INFORMATION TECHNOLOGIES

In 2001, the successful development of the *Latvian Railway* information systems was aimed towards the modernisation of information technologies and implementation of state-of-the-art methods, integration of railway transport into the national and international information network, as well as the development of the unified financial and economic management system of *Latvian Railway.*

Implementation of two major projects in the area of information technologies was commenced during the accounting period – modernisation of the data transmission network and the development of the infrastructure information system on the basis of the SAP R/3 information system.

The first project envisages the implementation of the unified corporate computer network connecting all local computer networks, as well as individual users in the whole territory of the country in every structural unit of *Latvian Railway*.

The SAP/3 project provides for the development of a modern, integrated financial, material resources and economic management system in compliance with the EU directives in order to enable efficient and reasonable operation of the company in competitive conditions. Implementation of SAP/3 will further the optimisation of the company's operational and management processes resulting in decreased operating expenses and increased income for the company. Implementation of the project will raise the competitiveness of *Latvian Railway* with regard to the railways of neighbouring countries and will ensure stable market position in the transport area.

Data transmission network

In summer 2001, a tender for the best solution to the modernisation of the *Latvian Railway* data transmission network (LDzDAT) was organised. The selected project provides for the following areas of development:

- Upgrading the connection of the IBM mainframe computers to the data transmission network ensuring increased speed and reservation of connections, thus enabling more efficient use of resources by mainframe computers and higher stability of the system operation;
- Establishment of the trunk line of the data transmission network – ensuring the speed of 1 GB per second in trunk lines;
- Connection of the main facilities to the network in Rīga and Latvia regions;
- Implementation of the unified network management system and modernisation of the existing management;
- Implementation of technical and programme solutions ensuring network safety, reservation of the most significant data, modernisation of the local network in *Latvian Railway* headquarters and connection to the international network *Infonet-21*.

The number of personal computers in *Latvian Railway* amounts to 1527. 696 users are connected to the internal network (Intranet), 468 of them have access to Internet. 95 new connections were made to this network in 2001. Almost all subscribers to Internet use electronic mail.

Freight shipment information system

Operation of the automated freight shipment management system *APOVS+DISKOR* (operating system OS/390, computing centre based on two IBM 9672.R14 processors) was proceeded with in 2001.

695 subscribers including 401 computers are connected to the system. *APOVS* terminal is operating in Intranet. During 2001, the number of subscribers has increased by 120. On average, 30451 messages (42.2 MB of information) were received and sent and 2338 messages were processed daily.

The system *APOVS* was used as a basis for the continuous operation of the wagon run registration system, as well as the system for the planning of repairs of private wagons by run and the container traffic registration system.

The following automated workplaces (AWP) were modernised:

- wagon delivery office AWP at Rēzekne, Daugavpils, Jelgava and Šķirotava stations;
- technical office AWP at Rēzekne, Jelgava, Liepāja and Ventspils stations;
- AWP for the analysis of compliance with train traffic schedules at Rīga, Daugavpils and Jelgava dispatcher stations;
- engine-driver's AWP in 26 workplaces;
- AWP for automated warning of locomotive crews at Jelgava, Rēzekne, Rīga passenger, Šķirotava and Ventspils stations.

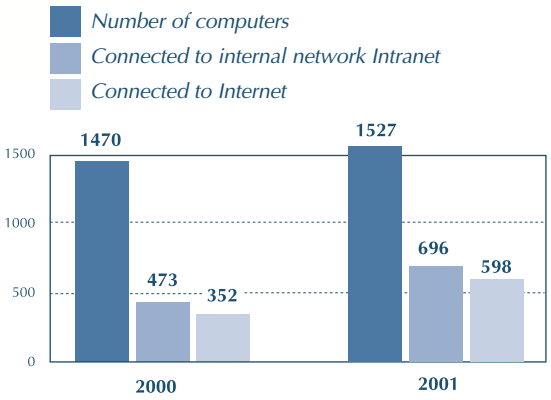
The following automated workplaces were put into operation:

- AWP for the receipt of information addressed to train traffic controllers;
- AWP for the registration of passenger traffic forms;
- AWP for the accounting of container inventory (trial operation).

An up-to-date automated management system with *Microsoft SQL* server data base was put into operation at Šķirotava station. The system services 26 workplaces.

The automated system for the estimate of the use of railway infrastructure was modernised in order to keep record of the infrastructure use. In addition, the following systems were introduced:

- manoeuvre registration system based on the engine-driver's route data;



• train-kilometres registration system.

The automated freight shipment income control system APIKS proceeded with its operation. Freight shipment invoices and information for other documents were prepared and accumulated under this system – 4080 documents were processed each day on average (0,63 MB of primary information received and 69,2 MB of processed information sent).

The following programmes were developed and launched:

• Programme for the implementation of the new *Latvian Railway* tariff policy 03-LDZ;

• Programme for shipment calculations according to the 03-LDZ tariff;

Freight cashier's automated workplaces were modernised at Rēzekne, Daugavpils, Jelgava, Šķirotava, Ziemeļblāzma, Rīga Krasta, Mangaļi, Bolderāja, Liepāja, Ventspils and Saldus stations, in the territory of JSC *Ventspils nafta* and the Shipment Payment Bureau of the *Latvian Railway*. The AWP for the inspector-auditor of the above bureau (part 1– freight registration and traffic control) and the freight receiver's AWP at Ventspils station (JSC *Ventspils nafta*) were also modernised.

Freight receivers and senders are notified of the location of wagons, since the *System for the location of wagons by using mobile phones to receive SMS* (SMS VCOS) was developed and introduced.

Infrastructure information system

The number of users of the train accident registration system has grown to 52. Currently the system is being used by the Infrastructure Department, Freight Shipment Department, Rīga and Daugavpils operational stations of the latter department, Train Traffic Management Centre and its sections in Rīga, Jelgava and Daugavpils, Technical Inspection and Security Department. The system automatically processes operational information and reports on traffic accidents.

Modules for the technical design of the track renewal project – *Longitudinal section*, *Drainage* and *Cross-section* were put into operation by the Infrastructure Department with 14 users of the system, enabling automatic generation and printing of qualitative drawings.

The system for the registration of failures of infrastructure power supply devices was put into trial operation (4 users).

Rolling stock information system

The following systems and AWP were modernised: the processing system of the engine-drivers' routes and fuel checks for the preparation of statistic reports – the average number of the engine-drivers' routes processed per month was 8.885 thousands and fuel checks – 7.895 thousands; wagon technical service AWP at Šķirotava, Rēzekne and Jelgava stations, AWP for the registration of freight wagon certificates at Daugavpils Wagon Repair Centre, AWP for the registration of wheel pair repairs at Daugavpils Wagon Repair Centre and AWP for the calculation of locomotive maintenance time in the Freight Shipment Department (trial operation).

The following AWP and systems were prepared and put into operation: station-master's on duty and locomotive manager's AWP in Rīga locomotive operation department, AWP of fuel storehouse (*Windows*) in Rīga department of the Locomotive Repair Centre, registration of diesel train operation by train numbers, registration of electric train operation by train sections, AWP for the registration of box unit repairs at Daugavpils Wagon Repair Centre.

Passenger service information system

The ticket booking system *Ekspresis-2* (computer run by IBM 4381.P13) processor) proceeded with its operation. 166 terminals (93 in Latvia, 41 in Lithuania and 28 in Estonia) are connected to the system. The average number of tickets sold per day is 4500 (2000 in Latvia, 2200 in Lithuania and 300 in Estonia).

Decentralised income accounting system was put into trial operation. The set of programmes operating on DB2 database for the preparation of statistic and financial reports on domestic traffic was modernised and adapted. In relation to the restructuring of *Latvian Railway*, new software for the preparation of monthly statistic reports was developed. New types of season tickets in diesel and electric trains were introduced.

Financial information system

Further operation of computer programmes developed by the IT Centre for the processing of financial and accounting data was carried out.

The existing accounting programmes were adjusted in compliance with changes to legislation and requirements of structural units.

Personnel registration system

In 2001, in collaboration with the Personnel Department of the Central Administration, the latest version of the Personnel registration system (PRS) was developed. Currently 15 AWP are operating within the PRS in Rīga, Daugavpils and Ventspils.

Office records management system

Trial operation of the Office records management system (ORMS) was completed in the accounting period. Starting with the year 2002, full cycle of operation of the ORMS can be introduced for the common network users, and without full cycle of operation – for the local network users.

In 2001, the informative booklet of the Training Centre, the quality management and environmental protection database and the railway transport legislation database were prepared in Lotus Notes environment.