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# SHAPING SAFETY

RETROFIT

WHY THROW  
IT AWAY?



ISSUE 2 ▶ 2025

A MAGAZINE FROM CONSILIUM

## Dear reader,

for too long, climate change was treated as a soft issue, something we could handle later. Its slow and subtle effects created a disconnect between scientific data and everyday life. But as we now face the undeniable realities, the time to act is now.

This issue of Shaping Safety brings you stories of thinkers and doers whose innovative work drives progress and sets new standards in our industry.

Like Consilium's retrofit solutions, which breathe new life into safety systems while reducing waste. Smarter transportation also takes the stage as we explore how safety technologies can reduce emissions and pave the way for cleaner, more livable cities.

We also delve into how Essity is pushing the boundaries of responsible production. And examine the Slussen in Stockholm project and its impact on city infrastructure.

At sea, TMS technology is set to revolutionise container shipping safety, providing early detection and safeguarding lives, cargo, and ecosystems. Mercy Ships, with its mission of bringing life-saving healthcare to those who need it most, is a testament to sustainability as an act of compassion and equity.

And then there's EDI, a sustainability pillar often dismissed as a soft issue. Much like climate change once was, its immediate effects may not always be visible.

But, as Malin Lindén explains in her interview, EDI is about building organisations that are more resilient, equitable, and ready to thrive. "Sometimes you must be tough on the soft issues," she says, reminding us that change often begins with the things we overlook.

What ties all these stories together is how innovation, safety, and sustainability work together to face what lies ahead. Only some ideas will work, but we move forward by trying, learning and trying again.

The work is challenging, but the rewards, safer industries, healthier communities, and a livable planet are worth every effort.

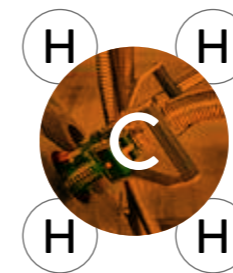
I hope this issue inspires you to see the possibilities around us for what it is and what it could be.

Malin Cardemar  
CMCO/Head of Sustainability



# FROM POLLUTION TO SOLUTION

Low-carbon shipping is making waves across the marine industry, aligning with the UN's 2050 sustainability goals\* for clean shipping. As the sector shifts towards greener fuels, new challenges arise in ensuring fire and gas safety aboard ships



## LIQUIFIED GAS (LNG)

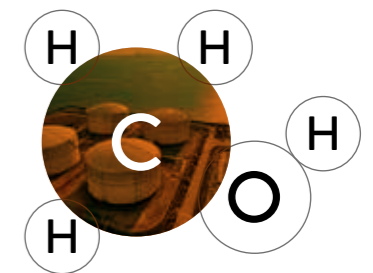
Emits less carbon dioxide when burned, but leaks can reduce its environmental benefits.

### Usage:

Widely adopted as a greener option, available in several ports worldwide.

### Fire and gas safety:

Evaporates as its temperature increases, heightening the risk of explosion. Established safety protocols and equipment for LNG-fueled ships.



## METHANOL

Liquid fuel made from natural gas. Fossil-fueled Methanol has higher CO<sub>2</sub> emissions than diesel, but low-carbon green methanol shows promise.

### Usage:

Gaining momentum with the rise of methanol-powered ships. Easier to obtain than other fuels.

### Fire and gas safety:

Though less hazardous than other fuels, its flammability raises fire risks. Requires safety protocols.

## AMMONIA

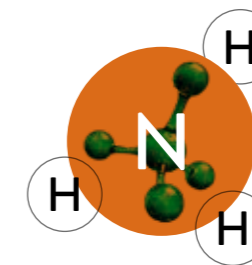
Combusts without carbon emissions but toxic for humans. Corrosion risks make it a safety risk if it leaks.

### Usage:

Limited availability and a need for expansion at ports.

### Fire and gas safety:

Highly toxic. Safety systems must be designed to handle leaks and enhance gas detection.



## HYDROGEN

Gaining traction. With proper safety measures, hydrogen-powered ships offer a cleaner and safer option.

### Usage:

Availability is low, and production demands electricity and water.

### Fire and gas safety:

Highly explosive with a wide flammability range. Requires advanced safety systems. Larger storage spaces are needed due to lower energy density.

## BATTERY POWER

Emerging in the marine industry. Stores electricity generated from various sources, providing an emission-free power source.

### Usage:

Adopted across various ship types. Mainly for short routes.

### Fire and gas safety:

Risk of thermal runaway if a cell fails. Gas buildup can be explosive. Requires advanced ventilation systems to prevent gas buildup.



\* To keep global warming to no more than 1.5°C emissions need to be reduced by 43 percent by 2030 and reach net zero by 2050.

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## AVOID, SHIFT, IMPROVE

Discover how Malmö is reshaping city life through remote fire alarm services: fewer trips, cleaner air and healthier urban spaces. p.6

## ELEVATING SAFETY WITH 3D MAPPING

The stakes regarding safety at Essity's largest UK facility, Prudhoe, are high. Simon Hobson at Essity guides people through eliminating all blind spots and ensuring safety at a 50-acre facility. p.14



## »SOMETIMES YOU NEED TO BE A BIT TOUGH ON THE SOFT ISSUES«

Consilium aims to become the most diverse company in its industry by 2035. Malin Lindén, Chief HR Officer, drives this vision by turning policy into practice. From gender pay audits to inclusive hiring, her efforts reshape standards and set new benchmarks for equity and inclusion. p.16



## VOYAGE OF HEALING

The Global Mercy™ sails the waters of West Africa, delivering life-saving surgeries to those without access to healthcare. Get on board and discover the impactful work and dedication. p.22



## A NEW TECHNOLOGY STEPS IN

Container shipping is the engine of global trade. But as ships grow, so do the risks. Fires are one of the industry's most pressing challenges. Can a network of sensors detecting early temperature changes make a difference? TMS can be the answer. p.34



## DEEP DOWN

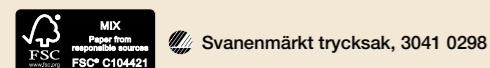
A bus terminal is taking shape carved into Stockholm's Katarinaberget mountain. Set to open in 2025, the project exemplifies sustainable urban planning and careful engineering, overcoming the safety challenges of an underground design. p.30

## FIKA WITH ASSIA

Sometimes, you know. That's how Antin felt about Consilium Safety Group. Assia Belkahlia explains how a mix of metrics and intuition drove their decision and why Consilium's spirit and vision made them the right choice. p.42

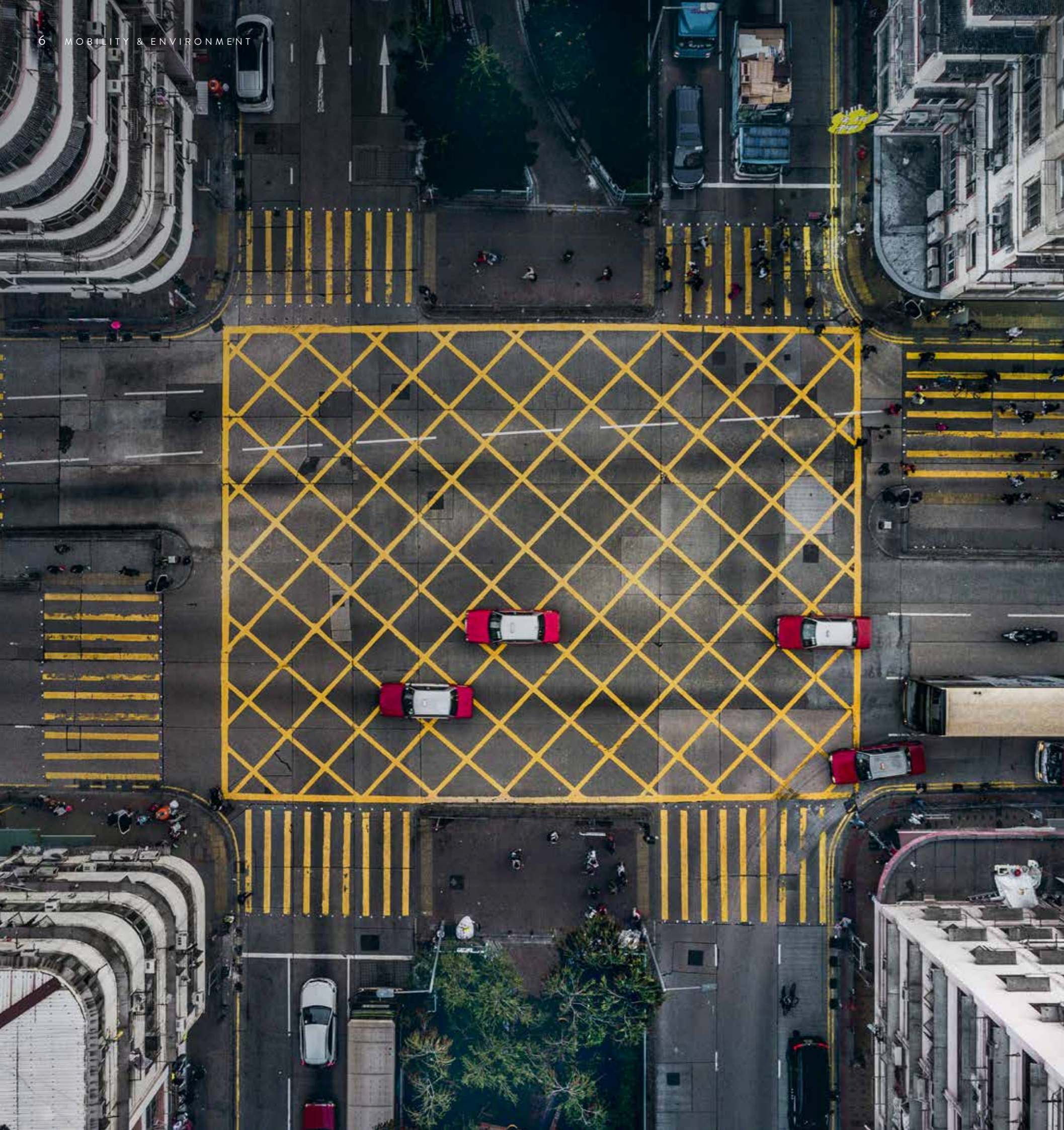


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We're eager to hear your thoughts. Are there specific topics you are interested in exploring further? Share your opinions and suggestions with us, using the QR-code.





REMOVED:

# CLEARING URBAN SPACES

... Malmö Stad uses remote services for their fire alarm system to cut trips and emissions, showing how digital solutions can quietly boost urban sustainability and safety.

TEXT: RAMIN RAHMANI > PHOTO: GETTY IMAGES

It's Monday morning, and the leaves burst with colour against the grey streets. At the intersection, parents wait with their children while cyclists stop for the light scrolls through their phones.

Long lines of cars—some silent EVs, others grumbling with exhaust fumes—fill the road. This scene unfolds daily in cities across the globe, a reminder of how public space is dominated by cars.

## A GLOBAL CHALLENGE

By 2030, about 60 percent of the world's population will live in towns or cities. As the urban population grows, so does the challenge of reducing emissions.

National and international efforts, such as the Paris Agreement, aim to cut carbon emissions significantly by that year, with transportation identified as an area for improvement.

And the challenge is reducing emissions while rethinking how people navigate their cities.

A team of researchers at KTH (Royal Institute of Technology) in Stockholm examined what this would require in Sweden. Their answer is sobering: If the country wants to reduce its carbon emissions in time, the number of car journeys might need to be cut in half by 2030.

“In urban areas, this means making significant changes to how we move,” says Hampus Berg Mårtensson, a doctoral candidate at KTH and co-author of the study.

To reach these goals, passenger cars must travel 21 percent to 47 percent fewer kilometres per capita.

But, as always, the devil is in the details. How quickly can old cars be phased out? How much biofuel can we realistically count on? Will electric vehicles roll out fast enough to make a difference?

#### THE EV DILEMMA

Even electric cars, often hailed as the future of transportation, have their challenges. “They’re an important part of the puzzle,” Hampus Berg Mårtensson explains, “but they bring their own issues—battery production, disposal, even social concerns.”

So Hampus and his colleagues work with a broader framework they call “avoid, shift, improve”.

The concept is simple: first, avoid the trip if you can. If you can’t, shift to a more substantial mode of transport—like cycling or public transit. And if you must drive, improve the car, ensuring it emits fewer harmful gases.

“It’s an exciting model to work with,” Hampus says. “We’ve explored a variety of specific measures that can help reduce the need for transport or shift to more sustainable options.”

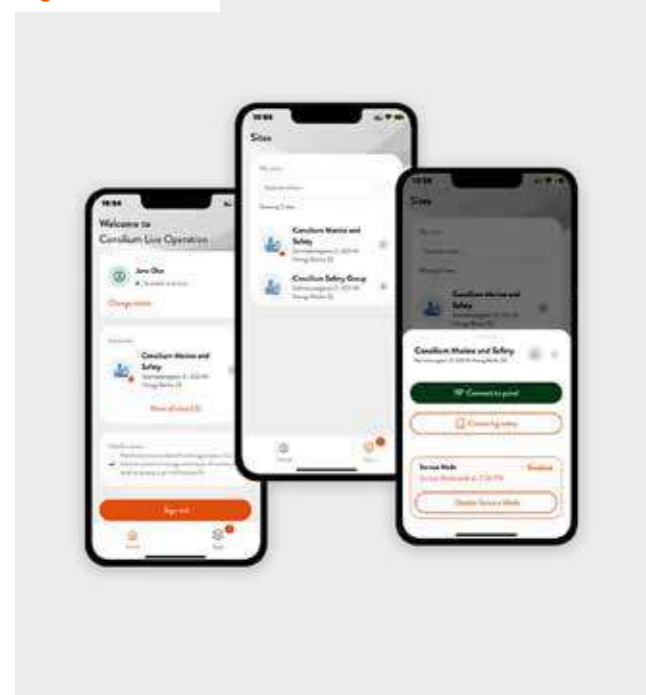
#### MALMÖ STAD’S SOLUTION: LIVE OPERATIONS

Malmö, a city in southern Sweden linked to Denmark’s capital by the iconic Öresund Bridge, has become a testbed for these ideas.

Live Operations, a digital service developed by Consilium Safety, is at the centre of the effort. It’s a remote solution for fire alarm monitoring, designed to reduce the need for technicians to physically check and maintain fire alarms in public buildings.

“Live Operations is an app that lets you manage fire detection systems remotely,” explains Isak Nordberg, Head of Product Line—Software Solutions at Consilium. “It connects the

#### Digital Services →



#### LIVE OPERATIONS

### Safety management with convenience

With direct access to information via your computer or mobile phone, everyday life becomes so much easier. Avoiding unnecessary travel means more time for other tasks. It also lowers stress levels, reduces carbon dioxide emissions and saves you money.

In addition to remote access, you’re supported with checklists, journals, user manuals, automatically generated reports and logs.



Malmö, a city in southern Sweden connected to Denmark’s capital by the iconic Öresund Bridge, has become a testbed for innovative transportation solutions.

technician to the system, so they can see exactly what’s going on as if they were right in front of the control panel.”

And it’s already making a difference in Malmö. Of the city’s 300 public facilities, 134 has tested this remote system, with 67 percent of their monthly fire alarm tests conducted digitally. This change has reduced more than 2 100 round trips for technicians, saved up to 360 working hours, and kept over a ton of carbon dioxide out of the air.

Mats Hansson, Malmö’s municipal engineering safety foreman, highlights how practical this system has become. “We save valuable working time by not having to go to all our plants,” he says.

Technicians can also check false alarms remotely.

“We can assess the severity of the alarm, check for risk, and sometimes we realise that we don’t need to go out at all. It’s a simple shift that makes a big difference”, Mats says.

Isak Nordberg sees the potential of digitalisation. “There’s certainly a need for these solutions in other major cities where reducing traffic is a priority. With digital services like this, we can reduce transport and emissions while maintaining the highest safety standards”, he explains.

Hampus expands on this, pointing to the broader impact of reducing city car usage.

“Cars take up a lot of space in cities. Reducing car travel opens opportunities—more parks and more pedestrian zones. It means a healthier, more livable city”, he says.

But Hampus also sees the need for a broader perspective.

“These kinds of improvements are great, but we need to ask ourselves: where does that saved time and money go?” he asks rhetorically and continues:

“If it’s redirected to higher production or taking a flight to another international conference, we lose that sustainability gain. That’s why we need to keep the bigger picture in mind.”

Hampus believes the key is balancing accessibility, whether it’s mobility, digital access, or physical proximity.

“All of these can help reduce transport and emissions, but each in its way. It’s about finding the balance.”



Hampus Berg Mårtensson, a KTH doctoral candidate, co-authored a study showing car travel must drop to meet Sweden’s 2030 emission goals.



» On roads, firefighters clear the area around burning vehicles, flooding the underside with water. While on ships, reaching the fire is difficult.»

Isak Nordberg, Head of Product Line – Software Solutions

MINUTES TO SPARE:

# HOW EARLY DETECTION IMPROVES FIRE SAFETY ON RORO SHIPS

... In the light of safety challenges on RoRo ships, Early Detection emerges as a pioneering approach to fire safety with potential to improve marine safety.

TEXT: RAMIN RAHMANI > PHOTO: JONAS GRATZER & GETTY IMAGES

**M**anaging ship safety has never been more crucial in an era characterised by rapid technological advancements and evolving safety challenges within the marine industry.

The shipping industry has recently faced several safety challenges. A case in point is an incident in March 2022. A fire on the Netherlands coast resulted in the loss of a ship and its cargo of around 4,000 vehicles. This is not an isolated incident; several recent fire incidents with ships carrying vehicles have occurred.

Vehicle carriers are known as RoRos, which stands for roll-on/roll-off—how the cargo is loaded and unloaded. With their densely packed cargo and large holds, these ships are particularly vulnerable to fire, which can be challenging to control and spread quickly.

The large size of RoRo ships and their large open deck design complicate firefighting efforts and increase the risk of casualties. Vehicles are one of the most common causes of vessel fires. The large number of plastics and rubber materials in vehicles gives the flames a lot of energy, creating heavy smoke and spreading the fire to surrounding cargo.

## MANAGING EV BATTERY FIRES

The increasing transportation of electric vehicles and their lithium-ion batteries creates a new level of risk.

As awareness grows within the marine industry about the specific challenges RoRo ships face, Consilium's focus sharpens. "When it comes to RoRo ships, developing safety measures focused on electric vehicles has been particularly urgent, says Isak Nordberg, Head of Product Line – Software Solutions at consilium – emphasising Consilium's commitment to addressing these concerns.

Studies show that electric vehicles carry a fire risk comparable to that of vehicles with combustion engines. However, when an electric vehicle catches fire, firefighting and management will require new knowledge and understanding.

Suppose the batteries overheat or are mechanically damaged. In that case, they can experience a 'thermal runaway' – a rapid and uncontrollable increase in temperature that can lead to fires in electric vehicles. These fires are difficult to extinguish and can reignite spontaneously.

"On roads, firefighters clear the area around burning vehicles, flooding the underside with water. While on ships, reaching the fire is difficult. The narrow space increases the risk of being trapped," Isak Nordberg explains.

## PREVENTION IS BETTER THAN CURE

To address these challenges, Consilium Safety Group has developed Early Detection. This software service can be seamlessly integrated with fire and gas detection systems to improve early fire detection or even prediction on ships and better monitor and protect cargo on board.

Today's approach is "detection" to "first response", followed by "clearance" and evacuation in the worst case. The difference and key benefit of Early Detection is that an alarm is raised before there is actual damage or a fire situation on board.

Rather than reacting to immediate threats, Early Detection proactively alerts users with messages before a situation escalates. It provides a time window that can mean the difference between safety and disaster.

With Early Detection, you can have up to four extra minutes before the alarm is triggered and solve the issue before it becomes a problem.

“Heat detectors on ships activate upon measuring the heat at that specific point, which means that the fire needs to have progressed significantly for these systems to trigger the regulated alarm levels. By using large amounts of data and machine learning, we can adjust the sensitivity of heat detectors to activate at lower temperatures and enhance their responsiveness. This adjustment provides crucial additional minutes”, says Nordberg and continues:

“With these minutes, you have the opportunity to, for example, cover the vehicle with a special fire blanket, which ultimately means that you can prevent the fire from spreading to other vehicles,” Nordberg states.

**TECHNICAL BACKBONE**

Early Detection consists of two key components. The Consilium fire detection system serves as the foundation, facilitating total control over the system’s functionality. It supports both addressable and conventional products, ensuring seamless integration and retrofitting. It is designed to support backward compatibility, making it easy to upgrade.

The other component, SMIG (Safety Management Interface Graphics), is Consilium graphical interface for real-time alarms and critical data visualisation. SMIG turns complex data from all parts of the vessel into intuitive, actionable insight. It enables crew members to instantly visualise the location and severity of anomalies and assess the spread of smoke and heat.

It will also give direct access to controlling fire doors, dampers, ventilation, and other critical systems.

Together, these technologies offer an advanced monitoring system capable of detecting heat and smoke levels. This system provides early warnings that enable crew members to respond before a fire escalates.

“Imagine that there is an indication of fire somewhere on the ship. Three or four minutes can make all the difference; a minor, manageable incident can quickly escalate. Instead of solely relying on the ship’s Head of Security, Early Detection offers every crew member the opportunity to act before a potential fire occurs,” says Isak Nordberg.

Consilium’s Safety Group’s innovative projects have resulted in several fire safety improvements. Some have already been implemented, and others will shape new regulations, set best practices, and lay the foundation for future research and development.

Isak Nordberg emphasises Consilium’s commitment to innovation in marine safety. “We aim to be at the forefront of SafetyTech, constantly pushing the boundaries of improving safety at sea. For us, safety is not just a goal; it’s an ongoing mission.

↓ Isak Nordberg explains that instead of solely relying on the ship’s Head of Security, Early Detection allows every crew member to act before a potential fire occurs.



← **RoRo ships are designed to carry vehicles such as cars, trucks, semi-trailer trucks, trailers and railroad cars.**

**KEY FEATURES:**

- Adjustable decks for optimised space based on cargo needs space and for various vehicle types.
- Built-in or shore-based ramps for fast loading and unloading, reducing port stay times.

**SAFETY CONCERNS:**

- Fire risk due to the nature of cargo, especially with the increase in electric vehicles.
- Stability issues if cargo isn’t properly distributed, making proper loading crucial.

→ **QUICK GUIDE:**

Early Detection raises the alarm before damage or a fire occurs on board. Primarily designed for RoRo ships, it benefits all types of ships, reducing risks and protecting lives, assets, and the environment.

**Proactive measures:** Shifts approach from reactive to proactive, reducing fire risks and safeguarding ships and cargo.

**Operational efficiency:** Minimises disruptions by allowing targeted responses without full evacuations.

**Cost savings:** Reduces firefighting, repair, and insurance costs by preventing

**Sensor technology:** Monitors for fire signs using temperature, smoke, and gas sensors.

**AI analysis:** Employs artificial intelligence to detect fire threats early by analysing sensor data.

**Real-time alerts:** Sends immediate alerts to crew for quick action.

**System integration:** Works with existing fire and gas alarms on RoRo ships enhancing fire detection and response effectiveness.

COMPONENTS

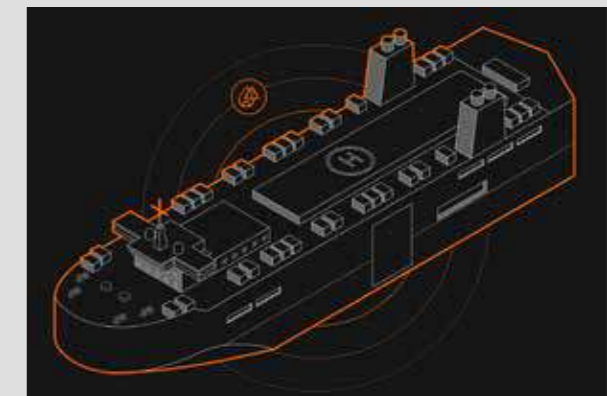
**Fire detection system**

Enhance your fire detection systems with a modern, resource-efficient approach. With our modular Common Platform, upgrading to the latest technology is easy and cost-effective.



**SMIG (Safety Management Interface Graphics)**

With interactive supervision and control, SMiG offers a clear overview of all safety systems. Data-driven reports, and seamless integration simplifies decision-making and maintenance.





A NEW DIMENSION:

# ESSITY'S 3D FIRE MAPPING

••• The stakes are high regarding fire safety at Essity's largest UK facility, Prudhoe. This sprawling 50-acre site plays a crucial role in the company's operations.

TEXT: EMELIE MYRBERG > PHOTO: SDUK CREATIVE

**H**ome to two massive papermaking machines and seven converting lines, this paper mill produces over 100,000 tonnes of finished tissue annually. Employing around 400 people, Prudhoe's scale and complexity ranks among the top five paper mills within Essity.

Sustainability is also deeply integrated into Essity's operations, with its on-site recycling plant processing over 60,000 tonnes of wastepaper annually. This closed-loop system is vital for Prudhoe and supports Essity's other UK sites, making resource efficiency a core component of the mill's success. Given the importance of keeping the operations going smoothly, fire safety measures are critical.

But how do you ensure that all necessary systems are in place? How do you eliminate any blind spots? For Essity, the solution was 3D mapping, and that's when they partnered up with Micropack.

The primary goal was to minimise the risk of a large fire breaking out in the wastepaper yard, explains Simon Hobson, Technical Safety Leader at Essity.

"The yard's expansive size and outdoor setting posed challenges many traditional systems couldn't address. Early detection is essential to containing any fire in its initial stages", he states.

A consulting division team from Micropack visited the Prudhoe plant to conduct a comprehensive flame and gas mapping study. The process involved assessing the area, determining the number of detection units required, and identifying the optimal locations for installation.

Simon Hobson at Essity states that 3D mapping was a great help, and in the end ensured comprehensive coverage of the wastepaper yard.

"Creating a 3D map helped us visualise where the detection systems were needed. You collaborate with a team that guides you through potential improvements," says Simon Hobson and continues:



Simon Hobson, Technical Safety Leader at Essity.

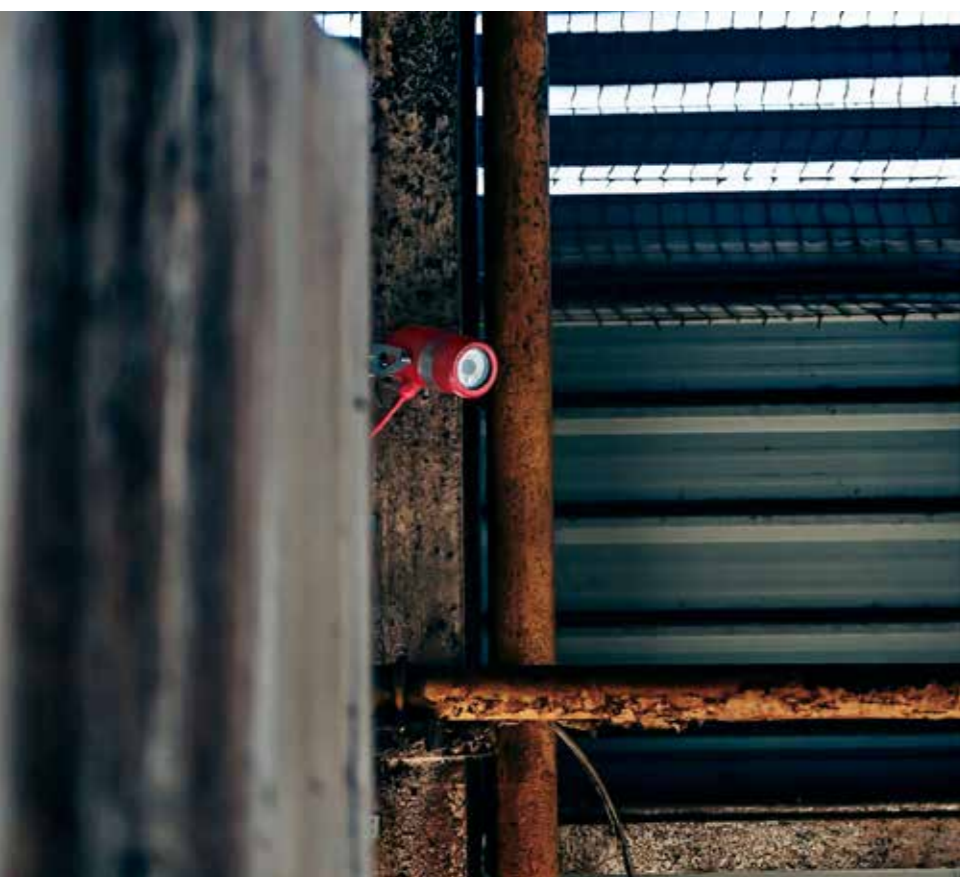
"Our systems now offer over 90 percent rapid and reliable coverage of the areas they protect, even in harsh operational conditions where other detection systems may fail".

Following a successful collaboration Essity engaged Consilium to draft the entire proposal. This included detectors, systems and panels as well as ensuring a reliable third party would install the systems.

"This project shows the strength of Consilium's offer. That we can help our clients through the full process, operating together on a global scale. This clearly shows the potential when different parts of the Consilium family work together", says Graham Duncan, Managing Director at Micropack.

And the results of the collaboration have been highly effective for Essity as well.

"Since the installation, we have experienced zero unwanted alarms and no faults with any system components. These systems ensure safe and reliable production and reduce the environmental impact from fire-related by-products and waste," says Simon Hobson.



↑ A consulting team from Micropack visited the Prudhoe plant to conduct a comprehensive flame and gas mapping study.

← The yard's expansive size and outdoor setting posed challenges many traditional systems couldn't address. Early detection is essential to containing any fire in its initial stages.



# »SOMETIMES YOU NEED TO BE A BIT TOUGH ON THE SOFT ISSUES«

... Chief HR Officer Malin Lindén shares how Consilium Safety Group's commitment to diversity isn't just policy – it's practice.

TEXT: RAMIN RAHMANI > PHOTO: JONAS GRATZER & GETTY IMAGES

It was supposed to be a short Q&A for LinkedIn highlighting Consilium Safety Group's Diversity, equity and inclusion initiatives. Yet, as soon as we connected in a virtual meeting with their Malin Lindén, our plan transformed into something more profound.

The meeting extended the bounds of what one might expect from a corporate Teams call. Malin offered a passionate, hour-and-a-half-long talk about cultivating a sense of true belonging within Consilium Safety Group's global framework.

She appeared on the screen with a rainbow backdrop

merged into Consilium's logo. This was a deliberate choice, not for temporary decoration for our chat but a bold visual reminder of the company's commitment to diversity and a statement of solidarity during the ongoing Pride month.

"I don't use this background because of our meeting," she clarified, her smile briefly giving way to a determined seriousness.

"It's the little things you must do all the time. It needs to be worn in," she continued, emphasising how true inclusivity isn't just a policy, but a practice woven into the very operations of Consilium Safety Group.

Malin Lindén,  
Chief HR Officer.



“We celebrate and honour all our visible and invisible differences”, Malin states.

Discussions about gender equality and equal wages were routine at dinner in Malin Lindén’s childhood home. Growing up with three sisters and a mother who staunchly advocated for these principles, the kitchen table became the first actual boardroom where issues of fairness were discussed.

“It is essential for me always to have this as a drive, to have fairness”, Malin states.

By championing EDI, Malin is convinced that Consilium is setting itself up for greater financial success and innovation.

“Let me put it this way,” she begins, as the lines between ethics and economics merge in her explanation.

“We are doing this because it will create a strategic advantage for us as a company. This involves our financial figures, drive forward, and our involvement in innovation. It’s about creating a better working environment for our employees.”

Studies show that diversity and inclusion’s impact on a company’s bottom line isn’t just theoretical; it’s quantifiable and significant. Research from Deloitte shows that diverse companies enjoy 2.3 times higher cash flow per employee.

Gartner found that inclusive teams boost team performance by as much as 30 percent in diverse environments. Yet only 40 percent of employees believe their manager fosters inclusivity.

Gallup’s 2023 State of the Global Workplace report reveals that organisations prioritising inclusive culture see a 56 percent increase in performance and a 37 percent decrease in absenteeism.

“The data says it all, leading to all these positive outcomes. For us, working strategically and structurally with these initiatives is a commitment”, Malin states.

#### DRIVING CHANGE

She gives examples to illustrate the breadth of ongoing efforts.

“We have several initiatives, like the Flexible Holiday Policy. Employees can take time off for cultural or religious reasons, even if it’s not a public holiday”.

One of the initiatives traces back to her family’s dinner table: equal pay for equal work, regardless of gender.

“We are also setting up a stronger framework for gender pay gap analysis. Equal pay is a measurable EDI action that we

can quantify. That’s one of the key areas we’re addressing by developing a global job structure”.

She emphasises the need to involve every part of the organisation globally, from leaders and employees to customers.

“These initiatives are integral to our sustainability strategy and closely linked to our ESG goals. We are a group that works with this and meets regularly. It’s not about just hitting targets. Instead, it’s more about, how shall I say, measuring our progress against our goals.”

The work is divided into three levels.

“First, we have to establish our baseline,” she says. “We must start measuring to see what we need to do next. From there, we can set our goals and strategies, creating the conditions necessary to achieve even bigger targets.”

“The final step,” she continues, “is to benchmark against the industry through an external party. Our ambition is to become the most diverse company within our industry by 2035.

#### A MALE-DOMINATED INDUSTRY

Consilium operates in an industry traditionally dominated by men, particularly in engineering roles—a reality that complicates efforts to achieve gender equality.

“We employ many engineers,” she says. “Of course, we’d love to say, ‘Yes, we’ll reach a 50/50 gender balance’ but reaching that quickly is tough.”

Consilium has implemented specific methods to address this, such as using inclusive language when writing job advertisements.

“We run all job adverts through a gender decoder. If any terms or words we use are too male-oriented, we adjust them to be neutral and inclusive, ensuring the language appeals to everyone.”

Malin also highlights other initiatives.

“All recruiting managers receive training in inclusive recruitment and unconscious bias,” she says. “It’s about recognising the lens you’re looking through.” She pauses, placing her hand thoughtfully under her chin, then continues:

“Getting management on board is crucial, and we must be straightforward. These might seem like soft issues, but sometimes you need to be a bit tough on the soft issues to make real progress.”

#### SIGNS OF PROGRESS

She points to positive examples that give hope and push their mission forward.

“In 2024, about 45 percent of our new hires were women. We’re actively measuring and refining our approach to ensure progress”, she says and continues:

“In Bulgaria, we have 52 percent women and 48 percent men. This balance is consistent across all our production companies”.



# 30%

Gartner found that inclusive teams can boost performance by up to this percentage in diverse environments.



# 56%

According to Gallup’s 2023 report, organisations prioritising an inclusive culture see this increase in performance.



# 45%

In 2024, nearly half of Consilium’s new hires were women.



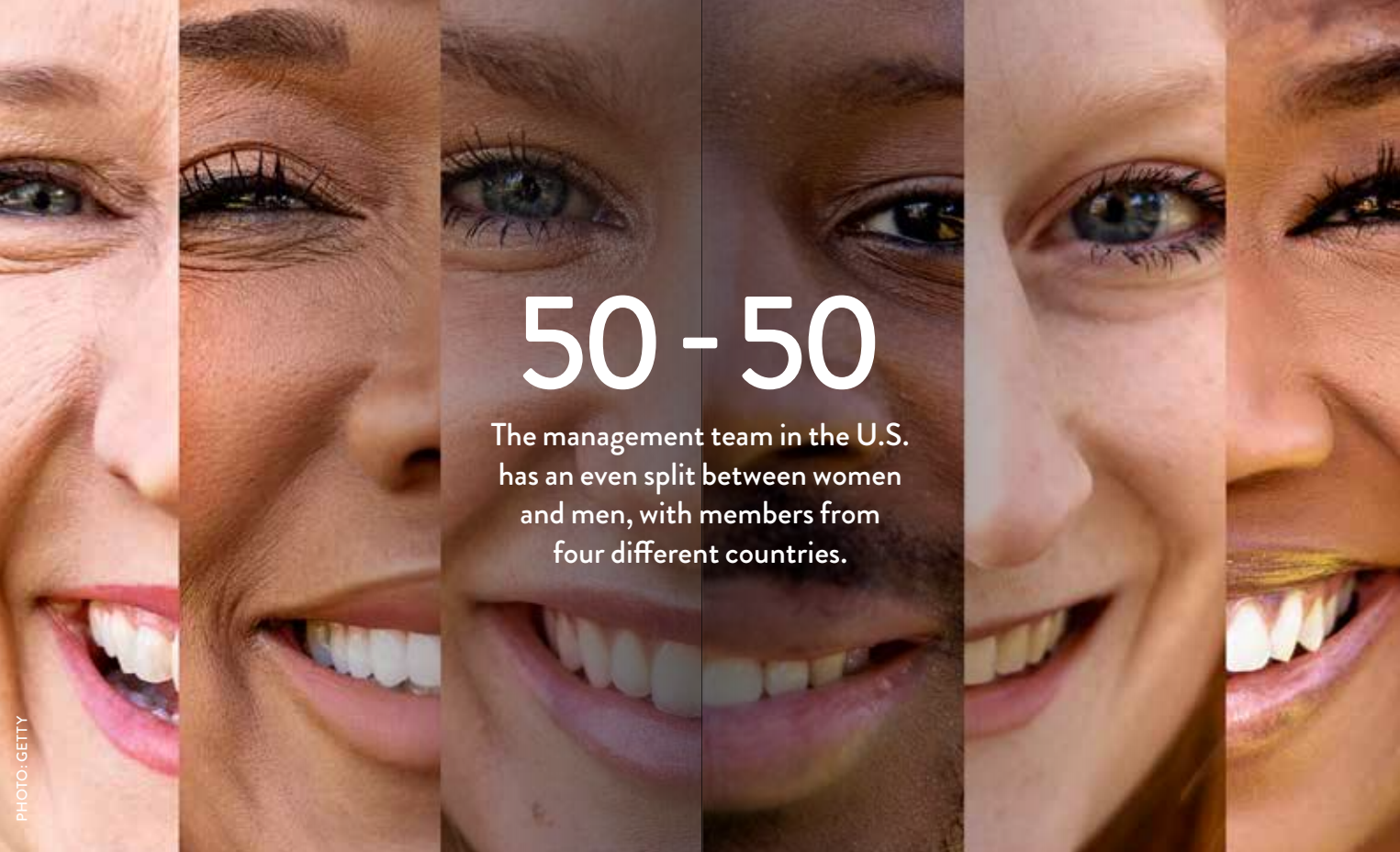
# 22

In India linguistic diversity is critical. The constitution recognises 22 official languages, so ensuring representation across these languages is crucial.



# 24%

Women comprised almost a quarter of Consilium’s workforce at the start of the year.



# 50-50

The management team in the U.S. has an even split between women and men, with members from four different countries.



» We value our diverse perspectives—they bring richness and resilience to our work and positively impact how we engage with customers, it really reflects our dedication to building an inclusive global culture.«

In the United States, 77 percent of the team comes from foreign origins, representing over 15 nationalities, many of whom are now U.S. citizens. The management team in the U.S. has an even 50-50 split between women and men, with members from four different countries.

“We value our diverse perspectives—they bring richness and resilience to our work and positively impact how we engage with customers, it really reflects our dedication to building an inclusive global culture”.

But she quickly adds that there’s still work to be done.

“At the beginning of the year, we were at 24.4 percent women company-wide. Now we are at 28,2 percent.

These aren’t massive leaps, but they represent something meaningful for Consilium.

“Things are moving in the right direction. Looking back, we’ve found it quite difficult to increase. So, I’m quite happy we’ve come closer in these six months. If we continue the same trajectory, we will reach a 40/60 gender split in five years”.

#### A GLOBAL COMPANY

Diversity varies widely in a global company like Consilium, with offices in 29 countries. Each location brings its own set of goals shaped by local culture and history.

In India, for instance, linguistic diversity is critical. The constitution recognises 22 official languages, so ensuring representation across these languages is crucial.

“The challenges differ depending on where you are,” Malin explains.

Consilium has developed dashboards for each country to track progress. The company has 27 MD’s who work closely together.

“We sat down individually with each one and reviewed the data, saw where each region stands, and asked, ‘What are you doing? How will you move forward? How can we reach our goals?’”.

Targets are set region by region, recognising that while some areas are already making significant progress, others need to push harder.

“We have regular meetings with all the MDs. We sit down and review everything, ensuring we’re on track.”

#### IMPORTANCE OF INTERCULTURAL COMMUNICATION

Working closely with regional teams, Consilium recognised that effective communication is vital in a global organisation. This led to creating a program focused on intercultural communication to understand how communication varies across cultures.

“The lecturer took us through different models and scales that help us understand how to communicate effectively in different countries,” Malin explains.

The training covers essential topics such as why

communication can be challenging between countries, the role of hierarchies, and how to give feedback appropriately across cultures.

“It’s fascinating to see where different countries fall on these scales,” she says. “You look at Sweden and India and realise we’re all over the spectrum. It’s not easy, but it’s essential. This program is now being rolled out to all employees”.

These initiatives are not opposed at Consilium. They are deeply ingrained in the company’s culture, which Malin believes is a key factor in its progress.

“We are working under the concept of One Consilium. We’re a matrix organisation, and our core values are well-established. People know them; they’ve been around for 15 years”.

Employees can nominate their colleagues who embody these values every quarter. New employees often describe the atmosphere as family-like, warm, and engaging.

#### IMPACT OF INCLUSION

Malin also highlights how employees are actively involved in discussions.

“What are we doing today in this area? What does this issue mean to us? What are we doing well?” she asks. “Even a brief 20-minute team discussion can bring these topics to the forefront, driving engagement and reinforcing the company’s values”.

Malin recalls a recent lunch with a colleague who had never had women on his team.

“It’s an engineering-heavy role, and we had struggled to find female candidates. But now we managed to hire one, and another has just started. He’s already noticing a big difference in the team’s dynamic.”

The change was evident, reinforcing what Malin already knew.

“The important thing is for people to gain those insights,” she explains. “It’s like a hockey stick effect—you push past a certain point, and then the change starts happening on its own.”

**Critics might say these initiatives are costly—what would you say to them?**

“That’s where pragmatism comes in. You must work from different angles and integrate it into all processes. It shouldn’t be a separate task running parallel to the business,” Malin explains and continues:

“These training programs—they’re just an hour or two. The key is to do them consistently and keep them on the agenda.”

“In the end,” she added confidently, “the payback is much greater than the cost”.

Looking ahead, Malin believes that Consilium is on the right path but views this as an ongoing journey.

“There’s always more to do, and we’re ready for it.”



# 2.3

Research from Deloitte shows that diverse companies experience over twice the cash flow per employee.



# ON A LIFE-SAVING MISSION

... Sailing along the West African coast, Global Mercy™ delivers life-saving surgeries to communities with limited access to healthcare. For many, it's their only hope for treatment.

TEXT: RAMIN RAHMANI > PHOTO: MERCY SHIPS

**A**t first glance, the Global Mercy may seem like just another large ship cutting through the seas. It is 174 meters long — almost the length of two football fields — with 12 decks and 7,000 square meters of hospital space; this ship is much more. It's the world's largest floating hospital.

There are six operating rooms onboard, each stage where life-changing surgery is the day's performance. It's as if someone plucked a fully functioning hospital out of a city and set it adrift on the ocean.

And yet, far from being isolated, this ship is deeply connected—to the people it helps, the local doctors it trains, and the sense of possibility that follows in its wake.

It sails through the waters of West Africa, offering what many cannot find on land: access to surgical care.

At the heart of Global Mercy is a team of dedicated people who make this mission possible. One is Jim Paterson, who is incredibly humble about his role.

When I emailed him about covering the story, he responded: "My contribution would be fairly small."

But after nearly four decades of service, including eight overseeing the construction of this ship, Jim plays a crucial role in keeping this mission afloat.

Looking back on his early days with Mercy Ships, Jim recalls working as a marine engineer while his wife worked as a

teacher. Their two children came along, and soon, they had a third, taking a few months at home for the birth before returning to ship with their newborn.

"It was a great environment for kids to grow up in", Jim says. "They saw the world—the so-called developed and the underdeveloped. They saw people who had absolutely nothing. It was a good educational experience for them".

The family had initially committed to two years, but as Jim puts it, "When the two years were almost up, we knew we needed to stay a little longer". That "little longer" turned into decades.

**A FLOATING VILLAGE**

Life on board the Global Mercy has always been more than medical work—an entire community at sea, a microcosm, a floating village.

This village comprises around 200 patients and a rotating crew of 640 people, supplemented by more than 200-day workers from the local ports who commute daily.

The ship's cabins accommodate around 30 families who have lived on board for over two years. Their children—toddlers to teenagers—attend school just a short walk from the operating rooms. Their laughter blends with the grateful African songs of those who have received life-saving surgeries.

The ship is currently docked in Sierra Leone's Freetown,



←...  
Volunteers blow bubbles with a child recovering from surgery, bringing joy during their healing journey. Around 2,500 people from over 60 nations volunteer with Mercy Ships each year.



↑  
The Global Mercy galley team prepares 3,000 meals daily for the crew, day crew, patients, and caregivers on board.

where it will remain for ten months at a time – just as it does at each destination – allowing the hospital to function and immerse itself fully in the local community.

The Global Mercy and her sister ship the Africa Mercy, have docked in countries such as Liberia, Benin, Togo, South Africa, Guinea, the Republic of Congo, Madagascar, Cameroon, and Senegal, providing care to patients from neighbouring Gambia.

"When we dock, we bring a day crew of more than 200 local hires. They function in different departments. Some work in housekeeping, others on deck or in the engine room. And some directly in the hospital, often serving as translators, though roles depend on their skill level," Jim explains and continues:


"During field services, the galley prepares three meals daily for crew and patients - so that's upwards of about 3000 meals each day".

Talking about the galley, Jim mentions that it's one of the most dangerous places in terms of fire risk.


"The galley's smoke and heat detection systems are critical to ensure everybody's safety," he states.

Since 2015, Consilium Safety Group has partnered with Mercy Ships, donating and maintaining fire and gas safety systems to protect the people on board.

"Whether it's the galley or the engine room, every corner is covered by smoke or heat detectors, all monitored 24/7", Jim explains.



"It was a great environment for kids to grow up in", Jim says. "They saw the world—the so-called developed and the underdeveloped. They saw people who had absolutely nothing. It was a good educational experience for them".





“We can immediately detect potential fires. If there’s an anomaly, an alarm is triggered, and it quickly identifies the exact location so we can check whether it’s a real fire or just something like burnt toast”.

The detectors are smart enough to adjust for environmental factors like dust, reducing the number of false alarms.

“It’s an excellent system, and we’re fortunate that we’ve never had a real fire,” Jim says. “We’re grateful to Consilium for their support over the years, and I look forward to continuing this partnership for many more”, he adds.

**THE HEART OF MERCY SHIPS: ITS VOLUNTEERS**

Beyond safety, Jim Paterson also deeply cares about the volunteers. His voice lights up as he shifts to the topic.

“It’s incredible how many people choose to give their time.”

Around 2,500 people from over 60 nations volunteer with Mercy Ships each year, stepping out of their everyday lives to help others.

I thought, ‘I’m an engineer—how can I help make a difference in these unfortunate people’s lives?’ But when you join a team like Mercy Ships, it’s a great opportunity to use whatever skill you have, whether you’re a marine engineer, a writer, or a doctor. Together, we can all make a big difference in these people’s lives”, Jim says.

His passion makes me pause and consider what it would be like to volunteer myself—perhaps with my daughter next summer during my vacation.

Kevin So, a California nurse, recently volunteered aboard Global Mercy with his wife, Sarah, for three months. He previously worked in the Cardiothoracic ICU at an academic hospital in California and the adult and pediatric emergency departments.

He specialises in maxillofacial, plastic reconstructive, and orthopaedic surgeries. His involvement extends to his patients’ post-surgery recovery, ensuring they receive proper wound care, nutrition monitoring, and pain management.

As he walks side-by-side with his patients, Kevin is moved by the resilience of the people he treats.

“I’m humbled by their experience – by their trust in us. “Often, they’ve been waiting for many months or years to receive care that is unaffordable, inaccessible, or unavailable in their countries.”

Many of them have waited years to get the care they need,” Kevin reflects. “The fact that we can make such a difference with what we know is truly meaningful.”

Mercy Ships provides surgical care to those in need, but its mission goes beyond that. The organisation reshapes health-care through education and training. Kevin is one of many volunteers making this vision a reality.

“It’s really special to work with people from all over the world,” Kevin says. “You learn so much from other cultures—especially in nursing, where the perspective can differ.”

In 2019, Consilium introduced its volunteer program with Mercy Ships. The employees take a month off work, with their full salary paid by Consilium, to volunteer.

Among those volunteers is Doris Si, project engineer at Consilium Safety in Shanghai. She will soon join the team aboard the Global Mercy.

Inspired by her father’s dedication to helping others, she jumped at the opportunity. Her desire to help grew after experiencing the COVID-19 lockdown.

“We were stuck at home, short of food, and people couldn’t get to hospitals,” Doris recalls. “It made me realise how important it is to help those in need.”

Now, she’s looking forward to learning more about Africa and the people she’ll meet on board.

“I want to know more about the diverse cultures of the volunteers,” she says, hoping to teach some of her skills, like pastry-making, while she works in the ship’s dining room.

Doris is proud of her role in the partnership between Consilium and Mercy Ships. “Our Shanghai office provided the safety systems for Global Mercy,” she says. “I’ll keep a close eye on the fire safety systems while on board,” Doris adds with a smile.

↓ Doris Si, project engineer at Consilium in Shanghai, is set to join the team aboard Global Mercy.



↑ “It’s really special to work with people from all over the world,” Kevin says. “You learn so much from other cultures—especially in nursing, where the perspective can differ.” Kevin So, California nurse.

↓ Amadou was the first patient to receive surgery on board Global Mercy.



# RISING DEMAND OF CYBERSECURITY IN SHIPPING

••• Like many industries, the marine industry is becoming increasingly connected. With that connectivity comes risk. We spoke with Tobias Ernfridsson, Consilium's CTO, about these risks and Consilium's measures to handle them.

TEXT: MARCUS FLEETWOOD > PHOTO: JONAS GRATZER & GETTY IMAGES

**A**s we sit down with Tobias he reflects on his 14-year journey at Consilium and the shifts he's witnessed – both within the company and the broader marine industry. “I've been in the safety industry for over 20 years,” he says. “Cybersecurity was barely a term we used when I started. Today, it's one of society's most pressing challenges, not least in the marine industry where many of Consilium's products are used.”

When asked about the key cybersecurity threats facing the marine industry today, he points out that it faces the same challenges as any other industry: “Whether it's a land-based factory or a vessel at sea, many critical systems are connected, which exposes them to the same vulnerabilities.”

## BUILDING RESILIENCE

Shipping has been the backbone of global trade for centuries. According to the United Nations, over 80 percent of global trade depends on ships. Cyberattacks can disrupt this system, delaying shipments and affecting industries worldwide.

Thobias is quick to highlight Consilium's proactive approach when asked how the company addresses these challenges. “It's about staying one step ahead,” he says. “On one hand, we're constantly improving our product security – enhancing passwords, locking down physical access points, and making it as difficult as possible for anyone to tamper with the system.”

He points out that internal processes are just as important. “We've also updated how we release new software and handle files. Nothing we send customers can be compromised. We take that very seriously.”

## THE EVOLVING BATTLEFIELD

Despite these efforts, Thobias acknowledges that staying ahead in cybersecurity is a never-ending battle. “It's a race,” he says. “For every new security measure we introduce, someone



is trying to break it. It requires continuous updates and significant resources.”

But Consilium isn't alone in this fight. The International Maritime Organization (IMO) has been developing regulations since 2017, aiming to set a global standard for cybersecurity on ships. “These regulations have helped raise awareness and improve defences, but they've also added complexity,” Thobias notes. “We're dealing with more sophisticated systems, and that means more sophisticated threats.”

## THE HUMAN FACTOR

No matter how advanced the technology gets, Thobias is clear: the human element remains critical. “You can have the best security systems in the world, but if the crew isn't trained properly, it's all for nothing. Cybersecurity awareness is crucial, and we do what we can to educate crews on how to use our systems.”

That being said, he admits there's a limit to their role. “We handle the product side, but broader cybersecurity training is something we leave to specialists.”

## LOOKING TO THE FUTURE

As we wrap up our conversation, I ask Thobias what the next five to ten years will bring for cybersecurity in the marine industry. “Connectivity is only going to increase. More systems will be linked, more data will be collected, and that data will be more valuable. Cybercriminals will evolve, and so will we. It's all about staying vigilant.”

Before heading to his next meeting, Thobias leaves me with one final thought. “At the end of the day, security is our top priority. We always have to balance user functionality with protecting the system. That's what safety tech leadership is all about – keeping ships safe, and by extension, protecting the people and the cargo on board.”

STOCKHOLM'S DEEP DIG:

# BUILDING A BUS TERMINAL UNDERGROUND

... Deep inside a mountain, Stockholm's new bus terminal seeks to reconcile green ambitions with safety demands.

TEXT: EMELIE MYRBERG > PHOTO: STOCKHOLM STAD

**A**s cities push for more sustainable growth to meet future needs, they face a tricky balancing act: How do you build greener without compromising safety?

This tension is visible in Stockholm's Slussen project. What was once a busy traffic junction is being transformed into a vibrant public space, complete with new parks, squares, and waterfront areas.

For the people of Stockholm, Slussen has always meant two things: transportation and construction. Thousands of people pass through each day on their way to work, school, or home.

The renovations, which have been ongoing for years, include new bridges, waiting areas, and now a new underground bus terminal, unlike anything Sweden has seen before in size and complexity.

Stockholm's new bus terminal is being built 400 meters underground and 25 meters into the Katarinaberget mountain. The project combines innovation, safety, and design.

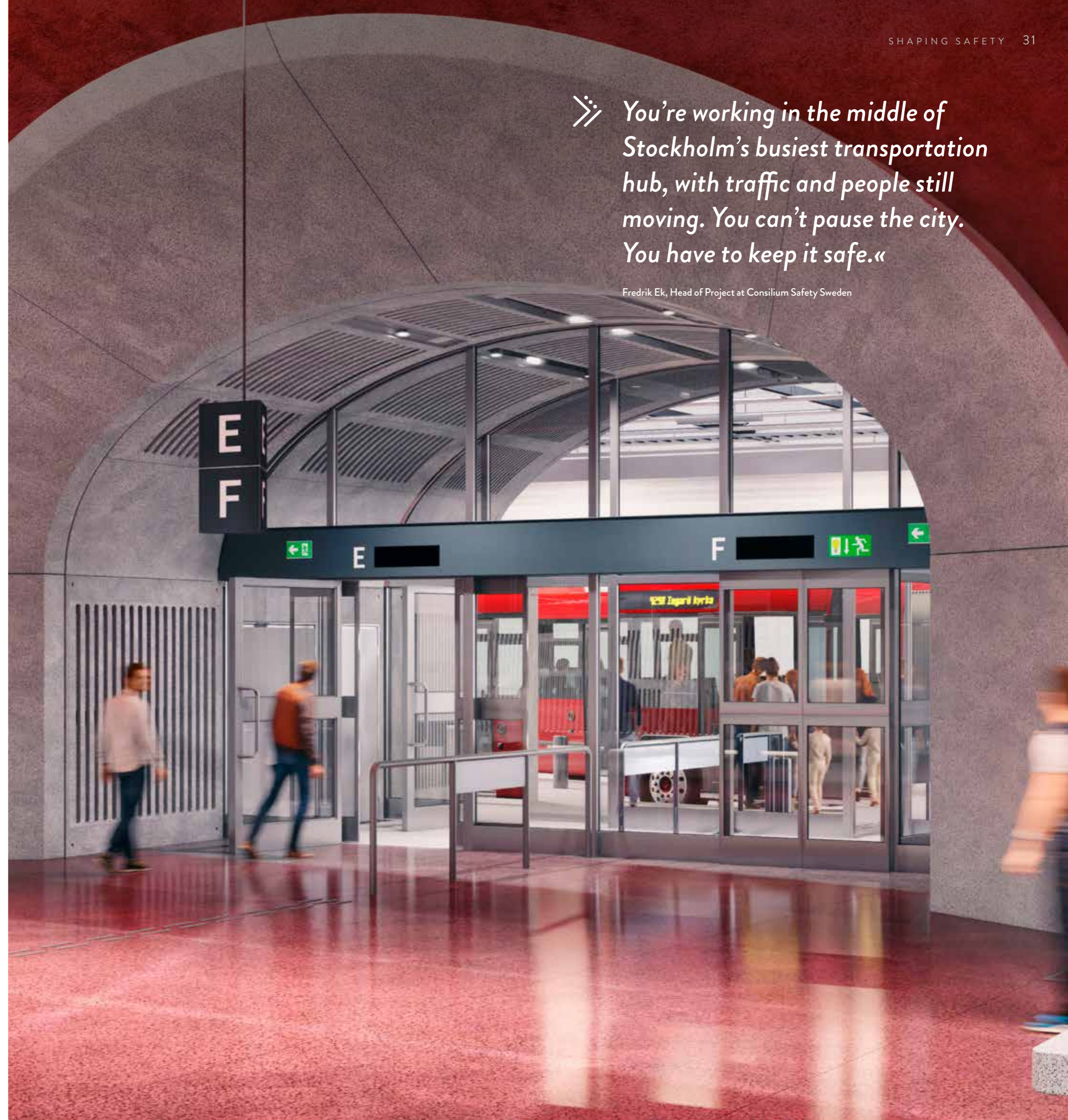
Workers blasted and removed 300,000 cubic meters of rock over 2.5 years to make room for the terminal.

Mats Öhrn, project manager at Bravida, emphasises the challenges of building such a structure underground:

'This project is special,' he says. 'We wanted it to stand out and create a memorable experience for visitors. The architects

» You're working in the middle of Stockholm's busiest transportation hub, with traffic and people still moving. You can't pause the city. You have to keep it safe.«

Fredrik Ek, Head of Project at Consilium Safety Sweden





» The architects have done a great job designing structures that conceal the systems while creating an amazing space.«

Mats Öhrn, project manager at Bravida



have done a great job designing structures that conceal the systems while creating an amazing space”.

Mats describes the balance between function and design in the terminal. It shows in the two giant steel wings that stretch through the terminal. They look grand but hide the systems that make the terminal work.

This project, like any big one, has its challenges. Safety comes first. When you put a bus terminal underground, every part of it has to work right. The buses will travel a long way beneath the earth, and if something goes wrong, you need systems you can trust.

The push toward a more sustainable transportation industry adds even more demands on safety systems. With Stockholm’s plan to increase the number of hydrogen-powered buses, it is essential to have safety systems that can effectively address fire, flame, and gas hazards.

Fredrik Ek, Head of Project at Consilium Safety Sweden, explains that a piping system has been installed, which extracts smoke and detects gas within the smoke. Flame detectors have been set up to cover the entire terminal, and safety measures are in place in explosion-classified areas.

“All of this is, of course, in addition to the standard fire and evacuation alarms, Fredrik states and continues:

“It is a closed environment, which means that it is essential that fire safety works. If a bus catches fire, you need to get people out of the terminal, and at the same time, stop the fire. Being in a closed environment brings large technological challenges”, Fredrik emphasises.

The technological challenges have contributed to impressive solutions. The safety system is designed to detect multiple hazards, such as gas and smoke.

“When the system detects an issue, it triggers a specific action”, Fredrik explains. “Based on what the safety system identifies, specific actions are triggered. For fires, the response follows automated protocols. It is guided by operators monitoring everything in real time to ensure that the right actions are taken.”

A project of this size puts pressure on logistics. The safety systems must work together, ensuring that the right doors open or lock in case of emergency, guiding people safely out of the mountain. And it’s not just about emergencies.

“The construction itself is risky – 90 percent of the work happens on an underground elevator,” Mats states. “Safety systems must meet high standards now and when the terminal is done.”

Mats and Fredrik both agree that logistics have been the most challenging part. “In a project like this, you can’t just think about the finished product,” Mats says.

Fredrik adds, “You have to think about where you’re working – in the middle of Stockholm’s busiest transportation hub, with traffic and people still moving. You can’t pause the city. You have to keep it safe.”

There is still work to do before the terminal opens in 2025. Before that happens, four to six months of testing will ensure that every system works before commuters fill the terminal.

← Workers blasted and removed 300,000 cubic meters of rock over 2.5 years to make room for the terminal.

↓ Stockholm’s new bus terminal is being built 400 meters underground.

## ST650 (MPS-sensor)

Enhance the safety of your operations with advanced gas detection technology. Designed for easy integration and minimal maintenance, our solution delivers long-lasting, reliable protection.



BRIGHT DAYS AHEAD FOR CONTAINER SHIPPING SAFETY:

# UNVEILING NEXT-GEN SAFETY TECH

... From regulators, insurers and ship owners, a collective demand for innovation for container ship safety has emerged. Consilium Safety Group, known for its innovative spirit, is preparing to answer this call with a groundbreaking product.

TEXT: RAMIN RAHMANI > PHOTO: JONAS GRATZER



» With the values aboard these vessels soaring, insurance costs can account for the third highest operational expense, after fuel and crew.«

Tobias Ernfridsson, CTO at Consilium Safety Group



These colourful containers move more than 90 percent of global trade. Capable of carrying over 24,000 containers, today's ships are carrying an incredible 1500 percent more containers than they were in the late 1960s.



**A**lmost every shirt we wear, every gadget we use has made a journey across the seas, a testament to the container shipping industry's role in knitting the global economy together. These colourful containers move more than 90 per cent of global trade. Capable of carrying over 24,000 containers, today's ships are carrying an incredible 1500 percent more containers than they were in the late 1960s.

Yet, as these ships swell in size, now stretching to the lengths of four football fields, they carry not just cargo but a potential risk of fire. A peril that grows with every container added to their load.

Thobias Ernfridsson, the Chief Technology Officer at Consilium Safety Group, sits at the heart of efforts to mitigate this risk.

"The expansion of container transportation is undeniable," he states, "and with it, the risk of fire escalates, posing a significant threat to goods, ships, and more importantly, human lives and the environment."

#### A STARK REALITY

This recognition is echoed in the stark figures of the 2023 Cargosafe study, commissioned by the European Maritime Safety Agency (EMSA), which highlights the potential risk associated with the median operation of these ships.

The study shows a ship faces potential losses including fatalities, cargo, the ship itself, environmental damage, and salvage costs. As insurance premiums for container shipping rise by 55 per cent, reflecting the increased risks of fire and cargo loss, the industry is at a crossroads.

"With the values aboard these vessels soaring, insurance costs can account for the third highest operational expense, after fuel and crew," Ernfridsson explains.

Yet, amidst the calculus of risk and premium, Ernfridsson sees a silver lining: "Cut through the risk, and you slice through the premiums. It's straightforward economics but underpinned by a complex challenge."

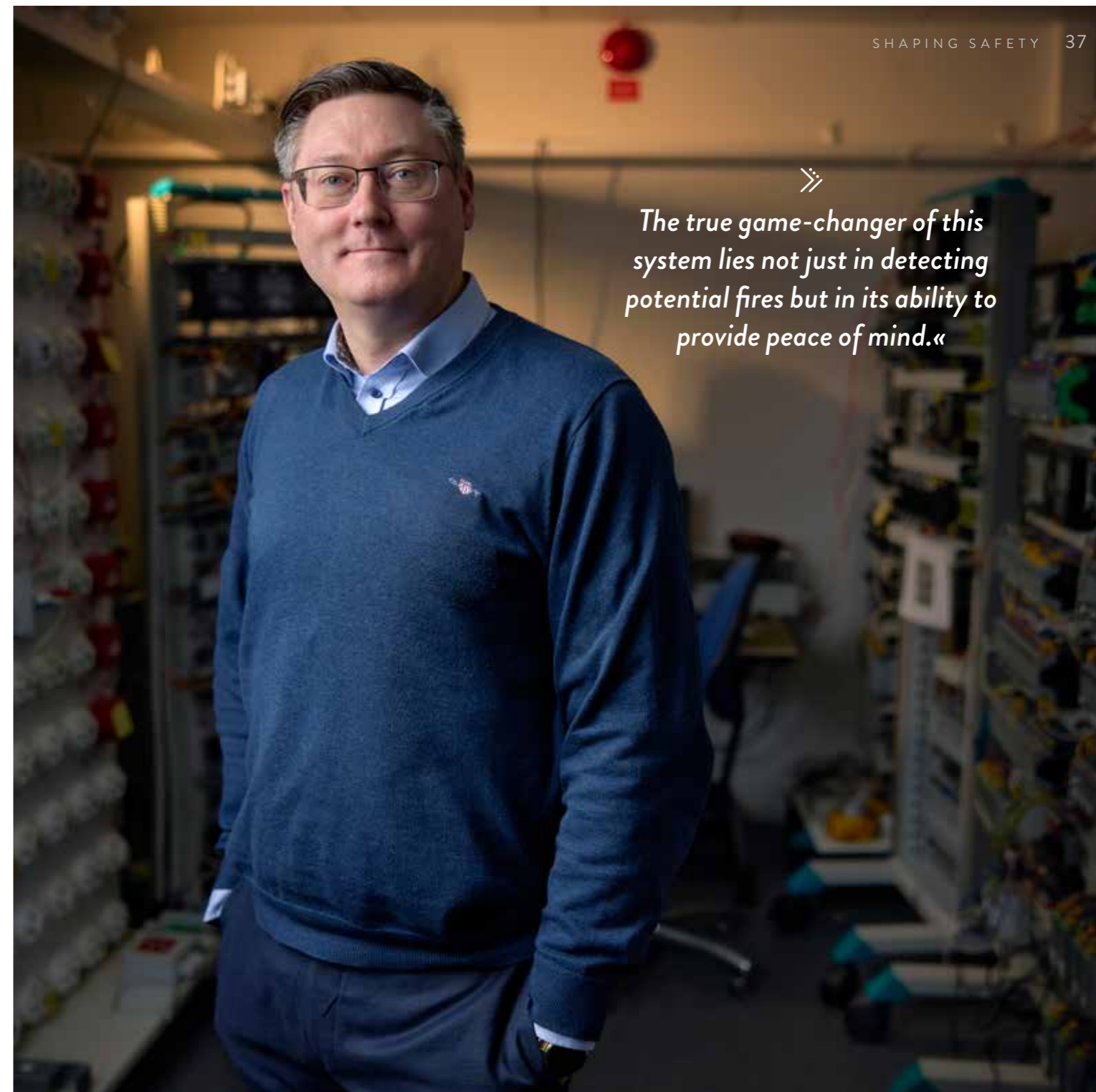
#### INNOVATION AT THE HELM

In the wake of disaster, innovation often follows, spurred by necessity and the collective will for change.

"Accidents are never good, but it is usually the way that triggers a desire for change", says Ernfridsson.

This sentiment is echoed across the industry, from insurance companies and ship owners to ports and suppliers, all recognizing the need for a more digital and AI-driven approach to early detection and fire prevention.

The International Maritime Organization (IMO) has responded with plans to introduce new fire safety regulations by January 2028. Aiming to address the increased fire risks brought on by container ships and the misdeclaration of hazardous goods.



»»  
The true game-changer of this system lies not just in detecting potential fires but in its ability to provide peace of mind.«

"My understanding is that IMO's wish or requirement is that safety players like Consilium should embrace digitalisation a bit more on board," says Ernfridsson.

#### THE REVOLUTIONARY TMS TECHNOLOGY

At the heart of Consilium Safety Group's response to this call is the strategic acquisition of Radicos, a vanguard in linear heat detection. The acquisition has birthed the innovation of a Temperature Monitoring System (TMS), a product formerly under Radicos before its rebranding and integration into Consilium's fire, flame, and gas safety solutions.

TMS represents a fundamental shift in how fire safety is approached at sea. Leveraging a sophisticated network of sen-

sors to monitor for the slightest anomalies in temperature that could indicate a possible fire. Promises early detection of fire risks, potentially saving lives, cargo, and ships from disaster.

"This solution allows quick tracing if for instance, one container is at 18 degrees Celsius, and the adjacent one is 35 degrees Celsius. Using our safety management system software, SMiG, operators receive valuable information when a conflicting pattern is identified. With this solution, incidents are detected in an early stage, even at ambient temperatures. It's a true game-changer for safety within the container shipping industry", highlights Thobias Ernfridsson.

The robustness of the system is further underlined by real-world testing. It has been rigorously tested in harsh environ-



## TMS TECHNOLOGY IN BRIEF

Imagine the TMS as a highly sensitive digital thermometer spread throughout a ship, constantly checking the temperature of every container on board. This system is like a network of watchful eyes, designed to notice even the smallest rise in temperature that could indicate a fire risk.

### HOW IT WORKS

The system uses a series of advanced sensors placed around the ship in direct proximity of the containers. These sensors continuously monitor temperatures and send this data to a central system that execute advanced energy flow analysis onboard the ship. It is akin to having a network of smoke detectors, but instead of detecting smoke, they're looking for unusual heat.

### DETECTION AND RESPONSE

If a container overheats due to a device fault, battery or a chemical reaction, TMS alerts the crew to the exact location, allowing quick action before a fire escalates.

### INTEGRATION WITH EXISTING SYSTEMS

TMS is integrated with the ship's overall safety management system. This means it works in harmony with other safety measures onboard, like fire extinguishers and alarms, to provide a comprehensive safety net.



### BENEFITS BEYOND EARLY DETECTION

For ship operators, it means reducing the risk of losing cargo or, more importantly, risking lives. For insurance companies, it's about lowering the chances of costly disasters. And for the global economy, it ensures that the goods we rely on every day make it safely across the seas.

nts, including various stressors such as saltwater exposure, vibrations, wind and temperature variations. The technology has proven to be highly reliable and effective in the most demanding maritime conditions.

With a new round of real-world trials planned for early 2025, and the first ship deliveries and installations expected later that summer, the anticipation within the marine community is palpable.

"It is in everyone's interest to bring this product to market as quickly as possible. We have listened to our customers, insurers, and the authorities. Based on this, we have developed this outstanding product," says Ernfridsson, reflecting a sentiment that goes beyond commercial interests and touches on collective responsibility for safety at sea.

"Simply said, there won't be as many fires, everyone will be happy", he concludes.

### THE EXPANSIVE POTENTIAL OF TMS

The potential applications for TMS extend far beyond container ships, with interest from sectors ranging from car carriers such as RoRo ships to agriculture.

"This technology is unique," says Marcus Andersson, CCO at Consilium, "and its ability to monitor temperature changes has a wide range of applications, from detecting heat increases in cars on a car deck to monitoring the well-being of livestock."

He explains:

"It was our customers who led us to expand our vision," Andersson reveals, his voice a testament to the collaborative spirit that drives this innovation.

"They nudged us to see beyond the immediate. And now, car carriers are on the horizon. It's not every day you hear enthusiasm for monitoring heat variations below cars at a car deck, but here we are, in dialogue with shipping companies".

Our conversation takes an unexpected detour through the countryside, to a chicken farm, where the potential of TMS to save lives takes on another dimension. "Imagine hanging a cable, a simple act, and suddenly you're not just monitoring chickens, you're actively protecting them.

The rollout of TMS will be methodical, phased, and sensitive to the ecosystems it enters. "We start with containers and car carriers, yes, but it's about the order of things," Andersson explains.

"The fire alarm, the gas alarm, and then this - our solution. It's a sequence designed not just for implementation, but for integration, to become a support system that is as seamless as it is essential".

Talking to Marcus Andersson, the essence of TMS as more than just a product but a solution comes to the fore. It's a technology born from the need to solve a critical problem that expands its embrace to offer protection and peace of mind.

"We can act as a supplier with support. We want to be close to our customers, to meet their challenges, which is why this was created," he says, summing up the essence of their mission.

"We're not just engineers and salespeople, we're partners in safety, wherever that journey might lead us", Andersson concludes.

» *It's not every day you hear enthusiasm for monitoring heat variations below cars at a car deck, but here we are, in dialogue with shipping companies.*

Marcus Andersson, CCO at Consilium Safety Group



KEEPING SYSTEMS ALIVE:

# THE CONSILIUM APPROACH TO RETROFITTING

••• For decades, Consilium has refined retrofitting, a system upgrade solution that saves money, cuts waste and maintains industry safety standards.

TEXT: RAMIN RAHMANI > PHOTO: JONAS GRATZER

**T**he concept behind Consilium Safety Group's retrofitting is simple. Instead of replacing entire safety systems, Consilium focuses on upgrading essential components.

Key elements like the central control unit get a modern update. While the backbone of the system—cables, sensors, and detectors—remain in place as long as they're still doing their job.

"We replace what's needed, but we don't waste what still works. If a system is 12 years old, retrofitting will ensure that the system's quality is maintained for at least another 12 years," says Mansoor Chaudhry, VP Business Area Management at Consilium.

The idea's simplicity is hard to argue with. It saves money, reduces waste, and lowers the environmental impact of producing and installing new components.

"This applies to both our systems and competitors", Chaudhry adds. "It's about making smart upgrades. A practical way to lower impact without sacrificing quality."

For decades, Consilium has helped industries breathe new life into their safety systems, making retrofitting a cornerstone of the company's service offering. What has changed in recent years is how Consilium has optimised this process on a global scale.

"We've always offered retrofits," Chaudhry says. "But now we deliver these solutions more efficiently, using local resources and cutting down on unnecessary travel for our engineers. It's a process that has become seamless".

## GOING LOCAL WITHOUT DISRUPTION

With service points in key industrial regions, Consilium provides support whenever and wherever clients operate, from Asia to Europe to the Americas.

"Singapore, Rotterdam—it doesn't matter where. We ensure our clients' systems are up-to-date and run efficiently. This is the future of safety: efficient, local, and always prepared and providing our customers peace of mind," Chaudhry states.

This broad network ensures that even the most complex retrofits are carried out professionally and with minimal disruption. Cargo ships, for instance, where only crew are aboard, can upgrade fire alarm systems while still in transit, avoiding costly delays.

"For passenger ships, we time our work carefully," Chaudhry explains. "We only work on areas like cabins when passengers aren't onboard, ensuring the upgrade doesn't disrupt operations".

Larger retrofits happen during scheduled drydock maintenance. "We integrate our work into our clients' schedules," Chaudhry explains. "They don't have to stop operations just because it's time for an upgrade."

Their precision and seamless integration have earned Consilium the trust of major global operators. Fleet-wide upgrades—consistently carried out across multiple ships—have become their speciality.

"Fleet upgrades are a big part of what we do," says Chaudhry. "Our second-to-none after-market coverage provides support wherever our clients operate".

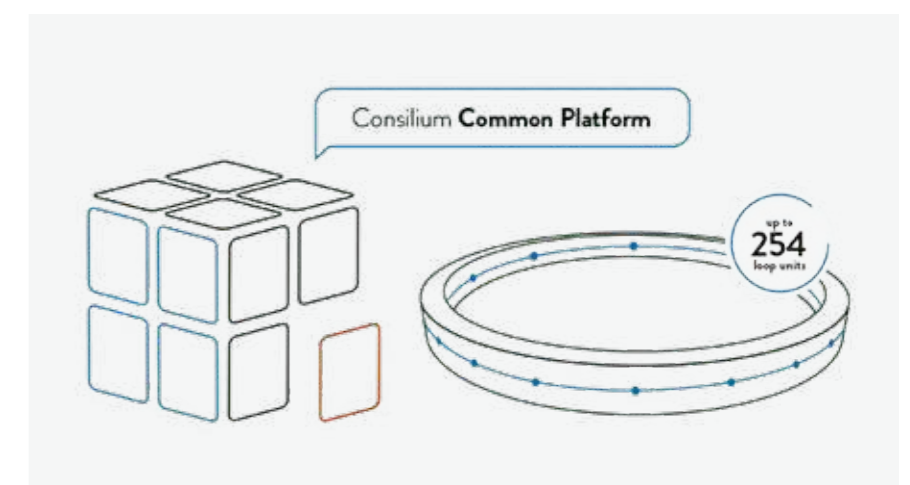
## A RESPONSIBLE APPROACH

For Consilium, retrofitting is part of a growing industry trend that values efficiency and responsibility while keeping safety at the forefront.

"We take a holistic view," says Chaudhry. "We optimise everything from the materials we use to how we deploy our teams. The goal is always to improve the system while reducing the overall impact."

## Consilium Common Platform

Consilium has supplied fire alarm systems since the 1980s. Using the modular-based Consilium Platform or any other brand, you can easily upgrade existing systems.



A PERFECT FIT:

# »THEY HAVE THE 'IT' FACTOR«

... As we sit down for a digital fika, Assia Belkahia shares why Antin's decision to buy Consilium was more than numbers—it was a gut feeling.

TEXT: THEO MARTINS > PHOTO: ANTIN

Sometimes you just feel 'it'. Acquiring a company is more than meeting the strategic criteria, the financials and the potential. It is also about a feeling. A first impression that sticks. It is about the team, the spirit, the grit that you cannot quantify but cannot ignore. And Consilium Safety Group has 'it'.

Sitting virtually across from Assia Belkahia, a partner at Antin Infrastructure Partners, provides the perfect opportunity to gain a fresh perspective on Consilium Safety from the owner's point of view. What convinced Antin, who invested in the company in April 2024, to make the leap.

"When we first met with the Consilium Safety management, we felt it right away – this is the right horse to bet on", Assia begins with the enthusiasm that seemed to define her.

"They met our investment criteria, but more than that, they have the 'it' factor, that special something. Consilium's management team is not only dedicated, they are driven by a strong customer focus, and committed to securing the company's future growth through smart technology. After the meeting, we said, "We just need to buy them". And we were successful in convincing management that we understood their potential in competition with other eager potential buyers".

Antin specialises in infrastructure investments and follows five strict criteria before negotiating to buy a company. One is "essential service", something vital to the community, like security and safety. Antin believes fire and gas protection will become increasingly important in the marine industry, especially with the rise of dual-fueled vessels and a greater emphasis on social and environmental sustainability to protect lives and goods.

"Consilium is in a sweet spot in this expanding market, with worldwide on-the-ground service presence and products in the forefront. That is quite an interesting position that can be further developed", says Assia.

So, the rationale for acquiring Consilium is clear. Still, a long-time owner needs to have a plan for growing its portfolio companies. Assia points out that while the marine sector is key, there are promising opportunities in rolling stock and industrial buildings as well.

"Consilium knows what they are doing, and they do it successfully. Check on that. But we can also support in several areas, including financial analysis and strategy, M&A, financing support as well as data analytics", Assia states.

Assia, balancing a busy career, rearing two young children, and still making time for the gym, is already looking ahead to the next meeting. Before she goes, I have one last question:

#### What can Consilium do better?

"Compared to other Antin companies' markets, the fire and gas safety industry is behind in digitalisation, Assia explains. Consilium can potentially take the lead in digitalisation. They are building up expertise quickly and have many such solutions already on the market. And they certainly have the team, the spirit and the guts to do it".



*Consilium is in a sweet spot in this expanding market, with worldwide on-the-ground service presence and products in the forefront.«*

Assia Belkahia, Antin Infrastructure Partners

# SAFETY TECH FOR A RESPONSIBLE FUTURE

As you move through the world, our innovative fire, flame and gas safety solutions are always present, protecting you, whether you notice it or not.



> 55

countries are connected to our global service network, and with local market companies in more than half of these, we ensure accessibility anywhere you operate.

> 1000

employees dedicated to providing unmatched fire, flame, and gas safety solutions to our clients.

> 85 000

safety systems delivered. Designed to meet diverse challenges to protect lives, assets, and the environment.

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