High-Level event on FET- Flagships: Partnering for Excellence

Brussels, 06 November 2017

Main conclusions

The event "FET- Flagships: Partnering for Excellence" was held on 6 November 2017 in Brussels. It was organised by the European Commission in cooperation with the Estonian Presidency of the EU and hosted by European Commission's Vice-President Andrus Ansip. It gathered more than 80 high-level representatives from the Member States and Associated Countries, European institutions, academia, research organisations, industry, as well as representatives of the Human Brain Project and Graphene Flagships, and members of the High Level Steering Committee (HLSC) of the Quantum technologies Flagship.

The aim of the event was to take stock of the value and importance of FET Flagships for Europe as a key partnering instrument for addressing grand Science &Technology challenges and to open the discussion on how to evolve the instrument in order to maximise the impact of Flagships in view of the next EU Research Framework Programme (FP9). The event served also the occasion for the members of the HLSC of the Quantum Flagship to hand-over their final report to Vice President Andrus Ansip.

In a short introduction to the event, Roberto Viola, Director General of DG Connect, welcomed the participants. He stated that Flagships embody the level of ambition he would like to see Europe taking and that from his own experience both present Flagships, i.e. Graphene and the Human Brain Project, are already delivering important scientific and technological outcomes. He also recalled that Europe will soon put in motion a third Flagship on Quantum Technologies, while others may also soon enter the pipeline, as we start preparing for FP9.

In his speech, Vice President Andrus Ansip stressed the strategic importance for Europe to increase research and innovation investments to secure its future prosperity. He recalled that doubling the budget of FP9 is the first recommendation of the so-called 'Lamy report'. He highlighted two additional recommendations from this report that are of particular relevance to the Flagships, namely that the next FP needs to be more mission-oriented and impact-focused in order to address global challenges, but also to better align EU and national R&I investments. He emphasised that FET Flagships address already both recommendations and show the way forward. He also expressed his conviction that Flagships will continue to play a key role in the future.

In his intervention, Indrek Reimand, Deputy Secretary General for Higher Education and Research from Estonia, shared his conviction that tackling major societal challenges requires vision, scientific leadership, efficient coordination of existing efforts, effective usage of existing capacities and interdisciplinary research. He recalled that the Estonian Presidency published the Tallinn Call for Action in October to ensure increased investment, impact and trust of research and innovation in Europe. He also stressed that Europe needs Flagship-like ambitious projects to

be at the forefront of science and technology and finally recalled that increased coherence and openness of EU R&I partnerships is one of the priorities of the Estonian Presidency.

In his keynote address Sir Konstantin Novoselov praised the Graphene Flagship as an effective means for translational research, i.e. for moving from exciting science prospects towards realistic applications. He also emphasised the possibility it offers during the course of its 10 year lifetime to pursue new research directions and opportunities for exploitation that cannot be foreseen at the start of the initiative, like it has been the case for graphene membranes and graphene quantum dots. He summed up the unique feature of the Flagship as the possibility to "go deep", "go high" and "go broad" in a coordinated manner, having the ability to bring promising applications to market, but also to translate current science into new applications and finally to keep searching for new science by exploring new two dimensional materials.

Professor Jürgen Mlynek, chair of the HLSC of the Quantum Flagship, recalled the history, the community and the people behind the report's recommendations on the way forward for implementing effectively the Quantum Flagship. He stressed the ambitious goals for unlocking the full potential of quantum technologies and ultimately delivering economic value and jobs by making Europe a dynamic and attractive region for innovative business and investments in Quantum technologies.

The event was then structured along two consecutive panel discussions which addressed the following topics:

- Why are FET Flagships important for Europe? What can they deliver and how do they contribute to position Europe as a main player on the global scientific scene?
- How to maximise the impact of FET-Flagships and what more needs to be done to strengthen the partnership with the Member States for Flagships to further deliver on their objectives?

In their interventions, the Panellists highlighted that:

- The long-term and large scale cross-disciplinary collaborations fostered by the Flagships are one of the key success factors of the instrument. Flagships uniquely bring together more than 100 academia and industry organisations from all over Europe to implement over a period of 10 years a jointly agreed science and technology roadmap.
- Thanks to their long duration, Flagships enable the creation of a unique ecosystem of researchers from academia and industry across the EU with various backgrounds and expertise that interact and work together to address scientific and technological challenges and translate them into concrete innovation opportunities.
- Flagships are a very good example of building Europe. They help focusing efforts on jointly agreed European priorities. They show a Europe taking risks, developing new solutions in new fields for scientific leadership and industrial competitiveness.
- Flagships address high potential technology domains where it is too early and/or too risky for industry to invest on its own. Industry is not afraid of participating in such large-scale initiatives. By starting from a jointly defined technology and innovation roadmap, Flagships enable large academia and industry teams to jointly work together to explore new technology solutions. As the early experience from the Graphene Flagship shows, Flagships create the right conditions to advance more rapidly the TRLs and to significantly shorten the research to innovation development cycles.

- While it is important for the Flagships to keep stability in their partnership, at the same time they must remain open and have such partnership evolve according to the evolution and needs of their technology and innovation roadmap.
- By their scale and research agenda, Flagships attract high international visibility to Europe's research priorities and achievements.
- Flagships attract and permit to train a new generation of researchers and engineers on new technologies. They offer large education and mobility opportunities to young researchers. The joint academic and industry exposure can also induce a more innovation mind-set to the young researchers involved.
- While the impact of Flagships on science is already well visible, it is still too early to assess what the Flagships' longer term impact is on economy and society, as they are still in a rather early implementation phase, just half way in their journey.
- Society understands less about Flagships and their challenges. Flagships should include in their partnership "humanities" by design and be working more with citizens for helping them better understand why Europe is investing in such large and long term initiatives and what are the expected societal benefits.
- For some Member States, Flagships have stimulated structuring the national landscape of research and innovation in the field. They have enabled a targeted alignment of the national funding strategies with the Union's ones and stimulated further coordination of European and national efforts.

The Panellists also stressed that excellence in science, on which the Flagships are based, has to be maintained as the driver of both the current and future initiatives. At the same time, there is the question on how Flagships can contribute to creating more European cohesion. Regarding this and how to strengthen the role of the Member States in the Flagship instrument, several Panellists stressed that:

- Possible national contributions to Flagships could be expressed in terms of making accessible to the Flagship participants relevant national and regional facilities such as centres of excellence, research facilities and research infrastructures to allow creating links with users from all the participating Member States.
- As the aim of the Flagships is to turn research results into concrete innovation opportunities, in the case of less developed regions such opportunities could be explored by linking Flagships to the structural funds available for innovation investments in such regions.

Overall, the Panellists agreed that discussions should be pursued on alignment, complementarity and synergies with national and regional initiatives, for both the ongoing and future Flagships, to be able to converge on concrete ideas to implement. These should be taken into account when revising the Flagship implementation model in FP9. In addition, the sustainability of the activities enabled by the Flagships has to be considered upfront. Solutions need to be put in place for sustaining useful activities well before the date when Flagships will be officially terminated.

Finally, the Panellists acknowledged that FET Flagships have so far proven their value as mission-oriented initiatives. Europe can learn from the Flagships' experience in defining mission-oriented initiatives in FP9. However, it remains to be discussed whether the mission of future Flagships will be driven by science, societal challenges or both. In any case, the open and inclusive process which the Commission has adopted for preparing new Flagships was very much appreciated. The Panellists have also stressed that Flagships, as a partnering instrument, would have to be considered in the context of other existing Horizon 2020 partnering

instruments and their evolution in FP9. The goal should be to have simpler and rationalised instruments, as well as a more strategic approach to EU R&I partnerships in FP9.

In concluding the event, Carl Christian Buhr, Deputy Head of Cabinet of Commissioner Mariya Gabriel reminded the participants that the event is a timely milestone for preparing FP9. He stressed that FET Flagships are powerful initiatives with lots of positive outcomes, even though they are still in an early stage of their journey. As decade-long initiatives, Flagships are also remarkable as they are implemented across several EU Research Framework Programmes. He confirmed that the Commission will continue to closely collaborate with the Member States in overseeing the Flagships. In particular the implementation and governance model of future FET Flagships will be discussed with the national delegates of the Flagships Board of Funders. The event confirmed the strategic importance of the Flagships for addressing grand S&T challenges and the eventual key role Flagships can play in FP9 while it also contributed to the broader reflexion on partnerships set as a key item under the Estonian presidency for preparing FP9.

For more information on this event, see also:

- The webpage of the event: https://ec.europa.eu/digital-single-market/en/news/fet-flagships-partnering-excellence
- The digibyte: https://ec.europa.eu/digital-single-market/en/news/fet-flagships-partnering-excellence-0
- The blog of Andrus Ansip: https://ec.europa.eu/commission/2014-2019/oettinger/blog/addressing-major-scientific-and-technological-challenges-future_en
- The web-stream of the event: https://webcast.ec.europa.eu/cnect-estonian-presidency-event-on-fet-flagships