



Ing. Danuše Marusičová

**Transformace technické normalizace v České republice  
a její dopad do železničního sektoru**  
**Transformation of technical standardisation in the Czech Republic and its  
impact into the railway sector**

The paper informs shortly on the transformation of technical standardization in the Czech Republic and presents its main partners. It also introduces its ensuring within the railway sector and informs both on the relation of European standards and technical specifications for railway interoperability and on particular working groups of relevant technical committees of standardization organizations CEN, CENELEC and IEC. It underlines the importance of active participation into standards' creation and marking up.

Ing. Petr Varadinov

**Pilotní projekt ETCS L2 v České republice**  
**ETCS L2 pilot project in the Czech Republic**

The article provides basic information on the ERTMS project and describes the pilot projects GSM-R and ETCS L2 in the Czech Republic. It pays attention especially to the pilot project ETCS L2, how it is specified, what is its current stage, applying experience in further ETCS projects in the Czech Republic. A part of the article contains also brief information on strategy of the ETCS implementation in the Czech Republic up to the year 2020.

Ing. Václav Michajluk

**Snížení nákladů na údržbu železniční dopravní cesty – pevná jízdní dráha  
BBEST se symetrickou kolejnicí**  
**Railway track maintenance cost decreasing – ballastless track construction  
BBEST with a symmetrical rail profile**

The paper focuses on the new construction of the Slab track called BBEST developed by Charles Penny from the company Balfour Beatty. The technical solution is based on two longitudinal grooves situated in the concrete slab. A special shell is fixed into the concrete groove by a grout and a symmetric rail BB 14022 is fixed into the shell by using a removable polyurethane pad. The objective of the article is presenting basic construction components of this system and showing technical and economical advantages of the current solution. The economical evaluation is also presented in the end by comparing Live Cycle Cost of BBEST and the solution represented by the classical ballasted construction of the railway superstructure.



Ing. Věra Nováková

**Specifikace minimálních požadavků železnice na ukazatele kvality signálu  
GNSS/GALILEO pro „nebezpečnostní“ železniční telematické aplikace  
Specifications of minimal railway requirements on GNSS/GALILEO signal  
quality parameters for "non-safety" Railway Telematic Applications**

The article introduces selected Railway Telematic Software Applications designated for the requirements proposal for the GNSS/GALILEO service. The first section of the article describes selected software applications. The software application "Monitoring Trains, Railway Carriages and Shipment Units Location" includes detailed calculations of the GNSS service requirements. These requirements have been specified for all software applications and their results are shown in the Summary Table. Furthermore the requirements are currently being evaluated in practice in accordance with the specified values' eligibility and a certification methodology for each GNSS parameter for railway transportation will be outlined.

Ing. Mgr. David Krásenský

**Outsourcing provozu IT na železnici jako cesta k úsporám a efektivitě  
Outsourcing of IT operation as a way to savings and effectiveness**

Providing outsourced services, among others in the field of information systems operation, is nothing new now and railway organisations are no exception. The paper describes outsourced operation of the mission-critical systems for the Czech railway, underscores its benefits and offers a view under the hood of the company OLTIS Group, which is a leading Czech vendor of information systems in transport industry.

Ing. Zdeněk Štěpánek

**Modernizace lokomotiv řady 230  
Modernisation of Locos Class 230**

In this article the reader will learn basic facts about modernization of the nowadays classic electric locomotives for AC Power System 25 kV / 50 Hz Class 230 of the carrier CD Cargo, Inc. The objective of modernization is increasing the effective life span of the locomotives by 20 years, the possibility of operating on the network of Slovak and Hungarian railways and last but not least a substantial improvement of drivers' working conditions.



doc. Ing. Jaromír Zelenka, Csc.

**Analyza vodících vlastností dieselelektrické lokomotivy s novým podvozkem  
CZ LOKO pomocí simulačních výpočtů**  
**Analysis of conducting behaviour of the diesel-electric locomotives Class  
744.0 with a new double-axle bogie by CZ LOKO by means of simulation  
calculations**

This paper contains an analysis of conducting behaviour of the diesel-electric locomotive Class 744.0 with a new double-axle bogie by CZ LOKO a.s. The guiding behaviour is evaluated on the basis of simulation calculations carried out by a programming system of rail vehicle running which is being developed at Jan Perner Transport Faculty of the University of Pardubice. It monitors the quasi-statically guiding force at the outer wheel of the first axle while running through very small radius curves. The evaluation of this force is carried out depending on radius of the running curve, on locomotive mass and also on the track with different rail inclination 1:20 and 1:40 according to ČSN EN 14363 and to the UIC Leaflet 518 (10/2007) draft.

Ing. Jiří Janšta

**Registr vozidel REVOZ a jeho význam na liberalizovaném dopravním trhu**  
**Vehicles Registry REVOZ and its importance on a liberalised transport market**

The paper describes the Vehicles Registry of the Infrastructure Manager (IM) which fulfils the role of the Rolling Stock Reference Database according to TSI TAF. Legislation for keeping the registry is introduced in the article as well as the relationships between the vehicles keepers' registers and the Rail Authority. It draws attention to the derived importance of the registry data in other information systems of the IM within the lifecycle of a train.

doc. Ing. Karel Hlava, Csc. - Ing. Ladislav Mlynařík

**Práce a výkon při rekuperaci**  
**Work and power during recuperation**

The paper deals with the analysis of power flow at the recuperative breaking on the traction system 25 kV, 50 Hz. Outside a short analytic calculation of the expected recuperated energy and power values three diagrams are attached which enable an easy estimation of both recuperated values mentioned in relation to the train mass and the recuperation period time duration. Three numeric examples are added too.



Ing. Jindřich Kašpar - Jaroslav Kupr - Ing. Petr Chlum

**Modernizace trakční napájecí stanice Zkušebního centra Velim Výzkumného  
Ústavu Železničního, a.s.  
Power station modernisation at the Test Centre Velim of Výzkumný Ústav  
Železniční, a.s. (Railway Research Institute, jsc)**

The paper introduces shortly the main reasons for modernization of the power supply station of Test Centre VUZ Velim, data of modernization and new technical parameters.

Ing. Pavel Janoušek

**Nabídky služeb zkušebního centra VUZ ve Velimi  
Offers of services provided by the VUZ Test centre in Velim**

The article gives basic information about the Test Centre VUZ Velim. It addresses on description of particular parts of the Test Centre. Main parts are test circles with needed supplementary infrastructure and the Dynamic test facility. The article specifies basic technical parameters of these parts and describes the way of their utilisation.