



A EuCheMS view
on
JOINT PROGRAMMING INITIATIVES
A New Generation of Instrument for a Mature Concept
in the Integration of European Research

This paper is a collective representation of the views of EuCheMS at this stage of the development of Joint Programming and was compiled following a consultation process with the EuCheMS Member Societies, Divisions and Working Parties.

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JOINT PROGRAMMING INITIATIVES - A New Generation of Instrument for a Mature Concept in the Integration of European Research

Joint programming is about choosing the target to focus on and act together mobilising public funding. Neither concept, nor mode of funding are new with ancestral forms of joint programming operating already, such as ERA-NETs or EUROCORES, and European research institutes, like CERN, running on public funds. However seeking solutions to major issues that affect society as a whole and not only for industrial profits is a significant change in approach. Such a change, together with the latest instrument proposed by the Commission¹ in the form of Joint Programming Initiatives (JPIs), creates a new phase in the evolution of research in Europe. Whether this will succeed in becoming an evolutionary step towards success and sustainability for European R&D depends on how a variety of issues will be dealt with nationally and at EU level.

The shift of focus from industry to society renders a systemic nature to the approach of European R&D. Such a change can potentially have multifaceted long-term benefits such as a societal return on investment for all Member States (confronting societal challenges), and a potential increase in the financial return on investment for European public R&D funds. EuCheMS acknowledges such benefits but believes that the greatest value of JPIs lies in their potential contribution to the realisation of the European Research Area (ERA). EuCheMS is of the opinion that in order to achieve this, JPIs must catalyse not only the coordination in research activities but also the coordination between the different policy areas. Creating platforms for interlinking the innovation policy and research policy areas at both national and EU level will ensure a competitive advantage for European R&D, particularly as large-scale coordination in research activities will eventually demand common research policies.

The value of the joint decision-making and joint implementation has been adequately demonstrated by successful networking programmes like COST and EUREKA; small-scale, low-level collaborations already in place such as PV-ERA-NET project and ACENET; and national integration efforts such as the Top Institutes in the Netherlands. In addition any joint undertaking in Europe benefits from the diversity in scientific thinking and practices arising from the cultural diversity². However, cooperating may be more challenging on a large scale than on

¹ COM(2008) 468 final

Communication From The Commission To The European Parliament, The Council, The European Economic And Social Committee And The Committee Of The Regions

TOWARDS JOINT PROGRAMMING IN RESEARCH : Working together to tackle common challenges more effectively

http://ec.europa.eu/research/press/2008/pdf/com_2008_468_en.pdf (full report)

² Recent studies have shown not only that a cultural bias determines “how” we do science - from how a problem is framed to how the results are interpreted and what conclusions are drawn but culture also determines gender equity in science and mathematics engagement and performance.

National differences in gender-science stereotypes predict national sex differences in science and math achievement.

B. A. Nosek, F. L. Smyth, N. Sriram, N. M. Lindner, T. Devos, A. Ayala, Y. Bar-Anan, R. Bergh, H. Cai, K. Gonsalkorale, et al. (2009)

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low-level as shown by the expensive exercise of the Galileo Joint Undertaking (GJU)³. EuCheMS questions whether the efficiency and effectiveness of the new approach will add real value in every area and believes that the Joint Programming Initiatives should be reserved for the areas that will benefit most from the top-down approach, inherent to the scheme. Any design of R&D programmes should be based on evaluation results of public R&D spending and its European added value⁴. In the case of JPIs there are additional cost implications that arise from public-public cooperation among participating states in harmonising their national systems to take into account participating partners and in addressing differing administrative and financial procedures and the uneven capacity for innovation. EuCheMS welcomes the recent decision of the DG for Research to investigate the impact of opening up public R&D programmes on the quality and impact of research and on national research systems⁵ as a step towards a more objective comparison of the JPI scheme to the current national uncorrelated and competing programmes or existing collaborative schemes.

There are also concerns regarding the identification and prioritisation of the areas for JPIs. So far this has been proven to be a challenging exercise⁶ for the High Level Group for Joint Programming (GPC) that is currently working on the matter. A template has been provided for selecting the appropriate area⁷ and the identification of themes is to be carried out 'following broad public consultations' in the Member States of the GPC members. However the absence of any common methodology on consultation processes may lead to misrepresentation of the views of the broad scientific community, particularly in Member States where political and/or cultural factors (hierarchical organisational structures and/or restricted experience of international research cooperation) may be conducive to partial participation of the scientific community at the consultation stage. EuCheMS believes that developments complementary to JPIs should support structures to ensure wide participation across the scientific community within individual Member States in the selection and prioritisation of areas for action. In addition independent consultation bodies with undeniable expertise and excellence in research should assist in this selection process. EuCheMS also believes that the integration of scientific expertise is mandatory in the management structure of any chosen JPI and welcomes the inclusion of a Scientific Board in the pilot project on Alzheimer's⁸.

JPIs are not the sole remedy to the stagnation of European R&D. Innovation is now widely acknowledged as the key to success. JPIs aim to tackle fragmentation of research activities, which the Commission sees as the root of the stagnation. Differences between Member States in the innovation capacity⁹ and the policy mix¹⁰ (whether innovation policy or research policy)

³ Its task of supervising technological development activities was seriously constrained by 'governance issues, an incomplete budget, delays and the industrial organisation of the development and validation phase'; Special Report No 7 // 2009 European Court of Auditors The Management of the Galileo Programme's Development and Validation Phase

<http://eca.europa.eu/portal/pls/portal/docs/1/2760294.PDF> (full report)

⁴ EUFORDIA 2009 Conclusions and Recommendations

⁵ OJ No S 158-229748 of 19 August 2009

⁶ 3rd GPC Meeting Summary Report

⁷ CREST-GPC 1306/09

⁸ MEMO/09/346

Commission proposal for a Council Recommendation on a pilot joint programming initiative to combat neurodegenerative diseases, in particular Alzheimer's

⁹ UNU-CRIS Working Papers W-2009/1

MACRO-REGIONS AND MICRO-REGIONAL INEQUALITY – The European Union and the Cohesion Funds

regarding science research funding may, however, also be accountable for the situation. EuCheMS believes that these differences also need to be addressed and coordination of research activities should be complemented by the coordination of innovation policies and the design of innovation systems that can operate at a pan-European level. In addition knowledge on how innovation is generated should be integrated in the design of funding programmes and research infrastructures.

Moreover most societal challenges are not Europe-specific. Developing cooperation schemes and initiatives beyond the borders of the ERA to involve others such as Brazil or Russia, can have a great impact and it will capitalise on the existing links and research cooperation between EU and such countries¹¹.

PRIME CONCERNS OF THE CHEMICAL COMMUNITY IN EUROPE

The new instrument of Joint Programming will be tested in due course. The pilot project on Alzheimer's that is underway will provide valuable information. JPIs may prove to be valuable tools of excellence in the future but they need to be introduced stepwise, taking into account any overlap of activities between Member States and cultural diversity in scientific thinking and practice. Meanwhile it is the responsibility of the scientific community to address certain issues if academic freedom is to be preserved. A transition towards coordination of public-policy driven agendas between Member States will have a serious impact, not only on national research funding, but also on the thematic targeting and design of future Framework Programmes. The latter is already happening: the EU funding programme for research FP7 has already adopted the systemic approach as demonstrated in the branding of the recently launched cross-thematic call of FP7, and the accompanying press release that states '*The Ocean of Tomorrow* call shows how FP7 can address global issues in an interdisciplinary way'¹².

National Systems & Joint Programming Initiatives

Establishing common research agendas, as envisaged by the Commission in their proposal on JPIs, will demand cross-border collaboration and dissemination of information, greater accountability and transparency. In addition any initiative launched can potentially offer Member States with low or non-systemic national science funding the opportunity to improve national research infrastructures through access to substantially larger funds.

These are some important features of the JPIs. However the persistence of the uncertainty as to the definition of *funding partner* in the initiative creates a justified degree of apprehension towards the new instrument among the scientific community, particularly in Member States with established bottom-up funding agencies and an outstanding record in research and innovation.

A Lidia Hernández López, Rosario Ramos Ramos, Sergio Ramos Ramos

¹⁰ ERAWATCH 2008 Analytical Country Reports: <http://cordis.europa.eu/erawatch/index.cfm>

¹¹ CREST OMC Working Group December 2008

Internationalisation of R&D – Facing the Challenge of Globalisation: Approaches to a Proactive International Policy in S&T

Country Report Brazil: An Analysis of EU-Brazilian Cooperation in S&T; COMPEDIUM ON SCIENCE & RESEARCH COOPERATION BETWEEN THE EU AND RUSSIA (2009)

¹² IP/09/1206

There is also an uneasiness towards the role of the European Commission, that is currently stated to be one of facilitating and coordinating of activities, in light of the recent statement that the Commission not only 'can take other initiatives to promote JP' in the chosen areas but also 'will contribute to the implementation of this initiative using the existing financial instruments such as the Framework Programme for Research'¹³.

Participating in any large-scale joint programming activity may require substantial and uncomfortable changes at national level. Apart from undertaking coordinating actions, such as networking and exchanging of information, Member States are also expected to pool resources, issue joint calls for proposal and exploit research infrastructures. Many fear that, in the absence of any fresh funding, such actions will trigger re-allocation of funds and rationalisation in activities at national level. Certain countries have already seen such changes as a consequence of their national politics and priorities in the current financial climate. Such developments certainly make the ground fertile for Joint Programming to seed but they are by no means the direct effect of the initiative. However any actions at European level that will result in redirection of policy priorities, redistribution in the national science budget or refocusing of national research programmes for the direct benefit of any given Joint Programming Initiative will be unwelcome by the scientific community of Member States, particularly if scientific political decisions about primary research topics may eventually not be taken by their national research-funding agencies.

EuCheMS believes that the following aspects have to be taken into account if JPIs are not to be a compromise but an evolutionary step towards sustainable excellence:

- Top-down funding agencies should be considered as funding partners for the initiative
- The capacity and resources of any national bottom-up funding agency should not be compromised by commitments of Member States to any Joint Programming Initiative as this will be detrimental to academic freedom at national level
- Any unavoidable re-allocation of funds at national level should follow after proper assessment and credible evaluation of the prevailing situation in a particular area and setting of clear objectives

Chemistry, Basic Sciences and Joint Programming Initiatives

Basic sciences are crucial to generating the breakthroughs needed to bring new generations of technologies to the market. Chemistry in particular holds a unique position: it is a marker of economic solidity contributing greatly to the recovery and the relaunch of industrial activities and as a science it is the interdisciplinary link between multidisciplinary themes such as energy, climate change, water, environment and health. After all molecules are the building blocks of any organic, inorganic or biological material, food additive, etc.

EuCheMS sees any integration of the research activities of the scientific community as a catalyst in maximising the exploitation of synergies and generation of completely new ideas. If

¹³ MEMO/09/346

Commission proposal for a Council Recommendation on a pilot joint programming initiative to combat neurodegenerative diseases, in particular Alzheimer's

such integration is accompanied by the fostering of novel approaches in a broad portfolio of research activities, they will precipitate cutting-edge science and open the process for other crosscutting initiatives to develop.

However, funding of thematic targets undoubtedly promotes applied research. There is a serious concern that any increase in applied research in countries with restricted budgets, or with research funding grouped together with industrial policy, may potentially lead to the demise of their basic research activities. Conscious and active efforts are needed if the much-valued 'curiosity-driven' nature of research - preserved today by great efforts of the chemical community within their field - is to be protected.

Furthermore the gap between the 'orphans'¹⁴ of basic sciences and the popular ones - i.e. those fundamental to societal challenges like energy, or health - will inevitably be increased as the latter will be 'disguised' but protected within a relevant JPIs.

EuCheMS is of the opinion that:

- Any shared research strategy should focus strongly on quality basic research to ensure a balance between academic freedom and accountability to society
- JPIs should be complementary to the current schemes for researcher-driven and industry-driven programmes and not a replacement
- The continuation of curiosity-driven research is imperative and ring-fencing for basic chemical research at national level should be a priority if the investment in basic science - and to higher education for that matter – is to be protected
- Funding at the European level of non-thematic schemes, such as ERA-Chemistry must be continued as any reallocation of funds from such schemes would only compromise the
- curiosity-driven research; furthermore the existing schemes should be supported with the launch of more bottom-up researcher-driven programmes.
- Redirection of funds from an 'orphan' to a popular and JPI-linked area should be avoided as this will compromise academic freedom

EuCheMS & Joint Programming Initiatives

EuCheMS, as the voice for chemistry is committed to play an active role in Joint Programming. The Joint Programming Initiatives offer an opportunity to EuCheMS to explore the possibilities of how research in chemistry can have a decisive contribution towards the needs of society and how chemistry can enhance the reboosting of the European R&D.

Various science platforms with their strategic research agendas can valuably support Joint Programming initiatives in their societal "grand challenge" agenda. The chemical community offers the European Technology Platform for Sustainable Chemistry (SusChem), which can advise on recommendations for mobilisation of resources for collaborative R&D, on sustaining

¹⁴ Term used for unfashionable or high-risk research; Basic vs. Applied Research: The Wrong Dichotomy? James P.Kahan, RAND Europe, 2001

a strong European chemical science base and on improvements for EU innovation framework conditions.

A number of potential actions in several areas are available to EuCheMS:

- Raising the profile of Chemistry and its relevance to societal challenges (i.e. those conducive to a Joint Programming Initiative)
- Assisting at the European and national level in an appropriate and relevant JPI through EuCheMS Divisions and Working Parties
- Engaging in a policymaking role by assisting in relating national strategies to the strategic research agenda of any emerging relevant JPI through its member societies
- Offering platforms and networks like SusChem and Eurachem to reshape the agenda of the Framework Programme and to link the various policy areas involved in a relevant JPI
- Calling for smaller-scale joint schemes to promote new ideas and action in areas of chemistry that are fragmented or where the communication is poor.
- Assisting in the integration of the scientific community by disseminating as widely as possible among its members, information on the progress of JPIs and any other relevant topics that complement Joint Programming, such as issues in intellectual property protection



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Executive Summary

Joint Programming Initiatives aim to provide an impetus for European research cooperation in areas of societal importance.

EuCheMS is of the opinion that Joint Programming introduces a systemic approach to EU R&D by shifting the focus from industry to society. EuCheMS has certain reservations as to the overall efficiency and applicability of such an approach. A scheme with a public-policy driven agenda will have a serious impact not only on national research funding but also on the thematic targeting and design of future Framework Programmes.

The Joint Programming Initiatives have the potential to be an important development if they create opportunities for platforms for interlinking the various policy areas at both national and supranational level. Their introduction should be stepwise, taking into account any overlap of activities between Member States and cultural diversity in scientific thinking and practice.

EuCheMS supports the scheme as a step towards the creation of a successful and integrated European Research Area but is however of the opinion that JPis alone are not enough to improve the performance of the European R&D. Coordination of research activities should also be accompanied by coordination of research and innovation policies at both national and EU level and the provision of innovation systems that can operate at a pan-European level. In addition, differences between Member States in the innovation capacity and the policy mix should also be addressed.

EuCheMS would like to emphasise the following issues regarding the new instrument of joint programming:

1. The real added value of Joint Programming Initiatives in any given area should be determined prior to their launching
2. The wide participation across the scientific community should be ensured to its possible maximum in each Member State as the input of the scientific expertise is mandatory both in the selection and prioritisation of areas for Joint Programming and in the management of a chosen JPI.
3. Cooperation schemes and initiatives beyond the borders of the ERA should accompany any JPI
4. Top down funding agencies should be considered as funding partners for the initiative

5. The capacity and resources of any national bottom-up funding agency should not be compromised by commitments of Member States to any Joint Programming Initiative as this will be detrimental to academic freedom at national level
6. Any unavoidable re-allocation of funds at national level should follow after proper assessment and credible evaluation of the prevailing situation in a particular area and setting of clear objectives
7. Any shared research strategy should focus strongly on quality basic research
8. JPIs should be complementary to existing schemes for researcher-driven and industry-driven programmes and not a replacement
9. The continuation of curiosity-driven research is imperative and ring-fencing for basic chemical research at both national and European level should be a priority if the investment in basic science - and to higher education for that matter – is to be protected.
10. Funding at the European level of non-thematic schemes, such as ERA-Chemistry must be continued as any reallocation of funds from such schemes would only compromise the curiosity-driven research; furthermore the existing schemes should be supported with the launch of more bottom-up researcher-driven programmes.
11. Redirection of funds from an 'orphan' to a popular and JPI-linked area should be avoided as this will compromise academic freedom

The Joint Programming Initiatives offer an opportunity to EuCheMS to explore the possibilities of how research in chemistry can have a decisive contribution towards the needs of society and how chemistry can enhance the re-boosting of the European R&D. EuCheMS, as the voice for chemistry, is committed to play an active role in Joint Programming by:

- a. Raising the profile of Chemistry and its relevance to societal challenges (i.e. those conducive to a Joint Programming Initiative)
- b. Assisting at the European and national level in an appropriate and relevant JPI through EuCheMS Divisions and Working Parties
- c. Engaging in policymaking role by assisting in relating national strategies to the strategic research agenda of any emerging relevant JPI through its member societies
- d. Offering platforms and networks like SusChem and Eurachem to reshape the agenda of the Framework Programme and to link the various policy areas involved in a relevant JPI
- e. Calling for smaller-scale joint schemes to promote new ideas and action in areas of chemistry that are fragmented or where the communication is poor.
- f. Assisting in the integration of the scientific community by disseminating as widely as possible among its members, information on the progress of JPIs and any other relevant topics that complement Joint Programming, such as issues in intellectual property protection.

Terms & Abbreviations used

ACENET	Applied Catalysis European NETWORK involving ministries, research management and funding organisations from ten EU Member States in an effort to bring cooperation between national research programmes and policies on applied catalysis
CREST (<i>Comité de la Recherche Scientifique et Technique</i> : Scientific and Technical Research Committee)	an advisory body whose function is to assist the European Commission and the Council of the European Union in performing the tasks incumbent on these Institutions in the sphere of research and technological development
ERA-NETs	a European Network for bringing together already existing national programs in specific areas with a contribution from the Framework Program if they manage to launch a joint call for proposals.
ERAWATCH Analytical Country Reports	ERAWATCH Analytical Country Reports is a series of documents for each of the 27 Member States assessing the performance of national research systems and policies; the deployed methodology, designed to be comparable across countries, focuses on four policy-relevant domains of the research system: resource mobilisation, knowledge demand, knowledge production and knowledge circulation.
EURACHEM	A network of organisations with a focus on analytical chemistry and quality related issues in Europe
GJU (Galileo Joint Undertaking)	set up by the European Commission and the European Space Agency and operated from September 2003 until the end of 2006 to manage the development and validation phase of Galileo programme; the programme was launched in the mid 1990s with the aim of establishing a European Global Navigation Satellite System.
GPC (<i>Groupe de haut niveau pour la Programmation Conjointe</i>): High Level Group for Joint Programming	a dedicated configuration of CREST. It is responsible for identifying the themes for joint programming and will contribute to the preparation of Council decisions in this area. GPC's members are senior officials from Member States and the Commission. Countries associated to the Framework Programme may participate in the group. The GPC is chaired by a member representing the Presidency-in-office. Its constitutive meeting took place on 13 February 2009. High Level Group for Joint Programming
CERN	European Organisation for Nuclear Research

COST	an intergovernmental framework for European Cooperation in Science and Technology, allowing the coordination of nationally-funded research on a European level
ERA	European Research Area
ERA-Chemistry	a network within the ERA-NET scheme of the European Commission; aiming at establishing a bottom-up European Research Area in science-oriented chemical research; built by the joined efforts of fourteen national research councils in charge of chemistry
ERIC	a draft regulation to facilitate the setting-up of large research infrastructures in Europe
EU	European Union
EUFORDIA	European Forum on Research and Development Impact Assessment
EUREKA	a pan-European network for market-oriented, industrial R&D
EUROCORES	European Collaborative Research Scheme is a framework offered by the European Science Foundation (ESF) to promote researcher-driven collaborative research, networking and dissemination while targeting broad and complex topics of research across all scientific domains at the European level and in a global context. Research funding remains with participating national funding organisations.
JPIs	Joint Programming Initiatives
MS	Member State
PV-ERA-NET	A project with representatives of Denmark, Flanders (Belgium), The Netherlands, Sweden, Switzerland and the United Kingdom applying joint programming to photovoltaic technology by jointly devising an application form and application process and evaluated the proposals, each ensuring of adequate funds to support partners from their Member State or region.
R&D	Research and Development
Top Institutes	Public-private partnerships in the Netherlands integrating expertise in several areas like nutrition and committed to the research and development of new techniques and products in these areas