



The Prospects of Brain Research within Horizon 2020: Responding efficiently to Europe's societal needs

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Summary:

Brain research in Europe is a rapidly evolving field, and in the last decade it has constantly been at the forefront of science.

In addition, in our ageing society, one of the major societal challenges is the treatment of diseases of the brain: it is important to understand/remind ourselves that, to date, we do not have any therapy for the majority of these diseases and that at present more than 500 million European citizens are living with a brain disease. Finding new treatments for these disorders is a priority for all the developed Countries and this will only be achieved by a co-ordinated programme to increase support for the research efforts in the field. Traditionally, Europe has been and remains at the forefront of Neurology and Neuroscience: thus a major innovation in the treatment of neural diseases must be expected to stem from this Continent.

In line with the above, the European Commission provided a comprehensive support for brain research in FP7, as Brain Research was rightly considered a priority to be endowed with the necessary, dedicated financial resources: more than EUR 1.9 billion has been dedicated to brain-related research since 2007 (a yearly allocation of more than EUR 300 million) funding 1,268 projects.

This has supported the foundation of a community dedicated to brain research: a novel community which has drawn together the unsurpassed multidisciplinary which is particularly important and needed for this research. It is also enhanced by the involvement of the patient advocacy community, which is now growing in professionalism and credibility, and actively working in our partnerships to produce innovation. Cures become closer, but have not yet arrived. Thus, at this stage of development in the research advances towards real solutions, it is a major surprise to hear that all the structure from past framework programmes will be discontinued with the Horizon 2020 programme. Even more disappointingly and incomprehensibly, this new approach will seriously dilute the resources available for brain research, in favour of other areas which are undoubtedly important, but do not always address a major societal challenge such as the urgent challenge of brain diseases.

In fact, totally unexpectedly in the H2020 programme, **no dedicated financial resources** for brain research generally have yet been decided. This is extremely disappointing and difficult to understand, considering that brain research sits within the three main pillars of H2020.

Given this situation, in one key aspect of H2020 - to tackle societal challenges by helping to bridge the gap between research and the market – the need to reinforce innovation and use-directed research is not fulfilled.

Globally, the current proposals for the H2020 programme raise the threat that the overall broad and inclusive approach of H2020 will be compromised by an excessive focus on perceived short-term market requirements in the definition of its outcomes.



The stakeholders at the May 30th meeting agreed that a continued, strong funding for neuroscience is essential within H2020, and the following considerations and recommendations focused on brain research arose from the discussions:

- Tackling societal challenges and making breakthrough discoveries is not a linear process and what is needed is a strong support for science and innovation as a holistic system. This is particularly true for brain research where basic brain physiology is still poorly understood due to the past difficulties in the study of such a complex system. Such difficulties, however, can be overcome with a highly multidisciplinary approach requiring strategies of intervention, which favor the development and continuation of a novel research community with unsurpassed levels of collaboration and knowledge across discipline borders.
Keeping a fair balance between basic research and societal challenges is seen as a priority and basic research, in all disciplines, should be supported within all three pillars of Horizon 2020.
- Research excellence needs to be well balanced by a complementary focus on innovation (application of the results of creative research), policy priorities, societal challenges and emerging new technologies.
- Research excellence in a long-term perspective, requires the continuous fostering of the research community created and maintaining its attractiveness to younger researchers is indispensable. Thus, a continuous supply of excellent training for young researchers is a necessity. The crucial importance of these long-term goals for society as a whole cannot be allowed to be swept aside by short-term market needs.
- A key for scientific breakthrough lies in interdisciplinary research. Particularly when addressing societal challenges, Horizon 2020 has to strike a balance in supporting research in all scientific disciplines. The success of H2020 will be measured by how it encourages and improves education, dialogue and collaborations among different competences and disciplines related to brain functioning and diseases. Specific support must therefore be given to actions aimed at broadening collaboration among disciplines focused at understanding brain functions and pathologies. This type of approach is bound to provide creative research and innovation
- Favour the alignment of National research agendas on brain research: a pragmatic organization of research
The complexity of brain research requires a global approach where all national research agendas are aligned and research infrastructures, models; human cohorts are open to all researchers in the field



- Patient Organizations are very important for the development of the field, as improvement in the quality of life of the citizens they represent is the focus of our work. They should be properly informed on the results of research projects, and involved from the beginning in all aspects of the research decision policies. Without knowing what the patients' real needs are, how can we develop our research to achieve the best results?
- Interaction and collaboration between all areas of brain research is necessary to reach the final aim, thus effort should be made to maintain the competence in all fields including those of neglected technical areas

The huge and increasing societal cost of brain illness has been clearly shown by the EBC study published in 2011. At almost €800Bn each year, this is a burden which must be lessened by real action now. Without focussed leadership from Horizon 2020, which will encourage and support the efforts of science and society to collaborate on brain research, the European Union member states will face dire consequences in terms of budgetary crises and severe social distress in the years ahead.

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