

RAILWAY REPORT Issue 189 (December 2020)



Dear Readers

The year 2020, which is just coming to an end, will probably be long remembered by all of us, primarily because of the pandemic and its effects, evident in practically all areas of human life, including transport. One may assume that the pandemic will have a long-term effect on the travelling behaviour of people, above all because of the spread of remote work and the fear of being in large groups of people, and these also include, after all, railway stations, stops and means of transport. The reorganisation of transport operations in such a way as to ensure the safety of travellers and staff is a major challenge for transport organisers and carriers. This is also an extremely important research topic and we will probably find out about its results next year.

Fortunately, the pandemic has not affected the way our magazine is managed. This 189th issue of Problemy Kolejowe contains six articles on very interesting and diverse topics. It starts with an article by a team of experts from the Faculty of Material Engineering of the Warsaw University of Technology and the TAPS company on railway chair design modelling. The described modelling work and experimental tests have been used to develop a new chair design characterised by reduced weight while meeting all strength and safety requirements. An article by Professor W. Koc from the Gdańsk University of Technology deals with the issue of connecting tracks of a circular curve by means of curved turnouts and focuses on determining achievable train speed. An interesting and, at the same time, interdisciplinary analysis of the properties of clips used in rail-sleeper fastening systems is contained in an article by M. Ostromęcka and A. Aniszewicz from the Railway Research Institute, which takes into account both material and metrological aspects. An article by P. Podleśko raises the issue of how to finance the maintenance of railway stations. It broadly discusses the solutions applied in the EU Member States, indicating proposals for directional solutions to the problem in the conditions of Polish railways. J. Poliński's publication addresses the problem of measuring the structure gauge limits on the railway lines in use. The technical solutions used on German railways and their impact on the quality of measurements, option-al measurements at increasing speed, as well as the automatic structure gauge limit database are characterized.

The 189th issue ends with an article by an expert from the Czech Technical University in Prague on cybersecurity issues in the management of railway networks. The concept of Multiple Independent Levels of Security (MILS) and its application in data transmission and traffic control systems has also been presented.

I hope that reading Problemy Kolejowe will prove useful for readers and will inspire them to conduct scientific research on rail transport.

> Editor-in-Chef Andrzej Massel