DEVELOPMENT OF IT INFRASTRUCTURE TO OPTIMIZE LOGISTICS OPERATIONS IN THE SEGMENT OF COLD CHAIN

Dr. Dominika Crnjac Milić, Associate Professor  
Faculty of Electrical Engineering, J.J. Strossmayer University of Osijek,  
Kneza Trpimira 2B, 31000 Osijek, Croatia  
Phone: +385 (0)31 224 600 / Fax: +385 (0)31 224 605  
E-mail: dominika.crnjac@etfos.hr

Ivana Hartmann Tolić, Assistant  
Faculty of Electrical Engineering, J.J. Strossmayer University of Osijek,  
Kneza Trpimira 2B, 31000 Osijek, Croatia  
Phone: +385 (0)31 224 600 / Fax: +385 (0)31 224 605  
E-mail: ivana.hartmann@etfos.hr

Martina Martinović, PhD, Logistics Director  
RALU logistika d.o.o.,  
Radnička cesta 47, 10000 Zagreb, Croatia  
GSM: ++385 (0)98 984-2430  
E-mail: crnjac.martina@gmail.com

Abstract

An important segment in the development of good business is the development of information technology, which is especially pronounced in the area of logistics operations. This paper analyses trends in the application of information technology in storage and transportation of food products that require refrigeration or freezing in order not to lose their nutritional properties and maintain their quality.

The market of frozen products has been on the rise in recent years, although in Southeastern Europe the consumption per capita is lower than in Western Europe. It is expected that the consumption of these products will significantly increase in the next few years as a result of the changing lifestyle (less time, consumption of a variety of foods from all over the world throughout the year, etc.).

Because of technology advancements and logistics strategies, the cold storage of perishable items has become an important stage in the distribution between manufacturers/processors and retail locations. Fresh and deep frozen production continues to increase to meet worldwide demand, and technology has created a wider range of usage for that kind of products and the ability to transport products.

The hypothesis of this paper is that further research and development of information technology solutions would, beside existing ideas, provide faster and more efficient distribution and storage of food products which require special conditions, and it would ensure the profitability of the companies and their stronger business position in the global market.
Key words: optimization, logistics operations, cold chain, IT infrastructure