EVALUATION MANUAL FOR ICT RESEARCH IN FP7: THE JOINT TECHNOLOGY INITIATIVES
SMART 2008/0034
CONTRACT NUMBER 30-CE-0214977/00-51

TECHNICAL REPORT

NOVEMBER 4, 2009

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1 Contract Execution

1.1. OBJECTIVE

The core objective of the study was to develop a **Manual for Monitoring and Evaluating the Effectiveness**¹ of the Joint Technology Initiatives in ICT. The evaluation manual is supposed to be a crucial component of the system of the evaluation process for the JTIs. It is supposed to serve as an input for the Terms of References (ToR) for the Evaluations of the JTIs at the three stages of the evaluation process. It should enable the Commission representatives to draft the ToR and ensure consistency along the evaluative cycle. The manual should be written in formal style as it will have formalised character and may be published as an Internal Commission Staff Working Document.

1.2. CONTRACTOR

The project was conducted by Joanneum Research Ltd. The project management was performed by Wolfgang Polt in close cooperation with Professor Nicholas Vonortas and Michael Dinges, the three principal investigators of the study. Wolfgang Polt was responsible for the overall liaison with the Commission to ensure the efficient conduction of the study.

Quality control was provided through the guidance of a steering committee of Commission officials. In addition, the project team has involved two external experts to the steering of the project to provide additional feedback and quality assurance. The following experts provided guidance for the project team and reviewed the extended draft of the Interim-Report:

- **Prof. Luke Georghiou**, University of Manchester (UK). Professor Georghiou is the long-term Director of the Manchester Institute of Innovation Research (formerly known as PREST), one of the best known academic research institutes in the field of science and technology policy, with long and distinguished history in RTD programme evaluation. Professor Georghiou currently serves as Associate Dean for the Faculty of Humanities. He has published widely in the field of RTD evaluation and has led a large number of evaluations, including currently the evaluation of EUREKA.

- **Mr. Alain Puissochet** is an independent consultant working in the field of technical and economic research in ICT and Media Sector. He has been senior consultant and Director of Studies for IDATE - (Institut de l'Audiovisuel et des Télécommunications en Europe) - Montpellier (1991-2006). He specializes on the strategic aspects of new technologies and new equipment and in the assessment of large R&D programmes, such as JESSI,

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¹ In accordance with the current evaluation guidance for DG Budget, an evaluation has to concentrate on the aspects of relevance; efficiency; effectiveness; utility and sustainability. Effectiveness is defined as attaining the objectives set and achieving the intended results.
MEDEA and ITEA, and the techno-economic analysis on ICT projects. He is currently involved in the evaluation of EUREKA. Previously he worked for CNET (France Telecom's microelectronics research centre and the main research centre of the company). The work of Mr. Puissochet focuses largely on ICTs.

1.3. WORK-PACKAGES
The project team adhered to the specifications of description of tasks, deliverables, meetings and timetables as indicated in the tender specifications. Hence, the work plan was divided into three work packages:

- Work Package 1 captured and analysed the needs for guidance of the user groups,
- Work Package 2 provided the necessary review and analysis of evaluation requirements and the various source materials for evaluation guidance and publicly funded R&D, and
- Work Package 3 elaborated the evaluation manual according to the methodological principles and structure outlined in section 3.

1.3.1 Work Package 1
In Work Package 1 the needs for guidance as regards evaluation requirements and evaluative tasks for the JTIs have been identified. Via desk research basic programme information and relevant data on JTIs were collected and analysed in order to identify:

1. Evaluation requirements for the JTIs
2. Key evaluative questions for the two interim and ex post evaluations of the JTIs
3. Responsibilities and role of actors in JTIs as regards the evaluations

Implications as regards evaluative tasks for the JTIs were presented in the first meeting with Commission officials and representatives of the JTIs. Agreement on the main purpose of the Evaluation Manual and evaluative questions for the two interim evaluations and the ex post evaluation was reached:

- The evaluation manual is supposed to be a crucial component of the system of the evaluation process for the JTIs. It is supposed to serve as an input for the Terms of References (ToR) for the Evaluations of the JTIs at the three stages of the evaluation process. It should enable the Commission representatives to draft the ToR and ensure consistency along the evaluative cycle. The manual should be written in formal style as it will have formalised character and may be published as an Internal Commission Staff Working Document. Hence, the key document should be easy to read and not exceed 30 pages excluding potential annexes.
It was further agreed that the “Manual” should include the following structure and contents:

- **Description of the evaluation system of the JTIs**
  - Overview about the evaluation period
  - Scope of the evaluation exercises including an explanation why they are used

- **Key issues for the specific types of evaluations**
  - Description of key evaluative issues, which should be derived/based upon the impact assessment documents. Overall the section should describe what the Commission is supposed to evaluate.

- **A matrix of evaluative questions and timing of the evaluation activity**

- **Concrete development of the evaluative questions and measures to be applied to fulfil the tasks.** The respective text should be very specific and include:
  - What type of method should be applied in order to perform the evaluative tasks?
  - Which sources of data need to be considered by the evaluation team?
  - Which sources of data need to be gathered by the JTIs?

### 1.3.2 Work Package 2

Work Package 2 should provide the necessary review and analysis of evaluation requirements and the various source materials for evaluation guidance of publicly funded R&D. A thorough review of policy papers relating to the JTIs, evaluation concepts, evaluation guidelines, as well as the data collection and data analysis methods widely used in evaluation studies was performed.

The analyses resulted in a description of the objectives, tasks and governance structure of the JTIs, the evaluation environment of the JTIs and the scope of the JTI evaluations. Implications for the creation of the Evaluation Manual were derived and outlined. Furthermore, evaluation methods and performance indicators suitable for evaluating the JTIs were reviewed. The use of certain evaluation methods for answering the relevant evaluative questions is outlined in the Evaluation Manual. A description of Evaluation Methods and Use in the JTI evaluations is to be found in the Technical Annex of the Evaluation Manual, which is attached to this report.

### 1.3.3 Work Package 3

In Work Package 3 the concrete elaboration of the Evaluation Manual was performed. The "Interim version” described the analytical framework, the key evaluative questions and a set of applicable methodologies and tools; the requirements for data and evidence and suitable techniques for their collection was provided.

The Interim Version of the Evaluation Manual was presented at the second meeting with Commission officials and JTI representatives. The Commission had the opportunity to check whether the deliverable meets the contractual requirements and addresses the specified guidance needs.
In a reaction to the presented results, the representatives of the JTIs point out that each JTI is very different in terms of, market structure, Strategic Research Agenda, organisational set-up and types of projects (e.g. ARTEMIS has only a very limited number of large projects whereas other JTIs will have larger number of projects with various participants). As a consequence it was agreed to point out in the evaluation manual that each JTI will be evaluated on its own and no benchmarking between JTIs will be performed. Nevertheless it was agreed that, a) a set of questions and a common evaluation framework for the interim evaluations and the ex post evaluation, and b) some common data and indicators suitable for all JTIs to be evaluated can be presented. The project team also suggested that in order to have some common data for all JTIs that survey actions for JTI participants in form of an entry and an exit survey should be established. This suggestion was welcome by the Evaluation Unit.

In order to further improve the quality of the final report, the Interim Version of the Evaluation Manual was reviewed by Prof. Luke Georghiou and Alain Puissochet. Prof. Luke Georghiou brought the following issues to the Attention of the study team, which were consequently incorporated in the final report:

1. Overall the report presents a coherent and plausible approach to evaluation for these instruments and their implementation.

2. The report correctly sets out the distinctions between the JTIs, JUs and Technology Platforms. From the perspective of evaluation the JTIs and JUs sit most comfortably within the principles of normal practice in that they have clear rationales and objectives which may form the basis of a framework. The JU objectives are more specific and can be seen to cascade down from JTI (and FP7) objectives on the one hand, and to be further articulated as tasks on the other. From these elements a coherent logical framework for evaluation can be constructed.

3. The ex ante evaluation sets out some basic indicators but those proposed for the measurement of social and economic benefits fall far short of what is likely to be expected of an evaluation at a political level. While the ex ante evaluation/impact assessment has addressed compliance with the criteria (which are in effect subsidiarity and additionality) these could be reassessed in the light of changing circumstances and further evidence at further stages of the evaluation.

4. Conceptually the major challenge for the evaluation of JTIs lies in the interaction between the initiative and the strategies of the participating firms. This issue is picked up in the report under effectiveness and the questions: “Has the programme/JTI made a difference? Did it induce participants to activities that would not have been carried out without the programme?” While these are the right questions they imply the evaluation to be framed in a clear understanding of the firms’ strategies and the centrality of the JTI work to that. It is quite possible that the public support has not substantially changed these strategies (at least for the largest forms) but then other effects – e.g. speed-to-market need to be demonstrated. In either case with work of this scale it will be necessary to assess the whole R&D portfolio of these in related areas not just that part which is in the JTI.
5. A further issue for the evaluation will be the need to be informed by up-to-date information on the state of technological development and market performance on a global basis since this is the arena in which JTIs will compete.

6. Finally, there are substantial process issues such as the project selection role carried out by JTIs. There is an issue as to whether the JTI governing structures should evaluate the constituent projects. This is a new approach to R&D support and it is necessary at the earliest possible stage to learn about what is working, what is not and where possible to make those lessons available to existing JTIs and to those planning FP8. It is worth considering a study to run in parallel with each JTI which can feed into the interim evaluation and beyond.

Alain Puissocht brought the following issues to the Attention of the study team, which were consequently incorporated in the final report:

1. The « Evaluation Manual for ICT Research in FP7 » has a very clear, synthetic and up to date description and analysis of JTI/JU. It is clearly stated that the evaluation manual addresses JTI. JTIs originate from European Technology Platforms (36 established), which are in charge of establishing strategic research agenda or SRA. The detailed analysis of the methods, indicators and data sources is well done.

2. This notion of setting up a long-term public-private partnership seems to be translated to “public funding” in the rest of the document. I wonder whether “setting up a long term public-private partnership” should be explicitly part of effectiveness measurement.

3. In program effectiveness (table 5 page 20), data sources include participants survey, focus group of industry and stakeholders, and interviews with Commission and member states officials. In my own experience, making interviews with R&D managers of large companies (not directly involved in the R&D programme) provided valuable insight, at least for ex post evaluation.

4. The general evaluation criteria at EU level (page10) include “Utility” and “Sustainability” (the last one not present in interim evaluation). The JTI/JU statutes do not mention them, but add research quality which is clearly related to “utility”. I wonder if the evaluation reports should address more explicitly “utility” (including needs and issues “over and beyond” the objectives).

The suggestions stemming from DG INFSO, JTI representatives and the two external reviewers were incorporated in the final version of the Evaluation Manual. The first version of the Final Report was delivered on June 24th 2009 to the Commission. On July 17th 2009 the Commission asked for some specific further improvement to the final report: The report should better take into account the particular character of the INFSO JTIs and should formulate more specific evaluation questions. The project team specified the evaluative questions and elaborated the links between the evaluative questions and the objectives and expected
outcomes of the JTIs. The revised version of the Evaluation Manual was submitted on September 4th 2009. On October 16th the Evaluation Manual was accepted by the Commission.

1.4. MEETINGS

Meetings with the Commission officials and members of the JTIs took place two times at the Commission premises.

- A first meeting was scheduled for the second half of the 2nd month: The issues for the inception report were discussed and the feasibility of the proposed work approach was verified, and the extent to which it corresponds with the information outlined in the Tender specifications.
- A second meeting was scheduled for the first half of the 6th month: The interim version of the 'Evaluation manual' was presented. The adequacy of approach will be discussed with the Commission as well as the realism of assertions and interpretations, and the adequacy of the guidance. The extent to which the proposed guidance meets the expectations of the intended users and fulfils their needs will be verified in this meeting.

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1.5. DELIVERABLES

The following deliverables were provided to DG INFSO:


The "Interim version" described the analytical framework, the key monitoring or evaluation issues; a set of applicable methodologies and tools; the requirements for data and evidence and suitable techniques for their collection. The Interim Version was delivered on May 4th 2009.

The first version of the complete the evaluation manual was delivered on June 24th 2009. The revised version was delivered on September 4th. The Manual for Monitoring and Evaluating ICT research in FP7 was endorsed on October 16th 2009.
2. Technical Report

The Technical Report details all the work carried out, the resources employed, and the outputs and results obtained under the contract, during its duration. The technical report was submitted to the Commission on November 4th 2009, after the endorsement of the final report.

3. Technical Annex - Description of Evaluation Methods and Use in JTI evaluations

The Technical Annex is a working document which summarizes the evaluation concepts necessary to know with regard to the JTI’s evaluation, as well as the data collection and data analysis methods widely used in evaluation studies. The Technical Annex is based on the information given in the EU Budget’s evaluation guidelines, the Blueprint of the Evaluation and Monitoring of the IST R&D in the 6th and 7th FPs, and the RTD Evaluation Toolbox.
2 Financial Information

The total fixed price for this project amounts to 75,000 €. The budget was based on a standardized cost of 900 € per day for the experts involved in the project (Wolfgang Polt, Prof. Vonortas, Michael Dinges, Franziska Steyer).

After acceptance of the Evaluation Manual the final invoice was sent to the Commission per postal service on October 29th 2009.

Overall budget (Euros)

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