Ing. Jindřich Kušnír

Náklady a přínosy vysokorychlostní dopravy v podmínkách ČR
Costs and Assets of High-speed Transport in the Conditions of the Czech Republic

Should railway transport maintain at least its position on the transport market in the future, or, more optimistically, enhance this position, the measures implemented so far will no longer be sufficient and it will be necessary to start developing a new infrastructure, as it is for other types of transport.
The paper introduces advantages of a new high-speed connection with Europe for the Czech Republic, compares investments spent into building transport infrastructure of the Czech Republic in the period 1994 – 2006 and analyses five basic myths on constructing a high-speed railway in the Czech Republic that spread both among experts and in the public

Bc. Marek Binko

Požadavky na vysokorychlostní železniční systém z pohledu dopravce
Requirements on a High-speed Railway System as seen by Operators

The conventional railway system in the Czech Republic is not competitive anymore. A high-speed network can create an alternative to highways and it can improve significantly the quality of Czech railways' offer. The paper introduces basic business transport requirements for a high-speed railway network in the Czech Republic.

Prof. Ing. Vlastislav Mojžíš, CSc. - Ing. Josef Bulíček

Možnosti využití železnice v MHD/IDS
Possibilities of Railway Use in Urban Mass Transport/Integration transport system (ITS)

The paper deals with technological aspects of railway integration into the urban public mass transportation system or into the integrated public mass transportation system on the territory of cities. Theoretical preconditions for integration (e.g. suitable composition of the railway network, composition of railway lines, a sufficient number of railway stops, railway lines capacity, improved frequency time schedule, claims on railway vehicles and information systems) are mentioned in the paper. Interconnections to other modes of public mass transport and main claims on interchange points and their location are mentioned here as well.

Mgr. Ing. Radek Čech

TSI provoz a řízení dopravy
TSI Operation and Traffic Management

The paper contains basic information on the subsystem operation and traffic management and on the respective TSI (Technical Specifications on Interoperability). TSI is valid and in force and all RUs (Railway Undertakings) and IMs (Infrastructure Managers) are fully responsible for TSI operation and traffic management implementation in accordance with the implementation plan.

Ing. Miroslav Haltuf - Ing. Tomáš Dvořák

Integrovaná podpora operativního řízení
Integrated Support of Operative Proceedings

The system integration ensures a wide access to operative proceedings support. Such an approach covers activities within the commercial transport sphere of interest with complete service and solutions including process engineering. Thus the final customer profits by an all-in-one solution from a single system integrator. The emphasis is set on efficiency and individual approach. There are authentic integrated system models in the field of transport in general nowadays. The railway transport sector naturally follows up the above trend

Ing. Pavel Zahálka, CSc. - Ing. Jaromír Bittner

Elektronické jízdní řády v Evropě
Electronic Timetable Systems in Europe

The paper describes a situation with using “Electronic Timetable Systems” (ETD) in Europe and its advantages in railway traffic operation.
The ETD provides the driver with complete information concerning the railway infrastructure. The five following documents are displayed on the ETD: Embedded Electronic Timetable, Riding Instructions and Commands (infrastructure management information), Infrastructure description, Stations description, Digital assistant for optimising driving performance.

Ing. Miroslav Klapka

SIMON Systém elektronického sledování železničních vozů
SIMON System of Rail Freight Wagons Electronic Tracking

This paper contains basic information on the projects JEWEL and RailMap. Both projects are solved within the frame of the international program EUREKA. Project JEWEL is focused on development and improvement of a new tracking unit for determining the position of rail freight wagons. Project RailMap solves the development of a PC application which is a railway map covering whole Europe. A connection of these projects enables the users to display positions on tracking units in the RailMap application

Ing. Michal Palán, Ph.D.

Nákup jízdenek mobilním telefonem
Tickets Purchase by Cellular Phone

This paper deals with possible usage of cellular phone for both a mean of purchasing an e-ticket and an e-ticket carrier. It brings an overview of methods used in the world in several stages – ordering, payment, delivering and checking an e-ticket. These methods are compared and their advantages and disadvantages are presented from the both the customer's and the operator's point of view.

Ing. Dobromil Nenutil

InteGRail - Intelligent Integration of Railway Systems
InteGRail - Intelligent Integration of Railway Systems

The increase in railway system performance, which is the prerequisite for higher competitiveness of railways, can be achieved by the integration of the main railway subsystems – Rolling Stock, Infrastructure, Operation and Traffic Management. The design of the framework for such integration is the goal of InteGRail project which is running under the EU Sixth Framework Programme. The article outlines the structure of the project, the methodology used and describes briefly the key elements of the solution – architecture, communication system, ontologies. The demonstration scenarios used to demonstrate the project results as well as the vision of their utilization in the future are mentioned.

Ing. Libor Zátopek

Výsledky řešení a spolupráce ČD a VUZ na mezinárodním projektu EUROPAC
Results of Solution and Cooperation of ČD and VUZ on the International Project EUROPAC

The paper describes a common involvement of České dráhy together with Výzkumný ústav železniční (Railway Research Institute) in the European project EUROPAC. During three years fifteen partners from six European countries were participating in it. One of the project outputs is a general-purpose tool for a simulation of pantograph / catenary interaction. It introduces interoperable software that can help decreasing the number of homologation tests and also helps designers during catenaries creation. Another project output is a track monitoring station which should be used for checking defects on running trains' pantographs. The last main project result is an on-board monitoring system which is able to detect, localise and determinate the defects on the catenary during high speeds. All mentioned tools can help reducing the number of events decreasing quality of energy consumption from the catenary as well as maintenance costs.

Ing. Zdeněk Mašek - doc. Ing. Stanislav Gregora, Ph.D.
- Ing. Jan Michl - Ing. Karel Dvořák

Superkapacitory v dopravní technice
Ultra-capacitors in Transport Technology

This paper deals with problems of energy storage in the field of electric traction of railway and road vehicles. Energy storage is one of the technical problems being discussed at present, as constantly growing energy consumption causes a rise in prices. One of the perspective solutions is using ultra-capacitors which have an outstanding performance due to quick energy storage and effectiveness of the storage process compared with a conventional battery. Another problem in this field is production of harmful exhaust gasses during energy generation. The answer could be a replacement of the conventional combustion engine with fuel cells. The principle of a fuel cell and its cooperation with the ultra-capacitor is also shortly described in this paper.