

Advanced Study of Project Ownership Challenges in Research Organisation

MATTI KUTILA, MARIA JOKELA
VTT Technical Research Centre of Finland
P.O. Box 1300, FI-33101 Tampere
FINLAND

matti.kutila@vtt.fi, maria.jokela@vtt.fi www.vtt.fi

SERENA FRUTTALDO, ROBERTO MONTANARI
ICOOR
Via Amendola 2, pad.Morselli, 42122 Reggio Emilia
ITALY

serena.fruttaldo@icoor.it, roberto.montanari@icoor.it www.icoor.it

NEREO PALLARO
Centro Ricerche Fiat S.C.p.A.
Strada Torino, 50, 10043 Orbassano (TO)
ITALY
nereo.pallaro@crf.it www.crf.it

Abstract: - This study focuses on discussing and analysing the results of the project steering group maturity review executed at VTT in 2012 and 2013. The first survey was conducted for 50 projects whose complexity level varied between medium and high. One of the major outcomes of the study is the definition and role of the project owner in multi-national projects co-funded by more than one organization. These types of projects typically include a large consortium in which project manager needs to be competent to lead both internal and external people. The results of this study promote the development of communications between line organization and project managers, which is also valid when managing the consortiums including external partners.

The second study was performed by interviewing 3 project managers, Chief Financial Officer, 2 line managers and project procedure developer at VTT. The results were benchmarked against 7 other organisations in Europe. One major outcome of the study was that VTT should pay more attention on project life-cycle planning. In overall, the analysed methodologies are well competitive with the counter organisations.

The results of the review lead us to consider ways to develop and try out new project management practices on the DESERVE-Artemis project. The project has a multi-national feature, including 25 European automotive manufacturers and their suppliers and research organisations working together. One example is the method of mentoring young talents in a project management career with close collaboration between the steering group representative of VTT and the young project manager. In this article, the role of the project owner as a supervisor and mentor of a project manager has been examined.

Key-Words: -project manager, consortium, project owner, communication, management, steering group, DESERVE, ADAS

1 Introduction

This study discusses experiences in improving project steering groups working at the VTT Technical Research Centre of Finland, which is the third largest European applied research organisation. The internal questionnaire was circulated in 2012 in order to cross-review the opinions of the current

project managers, line managers and steering group representatives concerning project steering group processes at VTT. The development programme was initiated in 2005 in order to improve the competence of project managers in dealing with the most demanding and riskiest projects at VTT. In addition, more attention was paid to the work of the

steering committee, which defines the business benefits of the project and is in charge of supervising alignment with company strategy. The second study conducted by an external reviewer compared VTT's project processes analytically against other European organisations. The benchmarking results support VTT's transition to more business orientated organisation but also highlighted importance of stronger project portfolio management.

VTT has been one the pioneers in doing project-based research in Finland. The projects are the heart of the processes, and all the other functions are intended to support project execution. VTT operates continuously with more than 2,200 projects, and 35% of these belong to the medium or high complexity category, which provides 75% of actual revenue. The same change has also been observed globally by Kwak&Anban[1], who propose that more fundamental level research be conducted in order to understand the project governance practices for supporting the execution of ever more complex projects. Due to the importance of projects for VTT, project management procedures and steering committee work is under scrutiny in order to guarantee customer satisfaction, which is one of the core values of VTT.

The new methods and improved processes between the project manager and the steering committee representative have been tested in the DESERVE-Artemis project, which started on September 1, 2012. A large European consortium (25 partners) including automotive manufacturers (Daimler, Volvo and Fiat), their suppliers (Continental, Bosch, etc.) and research organisations (INRIA, VTT, ICOOR) is working together to develop a reference technology platform for the future, Advanced Driver Assistance Systems (ADAS). Because it has almost 30 work packages, the project has been divided into 8 sub-projects. The leaders of the sub-projects, coordinator and technical coordinator form the steering committee. Moreover, the coordinator and project manager tasks at VTT have been divided between two persons in order train the new talent to the project manager career path.

The main aim of the article is to review the VTT's project ownership and management procedures and study with using the DESERVE project to test some improvements. The hypothesis of this article is that the defining and carefully selecting the project steering group representatives

and having efficient communication in management level, both company and project will produce more business benefits.

The article has been divided into the following sections. First the literature concerning existing work is reviewed. Then the results of the steering group study in VTT are explained and reviewing the benchmarking results against other organisations. Thereafter, the experimental study in order to improve practices in the DESERVE project are explained. Finally there is a discussion and conclusions are made.

2 Literature review

One of the key problems of the projects is resourcing, especially when the project-based organisation is fitted inside the line or matrix organisation. Englund& Graham [2] discovered that a common problem in companies is having too few people trying to supervise too many projects in parallel. This causes problems when trying to align projects with the strategy of the company. They recommend that upper management follows only the identified key projects.

Zikos&Diomidous[3] encountered the typical problem of multi-national EU-funded projects, namely that the procedures in research data collection are different. Therefore, they nominated a country manager to keep the procedures harmonised. This is also valid in the DESERVE project, which will be discussed later as a challenging project management experience. The project has partly been funded by the national funding agencies, and therefore properly selected country coordinators are essential in order to align the national objectives with the international ones. Klimkeit[4] took even step further with introducing the standard framework for international collaboration.

The study by Suomala et al. [5] explored managerial assessment of projects. They were trying to create a framework for identifying long-term business benefits in the projects. They discovered that usually even profitable projects are not initiated properly in terms of meeting long-term results. Mutka&Aaltonen[6] found in their research that, even if project business models are derived top-down from company business goals, the projects should also create their own autonomous business opportunities as a side-product. This is important especially in the long projects whose duration is

more than 18 months, due to continuous changes in the business environment these days.

Pemsel&Wiewiora[7] noticed that Project Management Offices (PMOs) are important brokerages and communication points between the project team and top management. However, in addition to the internal communication between the project team members, the interaction should, according to Dawes [8], be extended to the external stakeholders and customers. Seamless cooperation between the PMOs and steering committees of the projects are essential according to Engle [9]. PMOs are in charge of project quality issues in most cases by supervising that company quality procedures and policies are followed [10]. Moreover, companies usually have specific programme managers to take care of project portfolios and align them with the company goals. Fitsilis et al. [11] even proposed standards for project procedures. They observed positive influence on the implementation of national projects in Greece after the ELOT 1429:2008 standard was implemented. The standardised way has caused a boom which is becoming more popular in implementing new projects and has had a positive influence on project performance.

Buganza et al. [12] observed significant impact on project management training from the commitment of company strategic targets and professional project management methodologies. Gerbault[13] studied the use of organised round table discussion. The aim is to train people to understand the big picture of the EU project, even if they are working on a small part of the whole concept.

Lechler& Cohen [14] discovered that effective steering committee work is important for project success. The steering group members should take an active role to steer, define, initiate and control the project's execution throughout its life cycle. Zwikael&Smyrk[15] outlined that the steering committee is the main decision-making body of the project and makes the all-significant decisions, including approval of the project results. All the steering committee representatives should be totally committed to the success of the project.

Kelly [16] considered that executives like the CEO, CFO, legal counsel and heads of manufacturing, marketing and sales, R&D, IT and HR should be steering group representatives on the significant company level development projects because of their strong commitment. The statistic reported by Wrycza[17] shows that those IT projects

which nominated a properly selected steering group were more successful than the ones did not have the steering committee. The crucial issue is that steering committee members have sufficient time and interests available for the project. In addition, they should have a sufficient mandate for decision-making on behalf of the company as regards project results and resource reallocation [18]. The roles of the steering group representatives should be well defined in advanced, according to Zwikael&Smyrk[19] and Sehested&Sonnenberg[20]. Moreover, the meetings should be regular (e.g. monthly) in order to have sufficient continuity of monitoring duties. Andel[21] recalls that the overall project risk management should also to be supervised by the project steering committee.

3 The steering group survey in VTT

3.1 Data collection

VTT divides the projects into three different categories according to their management complexity. These are called Light, Standard and Demanding. Most of the international projects, in which the volume of VTT is about 700 k€ and having the role of leading a work package belongs to the Standard class. When the management part is exceptionally complex, having a project or at least sub-project coordinator role, with multiple stakeholders or major financial or device breakdown risks, these projects are considered to be demanding ones.

The internal study was conducted for 50 projects of which 8 belong to the demanding category and the rest to the standard category. The volume of the projects varied from 22 k€ up to 2,100 k€ (see Fig. 1). The online questionnaire was sent to the project owners, project steering group members and project managers in order to compare their responses concerning the roles, responsibilities and interaction in executing the projects. Proper responses from 40 different projects were received.

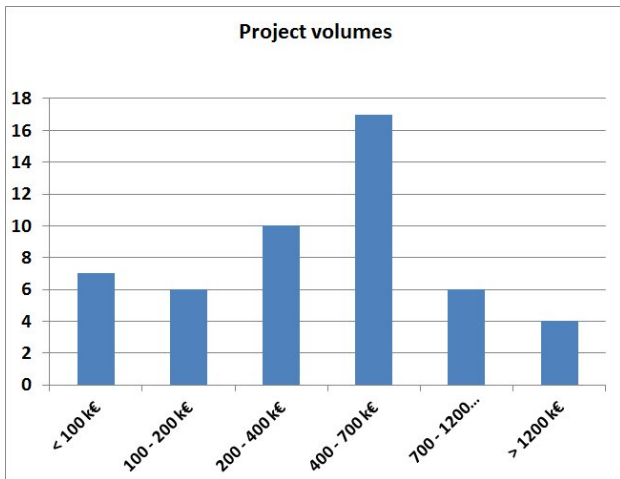


Fig. 1 The budget variation of the projects selected for the internal project governance survey at VTT.

3.2 Results of the study

The results indicated that in 66% of the cases project manager was nominated by his/her manager and in 17% of the cases the project manager was automatically the project drafter. In 7% of the projects, the customer required the nomination of a certain person to be the project manager. Since this study did not cover the Light category projects, this was a surprising issue. In the case of small projects the customer and the project manager are typically familiar with each other, and the customers may have preferences about who they would like to work with. However, Standard-level projects are bigger, and more project management skills are needed. Therefore, the final decision should come internally from the manager instead of from external customers.

On the other hand, the steering group representative was nominated by the line manager in 67% of the cases, and in a couple of cases the representative was not aware where the mandate originally came from. The owner of the project nominated the SG representative in only 13% of the cases. The problem seems to exist if the project owner and project steering group representative are not the same person. The role of project owner is minimal without having chance to join to the steering committee meetings.

Fig. 2 indicates how the project manager, steering group representative and line manager saw the interaction between themselves. The results show that line organization and steering group members felt the interaction was better than did the project manager. On the other hand, the written comments of the line managers criticized that the

content of the communication is not on a sufficient level.

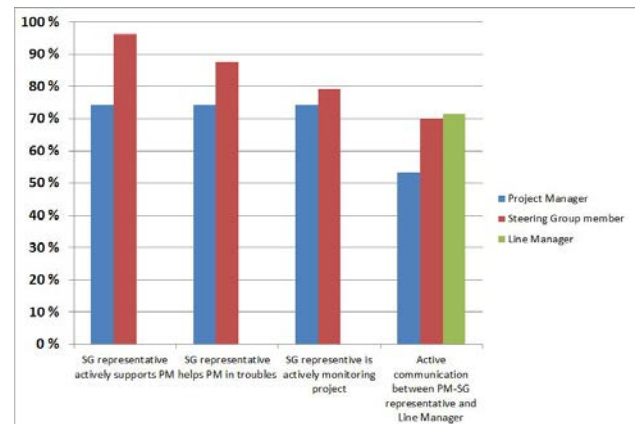


Fig. 2 Interaction between Project Manager, Steering Group representative and Line Manager

The survey also indicated that in 15% of the cases the project manager did not communicate at all before the SG meeting with the steering group representative, as Figure 3 indicates. However, the interesting thing was the diversity of written comments. Some project managers complained about a lack of a proper steering group which would also support the project manager in his decision-making. The others thought that the steering group is not needed, but is only an additional bureaucratic element, which is true when considering very small go-and-do types of work.

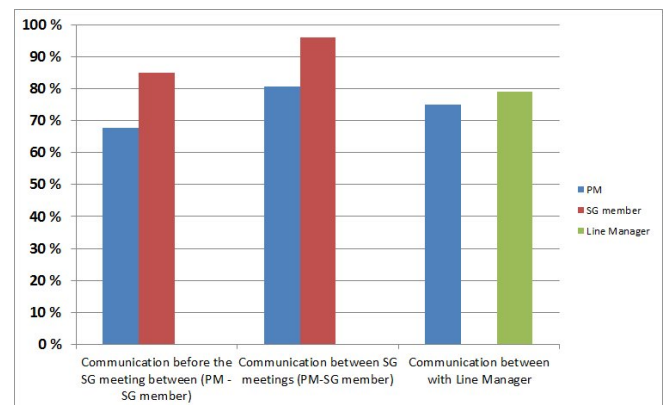


Fig. 3 Interaction between steering group representative, project manager and line manager

4 The project management methodology study

This investigation was conducted by an external reviewer with help of VTT's personnel on spring 2013. Totally 7 people were interviewed inside of the organisation for benchmarking the project management methodology against seven

other organizations in Europe. These organisations included both public and private ones. The interviewed people in VTT were:

- 3 Project Managers
- 2 Line managers
- Chief Financier Officer
- Project Management procedure developer

According to the results of this study, VTT is in most metrics ahead of the other organisations in terms of project methodology procedures [21]. In 17 questions out of 27, VTT is performing better than the others and especially the following topics were highly appreciated (see Fig 4):

- Program management
- Customer care system
- Project complexity management
- Business process
- Budgeting

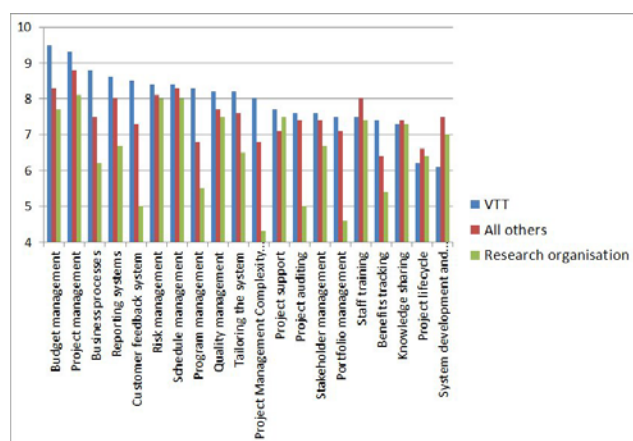


Fig. 4 Project methodology benchmarking on 2014 against 7 European organisations and another research organisation

The content scores indicated that improvements are needed in sales material since total score was 7 out of 10, which is the 4th lowest in the content survey. On the other hand, the VTT's business processes got top scores which is an asset in the transition to be more commercially orientated organisation in future.

The things, which VTT should pay more attention, were reported to be:

- Project lifecycle management
- Project phase (gate) management
- Staff training
- Modularity of the project management

Project portfolio management was discovered to be 6 % better in VTT than in the other organisations. However, this still is 10 % less than the results of program management. Somehow, this discovery can be considered to be contradictory. Even if program and portfolio management are not exactly the same, the link is obvious. In order to boost strategy implementation, the portfolio management is the most important tool to do it and therefore, this will be the one major future development topic.

People also thought that VTT's quality process need updates in order to be more flexible and part of daily work. This is one of the concerns since ensuring long term customer satisfaction, quality processes is one of key factors in competition against other research organisations. The situation is expected to be improved when role of the project owner is enhanced to monitor project's business benefits. The new active ownership of the projects has been implemented in 2014. This is intended to strengthen also position of the key project in the big picture of the research strategy.

5 Implementation of best practices in DESERVE

5.1 Project overview

The internal project steering group practices developed during 2012 after the project ownership study have been partly developed in the DESERVE-Artemis-JU project, which is co-funded by the European Union and national funding agencies [23]. The project includes 25 partners from 10 different European countries. It includes major European automotive manufacturers (Fiat, Daimler, Volvo), their suppliers (Bosch, Continental, Ficosa, etc.) and research organisations (VTT, INRIA, ICOOR, IKA, etc.) working together to develop a Tool Platform for embedded Advanced Driver Assistance Systems (ADAS). The DESERVE project received a positive grant decision in May 2012.

The administrative monitoring of the project is challenging due to relatively strong national consortiums, which were also considered by Zikos&Diomidous 2012 [3]. The project has two level steering groups: country-based and the international group. One additional challenge is that the national funding decisions have been made at different times and, therefore the coordinator role of the project was changed to VTT instead of the original idea which was Fiat. Fiat was also the

project drafter, and still has the most significant role in the project.

5.2 Project steering group composition

The project steering group represents a good mixture of academic and industrial partners. The project coordinator and chair of the steering group is VTT from Finland. The coordinator is in charge of all administrative work and communication with the project's international funding organisation (Artemis-JU). In addition, Technical Manager (Technolution B.V., the Netherlands) was selected to supervise the technical quality and progress of the work packages. Technical Manager also belongs to the project steering group, as Fig. 4 shows.

The project was divided into 8 sub-projects and the leading partner was nominated to follow the technical progress and resource allocation of the work packages. All sub-project leaders are also members of the steering group.

- SP1 Requirements and Specifications: Daimler
- SP2 ADAS development Platform: INRIA
- SP3 Driver behaviour - HMI: ICOOR
- SP4 Test Case Functions: Bosch
- SP5 Integration and Tests: CRF
- SP6 Validation and Evaluation: CRF
- SP7 Dissemination and exploitation: ICOOR
- SP8 Project Management: CRF

In addition the project includes two supportive functions:

- Quality manager: ICOOR
- IPR manager: CRF

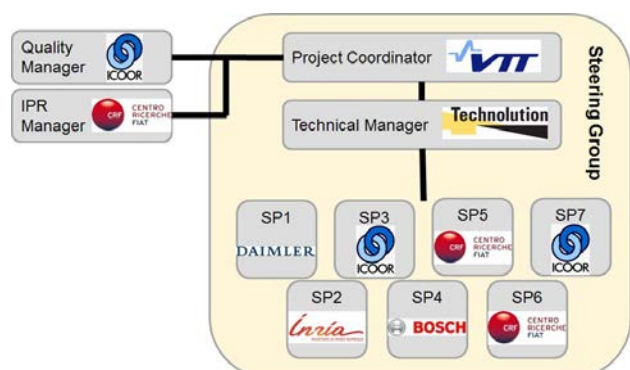


Fig. 4 DESERVE project steering group composition

5.3 Project communication plan

Awareness of project content, as well as of intermediate and final results, has a crucial

significance for a project's success. This is even more valid for DESERVE, since it is mobilizing a relevant amount of resources to achieve quite ambitious and important results.

Moreover, due to the innovative nature of the platform to be developed in DESERVE, the success of the project will also depend on the public and regulatory acceptance of the DESERVE platform itself and associated methodologies. For this reason, it will be fundamental to share information and to disseminate to the widest audience the project's objectives, results and achievements during the project life.

Dissemination activities have always been considered of primary importance for the DESERVE consortium, since only if the achieved project's results are widely communicated to the public can the impact of the project be meaningful: Dissemination activities focus on the extent to which the experiences, results and achievements in general that are gained within DESERVE can be utilized by other organizations and individuals interested in the ADAS domain.

Dissemination activities have been carefully selected and planned since the beginning of the project in order to maximise the efficiency of the resources employed to this activity. The planning was done through the "Dissemination plan" document, which was planned to be issued at the beginning of the project and to be updated during the project's life time.

The dissemination plan addresses the following entities within DESERVE:

- The European Commission: Provide a clear overview of the dissemination activities carried out inside the project.
- Sub-Project Leaders: Provide a common base to harmonise their dissemination and communication effort.
- Steering Committee, Project Management: Provide an overview of activities, tools and procedures on dissemination and communication.
- Consortium: Provide a base to harmonise their individual communication activities – intended as internal and external – and keep the whole consortium up-to-date on progresses and results. Provide procedures to be followed for all dissemination and communication activities.

ICOOR, as the DESERVE Quality Manager, is in charge of the coordination of activities required for disseminating target project results to stakeholders. Responsibilities of the Dissemination Manager include i) defining a dissemination plan, ii) managing an operational plan for dissemination activities, iii) soliciting and coordinating with project partners for collecting contributions, iv) organizing workshops and dissemination events (with direct support of project partners); supporting partners in presenting the project in different contexts (scientific and business events), v) producing material and spreading it through the website, newsletters, articles, and other dissemination material and tools.

The particular attention is paid to interaction with stakeholders: DESERVE will organise three major workshops at early/intermediate/final stages of the project. They will involve major actors from OEMs, suppliers, research institutes, public authorities, user representatives and other stakeholders from different European countries. These events will focus not only on the dissemination but also the evaluation of the concept, vision and preliminary outcomes of the DESERVE project.

5.4 Improved cooperation between line organisation and project management

One of the outcomes of VTT's internal project survey is that co-operation between line organisation and project manager is sometimes challenging. The main issue is not personal relationships, but the problem is that the line managers do not have a sufficient amount of time to support project managers in their duties. Therefore, project managers feel they are on their own when encountering problems. On the other hand, at the same time line managers are worried about the balance of the resource allocation in their department and expect better communication in order to adjust resources between project portfolios.

VTT decided to try a new way of dividing management work in the DESERVE project which was categorised in the demanding class. One more experienced project manager took over the role of being VTT's steering group representative and also coordinator of the whole consortium. The young talent was nominated to be project manager who is in charge of steering all technical and internal

administrative work. During vacation periods one of them took over both the roles.

The trial has been successful so far since both steering group representative and project manager have a person to turn to in all cases when support is needed. This also responds to the problem raised by Gerbault[13], namely that someone should have the big picture in mind in the project and some other people should focus more on details and technical challenges.

6 Discussion

Managing and working in the international consortiums in order to have common business benefits is challenging since all partners also have their company interests. The international projects are not traditionally the best alternatives to start learning the management procedures in projects. However, experience from DESERVE of having both senior people in the project steering group and an internal/technical project manager working together is encouraging. The benefits can be summarised as:

- mentoring young talents to be in charge of managing the projects
- minimising the company risk due to experience of the senior manager
- internal communication channel to the company top management
- new challenges for young professionals without leaving them to deal with the problems on their own

The main benefit gained from the DESERVE experiences is clarification of the expected business benefits. VTT as the biggest Northern European applied science research organisation executes annually about 4,200 projects. VTT belongs to the administrative sector of the Ministry of Employment and the Economy which has given it the mission "to produce research and innovation services that enhance the international competitiveness of companies, society and other customers". The feedback from the project manager has been that ownership of the project is not clear, which also influence to strategy implementation of organisation. VTT's strategy is realised with a project due to its nature of being a project-based organisation. If the ownership and business benefits are not clear, people cannot align the project to the company level strategy.

The large international project has certainly not been an ideal starting point for a young project manager to begin learning project management. However, having worked earlier on large EU projects and thus gained experience from them is undoubtedly an asset. However, due to the previous main role as a working member, the knowledge gained from the administrative and management side of the projects has remained scarce and perhaps insufficient when faced with the role of a project manager. Having earlier led some smaller project or a work package of a larger project would most likely have been helpful and built self-confidence in one's own work and decisions.

Starting as project manager of the DESERVE project has been somewhat confusing since the project had been prepared by others. Becoming familiar and gaining the experience of project management with the project and finding out what VTT's role and tasks in it are has taken some effort. Also, dividing and defining the tasks of the trainee project manager and the senior steering group representative could have been more clearly discussed at the beginning. Nevertheless, having a senior mentor has been an advantage. When one is faced with a problem, it has been very easy to go and ask one's mentor how it should be dealt with. Overall, discussing the project issues with someone who is as familiar with the project as oneself has been rewarding and a relief.

7 Conclusions

One of the results concerning strengthening the collaboration between project managers and line management is the introduction of the internal steering group for EU funded projects. The unofficial steering committee is a kind of support group for project managers, so that they do not feel alone if problems arise. On the other hand, the support group is represented by people from the line organisation which enables a stronger connection to monitor the fact that internal strategic guidelines are followed properly at the project level.

The other major conclusion of the internal project review study was that the project owners have too many projects to follow, which limits their time to the selected projects representing only about 10% of the whole project portfolio, leaving too many projects without attention. Therefore, decision has been made in VTT to share project ownership with larger number of managers in order to improve

the situation and achieve better root for the project portfolio management.

The second study conducted by the external reviewer investigated project management methodologies in VTT. The recommendations for future are quality orientated by enhancing the project life-cycle definition and the dashboard of project execution process. On the other hand, the financial management systems are in good level with being 14 % better than the other benchmarked organisations. Sales and business attitude also supports turning organisation from the governmental research body to an independent business driven technology house.

In order to obtain more business benefits from the project, proper communication and dissemination have been under special attention in the experimental DESERVE project. Even if this is not directly reported in the steering group study, the indirect message is that the steering group is responsible for taking care that the project results are well communicated both internally and externally.

The ownership study indicated that the overall situation is relatively good, but also that some remarks concerning improper communication and the unclear responsibilities of these representatives emerged. In fact, in 29% of the cases the steering group did not exist at all, which raises the question of who is able to make decisions concerning deviations in the project plan and monitor the business benefits of the project. In some cases the project was so small that the customer's contact had a mandate for decision-making by himself, without an official steering group meeting.

Some of the results of the project ownership study have already been deployed experimentally in the DESERVE project, and now further steps are under consideration. VTT has changed its operation model, and one these topics is addressing project ownership and project management procedures in order to improve exploitation of the project outcomes, boost competence development and improve customer satisfaction.

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