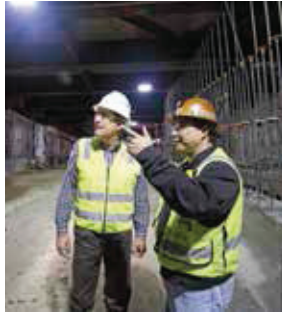


# Railway Gazette

INTERNATIONAL



## LIGHT RAIL

**Revitalising Muni**  
Network expansion and fleet renewal are reshaping San Francisco's Muni Metro

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## MIDDLE EAST

**A tram in the desert**  
The catenary-free tramway in Dubai has opened for business

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**The most prolific year**  
A flurry of openings takes China's high speed network past the 15 000 km mark

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February 2015

# Emerging economies sustain the market



schenck process



**NEWS IN BRIEF**

**Mobile ticket** technology supplier Corethree has signed an agreement with Microsoft which will enable its m-ticket applications to be offered for Windows Phone in addition to iOS and Android devices.

RailComm has installed an advanced remote switch and third rail **heater control system** for Southeastern Pennsylvania Transportation Authority. It is controlled via RailComm's DOC System, with communications by a combination of radio, cellular modems and a lineside optic fibre network. A graphical user interface provides remote operation and monitoring, cutting energy costs and reducing the time employees must spend on the line.

**USB CHARGER**

**Going mobile**

Lütze Transportation has developed a USB charger to support train drivers' increasing of mobile phones for communications and mobile tablet computers to display driving data such as routes, timetables and speed restrictions.

Two mobile devices can be charged simultaneously using the 819001 DC/DC converter, which has a sturdy and compact aluminium housing suitable for DIN rail mounting. It can handle a wide voltage input range from 24 V to 110 V DC, and protects devices on charge from voltage spikes. Two output channels provide a charging current of 5 V 2:1 A, with green LEDs indicating the correct output voltage. ■

**MONITORING**

**Sensor for smarter maintenance**

In response to a request from UK infrastructure manager Network Rail, Product Innovation has developed a void meter designed to measure the movement of a rail or sleeper in real time, enabling maintenance crews to attend only when needed.

The Void Meter is physically and electronically simple to install, with all mechanical and electronic components contained in a robust metal casting. A moveable stainless steel rod is sprung downwards towards the sleeper or rail, and moves as a train passes. The vertical position is measured using a Hall Effect microchip within the casting, meaning there is no



physical connection between the mechanics that move the vertical rod and the electronics. This makes the product immune to the effects of weather and vibration. A 4 to 20 mA signal is output to a data logger and remote monitoring equipment in real time. The Void Meter has a measurement range of 100 mm, and resolution of 0.5 mm.

Network Rail is using the prototypes to assess how best to use the devices, whether standalone or in combinations at turnouts and crossovers. ■

**MONITORING**

**Reconfigurable real-time remote monitoring**

Barnbrook Systems has won a significant order to supply its BlueCube multipurpose sensor, data logging and analytical technology to a UK train operator, which will use BlueCube to provide real-time remote monitoring of the performance of on-board equipment. Two leasing companies are also deploying BlueCube.

The train operator is using the sensors to monitor temperatures inside the air-conditioned passenger saloons of diesel multiple-units, and also the outside

ambient temperatures. This provides accurate information which can be used to assess the performance of newly-fitted air-conditioning units. Sensors are also fitted to the DMUs' engines, providing the operator with detailed information about the impact on engine performance of the air-conditioning units' power consumption.

The sensors and data loggers are multipurpose, enabling operators to move them around and add and remove sensors to suit varying needs, and can be installed permanently or just fitted for short periods. Data is sent in real-time to Barnbrook's office as well the operator's depots. Analytical software can highlight any abnormal conditions, with red, amber and green colour-coded indicators so that depot staff need only need to focus on red warnings. The drag-and-drop interface can be customised while live, so staff can choose to see only the information they need and ignore everything else. ■



BlueCube 'will help pave the way to a more comfortable and punctual travelling experience', according to Andrew Barnett, Chief Technology Officer at Barnbrook.

**ELECTRIFICATION**

**Composite catenary offers potential savings**

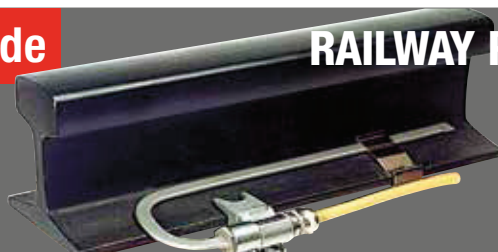
Consultancy Atkins, bespoke composite engineering company Cecence and electrification equipment supplier Brecknell Willis are studying the potential use of advanced composite materials 10 times stronger and four times stiffer than metals to lower the cost of tramway overhead electrification.

Copper contact wire would be suspended from a carbon fibre reinforced plastic catenary cable, supported by glass fibre reinforced plastic poles and support cantilevers. Although the composite components would be more expensive than traditional materials, Atkins estimates the lower maintenance costs, longer life and ability to increase mast spacing by up to 40% could produce cost savings of £50 000 to £100 000 per kilometre. Inspection intervals could be increased from five to 15 years with a mast life of 40 rather than 25 years, producing savings in maintenance costs after seven years.

Atkins is conducting requirement, design, risk and cost-benefit analysis. Cecence is working on the design and cost for the carbon cables, and Brecknell Willis is to undertake an independent review. Subject to further approval, phase two of the project would see a demonstration installation built for testing under controlled conditions. ■

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**RAILWAY POINT HEATERS**



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