

# 3rd Conference Increasing Participation in FET Report

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1.

#### Introduction

#### 1.1 Overview

The COFET project aims to support the future development of the FET programme within Horizon 2020 based on a dialogue between science, policy, industry and society to identify and discuss areas where FET could potentially be strengthened and further aligned with the needs of today's Europe and the emerging priorities of Horizon 2020 with a view to prioritising options for consideration.

Three conferences have been held with each addressing three different topics. The first focused on how to address and increase Innovation within FET (London, June 2013), the second on how to increase the engagement and participation of society (Pisa, January 2014) and the third on how to increase the participation of the EU13 within FET projects (Budapest, Hungary 2014).

This report presents the outcomes and discussions from our third and final Conference held in Budapest, Hungary on the 26<sup>th</sup> June 2014, and which had the objective of discussing aspects related to increasing the engagement and participation within FET projects in Horizon 2020. Of particular interest was how to increase participation of both the scientific and industrial communities of those Member States with a relatively low participation rate in FET projects in FP7, namely the majority of the EU13 Member States.

#### 1.2 Context

FET (Future & Emerging Technologies) is the incubator and pathfinder for new ideas and themes for long-term research, initially in the area of information and communication technologies, but this remit was broadened in Horizon 2020. Its mission is to promote high risk research, offset by potential breakthrough with high technological or societal impact.

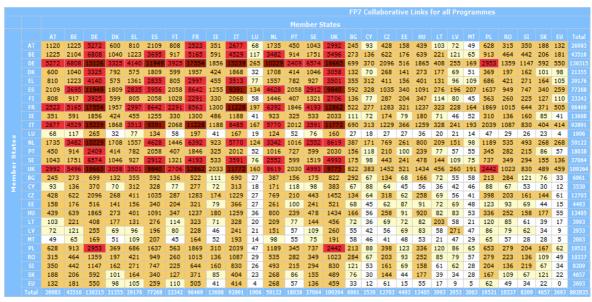
FET has been one of the most successful components of the Framework Programme in the past. But in order to continue and expand its success into the future, it will be important to strengthen and broaden participation from Europe's scientists and researchers. It will be imperative to build strong European partnerships fostering excellence in Future and Emerging Technologies.

The challenge lies in maximizing participation from all relevant actors, strengthening partnerships and thus increasing the impact of visionary and long-term research into future and emerging technologies. In particular, this is a challenge for the countries that joined the Union in the last accession rounds, i.e. the EU-13.

It is known from previous experience (e.g. SECAS project) that research cooperation across country borders is not always easy, but we also know that the benefits are significant. Strengthening cooperation across borders has the potential to substantially increase participation by EU13 (see table below). In fact an analysis presented in a MIRRIS scoping paper1 suggests that the EU13 countries with the possible exception of Poland, underperform in collaboration compared to the EU15 countries. This is demonstrated in the table below where red represents strong collaborative activity and white represents weak collaborative activity.

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<sup>&</sup>lt;sup>1</sup> Participation of EU13 Countries in FP7, Scoping Paper drafted by EURADA, April 2014



Source: 6th FP7 Monitoring Report

From the table above it is clear that the EU15 (dominated by red) shows strong collaboration generally. Both Germany and the UK also demonstrate strong collaborative characteristics at a national level. By contrast the EU13 do not appear to appear to collaborate well at a national level and nor do they collaborate well with each other (bottom right quadrant dominated by white). What is clear is that there is a close correlation between the habit of collaboration and participation in FET projects.

In recent years, a set of recommendations emerged in order to be successful with international research cooperation:

- The analysis of previous successful collaboration clearly shows that quality co-operation requires not only shared objectives and mutual benefit but also key individuals driving the collaboration.
- Collaboration is almost always driven at the individual researcher level, through one-on-one contact, built on individual relationships that go back many years.
- It is a great challenge to establish long-term group-to-group collaboration that persists over many years and which leads to mutually beneficial research results.

In the specific context of Future and Emerging Technologies and the EU-13, the following guidelines should be considered to strengthen partnerships and participation:

- Use contacts of a country's nationals in the EU and peer contacts to kick-start joint projects, such as links with former colleagues, research partners and students that have moved to other countries. This is an efficient way of creating new partnerships building on previously established trusted relations.
- Use networks established through research exchange and previous projects.
- Distance and long periods without direct contact between partners can be detrimental to cooperation. It is therefore important to proactively engage in projects, regularly attend all meetings with sufficient time planned, and to plan longer workshops or exchange visits.
- Work on team building. If you have been successful with a project, do not just rely on everybody working together as stipulated in a research contract. Create specific team building actions ranging from joint workshops to sparetime activities. This will strengthen cooperation also in the future, in particular with your international peers.
- Aim at longer exchanges, not just a few days. Many research projects include an exchange of researchers.
   Typically, the projects only plan for short exchange visits lasting perhaps a few days. Experience shows, however, that trusted and long-lasting relationships emerge mostly from longer exchanges starting from a month to a year's time. Also, such longer exchanges facilitate research efficiency and allow the visiting scientists to gain in-depth knowledge of the host's researchers and research infrastructure.
- Another way to create long-lasting relationships is the creation of joint labs. Such joint labs can help to make better use of existing resources. Joint international research labs can offer opportunities for policy makers to create additional incentives and to demonstrate commitment from opening ceremonies to additional funds.

- Start planning follow-up projects before the project ends. The project activities can get very hectic as the end of a project approaches. This does not easily support planning of follow-up activities. And after the project ends, it can be difficult to re-establish cooperation as people move and research foci shift. Therefore it is commendable to start planning follow-up activities, even if this is an activity that cannot be funded from a running EC project.
- Remember that successful FET projects are often inter- and multi-disciplinary. It is therefore vital to remain open to other disciplines, e.g. through exchanging ideas at conferences not necessarily central to only your discipline. Many new ideas for research projects are created over a drink or dinner after a long conference session with newly found colleagues.

At the level of research policies, there are many ways to foster the establishment of long-term international cooperation. Research policy makers can help in the following ways:

- Expression of support for cooperation across country borders. It is not always straightforward for everybody to understand that policy makers welcome exchange. There can be reservations regarding intellectual property rights etc. and it is important to convey clear messages that collaboration is welcome.
- Reward successful cooperation, do not punish it. There are cases where the successful participation in international projects leads to less funding for a research group. When resources are scarce there is often a strong pressure in universities, labs, agencies or ministries to take away funds from researchers who found their own support, e.g. in FET projects. This can be detrimental and ruin cooperation initiatives for many years. On the contrary, it is usually a better strategy to further strengthen successful teams.

- Researchers looking for international cooperation are typically willing to invest a great deal of their time to prepare new projects and search for partners. But they need at least some financial resources for travel or organizing workshops. Such funds should be easily available without too much bureaucracy. Often support for exchange and cooperation visits, travel to conferences and project meetings is a rewarding investment.
- It is important for research teams to have some financial resources available for students or post-graduate work to prepare a planned project or to continue a project that has just finished. Resources from FET projects are strictly limited to the duration of that project. But their timing is usually not perfectly aligned, neither with careers of individual researchers, nor with the underlying research as a whole. Therefore, small grants to finish work on a prototype, to try out a small idea, to look into data in preparation of a new research activity can make a huge difference for a research team.

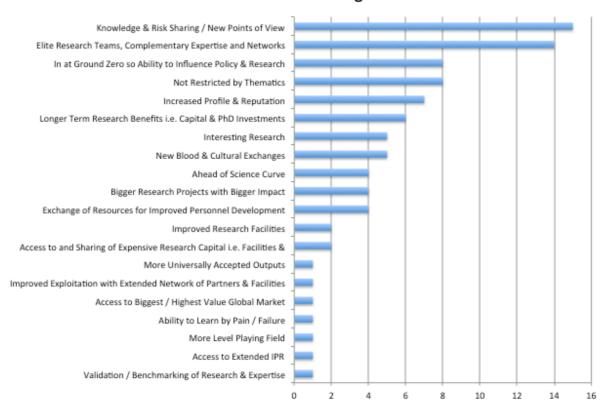
Many of these recommendations are not necessarily specific to the FET programme. But in FET, the challenges are often bigger due to the foundational nature of its research, the challenges associated with small teams working on very specific problems and thus the necessity to team up with colleagues internationally. 2.

## WHY Increase Participation in FET

#### 2.1 Benefits

The following represents the benefits of participating in FET projects that were identified by the delegates and their views on their relative importance.

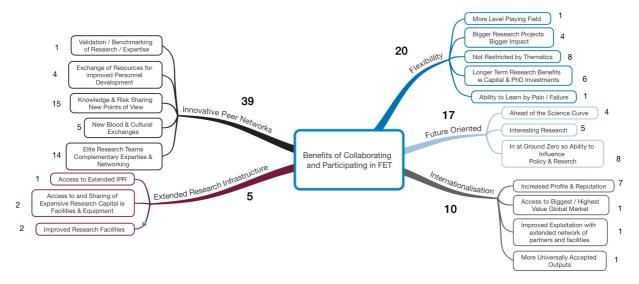
#### Benefits of Participation in FET Overall Ranking



After the workshop the information above was analysed with a view to trying to highlight any themes that may be apparent and how these are valued / ranked by the delegates. For example 'new blood and cultural exchanges' could be closely associated with 'knowledge & risk sharing / new points of view'.

Our analysis is presented below and we believe that there are five key themes.

- 1. Innovative Peer Networks (43%)
  - Having peers that can validate and complement research outputs builds confidence in research direction and capabilities and allows expertise to be informally benchmarked
  - b. The creation of innovative and multi-disciplinary teams allows for better research projects and outputs
  - c. New blood and cultural exchanges facilitate new points of view that catalyses new thinking that is unique to Europe
- 2. Flexibility of the FET Programme (22%)
  - a. Flexibility and in particular the non-thematic aspects of FET
     Open are particularly valued
  - b. Long term research allows project specific investments to be made such as PhD students that can push research boundaries
- 3. FET is future oriented (19%)
  - a. Future oriented research is very interesting to researchers (usually) and therefore motivates and stimulates researchers
  - c. Projects are usually ahead of the curve which means that the research facility and the researcher are in at ground zero and able to influence future policy & research
- 4. Internationalisation (11%)
  - a. Being involved in FET projects increases profile through the involvement in bigger and better research projects which has a positive effect on reputation
  - b. Commercialisation opportunities are maximised because of access to other markets within Europe
- 5. Extended Research infrastructure (5%)
  - a. Research facilities are improved through additional investment outwith national programmes
  - b. Access to and the sharing of expensive research facilities and test equipment through partners in other countries



What is clear is that participating in FET projects is regarded as a positive aspect for EU13 countries to increase their network of contacts, validate research and build profile and reputation internationally through the development of innovative peer networks. And the FET Framework is a particularly valued tool due to its forward looking orientation and flexible approach.

#### 2.2 Identifying the Untapped Potential of the EU13

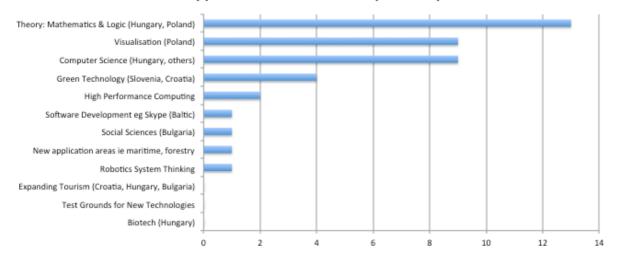
The discussion to identify the untapped potential of the EU13 highlighted that the potential benefit to broader Europe can be categorised into four main areas, namely:

- Special Topics scientific and technology areas where the EU13 has significant strengths
- 2. Infrastructure How the EU13 can add value to the EU research and test infrastructure
- 3. Non Topical Offers Areas not directly related to science domains but add value to research
- General Offers / Cultural Aspects Indirect benefits of collaborating with EU13 countries

It is difficult to be comprehensive and concise about specific national strengths without a full analysis and also the national profile of the conference delegates may introduce a bias in any such analysis. For that reason specific EU13 states are mentioned indicatively in this analysis.

#### 2.2.1 Special Topics

#### **Untapped Potential of EU13 - Special Topics**

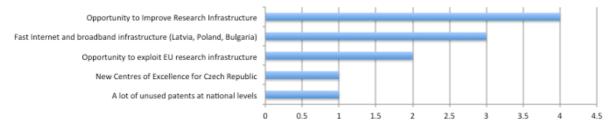


Feedback suggests that both Hungary and Poland have significant expertise in mathematics and logic that could benefit broader EU countries. In addition both Visualisation and Computer Science are specific areas of expertise in both Poland and Hungary respectively; there is also evidence that Computer Science in general is a strength throughout EU13.

Finally, with FET broadening to include other scientific domains outwith ICT within Horizon2020, there is the potential to exploit specific green technology expertise within both Slovenia and Croatia.

#### 2.2.2 Infrastructure

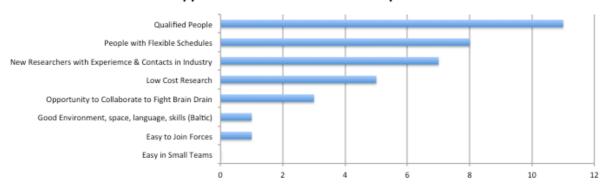
Untapped Potential of EU13 - Research Infrastructure



EU13 countries see participation in FET projects as a way to improve their existing national research infrastructures. But it is not a one-way street. There is also existing expertise within the EU13 that offer potential for broader Europe to tap into an infrastructure that could contribute and add value to FET projects such as the fast internet and broadband infrastructure in Latvia, Poland and Bulgaria.

#### 2.2.3 Non Topical Offers

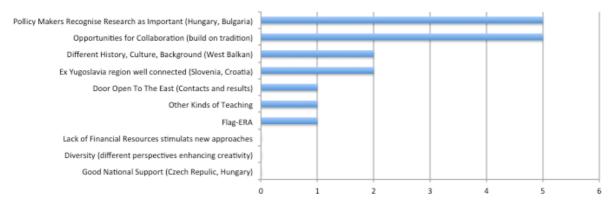
#### Untapped Potential of EU13 - non Topical Offers



A clear potential of the EU13 is the pool of qualified people that can add new perspectives and a broader network of contacts in new regions and which can add value to the broader Europe and in particular to FET research projects. One additional aspect is the potential for a more flexible and lower cost research resource, however it is hoped that as time progresses this advantage will reduce.

#### 2.2.4 General Offers / Cultural Aspects

#### Untapped Potential of EU13 - General Offers / Cultural Issues



Generally, most of the EU13 countries are recognising the importance of research and in particular both Hungary and Bulgaria were cited as having strong support from national policy makers. Interestingly, the different cultures in EU13, typically West Balkan and old Eastern block, were seen as a potential opportunity for the rest of Europe to collaborate, as they offer different perspectives and viewpoints and access to a broader range of markets.

#### 2.3 Summarising

The following summarises the benefits of WHY participate in FET projects.

- It is all about people. Collaboration with peers throughout Europe offers researchers on both sides an opportunity for exposure to new ways of thinking, validation and benchmarking of research and the development of a range of contacts that can help future research and innovation / commercialisation activities.
- Participation can enhance the research infrastructure through access to facilities and equipment in broader Europe and also by investment into national facilities as a result of longer term research projects.
- FET offers a flexible and non thematic way to participate in Horizon2020 and this is attractive to researchers from EU-13 countries.
- The EU-13 countries have different backgrounds, cultures, histories, specializations, infrastructure etc. and this offers an opportunity for broader Europe if properly harnessed.
- EU-13 countries offer enhanced innovation / commercialisation and market access to a broader range of countries

However even within our initial analysis of WHY participate two potential actions were identified for consideration, namely;

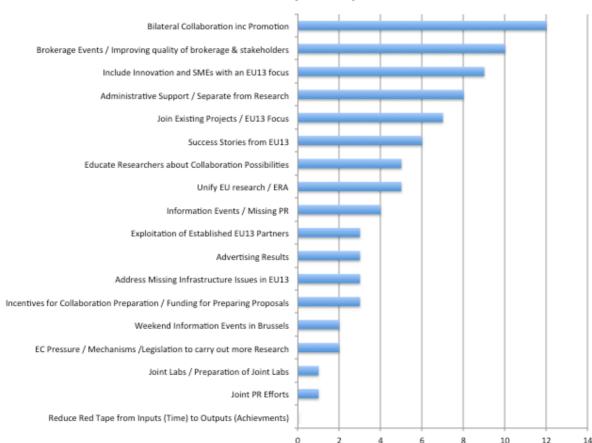
- t is important to better understand the national and regional strengths and offers. The EC could support this with a dedicated study (tender or support action).
- The EU-13 should take steps to better advertise and promote their strengths.

3.

## WAYS to increase Collaboration & Participation in FET

#### 3.1 Recommendations for Successful Collaboration

The following represents a number of ideas that could be adopted to increase collaboration of EU13 countries with EU15 countries, and collaboration between EU13 countries. The relevance importance of each 'idea' from the delegate's perspective is highlighted and more commentary on each is provided below. What is interesting is that there is a clear connection between the main factors identified in WHY collaborate and participate ie people, infrastructure and innovation and the ideas listed below.



#### Recommendations on Ways To Improve Collaboration

#### Bilateral collaboration incl. promotion

At the very beginning of preparing an international research project, bilateral collaboration between individuals (mostly researchers) is seen as the key to success. The European Commission should emphasize the importance of personal contacts between researchers (promotion of success stories; dedicated brokerage events; etc.)

## Brokerage events / improving quality of brokerage events and stakeholders (experts, e.g.)

High quality brokerage events are seen as very important in the preparation of international research projects. At these events there is also a high demand for speakers with an excellent knowledge of the European research scene ("real experts with experience" vs. "self-proclaimed experts"). There seems to be a high demand for localized brokerage events tailored to the special needs and research areas of the specific country.

#### Include SMEs / Innovation; EU13 focus

Especially in the EU13 countries the number of micro SMEs (< 10 employees) is very high. Therefore the demand for specific information and support regarding the participation in international research projects is seen as crucial. Besides the already mentioned brokerage and information events it could be helpful to allow micro SMEs join existing projects under certain circumstances. These SMEs will collect valuable knowledge, which can boost the number of future project proposals. As seen in the past, micro SMEs are often more innovative than established large enterprises.

## Administrative research service / separate research and management

The bureaucracy of preparing, submitting and managing an international research project is often seen as too complicated by research personnel. Especially researchers new to international collaboration projects from the EU13 countries have problems overcoming the first steps in order to prepare a project proposal. It is therefore seen as useful to separate research and management, simplify the processes or provide extended help by professional administrative research services.

#### Join existing projects / EU13 focus

One possible solution to overcome the problem of the low participation of EU13 countries in international FET research projects could be to join organisations to participate in selected existing and already running projects. This could also be a way to include micro SMEs in international projects.

#### **Success stories from EU13**

The lack of knowledge about successful research projects from EU13 countries demotivates those who would like to prepare and submit a project proposal. Some of the participants of this workgroup had the impression that participation from a partner from a EU13 country in an international project prevents the success of the project. To overcome this impression it is seen as useful to emphasize the publication of success stories from EU13 partners. Another way to achieve a better PR could be a study on the research potential covering EU13 countries.

#### Unify EU research / ERA

Some workgroup participants mentioned their concerns about the fragmented European research scene today. National and local vs. international rules often makes it complicated for an interested entity to find the right funding scheme, programme or even partner search to prepare and submit an international project proposal. The unification of rules and legislation as well as funding programmes is seen as crucial to compete in the coming future with other players (USA, China, etc.).

#### Educate researchers about collaboration possibilities

In order to raise the participation of EU13 researchers it is important to improve the knowledge and educate the researchers about existing collaboration possibilities. This can be done via special information days taking place in the EU13 countries. The national contact points should also strengthen their effort in their countries.

#### Information events / Missing PR

Many workgroup participants expressed their need for more high quality information events. The quality of these events will be improved by inviting speakers with excellent knowledge and experience in the area of international research projects and FET. There seems to be a need for "real world examples" rather than presenting the hard facts only.

## Incentive for collaboration preparation / Funding for preparing and submitting EU projects

In some countries the lack of funding for the preparation of an international research project is seen as very problematic. The researchers often do not even get funded for participating at information or brokerage events.

#### **Basic infrastructure missing**

It seems to be specific to EU13 countries that due to their economic development in the past basic infrastructure is missing and therefore hindering the preparation or even the participation in international research projects. In kind incentives could be one way to overcome this problem.

#### Advertising results

Many workgroup participants agree that it is important to advertise the existence of international research projects and of course the results of those and inform the broader public. In the EU13 countries the money spent in research is often seen as a waste. The participants agreed that the tax paying public needs to be informed more about the usage and outcome of its money. This may raise the acceptance of the importance of research activities as well as justifying the money spent.

#### Exploitation of established networks for EU13 partners

One way of raising the participation of EU13 countries can be the better "usage" of existing collaboration networks. Even if the participation is already open to all EU countries it may be seen difficult to get in contact with the right network or research area. Special information days or welcome events could be organized in the EU13 countries.

## Pressure from EC to national governments to do more research / introduce mechanisms / improving legislation

It may be seen as useful and effective to enable the European Commission by improving legislation and introducing mechanisms to put pressure on national governments to raise the funding for research and improve the situation of research organisations and personnel.

#### Weekend information events in Brussels

Some participants suggested having information days and brokerage events on Saturdays or Sundays. These events can take place in Brussels as well as in the EU13 countries. The reason for this suggestion is that very often funding, as well as the time to participate at such events is not available to researchers.

#### **Ioint PR efforts**

To improve the advertising of project work and results and saving resources for other tasks, joint PR efforts and tools could be introduced for international research projects.

#### Joint labs / Preparation of joint labs

The preparation of joint research labs could motivate and improve the research activities in the EU13 countries. It could also address the already mentioned situation of the lack of basic infrastructure.

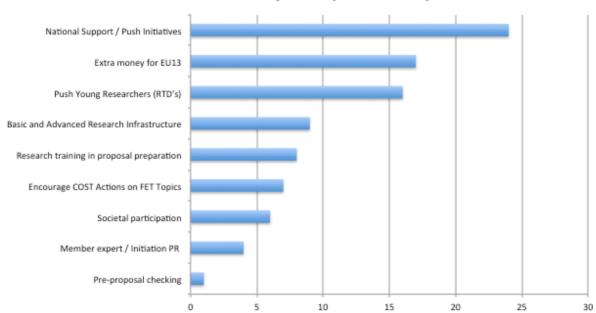
## Reduce Red Tape from time accounting to achievement of objectives

As mentioned before, the bureaucracy is seen as too complicated in international research projects. The focus should therefore shift from time accounting to the actual research activities in a project.

#### 3.2 Recommendations on How to Improve Participation in FET

The following lists the ideas that were suggested, and their relative importance, on ways to increase the participation oft he EU13 countries in FET projects. The commentary below provides an explanation of these ideas.

#### Recommendations on Ways to Improve Participation in FET



#### National Support / Push Initiatives

To maximise the inclusion of EU13 countries in the FET programme it is very important to have a well-structured national support network. Activities to support the awareness of upcoming and future calls, the inclusion in formal and informal networks and catalysing project partnerships all offer scope for improvement. Formal networks, such as the NCP network, could potentially benefit from publishing more information that is easily accessible on their websites and supporting researcher's initiatives. In addition national governmental bodies need to increase their support for local organisations, especially through better information provision, partnership brokerage, funding for proposal development, proposal preparation support (not only general workshops), encouraging the submission of applications, support in applying for and managing projects.

#### **Extra Money for EU13**

Another proposal is to allocate specific funding for the EU13 countries - most of the countries do not get or have little funding to run projects, which greatly limits the development of FET projects. By increasing the financial support it is possible to develop FET projects (i.e. in the final stage of FP7 extra budget was made available to add an EU13 partner to a running project)

#### **Push Young Researchers (RTDs)**

A limiting factor to developing the EU13 participation is the expatriation of upcoming young scientists. Given better opportunities abroad may encourage promising young scientists to leave the EU13. Encouraging young researchers early to create more ideas and giving them the opportunity to shape research projects may counter this trend. Having specific calls and budgets targeted only at young researchers is also encouraged.

#### **Basic and Advanced Research Infrastructure**

A major limiting factor in FET participation is the access to state of the art infrastructures in the EU13. Only scientific fields that have low infrastructure demands and investment needs, such as computing, have a clear presence. Research areas lacking in infrastructure will not be able to compete.

#### **Researcher Training in Proposal Preparation**

Teaching and training the specific skills of preparing a proposal need to be increased. Help in writing project proposals is lacking or un-financeable. A minimum requirement would be to have extensive pre-submission checking support of proposals.

#### **Encourage COST Actions on FET Topics**

COST Actions are seen as a possibility to engage in international networking. This could be a stimulus for the identification and development of new collaborative partnerships.

#### **Societal Participation**

Raising societal awareness for the importance of research and its benefits to society need to be conveyed to stakeholders. The promotion of Citizen Science could be an important factor in stimulating additional interest in FET related projects at a political level. This was an area of discussion at the recent 2<sup>nd</sup> COFET Conference on Public Outreach and Engagement.

#### Member Expert / Initiation PR

Encouraging EU13 researches to engage in the evaluation procedures as experts will not only give them a clear picture of the high quality expected in EU proposals, but also network the researchers with other Experts. Publicising the benefits of acting as evaluators need to be propagated though "PR" measures.

#### **Pre-Proposal Checking**

Pre-proposal checks by the EC or representative bodies are seen as a key information point for prospective applicants.

The challenges met by EU13 in participating in FET within H2020 are manifold, and no one solution will fix all. Given the diversity of needs and recommendations individual EU13 countries may need to customise the approach most appropriate and affordable.



### Key Messages

There are a number of key messages arising from this Conference, namely

- People are central to any collaborative activity and ultimately participation in FET – by increasing the networking opportunities between EU15 and EU13 countries, and ways in which researchers can meet and exchange views will stimulate project ideas and FET participation
- 2. Collaborative activity is a stepping stone for FET participation and one which EU13 members states are not traditionally strong at support is needed in this area
- 3. EU15 awareness of the potential of EU13 countries regarding Scientific expertise and also on cultural / market access issues need to be improved through better PR / dissemination activities and events
- 4. There are national infrastructure weaknesses in supporting researchers to network, prepare proposals and participate in EU projects that need to be addressed potential through awareness, training and mentoring activities
- 5. The challenges met by EU13 in participating in FET within H2020 are manifold, and no one solution will fix all. Given the diversity of needs and recommendations individual EU13 countries may need to customise the approach most appropriate and affordable.
- 6. There is a great deal of synergy in our findings with those presented in the recent Mirris Scoping Paper entitled 'Participation of EU13 Countries of FP7' and the related Policy Brief of ERA Portal Austria in June 2014 entitled 'Widening Participation'.