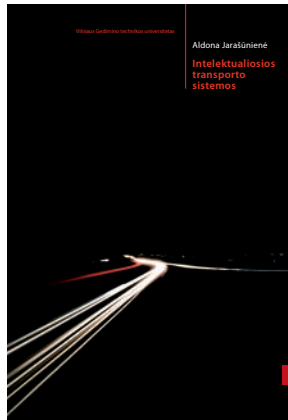




## REVIEW OF THE MONOGRAPH 'INTELLIGENT TRANSPORT SYSTEMS' BY ALDONA JARAŠŪNIENĖ

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Aldona Jarašūnienė and cover of Monograph  
'Intelligent Transport Systems'

The topic of the monograph *Intelligent Transport Systems* [*Intelektualiosios transporto sistemos*] (in Lithuanian) discussed by Assoc. Prof., Dr. Aldona Jarašūnienė (issued by the publishing house *Technika* in 2008) is definitely important as it deals with a new and promising field of science. Investment and interest in Intelligent Transport Systems (ITS) is growing in many countries worldwide. The monograph presents the theoretical and practical aspects of ITS, a comprehensive analysis of the experience of other countries in the development of ITS, a vast study of ITS development in the EU member states and certain possible architectural variants. The aforesaid factors are important and necessary to Lithuania aiming at the stimulation of transport system efficiency and traffic safety enhancement.

The monograph consists of six sections. The first section deals with the development of ITS in Lithuania. *The reader is introduced to the Long-term (until the year 2025) Lithuanian Transport System Development Strategy.* The long-term strategy of the State emphasizes an important role of advanced technologies in the strategy of national economy. Rapid integration in the EU and economic areas of other countries facilitates the development of an efficiently functioning and competitive transport system. For this reason, an environment consisting of institutional and business resources and intelligent functioning of capital is generated. Business strategy is closely connected with the strategy of information and knowledge application in institutions the formation of which should be coordinated and synchronous. This is a factor determining the competitive ability of institutions in markets. The analysis of the current ITS situation and ITS projects have been performed with the aim of a more precise evaluation of the present situation and outlooks.

The second section of the monograph presents the trends of ITS development in the EU member states. The European Commission pays considerable attention to the development of Intelligent Transport Systems. The author refers to the White Book warning that an uneven distribution of transport modes causes transport congestion, competitive ability and employment problems. The EU Directives particularly focus on road traffic safety regarding ITS development as the means ensuring the solution of the related problems. The monograph gives a wide view of the experience of the EU member states in the development of ITS enabling a more rapid implementation of similar systems in Lithuania, thus avoiding possible hidden obstacles of the process.

The third section of the monograph gives a systemic and comprehensive view of ITS architecture and singles out the levels of architecture enabling a better understanding of users' demands and development opportunities. The architecture of the system has been analysed considering its conceptual aspect and particularity. ITS implementation enables the growth of the efficiency of activities and a competitive capacity of all stakeholders and interested groups at all levels including national, regional and municipal. The provided analysis of the standards of Intelligent Transport Systems gives opportunities to reach the settled objective in the most efficient way. ITS standards have raised many discussions on various levels within a wide audience, e. g. in the International Standards Organisation (ISO) or the *European Committee for Normalization* (CEN)). Standardisation causes difficulties due to its relation with business – on the one hand, the suppli-

ers not always willingly reacting to market position, and on the other hand, the users that have already invested in certain systems. Therefore, they are trying to avoid new investments. Nevertheless, standardisation makes the process of ITS development more efficient.

The fourth section of the monograph focuses on planning the development of the systems and financing them. This problem has been analysed through the prism of the experience of other countries. Different contexts of ITS implementation such as political, public policy, service characteristics etc. are presented. The process of planning starts from creating a strategic plan and therefore all stakeholders and participants implementing future systems should be involved in this process. This enables support in all levels during the implementation and development of the systems. The clearly defined roles of different institutions and tasks and the future problems of implementation enable to speed up the mastering of the process and to reach the planned aims by the least costs. Undoubtedly, the financing of ITS process is always encountering numerous problems which is particularly relevant in the context of the present economic crisis. Therefore, it is topical to use the advanced formats of contracting (public and private partnership model). Such formats enable the reduction of project risks and an increase in the efficiency of investment use.

The fifth section of the monograph offers the opportunities of speeding up ITS implementation in Lithuania. The author presents an ITS vision that place respective accents reflecting and defining users' demands. A systemised evaluation of ITS situation in Lithuania and abroad gives an opportunity to more precisely define the advantages and shortcomings of the system being created, thus enabling the analysis of positive and negative factors. The carried out SWAT analysis shows possible dangers and possibilities of such systems. This facilitates the formation of efficient ITS implementation and development strategy as well as the development of action plan and technical solutions.

The sixth section of the monograph discusses the analysis of ITS technologies and their efficiency. The efficiency of systems is regarded in two aspects – the efficiency of collecting and transmitting information and the effectiveness of the conformity of information with the standards of demand. The research of ITS functions reveals a presumptive chain of information. The problem of information chain functioning has been analysed by different layers including transport networks, data procurement, information application etc. A method for a quantitative evaluation of efficiency has been proposed. The method has been approved in the process of data collection efficiency, for example, as the efficiency of positioning video cameras.

It should be noted that the monograph *Intelligent Transport Systems* systematically and specifically approaches a complicated and substantial problem of the transport sector in Lithuania and provides possible methods of reaching a solution. From the theoretical and practical points of view, the monograph is a useful and valuable tool for the readers interested in ITS problems, i.e. for transport professionals, scientists, graduates and postgraduates. This book presents a considerable contribution to the theoretical and practical cognition of ITS issues and provides a real aid for achieving the required solution to the problems of the competitive ability and efficiency of Lithuanian transport system.

#### **Citation of Monograph in others researches:**

Jarašūnienė, A. 2008. *Intelektualiosios transporto sistemos: monografija* [Intelligent Transport Systems: Monograph]. Vilnius: Technika. 200 p. ISBN 978-9955-28-205-1 (in Lithuanian).