

Frogs in a wheelbarrow? The role and challenges of the Project Manager throughout the life cycle of a European Union funded R&D Project from the proposal to the completion stage

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Abstract

The paper highlights the unique role of the project manager engaged in an EU funded R&D project. The challenges have a dual facet. Project management skill is particularly demanding due to the necessity of pulling together a project proposal based on the wishes and desires of from six to thirty consortium partners. This is in addition to handling the language and cultural barriers of the partners that come from diverse countries and disciplines. Most tasks are conducted in a virtual project setting via the Internet. The project manager must at all times adhere to the rules and regulations of the CEC, the Commission of the European Communities, which are stringent and uncompromising regarding reporting and project control, as well as release of funds. The Brussels based Project Officer autocratically represents the EC with full decisive power over the project and thus autocratically represents the primary EC stakeholder. Languages and cultural barriers of the partners from diverse countries and disciplines are daunting.

Developing a project culture that strengthens the and motivates a team while adhering to the rules and regulations of the European Commission and its representative, the Project Officer, will be examined through a typical EU project life cycle, following the project manager from the project proposal stage, the contract negotiation and project mobilisation stages, then through the execution and finally the closure. Problem areas and cultural dilemmas will be discussed, using examples from actual projects with particular empathy for the project manager's role. The paper suggests some critical success factors for the management style of the project manager, ranging from the art of knife and fork diplomacy to the cold facts of applying the tools of the project management disciplines.

The comparison to "frogs in a wheelbarrow" will be illustrated throughout the EU project lifecycle. The concept conjures the picture of a wheelbarrow of leaping frogs in random directions without apparent cause or objective.

Introduction

The European Union every year funds several thousand research projects presenting as many project managers with the challenge of leading a collaborative research endeavour. This paper discusses some of the issues faced in multicultural, multilingual, multi-interest, geographically distributed project teams, with an emphasis on practical solutions and team building.

Member states of the European Union agree on targets and objectives to be reached in the development of the Union, and leave implementation to the European Commission. ¹To achieve the goals in the areas of industrial development and science, the European Commission defines rolling four year framework programmes (FPs). ²The overall budget for the current FP, the sixth, is 16 billion Euros over the four years 2002-2006. ³The FP itself consists of multiple thematic programs. Since the research should respond to the greater societal need, it is important to be aware that the research topics addressed by the thematic programs are described in corresponding work programs written by the Commission at the start of the FP. These work programs normally undergo annual revisions and updates, although the overall structure of a thematic program stays fixed throughout the whole FP. Of particular interest here is the thematic program emphasising IT research; the Information Society Technologies (IST) which has an overall budget of 3.6 billion Euros over the period. This is because the challenges for the project manager are more pronounced when dealing with high risk IT-related research where collaboration is more difficult.

There is a major investment made by industry in the Framework Programmes in addition to the investment made by the European community. Commercial partners in general will have to cover half of the cost of their project contribution. Thus, in contrast to common misunderstanding, companies participate not to have a share of the funding, but for more profound strategic interests. They get access to new technology on which new products may be based, they build strategic partnerships with other companies, and they establish lasting relations to the best research groups in European academia.

However, the stronger the individual partners' strategic interests are, the more challenging the project management becomes having to align these interests with the goals of the project to achieve the project's objectives. Keeping the frogs in the wheelbarrow until the successful completion of the project is the grand challenge discussed in this paper. Section two discusses the artefacts of a European IT project, section three characterises the different actors (frogs) and their interests, while section four focuses on the project management mechanisms necessary to keep the frogs on board.

Structure of an EU project

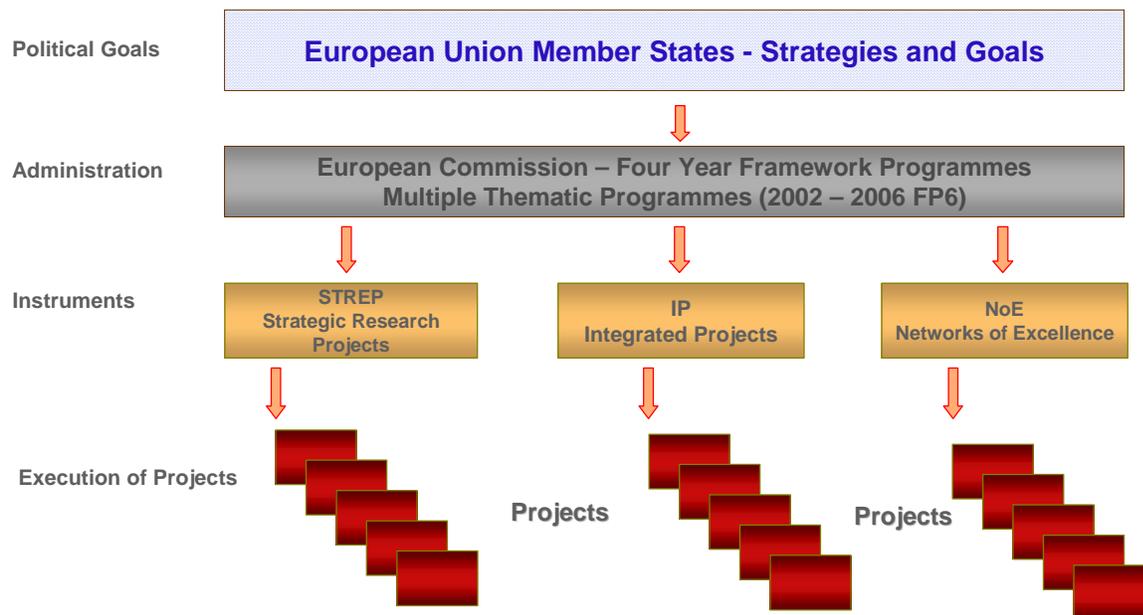
There are basically three types of projects, or instruments as they are called in the Commission jargon: The integrated projects (IP), the strategic research projects (STREP), and the Networks of Excellence (NoE). The Integrated Projects are big projects established to solve a major technological challenge, and may easily gather 30 partners with a budget exceeding 15 million Euros and a duration of 3-5 years. The STREPs are more focused with normally less than 10 partners and a budget less than 5 million Euros for up to three years. The NoEs are primarily for academic collaboration and integration, and funding is only available for integrating activities such as travel, and not for research. This paper will focus on the project management challenges of the STREPs and IPs as their difference is mainly the size of the operation. From a business perspective it is also these instruments that allow strategic participation to the FP.

¹ Relevant policies of the European Union:

http://www.europa.eu.int/information_society/policy/index_en.htm

² An overview can be found at <http://www.cordis.lu/fp6/stepbystep/home.html>

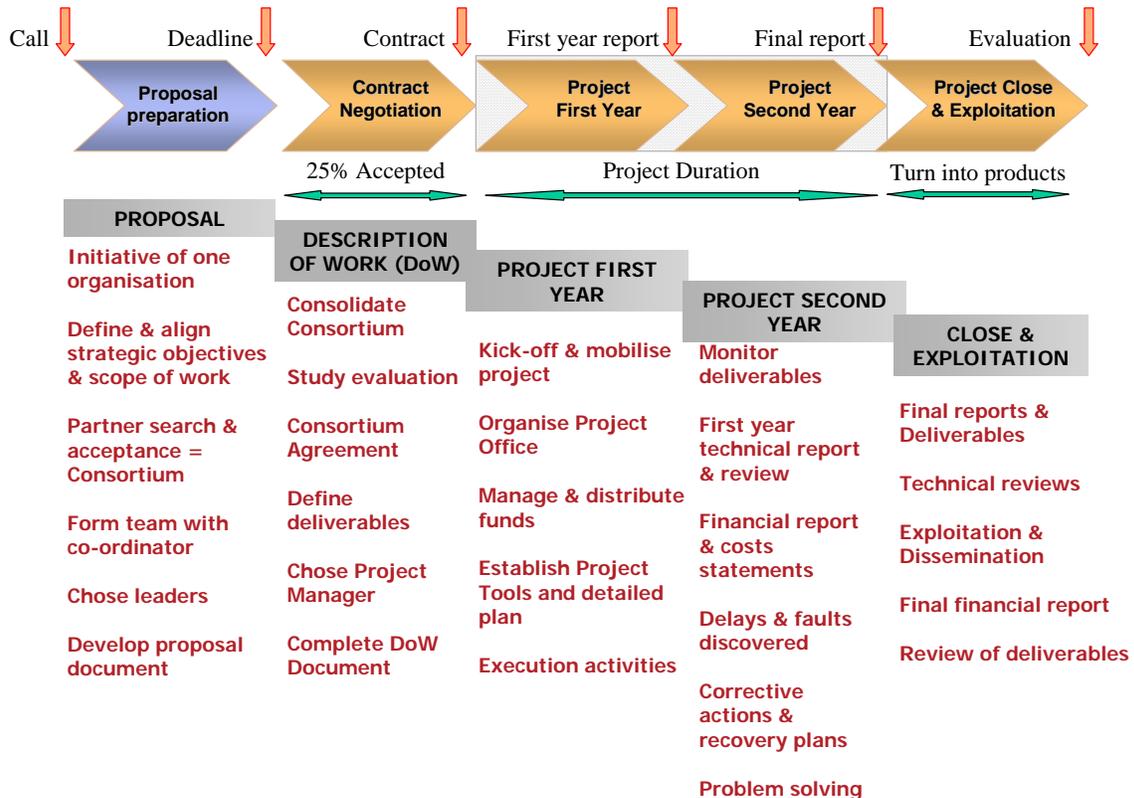
³ document contains the official text of the Decision of the European Parliament and the Council relating to the Sixth Framework Programme, finalised on 27 June 2002: http://dbs.cordis.lu/cordis-cgi/autoftp?FTP=/documents_r5/natdir0000029/s_1831005_20021107_150652_6FPL021654en.pdf &ORFN=6FPL021654en.pdf



A project starts with one or several organisations identifying a challenge requiring a broad research and technology development (RTD). Provided that there is a corresponding need identified in the work programme of the relevant thematic programme, a European level project may be a possibility. The founding organisation(s) then establish a consortium, whose minimal requirement is to have three partners from three different countries in Europe where two of these countries are members of the European Union. Not all partners have to be from member states since there are countries⁴ that are not members of the European Union, but are separate members of the FP and fund the FP on equal terms with the European Union member states.

A typical consortium constitution for a STREP has half of the partners academic and the other half industry, although more academic participation is possible. This is because a STREP targets *proactive* research, which is more exploratory research on an academic research agenda. An IP will normally have two thirds industrial partners and one third from academia. Since an IP's focus is towards finding a solution to a technological challenge, the research parts will be *reactive* and directed towards providing the IP with the necessary innovation and solutions on the industrial development agenda.

⁴ At present these are Iceland, Israel, Lichtenstein, Norway and Switzerland.



Project Metamorphosis

The best projects are those that combine excellent academic research with strategic technology development in the industry leading to excellent post-project exploitation of the results in commercial products from the industrial partners.

Once the consortium has been established the project objectives, the work breakdown structure, the project management practices to be used, and the budget will be defined in a project *proposal*. The consortium must agree on a co-ordinator to represent the consortium in its dealings with the Commission. The Commission, at regular intervals over the FP, will issue *calls for proposals* in accordance with the current versions of the work programs. The project proposals submitted to the Commission in response to a call undergo a transparent peer evaluation by independent experts in the field, and the best proposals are ranked by the experts and recommended for funding. Depending on the funding allocated to a given area under the thematic programme, the Commission will enter into contract negotiations with the co-ordinator of the best ranked proposals. The observations and recommendations of the evaluation experts are taken into account during these negotiations turning the proposal into a *Description of Work* (DoW) for the project. Once the Commission and the consortium agree, a contract is issued setting the date at which the project work may start. The project's success is now in the hands of the project manager. This is the point where the team is formed, this is the exact time in the project where the Project Manager must use all his or her skill to collect the frogs in the barrow, define goals and motivate to co-operation and trust.

It is important to be aware that a European project is a *collaboration* among independent organisations driven by their own strategic interests. Although some consortia may resemble supply networks where the collaborative relationships among the partners predate the project and form formalised structures, they are the exceptions. There is normally no interdependency among the partners outside the project collaboration. Essentially, this leaves any organisation free to leave the project if it is no longer of strategic interest to continue. However, the co-ordinator is contractually obliged to deliver to the Commission the results promised in the Description of Work. Thus the contributions expected from a partner leaving will still have to be produced, either within the remaining partnership or through the inclusion of a new partner. Hence in addition to normal project management activities, the project manager will have to devote significant attention and resources to partner motivation, and ensure that the project's objectives stay within their strategic focus. An industrial partner is often represented in the project via its RTD unit and the project manager needs to understand the strategy of the whole company as this may deviate in the short term from the longer term research goals pursued by its RTD unit.

EU projects are peer reviewed annually and further funding released only if the results are acceptable. At the end of the project a plan for future use of the results is mandatory. This plan will detail how the individual (industrial) partners are going to carry the work forward to commercialisation. This plan can be audited by the Commission several years after the project conclusion, and the funding for individual partners may be reclaimed if there are significant discrepancies between planned and actual exploitation actions. This will not be a problem if the project coincides with the strategic plans of the partners, but the project manager needs to be concerned about the post project commercialisation interests of the partners.

Species of frogs and the project risk enablers

"Frogs in a Wheelbarrow" is an old Dutch expression⁵. The reference found was in an article from 1996 quoting a puppeteer named Chris Doorman⁶. This simile to the European project scenario vitually jumped at us.

The wheelbarrow that is an EU project is inhabited by a variety of frogs that change shapes and colours throughout the metamorphosis of a project. At times the frogs are individuals and at other times representatives of their organizations. The successful project manager must strive to recognize and work with all the changes.

Organisational frogs

Each partner in an EU project brings a certain amount of organisational baggage. The strategy of each partner is an important criterion in understanding how a partner may contribute. An SME, for example, is usually close to the market. They do not have the luxury of patience but are often flexible, at least with their own strategy. Due to this market proximity what is desired today by an SME partner may not be needed tomorrow while a research institute (RTO) may desire perfection, therefore the motivations and timescale are different and sometimes in conflict. A large industrial concern has deep pockets and may see EU projects as part of its long term strategy while a university may see it as a way to continue its research and keep graduate students employed.

The organizational types described in the Table 1 are generally descriptions of the partners that may be involved in EU projects. In some cases they may also describe individual inclination.

⁵ There is a quotation by Alfred Pijpersin from the Clingendaal Institute, the Netherlands in EuroActive where he said "...there is an old Dutch saying....."

⁶ Wageningen Universitetsblad. "Puppets in Extension Work"

<i>Organisational type</i>	<i>Challenges in an EU project</i>
SME	<ul style="list-style-type: none"> Closer to the market Access to IPR necessary Less altruistic, needs are real and demanding Pressed for time Concrete results oriented Design for manufacturing Frequently requires administrative support
RTO	<ul style="list-style-type: none"> Expensive, everything costs/no free lunch Result oriented but can diverge Design to prototype Little administrative support required
University	<ul style="list-style-type: none"> Research oriented Long term time perspective Inexpensive Proof of concept Some administrative support required Paid only for additional costs therefore usually get graduate students that may leave Professors have limited time
Large company	<ul style="list-style-type: none"> Close to market but with deeper pockets and longer time perspective Access to IPR flexible (licensing etc.) Little administrative support required Can become bullies
Government	<ul style="list-style-type: none"> Want results but not often specific about requirements Application may not be permanent Long acceptance process Can be bureaucratic Little administrative support required

Table 1. Organisational Frogs

Cultural Frogs

Have you ever heard the joke about the Norwegian, the Frenchman and the Irishman? Probably you have in some form or another in some sort of combination. This is because there are real perceived differences in how individuals work in groups. Table 2 outlines some of the culturally biased challenges that may face an EU project manager. Primarily these are individual attributes but often in addition they describe the organization involved.

<i>Cultural Issues</i>	<i>Challenges</i>
Communication	Body language and gestures Meanings for the same word Assumptions made in the same situation Sharing of information
Standards	Weights, measures etc.
Approaches to problem solving	Based on educational curricula Theoretical/mathematical vs. experimental/numerical
Hierarchy	Power base Formality of personal interaction
Work structure	Team vs. individual Consensus v. tyranny

Table 2. Cultural frogs

Expertise frogs

Within any given EU project is a wide range of talents and expertise, by definition they are multidisciplinary. There are technology providers, technology enablers, and end-users. There are physicists, electrical engineers, electronic engineers, knowledge managers, material technologists and chemists. There are bureaucrats, accountants, students and lab workers. All these various participants have expertise that can be conflicting and ethnocentric. The project manager must work diligently to keep the disparate project members focused on the common goal. Table 3 outlines how expertise can influence an individual organisation in a project.

<i>Expertise</i>	<i>Focus</i>
Technical	Will it work, why it works, how it works
Administrative	What is required, when is it due, are resources available?
Business	What will be delivered, when will it be delivered, how much will it cost, how can I make money from it
Accounting	What will it cost, why will it cost that much

Table 3. Expertise frogs

Bureaucratic frogs

The final unique aspect of EU projects is the requirements of the various bureaucracies. Each project partner must answer to the demands of the official forces that have responsibility. Particularly with the 6th Framework programme and its requirement that each partner generate an audit certificate yearly, means that the partner must fulfill national laws that may differ from European Commission financial guidelines. These frogs are almost always organizational in nature.

<i>Bureaucracy</i>	<i>Demand</i>
European	Financial Guidelines, audit certificate, cost claims, VAT
Country	Annual report, audit requirements, tax requirements
Internal	Hourly rates, cost claims, project expense tracking

Table 4. Bureaucratic frogs

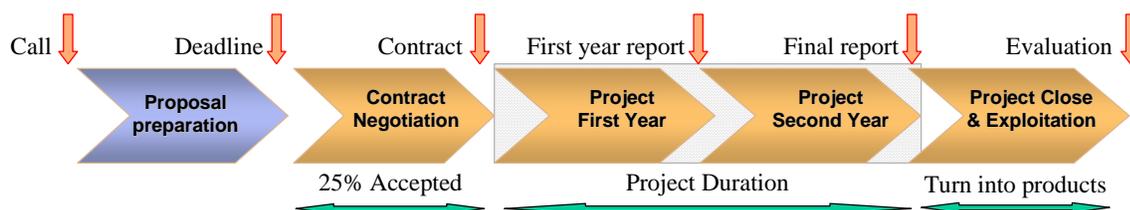
The Project Manager's main headaches

Throughout the whole project life cycle, from the proposal stage to the closure stage, the project manager's main focus is not significantly different than for any R&D project, using classical project management methodology and sound leadership principles. That is to keep the project goals in focus, to track progress making sure milestones are met, to ensure communication, to monitor deliverables finishing on time, to manage the budget and EU funding and to manage changes. The additional challenge is the closely regulated communication with the Brussels based scientific project officer, on behalf of the whole project.

With partners geographically located all over Europe and a limited travel budget, the project management has to be virtual in order to succeed, exploiting whatever electronic and web-based collaboration platform possible. The virtual management needs to be adapted to the needs and maturity of the different partners, often facing obstacles like restrictive fire walls, incompatible software platforms and versions, and different partner level management cultures. Proven virtual management methodologies that work well in some consortia may completely fail in others. Hence, significant effort has to be spent initially to establish a collaboration culture that is well adapted to the partnership and the objectives of the project.

Since the project is collaborative, the partners have to self-manage their contributions regarding work force and timeliness. Although each partner's sub-project manager should report immediately any deviations to the overall project manager, this is often not the case. It is human nature to try as long as possible to have the organisation look its best, thus concealing significant risk elements and delays and hoping to recover unnoticed by the project. Only when it is not possible to deliver a result on time will the project manager be informed. Then it is often too late, and if the work is on the critical path the whole project may be delayed. Consequently, it is hard but absolutely necessary to establish a climate of trust within the project allowing early exposure of potential problems.

Taking the stages in the lifecycle, the main headaches of keeping the frogs in the wheelbarrow can be highlighted:



The Proposal Stage

The foundation of successful project management is built during the proposal stage. The tone is set for how the project will function if approved and awarded funding. Very often the person who manages the proposal activities will not necessarily be nominated as Project Manager. In this case it is a clear responsibility of the company co-coordinating the proposal work to be aware of the responsibility of gathering and motivating frogs to co-operate, not only to produce a high quality proposal, but lay the foundation for a project in the event that the proposal is successful. Conflicts that are seeded during the proposal may be difficult and impossible to resolve when a project is mobilised.

Contract Negotiation

At this stage the co-coordinator organisation must nominate a Project Manager. This period requires the Project Manager to develop a good working relationship with the Brussels peers. If this is not achieved there may be no contract. Concurrently there is a major work required to organise the project, motivate the partners to become a team and to negotiate and complete a Consortium Agreement, which is an agreement between the partners.⁷ This process can also be a potential for conflicts, where partners are replaced due to their scientific or strategic differences.

Project First Year

The kick-off meeting is the most important event, often the first time the frogs actually meet and the wheelbarrow is filled. As well as being the starting point for a 2 – 3 year research programme, it is the mobilisation of a team, where the team building process in fact is the most important. If this is successful the first year is usually the enthusiastic phase of a project. At the end of the first year the first financial reporting and technical review takes place by the Commission.⁸

⁷ Consortium agreement:

http://www.ipr-helpdesk.org/controlador.jsp?seccion=documentos&cuerpo=seccionador&cod_nodo_padre=t_02.01.05&niveles_profundidad=3&modo=listado&len=en

⁸ Financial guidelines:

http://dbs.cordis.lu/cordis-cgi/autofp?FTP=/documents_r5/natdir0000035/s_2034005_20050316_104305_2034en.pdf&ORFN=2034en.pdf

Project Second Year

By this time some problems will have appeared, partners are late with deliverables, technologies not resolved and scientific discussions and arguments arise. The audit from Brussels has revealed deviations that require actions. All this has to be coped with by the Project Manager. Now the job can be very lonely. Who are your allies and where are the frogs that at the kick-off meeting enjoyed a wonderful dinner together in a barrow of perfect harmony? Now is the real test of the soft people-skills of the Project Manager. The problems come from both directions, and need a bipolar approach, that of resolving the project as well as keeping the EU Commission happy.

Project Close and Exploitation

At project close, we have success, if results have been delivered and progress has been maintained according to schedule, and the frogs have been persuaded to stay in the barrow to the end of the garden path. There is a high level of project management activity involved in closing out the project, but this time the flavour is more of the classical PM discipline. Reports, financial statements and in particular the exploitation and dissemination activities can be a challenge. The partners can be audited up to 5 years after project closure in how they have utilised or commercialised their project results. They may risk having to pay back part of their funding if they have not put their results to use. However the job of the Project Manager is over when the EU Commission has accepted the final reports.

Conflicts, intangibles and invisibles

There are situations where conflicts are brought into projects, based on earlier negative relations between companies and even between individual researchers. These are often not discovered before they become an issue. It is important to spend some time early to gain empathy with the frogs, to discover these potential issues. The remedies vary, but the damage is often proportional to the time into the project where the issues are addressed.

Intangibles and invisibles are in fact the daily agenda, as the Project Management Office is always located far from where most of the partners are located. Apart from quarterly meetings, communication is by digital means or telephone. One must learn to read between the lines of e-mails, listen to intonations in telephone discussions, be aware of cultural attitudes and personal characteristics, and react accordingly. In exercising organisational compassion in problem solving it is good to remember to always maintain an assertive leadership style, for the project to reach its goals and be a success.

Summary

A European Commission funded project is a particular challenge to the project manager in its combination of rigid rules and strong steering from a Commission Scientific Officer and the differing goals of participants, all of whom have a tangible stake in the project. EU projects have been described as harder than controlling frogs in a wheelbarrow. The project manager does not have the luxury of being the owner of the project but must use whatever skills necessary to cajole, persuade, and charm partners into performing on time and to budget, while presenting a united and professional front to the Commission. This is no easy task. The foundation is a clear, well organized project with specific roles, duties and expectations in a carefully assembled wheelbarrow. The challenge is keeping the frogs inside.

The critical success factors for a well managed EU project can be summarised thus:

1. As co-coordinator or potential Project Manager one needs to allocate time to the project proposal process
2. Team building starts already at the proposal stage, and it is important to get to know the frogs
3. One needs to apply and communicate Project Office rules early in the start-up stages of Contract negotiation
4. It is imperative to build a relation with the EU Commission Project Officer representative in Brussels up front
5. One must do absolutely everything in ones power to control the frogs and deliver according to the Contract with the Commission
6. Some direct advice; fine tune your leadership role and human skills, to hear things that are not said, read things that are not written and to see body language beyond your line of vision

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