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From:	Secretary-General of the European Commission, signed by Mr Jordi AYET PUIGARNAU, Director
date of receipt:	8 May 2014
To:	Mr Uwe CORSEPIUS, Secretary-General of the Council of the European Union
No. Cion doc.:	COM(2014) 252 final ANNEXES 1 to 3
Subject:	ANNEXES to the REPORT FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS Second Interim Evaluation of the CLEAN SKY, FUEL CELLS AND HYDROGEN and INNOVATIVE MEDICINE INITIATIVE Joint Technology Initiatives Joint Undertakings

Delegations will find attached document COM(2014) 252 final ANNEXES 1 to 3.

Encl.: COM(2014) 252 final ANNEXES 1 to 3

EUROPEAN
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ANNEXES 1 to 3

ANNEXES

to the

REPORT FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS

Second Interim Evaluation of the CLEAN SKY, FUEL CELLS AND HYDROGEN and INNOVATIVE MEDICINE INITIATIVE Joint Technology Initiatives Joint Undertakings

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ANNEX I: IEGs RECCOMENDATIONS

Clean Sky	
Recommendation	**Responsibility**
Progress towards environmental targets	
CS1 and CS2 related: The current progress is reported in relation to CS objectives. The Panel recommends a more transparent traceability between the ACARE goals and the specific contributions from Clean Sky.	GB, JU
The Panel encourages the Partners and Project Managers to provide more clarity and consistency in the figures presented as well as on the assumptions taken for the evaluation of the environmental targets in relation to the ACARE goals.	GB, JU, Future PPPs
Coordination with FP7, SESAR and National Programmes	
It is recommended to deepen the existing relationship with both SESAR and ACARE - at working group level –with the aim to reach a better understanding within the JU on airlines, ANSPs and other stakeholder communities.	
The Panel believes that information exchange between the JU and NSRG is very important and recommends that the NSRG continues to play a crucial role in ensuring the coherence of national programmes with Clean Sky.	GB, JU, Future PPPs
Effectiveness in promoting participation	
The Panel appreciates that Clean Sky does not require a consortium as a condition for participation to calls for proposals, single entities can apply, and that there are a number of mono-beneficiaries also amongst SMEs. The Panel however recommends making the high participation of SMEs and new players more visible (see also 3.5 Efficiency in Communication).	JU
Effectiveness of ITD and TE strategies	
The Panel recognises that the TRL concept has been refined and recommends that CS JU disseminates the results across the R&D community.	JU
CS1 and CS2 related: The visits provided evidence on a very good cooperation between research development activities and flight test preparations. Detailed reviews have been conducted including multidisciplinary teams with experienced personnel in flight test. Moving from the example of the good GRA flight test preparation, the Panel recommends that the ITDs make greater efforts in communicating and disseminating best practices and encourages them to extract from successful cases of other ITDs useful lessons for own future activities.	JU, Future PPPs
Complementarity with other activities in Horizon 2020	
CS2 is an appropriate framework to implement and manage industry-led projects. It is important to devote a significant share of the budget to such projects, to bring technologies from TRL 3 to TRL 4 or at best 5, without the a-priori objective of contributing to a flying full scale platform demonstrator.	GB, JU, EC, Future PPPs
It is important that this type of industry-led project is run directly by the JU without interference from the big projects of higher TRL.	GB, JU, EC, Future PPPs

These projects should use the Technology Evaluator to provide inputs during the evaluation phase and to assess environmental impact and efficiency at the end of the projects.	GB, JU, EC, Future PPPs
Suitability of the CS legal framework and governance	
The Panel recommends that the STAB role is preserved and enhanced for example in drafting future updates of the SRIA. Their contribution – also for a CS2 – is considered significant and it is recommended to ensure that high quality individuals are involved as it is the case in Clean Sky.	GB, JU, Future PPPs
Notwithstanding the valuable involvement of the advisory bodies, there is still room for a greater and more pro-active involvement of the STAB and the NSRG. The CS JU should seek to maximise the potential of its advisory bodies to gain support for the remaining calls and other activities at all levels.	GB, JU
Appropriateness of the JU internal rules and funding	
The Panel emphasises that the Clean Sky JU also contributes to achieving the roadmaps that have been jointly agreed between all stakeholders and considers the multi-annual approach advantageous and recommends this is continued in the future.	GB, JU, Future PPPs
The Panel regrets that concerning the negotiation of a multi-annual GAM, there continues to be a need for more flexibility in the management of GAMs. In general, the Panel recommends more discretionary power to the Executive Director in management matters and believes that GAM budget transfers should be initiated, negotiated and implemented by the Executive Director. This step would help speeding up the implementation of necessary decisions since it would no longer be necessary to involve the Governing Board.	GB, JU, EC, Future PPPs
The Panel is aware that recommendations have been issued about the completeness and timing of the strategic planning (CSDP) and alignment with annual planning (AIP) and annual amendments of the GAMs. In this context, a specific finding has been raised by the Internal Audit Service (IAS) on the subsequent changes of topics compared to the approved AIP. The Panel endorses plans to delegate a number of decisions and functions from the GB to the ED for the approval of such changes in order to ensure the necessary flexibility for the JU to adapt the lists of topics to the actual needs during the year.	GB, JU, EC, Future PPPs
CS1 and CS2 related: The Panel considers that the existing possibilities to redistribute the budget amongst ITDs (as the transfer occurred in 2012 between ITDs) are an initial useful step towards providing some budget flexibility. The Panel regrets that there is still no contingency budget since this would enable transversal flexibility. Therefore the Panel recommends that the Governing Board considers introducing a 5-10% contingency budget.	GB, JU, EC, Future PPPs
The Panel is of the opinion that the verification of in-kind contribution is still a laborious and time-consuming issue to manage and negotiate and that the current procedure is not efficient. Therefore it recommends steps to simplify the procedure.	GB, JU, EC
Efficiency of the JU Executive Team organisation and procedures incl. monitoring	

Although the Executive Office has made significant progress in speeding up processes and reaching operational efficiency, the Panel recommends that some further adjustments are be carried out to improve efficiency. Now that the Clean Sky JU is well established, the balance of skills between general administration and project management in the Executive Office need some readjustment.	GB, JU, EC
The Panel considers the number of the JU technical staff as being insufficient and recommends a review by the Governing Board of staff requirements to ensure that the Executive Team can exercise in full its coordinating and monitoring functions. At the same time the Panel recommends a review of potential services to be shared with other JUs and of administrative services that could be outsourced.	GB, JU, EC
The Clean Sky Executive Office should seek further ways of reducing bureaucracy and ensure that it has the optimal organisational structure for the tasks ahead.	JU
Although participation and success rate of the applications indicate that the performance of the JU in the administration of the programme, project management and programme design and implementation is adequate and capable, the Panel notes that the "Time to grant" is still rather high (240 days from call publication to GAP; 360 days on average for grants signed in 2012) and recommends this timeframe is shortened.	JU
The Panel acknowledges the value of the adopted system of 16 internal control standards and considers this a robust system for an efficient and effective management. The Panel appreciates that there is a satisfactory alignment of strategic and annual planning and recommends its systematic implementation.	JU
The Panel welcomes the intention of the JU (as in the GB meeting of 22.3.2013) to launch trainings for Topic Managers and endorses endeavours to increase the monitoring of the Project Officers and the administration team, to make sure delays and projects execution problems are tackled as soon as possible. These are important steps to address holdups currently limiting the overall efficiency.	JU
The Panel appreciates that in the evaluation period ex-post audits of financial statements of CS JU beneficiaries have been implemented and recommends that the efforts undertaken to reduce the error rates are continued. The Panel appreciates that the JU has put efforts into improving its ex-ante validation process and has provided guidance to its beneficiaries concerning the eligibility of costs for the Clean Sky projects.	JU
Efficiency of ITD organisations and procedures	
The Panel appreciates that monitoring and control tools are mature and implemented and recommends harmonized progress activity reports and technical evaluation reports across the ITDs. In particular progress reports should contain progress achieved against progress planned and achieved deliverables against planned deliverables. The Panel recommends technical evaluation reports to follow the EC standard. This standard is useful in terms of evaluating in a systematic manner technical and management aspects.	JU
Efficiency of communication	
Cooperation and exchange between ITDs appears to be limited still and should be enhanced. Models and tools produced across ITDs should be analysed in view of potential complementarities. The TE interface with other ITDs deserves careful consideration to ensure timely results.	GB, JU

CS1 and CS2 related: The Panel believes that communication between ITDs can be improved by using to a larger extent the TE as a tool to feed back information and to discuss efficiency in technical matters. A closer relationship with the working groups of ACARE and SESAR could also improve this communication process. The JU team should be more involved in this process and additional resources need to be allocated to this task.	GB, JU, EC, Future PPPs
The Panel believes that raising the profile of Clean Sky should be a key aspect of the CS Communication objectives. The Panel endorses the recommendations of the previous interim evaluation and reiterates that CS should improve its visibility amongst the interested public.	JU
The Panel appreciates the effort on the part of the Executive Office to communicate call topics and disseminate the Clean Sky initiatives via publications. However the Panel felt that, as there have been more success stories coming out of the projects, these could form the basis for intensified dissemination targeted to a broader range of stakeholders, including policymakers within the Member States.	JU
The technical information on the website should be improved with a more active involvement and input from the ITDs. Moreover it is deemed necessary to find appropriate forms to communicate the activities and assessment of the TE.	JU
The Panel recommends that the CS communication strategy puts more dedicated efforts for communicating the broader socio-economic and environmental impacts not only to the aeronautical stakeholders, but also to the policy and decision makers at the European and national levels. The NSRG and STAB should be involved in these initiatives.	GB, JU
The Panel commends that Clean Sky has been successful in attracting a high level of interest from companies, well above the average participation of industrial entities in collaborative projects in FP7. However the Panel notes that although there is a remarkably high participation of SMEs, Clean Sky is still perceived as "big industry and big technology" and therefore recommends that success stories involving SMEs are communicated on the website and in dedicated publications.	JU
Quality of Activities	
The Panel recognises the added value of technical visits and technical presentation meetings which provide more insight and permit a deeper analysis in favour of an objective assessment. The Panel considers this a key instrument to assess the quality of the technical developments and recommends to make site visits an integral part of the review process	JU
Quality of Calls for Proposals	
In case of a large number of proposals for a specific ITD, the Panel recommends a flexible distribution of responsibilities in order to optimise the associated workload within the JU.	GB, JU, Future PPPs
It is proposed that the topics include the possibility to present a more innovative approach leading to the same results than the one described in the topic.	JU, Future PPPs
It is recommended that the technical ITDs reviews include a systematic CfP review to monitor and contribute to the high quality of the CfPs. This would establish a clear connection between CfP topic and ITD objectives, thus improving the focusing of the technical activities.	JU, EC, Future PPPs
The Panel notes that, in some cases, the inappropriate choice of subcontractors has led to poor results relative to the project they are related	JU, Future PPPs

to. The Panel therefore recommends the JU to investigate possible ways of improving the selection process of subcontractors.	
Smart Fixed Wing Aircraft (SFWA)	
The Panel recommends that flight tests should be taken into account at the very beginning of the ITD. It is to be recognised as a necessary step, overlooked at the project launch but very much needed to ensure project success.	JU
For large ITDs, it is recommended to adopt systematically an industrial project management methodology from the very beginning of the project.	JU
It is recommended to secure robust commitment from the participants, to find ways to prevent a lack of interest and of focus from the participating companies and to secure adequate resource allocation by all.	JU
The Panel recommends the JU to focus on minimising the risk of insufficient commitment of resources, and to entrust the GB with the responsibility of motivating the potentially defaulting partners.	JU
Downstream research leading technologies to TRL6 maturity should achieve the following steps: performance readiness, engineering readiness, operational readiness (main tenability, stability, etc …), manufacturing readiness. The Panel believes this recommendation is applicable to all large ITDs.	JU, Future PPPs
Green Rotor-Craft (GRC)	
The Panel encourages the Partners and Project Managers to provide more clarity and consistency in the figures presented as well as on the assumptions taken for the evaluation of the environmental targets in relation with the ACARE goals.	JU
Systems for Green Operation (SGO)	
The Panel recommends carefully monitoring and implementing an early warning mechanism for critical activities, success factors of SGO.	JU
SGO benefits are expressed per flight phase. This makes a comparison across ITDs difficult regarding the most promising technologies. Therefore, the Panel agrees with technical reviews about alignment of SGO environmental benefits metrics to other ITDs.	JU, Future PPPs
Demonstration activities for some equipment are foreseen in a single test platform. Back-up plans in case of delays in the test platform need to be addressed.	JU, Future PPPs
Sustainable And Green Engines (SAGE)	
It is strongly recommended to explore the possibilities of testing the gearbox (with AVIO) in order to reduce the associated risk.	JU
The conditions of access to the future Gearbox test rig by third parties needs to be clarified.	JU
The planning and technology features of the SAGE 4 demonstrator need to be clarified and confirmed.	JU
Any proposal for a lean burn flight test within Clean Sky time scale should be clarified in terms of schedule and financing.	JU
Eco-Design (ED)	
It is recommended to check that EDA is taking into account lessons learnt by other domains, such as automotive, and by the emerging deconstruction eco-system.	JU

Taking into account the content of EDS, it is recommended to ensure consistency and check gaps or overlaps with SGO and GRA/ GRC ITDs related to electricity. There are synergies and potential cross fertilization opportunities.	JU
Technology Evaluator (TE)	
The Panel has not identified clear quantifiable targets for Life Cycle Assessment (LCA). It is recommended that methods and metrics to assess LCA benefits are addressed by CS present and/or future research.	JU
The resolution, granularity and assumptions included in the aircraft models have a potential impact on the verification of their representativeness and accuracy. The Panel recommends that aircraft models are as transparent as possible in relation to to known standards .	JU, Future PPPs
The duration of the TE information system needs to be aligned to the duration of TE assessments. This is to record latest assessment results and their impact.	JU, Future PPPs
Low TRL technologies are included in aircraft models. However, the purpose of the TE is to assess the impact of mature and most promising technologies and a better focusing of TE goals should be established.	JU, Future PPPs
General Issues	
Clean Sky has a lot of ground and flight demonstrations at programme end. Significant attention should be paid towards the most critical and success factors of the programme. Careful monitoring and prioritisation of available resources vs. remaining work and vs. technology environmental benefit towards demonstration is recommended.	JU, Future PPPs
The main objective of CS is to accelerate the introduction and development of environmental friendly technologies in the next generation vehicles. While it is important to review overall management documentation and progress of technical activities, it is particularly crucial to perform a verification of actual developments at Partners sites. The Panel recommends future evaluations to include technical site visits. A representative selection of technical visits provides new ways of understanding developments and to reconcile technical evidence and lessons learnt across ITDs.	
Management 2010-2013 evolution	
The Panel recommends the streamlined coverage of CfP towards ITDs objectives and endorses the overall regular review of the CfP programme within the CS prioritising at this stage demonstration activities.	JU, EC, Future PPPs
The Panel is concerned that many demonstration activities have been shifted towards the end of Clean Sky and recommends ensuring the adequate deployment of resources within the ITDs.	JU
Scientific and technical comparison	
The Panel recommends to freeze the objectives and plans as soon as possible and to monitor closely the technical status of SFWA projects in order to make sure that no further delays occur. The ITD has probably overcome the most important risks, some exist still.	JU, Future PPPs
With the aim of minimising the danger of planned demonstration programmes failing to be achieved within the timeframe of Clean Sky 1, continued efforts should be made by project managers to emphasise to their higher management the - technical, commercial and political- importance of the Clean Sky Joint Undertaking, and ensure the appropriate level of resources are available and committed to the projects.	JU, Future PPPs

The Clean Sky Project Manager should keep under review the emerging results and potential application of CfP topics, with a view to identifying increased opportunities across the whole of CS.	JU
Further consideration should be given to estimating the benefits of the Clean Sky programme with regard to contributions from other relevant programmes, and to how the benefits can be shared with stakeholders outside the specialist scientific/technical community.	JU, EC, Future PPPs
The Panel is of the opinion that when the SFWA/AI go/no-go decision on a CROR demonstrator aircraft emerges it might be necessary to reconsider and clarify SAGE 1 future activities within the Clean Sky timeframe.	JU

FCH	
Recommendation	**Responsibility**
Programme governance, design and management	
Governance of the programme needs to ensure: that decision-making is more prompt; that more resources are assigned to programme and knowledge management and that the private sector's commitment continues to be comparable to the EU's effort. The Executive Director should have greater executive authority; administrative functions should be shared with other JUs and/or taken back into the Commission services; the Commission should agree a mechanism to demonstrate that the industry adopts "stretch" targets for its own research and early deployment expenditure. Contractual targets to steadily reduce time-to-grant should be introduced under Horizon 2020.	EC, GB
The research strategy for the continuation of the FCH JU in Horizon 2020 should focus more sharply on three main principles: alignment with EU policies; areas where Europe has or can achieve leadership; adaptation to changing needs of the sector.	GB, Advisory bodies
Storage and cost-efficient end-use of electricity together with the production of hydrogen from renewable sources should be priorities of the energy pillar; additional actors (e.g. network operators) will need to be recruited. Synergies and interaction with other programmes along the whole value chain should be maximised (e.g. "Advanced Materials" and with "Advanced Manufacturing and Processing"), Green Vehicle, SET-Plan EIIs (e.g. Smart Grids). Six to ten per cent of the FCH JU budget should be reserved for breakthrough oriented research.	GB, PO
The capacity to adapt to change should be strengthened. Programme results should be fed back more effectively into the AIP and MAIP.Whilst preserving stakeholders' confidence in the long-term vision; a closer integration of industrial interests with those of other stakeholders should be sought through joint workshops with the research community, advisory bodies and representative regional organisations.	PO, IG

Certain research areas need greater prominence: the FCH JU should develop a strategy for Regulations, Codes and Standards including international dimension across the FCH businesses that is agreed by all (IG, RG, SRG, Commission) and that draws upon the resources of the JRC.	PO, GB
SME participation should be further strengthened through a scheme of financial guarantees as in the Framework Programme and linkage between research projects and venture capital funding from the RSFF to generate new and innovative European companies and businesses.	EC
Technology Monitoring and Policy Support	
The JU should implement a robust technology monitoring procedure adapted to project, programme and policy levels. Results should be used to adapt the research programmes and made available to the SET Plan and for policy support.	PO
Much greater disclosure and dissemination of results is essential. Future proposals should be obliged to include a list of publishable KPIs and evaluation should penalise low levels of disclosure. Existing projects should be encouraged to disclose *post hoc* some of their results. The FCH JU should introduce "clean rooms" for this purpose.	PO
Policy DGs within the Commission need to provide greater clarity and visibility of public policy for FCH related activities (e.g. zero emission vehicles, energy storage). The procedures for incorporating scientific evidence into transport and energy policy should be transparent and effective and be consistent across the sectors.	EC, PO
Engagement with Member States and Regions	
Member States involvement in the programme must be strengthened. The mandate of the SRG should be upgraded to cover strategic functions including a proactive role in the choice and design of large-scale demonstration and deployment projects and participation in technology monitoring; the flow of information between the SRG and the Programme Office needs to be improved; members should be more clearly associated with national research and/or industrial policies; innovative solutions for co-funding by Member States should be explored (e.g. ERA-NET activities or conditional co-funding within Calls).	EC, GB, SRG, PO
The relationship with regional and local authorities is critical to deployment. The relationship with organisations such as HyER is important for transport and should be better exploited. Similar relationships must be built for storage and other aspects of infrastructure.	PO
Finance of future deployment and build-up capacity projects is vital and will require new financial arrangements. The Commission should investigate whether Hydrogen infrastructure can be made eligible for funding within the new National Strategic Reference Frameworks for Structural Funds. The FCH JU should be prepared to facilitate developers by providing advice on available financial options from EU institutions, including the EIB, Structural Funds and TEN-T loans and grants; calls for preparation of fundable projects should also be considered.	EC, Member States, PO, GB

Communication and dissemination	
The FCH JU should strive to be the most authoritative source of knowledge in Europe for FCH. The visibility of the FCH JU should be greatly improved and the website needs to evolve to reflect this ambition. The rules governing the provision of information about the programme to various stakeholders (Scientific Committee, SRG, Commission services) should be reviewed to determine whether the JU can disseminate more within a proper interpretation of those rules. If this is not possible then the rules should be modified appropriately for H2020.	PO
The FCH JU should support the engagement, education and training of stakeholders beyond the immediate FCH Community and should engage the SRG in this process.	PO, GB

IMI	
Recommendation	**Responsibility**
Communication Strategy	
IMI needs to finalize and implement an articulated communication strategy with clear and measurable goals and objectives, addressing both the key stakeholders and a wider audience.	GB, JU
Stakeholders relations and KPI-s	
Alongside the existing KPIs, aggregated KPIs need to be developed and measured in order to quantitatively demonstrate the IMI impacts and socioeconomic benefits.	EO, JU
IMI should make an additional effort to increase engagement from a wider range of industry stakeholders.	EO, JU
Industrial participants from other healthcare related sectors should be involved in IMI2.	GB, SRG, JU
Organisation and efficiency	
The IMI Executive Office should seek further ways of reducing bureaucracy and ensure that it has the optimal organizational structure for the tasks ahead.	EO, JU
IMI should seek to maximize the potential of its advisory bodies to gain support for the remaining calls and other activities at all levels.	EO, JU
IMI needs to plan for and design new and more flexible funding mechanisms to ensure the sustainability of current and future projects, where appropriate.	EO, JU
The Commission should ensure that IMI2 is transparent and has increased flexibility in terms of governance.	GB, EC, JU
Data availability	
Baseline data should be obtained in parallel with the launch of IMI2 in order to allow for better benchmarking and assessment of IMI2 performance.	JU

ANNEX II: SWOT Analyses

CS

STRENGTHS	WEAKNESSES
• The basic principle of PPP in aeronautic research has been successfully demonstrated. CS JU is a central element of the European aeronautics landscape and is recognised as a world-leading PPP in aeronautics • Distinctive cooperation model to address non-competitive aeronautical challenges • Builds on FP6 and FP7 results, catalyst for private sector investment in European aeronautic R&D • Valuable contribution to ACARE objectives. The TE represents an innovative approach to evaluate environmental benefits in a systematic way. The TRL evaluation could be adopted in other areas in the H2020 programme. • CS JU as a valid instrument to achieve agreement on a strategic research agenda and (potentially) efficient use of research budget • High quality of scientific output and wide network of industry, SMEs and academia • High SMEs participation and involvement. Remarkable mobilisation and pooling of resources and expertise to tackle the most complex problems of aeronautics along the entire R&D cycle • Mobilised resources reinforced by synergies across a broad range of stakeholders • Effective governance structure and proactive participation of advisory bodies (NSRG and STAB) • High quality of processes and methodology • Gaining visibility through dissemination of results in scientific papers and conferences, air shows and exhibitions	• KPIs and Technology Evaluator not mature enough to demonstrate broader environmental and socio-economic impact • Inadequate balance between scientific and administrative tasks of the CS Executive Office: -burdensome administrative rules, regulations and controls and -insufficient technical resources (JU level) to tackle transversal issues • Low flexibility esp. by budgetary issues; lack of a contingency budget • In some ITDs unmet quality and effectiveness • No active use of TE feedback by ITDs • Insufficient resource allocation from companies in some ITDs • Lack of clear priorities in allocating resources to projects in some ITDs • Still insufficient communication between ITDs • Limited coordination with national/ international initiatives potentially leading to inefficient use of resources

OPPORTUNITIES	THREATS
• Potential for CS as a platform for building a common European vision for environmental focused research in Aeronautics • Developing new funding models • Communicate the broader socio-economic and environmental impact beyond the aeronautic stakeholders • Explore synergies and potential cross-fertilisation in other industry sectors • Building a favourable environment for Level 2 like projects in the Framework of next EU Research Programme	• A negative perception among key stakeholder groups • Lack of priority in allocating key resources by key players (associates) triggering endless issues: de-scoping, rescheduling... • Missing key changes in aeronautic market needs • Changes in European industry structure, i.e. new ownerships or joint ventures

FCH

STRENGTHS	WEAKNESSES
• The basic principle of PPP in FCH research has been successfully demonstrated • The FCH JU is established as a central element of the European FCH landscape • FCH JU has proved a valid instrument to achieve agreement on a strategic research agenda and potentially efficient use of research budget • Strong communities within the IG and RG have been created • Ensuring a steady industry-led development towards longer-term targets through varying economic cycles • Impressive mobilisation and pooling of resources and expertise • Critical mass reached for the automotive application area • Stable budget for long term development attracting private sector • Strong stakeholder participation, especially industry involvement and RG cooperation • Governance is in place and working • Project management is perceived positively by projects coordinators	• Burdensome administrative rules, regulations and controls • Sub- optimal use of resources and inappropriate balance of scientific and administrative staff • Project funding rates inferior to FP rates and unpredictable • Lack of a guarantee fund to cover for SMEs in a weak financial position • No coherent approach to stationary applications and early markets • Lack of coordination with national programmes; uneven MS involvement and commitment to the FCH JU • Insufficient adaptability to realign obsolete targets • Little exchange between the FCH JU and the FP basic research programme • Insufficient targeted communication and dissemination strategies and efforts and low visibility • Insufficient monitoring and knowledge management at project, programme and policy levels • The work on cross-cutting activities has not progressed well
OPPORTUNITIES	**THREATS**
• Contribute to EU societal challenges identified in the energy, transport and climate	• Low energy prices and inadequate policy measures

change policies • Create European lead in emerging field of high potential • Create real alignment between regional, national and European initiatives • Increase visibility triggering new entries and political support • Promote best practices and enhance awareness of the technology for the public and policy makers across Europe • Common vision building and communication to participants and beneficiaries • Stimulate coordinated large scale deployment and capacity building of FCH technology • Limitations of BEV might shift industry and political interest to FCEV • Integration of large amounts of renewable electricity by using hydrogen as an energy storage medium • Interaction with other industries can generate new opening for businesses incl. SMEs • Synergies and interaction with other programmes along the whole value chain	• Shifting emphasis on EU climate, energy and competitiveness policy objectives • Failure to attract necessary investments for the supplier and infrastructure industry • Unsolved technical obstacles, especially for performance and cost • Lack of EU competitiveness or lagging behind compared to Asia and North America in the near future • Lack of openness of export markets (e.g. Asia) • Failure to put in place the relevant incentives for market uptake • Lack of political/policy support for FCH • Low public acceptance by end-users due to incapability to communicate benefits to society and/or accidents • Prolonged economic/financial downturn may cause loss of interest of the public and/or private sectors • Breakthrough of competing technologies • Uncoordinated and isolated demonstrations at EU, MS and regional levels without consideration for product development, marketability and capacity build up in a commercial product.

IMI

STRENGTHS	**WEAKNESSES**
• Recognized as a world-leading PPP in healthcare, particularly in the US • Unique collaboration model to address non-competitive unmet medical needs (addressing market failure) • A catalyst for private sector investment in European biopharmaceutical R&D • High quality of scientific output and vibrant networks of academia, SMEs and industry • Increased the level of trust among many relevant stakeholder groups including regulators • A critical mass of expertise to tackle the most complex problems of healthcare needs along the entire R&D cycle • Mobilised resources reinforced by synergies across a broad range of stakeholders • Industry led initiative with strong support from the CEOs of EFPIA companies and a	• Lack of clear, targeted communication strategy; low visibility • KPIs not mature enough to demonstrate broader socio-economic impact • Insufficient incentives for SMEs and non-EFPIA members participation • Processes and regulations still too bureaucratic; • Advisory bodies not functioning to their full potential; • Lack of buy-in by MS leading to lack of alignment with MS policies and strategies; • Inadequate balance between scientific and administrative tasks in the IMI Executive Office, suggesting a need for new skills • Not all EFPIA companies involved • Lack of planning for project sustainability

focus on tangible outcomes	
OPPORTUNITIES • Increasing focus on meeting health challenges of the ageing population with high socio-economic impact • Building on, and learning from IMI as a proven model to catalyse stakeholder engagement e.g. patients, regulators • Maximising potential for IMI as a platform for building a common vision e.g. for health policy • Increasing scope and attracting non-EU investment for biomedical R&D • Leveraging other potential funding options e.g. via venture capital and/or EIB loans • Further improvement of the biopharmaceutical R&D environment via removing bottlenecks or improving processes e.g. for clinical trials • Exploring potential to involve other sectors and stakeholders e.g. payers, HTAs • Developing new funding models to explore results and increase sustainability	**THREATS** • Decrease of political support for IMI • Disrupted balance between pre-competitive and competitive boundaries • Lack of coordination with national initiatives leading to inefficient use of resources • Competition from other PPPs worldwide leading to decrease of interest by companies • Growing regulatory burden and tightening of pricing and reimbursement schemes • Loss of key personnel from IMI • Economic slowdown leading to lack of funding • A negative perception among key stakeholder groups (patients, payers, regulators) • Losing the competitive advantage to new emerging economies (i.e. China, Brazil) • Deteriorating reputation and diminished support in the EU as a result of non-performance • Decrease of political support for IMI

ANNEX III: Composition of the Expert Evaluation Panels

Expert Evaluation Panel Members	JTI JU
QUENTIN, Francois (Chair) (FR), Chairman of the Board of Directors of HUAWEI France and member of the HUAWEI Group Advisory Council, member of an Advisory Group to the Prime Minister Office;	**CS**
BROUCKAERT, Jean Francois (Rapporteur) (BE), Associate Professor in the Turbo-machinery and Propulsion Department at the von Karman Institute for Fluid Dynamics (VKI), Belgium;	**CS**
Ivonne HERRERA (NO), Senior Scientist at SINTEF ICT, Department of Software Engineering Safety and Security with more than 20 years of experience in the industry regarding avionics engineering, maintenance, air traffic management and safety analyses for aviation and oil and gas industries; member of the first interim assessment Panel in 2010;	**CS**
Enzo BERTOLINI (IT), Director of the 'Foundation Clément Fillietroz', operating the Astronomic Observatory and the Planetarium of the Aosta Valley (research in astrophysics and science communication for students and general public); member of the first interim assessment Panel in 2010;	**CS**
Anneli Ojapalo (Chair) (FI), CEO of Ojapalo Consulting Oy company and programme coordinator of the Finnish Fuel Cell Programme 2007-2013;	**FCH**
Nigel Lucas (Rapporteur) (UK), independent consultant with more than 30 years' experience in the energy sector; formerly Executive Director of Environmental Resources Management, and professor at Imperial College Centre for Environmental Technology;	**FCH**
Helge Holm-Larsen (DK), currently CEO of the SME TEGnology, formerly Director at Topsoe Fuel Cell A/S;	**FCH**
Dirk De Keukeleere (BE), independent consultant in the field of transport and energy technology, formerly researcher/manager in the Flemish Institute for Technological Research in the areas of fuel cell, automotive and energy.	**FCH**
Jackie Hunter (*Chair*) (UK) CEO of OI Pharma Partners Ltd. Her company has helped companies and organisations develop open innovation strategies and support their implementation, especially in life sciences R&D. Previously Jackie was a Senior Vice President at GlaxoSmithKline and chair of the Research Directors Group at EFPIA. At GSK her business unit delivered 17 clinical proof of concept. She has been part of international committees and policy groups on pharmaceutical R&D. As a nonexecutive director of a public company and a trustee/governor for academic and other organisations she has gained a broad perspective across many stakeholder groups.	**IMI**
Marcin Szumowski (*Rapporteur*) (PL), President & CEO, OncoArendi Therapeutics, founder, BTM Mazovia. Following a successful research career in the United States, Marcin Szumowski has been involved in technology transfer and start-up companies since 2000 and has co-founded and managed three start-ups, including now publicly traded Medicalgorithmics S.A. (), where he was President and CEO 2005-2010. Since 2001 he has been head of international relations and project management office at the Nencki Institute of Experimental Biology. He has been a member of the Independent Expert Panel assisting the European Commission with the Impact Assessment of	**IMI**

European of the IMI2.	
Tom Andersen (DK) is Head of the European Investment Bank's Regional Office for the Near East in Cairo and independent consultant. Until a year ago, he was Deputy Economic Advisor at the European Investment Bank specialised in assessing economic viability of R&D projects and project finance operations in the pharmaceutical and chemical sectors. Previously, he worked on acquisition and divestitures within an industrial conglomerate and for Novo Nordisk, an EU-based pharmaceutical company, evaluating and reporting on developments of its drug discovery and corporate development arm. He has been a member of the First IMI JU Evaluation Independent Expert Panel.	**IMI**
Bart Wijnberg (NL) - before his retirement Bart Wijnberg worked for the Dutch Ministry of Health, Welfare and Sport where he held responsibilities for the commissioning of the seminal WHO Report Priority Medicines for Europe and the World in view of FP7, and for the launching of the Dutch Public Private Partnership Top Institute Pharma (TI Pharma). He was a member of the "Member States, Candidate and Associated Countries Contact Group for IMI" and of the First IMI JU Evaluation Independent Expert Group.	**IMI**
Maria Rosaria Di Nucci (IT) is Senior Researcher at the Environmental Policy Research Centre of the Freie Universität Berlin and independent consultant. She has been working in environmental and energy policy and policy assessment for over 25 years and participated in various EU Initiatives. A further focus of her activities is impact assessment. Dr. Di Nucci is an expert evaluator for European RTD funding organisations and the EC. She participates also in the evaluation of the Clean Sky JU and Fuel Cell and Hydrogen Joint Undertaking, acting as the common expert.	**CS. FCH. IMI**