as huge "science diplomacy" agents, even though they are currently not perceived as such in Europe, thus not yet employed intentionally in this way.

Intercultural cooperation in practice: EU Framework Programmes for Research, Technological development & demonstration

With its so called "Framework Programmes for Research, technological Development & Demonstration" Europe has set up –for the first time in the year 1984– what have become Europe's research and innovation flagship programmes towards the implementation of the European Research Area: the largest, competitive and cooperative research and technology programmes worldwide.

The EU Framework Programmes can be seen as a bold visionary statement: investing European tax payer's money in targeted areas of joint European and global relevance, thus fostering European competitiveness in science, technology and innovation, and as such providing incentives for enhanced European networking and intercultural cooperation. No other region or country worldwide has taken a comparable step neither in ambition nor dimension.

The current 7th EU Framework Programme (FP7) for Research, technological Development & Demonstration with its budget of some 50,5 billion Euro for a period from 2007 – 2013 was even expanded in scope and opportunities comprising a vast range of science and technology topics, measures geared to enhancing mobility of researchers, excellence in research, small and medium sized enterprises as well as international cooperation.

Is a total budget of 50,5 billion Euro a significant amount as compared to what individual European Member States invest in STI? FP7's share of the public project-based science and technology funding provided by individual European Member States represents between 20-30%, which means the scientific communities in European Member States receive up to one quarter/third of funding through the EU Framework Programme[8].

The basic requirement for participating in the EU Framework Programmes is transnational cooperation with a core group of European partner organizations, typically 3 organizations from European Member States or Associated Countries. Additional partner organizations from other countries are eligible to participate, those from specific regions and developing countries can even receive funding out of the Framework Programme. Partners from industrialized countries are also eligible to participate, however in principle have to ensure their funding themselves. Is this only something for researchers? Clearly no, depending
on the specific topic of research projects, universities, research organizations, companies small and large, end users, non-governmental organizations, regional or national governments have been working together towards the best possible solutions. Solutions which are on purpose not intended to stay in the lab or at the desk, but instead are expected to reach out to society and contribute to dealing with major societal challenges.

Have these programmes received Significant response from the European STI community?

The figures speak for themselves: since its launch in the year 1984, the Framework Programmes have funded and brought together more than 400.000 researchers teams, some of them repeatedly, from Europe and the world.

The current FP7 was further expanded, both in budgets available as well as in participation by the research community. Since the year 2007 some more than 61.500 proposals including more than 306.000 participations have been submitted to FP7, out of which more than 10.500 projects involving more than 63.000 participations with a total request of app. 20 billion Euro were selected and funded[9]. These figures give a dimension and represent the practical potential of the projects' and organizations' cooperative capacity in terms of:

     • Generating scientific knowledge made available by scientific papers.

     • Innovative technologies & processes summarized in joint patents.

     • Future cooperation, dissemination and exploitation activities of partner organizations having worked together based on EU Framework Programme projects.

More important than the quantitative indications –such as the numbers of projects funded– are the qualitative developments behind the figures. The EU Framework Programmes have changed substantially and sustainably the way European researchers work together, comprising all actors:

universities, research organisations, companies, research administration and –management as well as organisations that use research results. Trans-national and interdisciplinary cooperation in large, multiannual research projects poses high demands and requires a different set of capabilities, thus bringing about quality advancements in all areas of research.

What does it mean, which capabilities are required if 5, 10 or 20 research teams from different countries and sectors work together on major scientific & technological challenges over a contractually defined period of 3-5 years? This type of projects challenge researchers in the sense of developing qualitatively new capabilities and competencies, which go way beyond what internationally active researchers "typically" do when successful in research and publishing.

As examples the most important qualitative learning experiences in European research projects, thus competencies are mentioned as follows:

> • Strategic competence: development of multiannual research projects with clearly defined objectives in response to European needs and in line with the strategic conditions of the EU Framework Programmes.

> • Management competence: application and development of tailor-made trans-national and international project management approaches geared to deliver results in terms of scientific knowledge, new technologies or processes.

> • Intercultural competence: intercultural cooperation with researchers across sectors, disciplines, types of organizations, nations, cultures, gender.

> • Competition competence: successfully acquiring research projects in the European competition for the best research projects, including active participation and dealing with the uniform European-wide selection procedure, convincingly presenting planned projects towards European/international evaluators and selection committees.

Intercultural competence plays a specific role, though it tended to be underestimated. Indeed, the key strength of the Framework Programmes is that they have nurtured a culture of cooperation between the best universities, companies, research organizations and the wider society in Europe and worldwide. This capability and competence of intercultural cooperation is what Europe has developed and professionalized over the last more than 25 years by practising it through hundred thousands of researchers working together through incentives in a defined context. It nowadays provides European research communities with what is a key competitive asset and advantage.

Intercultural cooperation in practice thus means that participation in the Framework Programmes not only stands for bringing together a good idea and a minimum number of partners. Instead, intercultural competence has become an important element of wider project management skills, based on the idea that excellence in research requires excellence in management. Therefore, successfully competing for Framework Programme funding also requires professional management of content and different partners. As much as many researchers tend to complain about the requirements of sound and professional project management in these European Framework Programme projects, these project management requirements form the basis for bringing together and taking full advantage of the various partners' expertise, cultures and interactions in an organized way.

Conclusions: opportunities and challenges ahead

With all the achievements in science, technology and innovation gained so far, there are also huge opportunities and challenges ahead. The following issues are perceived as the most relevant opportunities and challenges in the context of this paper, comprising components of both. Being able to take full advantage will depend on capabilities such as intercultural cooperation in order to respond effectively, fast and in a flexible way.

United Europe of Research and Innovation "2.0":

The further development of what can be perceived as United Europe of Research and Innovation will require developments particularly in the following dimensions:

> • Further developing a true European Research Area by finally abolishing the hurdles that have been discussed over the last years, and providing the framework conditions to truly building the knowledge and innovation economy Europe has committed itself to. The "Europe 2020" Strategy with its Flagship initiatives is the right start. Its success will critically depend on committed implementation at all levels (regional, national, European) in a timely way with a

implementation at all levels (regional, national, European) in a timely way with a clear sense of urgency geared to achieving real results.

• Simplification and trust-based conditions for science, technology and innovation related European programmes while considering what's really necessary accountability requirements, thus fostering the best research and innovation in Europe.

• Globalization has some overarching features, most obviously:

— Strategic connections and new dynamics.

— Technology as driver.

— Democratization of technology and information and its implications on societies, their governance structures and the individual.

Coordinated European approaches towards these "globalization" challenges will be highly necessary. Science, technology and innovation based in Europe with its rich expertise in content AND intercultural expertise will be able to contribute significantly. "Science diplomacy" as instrument of applying science, technology and innovation for wider political purposes bears a strong intercultural component that offers its explicit benefits if employed across policy areas.

Intercultural cooperation has become a key feature, requirement and decisive competitive advantage. The European Union with its Research Framework Programmes has not only provided funding but created incentives to develop wider learning experiences and resulting capabilities and competencies. Amongst them, intercultural cooperation in science, technology and innovation has been nurtured and professionalized over the last decades with an enormous dimension.

This practised intercultural capability and competence is what distinguishes Europe from any other country or region in the world and provides Europe with a key strength for the requirements of the interconnected world of the 21st Century. This is a strength Europe can and should build upon more explicitly and take advantage of in dealing with what we perceive as global challenges.

Examples are always most convincing

All projects funded under the EU Framework Programmes plus the organizations involved can be found including brief descriptions at http://cordis.europa.eu/results/home_en.html

Notes

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