Fire protection for rolling stock

Dear Ladies and Gentlemen,

We have taken numerous measures in recent weeks to protect the health of our employees and our business partners, while at the same time reliably providing you with our services and expertise. We are continuously adapting both the communication channels and our working methods to the respective conditions. Our primary goal is to continue to provide you with the best fire protection solution.

Together with you, we will find the right way to successfully implement your railway fire protection projects even under the current circumstances. In this issue of our newsletter, we will show you what these can look like. As a top topic we present you air sampling smoke detectors with a new type of aspiration pipe, which are used in the new passenger trains of the Czech railways. We also report on the exciting cooperation between DB Cargo and Toshiba Railway Europe GmbH. Here WAGNER Rail will be protecting 100 shunting locomotives for freight transport safely from fire.

We would also like to inform you which topics were dealt with at the FIRE SAFETY symposium in Munich in March. And finally we will answer the most important questions about our accessibility during the Corona crisis.

We hope you enjoy reading this issue. Stay healthy!

With kindest regard,

Markus Kock, Managing Director WAGNER Rail GmbH

FIRST USE OF NEW AIR SAMPLING SMOKE DETECTOR IN CZECH PASSENGER COACHES

WAGNER Rail installs air sampling smoke detectors with a new type of aspiration pipe for the first time

For the first time, WAGNER Rail is installing a fire protection solution consisting of air sampling smoke detectors and a new type of aspiration pipe in Czech passenger coaches. The Bavarian fire protection expert is thus making travelling in the trains particularly safe. With 50 Viaggio type train cars, Czech Railways wants to modernise its long-distance services Ceské dráhy (CD). But it is not only the fire protection solution that is special about this project. Siemens is cooperating with Škoda Transportation to build the trains.

In this cooperation, Siemens will be responsible for the engineering, production of the body-in-white kits and delivery of the bogies as well as for dynamic commissioning and approval. Škoda will in turn be responsible for the electrical and mechanical final assembly – including the installation of WAGNER's fire protection solution –, static commissioning and will supply auxiliary converters and control cabinets. The train cars will be equipped with a standard interface in accordance with the UIC, so that it will be possible to connect different types of cars and locomotives together - depending on the train's area of application.

WAGNER ensures the highest level of passenger protection with active early fire detection. This is because they are given a particularly large amount of space in the modern trains, which are up to 132 metres long. Wheelchair users not only get parking spaces, but also lifting lifts and charging stations for electric wheelchairs. There will be separate areas for families with appropriate places for prams. And bicycles can also be taken along. In addition, 330 seats are to be installed in the trains, which can reach speeds of up to 200 km/h. This means that various risk factors had to be taken into account when planning the fire protection solution.

This now looks as follows: The boarding areas are monitored by optical-thermal multisensor fire detectors. These detectors are also used in the technical areas, in addition to linear heat detectors. In the passenger areas a new solution from WAGNER Rail is used for the first time: the TITANUS® Components Professional Series, or C-Pro Series for short. At the heart of this modular system is a TITANUS *MICRO·SENS*®, a flexible intake manifold and the associated connecting elements. The advantages of this solution are:

- A patented connection plug technology prevents leaks in the intake manifold system
- Quick, easy and safe to handle assembly with a saving time of up to 50 percent
- Clear identification as an early fire detection system through the use of red intake pipes

In addition, the air filter system Rail has been further developed and now scores points with improved filter behaviour. For a functioning interaction, all detectors are connected to a Rail 256 fire alarm control panel, so that in case of an alarm or fault, the message can be forwarded quickly and precisely and appropriate countermeasures can be initiated.

Very soon passengers will be able to see for themselves the travel comfort of the new trains of Czech Railways. With maximum protection from WAGNER Rail.

DB CARGO WILL USE HYBRID LOCOMOTIVES FOR FREIGHT TRANSPORT IN FUTURE

Deutsche Bahn Cargo receives hybrid locomotives from Toshiba – drive system will be protected by WAGNER Rail

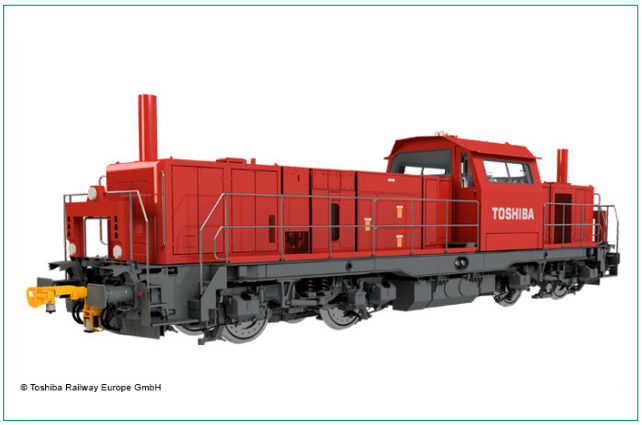
WAGNER Rail is supporting Toshiba Railway Europe GmbH in making freight transport safer for DB Cargo: with fire detection for the new Toshiba HDB 800 hybrid locomotive. The order covers the first 100 shunting locomotives currently being developed by the Japanese technology company for the European market.

The use of hybrid locomotives in this area is innovative. With the modernization of freight transport, Deutsche Bahn is implementing a building block of its future strategy "Strong Rail", which focuses on growth in rail freight transport. This is the Japanese group's first new vehicle project in Europe.

The advantages of the locomotive with 750 kW output result in particular from the hybrid drive system developed in Germany and Japan. The traction motors – permanently excited synchronous motors - are powered by two independent traction battery systems and two diesel generator modules. As a result, modern locomotives have a redundant architecture and thus high availability. According to a press release, DB Cargo expects energy savings of around 30 percent compared to existing vehicles and, for 100 vehicles, one million litres of diesel fuel per year.

WAGNER Rail is supplying the fire alarm components that protect the modules. In this case there are several protection areas that had to be taken into consideration when creating the appropriate fire protection solution: the diesel engine-generator units, the converter module, the traction battery system, the electronic module and the driver's cab including its control cabinets. According to the specified requirements, the solution includes the following WAGNER Rail components: All modules as well as the battery system are monitored with linear heat detectors. Additional smoke detectors are installed in the electrical and power converter modules. These are also used in the driver's cab. All detectors are connected to a Rail 256 fire alarm control panel. In an emergency, early fire detection in the sensitive areas is quickly forwarded to the control centre so that suitable measures can be initiated.

With the modern hybrid locomotive, Toshiba not only wants to achieve low maintenance costs, but also high availability and thus high quality for its customers such as DB Cargo. WAGNER Rail supports this project with the appropriate fire protection.



The hybrid locomotive from Toshiba Railway will be used to modernise DB Cargo's freight traffic.

FIRE PROTECTION EXPERTS AMONG THEMSELVES

WAGNER Rail at the FIRE SAFETY 2020 symposium in Munich

For the eighth time the international symposium FIRE SAFETY took place at the beginning of March – this time in Munich. The motto of the event was: "That's how fire protection works for rail vehicles and railway structures". Shortly before the corona lockdown, railway and fire safety experts had the opportunity there to exchange views on current developments in this field. As one of the leading international fire protection experts, WAGNER Rail was present with specialist presentations and was also the main sponsor of the exhibition accompanying the conference.

The symposium with its top-class speakers and topics on current developments and research results is regarded as an important event within the European railway industry. The biennial event series is organized by the Interdisciplinary Research Association for Railway Technology (IFV). Association managing director Eckhard Schulz introduced the symposium. Among other things, he spoke about the fire protection challenges facing the European railway industry and the fire protection standard (EN 45545). WAGNER Rail was represented by Dr. Markus Müller and Dr. Peter Stahl. They presented innovative fire protection solutions and gave examples. They supplemented these with current challenges for fire alarm systems and fire extinguishing systems and the appropriate, future-proof solutions.

The Vienna-based TGM test institute, which presented the results of the latest fire tests to the audience, was an exciting event. Other specialists showed possibilities for reducing the weight of rail vehicles by using composite solutions or aluminium. And they named the challenges of new drive technologies (in particular the battery modules used) for rail fire protection - a topic that is becoming increasingly important for WAGNER Rail. This is because more and more customers are relying on alternative drive technologies which require an adequate fire protection solution.

IFV Managing Director Schulz concluded: "At the FIRE SAFETY 2020 Fire Protection Symposium something became clear: both innovative strength and an understanding of the specific requirements of the railway market are essential if one wants to be as successful in the important market segment of railway fire protection. This has WAGNER been demonstrating again and again for years."

Dr. Peter Stahl expressed his satisfaction with the two-day event: "The latest technical developments in fire protection for rail vehicles were presented here. It was very pleasing that presentations not only from suppliers but also from universities and research networks showed the breadth of current activities and future visions."

The results of the fire protection conference FIRE SAFETY 2020 are documented in a printed conference proceedings, which can be ordered directly from the IFV by sending an e-mail to *fachbuchverlag@ifv-bahntechnik.de*.

Stephan Bech, Technical Manager of WAGNER Rail, presents installed fire protection solutions for various customers.

IVF Managing Director Eckhard Schulz (left) welcomes Dr. Markus Müller from WAGNER Rail at the symposium in Munich.

CONTINUED THREAT FROM CORONA – WAGNER RAIL STAYS AT YOUR SIDE

Questions and answers about accessibility

How does WAGNER Rail protect employees and business processes?

A large part of our staff works in home offices and uses digital channels to coordinate their work. Meetings with customers and business partners also take place digitally. At our locations we have a continuous presence so that business critical processes continue to run reliably.

Does WAGNER Rail currently take part in events?

In order to protect the health of our employees and our business partners, we are not taking part in any events for the time being and are not holding any events or training courses. We are increasingly using digital formats instead.

How is the supply chain secured?

We have implemented regulations in incoming and outgoing goods to avoid physical contact between partners and employees. In addition, we are constantly reviewing further sensible measures to reduce the risk of infection. To date, we have been able to secure our supply chains to the greatest extent possible and have therefore experienced hardly any delays.

How does WAGNER Rail ensure service and maintenance?

The activities within the scope of service and maintenance measures continue as usual. We take into account strict hygiene regulations and the requirements of our customers and business partners.

WAGNER Rail stands by its customers during the Corona crisis.