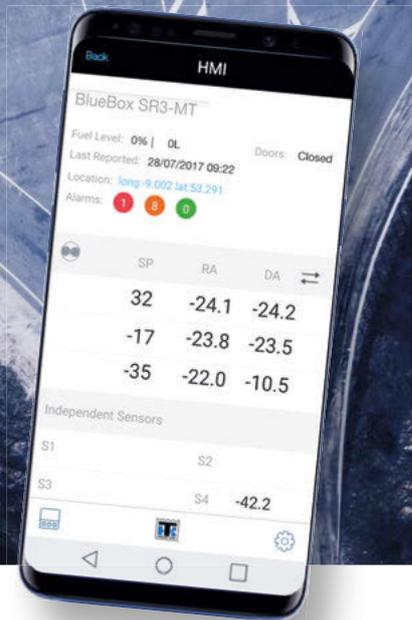


# KEEPING YOUR COOL



Verifiable maintenance of the cool chain is vital for operators in the temperature-controlled sector. Richard Simpson examines how telematics can help

Outside vehicle roadworthiness and driving, there are few issues in freight transport that can truly be described as matters of life and death, but the maintenance of a secure cold chain in temperature-controlled logistics is one of them. Chilled or frozen foodstuffs that have been allowed to become too warm are potentially lethal, while pharmaceuticals (particularly vaccines and others with 'live' ingredients) that have been exposed to temperatures outside of a narrow band may become harmful or ineffective.

Outside these dramatic cases, excessive heat or chilling can simply ruin foodstuffs or just shorten shelf

life. Increasing year-round consumer demand for more exotic fresh foods has raised demand for temperature-controlled transport, while greater awareness of the consequences of errors in temperature control have also increased demands on operators to be able to demonstrate the integrity of 'their' particular link in the cold chain.

For many customers, a simple temperature-check of goods on arrival is not enough. Most will demand proof that the load temperature has been maintained between pre-set parameters throughout its journey from producer to user. In many cases, these customers will demand rather more than a simple print-out from a fridge unit. They may well want to be able to monitor temperatures

directly, both as live and historic data, and may also demand to know the live location of the vehicle carrying their goods, and be sure that the load compartment has not been opened by unauthorised persons en route.

In some cases, this concern extends beyond foodstuffs and pharmaceuticals. During the 1990s, Ralph Davies International was delivering mainframe computers to run the banking systems in the newly formed independent states in the east of the former Soviet Union using temperature-controlled trailers. The location and temperature of the loads was monitored every step of the way by the computer manufacturer using telematics. Groundbreaking at the time, such technology is now a common

## DIESEL ALTERNATIVES

Increasing concern about the added pollution and greenhouse gas emissions from the relatively small diesel engines fitted to most truck refrigeration units has led to operators seeking alternatives that will either reduce or eliminate the need to run auxiliary power units. For example, Dorset's BV Dairy recently took delivery of two 18-tonne Mercedes Actros rigid for running its products in London. They are fitted with Carrier Transicold Supra 850 fridge units equipped with the manufacturer's Eco-Drive power units. Eco-Drive powers the fridge either from its own diesel engine in the conventional manner, or, when the truck is running, from electricity generated via a power-take-off and a hydraulic pump from the main engine.



***“There is ever-increasing demand for temperature and location data to be visible to maximise the effectiveness of the cold chain. Proactive technology spotlights any critical situation - temperature deviation, for instance”***

Simon Mols



and growing requirement in many temperature-controlled operations.

For instance, German manufacturer Schmitz Cargobull offers trailers, bodywork, refrigeration units and telematics system, designed and built in-house (pictured above). Simon Mols, who handled telematics for the company in the UK until the end of last year, said demand for this level of integration has been steadily increasing in the last three years.

### **MORE THAN A BOX ON WHEELS**

“One of the main reasons for standardising telematics in the product is that it has become clear that the industry now needs more than a box on wheels. Our offering connects all the sensors, whether for the cooling system, the load temperature, or the brakes, or the doors, into an intelligent network on the trailer.

“It takes education to get customers to use telematics to ensure cold-chain integrity; we have to show the customers what can be achieved. In some cases that also means talking to the customer’s customer. Some people are less technology-minded, but an in-built solution pays off as soon as people start using it. That’s when we see the positive response,” he says.

“The system is built into all trailers and the customer attitude is ‘when it’s

given for free, why not try it,’ so we get near to 100% take-up.”

He continues: “Acceptance has never been as fast-paced as it is today. Data is as accessible as possible, and not just for the operator. It’s available to the customer and customer’s customer 24/7. There is ever-increasing demand for temperature and location data to be visible to maximise the effectiveness of the cold chain. Proactive technology spotlights any critical situation - temperature deviation, for instance.”

If desired, the complete picture can be monitored via a smartphone app, including everything from asset location to tyre pressures. Breakdowns are handled centrally from Belgium, through 1,700 service partners. The operator doesn’t need to arrange any repair directly; it’s all handled through a service provider who also handles FleetBoard for Mercedes-Benz commercial vehicles, according to Mols.

Turning to a fridge manufacturer, Thermo King has claimed a place in history as the originator of the engine-powered truck-mounted refrigeration unit (see also pp18-19). Now, every Thermo King trailer unit sold in Europe comes with telematics as standard. For rigid, the TK BlueBox telematics module is an optional factory-fit.

The BlueBox retrieves temperature information from the unit controller and displays it on Thermo King’s TracKing web platform. TracKing’s GPRS/GPS system gives customers real-time data and visibility of their assets from their desktops or mobile devices (via the TK Reefer smartphone app, pictured on p20), and they can set up alerts and notifications for out-of-range temperature, as well as remotely controlling the set point of the load.

Temperature reports can be accessed at the end of each trip, or for a specific period, and be used as proof of temperature compliance for their end customer. **TE**



### **A NEW STANDARD FOR TRACKING TEMPERATURES**

A new European Standard, BS EN 12830:2018, specifies the technical and functional characteristics of temperature recorders for the transport, storage and distribution of temperature-sensitive goods, according to UK standards publisher BSI. It replaces a 1999 standard of the same number. In addition to specifying test methods to determine the equipment’s conformity, suitability and performance requirements, it also offers requirements of sensor placement in transport applications, which is new.

As far as sensors go, Tinytag offers two 12830:2018-compliant devices, Transit 2 and Tinytag View 2. The former, pictured above, measures temperatures from -40°C to 70°C with a built-in sensor, and includes a red flashing LED to warn when temperatures fall outside of the user-defined range. The latter incorporates an LCD display of the monitored temperature using a separate thermistor probe (range: -40°C to 125°C). It also includes a flashing alarm icon.

Thermo King’s TouchLog, an independent data logger, also complies. It is said to measure temperature with an accuracy of 0.5°C between -25°C and +8°C; accuracy is 1°C between -30°C to -25°C and between +9°C to +30°C. TouchLog data is also visible on the TracKing website.