Basic information

2007/0118(CNS) CNS - Consultation procedure Regulation	Procedure completed
Research and aeronautics: setting up the Clean Sky Joint Undertaking Repealed by 2013/0244(NLE) **Subject** 3.20.01 Air transport and air freight 3.50.20 Scientific and technological cooperation and agreements 3.70.03 Climate policy, climate change, ozone layer	

Key players

European Parliament

Committee responsible	Rapporteur	Appointed
ITRE Industry, Research and Energy	EK Lena (ALDE)	25/06/2007

Committee for opinion	Rapporteur for opinion	Appointed
BUDG Budgets	HAUG Jutta (PSE)	20/09/2004
CONT Budgetary Control	The committee decided not to give an opinion.	17/07/2007
ENVI Environment, Public Health and Food Safety	VAN NISTELROOIJ Lambert (PPE-DE)	10/09/2007
TRAN Transport and Tourism	The committee decided not to give an opinion.	
JURI Legal Affairs	The committee decided not to give an opinion.	

Council of the European Union

Council configuration	Meetings	Date
Competitiveness (Internal Market, Industry, Research and Space)	2832	2007-11-22
Competitiveness (Internal Market, Industry, Research and Space)	2820	2007-09-28
Environment	2842	2007-12-20

European

Commission DG	Commissioner

Commission	Research and Innovation	POTOČNIK Janez

Key events

Date	Event	Reference	Summary
13/06/2007	Legislative proposal published	COM(2007)0315	Summary
12/07/2007	Committee referral announced in Parliament		
28/09/2007	Debate in Council		Summary
22/11/2007	Debate in Council		Summary
22/11/2007	Vote in committee		Summary
28/11/2007	Committee report tabled for plenary, 1st reading/single reading	A6-0483/2007	
11/12/2007	Decision by Parliament	T6-0591/2007	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	2007/0118(CNS)
Procedure type	CNS - Consultation procedure
Procedure subtype	Legislation
Legislative instrument	Regulation
Amendments and repeals	Repealed by 2013/0244(NLE)
Legal basis	EC Treaty (after Amsterdam) EC 172 EC Treaty (after Amsterdam) EC 171
Stage reached in procedure	Procedure completed
Committee dossier	ITRE/6/50795

Documentation gateway

European Parliament

Document type	Committee	Reference	Date	Summary
Committee draft report		PE394.133	20/09/2007	
Committee opinion	ENVI	PE393.962	11/10/2007	
Amendments tabled in committee		PE396.580	24/10/2007	
Committee opinion	BUDG	PE394.192	13/11/2007	

Committee report tabled for plenary, 1st reading/single reading		A6-0483/2007	28/11/2007	
Text adopted by Parliament, 1st reading/single reading		T6-0591/2007	11/12/2007	Summary

European Commission

Document type	Reference	Date	Summary
Legislative proposal	COM(2007)0315	13/06/2007	Summary
Document attached to the procedure	SEC(2007)0773	13/06/2007	
Document attached to the procedure	SEC(2007)0774	13/06/2007	
Commission response to text adopted in plenary	SP(2008)0411	23/01/2008	
Follow-up document	COM(2011)0557	14/09/2011	
Follow-up document	SEC(2011)1044	14/09/2011	
Follow-up document	SEC(2011)1072	21/09/2011	Summary
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)0935	06/01/2014	Summary
Follow-up document	SWD(2013)0539	06/01/2014	
Follow-up document	COM(2014)0252	08/05/2014	Summary

Other institutions and bodies

Institution/body	Document type	Reference	Date	Summary
EESC	Economic and Social Committee: opinion, report	CES1443/2007	25/10/2007	

Additional information		
Source	Document	Date

National parliaments	IPEX	
European Commission	EUR-Lex	

Final act
Corrigendum to final act 32008R0071R(02) OJ L 220 15.08.2008, p. 0035 Regulation 2008/0071 OJ L 030 04.02.2008, p. 0001 Summary

Research and aeronautics: setting up the Clean Sky Joint Undertaking

2007/0118(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 Clean Sky JU: for the period 2008–2013, Clean Sky was allocated a total budget of EUR 1.6 billion: a maximum EUR 800 million from the European Commission (in cash), to be matched by industry contributions (in kind) worth at least EUR 800 million. Three main objectives were set for Clean Sky: (i) to accelerate environmental improvements in Air Transportation System (ATS) through the introduction of advanced technologies and full scale demonstrators, (ii) to improve on the overall ATS impact on the environment (reducing noise, emissions, and fuel consumption), and (iii) to consolidate the European aeronautics industry around a project of common interest.

Clean Sky's performance needs to be judged in the light of its specific characteristics, in particular the considerable industry involvement in the JU at various levels, from strategic management to the definition and description of call topics and direct participation in the evaluation of projects. Unlike the other JUs, Clean Sky works mainly via grants to named beneficiaries rather than calls for proposals. In fact, its main achievements result from the work of its members, organised in six different technical areas called Integrated Technology Demonstrators (ITD), supported by a Technology Evaluator who continuously monitors and assesses the result. There is effective and organised coordination with other organisations, particularly the Single European Sky Air Traffic Management Research (SESAR) JU.

Much of the overall budget (EUR 600 million, or 75 %) is distributed to these members or 'named beneficiaries'; the remaining EUR 200 million is allocated to calls for proposals. These calls are launched on a regular but one-off basis when ITD members express a need for additional specific research activities to complement their work. Consequently, the Clean Sky calls for proposals are targeted calls, cover various topics (23 to 58 during 2011) and are of short duration (averaging six months to one year).

In 2011, Clean Sky completed the evaluation of call 7 and published three calls for proposals: calls 8, 9 and 10. It managed 159 topics in total, resulting in a total of 325 partners from 22 countries selected after call 10.

In comparison with the other JUs, **overall participation in the calls is high and so is the number of projects selected for funding**. The participants are evenly distributed between research organisations, industry, universities and SMEs. However, Clean Sky appeared to be less attractive to public bodies and regulatory agencies in 2011. SMEs accounted for a very high number of participants in the projects funded (37 %); over the period 2008–2011, SMEs accounted for 38% of the EU's Clean Sky funding.

Based on the data available for the funded projects, calls 7 to 10 attracted participants from 23 countries. The countries best represented were the United Kingdom, Germany, Spain, Italy and France, which have an industrial tradition in aeronautics. Clean Sky attracted the most participants from the EU-12 countries of any JU. Of the 'associated' countries, Switzerland led with six coordinators, while the main international partners were China and Russia; the US did not participate.

The Technology Evaluator covered four main research work packages, which all had activities and deliverables in 2011. Overall, carrying out the 2011 plan was a significant challenge. Despite some difficulties, the Technology Evaluator managed to put in place **reinforced planning and control mechanisms for 2012**. The first assessment performed, also served to 'demonstrate' the full process and proved to be encouraging. The quality and timeliness of deliverables should improve significantly in 2012 and will be closely monitored by the JU as a top priority.

In 2011 the main research objectives evolved to reflect the latest progress in their fields of technology. Clean Sky updated its research objectives following the guidance given in *Flightpath 2050*, *Europe's vision for Aviation* report, produced in 2011 by ACARE.

Research and aeronautics: setting up the Clean Sky Joint Undertaking

2007/0118(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) Public health **-** 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: combining the analysis for airports and air traffic systems, the results indicated that **Clean Sky** is on track to reduce noise, to reduce CO2 emissions by 50 % and NOX by 80 % and to minimise the life-cycle impact of aircraft on the environment by 2020.

Success stories are as follows:

- **wind tunnel test campaigns**: a series of wind tunnel test campaigns were performed in 2012 on three different technologies. The ETW (European Transonic Wind tunnel) has been used to contribute to a wing design methodology aiming at robust laminar performance taking into account different surface imperfections. Rolls-Royce and the SNECMA have performed independently a series of tests on their own test rigs to assess uninstalled characteristics of their Open Rotor design (especially the blades);
- **composite repair technology for aircraft maintenance**: the ADVANCED project (Advanced heating system and control mode for homogeneous high temperature curing of large composite repairs) has been recently completed.

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.

Research and aeronautics: setting up the Clean Sky Joint Undertaking

2007/0118(CNS) - 08/05/2014

The Commission presents its second interim evaluation of the **Clean Sky**; Fuel Cells and Hydrogen and Innovative Medicines Initiative Joint Technology Initiatives Joint Undertakings.

This report summarises the findings and main recommendations provided by the panels of independent experts (IEGs) who conducted the evaluations.

The overall conclusion of the IEG reports is that the Joint Undertakings have been **successful in achieving their objectives**, that they are relevant to the challenges of Horizon 2020 and they should be continued. The second interim assessments show that the existing Joint Undertakings have successfully demonstrated the **viability of the Public Private Partnership** (PPP) concept for research in strategic technological areas. They have been effective in delivering on the main objectives and have been able to reinforce Europe's role in aeronautics, pharmaceutics and fuel cell and hydrogen R&D.

More specifically, the report presents the **Commission's observations and recommendations** and highlights the areas in which follow-up actions should be planned.

Implementation of the Clean Sky initiative: the IEG concluded that the research undertaken in Clean Sky is of **high quality**. Already, a number of demonstrators are running or have been tested. In many cases, the preliminary assessments of the environmental benefits confirm the capability of achieving the targets by the end of the programme.

As regards the **funding,** Clean Sky has a budget of **EUR 1.6 billion** with a maximum EU contribution of EUR 800 million of which at least EUR 200 million is allocated to calls for proposals. By September 2013, 14 calls for proposals had been evaluated and a portfolio of projects was subsequently selected. At the time of the assessment, the project portfolio counts 349 projects for which grant agreements had been signed. The evaluation of the 15th call for proposals was ongoing and the 16th and final call was planned to be launched before the end of 2014.

Commission's observations: the Commission notes the IEG conclusion that, despite the slow start, **Clean Sky has accelerated its activities** and is now running at full speed. Even though not all delays have been fully recovered, all planned implementation will be achieved. In general, the Commission acknowledges the IEG opinion that the **decision-making process should be accelerated**, but at the same time underlines that the streamlining process should be undertaken within the bounds of Rules for Participation and the Financial Regulation, thus maintaining control and allowing total transparency on the use of public funds. Further improvements are needed in the area of communication. Moreover, the Commission agrees that **links between SESAR JU and Clean Sky should be strengthened**.

The Commission is also committed to work closely with Clean Sky and all stakeholders including Member of the National State Representative Group in order to raise global awareness and visibility of Clean Sky 2. The Commission agrees with the IEG conclusion that **Clean Sky 2** should become the focal point of a **pan-European** demonstrator-based innovation programme in aeronautics. It also notes that the IEG reported that the strategy and preparation of the final demonstrator phase, including flight tests, has been **exemplary**.

At the same time, the IEG and the Commission agree that a more intensive correlation between Clean Sky objectives and the overall objectives of the aeronautics sector as set out in the European Technology Platform ACARE is needed.

As regards **site visits**, the Commission accepts the IEG position and recommendation to ensure that site visits are contemplated in future assessments.

Perspectives: the Commission acknowledges the thorough and in-depth work carried out by the IEGs in undertaking the second interim evaluation of the three Joint Undertakings. It also notes that the IEGs recognised the validity of the PPP approach and expressed positive views about the future prospects for Joint Undertakings under Horizon 2020.

The IEG recommendations are considered valuable for removing or at least reducing the weaknesses identified in the current Joint Undertaking operations. The Commission undertakes to implement corrective measures when appropriate and within its powers of intervention whilst recalling that implementing the recommendations addressed to the next generation of joint undertakings requires the adoption of new Council Regulations.

Since 10 July 2013, when the Commission presented its proposed Regulations, the processes for continuing the JUs are fully underway.

Research and aeronautics: setting up the Clean Sky Joint Undertaking

2007/0118(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 Skt) 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.

Clean Sky carried out an assessment of its environmental objectives, as defined originally in its technical proposal. The result of this re-evaluation widely confirmed the relevance of Clean Sky's initial targets.

Technology Evaluator: this is at the core of Clean Sky, assessing the environmental performance of the technologies developed with its support. The Technology Evaluator recovered from the delays faced in 2009 and all work packages were active in 2010. The first Technology Evaluator assessment was to be done through modelling the air transport system by comparing two scenarios – with and without the participation of Clean Sky. It was scheduled for the end of 2011. The results of the assessment will be presented in the next Commission reports.

Administrative activities: after the initial start-up and preparatory phase before autonomy, the JTI JUs had to then work on their consolidation as a pre-requisite 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.

Research and aeronautics: setting up the Clean Sky Joint Undertaking

2007/0118(CNS) - 13/06/2007 - Legislative proposal

PURPOSE: to set up a Joint Undertaking: “Clean Sky”.

PROPOSED ACT: Council Regulation.

BACKGROUND: the 7th Framework Programme2007-2013 sets up four Specific Programmes: Co-operation, Ideas, People and Capacities. This proposal relates directly to the Specific Programme Co-operation and one of its core themes: “Transport” (Aeronautics).

Joint Technology Initiatives (JTIs) were introduced for the first time under the Co-operation programme as a way of realising **public-private partnership** for large-scale research projects being developed at a European level. JTIs are born out of the “European Technology Platforms”, (ETPs), which already existed under the previous, 6th Framework Programme.

JTIs are being proposed in the form of Joint Undertakings that have a legal structure. They are being proposed in a limited number of sectors only, including: hydrogen and fuel cells, aeronautics and air transport, embedded computing systems, nanoelectronics and global monitoring for environment and security.

CONTENT: the purpose of this proposal is to create a “Clean Sky” Joint Undertaking as a public-private partnership seeking to develop innovative technologies that reduce the negative impact of aeronautics on the environment.

The proposed objectives of Clean Sky are:

- to accelerate the development of clean Air Transport Technologies in the EU – as soon as possible; and
- to create a radically innovative Air Transport System that integrates advanced technologies in order to reduce noise emissions, gas emissions and to improve the fuel efficiency of aircraft.

Clean Sky will be established in Brussels for an initial period lasting up to 31 December 2017, although the Community’s financial contribution will cease as from 2013 in line with the EU’s financial perspective. The members of Clean Sky will be the European Commission (acting on behalf of the Community) as well as leaders and associations from the private sector. They are listed in Annex to the proposal.

In terms of financing for the Clean Sky JU the proposed Regulation states that the Joint Undertaking will receive contributions from its Members and their participating affiliates. The Commission will contribute 50% of the total with the Members contributing the remaining 50%. The maximum Community contributions (covering both running costs and research costs) will be EUR 800 million. This amount will be paid from the budget appropriations allocated to the Theme “Transport” from the Co-operation specific programme. The remaining members (i.e. ITD Leaders and Associates) will be expected to contribute the same amount as the Community – although 75% of industry’s contribution will be contributed in kind. The remaining 25% will be contributed in cash for the running costs of Clean Sky.

The main activities of the Clean Sky Joint Undertaking will be: to award grants following calls for proposals; to ensure the provision of services and supply contract (where appropriate) through Calls for Tender; to mobilise the public and private sector funds; to liaise with national and international activities in the technical domain; to maintain a relationship with National State Representative Groups; and to notify those eligible to participate about potential borrowing opportunities from the EIB.

Specifically speaking, the Commission is proposing the establishment of “Integrated Technology Demonstrator Steering Committees” responsible for steering six technology domains, referred to as Integrated Technology Demonstrators or ITD’s. For each ITD specific scientific targets are established. They are:

Smart Fixed Wing Aircraft: Receiving a proposed 24% of the Community's contribution, this ITD is expected to focus on active wing technologies that sense the airflow and adapt their shape as required, as well as on new aircraft configurations to optimally incorporate these novel wing concepts.

Green Regional Aircraft: Receiving a proposed 11% of the Community's contribution, this ITD is expected to focus on low-weight configurations and technologies using smart structures, low noise configurations and the integration of technology developed in other ITDs, such as engines, energy management and new configurations.

Green Rotorcraft: Receiving a proposed 10% of the Community's contribution, this ITD is expected to focus on innovative rotor blades and engine installation for noise reduction, lower airframe drag, diesel engine and electrical systems for fuel consumption reduction and environmentally friendly flight paths.

Green and Sustainable Engines: Receiving a proposed 27% of the Community's contribution, this ITD is expected to focus on integrating technologies for low noise and lightweight low pressure systems, high efficiency, low NOx and low weight core and novel configurations such as open rotors or intercoolers.

Systems for Green Operations: Receiving a proposed 19% of the Community's contribution, this ITD is expected to focus on all electric aircraft equipment and systems architectures, thermal management, capabilities for "green" trajectories and mission and improved ground operations.

Eco-design: Receiving a proposed 7% of the Community's contribution, this ITD will address the full life cycle of materials and components, focusing on issues such as optimal use of raw materials, decreasing the use of non-renewable materials, natural resources, energy, the emission of noxious effluents and recycling.

Technology Evaluator: Receiving a proposed 2% of the Community's contribution, this will be the first available European complete integrated tool delivering a direct link between advanced technologies and high-level local or global environment impact.

The intellectual property policy of the Clean Sky Joint Undertaking will be incorporated in the grant agreements concluded by the Clean Sky Joint Undertaking. Clean Sky will establish close links with the SESAR Joint Undertaking which is working on Air Traffic management (ATM) technologies in line with the Single Sky initiative

Once adopted it is expected that Clean Sky will have a positive impact in terms of: a lessened impact on the environment form the aviation sector on a global level; increased aviation efficiency; increased passenger satisfaction; and a competitive European aviation industry whose activities are based on the principle of sustainable development.

Lastly, the Community will contribute a total of EUR 800 million in cash to the Joint Undertaking. This amount will be split between operational costs on the one hand and running costs on the other. The other JU Members and their affiliates will commit EUR 776 million in kind and EUR 24 million in cash for the running costs. At the start of operations the ITD leaders have committed themselves to about 75% (equivalent to EUR 600 million) of the "in-kind" contributions, with the Associates contributing the remaining 25% (equivalent to EUR 200 million).

Research and aeronautics: setting up the Clean Sky Joint Undertaking

2007/0118(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:

- aeronautics and air transport ("**CLEAN SKY**")
- nano-electronics technologies ("ENIAC") (CNS/2007/0122)
- innovative medicines ("IMI") (CNS/2007/0089)
- embedded computing systems ("ARTEMIS") (CNS/2007/0088)

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.

Under the Clean Sky initiative different areas will be addressed, such as an environmentally friendly and cost-efficient air transport system, and air traffic management in support of the Single European Sky policy.

The maximum of the Community contribution is estimated at EUR 800 million (up to 2017).

Research and aeronautics: setting up the Clean Sky Joint Undertaking

2007/0118(CNS) - 11/12/2007 - Text adopted by Parliament, 1st reading/single reading

The European Parliament adopted a resolution drafted by Lena **EK** (ALDE, SE) amending the proposal for a Council regulation setting up the Clean Sky Joint Undertaking.

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 Clean Sky 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.

Objectives: the Joint Undertaking shall: i) contribute to the implementation of the Seventh Framework Programme and in particular to the Theme 'Transport' (including Aeronautics) of the Specific Programme 'Cooperation'; ii) ensure coherent implementation of European research efforts aimed at environmental improvements in the field of air transport; iii) promote the involvement of SMEs in its activities in order to enable at least 15% of the funding available to be granted to SMEs.

Financing: the running costs shall not exceed 3% of the total budget of the Clean Sky Joint Undertaking. Moreover, ITD Leaders and Associates shall contribute resources evaluated in accordance with the practices established under the Seventh Framework Programme. The evaluation and selection process, which shall be carried out with the assistance of external experts, shall ensure that the allocation of the Clean Sky Joint Undertaking public funding follows the principles of excellence and competition.

Financial rules: the financial rules applicable to the Clean Sky Joint Undertaking shall not depart from Regulation (EC, Euratom) 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 any such derogation.

Staff: the Clean Sky Joint Undertaking shall recruit its staff in accordance with the rules established in its host country. The Commission may second to the Clean Sky Joint Undertaking as many officials as it regards necessary. Parliament deleted references to the e Staff Regulations of Officials of the European Communities and the Protocol on the Privileges and Immunities of the European Communities being applicable to the Joint Undertaking.

Obligations: the Clean Sky Joint Undertaking shall be solely responsible for meeting its obligations.

Report: no later than 31 December 2010 and, thereafter, by 31 December 2015, the Commission shall conduct interim evaluations of the Clean Sky Joint Undertaking with the assistance of independent experts. These evaluations shall cover the quality and efficiency of the Clean Sky Joint Undertaking and its progress towards the objectives set. The Commission shall communicate the conclusions of the evaluations, accompanied by its observations and, where appropriate, proposals for the amendment of this Regulation to the European Parliament and to the Council. The Regulation shall expire on 31 December 2017. It shall be ensured that after the last call for proposals in 2013 projects still in progress are implemented, monitored and funded until 2017.

Parliament also introduced the following amendments in the Annex:

- decisions of the Executive Board on accession of any other legal entity shall be made taking into account the relevance and potential added value of the applicant for the achievement of the objectives of the Clean Sky Joint Undertaking. For any new application for membership, the Commission shall provide timely information to the Council on the assessment and, where applicable, on the decision of the Executive Board;

- any Member may withdraw from the Clean Sky Joint Undertaking. Withdrawal shall become effective and irrevocable six months after notification to the other Members, following which the former Member shall be discharged from any obligations other than those already undertaken through decisions of the Clean Sky Joint Undertaking in accordance with these Statutes, prior to the Member's withdrawal;

- information on projects, including the names of the participants and the amount of the financial contribution of the Clean Sky Joint Undertaking per participant shall be published;

- Parliament deleted references to the establishment of an Advisory Board;

- the Director shall be appointed by the Executive 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 European Union and in other periodicals or on the Internet;

- Parliament deleted a clause stating that the Integrated Technology Demonstrator Leaders will have a right of veto over any resolution of the Steering Committee of the Integrated Technology Demonstrator of which they are leaders;

- an amount of at least EUR 200 million shall be allocated to external partners [projects] selected via competitive calls for proposals. Particular attention shall be paid to ensuring adequate participation of SMEs in an amount equal to 15% of the total Community funding. The Community financial contribution shall comply with the upper funding limits of the total eligible costs, laid down by the Rules for participation in the Seventh Framework Programme;

- an Annual Report which shall present the progress made by the Clean Sky Joint Undertaking every calendar year, in particular in relation to the Annual Implementation Plan for that year. It shall be presented by the Executive Director together with the annual accounts and balance sheets. It shall include the participation of SMEs in the R&D activities of the Clean Sky Joint Undertaking;

- the Annual Work Programme shall describe the scope and the budget of calls for proposals needed to implement the research agenda for a particular year;

- the Members shall not be liable for any obligations of the Clean Sky Joint Undertaking. The financial liability of the Members shall be an internal liability towards the Clean Sky Joint Undertaking only and shall be limited to their commitment to contribute to the resources as set out in the Annex. Without prejudice to the financial contributions due to Project participants, the financial liability of the Clean Sky Joint Undertaking for its debts shall be limited to the contributions made by the Members to the running costs as set out in the Annex;

- the report stipulates that the European Parliament needs to be consulted on any important changes to the JU's statutes;

- lastly, a host agreement shall be concluded between the Clean Sky Joint Undertaking and Belgium.

Research and aeronautics: setting up the Clean Sky Joint Undertaking

2007/0118(CNS) - 21/09/2011

Joint Technology Initiatives (JTIs) were introduced by the Seventh Framework Programme. On the basis of Article 187 of the Treaty on the Functioning of the European Union, five JTIs have been set up under 7th Framework Programme (FP7):

Innovative Medicines initiatives (IMI);

Advanced Research and Technology for Embedded Intelligence and Systems (ARTEMIS);

Aeronautics and Air Transport (**Clean Sky**);

European Nanoelectronics Initiative Advisory Council (ENIAC);

Fuel Cells and Hydrogen (FCH).

In line with the request to the Commission under the various Council Regulations setting up the Joint Undertakings to implement the Joint Technology Initiatives, independent interim evaluations of the operation of the Joint Undertakings have recently been carried out. The Commission response to the interim evaluations of the ARTEMIS and ENIAC Joint Undertakings has already been presented.

This Staff Working Document presents the detailed Commission response to the interim evaluations of the IMI, Clean Sky and Fuel Cells and Hydrogen Joint Undertakings.

Research and aeronautics: setting up the Clean Sky Joint Undertaking

2007/0118(CNS) - 20/12/2007 - Final act

PURPOSE: to set up a Joint Undertaking: “Clean Sky”.

LEGISLATIVE ACT: Council Regulation (EC) No 71/2008 setting up the Clean Sky Joint Undertaking.

CONTENT: for the implementation of the Joint Technology Initiative on Clean Sky, this Regulation sets up a Joint Undertaking for the period up to 31 December 2017 (Clean Sky Joint Undertaking). The Regulation states that the Clean Sky JTI must mitigate the various risks of market failure which discourage private investment in aeronautics research in general, and in clean Air Transport technologies in particular. It must provide integration and demonstration at the level of the system as a whole, thus decreasing the risk for private investment in developing new environmentally friendly aeronautics products. It must stimulate private R & D investment in environmentally friendly technologies in the EU. The Clean Sky JTI is public-private partnership associating all key stakeholders. Taking into account the long-term nature of this partnership, the necessary pooling and availability of financial resources, the high scientific and technical expertise required, including the management of a vast amount of knowledge, and appropriate intellectual property rules, it was vital to set up a legal entity capable of ensuring the coordinated use and efficient management of the funds assigned to the Clean Sky JTI. Accordingly the Clean Sky JU is established. It is a Community body with legal personality. In terms of liability, it will be solely responsible for meeting its obligations.

Objectives: the Clean Sky Joint Undertaking will contribute to the implementation of the Seventh Framework Programme and in particular Theme 7, Transport (including Aeronautics) of the Specific Programme Cooperation. Its objectives are:

1. accelerating in the EU the development, validation and demonstration of clean Air Transport technologies for earliest possible deployment;
2. ensuring coherent implementation of European research efforts aiming at environmental improvements in the field of Air Transport;
3. creating a radically innovative Air Transport System based on the integration of advanced technologies and full scale demonstrators, with the target of reducing the environmental
4. impact of air transport through significant reduction of noise and gaseous emissions, and improvement of the fuel economy of aircrafts;

5. accelerating the generation of new knowledge, innovation and the uptake of research proving the relevant technologies and fully integrated system of systems, in the appropriate operational environment, leading to strengthened industrial competitiveness.

Tasks and activities: themain tasks and activities will be the following:

1. bringing together a range of ITDs with the emphasis on innovative technologies and development of full scale demonstrators;
2. focusing efforts within ITDs on key deliverables that can help meet Europe's environmental and competitiveness goals;
3. enhancing the technology verification process in order to identify and remove obstacles to future market penetration;
4. pooling user requirements to guide investment in research and development towards operational and marketable solutions.

Community contribution: the maximum Community contribution to the Clean Sky Joint Undertaking covering running costs and research activities shall be EUR 800 million paid from the budget appropriation allocated to the Theme 'Transport' of the Specific Programme Cooperation. Other Members of the JU shall contribute resources at least equal to the Community contribution, excluding those allocated through calls for proposals in order to carry out the research activities of the Clean Sky Joint Undertaking.

Members: these are the EC represented by the Commission as public representative, the leaders of Integrated Technology Demonstrators (ITDs) and the Associate members of the individual ITDs. The Clean Sky JU is open to new members.

Seat: this is located in Brussels, Belgium.

Bodies: these will bethe Governing Board, the Executive Director, the ITD Steering Committees, the Technology Evaluator Steering Committee, and the General Forum. A National States Representative Group shall be an external advisory body to the Clean Sky Joint Undertaking. An Advisory Board will be established as appropriate by the Joint Undertaking to advise and issue recommendations to, the Clean Sky Joint Undertaking on managerial, financial and technical topics.

Report, evaluation and discharge: the Commission will present an annual report on progress. By 31 December 2010, as well as by 31 December 2013, it will carry out interim evaluations with the assistance of independent experts, and carry out a final evaluation not later than six months after the end of the JU 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.

Research and aeronautics: setting up the Clean Sky Joint Undertaking

2007/0118(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.