

## THE MAIN ASPECTS OF GEO-INFORMATION SYSTEM CHOICE FOR MANAGING REGIONAL TRANSPORT INFRASTRUCTURE

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**Keywords:** geo-information system, regional transport infrastructure, geo-information technology, geo-marketing, the criteria for geo-information system choice, the aspects of automation system choice in the field of transportation.

The article deals with the recent sales dynamics of geo-information systems software. Besides, the article defines the difference of geo-information systems from the geographical information systems, the main aspects of automation system choice in the field of transportation, the criteria for geo-information system choice and geo-marketing.

One of the most efficient options to solve the problems of control, planning, cost saving and quality improvement of the transportation process is the introduction of geo-information systems (GIS) to the territorial management mechanism.

The choice of geo-information system is rather important for managing the regional transport infrastructure. The activity efficiency is affected by the choice for at least the nearest 4-5 years. If one obtains too cheap software from the little known supplier, there is a possibility of serious problems for the whole period of its use. Too expensive system will absorb financial assets, which could be used for extensive development. The expensive system will hardly allow to achieve adequate effect. That is why the choice of geo-information system for managing the regional transport infrastructure, as well as its type and provider/developer has to be based on the number of formal criteria.

The first criterion is the number of automatized functions.

Table (composed on the basis of research data from 2008, CNews Analytics) shows the list of automation system parameters, which have the most significant importance in the field of transportation.

From table we can see that much more attention is paid to functionality of the obtained

geo-information system rather than to its price. However, such kind of common approach has its own disadvantages. Firstly, the majority of integrated systems, based on MRP/SCM standards, have a conventional set of basic business functions, and none of the software platforms at the market has principle limits for its practical use. Secondly, a thorough study of the basic set of functions can take a long time (five years or even more). Without a complete rethinking of the historically formed logistical structure a large number of new functions can be just dangerous.

The importance of the system location was mentioned by 25% of respondents. The location is required during the adaptation process of foreign software to Russian conditions and expressed in translation of some software elements into Russian: screen forms, text messages, online help, and printed documentation to provide the correct work of the whole system with a new interface in a new language environment.

The possibility to support the vendors comes at the end of the list - 4,2%, which indicates the intention of transportation enterprises to solve the vital problems with the help of automated systems and only after that they pay attention to strategic perspectives.

The second criterion is the ease of adapting the system for use in Russia during the

### Criteria for choice of automation systems in the field of transportation

| Criteria        | %    |
|-----------------|------|
| Functionality   | 87,5 |
| Price           | 45,8 |
| Localization    | 25   |
| Scalability     | 29,1 |
| Vendors support | 4,2  |

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processes of system introduction and management. According to this criterion, it is preferable to favor the systems, which have special translation functions to translate screen forms and menu into Russian. Even if the software product is already fully translated, it is necessary to take into account labor costs for the development and adaptation of new versions.

The third criterion is the experience of the developer/provider team in practical introduction of complex management systems to Russian market. The experience of the consultant's team in practical use of adaptation methods for MRP/SCEM-ideologies to Russian conditions can often turn out to be a determinable factor.

The fourth criterion is the computerization level of the appropriate authorities during the moment of geo-information automation system installation. The more homogeneous the computing system in the management structure is, the closer it is to the important target of the automation system introduction; and vice versa - if the company implements a number of heterogeneous systems, it will be difficult to introduce some specific decisions without principal changes to the operation technology, irrespective of the product choice and the resources, which are necessary for product introduction.

The fifth criterion is the flexibility of the provider's pricing policy. The consideration of this criterion will allow to decrease the direct costs for the system. The provider's pricing flexibility depends a lot on modularity and scalability.

Quality is also a complex process. After an attractive and colorful provider's presentation of saleable software, the customer stays in the state of enthusiasm for a long time, though the employees have not worked with this software yet. Without any doubt, a rather long testing period is stipulated by the contract (3-6 months). During this period all the identified errors must be corrected free of charge.

Summarizing all the facts mentioned above, we can point out that geographical information systems technology is a successfully developing one, which can be effectively used in the field of transportation as well as in many other fields. Geo-information systems are developing rather dynamically. Within recent years the world has accumulated a considerable experience of geo-information use to solve the management problems of regional transport infrastructure. Besides, transport geo-information systems have one very important feature - the widest user community, which needs transport information.

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