

# WAGNERIMPULSE

THE WAGNER GROUP CUSTOMER MAGAZINE 3/2019

Ice cold protected –  
*Active fire prevention  
secures ice-cream  
creations*



## IN BRIEF

News from the world of WAGNER

## PROJECT

ColocationIX: Fort Knox for highly sensitive data

## TECHNOLOGY

Fire protection for the test stands of the automotive industry

# Dear business partners, Dear readers,

Since our foundation in 1976 one of our top objectives has been to promote fire protection worldwide by developing new solutions. These include TITANUS® air sampling smoke detectors and the OxyReduct® oxygen reduction system to name just two innovative product milestones.

Our active fire prevention OxyReduct® received the VdS certification already in 2004 and could thus be introduced to the market. But at the end of 2017 in collaboration with WAGNER, the European standard EN 16750 for the oxygen-reducing system (German version **DIN EN 16750:2017**) was published in Europe as a basis for design, planning, installation and maintenance. It can be said that WAGNER was ahead of its time. That's exactly what motivates us to keep developing new products. We are also actively involved in work on standards using our knowledge and know-how from decades of research and development on both national and international committees and organisations.

This standard has been long awaited beyond European borders. The more we are pleased that with **ISO 20338** the first international standard for planning and installing oxygen reduction systems has been published in dialogue with market players and other relevant decision-makers. Not least, as this will be used worldwide in the engineering of our OxyReduct® systems.

We hope you enjoy reading the latest WAGNER Impulse



Werner Wagner

Torsten Wagner

Thorsten Schmacker

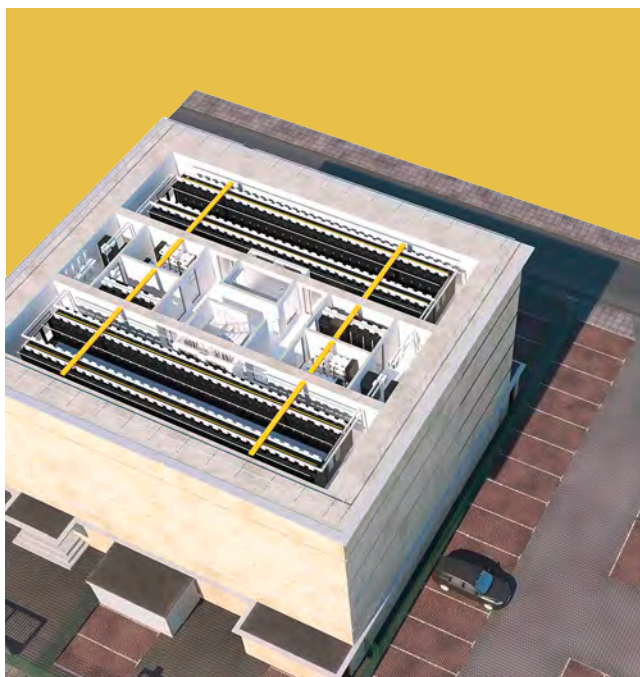
Managing directors and owners  
of WAGNER Group GmbH



**4 IN FOCUS**  
Ice cold protected – active fire prevention secures ice-cream creations



**10 IN BRIEF**  
News from the world of WAGNER



**12 PROJECT**  
Fort Knox for highly sensitive data – the data ColocationIX



**14 TECHNOLOGY**  
Rechargeable batteries – fire protection for the test stands of the automotive industry





# Ice cold protected

## *Active fire prevention secures ice-cream creations*

Ice cream is not only a must in summer, but also an absolute classic in the winter months, especially during christmas season. The cool pleasure is created at Eisbär Eis Produktions GmbH in a production hall with high operating temperatures where the production line works non-stop. In the deep-freeze warehouse, on the other hand, crisp temperatures of -24°C prevail permanently. In Ribnitz-Damgarten up to three million ice-cream portions are frozen every day before they are loaded onto palettes and shipped to retail chains and delivery services throughout Europe. Thanks to active fire prevention using an oxygen reduction system from the WAGNER Group, reliable fire protection in the deep-freeze warehouse is ensured.





▲ Eisbär Eis: An OxyReduct® system with VPSA technology protects the deep freeze complex.

**Ribnitz-Damgarten, GER.** These numbers were unthinkable when Eisbär Eis Produktions GmbH Ribnitz-Damgarten was founded in 1992. Back then the business began with just 30 employees and one freezing plant. Today the mid-sized business produces around 18,000 tonnes of ice-cream a year. More than 200 different frozen products are produced

by 250 employees on the German Baltic Sea coast for international sale. Ice lollies, ice-cream cones or tubs of ice-cream – Eisbär Eis offers the full range. The family-run business is one of the biggest ice-cream producers in Germany today and exports special products as far as Australia and the USA. In order to meet the increasing demand for ice-cream and to continue to position itself as market leader, the business has invested in an automated deep freeze storage area.

**The Eisbär family continues to grow**

The automated deep freeze complex which was finished in 2019 is 100m long, 25m wide and 30m tall. With a room volume of 75.000m<sup>3</sup> the high rack storage has over three lanes with double deep palette storage. “Extending the deep freeze area has given us additional storage capacity for 12,000 palettes,” explains Thomas Fürtig, operations manager at Eisbär Eis. The storage and retrieval of products is carried out automatically by a modern warehouse management system. A fire protection solution from WAGNER protects these processes from fire-related disturbances: Based on good experience, Eisbär Eis decided to use an oxygen reduction system for active fire prevention in the new building as well. WAGNER is constantly working on the

further development of its fire prevention systems in order to always enable its customers to achieve optimum energy efficiency and lower operating costs. With this investment, the existing oxygen reduction system in the stock rooms was overhauled and modernised and brought into line with current state of the art technology.

*“Business disruption is an absolute no-no. For us, it is about the safety of the warehouse and protecting the new investment. Because the availability of our products is always top priority.”*



Thomas Fürtig, operations manager at Eisbär Eis

**Delivery capacity was not put on ice**

What the client wanted in terms of protection was clearly defined in advance: In addition to personal security, the fire protection had to ensure that operational and logistical procedures ran smoothly, thereby minimising damage and loss in the event of an emergency. “Business disruption is an absolute no-no. For us, it is about the safety of the warehouse and protecting the new investment. Because availability of our products is always top priority,” sums up Thomas Fürtig. Using a conventional, water-based extinguishing system in the deep-freeze high-bay warehouse was not possible. Reactive fire protection systems cannot prevent major damage or contamination of the product in the event of a fire – or indeed could even cause

**About Eisbär Eis**

- Eisbär Eis produces up to three million individual products daily
- Six production plants operate the whole year round in three shift operation
- Each plant produces around 36,000 products an hour
- The ice-cream specialties are delivered to up to 27 countries in Europe



Thomas Fürtig, operations manager at Eisbär Eis (left) and Reiner Miłski, director of the WAGNER Berlin branch talk about effective fire protection.



► The OxyReduct® generator (right) extracts nitrogen directly from the ambient air on site. In the selector valve station (above), the nitrogen generated is distributed to the various protected areas.



it – the active fire prevention system OxyReduct® was chosen.

**Solution with numerous advantages**

Two energy-efficient OxyReduct® V-Line systems protect the freezer complex. By means of controlled nitrogen supply, the oxygen con-

centration in the protected area is reduced to a defined protection level. Any potential fire is thus deprived in the early stages of the oxygen needed to develop further. The fire cannot develop or spread. Water is not used in active fire prevention in the event of a fire developing in the storage area. The space required for the sprinkler



**How can I prevent a fire in the warehouse?**  
*Download our exclusive guide now!*

## IN FOCUS

system within the warehouse is also eliminated and can be used for additional warehouse goods. In addition, the deep-freeze area is equipped with TITANUS® air sampling smoke detectors for early fire detection, which are installed above the lanes in the deep-freeze warehouse. The systems detect the smallest smoke particles as early as possible and reliably distinguish between real fires and false alarms. Effective countermeasures

*“By investing in new equipment operating costs could be reduced by as much as 50% with an increased protected area. That is huge.”*



Sebastian Stoll, *technical employee at Eisbär Eis*



▲ Temperature-resistant TITANUS® air sampling smoke detectors can withstand temperatures as low as -40°C without any problem.

can therefore be initiated quickly and purposefully, and there is no smoke in the storage area and no contamination of the goods. The combination of earliest possible fire detection and active fire prevention gives Eisbär Eis holistic fire protection of the highest standard. Another positive OxyReduct® and TITANUS® are scalable. The WAGNER fire prevention solution can be adapted with the same level of ease if a warehouse is extended.

*“The customer has had good experiences with us. He can rely on our innovative strength and on us as a reliable partner at all times.”*



Reiner Milski, *director of the Berlin WAGNER branch office*

### Long-lasting and reliable partnership

“The customer has had good experiences with us. He can rely on our innovative strength and on us as a reliable partner at all times,” explains Reiner Milski, head of the WAGNER Berlin branch. Eisbär Eis is also pleased with the technology: “The installation was unproblematic, the systems function flawlessly and the service of the technicians from Berlin is brilliant,” is how



▲ Sebastian Stoll, technical employee of Eisbär Eis, operates the OxyControl centre.



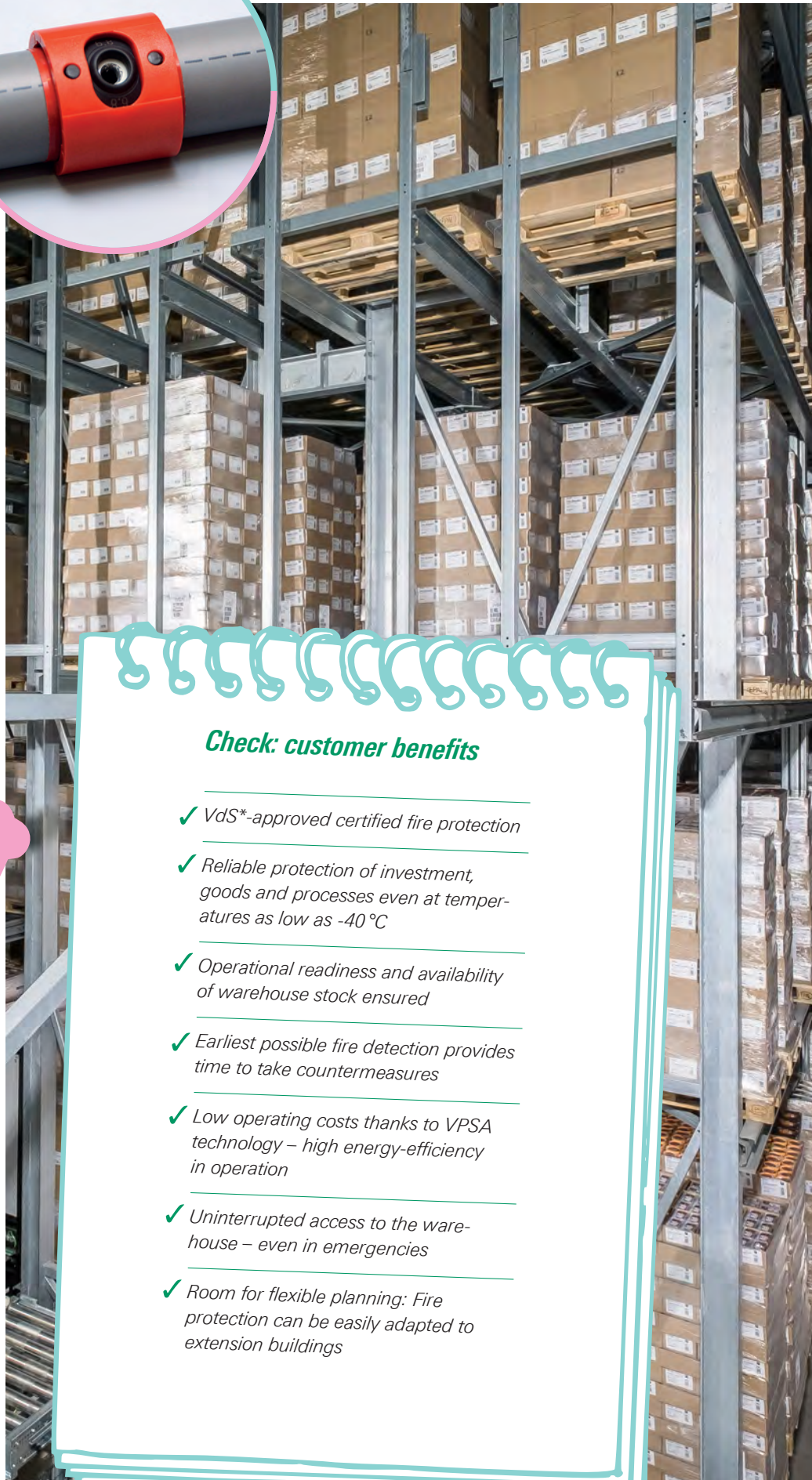
- Possible icing on the suction openings are removed by patented flexible suction clips using compressed air.



Thomas Fürtig sums up the collaboration. Eisbär Eis Produktions GmbH, a family-run business and fire protection experts WAGNER have been in close partnership since the installation of the existing oxygen reduction plant in the warehouse in 2012. ■



**Do you want to find out more about fire protection in deep-freeze warehouses? Right this way!**



### **Did you know? The real ice-cream connoisseurs live in the North**

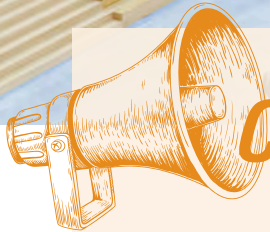
The last survey showing annual consumption of vanilla, straciatella and chocolate ice-cream in Germany was at almost 9l per head. That corresponds to about 120 ice-cream scoops. The odd thing about that is: The real ice-cream connoisseurs live in Northern Europe! Scandinavia, of all places, leads the annual ice-cream league table with up to 15l per head. The Italians, alleged inventors of ice-cream, consume just 6l of industrially produced ice-cream. The undisputed leader and "champion of ice cream" is and remains the US. Americans consume more than 20 litres of ice cream per person every year.

### **Check: customer benefits**

- ✓ *VdS\*-approved certified fire protection*
- ✓ *Reliable protection of investment, goods and processes even at temperatures as low as -40 °C*
- ✓ *Operational readiness and availability of warehouse stock ensured*
- ✓ *Earliest possible fire detection provides time to take countermeasures*
- ✓ *Low operating costs thanks to VPSA technology – high energy-efficiency in operation*
- ✓ *Uninterrupted access to the warehouse – even in emergencies*
- ✓ *Room for flexible planning: Fire protection can be easily adapted to extension buildings*

\* VdS-Schadenverhütung GmbH is Europe's largest institute for corporate security. It tests and certifies components and systems for loss prevention.

# News from the world of WAGNER



## Zalando:

# *Cry with happiness*

**Berlin, GER.** Online mail order company Zalando's TV advert is an unforgettable classic: women who suddenly start screaming for new shoes, in the background cries of desperation from their partners. The company promises its customers Europe's largest fashion selection and this requires a lot of space – not only in the shipping warehouses, but also at the corporate headquarters in Berlin. **The Zalando Campus in Friedrichshain covers more than 100,000 m<sup>2</sup> and is currently spread over 12 buildings.** 6,000 people are employed here. To ensure this shopping microcosm always runs smoothly, the data centre at the site had to be reliably protected against fire-related malfunctions. **The first choice**

**was the OxyReduct® fire prevention system, which creates an oxygen-reduced atmosphere in the server rooms on the ground floor of the building to ensure fire protection. According to VdS 2380, if a gas extinguishing system is used, the data centre would have to be disconnected from the power supply in the event of a fire if no organisational or technical replacement measures are available. With OxyReduct®, the availability of the data center is maintained, an immediate switch-off of the energy is not necessary.** Zalando is number one in excellent customer service. To deliver this, the company needs reliable partners in fire protection.

## British Library:

# Investing in the future

**Boston Spa, UK.** The British Library holds more than seven million books, journals and periodicals in the Additional Storage Building (ASB) at its site at Boston Spa in West Yorkshire. Opened in December 2008, as part of the expansion of the Library's low-use storage facilities, the ASB was equipped with an oxygen reduction system utilising membrane technology from WAGNER.

Ten years later, nitrogen production technologies have developed significantly. In particular, the energy efficiency of the generating systems has improved enormously. **Following a study of current operating costs including regular maintenance, energy and a major overhaul of the older membrane plant, the British Library have opted to invest in a new OxyReduct® P-Line system.** "A prudent decision, because investing in new technology with significantly lower operating costs will provide a return on investment long before the end of the system's life cycle," says Carl Bryan, Managing Director of WAGNER UK.





## Crystal Ice Arena: *Fire detection in the ice stadium*

**Krasnoyarsk, RU.** Welcome to Winter – with this slogan, the 29<sup>th</sup> Winter Universiade (a word creation of “University” and “Olympiad”) the winter version of World Sports Games for students, took place in March 2019 in Krasnoyarsk. There, participants competed against each other in eleven different winter sports. The ever popular competitive sport ice hockey took place in the purpose-built Crystal Ice Arena.

**The main ice surface measures 60 x 30 m, of the total 42,000 m<sup>2</sup> of the venue.** The facilities include an additional training area, 12 changing rooms, separate rooms for technical staff, judges and service

personnel, doctors’ offices, a press area and a doping control station. The ice rink seats up to 3,500 spectators.

**Fire protection is essential for public buildings with a large number of visitors. Any fire must be detected as soon as possible so that evacuation can be effective.**

Every minute counts when leaving the building. Equally, unnecessary panic due to false alarms must be avoided. Fire detection must therefore not only be fast and reliable, but also absolutely fail-safe against false alarms. For this reason, the Crystal Ice Arena chose TITANUS® air sampling smoke detectors.



**Technology video:**  
*The benefits of TITANUS® very early fire detection*



## Hamburg’s Alter Wall: **New life behind old walls**

**Hamburg, GER.** In the 15<sup>th</sup> century the Alter Wall street in Hamburg was an imposing fortification. Later,



artists such as Heinrich Heine dined in its fine restaurants and today it has developed into an exclusive boulevard with shops, restaurants and offices. Behind the intricately restored listed facades of five connected buildings, real estate project developer Art-Invest Real Estate has created a new world – equipped with state-of-the-art technology. **Special attention was also given to the network station, the heart of the entire power supply for the building complex. TITANUS® air sampling smoke detectors take care of safety here.** “The detector is false alarm-proof and recognising incipient fires in the energy centre reliably and as early as possible are not its only advantages,” explains Folker Brocks from WAGNER Hamburg office. “Maintenance is un-



complicated, too: We can do it outside the station – without having an employee of the utility company on site.” Additionally, WAGNER was able to install comprehensive fire protection in the prestige property. **“It monitors eight upper floors and five basements with a total of more than 45,000 m<sup>2</sup>.”** So the many visitors the Alter Wall attracts can stroll along calmly and enjoy the uniqueness of the Alter Wall.

# The data centre ColocationIX: Fort Knox for highly sensitive data

**During the Second World War, on the night of the 19<sup>th</sup> August 1944, 500 British bombers dropped more than 120,000 bombs on Bremen city centre, leaving little of Bremen's West End. Only the Zwingli-Hochbunker withstood the hours of bombardment, allowing around 2,000 people to survive. Today, 75 years later, the bunker houses one of the safest data centres in Europe.**

**Bremen, GER.** Anyone approaching the historic bunker with its massive 2m thick exterior walls made of reinforced concrete, and foundations which reach 5m into the

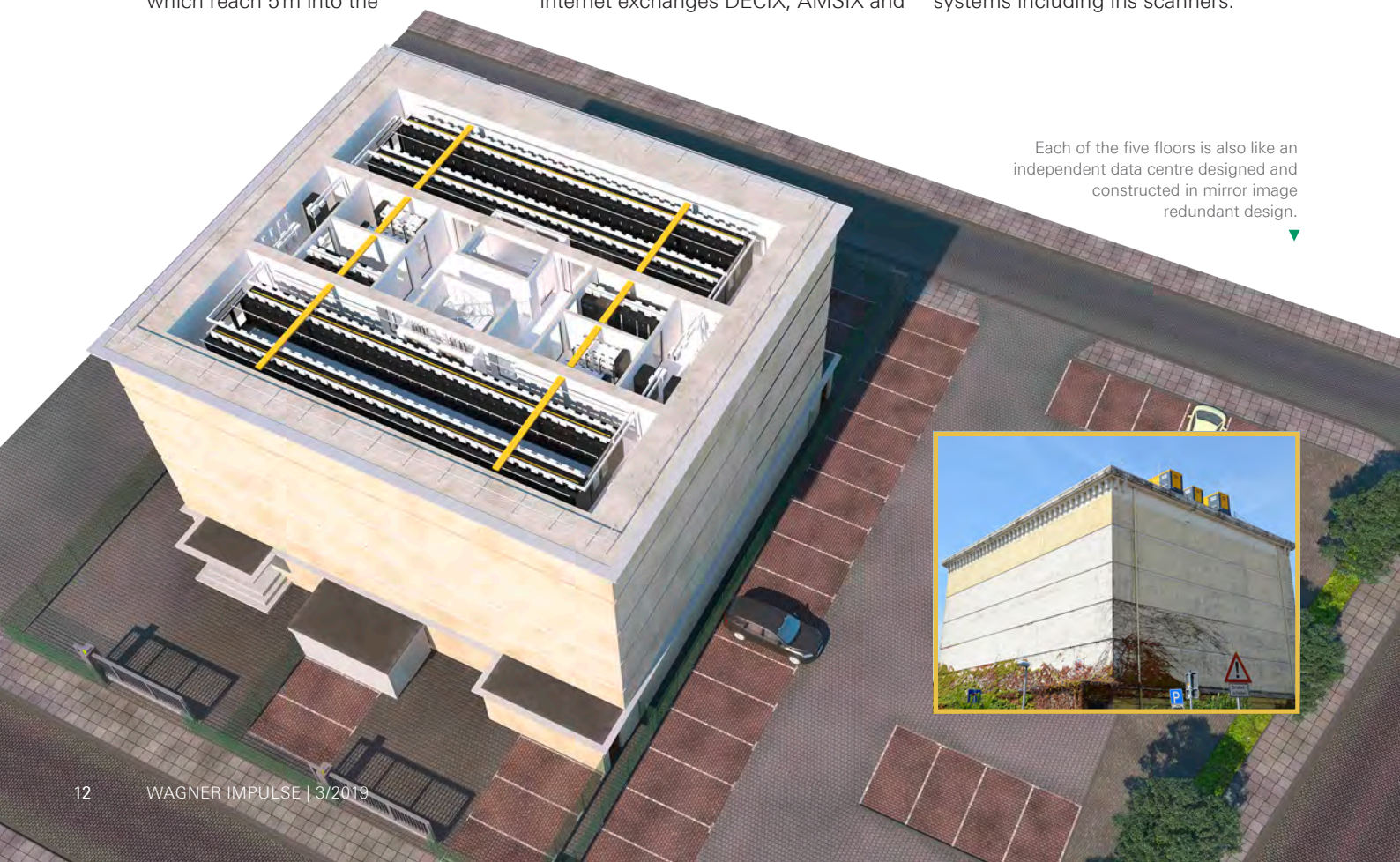
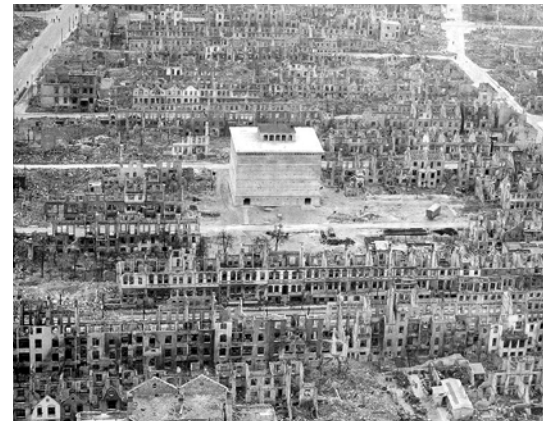
ground won't have any idea about what lies behind this hulking shell. The ColocationIX data centre covers an area of more than 2,500m<sup>2</sup> over five floors. More than 500 racks provide space for around 60,000 servers for customers from a wide variety of sectors, from logistics and e-commerce to banks and insurance companies, to mechanical engineering companies and IT service providers. For example, ColocationIX serves these companies as a backup data centre and as an extremely secure plant for their (private) cloud services. ColocationIX is connected directly via fibre optic lines with the least time lags to the biggest internet exchanges DECIX, AMSIX and

LINX as well as other major internet exchanges in Europe and China. This allows it to operate high performance applications globally.

### **Insurmountable reinforced concrete**

Structurally, the former bunker offers a high degree of resistance to any physical impact from outside: be it an explosion or plane crash, lightning strikes, electromagnetic pulses or electrostatic discharges. The thick, windowless walls effectively protect the infrastructures and digital values inside against environmental influences. Access is regulated by means of separate locks and various control systems including iris scanners.

Each of the five floors is also like an independent data centre designed and constructed in mirror image redundant design. ▼



“Traditional fire prevention systems have many disadvantages. Active fire prevention, on the other hand, is both IT and person-friendly.”



Andres Dickehut, shareholder of ColocationIX GmbH

### Fire protection of the utmost safety

The fire protection at ColocationIX meets the highest security class 4 of the new DIN EN 50600 for the construction of data centers. All server rooms and technical rooms are equipped with active fire prevention by means of oxygen reduction. An OxyReduct® system uses a controlled nitrogen supply to reduce the concentration of oxygen in the protected areas to the level defined for data centres. As a result, a fire cannot develop – a huge advantage for the data centre operator and its clients and the primary concern of fire protection experts WAGNER, because customer safety and that of their assets and procedures is a top priority when planning individual fire protection. As part of active fire prevention, all areas have been equipped with TITANUS MICRO-SENS® air sampling smoke detectors for early fire detection. The air sampling smoke detectors are highly sensitive and absolutely secure against false alarms. In the event of a fire, 2g of material conversion in 180 seconds are enough to ensure successful detection. For example, a smoldering cable fire can be detected long before an open fire breaks out. Thanks to active fire prevention and the earliest possible fire detection, immediate energy shutdown is not



▲ Up to 60,000 servers can be housed with ColocationIX in the future.

necessary so the data centre can keep operating for as long as possible. Despite oxygen reduction, all areas remain accessible to authorized personnel. Andres Dickehut, a shareholder of ColocationIX GmbH, was convinced in advance of the safety of the oxygen-reduced atmosphere when he conducted his own experiment. Before the final decision for the OxyReduct® system was made, he visited a demonstration room at the WAGNER headquarters in Langenhagen. The lowered oxygen concentration is imperceptible to a healthy person and completely harmless – his attempt to ignite a lighter, however, was unsuccessful.

### Simple extension through modular design

Currently, one of the five floors of the bunker already houses the servers of ColocationIX customers. The remaining floors will follow in later stages of expansion. The fire protection system was planned from the beginning in a modular way, and all necessary fire detection and oxygen reduction piping systems were installed in the respective areas. As soon as further floors go into operation, they can easily be connected to the existing fire protection systems. WAGNER will also be a reliable partner to ColocationIX. ■

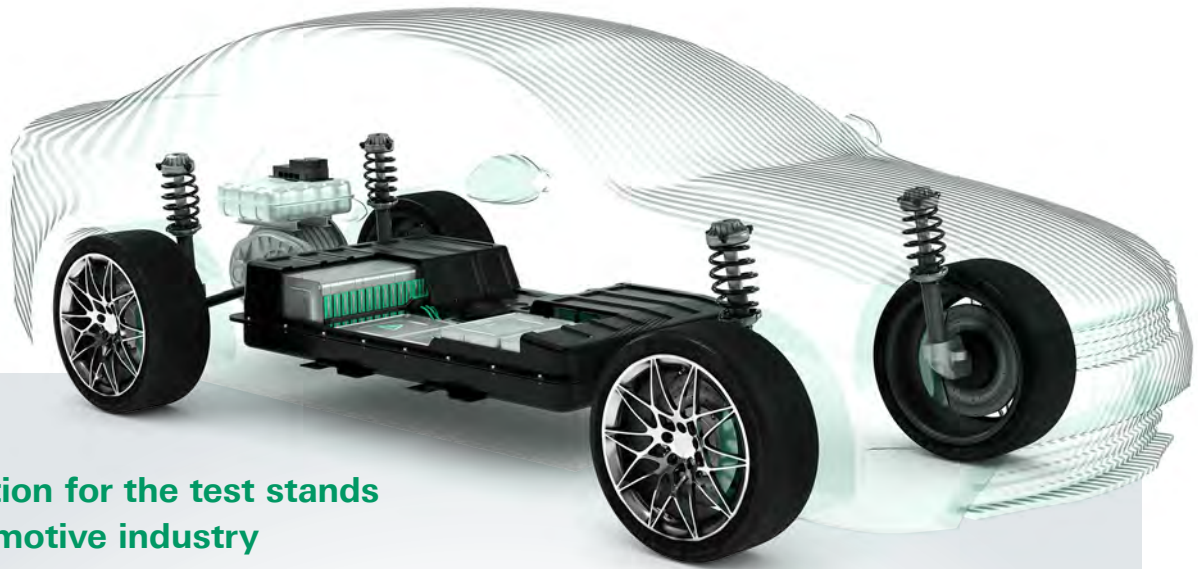
## Check: customer benefits

- ✓ Earliest possible smoke detection without false alarms
- ✓ Maximum availability of computer capacity and data – no automatic power-off
- ✓ Accessibility by authorized personnel is guaranteed



Fire engineering technology in data centres:  
Now look at another convincing solution!





## Fire protection for the test stands of the automotive industry

# Rechargeable batteries

**Almost all major automotive manufacturers now include at least one electric vehicle as part of their portfolio. The number of electric vehicles is growing slowly but steadily worldwide. As demand increases, so does the demand for advanced battery technologies. The Austrian company AVL, experts in constructing measuring and testing systems demands particularly high standards of fire protection in its plants.**

**Graz, AT.** Before a new generation of batteries reaches series maturity, it is subjected to extensive testing. AVL supplies its customers with the necessary test stands and climate test

chambers, complete with comprehensive safety technology. Because even though the aim is to launch onto the market as soon as possible, safety – and that means intelligent fire protection – comes first.

### Comprehensive fire protection is a must

In the climate test chambers, the batteries are exposed to temperatures of -40 to +80°C. This is the range of temperatures that could be expected across the world during the life of the battery. Due to the high energy density in the test chambers and associated high fire risk, a comprehensive fire protection concept is imperative. This takes the wide range

of temperatures in the test chambers into account. AVL's test stands, which can either be installed directly on the customer's premises or delivered and put together modularly in an external container always have fire protection developed specifically for this purpose by WAGNER Group. With WAGNER, AVL has found a competent partner whose special competence is innovative solutions for particularly challenging areas of application.

### There is no problem with extreme temperature fluctuations

If the batteries do react or even ignite, the most important protection objective is to stem the fire and prevent it from spreading to other battery cells. So very earliest fire detection is a top priority on the test stands. This is achieved by TITANUS *PRO-SENS*<sup>®</sup> air sampling smoke detectors, which were modified specifically for use in the climate test chambers. "The large temperature fluctuations in the test chambers was a challenge for our engineers. We had to come up with something to be able to cover this broad spectrum with just one detector," recalls Christian Strempl, Sales Manager at WAGNER Austria. The result is the "DetectPad", which sits in front of the original smoke detector. Depending on the actual test cycle,

▼ The climate test chambers conceal a sophisticated fire protection solution inside.



the air sucked out from the test chamber by stainless steel pipes is cooled by a charge air cooler and/or heated with a pipe line heater in order to remove the condensate from the pipes. The air is then fed to the detector at about 25 °C. The resulting condensate is automatically discharged. Fire detection is provided by TITANUS® air sampling smoke detectors, which are enhanced in the AVL test stands by a further detection unit, the so-called "flow block". This allows in a very early stage the detection of fission products, which are caused by chemical reactions in faulty or damaged rechargeable batteries – even before the battery breaks down and the actual development of a fire.

### Double impact extinguishing

If the air sampling smoke detectors detect anything, the test stand is flooded with a two-phase mixture consisting of water mist and argon. An advantage of this extinguishing system is that as well as the cooling effect of water mist, the argon lowers the oxygen content in the area. A potential fire is constantly cooled by the water mist and thus contained. Flooding with the water mist and argon mixture is maintained for a period of 20 minutes. In the event of larger fires, it is also possible to flood the entire test chamber in order to prevent the fire from spreading further.

### A thriving partnership

AVL's list of customers is long and reads like a "who's who" of the automotive industry. Around 70 of these test stands have been built by AVL with WAGNER fire protection technology for well-known car manufacturers worldwide. "We are technology leaders in test stands and development environments. So it was natural for us to team up with the technological leader in fire detection. There are areas that just belong in the hands of experts and ultimately, it is our customers who benefit from our collective expertise," sums up Martin Brunner, Dipl.-Ing., director division of passenger cars and light commercial vehicles at AVL. ■



▲ Specially adapted to the requirements of the climate test chamber: TITANUS PRO-SENS®-air sampling smoke detector.

### Interested?

You can find further information on fire protection for lithium batteries here!



## Check: Customer benefits

- ✓ Reliable and false alarm proof early fire detection even with high temperature fluctuations
- ✓ Detection of fission products before the actual fire emerges
- ✓ No further spread of fire thanks to cooling effect by means of water mist and fire-inhibiting atmosphere by reduction of oxygen content

## LEGAL NOTICE

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WAGNER Group GmbH  
Schleswigstr. 1–5  
30853 Langenhagen  
Phone: +49 511 97383 0  
[info@wagnergroup.com](mailto:info@wagnergroup.com)  
[www.wagnergroup.com](http://www.wagnergroup.com)

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

**Project management:**  
Katrin Strübe

**Editorial staff:**  
Anna Belde  
Katharina Bühhmann  
Stefan Jakubik  
Katrin Strübe

**Laying out and image editing:**  
Annika Häseler  
Andreas Luczyk

**Editorial staff contact:**  
[redaktion-impulse@wagner.de](mailto:redaktion-impulse@wagner.de)

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**How can I prevent warehouse fires?**  
Fire prevention for high-bay warehouses

WAGNER

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