

# How to Write a Technology Implementation Plan

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In European Union R&D contracts two contractual documents must be presented at the end of a contract: a scientific report describing the scientific developments and a Technology Implementation Plan describing how the results of the research and development will be exploited. This article provides a brief overview of a Technology Implementation Plan, the background to the document and sources of information to complete the TIP. The article is based on a training course developed by the author.

## 1. Background to the Technology Implementation Plan

During 1995 the European Commission funded a range of studies to assess the impact of the European Union (EU) research and development (R&D) programmes. The results of these studies were published in the Green Paper on Innovation ([http://europa.eu.int/en/record/green/gp9512/ind\\_in\\_n.htm](http://europa.eu.int/en/record/green/gp9512/ind_in_n.htm)) The highlight of this document was known as the 'European Paradox'. The Green Paper found that European scientists were producing world class science BUT this was not reflected in European economic performance. It found that, while European scientists were publishing scientific papers, American and Japanese scientists were publishing papers, filing patents, launching products and launching companies.

This 'European Paradox' stimulated a major debate in Brussels. The EU politicians and EU officials agreed that, in future, better use would have to be made of the results of EU research and development. In 1997 the European Commission completed a 5-year assessment of their R&D programmes. The report, which was known as the Davignon Report (after its chairman Viscount E. Davignon) argued that "the next Framework Programme must be firmly based on the twin pillars of **scientific excellence** and **economic and social relevance**".

In the EU R&D contracts the 'scientific excellence' is described in the scientific report and the 'economic and social relevance' is described in the Technology Implementation Plan.

## 2. Overview of the Technology Implementation Plan

The TIP can be found on [www.cordis.lu/fp5/tip.htm](http://www.cordis.lu/fp5/tip.htm) The documentation consists of a set of guidelines to prepare the TIP and a set of data sheets which are

standard for all contracts. Writing the TIP is quite simple as it involves filling in a number of forms summarising the results of the project and the plans the partners have to exploit the results. The difficult tasks are to identify the useful result, to source information on potential applications and finally to identify the different routes for exploitation.

The TIP has four main parts:

**Part 1:** This is an overview of the work and it will be used by the European Commission to promote the results of the work. It is a public (non-confidential) document and is written in a journalistic style.

**Part 2:** In this section each partner will describe how they plan to exploit the results of the R&D. This part is confidential and partners can send this to the European Commission without showing it to the other partners.

**Part 3:** This will be used by the Innovation Relay Centres and other Commission Services to promote public results from the work and to find organisations who would be interested in further developing the results. This is a public document.

**Part 4:** This will be used by the European Commission itself to justify the investment in the EU R&D programme. Part 4 summarises the contribution of the work to EU legislation, EU policies and other EU issues.

## 3. The Role of the TIP

To most researchers the TIP is seen as another bureaucratic document. To fully appreciate the document you must consider its role in the eyes of the European Commission, the researchers and private enterprises:

### **The Role of the TIP: The European Commission**

To the European Commission the TIP is a tool which can be used to measure the impact of their R&D programmes. The officials in charge of the EU R&D programmes are under considerable pressure to argue for increased R&D funding in future programmes. If researchers prepare high quality TIPs, the EU officials will have better arguments for future R&D funding.

The second role of the TIP is to identify genuine exploitable results. Successful results are as important to the EU officials as they are to the researchers.

### **The Role of the TIP: The Researchers**

The most important point is that the TIP IS A CONTRACTUAL DOCUMENT. The payments by the European Commission will be based on the completion of a TIP.

In the TIP researchers are asked to identify further research based on the work done in the project. In other words the TIP can be used to promote or identify future research projects.

The TIP also summarises the ownership of intellectual property. While the TIP is not a legal document the issue of intellectual property has to be discussed and agreed by the partners. (The model contract and the consortium agreement are the legal documents that define the ownership of the intellectual property)

### **The Role of the TIP: Private Enterprises**

For private enterprises the TIP summarises the ownership of intellectual property.

The TIP can also be used as a link to other sources of public and private funding. Private enterprises can use to TIP to identify Structural Funds or special initiatives such as LIFT (Linking Innovation, Finance and Technology). This is a programme to help venture capitalists to assess the results of EU R&D projects.

## **ROUTES FOR EXPLOITATION AND SOURCES OF INFORMATION**

The results of EU R&D projects can be exploited through a number of routes. These can be summarised as follows:

1. Commercial Exploitation
2. Input to EU and International Standards
3. Input to EU Policy
4. Further Research
5. Social Good

To help researchers identify the most appropriate routes to exploit the results of their projects the author has designed a training courses which covers each of the routes ( [www.hyperion.ie/tipcourse.htm](http://www.hyperion.ie/tipcourse.htm) ). A web page has also been prepared summarising the main websites which can be used to study each of the above routes. This webpage can be found at [www.hyperion.ie/tipwebsites.htm](http://www.hyperion.ie/tipwebsites.htm)

### **4. How to Write a TIP**

The instructions in the TIP guidelines suggest that the co-ordinator of the project should write part 1, part 3 and part 4 and that each partner should write an individual part 2. It does not work !

The most practical approach is to include one partner in the project (known as the 'Exploitation Manager') and to give this person the full responsibility to prepare the TIP. The TIP should be designated as a separate workpackage in the project and it should be allocated resources (labour, travel etc) in the same way as the technical development. During the project the TIP workpackage should be reported in the same format as the technical developments. The contract states that the TIP should be produced at the end of the project. However, most project officers also expect to see a draft (Version 1) at the mid-term review.

### **5. How to Find the Exploitable Results**

This is actually the difficult part. Most researchers concentrate on the main deliverables from the project i.e. the technical development, the data, the publication etc. However, exploitable results can also be found in the tools, components and non-contractual documents which are produced in projects.

The best way to find the exploitable results is in the following way:

Step 1: Examine the project for the following items: Technical prototype, documents, data, software, workshops, methodologies, websites, media (CD ROMS, videos), training material, demonstrations, pilot sites and models.

Step 2: Identify real individuals (e.g. product developer in an instrument company) who will be excited with each result. This will require an input from the user organisation.

Step 3: Select the best results and find out why the person is excited about the result (i.e. the relevance of the results)

Step 4: What does the user call the result ? This is actually what you will put in the TIP.

The above process can be done as a TIP clinic and is a very simple way of 'translating' the

researcher's description of a result into a format which is relevant to a potential user.

## 6. CONCLUSION

The Technology Implementation Plan can be approached by researchers in two different ways. The simplest approach is to fill in the tables 'to meet their contractual requirement'. The second approach is to use the TIP as a strategic document to identify future research opportunities, to identify results which can be genuinely exploited and finally to make sure that the intellectual property of the researcher is protected.

The TIP is not going to disappear. In future EU R&D programmes, and indeed in some National R&D programmes, the TIP will become an important aspect of R&D projects.

The successful exploitation of R&D results will require individuals who are both commercially and politically aware, who are able to acquire 'competitive intelligence' and who are able to 'make innovation happen'. These are our future entrepreneurs. The preparation of a Technology Implementation Plan is an ideal tool to develop these rare skills.

## AUTHOR

Sean McCarthy ([sean.mccarthy@hyperion.ie](mailto:sean.mccarthy@hyperion.ie)) is Managing Director of Hyperion Ltd. Hyperion specialises in the development of training course for research managers. Full details of their training courses can be found on [www.hyperion.ie](http://www.hyperion.ie). In 1998 he was invited by the Finnish Government to prepare a strategy to improve the commercial exploitation of the results of Finnish R&D. In 2000 he chaired an EU working group on 'Obstacles to Mobility between Academia and Industry'.