

## Chapter 4.17

# Using the Railway Mobile Terminals in the Process of Validation and Vending Tickets<sup>1</sup>

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### EXECUTIVE SUMMARY

This article describes the functional and technical side of Railways Ltd. mobile terminals project. The advantage of mobile terminals lies in the greater efficiency of railway tickets vending, the control and real-time supervision of complete process of vending tickets in the country. Mobile terminals allow railway conductors to automatically vend and verify tickets. Also, information about each sold ticket is transmitted wirelessly via GSM/GRPS in real time or near real time. The information about sold tickets is received by the central server and stored in the main database. The data are available for analysis and report making.

### ORGANIZATION BACKGROUND

Railways Ltd. is one of the railway companies in the Republic of Croatia. The company was founded in 1990 after the country gained its independence from Yugoslavia. However, the history of railway traffic in Croatia starts in the 19th century with the first railway line operating in 1860.

Today, the national railway network connects all major Croatian cities except Dubrovnik. As can be seen in Figure 1, due to geographic reasons, Croatian national railway network is quite spread out. Statistically, railroads are mostly mountainous with only one truly straight and fast line in the Slavonia lowland region that connects the capitol Zagreb and the city of Vinkovci.

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The country of Croatia is located well geographically on the crossroads of Central, Eastern, and Southern Europe. There are three Pan-European Corridors running through Croatia forming the backbone of the railway infrastructure (see Figure 2). Croatia has direct railway lines to Slovenia, Hungary, Italy, Austria, Switzerland, Slovakia, France, Germany, Bosnia-Herzegovina, Serbia, and Montenegro. Also, there are indirect lines to almost all other European countries.

Public transport of passengers and freight in domestic and international railway traffic and construction and maintenance of railway infrastructure are the company's main, or core, business. Railways Ltd. employs more than 15,000 people located throughout the country and many more than 50,000 passengers travel by train in Croatia every day. As a large railway operator, Railways Ltd. is of obvious national interest. Railways Ltd. is a limited liability company in the state ownership. The company has a management board,

supervisory board, 14 offices, and five regional subsidiaries. Railways Ltd.'s total annual budget is approximately 373 million Euros. Many capital investment projects, such as the mobile terminals project described in this case and the modernization of the railway infrastructure, are financed directly by International Monetary Fund (IMF) and European Bank for Reconstruction and Development (EBRD).

The implementation of the mobile terminals project is a part of the company's global modernization project. In the last five years, Railways Ltd. has gone through a series of different restructuring and modernization projects like upgrading basic railway infrastructure, dismissing unnecessary personnel, and implementing new information technologies. In the next few years, the company should be intensely privatized and divided into several smaller, more efficient, and specialized companies. The intent is to make the company completely self-sufficient and profitable.

Figure 1. Croatian railway network



Figure 2. Pan-European corridors



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