Foreword

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Despite the current financial crisis, which has barely loosened its grip on European economies, European research is delivering outstanding results across the board. This is the outcome of the combined efforts conducted by each EU member state, by individual researchers at universities and in institutes, and by companies and government laboratories.

Thousands of individual researchers create new knowledge daily, driven by curiosity and often through collaborations with other researchers in the private or public sector, which in the end contributes to enriching the European community. A coherent Europe perhaps holds the world's largest and strongest research area.

The debate in Europe concerning science, technology and innovation is a lively one, and naturally comprises areas where there is both uncertainty, risks and a lack of consensus. As the president of EuroScience I must stress the importance of including scientific evidence in policy debates, whilst at the same time acknowledging that societal attitudes are a part of the politician's equation.

Horizon 2020 is here, and it provides new, stimulating conditions for European research whilst encouraging international collaboration around the globe. We should remind ourselves of the solid reasons as to why Europe's research environments often take the lead, and, indeed, are often the preferred partner of others.

Now, H2020's focus on Grand Societal Challenges will force Europe to pool its scientific resources - only then can we achieve the impact needed to tackle these challenges. No single European country, but only a concerted European effort, in the true spirit of the ERA, will enable the region to co-operate and compete with the new centres of force across the globe. A point Dr Vanessa Campo-Ruiz from the European Science Foundation made in the September issue of this publication, and a point that deserves a repetition.

One challenge that must be dealt with in this regard is the problem of integrating the social sciences and humanities in meeting the challenges of our times. This will, almost without doubt, be difficult, but the Societal Challenges are so complex and diverse that an interdisciplinary approach is required. I therefore expect that this will be a minor challenge - the social sciences and humanities are essential in understanding how we can reach towards the sustainable development of global economies.

The other major challenge in relation to Horizon 2020 is an organisational one: H2020 brings with it a number of encouraging steps towards the simplification of procedures. However, finding effective forms of organising complex, large scale scientific projects and programmes without a diffused and mixed set of responsibilities on the part of researchers and policy makers has thus far been largely elusive.

The economic crisis has had a severe effect on the scientific communities in large parts of Europe, especially Southern, Central and Eastern European countries. Other parts of Europe have also been affected, something that will become apparent in research and innovation in many years to come.

The abolishment of grants, a decline in permanent jobs within research as well as highly uncertain career opportunities, a low appreciation for science and of its longer term nature, and a lack of concerted efforts on the part of both industry and policy is threatening new generations of scientists. In fact, Europe is at risk of losing a generation of researchers, which would be an unforgivable loss of much needed talent.

EuroScience feels that much more needs to be done to maintain a strong science base throughout Europe. A solution could be found in the intelligent use of Structural Funds in countries under severe financial constraints: could we not design a dedicated mechanism to protect advanced human capital at high risk in times of crisis, perhaps including 'add-ons' with a similar objective to the larger Societal Challenges programmes in Horizon 2020? Another solution could be a strong focus on investments in Research and Innovation in the recommendations that the European Commission, under the new rules, is to provide to member states.

EuroScience will endeavour to create a platform for the discussion and active promotion and pursuance of such possibilities. Hope for the younger generations is something Europe needs more than anything else; our most talented must have trust in their future within Europe's knowledge system at large.

With Horizon 2020 at the take-off point, Europe stands strong, but we must all contribute to making the most out of this vote of trust in Europe's science.