

WAGNER®

Impulse

The WAGNER Group GmbH customer magazine

LEAD ARTICLE

More fires, more fire protection!

The industry at a glance: current results
of the WIK Safety Symposium

IT failure

Product piracy

Cybercrime

Sabotage

Arson

**"DATA IS MORE VALUABLE
THAN MONEY"**

DARZ GmbH uses fire prevention
concept for data centres

**MODERN FIRE ALARM TECHNOLOGY:
NO FALSE ALARM**

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Dear Business Friends and Readers,

Safety is a hot topic in every sense of the word. The word "safety" means a state of being free of risks or dangers. Since it is impossible to completely rule out risks when complex systems are involved, however, the goal is to minimise them as much as possible. Efficient fire protection solutions play a key role in achieving this, as current studies have confirmed: when polled regarding the significance of various protection measures for a company, safety officers indicated that effective fire prevention strategies were a high priority. The IT industry, in particular, has come to attach greater importance to concepts that include efficient fire fighting mechanisms, as the example of DARZ GmbH demonstrates: the full-service IT provider is now relying on a special nitrogen extinguisher system, one of WAGNER's certified solutions.

Data centre safety is a perennial topic, to be sure, but what other trends is the fire prevention industry seeing? Systems to prevent false or nuisance alarms are currently enjoying a great deal of popularity. Our innovative air sampling detector TITANUS MULTI·SENS® identifies beside fire pattern what is burning and the present of non-fire aerosol – which saves customers real money in the event of a false alarm. Another trend worth mentioning are video technologies such as thermal imaging cameras, which help detect people or goods in smoke-filled buildings.

Read on in this edition of WAGNER Impulse to find out more about current news and exciting projects related to these and other subjects. Happy reading!

Sincerely yours

Torsten Wagner

Werner Wagner

Managing Directors of the WAGNER Group GmbH

ABOUT US

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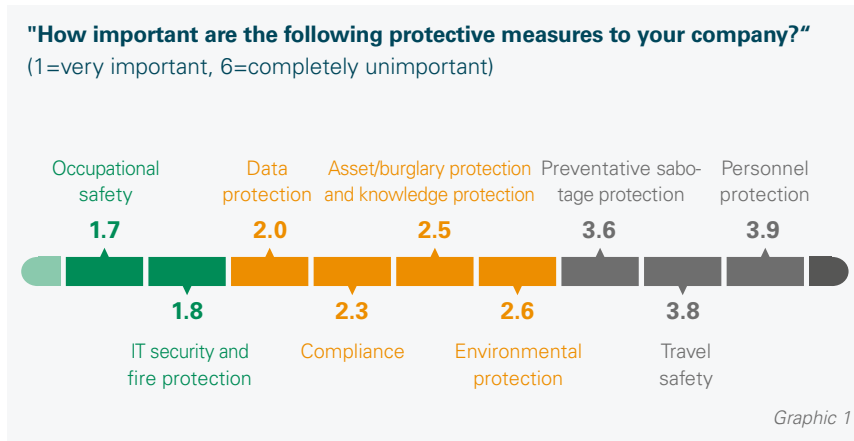
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More fires, more fire protection!

The industry at a glance: Current results of the WIK Safety Symposium

"At the beginning of the 21st century, there were significantly more fires than there were a hundred years earlier." This statement by Dirk Aschenbrenner, President of the Association for the German Fire Protection (vdfb) is baffling – sparks and oil lamps hardly play a role any more, after all. But the trend is continuing: the number rose again between 2006 and 2012, from 177,000 fires in 2006 to around 194,000 in 2012.

Most of the fires involved flats, but when one learns that large fires involving more than €500,000 in damage primarily affected the commercial sector, it becomes clear that there is no call for complacency there, either. Even in 2003, the vdfb estimated that fires in Germany caused a total of around €6 billion in damage.¹ Legislators primarily focus their activities on personal protection, for example by requiring smoke detector installation. When it comes to commercial asset protection, they seem to rely on the common sense and planning skills of those affected. But is such reliance



justified? At their Safety Symposium, trade magazine WIK worked with the WAGNER Group and other well-known companies and associations to try and answer that question.²

Initial results: When asked to rate threats on a scale of 1 (very low) to 6 (very high), the 160 chiefs of security polled rated eavesdropping attacks a 3.7 and cyber-crime as high as 4.2, whereas arson received "only" a 2.3. However, 23.6% of the participants had been directly confronted with arson within the previous 24 months,

which explains why fire protection was still rated as highly important. In fact, participants ranked it as the second most important protective measure companies can take, tied with IT security (see Graphic 1).

IT: Extinguishing systems important

When asked, "Which IT protection measures do you consider important? (1=very important; 6=completely superfluous), fire prevention was astonishingly high on the list: special fire extinguishing systems for IT systems/rooms were rated 2.2, putting them ahead of encrypting stored data. Fire prevention systems (oxygen reduction) were deemed exceptionally important as well, with a rating of 2.5.

When asked what security technology solutions their companies already had in place, 67.9% mentioned extinguishing systems, 57.1% air sampling smoke detection systems and 50.0% special IT fire protection systems (see Graphic 2). Given the rapid trend towards digitalisation and the ever-growing dependency on IT (one need only recall "Industry 4.0" and the impending ability to network everything with everything else), these numbers ought to have everyone's alarm bells ringing! After all, 15.4% of respondents indicated that their companies intended to invest in early-warning smoke detection





systems by the end of 2017, with the same number mentioning plans to invest in IT fire prevention systems. In total, each participant had an average annual total of €695,458 available to spend on safety technology (including video systems, access control, fence and locking systems, security software or replacement purchases for existing fire protection systems). This suggests that companies are putting their safety plans into action.

Does that coincide with industry experiences? As Dr. Wolfram Krause, Managing Director of the German Federal Association for Technical Fire Prevention e.V. (bvfa), says: "The number of new, converted, and expanded sprinkler systems installed in March 2014 increased by a low two-digit percentage compared to March of the previous year. This positive market trend is also reflected in the annual average for 2014 through March 2015. In the field of specialised extinguishing systems, we saw slight growth among CO₂ extinguishing systems. Other special extinguishing systems, like inert-gas and chemical systems, saw growth in the high two-digit range, as did fire prevention systems."

Fire protection pays off

Among other things, participants in the WIK survey mentioned a desire for easier access to fire damage statistics. How convenient, then, that vfdb has called upon fire departments throughout Germany to report fire damage in order to allow creation of such a table. Initial results indicate that fire protection is worth the investment: Most of the documented cases were small fires. Automatic fire detection and extinguishing systems lead to significantly lower incidence rates of medium-sized and large fires than do manual alarms. Quicker reporting – quicker extinguishing – less damage. Not a sensational discovery, but a nice confirmation of the fact that investments in fire protection are sensible ones.³ ■

¹ vfdb memorandum "Do more to prevent 600 deaths and €6 billion in damages per year!" dated November 6, 2003. Available at <https://www.secupedia.info/aktuelles/brandschutztagung-fuer-sicherheitsexperten-in-chemischen-anlagen-4336>

² <http://www.wik.info/2015/06/it-gefahren-erneut-wichtigstes-thema-fuer-die-wirtschaft-die-gefaehrungen/>

³ <http://www.ref14.vfdb.de/Auswertungen.219.0.html>

ABOUT THE AUTHOR



Peter Hohl founded SecuMedia Publishing more than 30 years ago. He is the editor-in-chief of two trade magazines, WIK and <kes>. The IT Security Trade Fair (it-sa) in Nuremberg was founded on his initiative. Hohl began his journalistic career at a daily newspaper; positions in radio and television followed. Among other things, he spent twelve years as a screenwriter for the television program "Aktenzeichen XY".



Active fire prevention the non plus ultra for US deep freeze storage

First large-scale project with OxyReduct® in the USA

The numbers are superlative: three protected areas with a total volume of over one million cubic metres; 35 metre tall shelving systems; 117,000 pallet storage spaces and order volumes of over \$100 million US. Preferred Freezer Services's automated deep freeze storage facility in Richland, Washington, is the largest of its kind in the world. Commissioned in July of this year, the warehouse

will soon be storing and unloading around 900,000 tons of frozen food per year – primarily French fries for the West Coast market. This superlative warehouse facility is setting new standards in terms of fire protection as well: it is now the first building in the USA protected by WAGNER's OxyReduct® active fire prevention system.

Preferred Freezer Services's deep freeze high-bay warehouse is unique in several respects. Even its construction style is unusual for the USA: in a country with no lack of space, high-bay warehouses are fairly rare, and deep-freeze high-bay warehouses even more so. But Preferred Freezer Services consciously chose that design, because automated logistics processes for goods storage and distribution are clearly the best, most efficient solution. However, when it comes to fire protection, ware-

houses of this size and height present special challenges.

The sky's the limit with cutting-edge deep freeze storage

Conventional sprinkler technology dominates the fire prevention market in the United States. Very tall rack systems, however, quickly push sprinkler systems to their limits. The extensive lengths of pipeline and numerous sprinkler heads such projects require would not only cost a great deal of money, but also be difficult and costly to install and maintain – especially considering that, with rack storage facilities over 35 metres high, there is no guarantee that the extinguishing water would actually reach the fire. In densely packed storage facilities, the extinguishing water can get "lost" amid the racks before it can put out the fire.





▲ The Preferred Freezer Services warehouse has become the first building in the USA to use WAGNER's OxyReduct® system for fire prevention.

Burnie Taylor, General Manager of Preferred Freezer Services in Richland, estimates that 50 to 70% of the losses incurred in the warehouse are not the result of the fire, but of the installed equipment itself. Such issues include, for example, burst sprinkler-system water pipes or sprinkler heads that leak or break off during operation.

Regardless of the cause (defects or fires), water damage in a deep freeze storage facility of this size would definitely result in downtime and thus create delivery difficulties. "Generally speaking, our warehouse is in operation around the clock, so we can't afford interruptions of any kind," said Burnie Taylor. "A fire would be a nightmare scenario – not only a threat to Preferred Freezer Services as a company, but a huge hit to the entire region."

OxyReduct® as an alternative to sprinkler systems

Preferred Freezer Services's search for an alternative to sprinkler technology came up empty-handed in the United States, so the experts responsible for the warehouse began looking in Europe, and came across WAGNER's OxyReduct® active fire prevention technology. As a member of the Global Cold Chain Alliance (GCCA), a platform for the international cold chain industry, WAGNER had already made a name for itself as part of a work group on the subject of fire prevention. But the key breakthrough came at the end of 2013, when Preferred Freezer Services' US Managing Director and general contractors Victory Unlimited Construction visited the Langenhagen-based fire protection company's headquarters. WAGNER submitted an initial offer that same December; the final contract was signed a year later, in November 2014.

WAGNER's solution: anything but standard

The fire prevention system WAGNER installed in the deep freeze warehouse is an OxyReduct® Pressure Swing Adsorption (PSA) system specially adapted to the structural conditions on site. The OxyReduct® principle is based on lowering oxygen levels within the warehouse to a constant, pre-defined level by introducing nitrogen into the air, thus preventing the fire from developing or spreading. "We considered the PSA solution the best one for a warehouse like ours," says Taylor, "because this type of on-site nitrogen production is the most effective for very large-volume rooms."

In Preferred Freezer Services's automated deep freeze high-bay warehouse, the system is set to lower oxygen concentration

[read more ►](#)

levels to 16.1% by volume. This working concentration was defined based on room temperature and the flammability of the goods (French fries) and packaging materials (cartons) in use, and then verified with the help of fire experiments conducted together with the VdS.

But for WAGNER, what made Preferred Freezer Services's OxyReduct® truly unique was not only the fact that it was their first opportunity to construct a nitrogen-generation system for an American customer: the construction process also required them to bring in local Richland inspectors to ensure that all pressure equipment complied with ASME (American Society of Mechanical Engineers) standards, and that the electrical equipment met all applicable standards and regulations. Among other things, this meant that the control cabinets needed to be approved by the testing organisation Underwriters Laboratories (UL).

The system was delivered and installed on time, and the high rack storage warehouse officially commenced op-

erations in July 2015. OxyReduct® protects the goods actively and securely from fires and their consequences. ■



▲ Warehouses with the size and construction height of Preferred Freezer Services's represent a real challenge in terms of fire protection.

INTERVIEW



Frank Siedler, WAGNER International Director of sales, in interview.

Which fire protection solutions came into question for the world's largest deep freeze storage facility?

Actually, a better question would be: Which fire protection solutions were out of the question?! In the field of fire protection, the standard solution in the United States is almost always sprinkler systems. But in high bay warehouses – something still relatively

rare in the United States – this approach does not work. Rack systems exceeding 30 metres in height push sprinkler systems to their limits, such that they can no longer guarantee safe and effective fire suppression. So they needed an alternative, and it goes by the name of "active fire prevention using oxygen reduction" – in other words, OxyReduct®.

Why did Preferred Freezer Services choose a WAGNER solution?

Because the large-scale projects we have already completed in Europe demonstrate that we are capable of providing tailor-made solutions to protect very large warehouses, and particularly the deep freeze storage facilities like the one here. And most importantly, we do it all residue-free, without any potential damage from extinguishing agents. Our current portfolio of reference systems – such as the one for the 380,000 cubic-metre KLM (Kühlhaus Münsterland GmbH)

deep freeze storage facility, or the system we successfully completed in 2014 for a Dr. Oetker deep freeze high-bay warehouse in Canada – helped convince Preferred Freezer Services to choose us as their supplier.

What was the biggest hurdle to realizing this project?

Delivering an OxyReduct® system that had never been on the American market before. We needed to adapt the technology to comply with local specifications as quickly as possible – keeping our fixed handoff deadline in the back of our minds at all times. The crucial factor in sealing this deal was the fact that, when the customers came to visit WAGNER headquarters, we were able to convince them that they were in competent hands. Everyone who contributed to that should be extremely proud.

Thank you for your time, Mr. Siedler.



EXPERT OPINION BY STEFFEN EBERT



The rhythm of evolution

What topics will shape the world of fire protection in 2016? In his guest column, Steffen Ebert of GIT SICHERHEIT + MANAGEMENT, a leading trade magazine for security and fire prevention, dares to make a few predictions.

Technologies – including those related to security and fire prevention – tend to evolve step-by-step, rather than as groundbreaking changes. Of course there are always forces that set the rhythm of this evolution – and every now and again, someone comes marching to the beat of a different drummer. The producers of this customer magazine represent a perfect example of the latter: there's no question that WAGNER's OxyReduct® system hit like a thunderbolt at the time of its unveiling... and the company has continued to improve the system constantly since then.

Evolution means gradual change. It happens all the time, often developing in many places at once. Keeping up with the changes often means resorting to simplification – by defining trends. Quite a bit has already been said on these: clouds and networking are the talk of the town, as are open platforms and intelligent (building management) systems... and rightly so. In the fire prevention world, the following trends are worth noting:

TREND NO. 1
Resolute action against skilled labor shortages

Shortages of trained personnel are one subject receiving a consistently large amount of attention. These shortages continue to be a problem for many industries, and security is no exception. Approaches are many and varied: Some companies seek out well-trained staff abroad; others turn to schools or place ads in trade magazines aimed at young, dedicated people. We at GIT SICHERHEIT agree: As a technologically innovative and highly economically dynamic segment, the security industry has plenty of room for creative minds and successful careers.

TREND NO. 2
Video goes fire protection

After a long run-up, video technologies have begun establishing an ever more important position in fire prevention portfolios. Example: Thermal imaging cameras that "make the invisible visible" – for

example, a person in a smoke-filled building, who cannot be seen with the naked eye. Such cameras can particularly benefit logistics or storage facilities, playing a key role in protecting people and assets.

Trend No. 8
Data centre protection

The complex subject of data centre protection has become a perennial favorite. Finding reliable protection for data, servers, and IT environments is so vital to the business world that innovation is always welcome.

Trend No. 4
Bringing down false alarm rates

False or nuisance alarms are both annoying and expensive. We don't want to toot our own horns, but WAGNER's TITANUS MULTI·SENS® is a highly effective instrument for detecting fire pattern and determining the type of substance burning. The revolutionary tool can tell the difference between a harmless lit cigarette and dangerous smoldering plastic, so it is able to determine whether to trigger a fire alarm or merely submit a notification message – an innovation that can undoubtedly save money and thus increase security even more. ■

ABOUT THE AUTHOR



Steffen Ebert has been the publishing director at Wiley and its B2B label since 1995. Ebert has a degree in business administration and belongs to both the management and editorial teams for the trade magazine GIT SECURITY + MANAGEMENT.



The challenge: The shuttle with three loading stations (one on each floor) is not sealed – difficult for the inert gas extinguishing system!

Kardex Remstar optimises storage systems for Yves Rocher Paris using WAGNER solutions

Kardex Remstar is a leading provider of automated warehousing systems. The company develops, produces and maintains dynamic storage and retrieval systems as well as picking software and life cycle services. It has customers working in the automotive, electronics, chemicals/pharmaceuticals, trade, engineering and health

care industries. Kardex Remstar, a division of the Kardex Group, has two production sites within Germany and has installed around 140,000 of its storage systems worldwide. The company is active in more than 30 countries across the globe, and employs a workforce of around 1,200.

When searching for suitable fire protection solutions to incorporate into its storage and retrieval systems, Kardex Remstar discovered WAGNER's products... and was highly impressed. One of the first projects the two companies have realised together is for Yves Rocher, a French cosmetics company that has been one of Kardex Remstar's custom-

” Our fire protection concept is currently the only one to comply with VdS Directive 2380 specifications in terms of extinguishing hold times in rack warehouse systems. “

*Stephan Otto-Keinke,
Head of WAGNER's Stuttgart branch office*

ers since last year. The Yves Rocher project represents WAGNER's first opportunity to install a FirExting® system in France.

Yves Rocher founded his company in 1959 in La Gacilly, Bretagne, where the company's headquarters are still located. The company now sells its products in 88 countries. Yves Rocher opened a new location in Paris last year, one for which it constructed a new facility to store products used to make cosmetics. Two Kardex Remstar automated storage systems moved into the new location as well, each equipped with WAGNER fire protection solutions.

Coherent overall concept using certified protection solutions

Kardex Remstar's automated warehouse lifts help Yves Rocher utilise space capacities most efficiently and optimise the flow of goods. Combining high-density storage with flexible warehousing strategies

allows it to offer an efficient solution that does not require a large number of staff. The approximately 12-metre-high Shuttle XP warehouse lifts installed in Yves Rocher's Paris facility are directly adjacent to a laboratory wing. Each of the shuttles stops in three places: on the ground floor and each of the two upper floors.

For its fire protection needs, Kardex Remstar opted for WAGNER's FirExting® nitrogen-gas extinguishing systems and TITANUS PRO-SENS® air sampling smoke detectors. In the event of a fire, diffuser pipes with many small openings direct the extinguishing nitrogen inside gently in order to distribute it homogeneously throughout the warehouse lift. To ensure that the system provides reliable fire protection for the ten-minute extinguishing hold time specified by the relevant testing institutes (VdS, FM Global), WAGNER's system follows the initial fire suppression with follow-up floodings,

triggering additional cylinders of extinguishing gas at intervals of a few minutes. Flooding the area gently, at pressures of just 2 bar, ensures that even delicate products remain unharmed. The system also incorporates employee protection measures, such as mechanical blocking and secure alarms in danger zones using electrical and pneumatic horns.

"We successfully completed the project within five months of receiving the order," says Stephan Otto-Keinke, Head of WAGNER's Stuttgart branch office, which was responsible for installing the fire prevention system. "Moreover, our fire protection concept is currently the only one to comply with VdS Directive 2380 specifications in terms of extinguishing hold times in rack warehouse systems. █



▲ View from below: Inside the approximately 12-metre warehouse lifts, diffuser pipes distribute the extinguishing gas homogeneously throughout the shuttle cab.

▼ Soft flooding: Extinguishing cylinders are equipped with flow regulators.





“Data is more valuable than money”

DARZ GmbH uses fire prevention concept for data centres

Founded in 2010, DARZ GmbH offers co-location/housing, managed services and other data centre services, all at unparalleled levels of quality and security. The Darmstadt data centre's unusual setting provides what is probably the highest level of structure security: the building with the striking white facade was built in the late 1980s, and until 2005 served as a vault for the Hessian State Bank's gold and cash reserves.

In constructing its high-quality (TÜV Level III+/ Tier 3+) data centre infrastructure, DARZ has rounded out the Darmstadt IT landscape in a way perfectly

in keeping with their motto: "Data is more valuable than money!" Its overall concept, which includes indirect free cooling, is a winner in terms of Green IT, and received the 2015 German Data Centre Prize in the category of "Overall Data Centre Efficiency".

The fire protection concept

Gaseous extinguishing agents fight fires effectively without leaving residue, making them ideal for the IT sector. When fed into the extinguishing zone, the inert gas nitrogen displaces oxygen until there is no longer enough of it to feed a fire. As a natural component of the air we breathe (78 vol. %), nitrogen

is non-toxic and has a density similar to that of air. It can be stored in simple, space-saving extinguishing cylinders, and spreads quickly and evenly throughout the room without leaving residues. These were all reasons why the Darmstadt data centre opted to install a WAGNER FirExting® inert gas extinguishing system.

But WAGNER's protection concept goes one step further: in order to flood the room with the extinguishing gas within the shortest time possible, gas extinguishing systems must direct it into the area under high pressure. As a result, in the past, conventional ni-



▲ Until 2005, the building housed the Hessian State Bank's gold and cash reserves.



▲ The nitrogen needed to suppress any potential fires is stored in cylinder banks, from where it is directed into the data centre using a soft-flooding system using little pressure.



▲ Extinguishing nozzles with special sound absorbers.

rogen-based extinguishing systems generated sound pressure levels of over 130 dB(A) as the gas flowed quickly through the extinguishing nozzles, creating vibrations that caused massive damage to hard disks. The indirect damage from this can often be far more severe than the fire damage itself – not only in the form of temporary server failures, but also in terms of potentially catastrophic data loss. WAGNER solved this problem by developing special sound absorbers (FirExting® SILENT with VdS device approval) which reduce the sound pressure to approx. 98 dB(A).

Flow regulators were attached to the extinguishing agent cylinders in order to minimise pressure spikes at the start of the extinguishing process. This soft flooding device also considerably reduces the size of the depressurisation vents needed, meaning that a single on-site F90 conduit system was enough to depressurise all extinguishing zones within DARZ's first underground level. In fact, that first underground level required only one outside vent for its entire depressurisation system.

Maximum safety in the former vault room

Within its hermetically sealed vault room, DARZ opted for active fire prevention using oxygen reduction. WAGNER's patented OxyReduce® system generates nitrogen from the air in the room and uses the ventilation system to feed it into the protected area, where it continuously reduces the proportion of oxygen in the vault to heavily fire-retar-

dant levels. Concentrations of 15.9% oxygen by volume are below the ignition threshold for typical IT materials, meaning fires can no longer develop.

The trick

It was important to DARZ to acquire VdS certification as quickly as possible, and WAGNER's solution helped achieve that goal without difficulty. But the DARZ project was a special one for WAGNER project leaders as well, since the building construction materials involved are probably unique among data centres anywhere. As Frankfurt branch manager Michael Leibner recalls: "This was our first time working with special bullet-proof concrete. It's an extremely hard material, and drilling into it was a real stress test for all the equipment we used. We also had to proceed with great caution. Staying on schedule under these conditions was an exciting challenge."

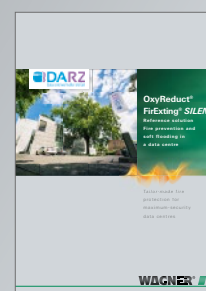
The Darmstadt data centre went into commission in July 2014 and since then has been extended step by step. ■



▲ The OxyReduce® fire prevention system lowers room atmospheric oxygen level from 20.9 to 15.9 vol.%.

CASE STUDY & VIDEO

The brochure and the video are available on www.wagner.eu



Modern fire alarm technology: no false alarm



WAGNER'S TITANUS® technology provides crucial time advantages in terms of early fire detection.



False alarms in industrial areas have become increasingly rare over the past 15 years. Whereas adequate fire detection methods were once in short supply, new technologies can often detect fires very early on – safely, reliably and with practically no false alarms. In this article, we'll be presenting various types of systems and explaining the role that air sampling smoke detectors play in this development.

Targeted fire protection plans can save lives, prevent asset damage, and minimise downtime and customer attrition. Modern fire protection technologies can help achieve appropriate protection goals without compromise, even under extremely difficult ambient conditions. Heat detectors were once a popular solution for highly dusty areas, but these detectors often cost valuable time, because incipient fires must first reach the flame stage before they can be detected.

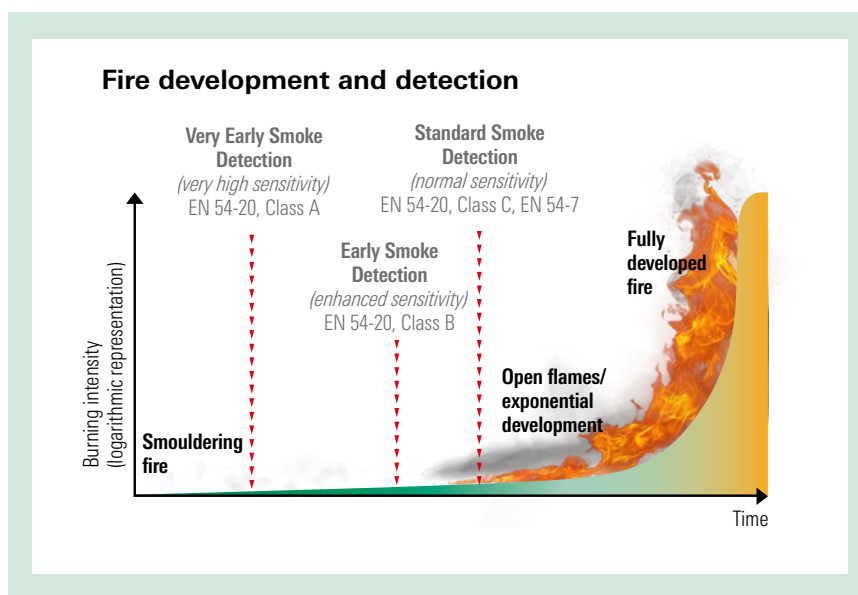
Most fires, however, are the result of electrical defects, meaning they have an extended outbreak phase. Early detection of such incipient fires drastically reduces the damage they can cause – it can often mean the difference between minor damage and total loss.

New technologies protect against false alarms

Even as recently as twenty years ago, experts considered a smoke detector "good" if it was set to a low degree of sensitivity, and only reacted at the very limits of the prescribed tolerance ranges when exposed to test fires. This lowered sensitivity was intended to prevent false alarms. Since then, numerous technological developments have helped make smoke detectors significantly more sensitive, yet less susceptible to false alarms.

Air sampling smoke detectors - clever and inexpensive

Combining one or more protective measures into punctiform fire detectors involves a great deal of technology, which is why such solutions are highly expensive. Air sampling smoke detectors represent a cost-effective alternative. Their central system can cover dozens of detection points, plus they



TITANUS MULTI-SENS® on television

On June 9, MDR's "Einfach genial" ("Simply brilliant") broadcast a piece on the TITANUS MULTI-SENS® air sampling smoke detector.

The TITANUS MULTI-SENS® detects smoke reliably and with great sensitivity. The smoke detector can also differentiate among different types of fires or nuisance alarms, thus enabling it to detect what is burning – and thereby avoiding false alarms. Simply brilliant!

▼ **Torsten Wagner explains the advantages of TITANUS MULTI-SENS®**



filter the air they extract and provide numerous advantages for use under difficult environmental conditions. For example, detectors can be installed outside the surveillance area and made immune to electromagnetic and radioactive radiation. They discharge condensation in order to prevent detector malfunctions or defects. Maintenance can be performed without interrupting operations or entering the surveillance area, if the air sampling smoke detector has been installed in an easily accessible place. Air sampling smoke detectors with many different characteristics are available on the market. The variety of technologies available cover many areas of application, and offer secure monitoring solutions. ■

Technical measures (as per VDE 0833-2)

Collection effect Even in the early stages of fire outbreak, smoke gases spread throughout the room quickly. Air sampling smoke detectors take advantage of this effect using multiple sampling vents. Each sampling vent that takes in smoke increases the smoke density in the detector unit.

Physical dust filtration In very dusty areas of application, air filters can extract larger dust particles, but smaller smoke particles pass through the filter unhindered. This method is restricted to extracting fire detectors.

Dual detector dependency (type A or B) Notification messages are only triggered if two connected detectors send out an alarm signal. This measure is primarily used in automatic extinguishing systems.

Smoke development pattern detectors Highly effective smoke development pattern detectors evaluate situations to determine whether the signal curve matches that of a fire situation.

Drift compensation A great deal of the progress that has been made in general fire alarm technology in terms of preventing false alarms can be attributed to the introduction of drift compensation, such as adjusting quiescent levels to fit contamination or background noise within the area of application. Optimizing alarm thresholds ensures consistent detection quality.

Signal-to-noise ratios Fire detectors with high quality detectors and complex algorithms have large signal-to-noise ratios and low noise power. Such fire detectors are capable of reacting with great sensitivity while also being secure against false variables.





Preview of Issue 1/2016

OxyReduct® – Three technologies, many applications

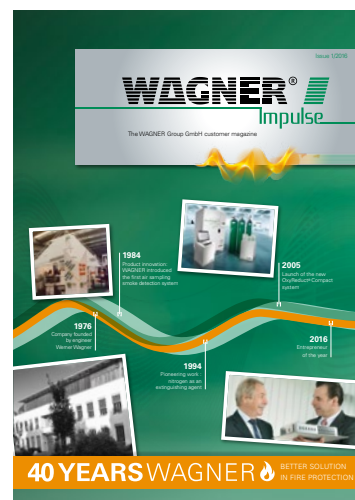
Active fire prevention using oxygen reduction is a highly versatile fire protection solution, made even more so thanks to the fact that WAGNER offers various types of OxyReduct®. But when does it make sense to use OxyReduct® Compact? What is the difference between VPSA and PSA systems? And what type of nitrogen production is actually the most economical? In the next issue of WAGNER Impulse, you'll find out all about the technology behind OxyReduct®.

Safe on the rails

For years now, our WAGNER rail specialists have been implementing fire protection solutions tailored to railway-specific needs. The rail team has now acquired new projects in this field once again.

The company's latest projects include FLIRT Belarus and Azerbaijani sleeper cars. The latter now have autonomous fire alarm systems installed, with supplementary aerosol extinguishing systems in the technical area. FLIRT Belarus will also be using punctiform smoke detectors and aerosol extinguishers for its fire protection needs.

Its involvement in national and international committees allows WAGNER to contribute its wealth of knowledge and experience towards new standards and guidelines as at the VdS conference on 26th of April 2016 in Istanbul, Turkey. ■



FUCHS Lubritech chooses fire prevention

Lubricant specialists FUCHS Lubritech have decided to use OxyReduct® active fire prevention, which prevents fires from spreading to hazardous substances. More on that in the upcoming issue of the WAGNER Impulse.

40 years of WAGNER

In 1976, Werner Wagner founded his company becoming synonymous with finding solutions for complex fire protection challenges. The company will be celebrating its 40th anniversary next year, and its founder still has a burning passion for innovative fire protection solutions. We invite you to join us on an exciting journey through four decades of WAGNER.

EXHIBITIONS AND EVENTS



10/11/2015 – 13/11/2015

Logistica, Utrecht (NL)

10/11/2015 – 13/11/2015

Sicherheit 2015, Zurich (CH)

2/12/2015 – 3/12/2015

VdS fire safety days, Cologne (GER)

17/2/2016 – 18/2/2016

FeuerTRUTZ, Nuremberg (GER)

8/3/2016 – 10/3/2016

LogiMAT, Stuttgart (GER)

14/3/2016 – 18/3/2016

CeBIT, Hanover (GER)

Further event dates and
WAGNER contact on-site
at www.wagner.eu

BETTER SOLUTIONS IN FIRE PROTECTION

WAGNER®