



First Rio Tinto Driverless Long Distance Loaded Train Runs

In early October 2017, as part of its AutoHaul project, Rio Tinto ran an empty train, without a driver or any other train crew, between Wombat Junction and Paraburdoo on its Hammersley and Robe River Railway in the Pilbara desert in Western Australia - a distance of just over 100 km (see R 6/17, p. 63). In late May 2018 the Office of the National Rail Safety Regulator (ONRSR) announced that it fully approved of the technology which lies behind the AutoHaul project.

That paved the way for a significant première. **On 10 July 2018 the very first fully unstaffed run of a loaded freight on the Rio Tinto network took place.** Powered by three locomotives, the train consisted of 240 loaded iron ore wagons, starting at the loading installations near the iron ore mines at Mount Tom Price, and finishing at the port of Cape Lambert, a distance of over 280 km. Full implementation of AutoHaul is expected to take place later in 2018.

Rio Tinto



Speno's Preventive Rail Miller Fleet Addition

Rail reprofiling and controlling contact fatigue crack growth are today considered as key maintenance issues for modern railways and metros across the five continents. Speno is dedicated to these safety-critical tasks and they are at present the company's core business, Speno being the world leader in this field.

Requirements for periodic rail reprofiling and reprofiling on rail and metro networks are becoming more specific, since they take into account a number of factors, like the type of traffic, and the local rail conditions. Moreover, the track environment (tunnels, urban areas, ballasted and non-ballasted track types) require tailored solutions.

Rail reprofiling can be executed by different techniques, grinding and milling being the most commonly applied. Even though Speno has so far built almost 300 rail grinding trains, it has become a logical development to add rail milling to Speno toolkit. **The very first Speno rail miller, the UIC loading gauge MRR 600, was built in 2017. The upper photo shows it in south Germany on 17 April 2018.** An MRR 400, designed for smaller loading gauges, will be available soon.

While grinding offers high productivity and ample flexibility in terms of achieving the required metal removal and varying target rail profiles, milling offers other advantages, mostly related to a reduced environmental impact.

Until recent years, however, milling was mostly perceived as a corrective maintenance operation for deep cuts into the rail head, to reduce or remove already significant contact fatigue cracks, while it is nowadays generally accepted that rail maintenance has to be done preventively to maximise the rail life and

return on investment. **The lower photo shows one of the milling heads on a Speno rail miller.**

Infrastructure managers, more and more aware of the benefits inherent in a preventive maintenance regime, have been looking for a milling tool for dealing with cuts of typical depths of 0.2 to 0.4 mm to remove metal. That is the reason why Speno has developed its MRR family of preventive millers, but which can also be used in a multi-pass mode for targeted corrective work. Another important advantage of the MRR milling technology is the excellent ripple-free rail finish, making any additional finish by grinding unnecessary.

The MRR preventive millers come with a suite of state-of-the-art Speno measurement solutions, these including:

- a rotating eddy-current sensor for the detection of head-checks and spalling,
- rail profile optical measurement,
- longitudinal profile measurement,
- metal removal optical measurement,
- continuous track gauge measurement.

The first MRR 600 is now fully integrated in the fleet of machines operated and maintained by experienced Speno staff, making available a new reliable, safe and innovative reprofiling tool.

Speno



Visit us at InnoTrans in Berlin Hall 26 / Stand 104

SBB Cargo's Wagon Automatic Coupling Project

On 2 August 2018 SBB Cargo invited the media to its terminal in Cadenazzo, near Bellinzona, where visitors were shown an assortment of innovations which the company plans to use to make freight operations more automated in the future. The most revolutionary development is the use of automatic couplings for a batch of platform wagons for container transport. This particular project was announced by SBB Cargo in 2017 (see R 3/17, p. 75). In July 2018 the project started, initially using 75 Class Sgns 60-foot platform wagons fitted with Voith Turbo - Scharfenberg type automatic couplings.

The next stage in the project, which began early August, saw Bellinzona works starting to **adapt 12 Class 420 locomotives so that automatic couplings were mounted on their screw couplings, without the latter being removed (this photo, taken during the media event, shows 420 280 after the work was completed).** These are fitted at each end of the locomotives. These two stages of the project involved investment of 1.5 million CHF (around 1.3 million EUR).

The pilot project is planned to start in 2019 in wagonload freights. It will in-



volve use of the automatic couplings, and automatic brake tests, both envisaged to increase the use of automation in railfreight transport. SBB cargo is involved in another project, testing the use of automatic couplings. This is 5L, described in R 3/17, p. 75.

SBB Cargo, Petr Kadeřávek
Photo: Jürg D. Lüthard

Certified Embedded Systems For The Railway Industry

Syslogics will showcase its portfolio of EN 50155 certified railway computers at InnoTrans. The robust railway computers are used in rolling stock applications as well as for tunnel and route monitoring. **In Berlin, Syslogics will present its latest generation of railway computers, which can be deployed as data loggers, PIS computers (passenger information system), IoT gateways, rail control units or for remote access.**

Syslogics offers a complete range of industrial computers and HMI systems specifically designed and manufactured for railway applications. Common to all rolling stock computers is the approval to use them at temperatures ranging from -40 to +85 °C at the component level. Thus, the railway computers meet standard EN 50155, Class TX. In addition, the railway computers include impressive features such as a power failure bypass up to 10 milliseconds (EN 50155, Class S2) and wide range inputs for DC voltage between 16.8 and 154 V.



You will find Syslogics at the Swissrail shared booth, Hall 2.2, Booth 207