

## KEY ASPECTS OF MANAGING AN INNOVATION PROJECT IN THE EU FRAMEWORK PROGRAMME HORIZON 2020

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**Abstract:** The program EU Horizon 2020 ([ec.europa.eu](http://ec.europa.eu)) is the largest source of resources for all legal entities from Europe, with the budget of 80 billion €. It is possible to use donations from the EU for various proposals and themes, from the 91 calls for projects, with subjects differing from sustainable transport to the innovation support of the SME sector. A group of Serbian authors decided to enter into somewhat of an ambitious endeavour (authors had individual experience on projects), they decided to send a project proposal in the framework of the „SME Instrument“ call, which is directed to innovation support project in the SME sector. The projects that are proposed for the financing by the EU Horizon 2020 program, are in the group of complex and very specific projects, so the authors presented the review of key aspects of projects that are engaged in realization of the innovation process that starts with a certain idea on paper, and ends with a verified product which is placed on the competitive EU market. The special chapter of this paper deals with the synergy of the innovation project explorers, which must answer to the multidisciplinary of research problems. The possibilities are examined in the research of the technical-technological sciences, by using organizational-informatic tools, developed for the needs of managing projects. The main use of this work for readers are illuminating of numerous unknown technical details regarding the proposal itself, and the process of connecting with the project partners, because the large number of proposals quits off right at the beginning. Then contribution is reflected in the fact that the paper signifies a sort of basis for a knowledge base, which can be served to higher education institutions and economy to focus a part of their intentions on lifting their own capacity for the

struggle with the massive competition of EU that is expected in years and decades to come.

**Key words:** project, innovation management, Horizon 2020, programmes of the European Union

### 1. INTRODUCTION

Horizon 2020 signifies the largest research-development program of the EU, which has the goal to stimulate the growth of employment, economics, it represents a degree of innovativeness of an organization. The programme is open for all participants from Europe, also for partners from Africa and Asia, which can get resources, on the fastest way if they have a good idea and a well designed team of people which can implement it. Horizon 2020 will support the three different phase/stadium of project proposal. The first phase that will be supported with the maximum 50.000 euros and three days of coaching is called „concept note“ phase and a large number of organizations register for that phase. The feasibility study of proposed project, that is delivered in the suitable form in the second phase. The second phase considers amounts from 0.5 million to 2.5 million euros, the EU supervisor (coach) is engaged for that phase, but in the duration of 12 days. The third phase is not financed by the resources of the EU, but signifies the

„commercialization phase“ of a project, that is the stadium of project development in which is necessary to bring out the product/service on the market and win in a sharp EU competition. EU helps the participants of the third phase by the assistance of leading experts in assigned area.

The idea that is offered by the project proposal must have a clear and tangible influence in the entire EU, that the certain subject is reported for the Horizon it must first of all to think in the context of the EU. The problem, which solution is provided by ending of projects that is reported, must be deeply grounded and identified in development strategy of the national government from the applicant country, also it is situated in the general goals and policy of the EU. Then, the group of participants which reports the project must be diversified, from the several countries, encourages the partnership and teamwork, the fact that for some projects is reported to 25 partnership organizations. The three main aspects of program Horizon 2020 are science excellence, industrial leadership, social challenges. The group of authors of this work directed to other listed aspect, within they chosed the call Inovations of SMEs (the subject within the call is named „SME Instrument“), so it will be the main focus in this paper. The project deals with solving the problem of unreliable and ineffective metering of water consumption in enterprises and private water users across Serbia. The solution of the problem represents an innovation product- water meter which remotely contactless reads and measures consumption of water, minimizing the loss on the process.

It is considered that 30% of distributed water in Serbia isn't accounted, because of badly measured quantities (Đukić A., 2010).

## **2. INNOVATION EU PROJECTS**

Horizon 2020 supports financially innovation SMEs from all countries of Europe (member states and candidates for membership), indirectly by mentoring and the presentation of best experiences. Innovations, according to Petrović et al. (2009) represent the reconstruction or enlargement of span of products or service and suitable markets, the introduction of new methods of production, supply and distribution, introduction of changes in management, the work organization, conditions for work and skills of employees. The idea is to create an „ecosystem“ to stimulate the growth and development of the SME sector in Europe, which is identified as the main actor of ational economies. The most preffered are high risk ideas, that possess large potential, chance for new employment, economic (social) for-profit use and positive effect on the life environment conservation. Of course, the political influence is very present when deciding what project will get the resources, and which won't, the fact that over 50% of approved innovation projects come from only two countries –Italy and Spain. The strategy of the EU is related to innovations in the MSP sector comes down to incentive for elite organizations to announce for the grant EU resources, that with proper leading and development of their ideas, contribute to the universal development of the EU as a community (the total budget for this call is 3 billion euros!). The Serbia as country candidate for the membership and an „associated country“ to the EU, has the right to participate on Horizon programme, like in most research programmes, presented on the picture 1. (IPA, COSME, EU PROGRESS, EIDHR) except the program LIFE.



Picture 1. EU financed programs for the period 2014-2020 (izvor: [www.easme.net](http://www.easme.net))

The number of projects from Serbia in the area of SME innovations is very small, but with the tendency of growth (in the early summer deadline, in Brussels arrived only 4 applications, but in September arrived total 11 applications from Serbia, in december one project from Serbia gained EU 50.000 EUR grant!).

### 3. THE KEY ASPECTS OF AN INNOVATION EU PROJECT

The gravity of this work presents the identification and analysis of the key aspects of the innovation EU project management (this chapter summary represent the empirical research EU Project Cycle Management Methodology in the recent past year).

Every proposal starts with the analysis of problem to be solved, by fundamental analysis of interested parts (stakeholders). The problem is analysed by identification of all causes and consequences of problems, all resources which is necessary to transform, to find the solution and to achieve the progress relative to existing condition. Then the potential vision of solution adjusts to the existing strategy and politics of the EU (everything is available on the corresponding internet portals), specific goals of projects are defined, potential results and activities that is necessary to perform to achieve the results.

For each identified result it 's defined the benchmark (realization), so the financial resources necessary for the works. Specifically, for help to the SME sector, donation of the EU amounts maximum 70% of value of the project (new equipment, travels, daily wages, etc.), while 30% finances consortium independently (the holder of the registration with partners) through wages of their explorers during the project duration. For some applications it's necessary to make logical matrix (Logic Framework Matrix), WBS (Work Breakdown Structure), plans of time management, risk and resources.

When the overall „job“ on the certain project is structured and defined the details, it is possible to approach establishing of the partner relations with the other explorers , because of the division of the responsibility, and also because of the involment for the certain part of the project. The holder of the project proposal in this work considers the Industry of watches in Zemun, associates are the explorers from the FSOM (Faculty for the strategic and operative management), two Italian MSP and Slovenian institute for the standardization and verification of products and services, what is displayed on the picture 2.



Picture 2. The participant map of the project proposal partners according to the program EU Horizon 2020 (Kokanović et al., 2014)

The main aspect of the starting phase of these projects should be dedicated to networking and maintenance of good relations with the partners, because of the adverse outcome when the scope of work on the application significantly increases. The projects of the EU, as well as the many other commercial projects, offer a well structured MS Word pattern with a set of questions, on which is necessary to give a thorough answer, to send an uniform and standardized proposal, because it's easier to be reviewed and ranked that way.

The template for the EU project (Project proposal template) requests answers in three sections:

- Excellence,
- Impact,
- Implementation.

It is possible to enter the answers on the max. 10-15 pages for the phase 1 (concept note), that is on the max. 30-70 pages for the phase 2. Special part of application is dedicated to participants of the consortium (holders, partners, subcontractors, third party), that there is no limit in the number of pages. The total number of pages at the end amounts up to 100 pages, it is necessary to take into account of brevity.

As soon as the good and smooth communication with the partners (EU helps the process of finding partners in Europe) is finished, it can be approached to the definition of work packages, which summary outcome should provide the successful realization of the project. The key aspect of this part of planning is careful selection and award of role to holder, partners, and also to the other project members. The reason for this recommendation lies in the fact that the reviewers of the EU explore each of the consortium member, to find out is the certain member capable to fulfill completely their responsibility on project. If the proposer have no preliminary

experience on the EU undertaking (project, activity, scientific work, product, service- supported from the EU or domestic ministry), then the best path to success on the program Horizon 2020 is over the lowest share, in divided business between proficient and experienced partners.

After the division of work, it is possible to calculate the amount of the financial resources that are necessary to the consortium to finish all the work. The main focus during the project budget making should be on the program approach, that is on the establish of the real price of works by the activities, then followed by work packages, at the end on the level of the whole project. The reason for this recommendation represent the presence of the financial revision in each project where the resources that are necessary transit 30.000 euros. The unreal estimate of wages and other costs calls in question the credibility of the entire enterprise, that is unnecessary risk for the proposer.

As regards the presented project, it is about the total budget about 1.560.000 euros (over 700.000 euros amounts the purchase of the new equipment), of which 70% is planned to provide through resources from the EU, and 30% from the own sources of financing of consortium, through gross wages of employees during the time of project duration (24 months). For the end of the nine work package it's calculated the total number of research months (the number of explorers *istraživača* multiplied with the number of months of their work on project) and amounts up to 631 research months (Kokanović et al., 2014). The teams of all five participants are presented and described, to justify their participation in the project.

Then, as already mentioned, explorers presented to great detail, the potential usage benefits (economic-for the Industry of clocks and watches and enterprise, such



as the social - for water-power engineering) from introducing a new product. It is necessary that the key uses are highlighted on more places in the application, with the clear methodology of goals defining, results, indicator tracking performance of activities by reaching the results (Europe Aid Cooperation Office, 2004.).

Previously identified stakeholders (interested parts for the project) had to be elaborated detail in proposal, to gain insight in the complex of undertaking, as well as to the right way understand the market where the placement of the new product is planned.

For the each planned activity, the single products/ (deliverables) - totalled 38 on the level of all activities.

Since this was an innovation project, the process considers the registration of the intellectual property. The intellectual property management is unrolled like a process that last about 6 months for the registration of a patent, so it is necessary to realize this process as a parallel project.

One more parallel activity is the optional participation of explorers in the Open Research Data Pilot project, that means forming the certain base of explorer knowledge on projects. The recommendation of the author of this work is avoiding the participation in this pilot project, because the possibilities for abuse are big in the first phase.

#### **4. THE SINERGY OF EXPLORERS ON AN EU PROJECT**

Work on this kind of projects demands synergy of different explorers, who possess very diverse experiences, skills, specific technical knowledge, business contacts, knowledge of projects and investments management, logistics, production management, technical-technological science, business english terms, finance management, legal and other

administrative issues. The multidisciplinary had to be represented and clearly covered by the special „management“ work package – Project Management, as the overarching set of activities which monitor and direct other packages and activities to the final outcome.

Therefore, for a project proposal to be prepared on the best and most effective way, it was necessary to fit in organizationally science- research potential of two higher education institutions, with the technical-technological solutions from the industrial practice (the 4 members of project are business entities-SMEs).

According Jovanović, regarding the necessary skills of managers, et al. (2012), there are many theoretic views which skills are the most appropriate for certain types of managers who work on projects in the industrial sector, so are defined:

- For the top management of project: the most important are the skills of choosing the best people on certain work places, then organizational, communicative skills and forecasting of trends.
- For the managers of production-the most important are the managerial skills and the capability of forecasting;
- For the assistants and administrative assistants of project managers (up to 30 years of age)- the most important are the abilities of taking initiative, managerial skills and the skills of adjustment;

This paper complements the identified skills, for each level:

- For the top management (FSOM and Industry of clocks and watches JSC): leadership and planning;
- For the operative managers of production (specifically in the observed proposal –The Industry of

clocks and watches, Italian partners):  
analytic skills;

- For the assistants and other staff (FSOM and FON): analytic skills, organizational skills.

The example of good practice of projects which received the financial resources from the EU is a consortium made from the science explorers and SMEs from the Netherlands, that designed the new technology of highway construction, which represents an innovative and very thriving endeavour, but also a sustainable concept for the life environment (CORDIS, 2014). Namely, it concerns the problem of collecting and using the atmospheric waters on full length of the highway. The problem is solved with triple return effects, by realization of the following benefits:

- The atmospheric rainfall is absorbed by the asphalt of the highway;
- The asphalt of the highway is made of recycled waste materials;
- gathered rainfall water is directed to channels for irrigation of agricultural land.

## 5. POSSIBILITIES FOR UPGRADES OF RESEARCH ACTIVITIES

As a very important input for each process of project planning is making a project base of knowledge, which later can be upgraded into an efficient information system for project portfolio managers and assistants.

The most important indicators of quality of the information system for the project management, according the results of examination of the 39 examined project managers, can be defined as:

- ease of use (33 %),
- flexibility (23 %),
- accessibility (23 %) and
- capability of upgrade (18 %) (Arsić et al., 2011).

One of the most important things which was taken into account during the project proposal closing phase, and sending in Brussels for consideration, is transfer of knowledge from business processes into the base of knowledge (Arsić et al., 2013). The literature considers several positive effects of these decisions (Project Management Office, Project Management Institute):

- the new approach to projects, theoretical and applied;
- the new strategies for improving of the project management;
- the elimination of disfunctional approaches, through learned and recorded lessons;
- the transfer of knowledge on the national level, by transcendence onto the local level and
- assistance to the development of employees through the project of mentoring or giving the formal quality training to the employees (Petrović and Mihić, 2006).

The use of the MS Project software tool was considered during the writing of project proposal according to the EU, because the application requires the following plans:

- Critical path method;
- PERT Diagram;
- Work Breakdown Structure - the structure of business divided into work packages and activities;
- Gantt Chart –time plan of activities, with the milestone.

The risk management plan according to the EU comes down to the analysis and identification of two kinds of risk – possible and inevitable. For the both type of risk are required measures for mitigation, so the relationship with the certain work package. Otherwise, the softer package ([www.oracle.com](http://www.oracle.com)) is

occupied with detailed plans for the risk management, introducing the statistic analysis and the theory of probability into the problem of outbreaking the certain unwanted events.

## 6. CONCLUSION

The program EU Horizon 2020 is presented, in which the project proposal is presented, for the innovation in the area of water management and environment preservation. The key aspects of this project are also presented in this work, to serve as guideline for new explorers.

The significant skills are identified, which the project team possessed, not just to manage the project, but to write the project proposal for the EU funding consideration. The possibilities are introduced for the promotion of research work on this type of project, with the help OICT (organizational-informatic communication technologies, which are effective, ecological and standardized).

This paper can be expanded in the future by cooperation with a larger number of authors, after new EU experiences, to compare future conclusions with the previous experience.

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