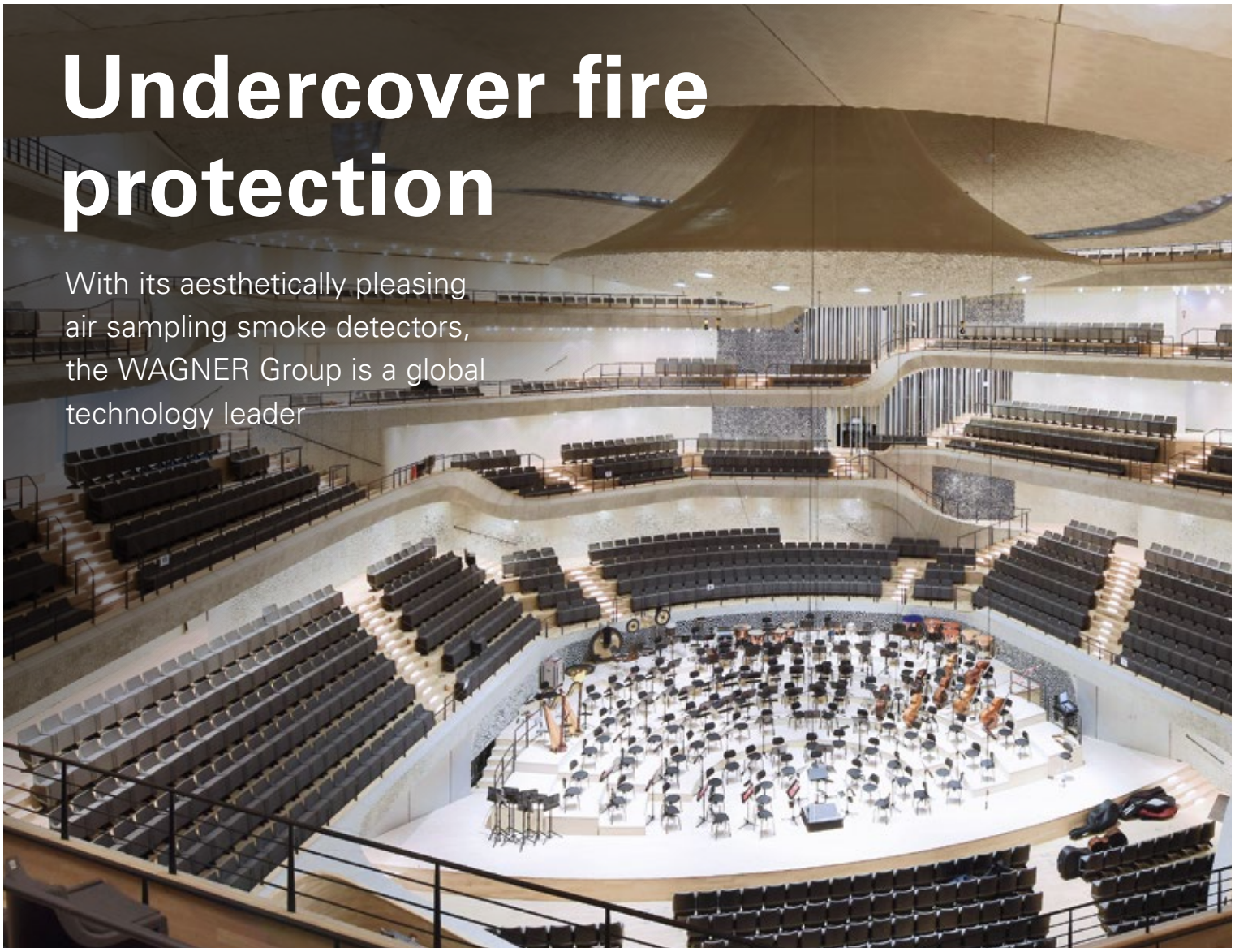
# WAGNERIMPULSE

THE WAGNER GROUP CUSTOMER MAGAZINE 2/2017



# Undercover fire protection

With its aesthetically pleasing air sampling smoke detectors, the WAGNER Group is a global technology leader



WAGNER®

# Dear business associates and readers,

here at WAGNER Group, we regard every project as a new challenge as each one is unique. We believe that all our activities are of equal importance as they all aim to protect valuables. And yet, there are some projects that you end up feeling particularly strong about since they are unique and during the planning, you fall in love with the things being protected. This most frequently occurs in relation to museums and cultural institutions.

The Elbe Philharmonic Hall in Hamburg is one of these special projects as our technology has to provide protection without impairing the acoustics. This was a new challenge for us. Turn to our report on page 6 to discover how we handled it.

Our fire protection expertise is not only in demand for flagship projects in Germany, but also for technically demanding buildings all over the world. This issue includes examples from Australia (page 20), UK (page 13) and Norway (page 18).

This global commitment enabled the WAGNER Group to once again enjoy a stable growth rate in the 2016/2017 financial year. We want to consistently continue along this road. In our specialist field of fire protection for rail, even stronger international expansion is already on the horizon. We believe that Scandinavia offers good market potential and have therefore acquired a majority holding in the company Hypoxic Technologies. We are also working on other exciting projects too. As you can see: the WAGNER Group is continuing to grow. Globally – and with you.

We hope you enjoy reading our magazine!

**Torsten Wagner** **Werner Wagner**

Managing Director of the WAGNER Group GmbH

# **News** from the world of **WAGNER**

## You got mail!

Every day, some ten million parcels are dispatched in Germany alone. To optimise its processes in order to deal with the ever increasing volume of jobs, the logistics service Hermes, for example, is building nine new logistics centres **across Germany**.

The WAGNER Group is equipping the data centres at these '**Hermes Bluefield**' sites with OxyReduct® Compact systems. Oxygen reduction will actively prevent the outbreak of fires and therefore disruption to deliveries. After all, parcels can only be punctually delivered to the correct recipients if the constant availability of the shipping data is ensured.

## Fire protection can save lives...

... including by early detection and extinguishing systems enabling the constant availability of important patient and research data. The **Hannover Medical School** (MHH) has therefore decided to use solutions from the WAGNER Group for its data centre. TITANUS® air sampling smoke detectors detect incipient fires with minimal risk of false alarms. In emergencies, the FirExting® extinguishing system releases nitrogen into the room; the OxyReduct® system constantly reduces the level of oxygen to prevent fires from reigniting. The MHH is one of Germany's largest hospitals and provides care for around 64,000 in-patients and over 460,000 out-patients every year.

## A blaze of colour not flames

WAGNER UK is now providing a fire protection solution for **Holts Paints'** spray can warehouse in **Newquay, UK**. This is the first OxyReduct® V-line system to be installed in the UK. The oxygen-reduced air removes the products' potential to ignite.


## Site improvement for WAGNER Poland

In May 2017, **WAGNER Poland** moved into new premises. The subsidiary is now based in Warsaw. One of the major benefits of the new site is that the offices and warehouse facilities are centrally located under one roof. With the offices previously located in a Warsaw suburb, the new site is far more convenient for both customers and employees, who all come from the Polish capital.

# WAGNER Group committed to the development of international standards

**The WAGNER Group has operated in the field of technical fire protection systems for over 40 years. To enable continual progress with regard to safety, the German family business is committed to work on standards in various associations and bodies.**

The WAGNER Group is an active member of both the Zentralverband Elektrotechnik- und Elektronikindustrie e. V. (German Electrical and Electronic Manufacturers' Association – ZVEI) and the Bundesverband Technischer Brandschutz e. V. (Federal Association for Technical Fire Protection – bvfa). Thanks to its bvfa membership, the WAGNER Group's international practical experience also flows into the bvfa and VdS working groups – especially with regard to active fire prevention using oxygen reduction.

The WAGNER Group is furthermore represented on the Comité Européen de Normalisation (European Committee for Standardisation – CEN). Its membership to the Schweizer Normenverein (Swiss Association for Standardisation – SNV) furthermore enables the WAGNER Group to directly influence the development of standards as a CEN and ISO representative.

The WAGNER Group aims to use its commitment to resolve a global problem: when it comes to regulations, major differences exist between Europe and the USA or Asia. Uniform standards should make it possible to gradually create a globally comparable safety standard. The WAGNER Group avidly supports this aim as an international system manufacturer – not least as customers like Dr. Oetker, NewCold and LaLorraine are global companies that are expanding worldwide.

## Research aid

The **Deutsche Elektronen-Synchrotron (German Electron Synchrotron – DESY) in Hamburg** is one of the world's leading research centres for particle acceleration. It looks at the matter that holds our world together. In the future, the TITANUS *RACK·SENS®* with an integrated extinguishing system will ensure stable processes. The air sampling smoke detectors from the WAGNER Group are installed at the institution. Thanks to the fastest possible detection, the gradual shut-down of systems without data backup can be prevented. Thanks to the integrated gas extinguishing system, a fire can be directly fought where it has ignited – without posing a risk to the research work.

# Control in emergencies

When hazardous situations arise, whatever they may be, a rapid response is always required! For all protective measures to successfully work together, it is essential to retain a clear overview. The Visu*LAN* X3®safety management platform helps to do just that. The scalable system can be individually adapted to customer requirements and uses manufacturer-independent interfaces to connect safety, security, building management and communication systems in a single user interface. Visu*LAN®* therefore links action scenarios in both time-critical situations and situations that pose safety risks, effectively combating wrong decisions and losses of control.


The new product brochure containing all the important information about WAGNER's hazard management solution can be downloaded at **https://www.wagnergroup.com/en/download-centre/brochures.html**

# Undercover fire protection

With its aesthetically pleasing air sampling smoke detection system, the WAGNER Group is a global technology leader.

**The early detection of smouldering and incipient fires safeguards material assets and saves human lives. The WAGNER Group has therefore been developing air sampling smoke detectors since 1997.**

Air samples are constantly fed into a sensitive optical detector and examined for the smallest smoke particles. Thanks to their continual development, the risk of the detectors triggering false alarms is extremely low. However, functionality is far from everything. For years, the WAGNER Group has been installing aesthetically appealing air sampling smoke detectors – and not only in cultural establishments like the Elbe Philharmonic Hall. From luxury apartments through places of worship to airports: TITANUS® can be respectfully adapted to the various architectural structures to provide inconspicuous fire protection that only comes into play when it is really needed. Over the next few pages, we present four of our projects in which aesthetic appeal played a decisive role.

Whether by sparkling chandeliers,...

... magnificent paintings on historic vaulted ceilings...

... or in functional settings – WAGNER's air sampling smoke detectors are masters of camouflage.

Fraport AG

# Nothing disturbs the acoustics in the Great Hall

Air sampling smoke detectors disappear into the 'white skin' and form part of the comprehensive fire protection concept at the Elbe Philharmonic Hall in Hamburg

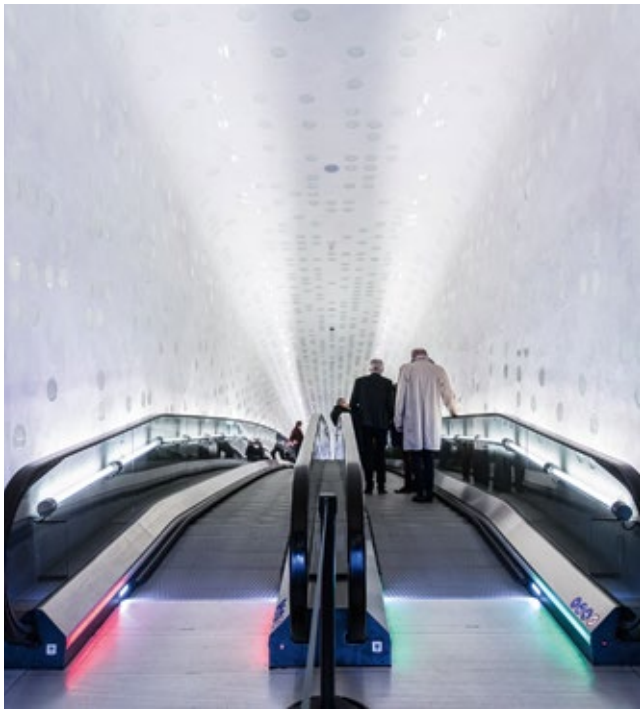
**A visit to Hamburg's Elbe Philharmonic Hall starts with a little ticket. But not necessarily a concert ticket. The concerts and performances are sold out for a long time ahead, even in summer, several months after the official opening on 11 January 2017, 15 years and three weeks after the first pen sketch was drawn up.**

It seems that half the world wants to see the inside of the Elbe Philharmonic Hall – and hear what it sounds like. However, another ticket at least allows you to access the concert hall's plaza and provides an initial glimpse into this glamorous-looking world. The 360-degree outdoor terrace is freely accessible to visitors. Despite this, the flow of visitors has to be managed and numbers are restricted to a maximum of 1,300 people at a time, depending on the weather. On the summer's day

when we visited, we were lucky to be among those granted access. Grasping our tickets, we headed into the interior of the Elbe Philharmonic Hall. Even the route there is impressive.

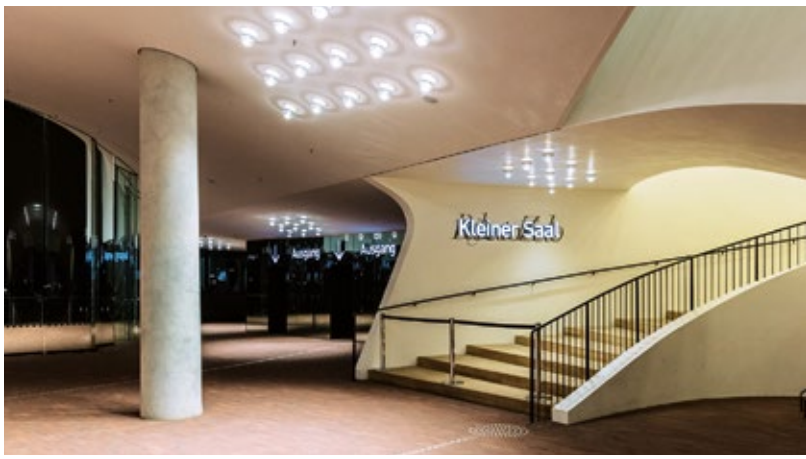
▼ The 'Tube' links the entrance area to the Plaza.

An over 80-metre-long escalator known as the 'Tube' links the Philharmonic Hall's ground floor entrance to its visitor deck. This is one of the longest escalators in Western Europe and was specially developed for the concert hall by the company Kone. Yet, it is not only its impressive length that makes it particularly special, but also its curved design. As we travelled up the 'Tube', we were unable to see either its start or its end and briefly felt like we were in another world.



On arriving at the Plaza, we saw the impressive size of the concert hall for the first time. Constructed atop the former Kaispeicher A building, built between 1963 and 1966 and used as a warehouse for tea, tobacco and cocoa until the 1990s, the glass, steel and wooden complex towers 110 metres into the air. The view from the outdoor terrace is simply spectacular. Sitting on the banks of the Elbe River, the Elbe Philharmonic Hall is surrounded by water on three sides, in close proximity to seagulls, cruise ships and the harbour. St. Michael's Church and the Elbe bridges are close by and the Speicherstadt district is but a stone's throw away. From this vantage point, Hamburg looks small. All of its landmarks are grouped together in the surrounding area yet are highly contrasting, just like the concert hall itself. Like many visitors, we were rather enchanted by the building, which was designed by the renowned Swiss architectural firm Herzog & de Meuron.

▲ As the construction of the century, the Elbe Philharmonic Hall is the new landmark of the Hanseatic City of Hamburg.




▲ The Elbe Philharmonic Hall's foyer is fitted with TITANUS® air sampling smoke detectors.

This is where the experience ends for normal plaza visitors, however. They may perhaps still access the hotel's entrance area, which forms part of the ▶

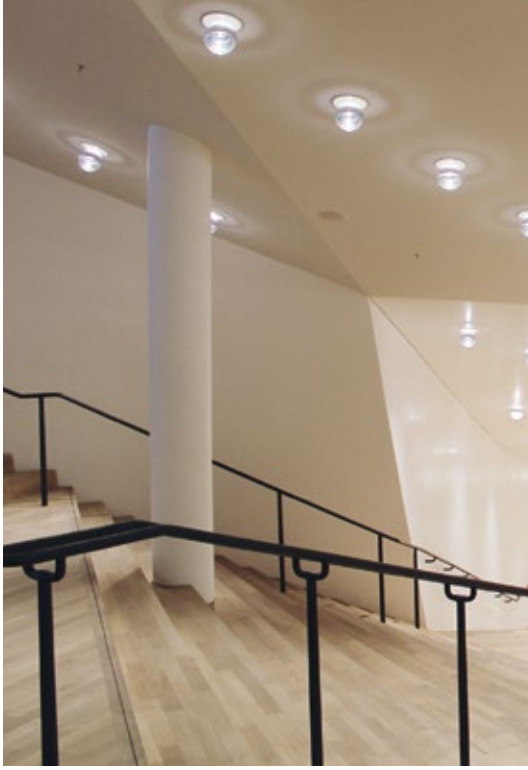
▶ Continued from page 9

Elbe Philharmonic Hall, or the Störtebeker bar below it to sit and enjoy a beer from the Störtebeker brewery. A concert ticket is the only way to access the concert halls and bar areas above them with their exquisite interior designs that heavily feature wood. But this is neither the case for Dennis Just, Technical Manager of the Elbe Philharmonic Hall, whose access card grants him entrance to almost any area of the building – nor for us during the hour-and-a-half tour that he took us on of his world of the Elbe Philharmonic Hall: behind the scenes where the WAGNER Group has installed its innovative fire protection technology.

▼ **Passionate about fire protection: Dennis Just, Technical Manager of the Elbe Philharmonic Hall.**

The Elbe Philharmonic Hall uses a highly extensive fire protection concept comprising a wide range of systems from various companies. "The building is well and safely constructed, but has an extremely complicated and nested design", commented 37-year-old Just, who, together with his team of 22 staff, has been responsible for technology in the Elbe Philharmonic Hall and the Laeiszhalle concert hall since 2013. With its 26 floors, the building is like a high-rise apartment – and the routes through it are correspondingly long. This meant that the fire protection requirements were huge, Just recalled. Firstly, there are structural fire protection measures such as fire doors that prevent the entire Elbe Philharmonic Hall from having to be evacuated if a fire is detected. After all, in the case of a full house, the building would contain 4,500 visitors – not to mention several hundred employees and musicians. Secondly, the overall concept includes system-based fire protection solutions. And this is where the WAGNER Group and its solution come in.

The tried-and-trusted TITANUS *TOP-SENS*® air sampling smoke detectors in the *SILENT* version use active fire detection to protect around 40 rooms in the Elbe Philharmonic Hall, including its showpiece: the Great Hall. With its acoustically sophisticated inner shell made of gypsum fibreboards ('white skin') and its freely suspended structure within the building, the concert hall is truly unique. "If the Queen Mary toots its horn out on the Elbe, you don't hear it in the Hall", Just explained. TITANUS® units were also installed in the Little Hall, foyer areas and technological areas.




> "Air sampling smoke detectors are an ideal solution for the halls. To date, the WAGNER product has worked error-free."
>
> Dennis Just, Technical Manager of the Elbe Philharmonic Hall

"Smoke detection is an extremely important matter for us", commented the Technical Manager, who was heavily involved in the selection of the fire protection systems during the long project and construction phase. "Air

◀ **The WAGNER Group's air sampling smoke detectors are almost invisibly installed.**

◀ Stairway to the Great Hall.

sampling smoke detectors are an ideal solution for the halls. To date, the WAGNER Group's product has worked error-free", stated Just, who also believes that no longer using point-type detectors in the exquisite foyer areas was "exactly the right decision". Unlike pointtype detectors, the sampling points of the TITANUS® units can be almost invisibly integrated in walls and ceilings – as per one of the architectural firm's mandatory stipulations.

When speaking to Dennis Just, his passion for fire protection and safety was extremely clear – not only because this is part of his job as Technical Manager, but also because finding the best solution for his sphere of action and therefore also the Elbe Philharmonic Hall is a matter close to his heart. The reason for this became particularly evident when we found ourselves back high up in the dome of the Great Hall, where all the building's system technology, with all its cables and wires, comes together, with a direct view of a concert rehearsal over 20 metres below us. And we promised ourselves that we would be back. But next time with a concert ticket. ■

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# Fire protection in the Elbe Philharmonic Hall: a close look at the technology

**The partnership between the Elbe Philharmonic Hall and the WAGNER Group originated through the general contractor Hochtief. The contract was performed in cooperation with the company Dehn. Thanks to the good cooperation with Hochtief, the WAGNER Group's services were provided on schedule. "This was not our first project with Hochtief. We had already successfully completed several major projects together throughout Germany", comments Michael Kind, Branch Manager for Hanover/Hamburg.**

The requirement to use TITANUS® air sampling smoke detectors for earliest smoke detection resulted from both the structural conditions and the architectural firm's specifications that the detectors had to be installed almost invisibly. As a result, air sampling smoke detectors were the only viable option for the Great Hall as this has a height of 25 metres.

Together with heat sensor cables in the floor of the auditorium, the TITANUS® units control a high-pressure mist extinguishing system for fire suppression. This means that if TITANUS® detects a fire, the extinguishing system's sprinkler heads are pre-flooded; until then they are dry. If the heat cables also detect a rise in temperature in the room, the extinguishing system actually triggers. The high-pressure mist extinguishing system therefore uses a two-fold safety mechanism. After all, damage to the permanently installed organ and the 'white skin' responsible for the good acoustics in the hall is inevitable as a result of water contact.

As it is not only the Elbe Philharmonic Hall's structural design that is complex, but also its floor plan and the interlinking systems within the scope of the fire protection concept, the fire brigade responsible for the concert hall has to conduct regular emergency drills. They are assisted by clear maps and information about the exact position of the individual systems – in the WAGNER Group's case even the individual air sampling points of the TITANUS® system.

**Key data**

- Fire protection system: TITANUS *TOP·SENS® SILENT*
- Protected object: Great Hall, Little Hall, quay studio, foyer areas and technical rooms; total of approx. 40 rooms
- Size of protected area: Gross floor area of concert area: 4,000 m²; of which Great Hall: 3,300 m² with 2,100 seats and Little Hall: 440 m² with 550 seats
- Project responsibility: Hamburg office
- Commissioning: November 2016


# Practical to magnificent

## Discrete fire protection solutions

**TITANUS® air sampling smoke detectors are not only highly reliable; they also look great – whether in public or private areas.**

▲ **The TITANUS® systems: invisible in public areas, clearly installed in the plant room.**

**The optimum travel companion**

It is mainly wide-body aircraft that take off from Pier A-Plus at Frankfurt Airport (Fraport). As a result, several thousand people pass through the terminal every day. The architectural design of such transit zones therefore endeavours not to get in travellers' way while also trying to be useful, for example by providing wide corridors and clear lines. A reliable fire protection system should work equally as discreetly.

532 TITANUS *PRO·SENS®* units are installed in the terminal extension to protect travellers: "In the areas that are publicly accessible to passengers, beams and the built-in air-conditioning ducts make it difficult to get to the smoke detectors in the suspended ceiling. The airport therefore chose to use TITANUS® detectors, which are far more sensitive than conventional point-type detectors", explains Construction Manager Ralph Scheibel. In addition, passengers can feel free from potential risks as the WAGNER Group's fire protection solution is installed in such a manner that it blends perfectly into its surroundings.

"Fraport stipulated that the ends of the pipe systems, which are usually installed above the suspended ceiling panels, had to protrude from the suspending ceiling with screw-on end caps for inspection purposes. The caps are tailored to the material used for the ceiling panels", states Scheibel.

Furthermore, in the lounge areas, where stressed business people can briefly relax or focus on their work between flights, *SILENT* versions of the air sampling smoke detectors have been installed behind the wall panels. This not only makes them invisible, but also means that the noise of the fans does not disturb the waiting passengers.

The units also protect the luggage return area – reliable, invisible and yet still accessible as they can be installed together with the pipe system on the conveyor frame. In the prison area, on the other hand, the air sampling points are installed to be protected against vandalism. The appearance of the smoke detectors is individually adapted to the spatial conditions and functionalities.

**Safety in Style**

This is why TITANUS® products are not only used in prison cells but also in stylish, luxury residential properties on Cadogan Square in London – one of the most expensive residential streets in the United Kingdom. A discrete and unobtrusive installation ensures homeliness, grandeur and style are retained, a factor which satisfied both the residents of the late 19th century town houses in the centre of London and now today provides a solution for the architects who painstakingly renovate these properties. WAGNER TITANUS *MICRO·SENS®* detectors can continuously take air samples from rooms on all seven floors of the property including those in the basement. This technology is used to protect a total of approximately 60 individual rooms in this manor house-style property close to Regent's Park. "The property includes a spa area with pool, sauna and steam bath, a cinema, two lifts and a hairdressing salon", reported Carl Bryan, CEO of WAGNER UK. "LOGIC·*SENS* intelligently processes detection signals and can reliably distinguish between genuine smoke patterns and interference factors such as dust and steam." In a property exuding so much luxury, the residents do not need to be permanently reminded of the potential risk of fire with the use of plastic caps on the ceiling. The fire detector systems are precisely adapted to the customers' wishes and pipes are manufactured to the length required. This level of safety enables the home's inhabitants to sleep peacefully at night in all its lovingly decorated bedrooms.

▼ **No room for plastic: luxurious, unobtrusive finish with TITANUS®.**

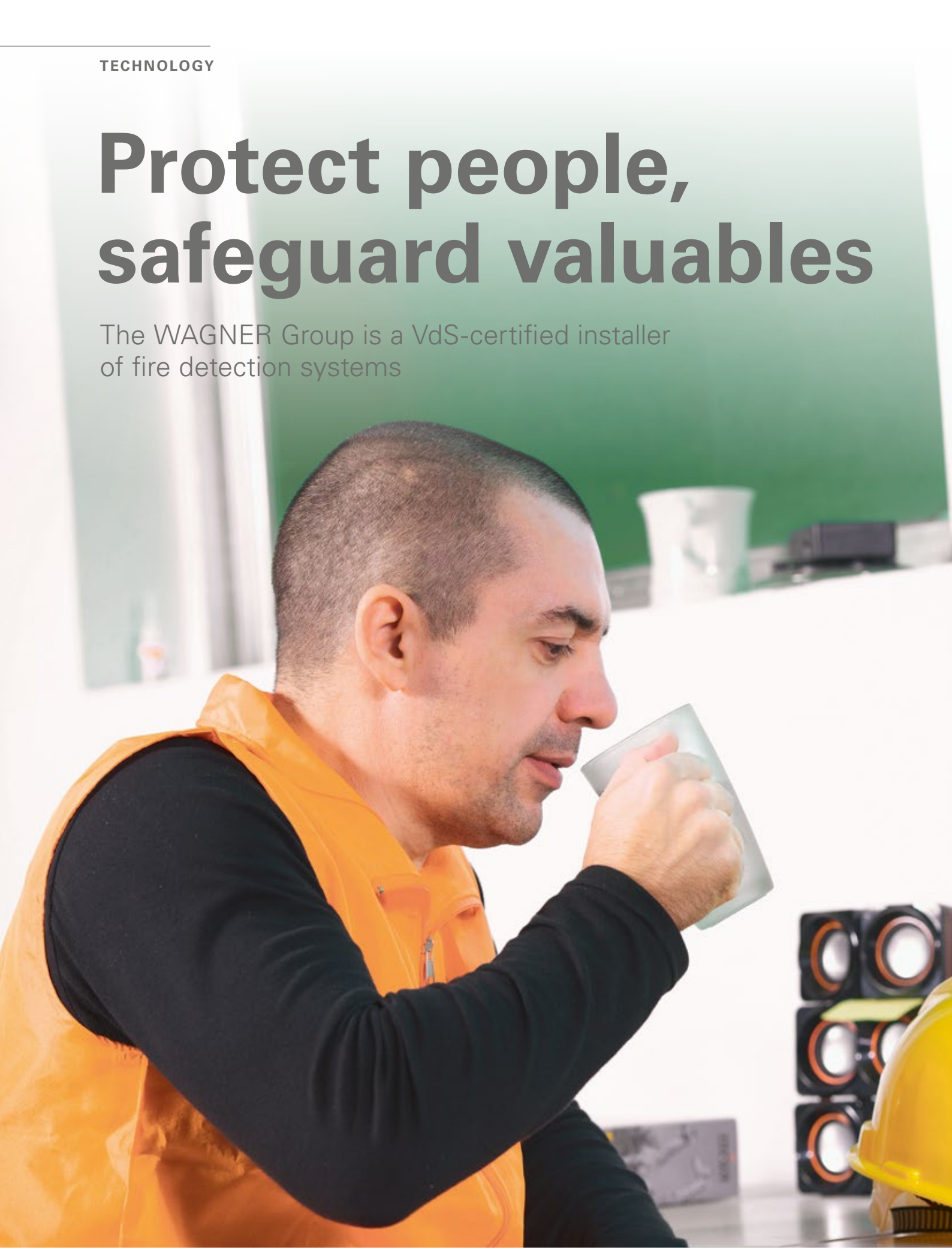
**Knowing is Believing**

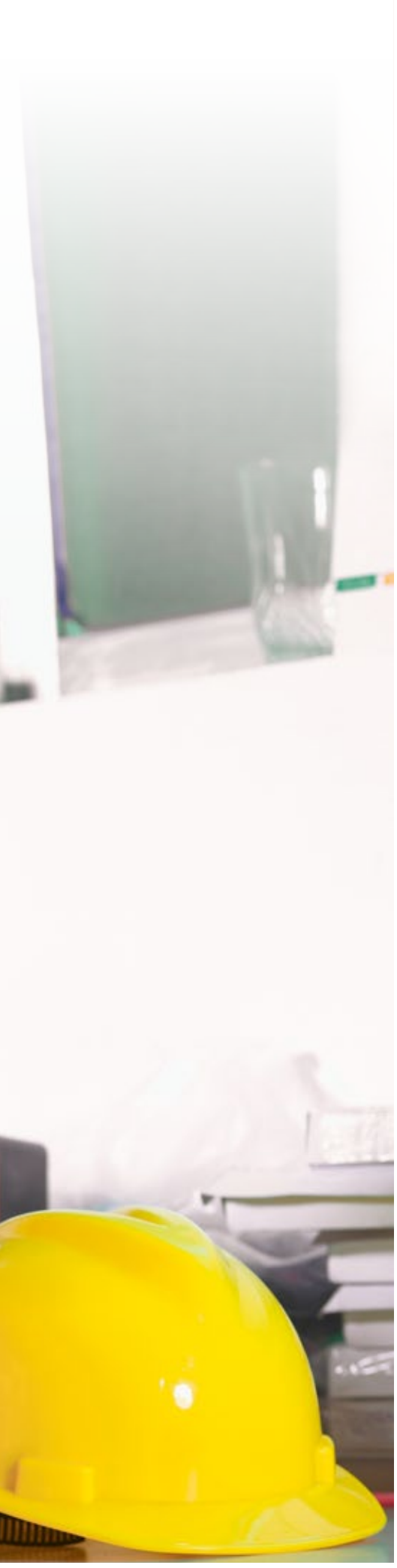
A price cannot be put on the cultural treasures which are protected by the TITANUS® devices in the Wienhausen Convent, north-east of Hanover. The convent dates from the 13th century and its choir area is adorned with splendid wall paintings. Air sampling smoke protectors from the WAGNER Group monitor the so-called 'chest passageways' with its magnificent medieval and renaissance pieces of wooden furniture and the convent's truss. The fire protection system was installed in 2003, ensuring that the convent's treasures are in safe hands. The early warning system makes sure that, in an emergency, the building's relics are protected for prosperity. Moreover, the air sampling smoke detectors are discrete and do not obstruct the convent's overall artistic beauty, leaving the nuns and visitors to appreciate the heavenly atmosphere of this place of worship. ■

▲ **The irreplaceable value of old joinery work in the convent's 'chest passageways'**

# Protect people, safeguard valuables

The WAGNER Group is a VdS-certified installer of fire detection systems





**Minimum cause – maximum effect: as lunchtime draws to an end, the employees of a production company leave the break room and return to their workstations. Meanwhile, in the kitchenette, a plastic chopping board on an accidentally left-on hob sets alight. Thanks to the fire detection system installed, the mishap is quickly resolved: the fire brigade arrives without delay and can quickly find and extinguish the fire.**

If, however, there were no fire detection unit (FDU) in the scenario described, the fire would most probably only be detected once the flames had already started to rage uncontrollably. On arrival, the fire brigade's first task would be to find the fire source – taking up valuable time during which the fire would continue to spread, increasing the amount of damage.

The WAGNER Group has the expertise to directly control extinguishing systems with its fire detection units. Not many companies can do that. It is also certified by VdS Schadenverhütung GmbH, a wholly-owned subsidiary of the German Insurance Association (GDV). The VdS seal of approval has an excellent reputation in expert circles and among decision makers.

**Fire detection unit and fire detection control panel**

An FDU is a central part of system-based fire protection. It receives incidents from several fire detectors, evaluates them and then responds to them. Its duties include:

- detecting incipient fires at a stage as early as possible
- notifying the body that will provide help (e.g. the fire brigade)
- warning people who are in the building
- triggering fire protection devices
- enabling the fire brigade to access the building and quickly locate the fire source

The decisive advantage of an FDU lies in the rapid automatic fire detection. Whereas fires in unoccupied, non-monitored buildings are often only discovered after several hours, the FDU detects fires at a very early stage. A comparison can be made with airbags, which have long been a standard feature in cars: they cannot prevent accidents, but they can effectively mitigate their consequences.

> „The WAGNER Group has decades of experience as a certified fire detection system installer."
>
> Markus Kock,
> Head of Systems Engineering DACH

The fire detection control panel (FDCP) forms the heart of the FDU. It evaluates the incoming detector signals and transmits the alarms and control commands in line with a predetermined programme. In the event of an alarm, the FDCP also alerts the fire brigade and unlocks the fire brigade key depot. It can also be used to manage the following controls:

- Alarm devices (sirens, signal lamps, emergency exit controls)
- Fire doors and hatches
- Smoke and heat vents
- Air conditioning units and lifts
- Automatic extinguishing systems

The FDCP also has a redundantly designed power supply comprising not only the onsite energy grid, but also an emergency power supply. The size of the latter is selected pursuant to DIN VDE 0833-2. ▸

▶ Continued from page 15

**Future-proof technology**

FDUs are primarily installed in buildings subject to particularly high fire risks, such as airports, universities, company buildings, factories and hospitals. The obligation to install an FDU connected to the fire brigade is regulated under building law within the scope of special building regulations. When planning FDUs, the stipulations of DIN 14675 must be observed. Systems required for insurance reasons must meet the requirements established by VdS 2095.

"The WAGNER Group has decades of experience as a certified FDU installer – and is therefore able to offer its customers tailor-made solutions", says Markus Kock, Head of Systems Engineering Germany, Austria, Switzerland at WAGNER. The systems that are used depend entirely on the individual requirements. Over the years, the company has already realised some extremely complex FDUs, for instance for hotels and airports.

▲ Volker Flügel, Sales Engineer at the Stuttgart office, designs and develops fire detection systems for WAGNER Group customers.

The integration of air sampling smoke detectors enables sensitive, active fire detection with minimal risk of false alarms. "If desired, we will also integrate suitable systems for active fire prevention, fire extinguishing and risk management so as to provide all-round protection", states Kock. After all, the company offers fire protection solutions from a single source – from air sampling smoke detectors to fire detector control panels and much, much more.

**Refitting for future requirements**

As a company with a network of branch offices with their own sales, installation and service teams, the WAGNER Group also regularly services and modernises fire detection systems. Pursuant to both DIN 14675 and DIN VDE 0833-1, fire detection systems must be serviced by trained specialists on a quarterly basis. During these services, checks are also made as to whether the surrounding conditions have changed.

> "We support our customers with our expertise – whether the property requiring protection is a government building, logistics centre, museum, production site or data centre."
>
> Markus Kock,
> Head of Systems Engineering
> Germany, Austria, Switzerland

When replacing an FDU, it is also advisable to choose a provider which is an international system manufacturer with its own R&D department. One which can offer everything from a single source from design through project planning and setup to servicing, and which can modernise systems to make them suitable for the future. A provider like the WAGNER Group. "The latter point is particularly important as the permanent effectiveness and operational reliability of fire detection systems is only ensured if systems are regularly inspected, maintained and serviced", explains Kock.

◀ Fire detection systems are installed in buildings such as hospitals and factories.

# BC600: the latest FDU generation

## Ideal for retrofitting and modernisation

**Fire detection systems reliably protect people, assets and processes from the dangers of smoke and fire – 24 hours a day, seven days a week. The fire detection control panels in the BC600 series offer outstanding flexibility and scalability for customised fire protection solutions. They are also extremely reliable – the most important prerequisite when it comes to saving lives and minimising damage.**

The latest FDU generation offers the following benefits: the BC600 fire detection control panels have a modular design and can be individually adapted to a wide range of requirements. The components – from the central computer through the loop interface to the serial interface – are all designed as plug-in modules. The control panels can be easily expanded retrospectively, for example due to changes to a building's structure or usage.

**Maximum flexibility**

The BC600 fire detection control panels make it possible to connect a wide range of detectors and modules, which can be operated in parallel using a BC600. This means that a huge number of system components are available when planning a fire detection unit (FDU), so that this can be optimally equipped from a technical perspective and created economically. The BC600 fire detection control panels are therefore ideal for retrofitting and modernisation tasks. Furthermore, the FDU can be used for complex fire control activities.

Simple networking is also possible. For example, up to 127 sub-control panels can be integrated into the net600 control panel. The loop topology guarantees reliable communication in the network – even if problems occur in part of the loop, the system will still remain fully operative.

# Protecting lives, valuables and companies – now also in Norway

## WAGNER Group acquires the majority holding in Hypoxic Technologies – the first joint project protects valuable museum pieces in Oslo

Managers from Hypoxic Technologies with the new principal shareholder, the WAGNER Group (left to right): Andreas Schober, Jon Olav Vikan, Torsten Wagner, Dirk-Olaf Petersen and Eivind Elnan.

**As a specialist in active fire prevention, Hypoxic Technologies AS has already impressed large numbers of customers in Scandinavia over the last ten years. Now, the Norwegians are able to offer an even wider range of fire protection solutions as the WAGNER Group has acquired a shareholding in the company as a way of continuing its global expansion.**

"We have found a professional and strategic partner in Hypoxic Technologies, one which is intimately familiar with the demands of the Norwegian market and has many years of connections," says Andreas Schober, new chairman of the board at Hypoxic Technologies and head of the WAGNER Group's Continental division. Like the WAGNER Group, Hypoxic Technologies specialises in active fire prevention through oxygen reduction (LowOx) and has already successfully installed various systems in Norway. Over the next few years, Hypoxic Technologies will play an important role in helping the WAGNER Group gain a firm footing in the Scandinavian market.

> "In the future, we will be able to offer customised complete solutions for the Scandinavian market."
>
> Andreas Schober, Head of the Continental division at the WAGNER Group

"We selected the WAGNER Group as our principal shareholder so that we can offer our Scandinavian customers ground-breaking, tailor-made fire protection solutions," says Eivind Elnan, one of the founders and partners of Hypoxic Technologies alongside Jon Olav Vikan, explaining the motivation for selling 65 percent of the company's shares. "The company's international orientation, decades of experience in system construction and an own research and development department form the basis for great expertise, which we will make use of and benefit from in our further expansion."

To ensure the successful integration of Hypoxic Technologies, the WAGNER Group is providing 360 degrees support, which includes its expertise as a technology leader and international competence in the design, project planning, commissioning and maintenance of fire prevention systems.

Hypoxic Technologies will initially continue to sell LowOx systems with technology from the WAGNER Group and will gradually expand its local product range to include the entire fire prevention system range. Plans for the company's future development include complementing this range with fire suppression systems and therefore selling the entire WAGNER product range in the Scandinavian market. "In the future, we will be able to offer customised complete solutions for the Scandinavian market", says Andreas Schober.

**The University of Oslo: an OxyReduct® system with two VPSA-240 nitrogen generators (photo below, prior to installation) protects valuable museum pieces.**

The first joint system has already been put into operation: at the University of Oslo, the WAGNER technology protects a special university museum area: eight store rooms for the Museum of Cultural History used to hold valuable artefacts such as suits of armour and Japanese Samurai outfits. Open to new ideas, the modern educational institution chose an innovative fire protection solution involving fire prevention through oxygen reduction, which is currently relatively rare in Scandinavia – especially in the public sector. The university therefore broke new ground with its decision. The fire protection solution itself consists of an OxyReduct® system with two energy-efficient nitrogen generators and an oxygen sensor. The higher-level OxyControl® control system ensures that all eight areas (rooms) are monitored and the oxygen concentration remains constant in each of them. The WAGNER solution installed ensures that fire cannot develop under defined conditions.

Valuable treasures in the Oslo National Museum will soon also be protected by a WAGNER Group fire prevention system. The project planning stage has already begun as the exhibition and archives hold valuable rare pieces such as 'The Scream' by Edvard Munch. Born in 1863, the Norwegian artist created four versions of this work, one of which hangs in the permanent exhibition. Another version changed hands at auction for around 120 million US dollars – one of the highest prices ever achieved for a painting.

"The innovative fire protection solutions for the first two projects in Oslo are only the beginning", says Andreas Schober. Further projects involving the protection of valuable assets using OxyReduct® are soon to be implemented.

**Gallery at the Oslo National Museum: the WAGNER Group's fire protection expertise will now protect valuable paintings in the archive.**

# Keeping a Cool Head

Michael Hart oversees the establishment of a subsidiary in Australia

**Michael Hart was once responsible for developing what others had to sell. He is now the one doing the selling - and is profiting from his vast experience. The new Sales Director for Australia and New Zealand is a fire prevention specialist who manages to keep a cool head when things get hot. This is no easy feat considering that the director and his team of engineers are responsible for the complex task of developing the frozen food chain logistics.**

**Personal profile**
The 43-year old fire prevention engineer Michael Hart is a trained expert in his chosen field. After concentrating on early warning systems with air sampling smoke technology, he then specialised in the design and testing of so-called clean agent systems. Otherwise known as gaseous fire suppression, it refers to the use of non-conductive, inert gases and chemical agents to extinguish fires. A second focal aspect of his work was in the protection of wet chemical production processes. Since March 2017, he has been responsible at the WAGNER Group for the sales and implementation of OxyReduct® systems in Australia and New Zealand.

### Mr. Hart, why do you work for the WAGNER Group?

Firstly, I believe in the people and the vision of the WAGNER Group to supply advanced fire protection solutions – solutions made possible by the company's high standards of engineering expertise and strong product portfolio. Secondly, I like being a part of a family-owned company which not only appreciates its employees, it also invests in them and supports them too. For me, these are essential attributes for the success of the company and its solutions.

### How did you experience your first few months with the WAGNER Group?

I appreciated the professional attitude of my colleagues. I could see they were committed to producing the best results for our customers. I can obviously rely on my expertise as a fire prevention engineer. When I advise customers, I precisely understand the technical contexts and the feasibility of a solution.

### What did you impress the most?

Focus on the customer and the amount of attention paid to the seemingly unimportant details. And then there are the colleagues who made me feel at home from the very start. When faced with extremely complex frozen food projects, I received lots of support and assistance to help me take the project firmly forward for the benefit of our customers.

### What are the challenges faced in the frozen food chain sector?

Solutions need to consider the extreme conditions under which food has to be stored: Temperatures are significantly below zero, the warehouses are packed full of food and the paper and film packaging used are not fireproof. Additionally, the automation and the ever-increasing height of the buildings also pose a significant risk. Some warehouses are up to 45m in height. Under these conditions, OxyReduct® systems usually prove to offer the best solution for the effective and financially viable fire prevention.

Together the new cold storage warehouses Melbourne 1 and Melbourne 2 provide space for more than 200,000 Australian standard size pallets.

# **AUSTRALIA:** NewCold Opens New Warehouse with OxyReduct® Technology

"Fire prevention by means of oxygen reduction is something new in Australia, certainly in this scale", commented Lena Niederstuke, who is heading this complex project. Yet this has not been the only reason why this project has attracted a great deal of attention in the logistics sector. "NewCold's expansion into Melbourne comprises two separate projects, which are both respectable in their own right", explained the engineer.

"Melbourne 1" is a fully-automated, 34 m high frozen goods warehouse which is protected by three VPSA machines (Vacuum Pressure Swing Adsorption). The warehouse with a volume of 461,244 $m^3$ has enough space to store a maximum of over 100,000 Australian standard size pallets, with a footprint of 1.165 m x 1.165 m each, at -23 degrees Celsius. Eight double-mast stacker cranes are capable of transporting more than 10,000 pallets every day. Two of the truck loading stations support the fully-automated unloading of trucks around the clock.

Chilled goods are stored in "Melbourne 2": a fully-automated cooling warehouse with a volume of 589,026 $m^3$ with space for 110,000 Australian standard size pallets and will be gradually put into operation in Q4 2017. Six double-mast and four single-mast stacker cranes are capable of moving over 10,000 pallets a day. Four different cooling zones (+2 °C, +8 °C, +11°C, and +18°C) ensure the adequate storage of food products. Five VPSA systems ensure active fire protection.

# As safe as mountain climbing

## Working in a controlled oxygen-reduced environment

**Skiing, jetting off on holiday or even mountain climbing: almost everyone has at least some personal experience of an oxygen-reduced atmosphere or 'hypoxia' – and noticed that it is completely safe providing the conditions are not too extreme. But can you also work in such an atmosphere? And for whom is this environment inappropriate?**

Isobaric hypoxia essentially simulates altitude and is usually specified as oxygen concentration in % vol. However, we do not need to look at this from a medical perspective; what is interesting to us is the oxygen partial pressure. This is the part of the air pressure generated by the oxygen. For example, at sea level the air pressure is 760 mbar and an oxygen concentration of 20.9 % vol. results in a partial pressure of 159 mbar.

The finding that it is only the oxygen partial pressure that is of relevance for risk assessment purposes is of key importance. This is because the human body's ability to adapt ensures that deviating conditions have no effect on us up to an altitude of about 1,500 m (approx. 17 % vol. oxygen). This changes as we get further from sea level – but even then, the human compensation mechanisms are very good at preventing acute risks. This allows a healthy person to remain fully able to function at altitudes of up to 5,000 m or with oxygen concentrations of just 11.1 % vol.

However, people who are not acclimatised to these conditions should not expose themselves to such a state for indefinite periods of time as symptoms of altitude sickness can start to appear after a latency period. This can already happen from about 3,000 m or 14.1 % vol. oxygen. In view of how long people spend working in isobaric hypoxia, however, dangerous altitude sickness can be ruled out: this only occurs after 12 to 24 hours (lungs) or 24 to 96 hours (brain) of uninterrupted exposure at an altitude of over 4,000 m or in an atmosphere with less than 12.8 % vol. oxygen.

Typical workplaces that use isobaric hypoxia, for example in oxygen-reduced protective rooms, only reach a simulated altitude of up to 3,000 m, or in other words altitudes that are generally safe, even for smokers and anaemics. Only people who need to be careful with hypoxia and high altitudes due to severe prior illnesses, especially of the lungs, should avoid these work areas.

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**A brief profile**

Professor Thomas Küpper is an occupational medicine specialist at Aachen University Hospital. One of the focus areas of his research is risk profiles and prevention during work and sports at high altitude or in isobaric hypoxic conditions. He has worked as the scientific director of several hypoxia centres since 2009. He is also a scientific consultant to the Surgeon General of the Air Force. Over the past few years, he has presented his expertise in many German and international publications.

Summary: the human body can deal with an oxygen-reduced atmosphere without restrictions. Any reservations about fire prevention using oxygen reduction are therefore devoid of all factual basis; there is no risk to employees. On the contrary: the technology not only prevents fires and safeguards valuables, but above all protects people.

Carl Bryan, Managing Director of WAGNER UK:

# Active fire prevention with OxyReduct® on 'The Business Debate'

**A guest on 'The Business Debate': Carl Bryan, Managing Director of WAGNER UK, was invited to the London Stock Exchange Studios where he was interviewed by journalist Sarah Lockett about the latest developments in the field of fire protection. The interview focussed on the concept of active fire prevention using oxygen reduction.**

Bryan explained that OxyReduct® not only effectively prevents fires, but also protects buildings, production facilities and resources that would inevitably suffer from damage in the case of water-based extinguishing solutions using sprinkler systems. He made reference, among other things, to the British Library: "This is a place where we protect valuables that are irreplaceable", says Bryan.

The interview, which was published online on the websites of 'The Times' and 'The Wall Street Journal', is part of a series in which companies present their visions and explain how their sector will change in the future. The interviews also always illuminate the background to developments.

**WATCH NOW!**
The full interview with Carl Bryan can be found on YouTube:


## LEGAL INFORMATION

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WAGNER Group GmbH
Schleswigstr. 1–5
30853 Langenhagen
Tel.: +49 511 97383 0
info@wagnergroup.com
www.wagnergroup.com

Responsibility in terms of media law:
Dipl.-Ing. Werner Wagner

Project management and editing:
Katharina Bengsch

Guest contributions:
Michael Kind, Lena Niederstuke,
Prof. Dr. Thomas Küpper,
MT-Medien GmbH

Layout and image editing:
MT-Medien GmbH

Editorial contact:
redaktion-impulse@wagner.de

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Sicherheit
Zurich

**15/11/2017 – 16/11/2017**
Data Center Convention
Munich

**15/11/2017 – 17/11/2017**
FiSAC
Singapore

**22/11/2017 – 23/11/2017**
Fire safety days
Stuttgart

**28/11/2017 – 29/11/2017**
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**Experience fire safety first hand**
Want to see for yourself just how effective our innovative fire protection solutions are? Then visit our world of live demonstrations and exhibits in Langenhagen: at WAGNER World, we present our fire protection solutions in action.


For further upcoming events and more details for your WAGNER contact partners, please visit **www.wagnergroup.com**