

# ESTIMATION AND PERSPECTIVES OF INFORMATION SYSTEMS OF LITHUANIAN RAILWAY

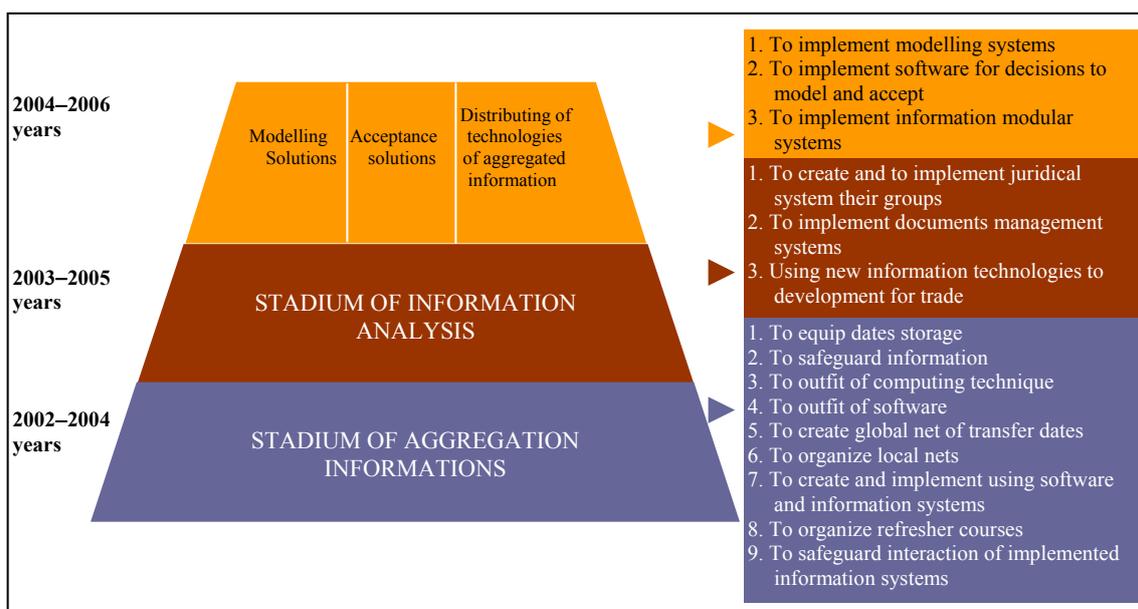
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## 1. ACTIVITIES OF THE INFORMATION SYSTEMS OF LITHUANIAN RAILWAYS

To ensure a purposeful creation and implementation of new and modernised old systems, there have been chosen priorities in accordance with systems level (information collection, information analysis and decision-making).

Fig. 1 shows that the information systems that are being exploited currently as well as those that are being created for near future use are data collection-oriented. Only having exhaustive information about the company’s activities, it is possible to start implementing information systems that would be beneficial while analysing the information and later modifying the company’s activities as well as making decisions.



**Fig. 1.** Stages of implementing of information technologies

The development and enlargement of information systems is as follows:

- a computer information system for commercial goods for freight station (KPS KIS) is started to create by goal – to organize best service for customers, to prepare documents precisely and quickly, to control accounting of the working stations.
- a passenger carriage accounting computer information system. It is creating now. It is going to change now workable place reservation and ticket selling systems Ekspress-2 into Ekspress-3.

The Lithuanian Railways officers are frequently participating in EURODAT sessions (session of specialist of railways information technologies).

Lithuanian railways are connected with Western Europe telecommunication nets by means of a roundabout way – through Belarus, Ukraine and Poland. These days the possibilities of the direct telecommunication through Poland are being discussed.

The foreseen trends in the system development and modernization in accordance with PLC “Lithuanian Railways” the field of activities is depicted in Fig. 2.

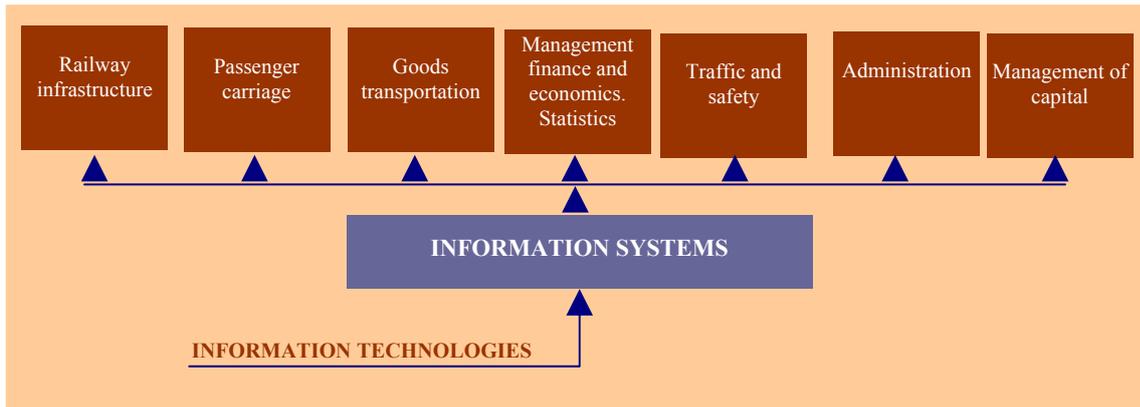


Fig. 2

The activities of the information systems centre of PLC “Lithuanian Railways” – in 2001 there was established the Information Technologies Centre (here ITC) that was entitled to carry out the following main functions:

- to coordinate the information technologies development policy and strategy on the company’s scale;
- to prepare investment projects meant for information system project works as well as for the acquisition of computer hardware and software;
- to prepare technical requirements and tasks for the creation of informative systems;
- to create and implement new information systems and individual tasks, carry out their authorized monitoring as well as provide assistance;
- to employ computer-based information systems and individual tasks;
- to employ data-processing as well as local computer nets;
- to solve issues related to the need to exchange information with other countries’ railways, match its exchange content and technology;
- to organize computer hardware provision, carry out its monitoring and servicing;
- to consult users of computerized systems and tasks;
- to represent LR in international organizations working on information issues.

Fig. 3 shows the growth of the company’s investments into information technologies over the last years.

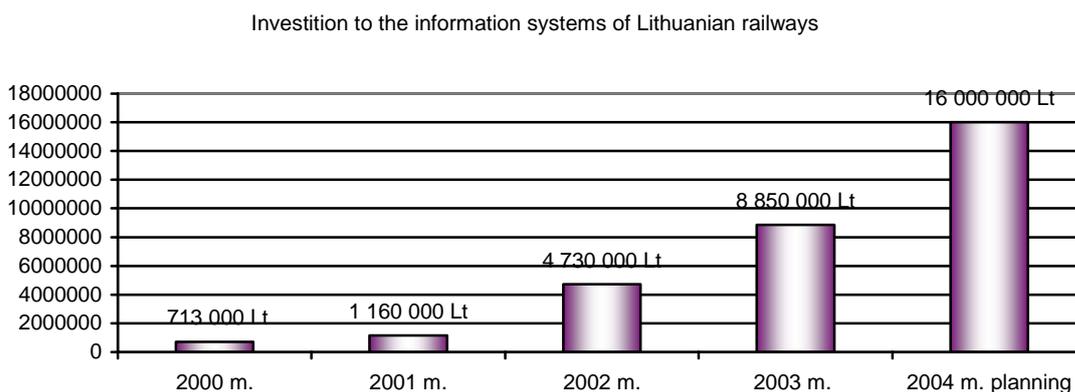


Fig. 3

The following information systems and individual programs have been exported:

- The accounting system of goods transportation. The data about 80 000 transportation documents are processed each month. Over 100 various firms of statements of various periodicity are typed, about 1,000 invoices are sent to clients;
- Computerized information system of carriage transition stations;
- ISU, Lithuania, Latvia and Estonia’s countries data-base;

- ISU, Lithuania, Latvia and Estonia's front carriages data-base;
- Automated transportation administrative system;
- Accounting system of ticket selling for local routes and passengers' transportation;
- Accounting system of wages;
- Tasks processing complex of engine-drivers' itineraries;
- Material accounting;
- Accounting of long-lasting wealth and that of low value;
- Data administration system;
- Formation of tax accounting;
- Simplified system of customs procedures;
- LR Internet website.

While exploiting the above-mentioned systems into computers only by ITC alone a large amount of information is processed. On average about 18-19 mln. signs are entered by ITC monthly. Beside, about 12,000 tickets are sold to passengers every day; about 3,500 statements are formed at stations every day about the movement of freight trains.

## **2. INTERDEPARTMENTAL COLLABORATION ASSESSMENT**

All accounting programs have been transferred from old SM 1600 electronic calculating machines into personal computers. Long lasting and low value wealth accounting as well as that of materials, special wear, wages and working time are carried out by means of that new system. Data for balance sheets are prepared too. The services are provided to many company's affiliates. There has been created Lithuanian Railways Internet website, i. e. [www.litrail.lt](http://www.litrail.lt).

Additional services are provided for passengers' – data concerning issued invoices and their appendices about the services that have been provided. Clients as well as various institutions can obtain this data by means of e-mail.

## **3. A COMMON USE OF IS WITH ABROAD**

The computerised information system of station carriages transfer (CIS CST) regulates the accounting of carriages transfer and acceptance through the state's boundary. This system is closely connected with analogical systems in Latvia, Belarus, Kaliningrad railways and the International Computer Centre in Moscow. As a matter of fact CIS SCT has already been created, however, in accordance with the railways' agreement. The system is constantly improved in terms of accounting methods transfer stations working technologies, changes associated with modifications in requirements for information exchange between centres. CIS SCT altogether with the elaborated operative computerized information system of goods transportation (OCISGT) would enable us to effectively control other countries' carriages along our railways, organize their shipment from Lithuania. An analogical system of accounting of containers movement through the state's boundary is also being developed.

The operative computerised information system of goods transportation (OCISGT). The system is supposed to ensure the collection and accumulation of information about trains formation, movement, arrival and departure as well as about other operations. Up to now. These functions have been performed by the system created in Russia in 1980 and which has been exploited in Riga's Computing Centre. Having accomplished creating our own OCISGT, its operating costs would decrease twice as much.

An 1996–1999 there was established the computerized information system of station carriages transfer meant for the accounting of carriages transfer and their use among the states. These days on the principle of analogy a containers accounting system is being worked out. In order to exploit these systems there has been set up a new department new local computer nets have been created in Lithuanian railways central administrative centre as well as at carriages transfer stations. These new are interconnected; the centre computer net is connected with Latvia (Riga), Belarus (Minsk), Kaliningrad and Moscow's Railways Administrations information and computing centres.

The company's administrative employees have taken a chance to join the global Internet web and make an extensive use of e-mail communication.

#### 4. CONCLUSIONS

Having considered PLC “Lithuanian Railways” use of IS, IS current situation and prospects as well as having evaluated interdepartmental and interstate data exchange, one can see that:

- The exploited IS PLS “Lithuanian Railways” are data-collection-oriented IS which are being developed these days are oriented not only towards information collection but also towards its analysis as well as the current activities modifications;
- Having evaluated PLC “Lithuanian Railways” interdepartmental collaboration, it is apparent. That railway passengers are provided with the information concerning the services provided, issued invoices, data is being conveyed by means of e-mail service;
- LR computerized data conveyance net is being development, by means of which the company’s affiliates will be interconnected; Lithuanian Railways network is connected with Latvia, Belarus, Russia’s Railways Administration Information and Computing centres;
- When comparing the company’s current information technologies level with that of Western railways information systems, it is obvious that the former is not quite high, however, in the course of the last “Eurodat” meeting German, Hungarian, Austrian, Latvian, Russian and other countries’ railway information technologies specialists discussed the possibilities of the direct telecommunication between Lithuania and Western Europe railways through Poland.

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