# Project for implementing an information system as a result of interaction between participants in the cluster for forest waste processing

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**Abstract.** The business processes of any modern organization as a result of the interaction between participants of the forest waste processing cluster are closely related to information technology. The article deals with the project of introducing an information system, which turns out to be a serious transformation, affecting various areas of the enterprise, ranging from the reflection of core activities, ending with regulations for user support. The information system implementation project is divided into the main stages, during which the requirements for the system are formed, changing business processes are considered, a model of the future system is created and put into pilot operation.

### 1. Introduction

Implementation of an information system is a set of measures for reengineering business processes, integrating the system into a single information space of an enterprise, finalizing implemented software, training enterprise employees to work with the system and undergoing an audit to determine the degree to which existing equipment and services provided by formation system, the current and future needs of company employees and the business as a whole as a result of the interaction of participants of the forest waste processing cluster [1].

#### 2. Methods and results

The project of implementing an information system, like any project, is divided into main stages. They are the following as presented in figure 1:

1. Identification of the main business processes at the enterprise subject to change, and the formation of the necessary base for further basic regulatory and reference documentation. Building a schedule of design work.

During this stage, the main business processes of the company and the problems that may arise during the implementation of the project (such as the lack of primary documents, normative and reference documentation, qualified personnel, etc.) are determined. The base of the main normative reference documentation is formed and verified. Based on the results of this survey, a document signed by all participants of the implementation project is formed that describes all the identified problems and outlines ways to eliminate them.



Figure 1. Stages of information system implementation.

The success of the project as a whole often depends on the quality of this stage and the completeness of the prepared document. A necessary condition for the success of the entire implementation project is its detailed documentation. A project schedule is being built. The system development stage is usually divided into specific milestones that can be evaluated separately, without reference to other development objects. The schedule must include work on testing system components, correcting possible errors, and redesigning. Most often, these works are evaluated as a percentage of the total labor costs of the development process, taking into account the coefficients, depending on the complexity of the project [2]. Further, the plan adds work on the deployment and configuration of stands with the developed software and hardware, allowing you to organize a pilot operation at the customer's sites. This is followed by work on the implementation of the system, including user training. Training users in large projects is a very expensive part [3]. The result of this stage is an assessment of the necessary resources for the project implementation based on the drawn-up schedule [4].

2. Building an information and functional model of an enterprise's activity, describing and optimizing processes that are subject to automation.

In addition to building an information and functional model of the company's activity, at this stage, the configuration of directories and classifiers of the system is developed and coordinated. If necessary, decisions are made to change existing accounting practices or functional models. It is very important to have corporate standards. At this stage, corporate accounting standards must be created or analyzed for completeness. Only well-trained personnel or external consultants can complete this task. Generally, enterprises allocate a special staff of methodologists. The main requirement in this case is the availability of all necessary reference books and classifiers for the operation of the system. Usually it is a reference product, counterparty, chart of accounts and analytical characteristics of accounting. There should also be a list of business operations and the material and cash flows included in them. Modeling business processes of an enterprise is very important, as it allows you to prepare for the next stages of implementation. Modeling should be carried out by well-trained employees of the customer's enterprise (key users) with the involvement of highly qualified consultants and linking the created model to business standards and to the future system. The result of the stage is that reference books of the main melons are compiled and structured, and a model of business processes of the enterprise is built [5].

3. Testing the pilot project.

At this stage, all the activities of the future system are fully tested. In separate divisions of the enterprise, real data is entered into the system and business functions are consistently tested by modeling real situations of the enterprise's activity. Interaction between users of different departments is worked out on the basis of simulated examples. Key users who check both the correctness of business processes and the usability of interfaces are required to participate in testing. Based on the results of modeling the system operation, the management of the implementation project and the enterprise makes a decision on full or partial implementation of the system. In cases where the main business processes are well-established, and unique situations identified as a result of testing require minimal changes. The stage ends with the release of a software product that meets the main requirements of the customer.

4. Adaptation of the system in the enterprise.

During this stage, the system is configured in accordance with the implementation project plan. Integration of individual modules and functions by the implementation group. End users are divided into groups and trained to work with the configured system. This can be done both in isolation from the main activity, and directly at their workplaces. Especially effective for adaptation when users duplicate their activities in the new and old information system. At the same time, there should already be a role matrix that allows you to differentiate between end-users ' access to performed business operations and information. Training is provided by external consultants and employees of the customer's company. After training, the implementation team develops a detailed plan for the implementation project, which includes such issues as the responsibilities of the project participants,

the start and end dates of work, as well as other issues arising from them, which are solved in parallel. The work is carried out jointly by the implementation team and external consultants. The adaptation stage is completed with the successful installation of the system at users' workplaces [6].

5. Pilot operation of the information system.

During this stage, the customer must make sure that the company's requirements for the functionality obtained as a result of setting up the system are fully met. In accordance with the designed technological architecture reflected in the documentation, server, communication and other equipment, as well as system software are purchased. The components of the information system are installed in a single software and hardware complex on the sites where it is planned to be used for industrial purposes. If this is necessary, specialized jobs are organized. At this stage, double data entry into the old and new systems is saved. During trial operation: the necessary reports are developed to track key indicators and the completed reports are compared with existing ones. During the reengineering of business processes, the functions of the staff may change, which leads to the adjustment of job descriptions. In large projects, special attention is paid to the quality of documentation, including user instructions for the system. Most often, user information is divided into segments by type of activity and specialization. This allows you to focus attention in the document on important points and not load users with unnecessary information. During pilot operation, decisions are often made and agreed upon to make changes to the developed hardware and software system. The stage is completed with a system ready for industrial operation, user instructions for working in the system have been generated, and issues of related departments have been settled.

6. Industrial operation of the information system.

A plan is being drawn up for putting the implemented system into commercial operation. Historical data from the previous system is loaded into the system. Users are scheduled to be transferred to the new system. The phase of industrial operation is most often legally regulated by a separate agreement or additional agreement to support the industrial operation of the system. In the framework of this contract can occur with maintenance work on the diagnostics of the system components, their interactions and the elimination of minor failures.

7. Support of industrial operation.

At this stage, the contractor leaves the project. Internal employees of the company from IT provide full support to users and make changes to the system within the framework of regulations. The system is fully functional.

Thus, for the successful implementation of the information system at the enterprise as a result of interaction between the participants of the cluster for processing forest waste, not only professional developers, but also end users from the customer must participate in its design.

Thus, the final release of the system will have not only the necessary functionality, but also ease of use, which is important for the effective operation of the enterprise. It is also necessary to provide maximum flexibility at the stage of system design. Due to the flexibility, the project team will be able to choose from several solutions, thereby increasing the efficiency of automation. Flexible systems make it easy to replicate the information system for branches or other business units with different business processes. At the stage of industrial operation of the system, all necessary documentation and instructions for working in the system must be provided for effective user support. The implementation project is completed with the full transfer of project documentation from the contractor and the signing of documents on the fulfillment of contractual obligations.

#### **3.** Conclusion

Thus, the developed methodology for innovative projects assessment of the rocket and space engineering enterprise, takes into account all the main features of the project. These features are the multi-stage, the investment and the innovation efficiency, specific risks (for example, risks associated with the R&D success or pilot implementation), the economic development of the enterprise based on project efficiency, the social efficiency, the environmental efficiency and the application of non-standard forms of financing, such as government or venture capital, business angels, etc.

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