

Basic information	
<b>2007/0088(CNS)</b> CNS - Consultation procedure Regulation	Procedure completed
Establishment of the "ARTEMIS Joint Undertaking" to implement a Joint Technology Initiative in Embedded Computing Systems  Repealed by <a href="#">2013/0234(NLE)</a>  <b>Subject</b>  3.30.06 Information and communication technologies, digital technologies 3.50.20 Scientific and technological cooperation and agreements	

Key players				
European Parliament	<b>Committee responsible</b>		<b>Rapporteur</b>	<b>Appointed</b>
	<b>ITRE</b> Industry, Research and Energy		DE MICHELIS Gianni (NI)	07/06/2007
	<b>Committee for opinion</b>		<b>Rapporteur for opinion</b>	<b>Appointed</b>
	<b>BUDG</b> Budgets		HAUG Jutta (PSE)	20/09/2004
	<b>CONT</b> Budgetary Control		The committee decided not to give an opinion.	04/06/2007
	<b>JURI</b> Legal Affairs		The committee decided not to give an opinion.	
	Council of the European Union	<b>Council configuration</b>		<b>Meetings</b>
Competitiveness (Internal Market, Industry, Research and Space)		2820	2007-09-28	
Competitiveness (Internal Market, Industry, Research and Space)		2832	2007-11-22	
Competitiveness (Internal Market, Industry, Research and Space)		2801	2007-05-21	
Environment		2842	2007-12-20	
European Commission	<b>Commission DG</b>		<b>Commissioner</b>	
	Communications Networks, Content and Technology		REDING Viviane	

Key events

Date	Event	Reference	Summary
15/05/2007	Legislative proposal published	COM(2007)0243 	Summary
21/05/2007	Debate in Council		
19/06/2007	Committee referral announced in Parliament		
28/09/2007	Debate in Council		Summary
12/11/2007	Vote in committee		Summary
22/11/2007	Debate in Council		Summary
28/11/2007	Committee report tabled for plenary, 1st reading/single reading	A6-0484/2007	
11/12/2007	Decision by Parliament	T6-0588/2007	Summary
11/12/2007	Results of vote in Parliament		
20/12/2007	Act adopted by Council after consultation of Parliament		
20/12/2007	End of procedure in Parliament		
04/02/2008	Final act published in Official Journal		

Technical information	
Procedure reference	2007/0088(CNS)
Procedure type	CNS - Consultation procedure
Procedure subtype	Legislation
Legislative instrument	Regulation
Amendments and repeals	Repealed by <a href="#">2013/0234(NLE)</a>
Legal basis	EC Treaty (after Amsterdam) EC 172 EC Treaty (after Amsterdam) EC 171
Stage reached in procedure	Procedure completed
Committee dossier	ITRE/6/49945

Documentation gateway				
<b>European Parliament</b>				
Document type	Committee	Reference	Date	Summary
Committee draft report		<a href="#">PE391.955</a>	13/09/2007	
Amendments tabled in committee		<a href="#">PE396.440</a>	22/10/2007	
Committee opinion	<a href="#">BUDG</a>	<a href="#">PE394.055</a>	13/11/2007	
Committee report tabled for plenary, 1st reading/single reading		<a href="#">A6-0484/2007</a>	28/11/2007	
Text adopted by Parliament, 1st reading/single reading		<a href="#">T6-0588/2007</a>	11/12/2007	Summary
<b>European Commission</b>				

Document type	Reference	Date	Summary
Legislative proposal	COM(2007)0243 	15/05/2007	Summary
Document attached to the procedure	SEC(2007)0582 	15/05/2007	
Document attached to the procedure	SEC(2007)0583 	15/05/2007	
Commission response to text adopted in plenary	SP(2008)0411	23/01/2008	
Follow-up document	COM(2010)0752 	16/12/2010	Summary
Follow-up document	COM(2011)0557 	14/09/2011	
Follow-up document	SEC(2011)1044 	14/09/2011	
Follow-up document	COM(2012)0190 	27/04/2012	Summary
Follow-up document	SWD(2012)0105 	27/04/2012	
Follow-up document	COM(2012)0758 	14/12/2012	Summary
Follow-up document	SWD(2012)0430 	14/12/2012	
Follow-up document	COM(2013)0830 	27/11/2013	Summary
Follow-up document	COM(2013)0935 	06/01/2014	Summary
Follow-up document	SWD(2013)0539 	06/01/2014	

#### Other institutions and bodies

Institution/body	Document type	Reference	Date	Summary
EESC	Economic and Social Committee: opinion, report	CES1442/2007	24/10/2007	

#### Additional information

Source	Document	Date
National parliaments	IPEX	
European Commission	EUR-Lex	
European Commission	EUR-Lex	

## Final act

[Corrigendum to final act 32008R0074R\(01\)](#)  
[OJ L 219 14.08.2008, p. 0073](#)

[Summary](#)

[Regulation 2008/0074](#)  
[OJ L 030 04.02.2008, p. 0052](#)

[Summary](#)

# Establishment of the "ARTEMIS Joint Undertaking" to implement a Joint Technology Initiative in Embedded Computing Systems

2007/0088(CNS) - 20/12/2007 - Corrigendum to final act

PURPOSE: **Corrigendum** to Council Regulation (EC) No 74/2008 of 20 December 2007 on the establishment of the ARTEMIS Joint Undertaking to implement a Joint Technology Initiative in Embedded Computing Systems (*Regulation initially published in Official Journal of the European Union L 30 of 4 February 2008*).

This Regulation sets up a Joint Undertaking (ARTEMIS) for a period up to 31 December 2017 to implement a Joint Technology Initiative on Embedded Computer Systems. It will contribute to the implementation of the Seventh Framework Programme and the Theme "Information and Communication Technologies" of the Specific Programme "Cooperation".

The corrigendum concerns:

- page 66, in the Annex - **Statutes of the ARTEMIS Joint Undertaking**, Article 19(3): it shall read "The Annual Implementation Plan shall specify the plan for the execution of all the activities of the ARTEMIS Joint Undertaking for a particular year, including planned calls for proposals and actions needing to be implemented through calls for tenders. (...)".

# Establishment of the "ARTEMIS Joint Undertaking" to implement a Joint Technology Initiative in Embedded Computing Systems

2007/0088(CNS) - 22/11/2007

The Council agreed on a "general approach" (substantial elements of the legal acts) on four proposals aimed at establishing joint technology initiatives (JTIs) in the following fields:

- Innovative medicines ("IMI")
- Embedded computing systems ("ARTEMIS")
- Nanoelectronic technologies ("ENIAC")
- Aeronautics and air transport ("CLEAN SKY")

The agreement on the general approach paves the way for adopting the final Decisions as soon as possible after receiving the European Parliament's opinions, in order to enable a swift start to the four JTIs in early 2008.

According to the agreement reached today, the JTIs would have the following common features:

- The JTIs should be set up under Community law as Community bodies. They should receive Community funding in order to implement the research programmes, notably by awarding funding to selected projects, following publication of calls for proposals.
- They will take the form of real public / private partnerships with a shared responsibility of industry in the management of the joint undertakings. EU Member States and the Commission will exercise appropriate supervision over the use of public funds.
- They will have a limited duration of 10 years.
- JTIs will not have the status of international organisations.
- JTIs will have legal personality and will be established on the basis of Articles 171 and 172 of the EC Treaty.
- They will implement the research programmes by combining public and private funding.
- The Community will contribute to both the research activities and the running costs.

# Establishment of the "ARTEMIS Joint Undertaking" to implement a Joint Technology Initiative in Embedded Computing Systems

2007/0088(CNS) - 20/12/2007 - Final act

**PURPOSE:** to set up a Joint Undertaking "ARTEMIS" to implement a JTI in Embedded Computing Systems.

**LEGISLATIVE ACT:** Council Regulation (EC) N° 74/2008.

**CONTENT:** for the implementation of the Joint Technology Initiative (JTI) on Embedded Computing Systems, this Regulation sets up a Joint Undertaking ("ARTEMIS Joint Undertaking) within the meaning of Article 171 of the Treaty, for a period up to 31 December 2017. The ARTEMIS JU is a Community body and having legal personality. In terms of liability, the ARTEMIS JU will be solely responsible for meeting its obligations.

**Objectives:** the ARTEMIS Joint Undertaking will contribute to the implementation of the Seventh Framework Programme and the Theme "Information and Communication Technologies" of the Specific Programme "Cooperation". It will in particular:

1. define and implement a "Research Agenda" for the development of key technologies for Embedded Computing Systems across different application areas in order to strengthen European competitiveness and sustainability, and allow the emergence of new markets and societal applications. Activities for the implementation of the Research Agenda are referred to as "R & D Activities";
2. support the implementation of the R&D Activities notably by awarding funding to participants in selected projects following competitive calls for proposals;
3. promote a public-private partnership aimed at mobilising and pooling Community, national and private efforts, increasing overall R&D investments in the field of Embedded Computing Systems, and fostering collaboration between the public and private sectors;
4. achieve synergy and coordination of European R&D efforts into the field of Embedded Computing Systems including, when added value can be created, the progressive integration in the ARTEMIS Joint Undertaking of the related activities in this field currently implemented through intergovernmental R&D schemes (Eureka);
5. promote the involvement of SMEs in its activities in line with the objectives of the Seventh Framework Programme.

**Tasks and activities:** these are the following:

1. to ensure the establishment and sustainable management of the JTI on Embedded Computing Systems;
2. to define and make any necessary adjustment to the Multiannual Strategic Plan including the Research Agenda;
3. to define and carry out Annual Implementation Plans for executing the Multiannual Strategic Plan;
4. to initiate calls for proposals, to evaluate proposals, and award funding to projects selected through open procedures, within the limits of available funds;
5. to develop close cooperation and ensure coordination with European, in particular the Seventh Framework Programme, national and trans national activities, bodies and stakeholders, aiming at fostering a fertile innovation environment in Europe and better synergies and exploitation of research and development results in the area of Embedded Computing Systems;
6. to monitor progress towards the objectives of the ARTEMIS Joint Undertaking;
7. to undertake communication and dissemination activities;
8. to publish information on the projects, including the name of the participants and the amount of the financial contribution of the ARTEMIS JU per participant;
9. to carry out any other activity needed to achieve the objectives.

**Founding members** of the ARTEMIS Joint Undertaking are the Community, Belgium, Denmark, Germany, Estonia, Ireland, Greece, Spain, France, Italy, Hungary, the Netherlands, Austria, Portugal, Romania, Slovenia, Finland, Sweden, the United Kingdom and ARTEMISIA, an association representing companies and other R&D organisations active in the field of Embedded Computing Systems in Europe. The ARTEMIS Joint Undertaking is open to new members.

**Community contribution:** the maximum Community contribution to the ARTEMIS Joint Undertaking covering running costs and R&D Activities is EUR 420 million paid from the appropriations in the general budget of the EU allocated to the Theme "Information and Communication Technologies" of the Specific Programme "Cooperation".

**Seat:** the seat will be located in Brussels, Belgium.

**Bodies of the ARTEMIS Joint Undertaking:** these will be the Governing Board, the Executive Director, the Public Authorities Board, and the Industry and Research Committee.

**Report, evaluation and discharge:** the Commission will present an annual report on the progress achieved by the ARTEMIS Joint Undertaking. By 31 December 2010, as well as by 31 December 2013, the Commission must carry out an interim evaluation with the assistance of independent experts. No later than six months after the winding-up of the Joint Undertaking, the Commission must conduct a final evaluation with the assistance of independent experts. Discharge for the implementation of the budget will be given by the European Parliament, upon recommendation of the Council.

**ENTRY INTO FORCE:** 07/02/2008.

## Establishment of the "ARTEMIS Joint Undertaking" to implement a Joint Technology Initiative in Embedded Computing Systems

2007/0088(CNS) - 28/09/2007

The Council held an exchange of views on four proposals aimed at establishing joint technology initiatives (JTIs) in the following fields:

- embedded computing systems ("ARTEMIS")
- innovative medicines ("IMI") ([CNS/2007/0089](#))

- aeronautics and air transport ("CLEAN SKY") (CNS/2007/0118)
- nano-electronics technologies ("ENIAC") (CNS/2007/0122)

The ministerial debate concentrated in horizontal issues with a view to adopting final decisions at the November Competitiveness Council meeting in order to enable a swift start to the four JTIs in 2008.

The Council underlined a number of important political elements which resulted from the discussion:

- The JTIs should be set up under Community law as Community bodies. They should receive Community funding in order to implement the research programmes, notably by awarding funding to selected projects, following publication of calls for proposals.
- They will take the form of real public/private partnerships with a shared responsibility of industry in the management of the joint undertakings. EU member states and the Commission will exercise appropriate supervision over the use of public funds.
- They will have a limited duration of 10 years.
- They will not have the status of international organisations.
- They will have legal personality and will be established on the basis of articles 171 and 172 of the EC treaty.
- They will implement the research programmes by combining public and private funding.
- The Community will contribute to both the research activities and the running costs.
- The Council also tasked the preparatory bodies to continue further technical work based on the political guidelines agreed by the Council.

ARTEMIS will address the design, development and deployment of ubiquitous, interoperable and cost-effective, yet powerful, safe and secure electronic and software systems. It will deliver reference designs that offer standard architectural approaches for given ranges of applications, middleware that enables seamless connectivity and interoperability, integrated design software tools and methods for rapid development and prototyping.

The maximum of the Community contribution is estimated at EUR 420 million (up to 2017).

## Establishment of the "ARTEMIS Joint Undertaking" to implement a Joint Technology Initiative in Embedded Computing Systems

2007/0088(CNS) - 15/05/2007 - Legislative proposal

PURPOSE: to set up a Joint Undertaking: "ARTEMIS" on Embedded Computing Systems.

PROPOSED ACT: Council Regulation.

CONTENT: the [7th Framework Programme](#) 2007-2013 sets up four Specific Programmes: Co-operation, Ideas, People and Capacities. This proposal relates directly to the Specific Programme [Co-operation](#), Theme "Information and Communication technologies". The Co-operation programme underlines the need for ambitious pan-European **public private partnerships** to speed up the development of major technologies through large-scale research actions organised at a Community level. Joint Technology Initiatives, or JTIs, help fulfil this need. JTIs are born out of the "European Technology Platforms", (ETPs), which existed under the previous, 6<sup>th</sup> Framework Programme. In a small number of cases, ETPs have achieved such an ambitious scale and scope that they now require the mobilisation of greater public and private investments.

Given that the ambition and scope of the JTIs are large they are being proposed in the form of Joint Undertakings with their own legal personality. The development of these new Joint Undertaking will, for the first time, create the legal basis allowing national, EU and private investment to be combined within a coherent framework. JTIs, in the form of Joint Undertakings are being proposed in a limited number of sectors only, including: hydrogen and fuel cells, aeronautics and air transport, medicines, nanoelectronics and global monitoring for environment and security.

Embedded systems, are computers that are used in larger systems to control equipments such as automobiles, home appliances, communication devices, control systems and office machines. More than 90% of computing devices are embedded and forecasts predict that by 2010 more than 16 billion embedded devices will be used and over 40 billion by 2020.

In spite of its economic importance, the EU's research investment in embedded systems is lagging well behind that of the US and Japan. Furthermore, the EU funding landscape is fragmented and unable to provide a convincing response. The Community Framework Programmes have had made major investments in the past but their budget is severely limited compared to the overall public R&D budget in Europe. The inter-governmental programme Eureka is a valuable mechanism and some national programmes are active in this area. However, all these efforts are scattered and not focused on common objectives.

The purpose of this Regulation, therefore, is the implementation of a Joint Technology Initiative on Embedded Computer Systems through a Joint Undertaking entitled ARTEMIS, or the ARTEMIS JU. It will be based in Brussels and exist for a period ending on 31 December 2017. The financial impact on the EU budget will cease after 2013. It will be jointly funded by the founding members, namely the Community and the ARTEMISIA association with a combined budget of EUR 451 million. The maximum Community contribution will be EUR 420 million paid from the budget appropriations allocated to the Theme "Information and Communication Technologies" of the specific programme "Co-operation".

In particular, the ARTEMIS JU will seek:

- to define and implement a Research Agenda for the development of key technologies for Embedded Computing Systems across different applications in order to strengthen European competitiveness;

- to support and implement R&D activities by awarding funding to participants in selected projects, following competitive calls for proposals;
- to promote a public-private partnership the purpose of which is to mobilise and pool Community, national and private efforts;
- to increase overall R&D investments in the field of embedded computing systems; and
- to foster collaboration between the public and private sectors.

In short, the ARTEMIS JU will seek to foster collaboration between all stakeholders such as industry, national authorities and academic/research centres with a view to co-ordinating research efforts. More concretely speaking the proposal requires the JTI on Embedded Computer Systems to address the design, development and deployment of ubiquitous, interoperable and cost-effective, powerful, safe and secure electronic software systems. It should be capable of delivering reference designs and architectures that offer common architectural approaches for given ranges of applications, middleware that allows seamless connectivity and interoperability and integrated system design methods and tools for rapid development and prototyping.

In summary, the other measures being proposed are as follows:

- the ARTEMIS JU should be able to organise competitive calls for proposals for Projects to implement parts of the research Agenda;
- the rules for the organisation and operation of the ARTEMIS JU should be laid down in the Statutes, which are attached in Annex to the proposed Regulation;
- the Commission and JU will need to report regularly on progress to the Council and the European Parliament;
- the JU should have a distinct financial regulation based on the principles of the framework financial regulation; and
- the intellectual property policy should promote knowledge creation and exploitation.

In other fields, the proposal seeks to simplify administrative procedures for public authorities and for private parties. Compared to current funding arrangements under Eureka, the proposed new JU will effect significant simplification by:

- removing budgetary uncertainty;
- avoiding evaluation duplication;
- reducing the time and costs involved in preparing R&D proposals; and
- streamlining reporting procedures during project execution. Projects will report only once to the Joint Undertaking instead of reporting to Eureka and to all States providing financing.

The **budgetary assessment** indicates maximum Community expenditure of **EUR 420 million** over the initial period of the ARTEMIS Joint Undertaking (up to 2017), which would need to be committed before 31 December 2013 when the FP7 budget comes to an end. An initial EUR 42.5 million is to be committed in 2008. The ARTEMIS Joint Undertaking should be a body set up by the Communities and discharge for the implementation of its budget should be given by the European Parliament, taking however into account the specificities resulting from the nature of JTIs as public-private partnerships and in particular from the private sector contribution to the budget.

## Establishment of the "ARTEMIS Joint Undertaking" to implement a Joint Technology Initiative in Embedded Computing Systems

2007/0088(CNS) - 11/12/2007 - Text adopted by Parliament, 1st reading/single reading

The European Parliament adopted a resolution drafted by Gianni **DE MICHELIS** (PES, IT) and made some amendments to the proposal for a Council regulation on the establishment of the "ARTEMIS Joint Undertaking" to implement a Joint Technology Initiative in Embedded Computing Systems.

The main amendments were as follows:

**Creation of a Joint Undertaking:** the report stipulates that it should be ensured that after the last call for proposals in 2013 projects still in progress are implemented, monitored and funded until 2017. The ARTEMIS Joint Undertaking should also be considered as a Community body as referred to in Point 47 of the IIA of 17 May 2006.

**Objectives:** the Joint Undertaking should also promote the involvement of SMEs in its activities. Parliament deleted the objective in the Commission's proposal stating that the Joint Undertaking should ensure the efficiency and durability of the JTI on Embedded Computing Systems.

**Financing:** the sum of the contributions from ARTEMISIA and the European Union shall not exceed 5% of the overall budget of the ARTEMIS Joint Undertaking. ARTEMIS Member States shall ensure that national funds are allocated within the shortest possible delay. The report stipulates that the financial contributions to the cost of projects from public funds shall be conditional on in-kind contributions to the projects submitted by research and development organisations to cover their share of the costs of the projects.

**Financial rules:** the financial rules of the ARTEMIS Joint Undertaking may not depart from Regulation (EC) No 2343/2002, unless its specific operating needs so require and subject to the prior consent of the Commission. The budgetary authority shall be informed of such derogations.

**Evaluation:** the evaluation and selection process will be carried out with the assistance of external experts.

**Staff:** the ARTEMIS Joint Undertaking shall recruit its staff in accordance with applicable regulations of the host country. The Commission may second to the ARTEMIS Joint Undertaking as many officials as may be needed. Parliament deleted the clause stating that the Protocol on the Privileges and Immunities of the European Communities shall apply to the ARTEMIS Joint Undertaking and its staff.

**Responsibility:** some essential clauses of the JU Statutes have been inserted to clarify that the Joint Undertaking shall be solely responsible for meeting its obligations. It shall not be responsible for meeting the financial obligations of its Members. It shall not be liable for any ARTEMIS Member State failing to meet its obligations resulting from calls for proposals launched by the ARTEMIS Joint Undertaking. The Members shall not be liable for any of the ARTEMIS Joint Undertaking's obligations. The financial liability of the Members shall be an internal liability towards the ARTEMIS Joint Undertaking only, limited to their commitment to contribute to the resources.

**Report, evaluation and discharge:** no later than 31 December 2010, the Commission shall present to the European Parliament and the Council an interim evaluation of the ARTEMIS Joint Undertaking prepared with the assistance of independent experts. Parliament deleted the clause stating that the final evaluation will be carried out by 31 March 2018.

Discharge for the implementation of the budget of the ARTEMIS Joint Undertaking shall be given: a) respecting the Court of Auditor's competence to examine the revenue and expenditures accounts of all bodies set up by the Communities; b) recognising the specificities of the Joint Technology Initiatives as new mechanisms for implementing public private partnerships, in order to find a more effective solution for the purpose of discharging the Community's budget.

Parliament also introduced the following amendments in the **annexes**:

- a new clause states that the ARTEMIS Joint Undertaking is a body as referred to in Article 185 of the Financial Regulation and Point 47 of the IIA of 17 May 2006;
- in the event of an application for membership from another legal entity or third country, the Governing Board shall provide timely information to the Commission on the assessment made of the applicant and, where applicable, on the recommendation or decision of the Governing Board. The Commission shall transmit this information to the Council;
- the Public Authorities Board shall elect its Chairperson every two years. The same Chairperson may be re-elected no more than twice;
- the Executive Director shall be appointed by the Governing Board on the basis of a list of candidates proposed by the Commission following a call for expression of interest published in the Official Journal of the EU and in the press or on the internet, for a period of up to three years, which may extend the term of office once for a further period of not more than three years;
- the Governing Board must consult with the Commission on some matters, including the financial rules;
- the ARTEMIS Joint Undertaking's financial rules shall not depart from Regulation (EC, Euratom) No 2343/2002, unless its specific operating needs so require. The prior consent of the Commission shall be required for the adoption of any rules which depart from Regulation (EC, Euratom) No 2343 /2002. The budgetary authority shall be informed of any such derogation;
- the Multiannual Strategic Plan, the Annual Work Programme and the Annual Implementation Plan shall be made public. The Annual Activity Report shall include the participation of SMEs in the R&D activities of the ARTEMIS Joint Undertaking. Calls for proposals shall be made public to the greatest extent possible through periodicals, on the internet, etc.
- the Annual Accounts and balance sheets for the preceding year shall be submitted to the European Court of Auditors and to the budgetary authority;
- with the exception of the financial contributions due to Project participants the financial liability of the ARTEMIS Joint Undertaking for its debts is limited to the contributions that the Members have made to the running costs;
- proposals for amendments to the Statutes shall be approved by the Governing Board and submitted to the Commission for decision after consulting the European Parliament;
- access Rights shall be granted on a non-exclusive, non-transferable basis. The clause on time limits for access rights was deleted;
- the report specifies the procedure for evaluating in-kind contributions;
- the terms and conditions of grant agreements shall be in accordance with the financial rules.

## **Establishment of the "ARTEMIS Joint Undertaking" to implement a Joint Technology Initiative in Embedded Computing Systems**

The Commission presents its first interim evaluation of the ARTEMIS and ENIAC, the two Joint Undertakings implementing the Joint Technology Initiatives (JTIs) in the fields of embedded systems and nanoelectronics research. The report formulates the Commission's initial response to the evaluation's recommendations and sets out follow-up measures. Furthermore, the Commission intends to prepare a Communication, scheduled for the first half of 2011, to set out its overall conclusions on the interim evaluations of all the JTIs and the interim assessments of the Recovery Plan Public-Private Partnerships (PPPs).

The ARTEMIS and ENIAC JTIs were established in 2007 as Joint Undertakings (JUs). After their first two calls for proposals, ARTEMIS and ENIAC have launched 25 and 18 projects, respectively, each with an average duration of three years. The EU and JTI Member States together have so far committed EUR 576 m to both JTIs combined (2008-2010), in addition to private R&D efforts worth about double that amount. While this represents a considerable public investment in two crucial technology fields, the present public support falls far short of the original objectives set in the Commission's proposals for establishing the Joint Undertakings (total of EUR 900 m combined for the same period). The current investments in the

two JTIs also do not live up to the expectations of the research stakeholders, who had ambitions for programmes amounting to EUR 2.5 to EUR 3 billion each (corresponding to the Commission's overall proposal).

**Evaluation results:** significantly, the evaluation panel recognises the value of a tripartite structure for JTIs in these fields, pooling resources from industry, the EU and Member States. However, the experts express their concern that ARTEMIS and ENIAC are not giving sufficient attention to their European strategic aims. The panel calls for a strategic re-focusing of the two JTIs, involving all stakeholders and moving further towards a truly joint effort. The evaluation panel also considers that the **funding shortfall is a critical issue**. The shortfall appears to be partly related to the ITEA2 and CATRENE Eureka intergovernmental schemes, which work in parallel with ARTEMIS and ENIAC and which are supposed to progressively integrate with the JTIs where added value can be created.

**Follow up action:** the Commission will undertake:

- immediate actions for the existing Joint Undertakings (i.e. the JTI activities in the period 2011-2013) to be followed up through their governance structures; and
- longer-term actions for the potential next generation of PPPs in these domains under the Innovation Union and Digital Agenda for Europe flagship initiatives launched to address the Europe 2020 strategy.

**General recommendations:** the Commission agrees that the JTIs would benefit from recommitment by the partners to the tripartite model and to a European strategic agenda as soon as possible. The Commission will engage with industry and Member States to explore the best way to achieve this.

**Recommendations for Member States:** the Commission acknowledges that there is a need to **increase the financial contributions from Member States** in order to reach the overall financial objectives set out in the Regulations. In addition, it will propose that the **Member States agree on a multi-annual budgetary contribution for the remaining lifetime of the JUs** with the aim of achieving the original goals of the JTIs. This is one element of the strategic recommitment the Commission expects from its partners.

Member States have so far paid little attention to the required synchronisation of their operations. The Commission will insist that national practices be adopted in line with the terms of the Regulations and the Administrative Arrangements in place in order to help converge on common practices. It will also propose the creation of a Working Group within the Public Authorities Boards to deal with the benchmarking of national practices to improve the harmonisation of administrative processes and national funding rates.

**Recommendations for the industrial associations:** the Commission will propose measurable indicators and ask the industrial associations regularly to undertake a strategic analysis of the results and impact of each call for proposals.

**Recommendations for the European Commission:** the evaluation panel calls on the Commission not to apply the framework Financial Regulation or the Staff Regulations to potential future PPPs. The Commission proposed, in the triennial revision of the Financial Regulation, two additional options to implement public-private partnerships: a mixed public-private body based on Article 185a of the Financial Regulation and a private-law body. This proposal, if adopted by the legislator, would create the framework for following this recommendation.

The Commission will also:

- investigate ways of combining funding from different sources;
- consider how to provide financial support to activities that are critical to achieve the European strategic objectives of the JTIs and that could not be supported under the current JTI set-up, such as infrastructure or innovation projects that are not R&D activities in the strict sense;
- establish a set of indicators to assess the achievements of the JTIs against the goals enshrined in their founding acts and their multi-annual strategic plans.

**Recommendations for the Joint Undertakings:** the Commission is aware of the difficulties experienced by the industrial associations in generating sufficient income from their membership fees or other types of activities without mandatory contributions from all beneficiaries of the projects. It will support steps by the JUs to improve the current situation.

**The Commission's position towards Eureka and the problem of underinvestment:** the Commission agrees that the parallel operation of Eureka clusters (CATRENE and ITEA2) and the JTIs in the areas of nanoelectronics and embedded systems adds complexity to the European Research Area, is confusing for the research community and is intrinsically inefficient. It considers that the co-existence of Eureka clusters and the JTIs contributes to the present shortfall in contributions from the Member States to the JUs and the Eureka clusters, as the financing of both instruments often comes from a single source at national level. This important issue is not addressed in the report. The Council, however, had acknowledged this situation when adopting the regulations establishing the JTIs, in particular in calling for progressive integration of the two funding mechanisms. Integrating the two

approaches under one roof would facilitate the implementation of a single strategy for Europe, ensure sufficient resources to reach critical mass and enable the partners involved to choose the right mix of instruments for their aims.

Even though the panel states that operational integration should only be considered over the long term and not for the period from 2014 onwards, the Commission's ambition is to keep working on the progressive integration of these two funding mechanisms. The Commission will actively participate in the existing structures (JTI and Eureka) and working groups in order to make further progress with the differentiation and coordination of activities, and will study the detailed conditions under which the progressive integration of the Eureka clusters within the JUs' operations would create added value.

## Establishment of the "ARTEMIS Joint Undertaking" to implement a Joint Technology Initiative in Embedded Computing Systems

2007/0088(CNS) - 14/12/2012

The Joint Technology Initiatives are public-private partnerships in industrial research at European level. They were set up as pilots in 2007-2008 under the Seventh Framework Programme in five strategic areas: aeronautics and air transport (the Clean Sky initiative), public health (the Innovative Medicines Initiative (IMI)), fuel cell and hydrogen technologies (the Fuel Cells and Hydrogen (FCH) initiative), **embedded computing systems (the ARTEMIS initiative)** and nanoelectronics (the ENIAC initiative). The SESAR (Single European Sky Air Traffic Management Research) programme should also be mentioned since it is funded under the Seventh Framework Programme.

An annual report on the progress achieved by the Joint Technology Initiatives Joint Undertakings ('JTI JUs') is required by Article 11(1) of the Council Regulations setting up the individual JTIs. This report contains details of implementation including number of proposals submitted, number of proposals selected for funding, type of participants, including SMEs, and country statistics. This **2011 annual report** follows the **first interim evaluations of the Joint Undertakings** carried out under Article 11(2) of the Council Regulations.

The European Commission, as a co-founding member, was responsible for starting up the JTI JUs. Once they had built up their legal and financial framework and demonstrated their capacity to manage their own budgets, ARTEMIS, IMI and Clean Sky were given autonomy in late 2009, followed by ENIAC in May and FCH in late 2010. Thus, 2011 was the first full year in which all the JTI JUs operated autonomously.

The first interim evaluation was performed on time and assessed their quality and efficiency and the progress achieved towards their objectives. All the reports concluded with a **favourable opinion**: the evaluation panels agreed that the **JUs should continue beyond 2013**. The evaluation panels supported the Sherpa Group's recommendations, in particular that **the current legal framework be streamlined to fit the purposes of setting up and implementing future JTIs**. In this respect, the current 'Community body' status of JTIs should be reviewed. They recommended **reinforcing and streamlining processes and decision-making**.

They also referred to the need (i) for more structured coordination and complementarity with FP7 and national programmes and funds; (ii) for improved communication, to enhance the visibility of JTI actions aimed at the general public and at international level; and (iii) for systematic data collection and a monitoring system for key performance indicators.

**Progress achieved by the Artemis JU:** for the period 2008–2013, the Commission allocated a maximum budget of EUR 420 million to the ARTEMIS JU, which was boosted by ARTEMIS Member State funding of at least 1.8 times the EU contribution (EUR 756 million). A matching contribution in kind at least equivalent to the public authorities' total is expected from industry.

In July 2011, ARTEMIS signed an additional Administrative Agreement with the Brussels Capital Region of Belgium. An Administrative Agreement with Poland was signed in December 2011, making it the 23rd ARTEMIS Member State, with the intention of committing a budget to the 2012 call.

The main objectives of ARTEMIS are to **tackle the research and structural challenges faced by industry in embedded systems** and to help the European industry **consolidate and reinforce its world leadership** in embedded computing technologies. The participation of Member States in funding and governance alongside the EU and industry is a major feature of the JU. The submission and evaluation procedure is two-stage: applicants first send a project outline (PO), then a full project proposal (FPP).

In 2011, 10 grant agreements relating to the 2010 call 3 were signed and call 4 was launched. 540 applicants reached the FPP stage of the 2011 call for proposals and 206 were involved in the projects funded (an average of 23 participants per project). ARTEMIS seeks to foster collaboration between all stakeholders - industry, including SMEs, national and/or regional authorities, and academic and research centres - pulling together and focusing research efforts. There was a **good balance** in the types of participants in 2011, with 71 from research organisations and academia, 73 industrial partners and 62 SMEs. The scientific and research community is well represented and coordinated. SMEs accounted for 37.9 % of total participations in 2011, and obtained 19.18 % of EU funding to ARTEMIS over the period 2008 to 2011.

The projects funded involved 17 countries, led by Spain, Italy, Germany, Finland, France and Austria. The EU-12 countries were also represented, by the Czech Republic, Latvia and Estonia. Only one associated country was involved in the projects selected for funding: Norway, but with six participants. The US was the sole international partner, with one participant.

In 2011 the **main research objectives** evolved to reflect the latest progress in their fields of technology. ARTEMIS revised its Strategic Research Agenda to take better account of the intrinsic nature of embedded systems as the "**neural system**" of society, reflecting their pervasiveness in all modern products, infrastructure and services.

**For the future, a number of challenges remain open:** the relatively small size of the JUs was considered as 'risky element' by experts involved in the first interim evaluation of ARTEMIS and ENIAC. The independent experts proposed, amongst the possible scenarios for JUs evolution both merging the two and setting up a **joint structure for administrative tasks only**.

It is time to seek **better alignment** of ARTEMIS and ENIAC research agendas **with national programmes**.

**Funding** for ARTEMIS and ENIAC projects follows a unique tripartite model. Partners obtain much of their funding from their own governments or regional agencies under grant agreements. The JUs also provide funding directly to the partners worth up to about 16.7 % of their eligible costs. This funding model worked well in the first years of ARTEMIS, but **with certain limitations** - mainly caused by sharply lower commitments by Member States in the context of the economic and financial crisis. In 2011, for the first time, the trend was upwards and this is expected to continue in 2012.

## Establishment of the "ARTEMIS Joint Undertaking" to implement a Joint Technology Initiative in Embedded Computing Systems

2007/0088(CNS) - 06/01/2014

The Commission presented its annual progress report on the activities of the Joint Technology Initiative Joint Undertakings (JTI JUs) in 2012.

**The Joint Technology Initiatives** are public-private partnerships in industrial research at European level that are now well established and have reached cruising speed. They were set up in 2007-2008 under the Seventh Framework Programme in **five strategic areas**: (1) Aeronautics and Air Transport ([Clean Sky](#)); (2) [Innovative Medicines Initiative](#) (IMI) JU; (3) Fuel Cells and Hydrogen ([FCH](#)) JU; (4) **Embedded Computing Systems** (ARTEMIS) JU; (5) Nanoelectronics ([ENIAC](#)) JU.

**Participation and geographical coverage**: JUs are successful in funding highly specific, industry-driven research and that **stakeholders are getting more acquainted with the modus operandi of these new instruments**. Participation in terms of numbers of projects selected for funding remained stable in the last two years while the **overall success rate increased from 35.8 % in 2011 to 45 % in 2012**. Concerning industrial participation in 2012, large companies represented 31.1% of total participations and SMEs another 30%. **SMEs participation increased from 28% to 30%** in the last two years (2011 and 2012).

In terms of distribution of participation from Member States and Associated Countries, in 2012 as in the previous year the five JTI JUs involved, on average, **20 different countries** in the implementation of their research agendas.

**First results and promising advances**: in the **embedded systems sector**, new partnerships have been established and a growing number of SMEs been involved in networks of stakeholders; there is growing interest in building prototypes and demonstrators, including trials and field testing; the impact on business has mainly been to reduce development costs and time to market, while increasing the level of re-usability.

**Success stories** are as follows:

- **CESAR** project (cost-efficient methods and processes for safety relevant embedded systems) ended on 30 June 2012. A significant number of breakthroughs and innovations are part of CESAR's results;
- **POLLUX** - *Process Oriented Electronic Control Units for Electric Vehicles developed on a multisystem real-time embedded platform* - the aim is to develop a distributed real-time embedded systems platform for next-generation electric vehicles,
- **eSONIA** - *Embedded Service-Oriented Monitoring, Diagnostics and Control: Towards the Asset-Aware and Self-Recovery Factory* - aims at realising asset-aware and self-recovery plant through pervasive heterogeneous IPv6-based embedded devices. The project will reduce maintenance costs and increase up-time in manufacturing.

**Challenges and perspectives**: for the future, a number of challenges remain open:

- **relatively small size of the JUs** and their relatively high running costs is still a major challenge;
- **maintaining the level of commitment from Industry and Members States**: certain difficulties have arisen in recent years in matching funds from industry and Member States and only in 2012 did the trend reverse;
- **effectively integrating results achieved in research projects into the Commission communication and dissemination system**: the JUs will probably be called upon under Horizon 2020 to adopt tools and working arrangements that will enable all parties involved to constantly assess results and to use them.

To summarise the **experience gained** in the first years of autonomy of all the Joint Undertakings, the following **successful results** can be highlighted:

- **JTIs are continuing at a steady pace** to reach their objectives in research and beyond;
- in terms of management, the JTI JUs have gained **speed**. In 2012, they generally reduced their Time to Grant (TtG), which is now 11.6 months on average;
- the **visibility** of JTI JU activities was also enhanced in 2012, among stakeholders and beyond;
- the JTI JUs' achievements started to be monitored and evaluated against a set of **key performance indicators** (KPIs);
- **SMEs are attracted to the JTI JUs' research topics**, especially because of the stability and continuity of the research and innovation environments, the funding arrangements and the involvement of larger value chains. Overall, SMEs have received about **EUR 170 million**, which accounts for roughly 27% of all EU funding available after evaluation;
- **industry commitment** to the achievement of general objectives remained stable and overall stakeholder participation continues to be well balanced following major updates in 2011;
- the JTI JUs **strategic research and innovation agendas** now include a **more ambitious approach towards innovation**, in line with Horizon 2020;
- lastly, respondents especially highlighted the clear **European added value** of PPPs in specific technological sectors.

Another interesting insight on progress achieved so far will be provided by the second interim evaluation, which will cover the period from setting up until 2013 and will be published as a separate report by November 2013.

# Establishment of the "ARTEMIS Joint Undertaking" to implement a Joint Technology Initiative in Embedded Computing Systems

2007/0088(CNS) - 27/11/2013

This report highlights the findings and recommendations of the panel of independent experts who conducted the second interim evaluation of the **ARTEMIS** (Embedded Computing Systems) and **ENIAC** (Nanoelectronics) Joint Technology Initiatives (JTIs).

The JTIs were introduced in the Seventh Framework Programme (FP7) to support key areas of research and technological development of importance to Europe's competitiveness. The ARTEMIS and ENIAC JUs were launched in February 2008.

Since their establishment, the ARTEMIS and ENIAC JUs launched and evaluated, respectively, six (one per year) and nine calls for proposals (one in each of 2008, 2009 & 2010 and two in each of 2011, 2012 and 2013). By the end of 2012, **102 projects** had been funded by the ARTEMIS and ENIAC JUs. The EU and JTI Member States together have so far committed over **EUR 1.115 billion to both JTIs combined** (2008-2012), in addition to private R&D efforts worth more than EUR 1.670 billion.

The second interim evaluation report confirms the **high value and significant achievements of the ARTEMIS and ENIAC JUs**. In particular, the panel concludes that (i) the relevance of the JUs remains high, and considerable progress has been made to achieving their objectives; (ii) the effectiveness is high; (iii) the efficiency is good despite the rather heavy regulatory, administrative and financial burden; and (iv) the quality of reviewing, reporting and monitoring of projects as done by the JU is high.

**The 52 ARTEMIS projects to date represent a total R&D investment of EUR 990 million**, comprising of EUR 288 million national contributions, EUR 163 million EU contribution and EUR 539 million industry contribution. Those projects address all eight Sub-Programmes of the ARTEMIS Strategic Research Agenda in the areas of safety, healthcare, smart environments, manufacturing, computing, security, sustainability and embedded systems design.

After a relative low commitment by ARTEMIS member States in the first four years, the introduction of the ARTEMIS Innovation Pilot Projects in 2012 gave a boost to the JU activities resulting from higher commitments by Member States.

In operational terms, the ARTEMIS JU will be **further away from the initial target of EUR 2.5 billion** in R&D for embedded computing systems. However, the developments of the last two years indicate also for ARTEMIS a significant increase of its volume of activities. The Commission is confident that **both initiatives will have delivered on their promises by the end of their mandate in 2017**.

**Recommendations for the Industrial Associations:** the report notes that the ARTEMIS Innovation Pilot Projects are indeed 'a laudable intent of sustaining innovation from proof of concept and prototyping stage right through to a solid industrial platform'.

Furthermore, the good work done within ARTEMIS-IA on the portfolio analysis and key performance indicators is acknowledged. Both industrial associations together with the JUs will be encouraged to continue working in this direction.

With the new **ECSEL JU**, the industrial partners should take the opportunity of a **more coordinated and proactive approach** to reinforce the strategic dimension of their cooperation.

To this effect, the proposal of the Council Regulation on ECSEL includes a requirement for broader stakeholder engagement.

These actions will contribute to the development of an **overarching EU research, development and innovation strategy covering nanoelectronics, embedded computing and cyber-physical systems**.

**Recommendations for the Joint Undertakings:** in accordance with the recommendations of the panel of experts, the Commission will ask the Executive Directors to examine the possibility to implement them and ensure a proper **reporting** on exploitation activities, though limiting the burden on the beneficiaries. The **development of an appropriate metrics** for measuring the impact and success of JU projects is equally important.

The Commission will continue to raise this issue in the Governing Boards in view of achieving a reasonable assurance that the financial transactions of the JUs are correct.

**Recommendations for the European Commission:** the recommendations relating to the next generation JTI have been taken into account in the Commission's proposal for a Council Regulation on the ECSEL Joint Undertaking. This concerns in particular the recommendation to: (i) have a single JTI with a single integrated research and innovation agenda; (ii) provide simplified financial regulation measures and an increased strategic role for its Governing Board; (iii) incorporate a further harmonisation of rules in accordance with the Rules for Participation of HORIZON 2020.

The new ECSEL JU should **focus on innovation and covering higher Technology Readiness Level (TRL)**.

**Recommendations for the Member States:** Member State participation rules, funding rates and procedures should be harmonised and synchronised wherever possible, adopting best practice as the guiding principle. They should commit to a multi-annual funding system.

The final evaluation of the ARTEMIS and ENIAC JUs is scheduled for **2017** as part of the interim evaluation foreseen for the ECSEL JU.

# Establishment of the "ARTEMIS Joint Undertaking" to implement a Joint Technology Initiative in Embedded Computing Systems

2007/0088(CNS) - 27/04/2012

The Commission presents its annual report on the progress achieved by the Joint Technology Initiatives Joint Undertakings in 2010. These were established as pilots in 2007-2008 under the Seventh Framework Programme in five strategic areas for a limited period up to 31 December 2017:

- **Aeronautics and Air Transport (Clean Sky) JU** increasing the competitiveness of the European aeronautics industry while reducing emissions and noise, established by Council Regulation (EC) 71/2008;
- **Innovative Medicines Initiative (IMI) JU** fostering the development of better and safer medicines for patients, established by Council Regulation (EC) 73/2008;
- **Fuel Cells and Hydrogen (FCH) JU** speeding up the development and deployment of hydrogen supply and fuel cell technologies, established by Council Regulation (EC) 521/2008;
- **Embedded Computing Systems (ARTEMIS) JU helping the European industry to consolidate and reinforce its world leadership in embedded computing technologies, established by Council Regulation (EC) 74/2008;**
- **Nanoelectronics Technology 2020 (ENIAC) JU** targeting to achieve a very high level of miniaturisation required for the next generation of nanoelectronics components, established by Council Regulation (EC) 72/2008.

ARTEMIS, IMI and Clean Sky gained officially their autonomy in October-November 2009, followed by ENIAC in May and FCH in November 2010. Thus, 2010 was the first full year of autonomous functioning of most of the JTI JUs.

The report starts with a brief introduction of the JTI JUs, summarises their key achievements in 2010 and outlines the fields for improvement in the future.

Key achievements in 2010: after the relatively slow operational start of the JTI JUs, to a certain extent due to the limitations of the existing legal and the regulatory framework for a "Community body", in 2010 the five Joint Undertakings revealed that the new business model between public and private sectors in research promises to be successful. The JTIs' activities that have been launched and already ongoing were recognised to be overall efficient and of a high quality according to the conclusions of first interim evaluations of the Joint Undertakings performed in 2010 (April 2011 for the FCH JU).

**Operational activities:** in 2010, the five JTI JUs concentrated efforts on the management of their calls for proposals – finalising negotiations, signature of grant agreements and kick-off of the projects coming out from the 2008 and 2009 calls, as well as launch of the 2010 calls, evaluation and selection of the winning proposals and, for some JTIs, start of the negotiation process. The Joint Undertakings worked also on the preparation of the 2011 calls for proposals: based on the lessons learned from the previous calls and consultations with the various stakeholders, they came out with a definition of the next calls' topics.

All JTI JUs were successful in attracting a wide variety of participation in their calls from Europe and FP7-associated countries. Overall, a large number of SMEs took part in the proposals. There were, however, some obstacles which the JTIs had to deal with to further strengthen the SME involvement in their research activities.

**Administrative activities:** after the initial start-up and preparatory phase before autonomy, the JTI JUs had to then work on their consolidation as a prerequisite for sustainability and a factor for success. Although the establishment of the five public-private partnerships was a considerable achievement on its own, the Joint Undertakings needed to further develop their internal control frameworks, and introduce, if necessary, additional control mechanisms. This was also pointed out in the reports of the European Court of Auditors which found out that by the **end of 2010 none of the entities had completely implemented their internal controls** and financial information systems and/or had yet validated their underlying business processes as required by the Joint Undertakings' financial rules.

Moreover, implementation of key performance indicators in 2011 by all JTI JUs had to avoid making the output of the initiatives scattered and diffuse. Their task would be not only to assess and periodically monitor quality in order to maximise impact across research programmes, but also to be tracked by a sound monitoring and evaluation system. An important step towards this in 2011 had to be the implementation or adoption, where not done yet, of comprehensive internal audit plans and the performance of regular ex-ante verifications and ex-post audits. Moreover, as expressed by the European Court of Auditors, the JTI JUs had to clearly define the role of the Commission's IAS in their financial rules.

**Concerning the IT and logistics matters,** all Joint Undertakings needed to further consider the establishment of formal IT policies and procedures to ensure the proper functioning of the IT planning and monitoring cycle and provide for reliable risk management tools. Also, a host agreement had to be concluded with the Belgian authorities concerning the office accommodation, privileges and immunities, and other support provided by the State. Both comments were taken into consideration by the JTI JUs and actions are already underway.

Among the objectives of the Joint Undertakings in 2011 should have been the enhancement of their communication activities using a more proactive and target-oriented approach, especially within SMEs and the research community to increase their level of participation in the research projects. As recommended in the interim evaluation reports, the JTI JUs should develop and implement clear communication and dissemination plans, obtain a separate identity and work more on the synergy with national programmes and international cooperation with non-EU stakeholders.

**Overall assessment:** the first interim evaluations of the Joint Undertakings were carried out as planned by the end of 2010 (in April 2011 for the FCH JU) covering the quality and efficiency of their work and assessing the progress towards the set objectives. **The overall result of the evaluations is positive, affirming good prospects for achievement of the JTI JU's goals.**

As the Joint Undertakings are only now fully autonomous, **there needs to be a period of some years of consolidation before the real benefits can be assessed.** Nevertheless, the importance of cross-sectoral co-operation in key strategy setting is considered extremely important. In the case of the FCH JU, for example, where there are very specific market entry barriers, the industrial partners have been very effective in organising objective assessment of market potential in relation to other competing technologies. The stable allocation of funds has also underpinned the industry commitment – especially SMEs – at a time when the Framework Programme funds could easily have been diverted to competing technologies.

In 2011, the five Joint Undertakings had to follow up on the implementation of the ongoing activities and start the next waves of projects, as well as on the preparation and launch of the future calls. Calls topics needed to be defined on the grounds of the revised research agendas, considering the market forces and the quick pace of technology development in their industries.

As recommended by the European Court of Auditors and the experts in the first interim evaluation reports, the entities that experienced initial delays in starting their operations, such as Clean Sky, should have promptly recovered in order to achieve their objectives within the set timeframe. This would have also contributed to shorten the time for payments to beneficiaries and improve the implementation of the budget, which had been perceived overall as being low among all JTI JUs in 2010.

The JTI JUs had to further **encourage the wide participation of industrial and academic partners, and particularly of SMEs, in their research activities.** They needed to remove the obstacles for SMEs, where such existed. IMI had put on its agenda the development of a methodology for in-kind contribution and calculation of indirect costs, and FCH already initiated the process to adopt an increase in the funding rates, which were considerably lower than those in FP7. Clean Sky, ARTEMIS and ENIAC were challenged to keep the high interest of SMEs in the calls for proposals they were launching.

Taking into consideration that the report is looking at the JTI JUs' development in the first year of their autonomous operations, and at a point where none of their projects are completed, the prospects for the future remain to be considered. The results achieved by the five JTI JUs so far sets them as ambitious European initiatives with the potential to become a new affirmed model of a public-private partnership.