STRATEGIC PROJECT MANAGEMENT AS COMPONENT OF INNOVATIVE ORGANIZATION

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Abstract:
The importance of project management has been increasing in the face of the changing environment, new challenges, globalization and specialization in global economy. This means that the achievement of the final objective of a project on schedule and on budget becomes a key challenge for many companies. Due to the unique nature of projects, the role of high competence and professional tools for project management will gain in significance. On the other hand, the effective implementation of any complex project poses an obvious challenge to the people involved, whereas a successful venture will certainly be a source of well-deserved satisfaction and pride. Given the complexity of the issue, the uniqueness and value of budgets, almost every project can be a case worth an analysis, evaluation and conclusions. What we very often tend to miss in those analyses is the impact of the way projects are executed on organization changes. Importantly, these may be key changes leading to enhanced efficiency, effectiveness and innovation in companies. Taking advantage of those opportunities, as – in a sense – a by-product of a venture, may bring about effects that dramatically change the organization.

This text is based primarily on a case study in the gas sector and large infrastructural investment projects undertaken by a company. The projects are aimed to increase Europe's energy security, improve competitiveness in the gas market and increase the capability to use this energy medium. From the company's perspective, however, they drive major changes within the organization. An impetus that will make the company more innovative will enable it to build assets and market position, improve management effectiveness and efficiency. Finally, investment projects will provide capacity for the implementation of advanced governance tools, improve knowledge management processes, lead to a major change in the company's organizational culture, and consequently to an increased corporate value.

Keywords: project management, efficiency, innovation

1. INTRODUCTION

Project management is by no means a new cognitive category. While the development of advanced project management methodologies has proceeded in parallel with the development of computing techniques, the logic of managing complex ventures has been known since antiquity. Today, it is hard to imagine how pyramids could be built in Egypt without high-performance computers, complicated calculation algorithms and widely taught methodologies. The complexity of the venture, its scope and panache still deserve respect and admiration. The stacking of more than 2 million stone blocks weighing about a dozen tonnes each and coordination of the work of almost 100,000 people could not have taken place without proper organization and synchronization of activities. Similar associations are evoked by other achievements of successive civilizations in all continents. In our contemporary world, complex projects are undertaken more often, which is not to say they do not arouse interest. Especially those having a significant impact on the economy, comfort of living, new jobs and major civilization changes attract interest from the media and the general public. This is of course very important from the perspective of the environment of a company performing a project. But what is no less important is the interior of the organization and the capability to implement changes which can be inspired by major developmental projects, in particular large infrastructural projects. Very often it turns out that positive changes within an organization are as important as the outcomes of effective project execution.

The conclusions we want communicate in this text have been derived from a case study in the gas sector. Projects of about EUR 3 billion in value are being implemented by GAZ-SYSTEM S.A., the operator of natural gas transmission network in Poland. The company is carrying out an investment programme including the construction of the first LNG terminal in the Baltic region and a gas pipeline network of nearly 2,000 kilometres in length, which leverage the integration of the natural gas market in Europe, especially in Central Europe. The LNG terminal in Świnoujście and new gas transmission pipelines in Poland are to be a part of the North – South gas corridor project supported by the European Union, the completion of which will considerably improve the security of gas supply to this part of Europe. The project provides for the interconnection of the terminal (via southern Poland, the Czech Republic, Slovakia and Hungary) with an analogous LNG terminal being built in Croatia on the island of Krk, as well as the development and integration of regional gas markets. Owing to the corridor, Europe will gain access to new gas sources, and the LNG terminal in Świnoujście will be put to a more extensive commercial use. Liquefied gas bought in global markets will flow from it through the Polish gas pipeline network to most countries of the European Union. We will show how the managers have taken advantage of the projects for changes within the organization.

2. A DIFFERENT PERSPECTIVE OF PROJECT MANAGEMENT

Project management always requires an individual approach and special involvement. Every project is a complex, unique endeavour, where team workflows must be correctly arranged in order to achieve the desired result (objective) within a specific time period, with the use of finite human, material and financial resources. By their nature, projects rely on teamwork of multiple specialized contractors, subcontractors and suppliers. They usually also involve high technical, organizational, economic and image risk. Therefore, projects involve the use of special management methods: planning, organization, control and coordination. Different approaches are required in the case of large infrastructural projects, IT projects or transport projects, which need a more flexible approach to ensure that the end product caters best for the needs of the organization and its changing environment. In such cases, the use of agile project management methodologies will be more effective. The proper adjustment and implementation of a project management methodology may also prove to be a source of specific know-how, which permanently changes the standard of project execution in the organization and allows innovations to be effectively introduced in the company. This is especially the case where projects concern the implementation of new technologies and unique engineering solutions. A system-based approach to project management also allows a high level of project maturity to be achieved in an organization (Kerzner, 2001). A process-mature organization is characterized by that it performs planned activities, has clearly defined processes, allocation of tasks and responsibilities, and complies with budget discipline, timeliness and quality standards. A process-immature organization engages into spontaneous activities and improvised processes. There is also no clear allocation of tasks and responsibilities, budgets are exceeded, delays and quality complaints arise. As projects can be planned and executed according to a repeatable pattern (cycle) consisting of similar phases and stages, this provides an opportunity for the formulation and application of general

rules, guidelines and methods of project planning and execution. Four stages of the project life cycle are usually distinguished in project management (Wysocki, McGarry, 2003):

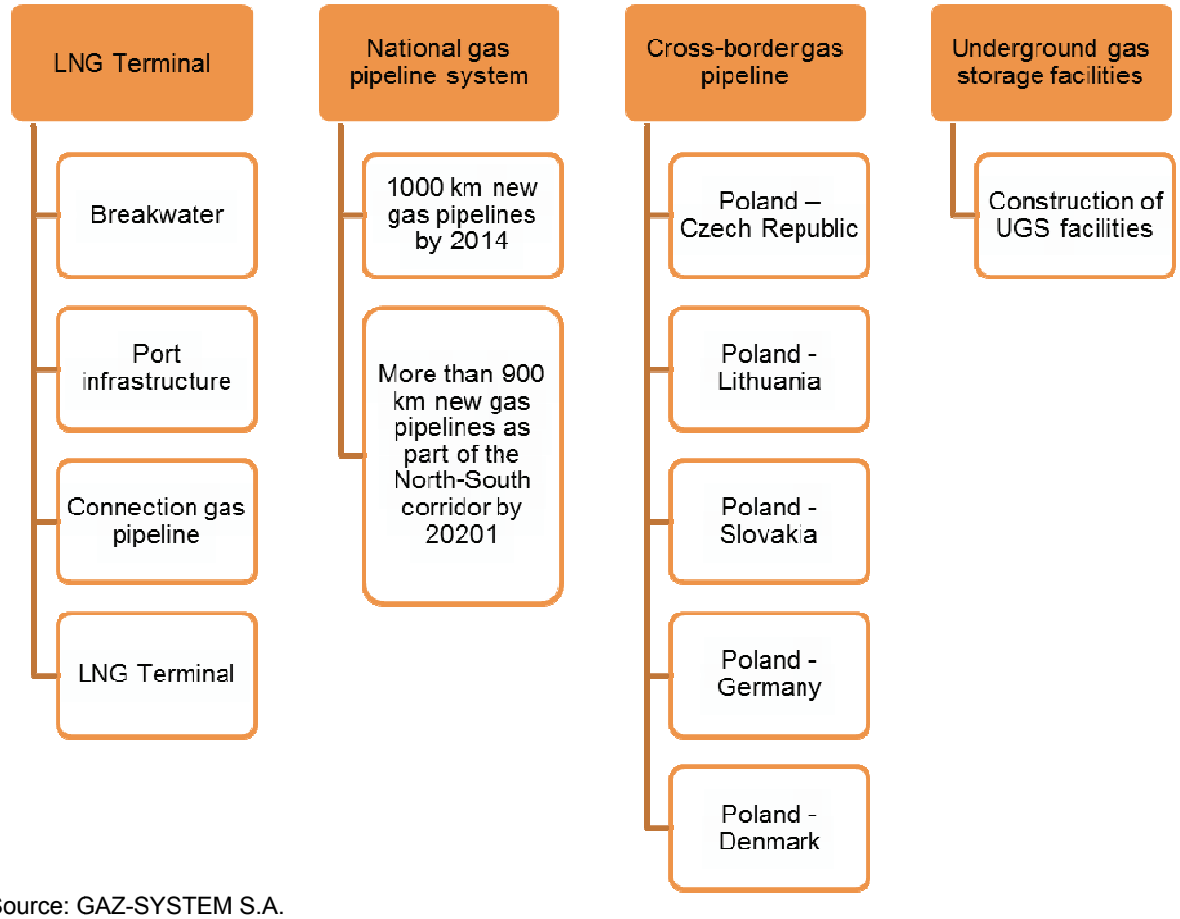
1. Project definition – where the project is initiated, its scope is defined as well as tasks to be performed, and the project team building process starts,
2. Planning – where the project structure, schedule and necessary resources are planned, and execution is organized,
3. Project execution – which involves day-to-day management of project execution, and schedule, cost and quality control,
4. Project closure – a formal carried out after the project deliverables are delivered to the client (commissioning, reporting, accounting).

Firms which today want to effectively implement projects have multiple tools in hand supporting the project management process. Reputable institutions have developed universal project management methodologies supported by organizational project management maturity models and competence sets necessary for proper project management (Kerzner, 2009). Their use and dissemination within an organization makes it possible to completely change the method of company management from functional management to project management. Thus, project management is the practical application of a system-based approach to management, which perfectly complements current operations and contributes to efficiency improvements in an organization.

3. CASE STUDY – STRATEGIC INFRASTRUCTURAL PROJECTS

Project management knowledge was necessary to organize and coordinate large projects as part of gas transmission infrastructure expansion in Poland. A large investment programme involves the construction of 1000 km of new gas pipelines and the LNG terminal by 2014 as well as another 1000 km by 2018. The implementation of the programme in practice means tens of projects, thousands of tasks and activities, which would be impossible coordinate and implement without defining processes and selecting a common single methodology.

Figure 1: Components of the GAZ-SYSTEM S.A. investment programme to 2020.



Source: GAZ-SYSTEM S.A.

The completion of those projects will provide technical capability for the take-off of natural gas from sources other than the existing ones. In economic terms, it will also change the role of the national gas transmission operator from that of an entity providing purely technical services of gas transport to users in Poland to that of an active player in the European natural gas market in the field of integration of transmission systems. The construction of the LNG terminal will open up access to the global LNG market, while ensuring diversification of gas supplies. The development of new interconnections on the borders with the Czech Republic, Germany, Slovakia and Lithuania will enable better integration of the European natural gas transmission system. Hence all those investments will also directly or indirectly contribute to improving energy security in the European Union. From the European point of view, the development of the North – South gas corridor, including the related expansion of interconnections with the neighbouring countries, plays a special role. The implementation of those plans will yield measurable results of a political and economic nature. It will support the integration of regional gas markets, and by providing access to new sources in the north and south of the continent it will improve energy security of the whole of Central Europe. It will stimulate development and better utilization of internal transmission systems in Central Europe. Consequently, the corridor will ensure greater cohesion of the concept of transmission system development in the region, tighter coordination of regional infrastructural projects in this area and it will gradually contribute to the unification of the gas market rules. Network integration will make it possible to implement regional prevention and contingency procedures for crisis situations resulting both from acts of nature and from political and economic problems. Finally, the establishment of the North – South corridor will provide technical capabilities for the purchase and transport of cheaper gas on spot markets, and maybe also for its export to other countries. Owing to integration, the regional gas market will also be more attractive for large suppliers. In a longer run, it will also enhance its competitiveness. It will also change the position of Poland, whose transmission system will play an active role in gas transport in Europe, and it will provide an additional source of revenue for the company itself.

4. CASE STUDY - PROJECT MANAGEMENT

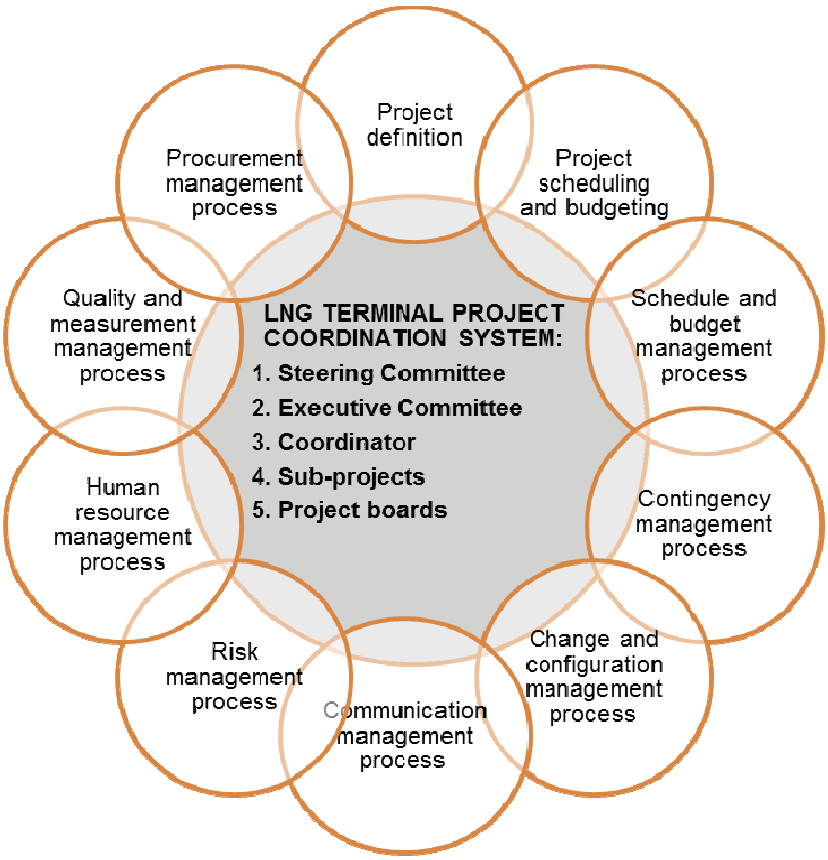
One of the components of the investment programme being implemented by GAZ-SYSTEM S.A. is the coordination of the Świnoujście LNG terminal project launched in 2010. The success of such a large and complex venture involves many challenges, mainly those related to correct coordination of activities. The construction of the LNG terminal and the outer port in Świnoujście is the master project, which consists of four components: (1) LNG terminal, (2) protective breakwater, (3) unloading wharf, (4) gas pipeline connecting the terminal with the transmission network. Each part is implemented by a different business partner with a different organizational structure. The coordinator of the whole project is GAZ-SYSTEM S.A., a company that needed effective tools for efficient management of complex investment projects performed by business partners independent of each other. In addition, GAZ-SYSTEM S.A. performs its own investment projects - the construction of new transmission gas pipelines, cross-border interconnections and underground gas storage facilities. Owing to the strategic nature of the investment programme and the requirements of financing institutions (including EU funds), all projects must be completed on time, in conformity with the highest quality and environmental criteria.

To meet the time for completion, it was necessary to develop a consolidated schedule which would provide the capability to trace how the different sub-projects merge and to define a critical path for the entire venture. Simple as it might seem, the task required extensive consultations and studies. The difficulties resulted mainly from the fact that the project partners used different solutions and instruments to manage their own projects. Therefore, it was necessary to determine a single target tool, structure and nomenclature as well as other criteria for the effective schedule preparation and it subsequent management. The consolidated schedule made it possible to estimate time reserves which often result from the types of interrelations between projects. It also enabled different risks to be identified, related to the occurrence of more or less unexpected events posing a threat to the entire project. In order to make sure that the list of identified risks is complete, and the strategies adopted are appropriate, it was necessary to plan the risk management process, provide necessary tools and ensure that they would be used throughout the investment process.

This is why the first challenge facing the programme coordinator was to select a project management methodology that would impose a common language and set of terms comprehensible to all the partnering parties. From among the several solutions available in the market, the TenStep™ Project Management Process methodology was selected – an extension of the PMBoK Guide3 standard

including execution processes, tools and techniques, examples of good practices and hundreds of project document templates. The TenStep™ Project Management Process methodology consists in the management of a complex venture like an individual project. It has the advantage of high flexibility. For example, in a project similar to other, previously completed ones, TenStep allows for a liberal approach to risk management. On the other hand, in a long-term investment programme undertaken in Poland for the first time, with the use of new technologies, in a difficult business and legal environment, it will not allow that issue to be omitted. It will identify processes, tools and good practices which are helpful in risk management and ensure that the assessment of a project manager's work depends on their correct application. In such a flexible manner, TenStep™ Project Management Process helps to manage each of the ten identified areas (Figure 2) and to fulfil the coordinator's tasks.

Figure 2: TenStep Project Management used by GAZ-SYSTEM.



Source: GAZ-SYSTEM S.A.

The methodology was tailored to the specific requirements of the project and it was implemented with all the business partners involved in the execution of the individual parts. Over time, the methodology itself was customized and applied to the execution of other projects under the whole investment programme (including the GasStep methodology implemented for the purposes of gas pipeline construction).

The way the coordination system was structured posed a major challenge from the onset owing to the diversity of the entities involved in the programme, complexity of the project, existing interrelations between the different parts of the investment and constraints imposed on all the participants. Therefore, as one of the first steps, the coordinator arranged the signing of a multilateral cooperation agreement, which became a foundation of the system. The agreement specifies in detail e.g. the rights and duties of the coordinator, the partners, the executive committee, other entities involved in the programme as well as the rules for information exchange and the obligation of confidentiality. Specific roles were also defined in the coordination structure, which consists of the Steering Committee, the Executive Committee, the Coordinator – GAZ-SYSTEM, managers of the four sub-projects and the Project Board.

The agreement signed opened up the way to designing a coordination system, i.e. a set of methods, techniques, tools, project models and project-specific operational coordination procedures. All those components serve the implementation of the master project through the harmonious performance of the sub-projects. In order to ensure the use of a common communication language, the TenStep methodology has been implemented at four levels: coordinator (1), sub-projects (2), associated projects (3), contractors (4).

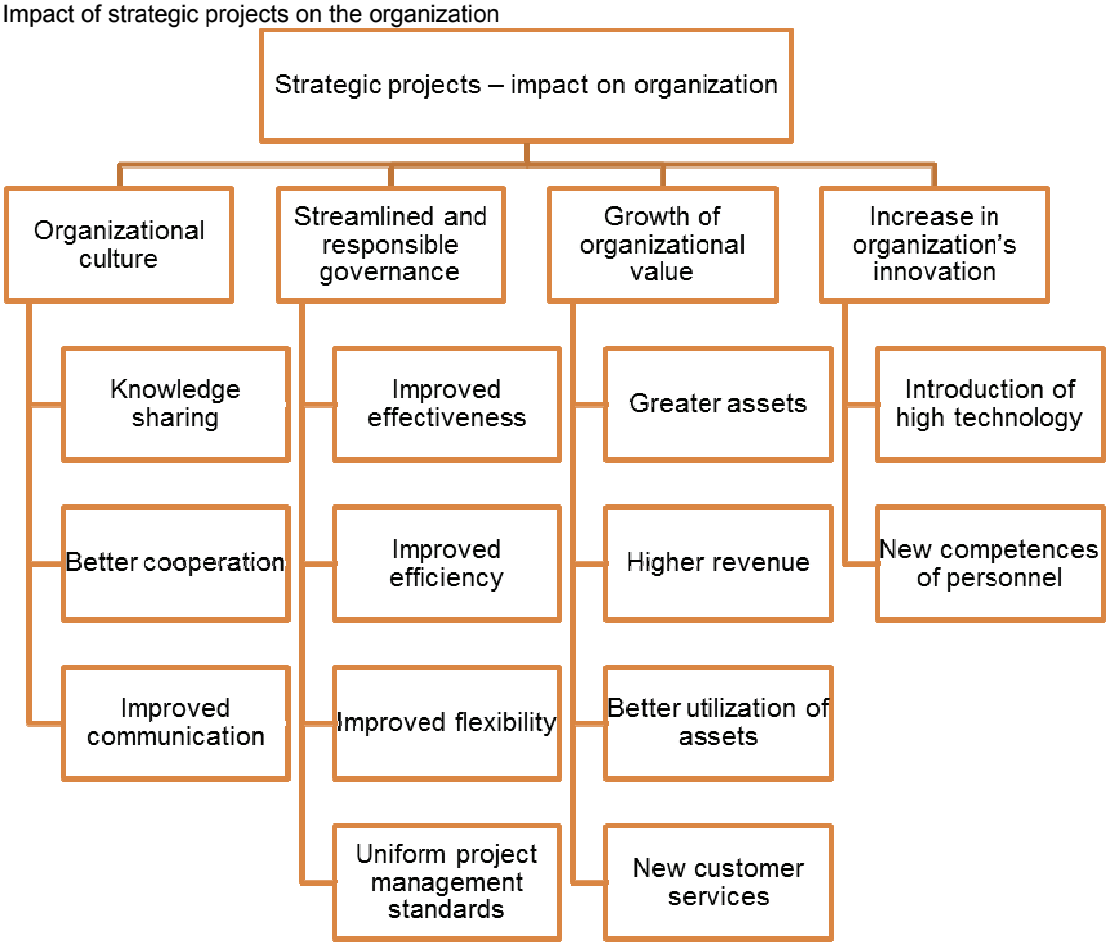
Even the best-designed procedure will not guarantee successful project implementation. Procedures are fulfilled by people who have their habits, beliefs and ways of doing things. This is why the effective implementation of accepted standards needs support from employees. Special training has been delivered to all representatives of the partners involved in the projects (sponsors, managers, individual team members). Workshops coached by experts from a firm implementing the methodology dealt with the processes and tools, which the participants were expected to use from then on. During discussion, they could express their concerns and doubts. Their comments were collected to then provide a basis for modifications and additions to the arrangements adopted. As a result of those activities, not only were the partners provided with knowledge and practical skills in using the tools delivered, but also resistance was reduced among those involved and desired attitudes were created. Workshop meetings provided an opportunity to get to know each other and establish more informal, partner relations. Many problems were resolved quickly and effectively during or between meetings. The chance for success of the implementation was certainly boosted by the certification of the employees participating in training events. A passed examination in the methodology adopted is the evidence that the individuals involved in the project have acquired the knowledge and skills to an extent that allows them to effectively manage projects in line with the methodology adopted. On the other hand, the opportunity given to the employees themselves to obtain a certificate which is recognized in the market is a significant value, not least from personal development perspective, and is a source of additional motivation for them. Apart from training, the project teams received ongoing support in the form of technical and methodological consultations, which they could use in specific situations.

5. CASE STUDY – ORGANIZATIONAL TRANSFORMATION

GAZ-SYSTEM S.A. has carried out profound transformation of its own organization, to effectively fulfil its role of project coordinator and to prepare for new tasks after the project is completed. The changes involved not only the adaptation of the organizational structure to new challenges, but also building new competences in project management, which the company had lacked. A separate division was set up to coordinate the LNG terminal project. At the same time, a process started towards the dissemination of a project-based organizational culture and the implementation of a single management methodology for other investment projects and supporting the day-to-day management of the organization. A procurement policy was developed and implemented, which allowed a higher value for money to be achieved based on the economies of scale. The employee incentive system was changed to one that took into account the requirements of implementation of strategic projects. An active human resource policy was also introduced in response to the company's long-term business challenges. Change management became a permanent feature in the functioning of the organization, which allowed the organizational structures to be made more flexible and adjustable to the expectations of the external environment. Consequently, all that enabled the organizational culture to see a dramatic, positive change.

The implementation of the investment project by the company is the first such challenge in its history. Therefore the managers took advantage of that moment to transform the organization from purely functional and operational activities to system-based project management and to foster them consciously with a view to ensuring future development of the company. Now, several years after the change in management philosophy, positive results are already visible, both in terms of growth in the company's economic value and its intellectual capital. The challenges that the organization faced also made it possible to complete several internal projects in the company. In 2011, the first projects implemented under the large investment programme were completed and commissioned. This was important not only in business terms, but also in psychological terms, as it showed that the selected approach to project management works in practice and leads to success.

Figure 3: Impact of strategic projects on the organization



Source: GAZ-SYSTEM S.A.

The implementation of a new investment programme is also conducive to the development of innovation in an organization through the adjustment of the company itself and its employees to new challenges. By building new competences in the management of infrastructural projects, knowledge and skills can be acquired which enable employees to take up new tasks and make further changes in the organization.

6. CONCLUSIONS AND RECOMMENDATIONS

Owing to the implementation of an extensive investment programme of an unprecedented scale, the company itself was also changed in organizational and mental terms. It became a dynamic enterprise which is open to change, fosters ambitious attitudes among employees and releases their energy, providing an opportunity for attractive work and building new competences of their own. The programme triggered the transformation of GAZ-SYSTEM S.A. into a modern, effective and efficient enterprise. The requirements posed to employees made them change their attitude to the company already today. They have become more mobilized and proud of the fact that they work with a company which pursues projects of great importance to the whole economy. This change is confirmed by reports from independent firms that have been measuring the employees' engagement and work satisfaction levels since 2008. The employee engagement index increased more than three times: from 28% in 2008 to 85% in 2012.

The case analysed shows that a large investment programme consisting of many complicated infrastructural projects allowed new competences to be built within the organization, became a source of system-based changes, opened up the way to many innovative solutions in the company in the technical and management areas.

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