



The Malta Council for
Science & Technology



PARLIAMENTARY SECRETARIAT
FOR FINANCIAL SERVICES,
DIGITAL ECONOMY AND INNOVATION

FUSION R&I Commercialisation Voucher Programme

2014-2020

Activity Guidelines

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Each report should include a **1-2 page Executive Summary** with the following sections:

- Introduction to the report and key conclusions
- Methodology and/or workings
- Main findings
- Future recommendations



FUSION
The R+I
Programme

IP Check

Objective: The idea of an IP Check is to determine whether the technology has any IP potential. Through this check the Service Provider would provide a scientific and validation opinion of the technology. Such an analysis would enable an assessment of the ability to protect the idea, if this would be the case.

The IP Check includes the following considerations:

1. Capturing the new technology
2. Establishing the IP position

Before carrying out any IP checks, it is important to capture the technology, and obtain information relating to the inventors and competitor information, for example. An Inventor Disclosure form should be filled in by the technologists as completely as possible and used to facilitate the IP check and also the process of preparing and filing a patent application once it has been decided that this would be appropriate.

The following should be covered through an IP Check:

1. **Understanding of the technology** by reviewing the completed Information Disclosure Statement, and where appropriate, through meetings, both one to one or over internet, with the technologist/s and evaluation of the IP potential of the project proposal. Through this meeting it would be possible to get access to any information in possession of the inventor. This would enable the selection of keywords related to the purpose, use and composition of the invention. This should be done through **searching of the keywords on various sources** in order to find potential class / subclasses. The U.S. and European Patent Office provide free online databases. In addition one can make use of free online data-bases such as PubMed including any abstracts available. In this regard one can search using keywords or phrases that describe the invention under consideration by looking for common terms describing the invention and its function, effect, end-product, structure, and use. Given a Manual of Classification, verify the relevancy of the class/subclasses. Also, commercial databases could be used.
2. Further search on existing patents and published applications: Searching through the issued Patents and any published applications databases and access their full-text. Reviewing all claims, specifications and drawings of documents retrieved for relevancy, as well as all the relevant references.
3. Assess the ability of protecting the idea by primarily analysing
 - a. what, if any, information has already been disclosed [**Disclosure**]
 - b. if this is a completely new idea [**Novelty Factor**]
 - c. if this idea is building on something which has already been developed and/or protected [**Prior Art**]

At the end of the exercise, a validation and scientific opinion will be provided, identifying clearly whether the project proposal should:

- Proceed to the next step of the Voucher Programme including technical recommendations for improvement, if any; or
- Be rejected, including the reasons thereto to be communicated with the applicant.

Market Research and Product Development Costing

Objectives for Market Research: The aim of carrying out a market research is that of identifying whether there is a market for the technology itself, or from other technologies, products and services that might be derived from it. The market research should assess the potential relevant needs, characterised by customer segments and geographical location. The research should also assess the ease of access to the potential market, focusing on the intensity of competition, regulatory and tax barriers and customer readiness among other factors. The following information should be provided in a market research:

1. A thorough understanding of the product/service/technology being proposed by:
 - Undertaking of a **primary market research** in order to understand what the possible applications of the proposed idea might be and in which **type of market** would it fit. Through such an analysis it is important to capture the **potential impact** of the new idea to the market, given other new market ideas and existing products / services / technologies on the market.
 - Undertaking an **assessment of the perceived differentiating factors and USPs of the product / service / technology**. This would enable the establishment of the **potential market/markets for the technology**, and for products / services / technologies which can be derived from it, categorised in relevant segments for further analysis.
2. Provision of indications of the **potential sizes and growth rates of markets** and market segments identified in Step (1).
3. Identify the **potential for access to the markets** and market segments identified, taking into account regulatory issues, extent of competition and customer readiness.
4. Capture the **relevant technology trends** in order to providing details on how different sectors are investing in technological products; Such trends should seek input from:
 - Data from a number of technology market research reports (depending on the sector) such as Gartner, Forrester, IDC, Hoover's database of businesses, Ovum, Zenith International as well as industry trade associations; Such sources are being provided only as an example one is free to use other technology market research reports as it deems appropriate;
 - Data from online qualified industry surveys, blogs and publications, for sources of news, trends and market information with a declared methodology, such as the US Census Bureau which publishes annual technology surveys; Such sources are being provided only as an example one is free to use other technology market research reports as it deems appropriate;
5. Delineate the **potential life cycle of the technology and of derivative technologies/products and services** leading to the development of a demand forecast based on sound methodological approaches, including indications of pricing and revenue generation; This should indicate if there is an existing demand or whether it can be created.
6. Document the competitive landscape to identify and **recommend target country markets**, thus establishing the geographical market.
7. Undertake a **risk assessment** with respect to the market situation, and how this may impinge upon demand, pricing and revenue.

8. Review of **the environmental forces** (political, economic, societal and technological) that could influence the success of the product. Identify and quantify barriers to entry and any relevant legislation or restrictions.

9. Market Research should give consideration to **gender balance** in terms of the end-user of the product or service.

Objectives for Product Development Costing: The Product Costing should include the cost involved in order to get the technology being developed onto the market through a defined product / service. Such costing should also cover any technology transfer to be undertaken by the industry acquiring the technology. The following should be covered through the analysis:

1. The **identification and estimation of the costs** involved in the production and supply of the identified product, service or technology.
2. An **assessment of the dependence of such costs on critical factors**, such as the use of essential inputs, and transport to different markets, amongst other things.
3. An **analysis of the extent to which unit costs depend on scale of production**, including an assessment of the technological likelihood that a minimum efficient scale is achieved.
4. The undertaking of a **risk assessment** to highlight the principal risks to which cost estimates are subject, and their potential effects.
5. Where possible, identify the **direct costs**, which refer to the direct costs involved in the production of the product / service under consideration. Such costs may include material and process selection as well as labour costs.
6. Where possible, identify the **overhead costs**, which refer to the indirect costs that are still related to the cost object, but cannot be directly related to the actual production of the product/service. These may include environmental impact costs and regulatory/certification costs, health and safety costs, water and electricity, general administration costs, quality control, and general maintenance. Overhead costs can be either treated as a lump-sum or else they can be allocated to the products and services.
7. Establish the **minimum breakeven level** that would need to be achieved in order to fully absorb the identified fixed costs.

At the end of the exercise, a report including an analysis of market potential and detailed costings including all the costs involved in order to produce the product/service as a result of the proposed technology should be presented. The report should include a concluding expert opinion on whether the technology proposed is recommended for further considerations or not, thus identifying clearly whether the project proposal should:

Proceed to the next step of the Voucher Programme, including technical recommendations for improvement, if any. Be rejected, including the reasons thereto to be communicated with the applicant.

Economic Impact Assessment and Risk Profile

Objectives for the Economic Impact Assessment: The aim of an Economic impact analysis is to examine the potential effect of a proposed technology on the local economy. In this regard the Economic Impact assessment should measure the potential effect of the outcome of the technology in terms of changes in economic growth (output or value added) and associated changes in jobs (employment) and income (wages). Thus, this would enable the assessment of the economic potential of that technology by comparing the level of economic activity occurring at a given time with the presence of the technology, compared to what would be expected if the technology was not developed.

The Economic Impact should include the following elements:

1. Identify **the potential different effects** of economic impact through:
 - a. Direct production effects.
 - b. Downstream and Upstream effects along the supply chain through supply-use effects.
 - c. Indirect and Induced effects through the expenditure multipliers.
2. Estimate **the potential economic impacts** of the proposed technology on output, incomes, employment and productivity, highlighting where relevant the nature and sectoral distribution of jobs created.
3. Drive an estimate of the **overall contribution to the local economy** and interpret the results by showing the potential contribution of the technology in terms of economic growth, jobs and income.
4. Identify the potential **welfare effects** emerging from external benefits and costs, focusing especially on environmental, resource use, social and human capital creation effects.
5. Provide **estimates of relevant potential external benefits and costs**.
6. The analysis should be based on a **discounted cash flow** approach based on the time horizon over which economic effects from the technology can be expected to materialise.
7. The **economic effects** should consider elements of investment and output generation.
8. **Scenario effects** - In situations where the market value of a technology cannot be discussed in a credible way through a single scenario, the study can be based on multiple scenarios, with a discussion of their relative likelihood of realisation.

Objective for the Risk Profile: Risk profiles enable organizations to:

- To determine the critical risks associated with the eventual technology development
- To determine the critical risks associated with the eventual commercialisation and implementation of the resultant product/service
- To determine the level of risk involved if an investor had to make a decision to invest in the research proposal. Risk profiling is necessary to determine if an investment is suitable for an investor or otherwise, as it is a method which is applied to identify the risk involved if one had to undertake such an investment

The risk profile should :

1. Identify the drivers and pressures that are likely to constitute **sources of risk** to the project.
2. Identify, preferably through statistical modelling and analysis, the **sensitivity of the project to specific shocks** to determine the critical risk variables.
3. Identify the **probability of risks** occurring and the **impact** should they occur. **Mitigation plans** should also be briefly outlined for each risk.
4. **Scenario analysis** should be undertaken to quantify the effects of pre-determined shocks, and to identify the extent of shocks required to completely remove the benefits of the project. The analysis should focus on single shocks, and consider as well the effects of joint shocks.

At the end of the exercise, a detailed report including all the necessary data and information detailing the incremental effect of the proposed proposal on the local economy and risk register (with risks evaluated as high, medium or low impact and probability) should be presented. The results should enable a technology development lead and/or an investor to evaluate the risk to which a portfolio is exposed and make buy and sell decisions based on this risk and their willingness to accept risk. In addition, this report should include an expert's opinion on whether the technology proposed is recommended for further considerations or not, thus identifying clearly whether the project proposal should:

- Proceed to the next step of the Voucher Programme, including technical recommendations for improvement, if any.
- Be rejected, including the reasons thereto to be communicated with the applicant.