



• METHODOLOGICAL GUIDE FOR THE EXPLOITATION OF COLLABORATIVE PROJECTS' OUTCOMES IN THE GNSS SECTOR •

- Manual of Good Practice written for the **PEGASE** project •
Provision of Expertise to GSA And Support to Enabling activities
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Table of content

Introduction	page 4
PEGASE support n°1 – Starting well: screening of the project’s fundamentals	page 6
PEGASE support n°2 – Analysis of the competitive environment	page 7
PEGASE support n°2 – Strategy and business model	page 8
PEGASE support n°4 – Long-term protection of IP rights	page 12
PEGASE support n°5 – Exploitation scheme	page 14
PEGASE support n°6 – Testing the business model on real stakeholders	page 15
PEGASE support n°7 – Evaluating the resources needed	page 16
PEGASE support n°8 – Deliverable : Preliminary Business Plan.....	page 17



Introduction

Reducing the interval of time between final results of a RTD project and market introduction is particularly relevant in the GNSS sector where technologies and market opportunities are rapidly changing. It is a critical condition for the SMEs to keep their competitive advantage. However, unprepared commercial launch can mean the end of the story.

The support to be provided by PEGASE will consist in helping SMEs to implement the valorisation chain, which will turn innovative ideas and technological progress into marketable products and services. Ideally, a majority of this process should take place in the timeframe of the RTD project itself.

This ‘best practice’ guide proposes a methodology to support SMEs in building a successful business based on the technological foundations set up by their GSA-funded research project.

This tool capitalises on the “Golden Rules” identified in the frame of the INVESAT¹ project and will be further customized to better match the needs of the supported SMEs.

Valorisation process and PEGASE offer

A generic valorisation chain for technological research projects is illustrated in figure 1. Based on this valorisation process, PEGASE support will be delivered in 8 major stages. All stages must be completed, however possibly in a different order than the one presented here. In particular, the definition of the business model is likely to be a non-linear process: several iterations will probably be necessary before key success conditions are met.

PEGASE objective is to create the best environment for the commercial exploitation of the new product or service, with the ultimate goal to build a *marketable, viable, trustworthy, stable and robust* business.

¹INVESAT is a FP6 project financed by the European Commission - DG Enterprise

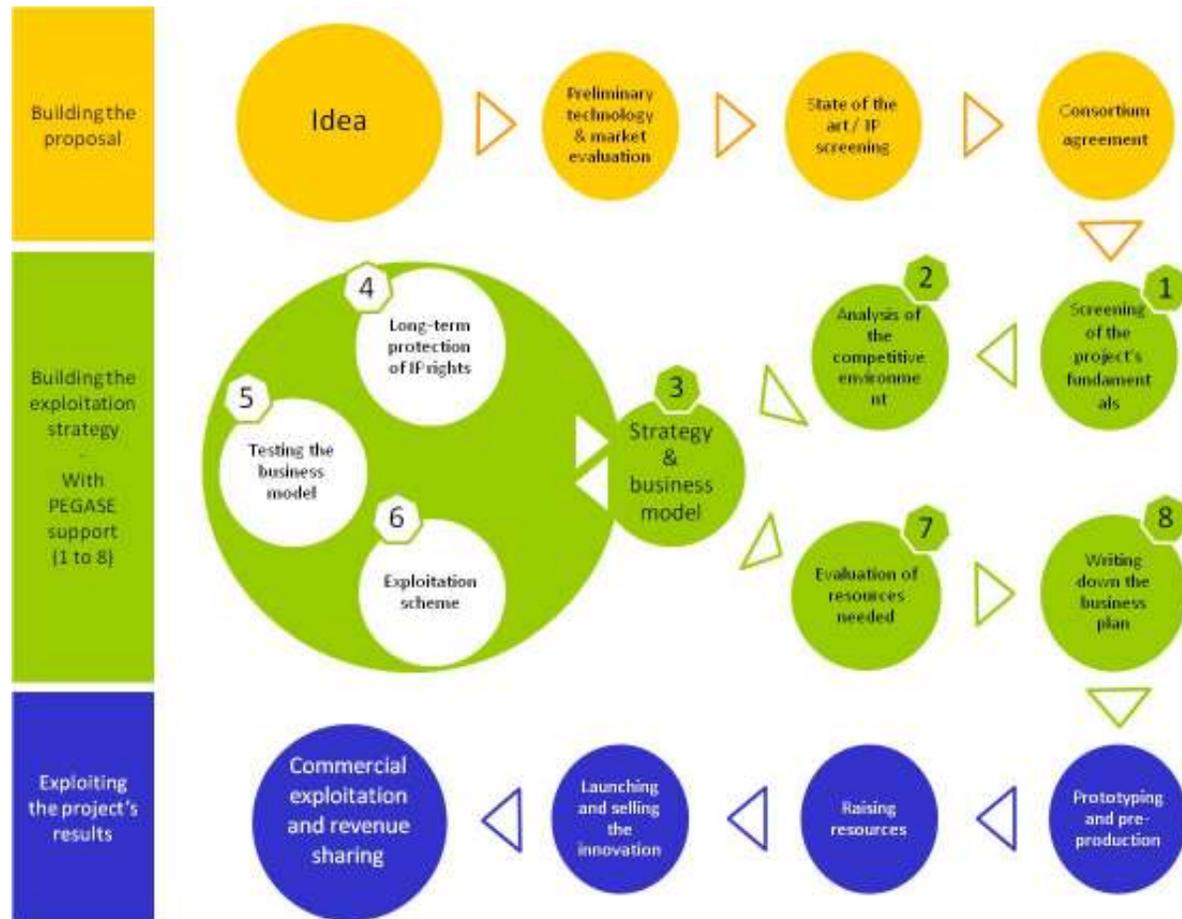


Figure 1 : Technological research valorisation chain & PEGASE support.

PEGASE support n°1 – Starting well: screening of the project's fundamentals

PEGASE team will first help the consortium to catalogue any relevant information collected during the proposal stage and to complete when necessary the fundamentals needed to start the valorisation process. Priority actions will be notified in a strategic roadmap.



The following items will be examined and created if not already existing.

Strategic objectives : Definition of the ideal outcomes of the project expected by each partner; compatibility between these individual objectives; formalisation of a consortium agreement in line with the partners expectations.

Preliminary market evaluation : Assessment of the targeted market and soundness of the proposed concept. Update of the project positioning versus state of the art and technology screening.

Foundations of the IP strategy : Definition of the background owned by each partner and foreground knowledge to be brought by the project. Identification of the critical information; adoption of a common IP

strategy (formal or informal) and confidentiality agreement.

Roadmap for the collection and dissemination of strategic information within the consortium : Based on previous analysis, which information is critical for the project (state of the art, market trends, competitors...)? Who will be in charge of collecting and disseminating the information amongst partners ?

Project exploitation plan : Formalisation of the action plan to be implemented during the valorisation process. Definition of the support to be provided by PEGASE team, including major meeting points.

PEGASE support n°2 – Analysis of the competitive environment

The sector of GNSS applications undergoes rapid technological and market changes. It is therefore necessary to update the market & strategic environment evaluation conducted at the proposal stage. This step aims at acquiring a clear picture of the economic and strategic environment of the project.



Market targets

Who are my customers ? Who are the customers of my customers ? Do I intend to capture an existing demand or to create a new demand ?

What is the size of my total reachable market, in volume and in value ? What is the market growth potential?

What is my current market share ? How is it likely to evolve over the next three years ?



Position in the GNSS competitive environment

Who are the most direct leading competitors ?

How does my offer compare to direct or indirect competing solutions ?

Who are the key partners ?



Timing

Time to market is essential.

How reactive are my competitors ? What would be the ideal timeframe for commercializing the project's results ?

Are there any priorities in the project's objectives in line with market expectations ?

Is the proposed planning coherent with the evolution of the competitive environment ?

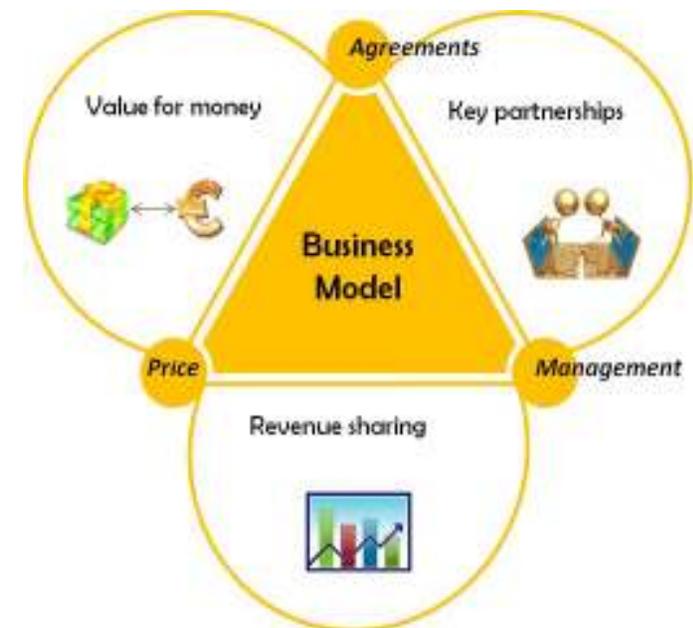
PEGASE support n°3 – Strategy and business model

A successful business model will extract a maximum value from the project results. This stage is the core component of the valorisation process and will be conducted iteratively with the IP strategy, the exploitation scheme and the real case test phase (stages 4, 5 and 6). A threefold approach will be implemented.

Value for money – You will have to define how the created value will be turned into money. Appropriate pricing schemes and distribution channels will be set up and secured by commercial agreements.

Key partnerships – Opportunities offered by the market can only be seized if human, technical and financial resources are available to deliver the expected product or service. This leads to designing the networks to be managed for a successful integration in the value chain. Common rules and principles will have to be adopted by the different players to operate the business. But keep in mind that each type of stakeholders may have its own vocabulary, culture or evaluation criteria! You should be aware of it in order to keep them on board.

Revenue sharing – Each actor in the business (shareholder, supplier, technical or commercial partner and first of all customers) has to retrieve some benefit from its participation to the business. This point raises the questions of IP rights exploitation.



1. Value for money – How to get revenue in exchange of the created value ?

Key Customers' Value – What are the unique selling points of my business activities ? What are the differentiating factors of my product or service : Innovation ? Performance ? Cost advantage ?

Pricing and billing – What are my proprietary revenue generators ? How do they impact the revenue generators of the whole value chain, i.e. the price billed to the final end-users of the service ? Who should I bill my added-value to and how ? (one-time cost/lump sum, flat rate, usage-based "pay-as-you-go"...)? Will I sell content rather than technology ?

Distribution strategy – To which party does the end-customer purchase the final application ? Will I have one or several types of distribution channels ? How do I intend to expand my business ? What are the barriers for expansion ?

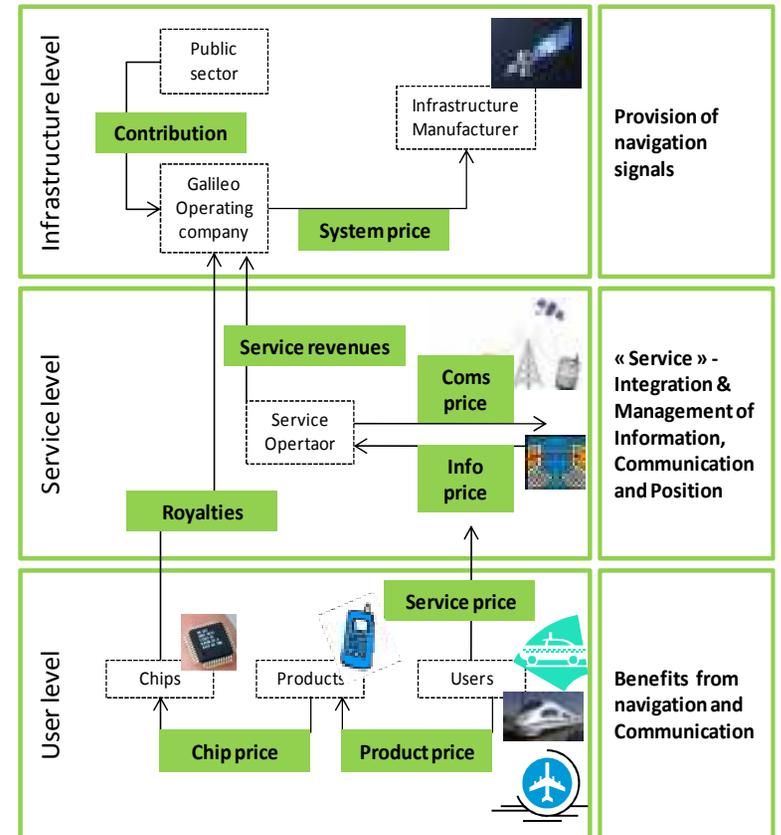


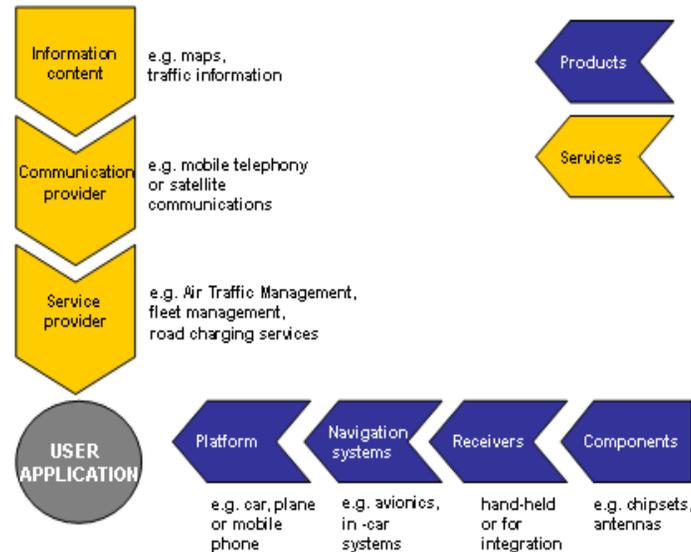
Figure 2 : Example of Galileo based service chain.

2. Key partnerships – Building the network

In the GNSS arena, most of the business models are network-based. You will certainly need to create or reinforce upstream and downstream alliances. Who will be your critical partners? Where will you start from ?



Upstream alliances: Partnerships for the generation of a successful product/service. Where will your business take place in the GNSS applications value chain? Please identify your position in the GNSS applications value chain and target the gaps in terms of products and services providers.



Downstream alliances: Partnerships for accessing the market and selling your products and services. The type of business model impacts on the definition of key partners downstream the value chain. Which distribution networks are most appropriate?

User-specific products require a perfect assessment and understanding of the needs of a specific category of users. Will you need partners in this way?

Semi-finis products will need to be adapted to each customer's category. Will you build a direct or indirect access to market?

Off-the shelf and standard products will most likely need mass production in order to be competitive. Are economies of scale possible, where and how? Could you build alliances to meet these conditions?

Figure 3 : Upstream value chain for GNSS based applications.

3. Revenue sharing – How to share value between the different stakeholders ?

In a viable network-structured business model, profitability and growth are greatly dependent upon the generation of value, not only for the customer, but also for the network of firms and stakeholders that collaborate to provide the product/service. Therefore, the key issues for a successful business model in the area consist in favouring the value appropriation by the different players.

- Who creates the values in the value adding chain? Direct service providers? Content aggregators? Telecommunication providers? Infrastructure providers ?
- Do I bring value to them? If yes, how?
- How much does the provision of the added value in a given GNSS application value chain cost to each player?
- Who bills whom?

- Which billing party is accepted by the customer?
- Can the value-adders bill the customer?
- What if someone in the chain does not pay?

- How to convince the different stakeholders ? Am I aware of the different cultures, heritages and expectations of the stakeholders ?
- How will I secure my network based business model? What type of conventions and agreements are needed with my partners and clients ?
- How will you manage your network every day ?

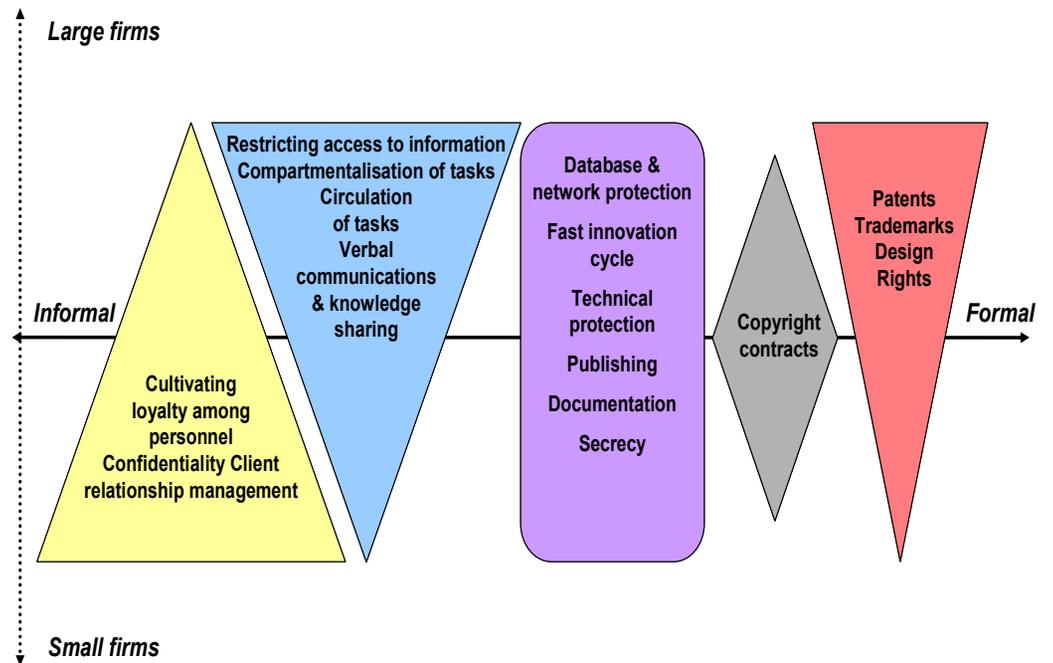
PEGASE support n°4 – Long-term protection of IP rights

IP rights protection mainly relies in the question of patenting or not patenting. In the case of patenting, the geographical extension of the patent should also be discussed.

A formal or informal strategy could be adopted, as illustrated in figure 4.

In the frame of PEGASE support, the consortium will be invited to prepare the discussions with an IP expert.

Figure 4 : Relative positioning of current IP protection practices on formal and informal aspects (Kuusisto & Päällysaho, SC-Research, January 2006).



Formal protection

- Patents – devoted to the industrial part of the innovation
- Utility models – designed to protect intellectual creation having an aesthetic goal
- Copyrights – for the protection of non technical intellectual creations of authors
- Trademarks – to protect names and logos

More info about GALILEO IPR :

<http://www.qsa.europa.eu>

<http://www.galileoju.com>

Legal questions including IPR issues can be asked to : legal@qsa.europa.eu

Semi-formal protection

- Contracts – non-disclosure agreements, non-competition clauses, agreements about the ownership of IPRs, agreements that forbid reverse engineering and product modifications, agreements on the compensation for employee inventions, etc.



- In the particular case of satellite downstream services, license contracts will have to be concluded with the data providers to get access to the databases (SATNAV, EO) or to the telecommunication network (SATCOM).

Informal protection

- Non disclosure – keeping secret
- Publishing – creating a reputation as a barrier to imitation
- Restriction about using knowledge – limiting access to critical information
- Commitment of personnel – to reinforce staff loyalty
- Task allocation or swiping of tasks – to reduce dependence on key personnel
- Documentation – to reduce the risk of losing knowledge
- Fast innovation cycles – to maintain a lead time advantage
- Technical protection – encoding, security keys, etc.

PEGASE support n°5 – Exploitation scheme

The question must be raised how the project coordinator will practically undertake the exploitation of the project results. Risk assessment will be useful to evaluate whether the new activity should preferably be integrated within one of the project partners' companies or whether a new entity should be created to run the innovative business,

The answer could be determined considering :

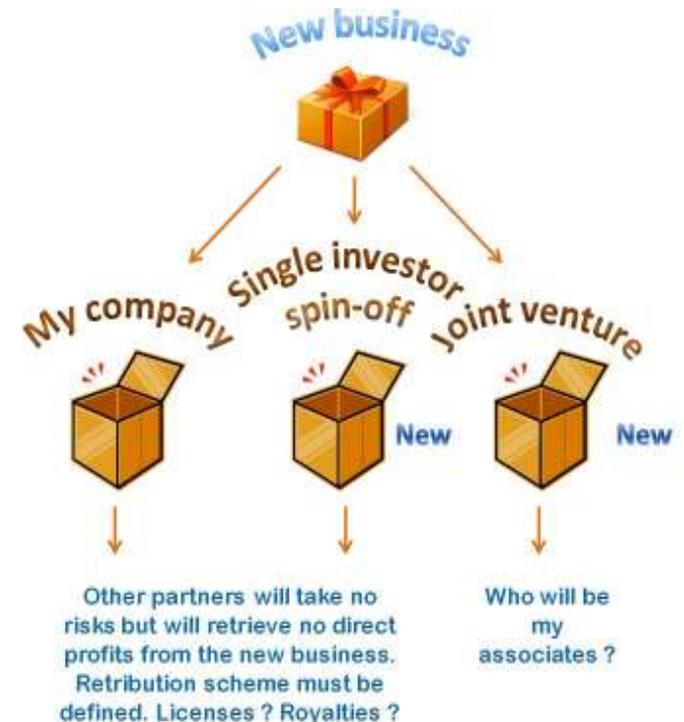
The impacts of the new production on budget, human resources, production timetables etc. of existing companies

The possible mutualisation of resources (human or technical) between existing and new production / service exploitation

The image and marketing strategies of the innovative product / service compared to the ones of the existing structure

The financial risk to introduce the new activity into an existing activity

Difficulties in identifying an appropriate exploitation scheme should lead the project holders to revise the business model.



PEGASE support n°6 – Testing the business model on real stakeholders

Once a theoretical business model has been designed, its robustness will be evaluated with a panel of potential customers and partners.

Testing the market

The product / service and associated pricing scheme will be evaluated with a significant number of potential customers. The PEGASE team will support SMEs in elaborating the list of customers to be contacted as well as adequate questionnaires. The “4P” marketing theory will be applied to conduct the test : Product, Price, Promotion, Place.

Testing partnerships

The agreements and revenue sharing schemes should also be evaluated with upstream and downstream partners. You should be able to evaluate if the different types of partners are critical, important or minor and what is the risk to share knowledge with them.



Negative or uncertain conclusions shall lead the project holder to an iterative update of the business model.



PEGASE support n°7 – Evaluating the resources needed

At this stage the consortium will evaluate which human, financial and production capacities will be required for starting the commercial exploitation of the project. Such capacities do not only refer to technical equipments and infrastructures but also include any means needed to create and preserve knowledge and know-how.

PEGASE will support SMEs in quantifying the three components of the resources needed to start the business.

Human resources



An adequate team management;
The identification of critical competences and profiles of leading edge experts;
An appreciation of the availability of the above resources.

Technical resources

Production facilities needed;
Associated investment or rental costs;
Delay for building or acquiring the required facilities.



Financial resources



Elaboration of cash flow and activity forecasts :

Can you demonstrate high enough cash flow capabilities ?

Which are the possible leveraging effects for financing ?

Do you intend to open the capital to private investors ?

PEGASE support n°8 – Deliverable : Preliminary Business Plan

This stage is a synthesis exercise aiming at consolidating previous conclusions. The business plan should be understandable and attractive to any possible stakeholder of the project, may it belong to technical, commercial or financial communities. It will bring a clear, complete and concise picture of the business.

A typical content is given below :

1. Objectives of the project

- a. Context
- b. Strategic objectives
- c. Key customers value

2. Market analysis & competitive environment

- a. Targeted markets
- b. Competitors and other barriers
- c. Growth potential

3. Presentation of the business model

- a. Value for money
- b. Key partnerships
- c. Business agreements and revenue sharing

4. Management of Intellectual Property

5. Resources needed

- a. Human resources
- b. Technical resources
- c. Financial resources

6. Detailed economic evaluation

- a. Investments
- b. Costs & revenues
- c. Cash flow
- d. Funding needs





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