

Gulf Fire

نار الخليج

REPORTING TO THE MIDDLE EAST FIRE PROTECTION INDUSTRY AND FIRE SERVICES

في إعداد التقارير عن الخدمات المتعلقة بصناعة الحماية من الحرائق والإطفاء في منطقة الشرق الأوسط.

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Ci Global

THE RISK BENEATH THE SURFACE

How Ci Global manages ignition risks in electrically dense towers with its intelligent building safety system. Find out more on page 32

THE RISK BENEATH THE SURFACE

Modern high-rise buildings are more electrically dense than ever before, increasing the risk of electrical fire. This feature explores how Ci Safe continuously monitors electrical behaviour at the point of use to detect developing faults and automatically intervene before a fire can start.

High-rise fire strategy has evolved significantly over the past two decades. Evacuation modelling, suppression systems and smoke management are now highly sophisticated, particularly in rapidly developing regions such as the Gulf.

Yet one area has received far less scrutiny: the electrical infrastructure embedded throughout these buildings.

Electrical faults remain among the most common causes of building fires globally. At the same time, high-rise environments are becoming increasingly electrically dense as cooling systems, digital networks and electric vehicle charging become

standard components of modern towers. In many cases, those systems operate continuously, with data networks running without pause and residential demand steadily increasing.

Electrical demand has intensified. The way we observe and supervise electrical behaviour has changed very little.

This visibility gap is what Ci Safe was built to address. The system operates at the point where many electrical fires originate – within sockets and connection points – supervising temperature behaviour and electrical conditions locally rather than relying solely on centralised circuit protection.

Using patented ThermalVision™ technology, Ci Safe detects abnormal heat build-up, resistance changes and developing arc-fault conditions even when current remains within normal limits.

Embedded intelligence interprets behaviour in real time, enabling immediate intervention at source if unsafe escalation is identified. Circuit protection remains essential, but Ci Safe introduces continuous supervision between normal operation and fault disconnection.

As buildings become more electrically complex, that additional supervision reduces fire risk.

ELECTRICAL DENSITY AND SUSTAINED STRESS

Electrical density is not simply a measure of how many devices are connected. It reflects the cumulative load placed on circuits over extended periods and the thermal conditions created by that load.

Within residential units, appliances, charging devices and connected

equipment contribute to sustained baseline demand rather than short, intermittent peaks. In warm climates, air-conditioning systems operate for extended periods, often continuously during peak seasons. In commercial and shared areas, lifts, pumps and building-management systems add further load across distribution boards and vertical risers. Higher ambient

temperatures reduce the margin for heat dissipation, elevating baseline thermal stress within the electrical system.

Under normal operating conditions, conductors dissipate heat within design tolerances. In high-rise environments operating continuously, however, the margin between normal operation and critical thresholds can narrow over time. ▶



CI Safe integrates electrical fire prevention, environmental sensing and autonomous intervention across high-rise infrastructure.

Sustained load does not create failure on its own, but it reduces tolerance and increases cumulative stress. Over time, thermal exposure can accelerate insulation degradation, loosen terminations and increase resistance at critical points within the system. These changes are gradual and often imperceptible.

In the absence of ongoing behavioural insight, early-stage degradation can remain undetected until it escalates. This is not a failure of standards; it reflects how electrical protection has historically been designed.

COMPLIANCE DOES NOT EQUAL VISIBILITY

Compliance frameworks and protective devices have significantly improved electrical safety over time. Circuit breakers, fuses, RCDs and RCBOs are designed to respond to overloads, short circuits and earth faults within defined limits. They are essential layers of protection and have prevented countless incidents.

However, these systems are threshold-based. They are engineered to disconnect power once a defined fault condition is exceeded.

Many electrical fires do not begin with an immediate catastrophic event. They develop gradually – through sustained

overloading, loose connections, insulation degradation or localised overheating at termination points. These conditions may remain below the activation threshold of protective devices for extended periods before ignition occurs.

Compliance ensures installation safety. It does not monitor gradual degradation or sustained thermal stress once systems are in use.

VARIABILITY IN MODERN HIGH-RISE ENVIRONMENTS

Electrical systems in modern towers do not operate under fixed conditions. The way spaces are used changes over time, and so does electrical demand.

Across global supply chains, substandard or counterfeit electrical goods can enter circulation. These products may use lower-grade materials or poorer insulation, and internal components that are not manufactured to the same standard. In use, they can increase resistance at connection points, causing localised heat build-up under sustained load.

Electric vehicle charging introduces intermittent high demand within residential and mixed-use developments. Digital infrastructure, by contrast,

runs continuously. In many buildings, ageing components sit alongside newly installed systems, meaning parts of the network may already be under strain as new demands are added.

Taken together, these conditions create a more complex electrical landscape than the one originally designed and commissioned.

The result is not immediate failure. It is reduced margin.

As buildings become more dynamic, the electrical layer becomes harder to oversee using static protection alone.

A VISIBILITY GAP IN ELECTRICAL SAFETY

Fire engineering has advanced rapidly. The question is whether the electrical layer has kept pace.

Electrical installations are also tested, inspected and certified. Standards have improved significantly, and periodic inspection regimes are in place in many regions.

But testing and inspection are point-in-time exercises.

They confirm that an installation meets defined requirements on the day it is assessed. They do not provide continuous insight into how electrical behaviour evolves between inspections.



In complex high-rise environments, risk does not always present as an immediate fault. It can develop gradually without triggering protective devices and without being detected between inspection cycles.

The issue is not whether standards are adequate. It is whether visibility keeps pace with how modern buildings actually operate.

MOVING THE INTERVENTION POINT EARLIER

In high-rise environments, consequence is amplified. Once ignition occurs within a vertical structure, complexity escalates rapidly. Smoke movement, compartmentation integrity, evacuation strategy and firefighter access all become critical variables. Modern fire engineering has evolved to manage these conditions with increasing sophistication.

However, by the time those systems engage, a fire already exists. The strategic question is not only how we respond, but when we intervene.

For decades, electrical protection has focused on disconnection at defined fault thresholds. That approach has saved lives

and remains essential. Yet as electrical demand intensifies and system behaviour becomes more dynamic, there is a growing case for identifying deviation earlier – at the point where electrical behaviour begins to move outside its normal profile.

This is precisely where Ci Safe intervenes. It embeds intelligence at the point of use, providing continuous supervision rather than relying solely on centralised circuit protection.

In high-rise towers, that additional layer of oversight can materially reduce risk.

Continuous behavioural insight does not replace existing protection. It sits alongside it, adding visibility where traditional devices are designed only to disconnect.

The shift is subtle but significant,

moving high-rise fire strategy from managing ignition to reducing the likelihood of ignition occurring in the first place.

THE EVOLUTION OF ELECTRICAL INTELLIGENCE

In recent years, building systems have become increasingly instrumented. Real-time data now informs energy management, security and environmental control. By contrast, the electrical system has largely remained reactive – visible only when a breaker trips or a fault occurs.

Ci Safe addresses that imbalance. Rather than waiting for a defined fault threshold to be exceeded, it introduces continuous behavioural supervision within the building's electrical network. ▶

'COMPLIANCE ENSURES INSTALLATION SAFETY. IT DOES NOT MONITOR GRADUAL DEGRADATION OR SUSTAINED THERMAL STRESS ONCE SYSTEMS ARE IN USE'



A connected safety ecosystem combining prevention at source with real-time command and coordinated response across the building.

AI operates both locally and in the cloud. At device level, embedded intelligence interprets electrical behaviour in real time, enabling immediate intervention without reliance on internet connectivity. Intelligent Autonomy ensures that, where unsafe escalation is detected, action can be taken at source – isolating only the affected connection point.

AI operates within defined electrical safety parameters and deterministic thresholds, ensuring predictable and reliable decision-making in safety-critical environments.

In parallel, cloud-based AI analyses safety data across installations, identifying broader patterns and refining how emerging risk is recognised over time. Local intelligence protects in the moment; cloud intelligence strengthens protection across portfolios.

Breakers and RCBOs remain responsible for defined fault conditions. Ci Safe adds a behavioural layer between normal operation and fault disconnection – detecting unsafe

thermal and resistance changes at the stage where conventional protection devices still consider the circuit within safe limits.

Ci Safe operates as a distributed safety ecosystem. Each device contains embedded intelligence capable of acting autonomously, while communicating through a secure local mesh network that avoids single points of failure and maintains resilience even without internet connectivity.

Core protection decisions are made locally, ensuring immediate intervention at source.

Integration is bi-directional by design. Ci Safe can provide real-time safety data to building-management systems or national safety platforms, while also incorporating selected third-party sensors into its own management environment. Detection and suppression systems remain essential – Ci Safe strengthens them by adding a prevention layer beneath them.

Ci Safe forms part of a wider intelligent building safety system, designed not only

to reduce electrical fire risk but also to autonomously shut off gas and water leaks and identify mould-risk conditions, among other building hazards. Through its command-and-control layer, it coordinates real-time emergency response.

The evolution is not dramatic. It is structural. In vertically dense buildings, electrical fire prevention begins where the risk first forms – beneath the surface, within the infrastructure itself. 🌱



For more information, go to www.ci.global



WRITTEN BY
Anthony D Parfitt
Anthony D Parfitt is chairman and founder of Ci Global and the inventor of Ci Safe. Anthony is a safety-systems innovator

with decades of experience developing Home Office-approved, safety-critical technology for the UK Government and Network Rail. His work includes the original Automatic Number Plate Recognition (ANPR) system developed for the DVLA and deployed across UK police forces. He now focuses on prevention-first building safety and technologies designed to detect and stop electrical fires and other building hazards before they escalate.

‘THE SHIFT IS SUBTLE BUT SIGNIFICANT, MOVING HIGH-RISE FIRE STRATEGY FROM MANAGING IGNITION TO REDUCING IGNITION OCCURRING IN THE FIRST PLACE’

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PLUS

Detection

**Fire
Protection**

**Expert
Insight**



Head to Head Exclusive

APPROVAL IN ACTION

p14

Ryan Fogelman, Vice President of Fire Protection Services at Fire Rover, explains what FM Approval means for their system and the company's role in managing growing global risks

Special Report

MOBILE WATER SUPPLY

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Produced in partnership
with US Fire Pump

SAFETY IN FOCUS

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Editor's note

By Iain Hoey, Editor



Hello and welcome to the July issue of International Fire and Safety Journal.

As wildfires become more intense and energy systems more complex, early detection and response are moving higher up the priority list for fire safety professionals. For this month's Head to Head, I sat down with Fire Rover's Ryan Fogelman to talk about a major milestone: FM Approval for their remotely-operated fire suppression monitor. With over 750 systems already deployed, Ryan explains how this certification makes it easier for design teams to specify Fire Rover's technology and how it's cutting through red tape in projects involving lithium-ion battery hazards and waste sites.

Our Special Report, produced in collaboration with US Fire Pump, focuses on mobile water supply - a subject that doesn't always get the attention it deserves, but is absolutely central to high-demand scenarios like wildfires and industrial fires. Chris Ferrara breaks down the capabilities of US Fire Pump's systems, capable of moving up to 20,000 gallons per minute. We also hear from Hytrans, who showcase their HydroSub units and containerised solutions designed for fast, manpower-light deployment in remote or rugged terrain.

This month's Expert Insight features Steve McGuirk from the newly restructured Fire Sector Confederation. As someone with nearly four decades in the fire service, Steve's reflections on fragmentation in the sector post-Grenfell - and how the new Fire Chain model aims to connect the dots - are well worth your time.

Our Safety in Focus section brings perspectives from across the globe: ICC MENA's Mohamed Amer talks about how codes are reshaping the way buildings are planned in the region; Consilium shares the results of Malmö Stad's remote alarm monitoring rollout; UL Solutions discuss the need for better assessment of passive protection systems; and Fire Aware's Gavin Skelly outlines how values can drive accountability across the fire safety supply chain.

The rest of this issue is packed. We look at detection innovations from FireVu, Bandweaver and CI Global, including smart sockets and fibre-optic sensing in tunnels. We also hear from Booth Industries and Injuncta on fire protection, from long-term tunnel doors to faster remediation techniques.

Enjoy the magazine!

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THE SHIFT *begins* at the socket

Ci Global Founder Anthony D. Parfitt discusses certified smart sockets that identify faults, shut off power, and reduce the risk of fatal electrical fires

Trusting traditional fire detection systems proved catastrophic at Grenfell Tower. It's time to rethink fire safety – not as a response, but as a prevention. The Grenfell Tower fire was a wake-up call to the world. A devastating reminder that waiting for a fire to start before taking action is not just outdated – it's deadly. Seventy-two lives were lost. Lives that should never have been in danger.

The fire began with a fridge-freezer. A standard appliance in a standard flat. Used exactly as intended. But somewhere, deep inside, a hidden fault had developed – quietly, invisibly. And by the time anyone knew something was wrong, it was already too late. No one expected it. No one could have seen it coming.

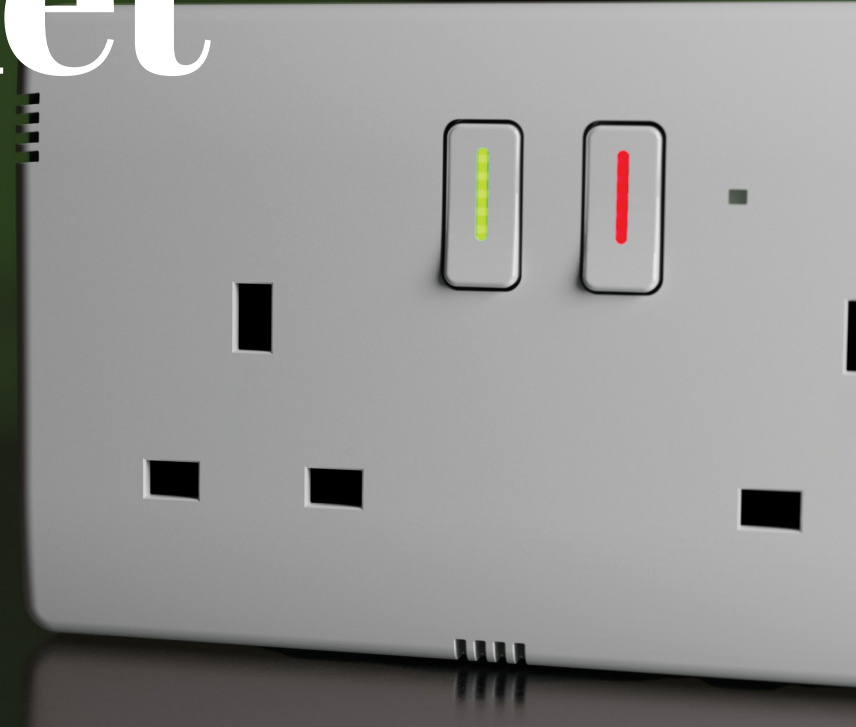
Yes, the Grenfell Inquiry uncovered a series of failures – from the flammable cladding and 'stay put' policy, to regulatory oversights and corporate negligence. But let's be clear: nothing in the current system, no alarm, no regulation and none of the 58 recommendations now accepted by the UK government, would have stopped that fridge-freezer from igniting. Because everything we do today starts after a fire has already begun.

This article explores how modern technology can stop deadly electrical fires before they start – by tackling the risk directly at its most common source: the socket.

Why are we still reacting – when we could be preventing?

Conventional detection systems are built to alert people after a fire has already started – but they do nothing to stop it from starting in the first place. Smoke alarms, fire doors, evacuation plans – all vital. But all reactive. None of them intervene at the source. This is the fatal flaw not

“Most electrical safety systems today only kick in after a major fault – like a short circuit or overcurrent.”



just in Grenfell and the UK, but across fire safety worldwide: almost every system waits for ignition. And once there's a fire, the damage is already done.

Electrical faults remain one of the most common causes of fires – in homes, hotels, hospitals, schools. Often starting silently, at night, when people are asleep. And too often, by the time anyone knows, it's already spreading. This isn't good enough. Not when we have the technology to do better.

The overlooked risk hiding in plain sight

The insidious nature of electrical fires lies in their everyday origin. Everyday appliances. Chargers. Extension cords. Even the fixed wiring within buildings. All of it has the potential to ignite.

According to UK Fire and Rescue Services data, one in four fires are caused by electrical faults – with over 5,800 of these recorded in 2022/2023 alone.

And while it's right to raise concerns about substandard or counterfeit products, the truth is that even trusted, reputable appliances can develop faults over time. As the saying goes: good white goods go bad. The real issue? There's no way to know when things start to go wrong.

Most electrical safety systems today only kick in after a major fault – like a short circuit or overcurrent – tripping a breaker or blowing a fuse. But many fires don't start with an obvious failure. They start with something much smaller – localised overheating in a plug, a damaged cable, or a degrading component.

These threats are silent, invisible and completely undetectable by conventional means. And they can come from anywhere – a brand-new charger, a high-end appliance, or a well-worn extension lead that's been daisy-chained under a rug. It's a fire waiting to happen.

And yet, the one place we could be monitoring most effectively – the socket – is still treated as nothing more than a passive conduit.

Electrical sockets, despite being central to our homes and workplaces, haven't meaningfully changed in over a century. They were never designed to detect danger. They were built to deliver power – not to question what they're powering, or whether it's safe.

This is the fundamental gap in modern electrical fire safety. We monitor smoke and

flames. We sound alarms. But we do almost nothing to stop the risk where it begins – at the socket itself.

“Smoke alarms, fire doors, evacuation plans – all vital. But all reactive. None of them intervene at the source.”

Tragedy can lead to transformation

The sad truth is, real safety reform often comes after disaster. The King's Cross fire in 1987 – sparked by a dropped match – led to a total overhaul of safety across the London Underground, including the removal of all wooden escalators. The Bradford City Stadium fire in 1985 – where a small blaze under a wooden stand spread in seconds and killed 56 people – led to bans on timber grandstands in UK football grounds. Both were horrific. Both were preventable. And both forced the nation to act. Grenfell must be the same. Not just a moment of mourning – but a turning point.

For Anthony D. Parfitt, Founder and Chairman of Ci Global, the journey started years earlier, with a burst pipe and an electrical short in his own home. A near-miss. A warning.

It pushed him to tinker – building an early prototype for a water leak detection system with auto shut-off. But at the time, it was just a side project. His day job involved pioneering safety systems for the UK Home Office, DVLA and Network Rail – including the UK's first Automatic Number Plate Recognition (ANPR) system.

Then Grenfell happened.

An electrical fire in a common appliance had taken 72 lives – and exposed a devastating truth: the system wasn't broken. There was no system. At least not one designed to prevent electrical fires before they start. So he made a decision.

He revisited his prototype. Tore it apart. Reimagined what a socket could do. And then built something nobody else had dared to try: An electrical fire prevention safety smart socket. One that could detect faults before they become flames. One that could ▶



monitor heat, load and anomalies at the exact point where risk begins – and shut off power before disaster strikes. It was a radical idea. But Anthony knew it had to happen. Because no one else was going to do it.

Redefining fire safety – from detection to prevention

Anthony knew that preventing another Grenfell would require more than detection and suppression. By the time a smoke alarm sounds or a sprinkler kicks in, the fire is already underway.

We need to act sooner. Much sooner.

That means going straight to the source: the socket. The very point where appliances draw power – and where the majority of electrical fire risks begin.



Through Ci Global, Anthony and his team developed a fully certified, patented safety socket that continuously monitors for the earliest warning signs of fire risk. That includes: dangerous overheating in plugs or appliances, circuit overloads, ring main faults and gradual faults that develop silently over time

By analysing these patterns – including through AI-powered real-time monitoring – Ci's technology can detect anomalies that indicate a developing electrical fault. And crucially, it can shut off power before the conditions for ignition are ever reached.

This is what Ci calls the 'fire prevention window': the critical moment between a fault forming and a fire starting. Where Ci acts is right at the start – before things even start to get hot.

With Ci One and Ci Max, safety smart sockets become an active line of defence, cutting power before a fire can ignite – not after. But Ci didn't stop there. This intelligent prevention technology now extends beyond wall sockets to include smart extension leads, creating a wider ecosystem of protection at the socket level.

The sockets also include sensors for other hazards – such as water leaks, which can pose a serious fire risk if they reach electrical points and gas leaks, which can lead to catastrophic explosions. These systems can be configured to automatically shut off valves remotely, stopping danger in its tracks. And it goes even further.

These capabilities can be embedded directly into appliances – like white goods or electric vehicle (EV) chargers – during manufacturing. Internal sensors monitor for component overheating or malfunction. If something goes wrong, power is cut from within the device itself.

Built-in 'black box' data logging also gives manufacturers valuable

diagnostics: insight into warranty claims, targeted recalls, product improvements and – in the event of a fire – proof that their product wasn't to blame.

“We monitor smoke and flames. We sound alarms. But we do almost nothing to stop the risk where it begins – at the socket itself.”

Ci's safety smart socket technology protects lives, protects reputations and sets a new standard for how electrical safety should work.

Prevention not reaction

If we're serious about reducing the risk of electrical fires – in homes, workplaces and public buildings – we must stop relying on systems that only act once it's already too late.

That shift begins at the socket. By embedding smart, self-monitoring technology directly within the socket, we can detect dangerous conditions – like appliance overheating, faulty wiring, or circuit overloads – and cut power before ignition ever occurs.

These are not just smarter sockets. They're self-protecting guardians – turning the most overlooked component in fire safety into the first and most effective line of defence. Setting a new global standard for fire safety means targeting the problem at its source – not waiting for symptoms to surface. And thankfully, that shift is already underway.

Ci Global's certified safety smart sockets – designed to stop electrical fires before they start – are already available in the UK, UAE and Saudi Arabia, with more countries coming online soon. Because when it comes to fire safety, prevention isn't optional. It's the only standard that makes sense. Pre-orders are open now. To register your interest, visit: <https://ci.global/contact/> ■



No longer blind



Anthony D. Parfitt, Chairman, founder and inventor of Ci Global, looks at how intelligent building infrastructure is transforming fire response, and envisages a future where prevention leads

Our approach to fire safety is still stuck in the past. Buildings are fitted with the same old technologies that activate in response to a fire that has already started, rather than preventing a fire before it even has the chance to start.

As a result, when a building fire breaks out, incident commanders can be forced to make critical decisions with partial, outdated, or no information at all. Many firefighters are operating in the literal and metaphorical dark.

Tragically, around 13,500 people still lose their lives in building fires worldwide each year, according to the latest Centre of Fire Statistics research.

This is hard to believe against a technological backdrop where we've put robots on Mars, built 3D printers that can produce customised meals, and engineered medicines that target cancer cells with surgical precision – to name just a few.

But times may finally be changing. Across the Gulf region and beyond, we are starting to see a quiet shift towards connected building safety systems that use live incident data to give emergency services real-time visibility.

The Middle East is uniquely positioned to lead this change. Governments here are already committed to next-generation infrastructure, from Dubai's goal to be the world's safest and smartest city, to Saudi Arabia's Vision 2030.

With rapid urbanisation, high-rise development and growing pressure on firefighting resources, the need for safety infrastructure enabled by AI and IA is no longer optional. It's urgent and vital.

From passive reaction to predictive intelligence

The future of fire safety will be based on not just new technology, but also a new mindset.

Where the old approach waited for a fire to start, modern intelligent infrastructure works continuously to prevent ignition and prepare for a more rapid, targeted response.

Embedded sensors are at the heart of this transformation. Unlike conventional smoke and heat detectors that simply sound alarms, these sensors are embedded into a building's electrical systems and connected safety devices. This means they can detect and prevent fire risks and other dangers early before they escalate.

Ideally these operate on edge computing, allowing them to process data locally and act in milliseconds using intelligent autonomy IA. This doesn't have to wait for instructions from the cloud to instantly shut off power to a faulty circuit or close a gas or water valve to stop a leak.

Take the case of an overloaded electrical socket. Heat builds, melting

insulation and exposing live wires to carpets, curtains, or other flammable materials, potentially sparking a fire. With embedded thermal sensing, this never happens. The moment the temperature crosses a pre-set safety threshold; power is instantly cut. This removes the supply of electrical ‘fuel’ before a fire even has a chance to start.

Eyes in the sky

Even the most advanced prevention systems can’t eliminate every fire risk. Human behaviour is unpredictable – candles can fall, cooking oils can overheat, and accidents can and do happen. As a result, next-generation safety strategies will need to combine prevention with technologies designed to limit and contain harm when incidents do inevitably occur.

One of the most valuable emerging tools is Unmanned Aerial Vehicle (UAV) technology – drones – which provide instant situational awareness during a fire. Across the Middle East, fire services are already putting them to work. Abu Dhabi Civil Defence recently unveiled Suhail, the world’s first jet-powered firefighting drone, while Saudi Arabian authorities deployed an AI-powered UAV for the first time during this year’s Hajj annual pilgrimage to support firefighting and rescue operations.

Drones can give incident commanders a real-time aerial view, with thermal imaging to locate occupants and identify safe exit routes before crews enter. Many also carry microphones and loudspeakers, enabling rescuers to issue clear instructions – and reassurance – to people trapped inside.

Seeing through smoke

In a fire, every second counts, and smoke robs people of both time and

clarity. As visibility drops, confusion sets in. Obstacles become harder to avoid. Disorientation increases the risk of injury or worse.

Laser-guided navigation systems address this long-standing challenge for fire crews and rescue teams by projecting guidance paths that remain visible even through heavy smoke. Instead of relying on instinct, occupants and firefighters can follow colour-coded laser patterns on floors and walls to reach safety – with green indicating a clear route and red marking fire or danger.

When integrated with a smart building management system, the technology can adjust escape routes dynamically, using real-time hazard data to guide people away from danger. This is what firefighting should look like in the 21st century. No more blind spots or guessing.

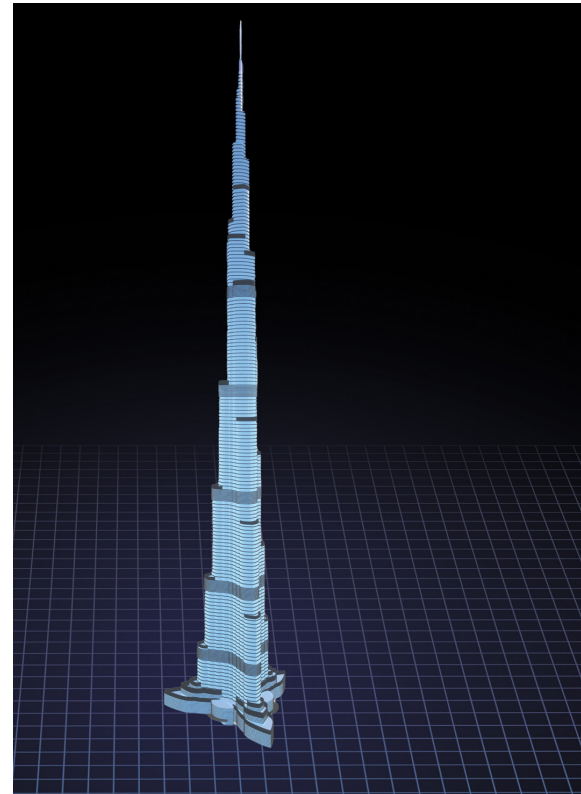
The birth of digital twins

Behind these advances lies a powerful enabler: live 3D building maps that act as digital twins of real structures. Far from static blueprints, they are dynamic, data-rich, live models that use real-time sensor readings, occupant locations and environmental conditions throughout a building.

Some systems go further, delivering these maps through AR headsets so incident commanders can move through and see inside a building remotely, as if they were physically present.

Until recently, creating a 3D map was slow and expensive. But AI has changed all that. Modern systems can now generate maps from standard floor plans in minutes and populate them with live data streams from building sensors, security systems and mobile devices.

The result is a continuously updating and fully comprehensive operational picture that gives commanders the insight



to direct teams and deploy resources where it will have the greatest impact. Put simply: get people safely in and safely out in the shortest time with the lowest risk.

A new era of fire safety

Advances in AI and intelligent autonomy are driving a fundamental shift – from reactive firefighting to proactive prevention and intelligent emergency response.

By embedding sensors throughout buildings, creating real-time 3D situational awareness, deploying drones and guiding people through smoke-filled environments with lasers, the industry is moving beyond the limits of traditional fire safety approaches.

For the Middle East, this is more than an upgrade; it is an opportunity to pioneer and lead, setting the global standard for next generation building fire and safety infrastructure. One that other countries will want to follow once they see the results.

With the right investment and commitment, Gulf cities could become global models for how smart buildings protect lives and property in an increasingly urban and densely populated, high-rise world.

The question is no longer whether the technology exists or works – but how quickly it can be deployed at scale. ■

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UK FIRE

REPORTING TO THE UNITED KINGDOM FIRE PROTECTION INDUSTRY AND FIRE SERVICES



GEARGRID

FIRE

Ci Global: Connected innovations for a safer world

Why true fire prevention requires a whole-building approach

Ci Global (Ci) is a building safety company on a mission to change what protection really means. Instead of just detecting danger, Ci turns homes, high-rises, and public buildings into active protectors – places that spot risks early, prevent harm, and help people get out quickly and safely when it matters most.

Most fire safety today is still reactive – waiting for danger before acting. But too many lives have already been lost. And too many more will be, unless we shift to intelligent infrastructure that stops fires before they start.

Prevention, not reaction.

At the heart of Ci is Ci Safe – an intelligent, embedded building safety system that prevents electrical fires and other hidden hazards like water and gas leaks by acting before heat, smoke, or danger ever begins, not after. What started as socket-level protection now scales across entire buildings and even neighbourhoods and smart cities.

Ci Safe can be embedded at critical points across a building to detect risk early and act before disaster escalates. Electrical faults. Water leaks. Gas leaks. Poor air quality that leads to mould. Hazards that often go unseen – until it's too late and someone gets harmed.

This isn't lifestyle tech. This is life-critical infrastructure, not a smart home gadget. It's built to protect people, not just alert them.

Know the building. Own the moment.

In an emergency, every second counts – but most buildings still leave emergency services in the dark. Ci's Command & Control tools change that.

At the centre is SafeMap, a live, interactive view of a building's real-time safety status. Connected to a network of sensors and smart sockets, SafeMap shows crews:

- Where the danger is
- Which routes are safe
- Where people are located

This isn't just a floorplan. It's a live, computer game-like digital twin – built for optimised firefighting and evacuation using real-world data in real time.

Add PathFinder, Ci's laser-guided evacuation and firefighting tool, and you get a new level of situational control. PathFinder uses built-in guidance to show the fastest route to the fire (red) – and the safest route out (green) – even in smoke-filled or zero-visibility conditions.

Whether accessed from a computer in a command centre, tablet in an emergency vehicle, or through Ci's RemoteView AR-compatible headset, SafeMap equips fire crews and building operators with smart, high-speed decision support.

For the first time, emergency crews can enter a building with real-time clarity. That means faster decisions – and safer outcomes for the people they're rescuing,

and for themselves. Because now, they're no longer going in blind.

Together SafeMap and PathFinder give emergency services the edge:

- **Live building navigation** – see risks, occupants, and safe paths in real time.
- **Laser-guided firefighting and evacuation** – fastest route in, safest route out.
- **3D display** – navigate complex layouts with clarity.
- **Remote planning** – prepare your response remotely from tablet or command centre.
- **Smarter, faster decisions** – powered by live in-building data.

From socket-level alerts to full-building evacuation, Ci's connected safety ecosystem delivers when it matters most – helping emergency crews act fast, stay safe, and save lives.

Because the most important part of any building rescue is the people inside – and the people sent to save them. ■

WRITTEN BY

Anthony D. Parfitt

Ci Global was founded by inventor Anthony D. Parfitt in response to the Grenfell tragedy in 2017.



For more information, go to ci.global

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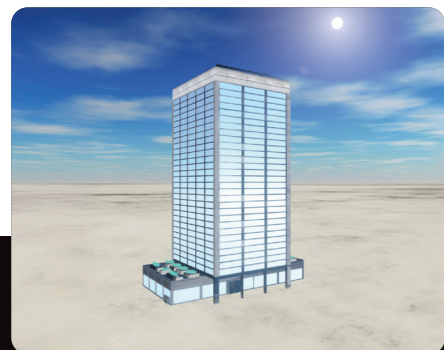
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KNOW THE BUILDING.

OWN THE MOMENT.

SafeMap + PathFinder

Smart visibility for first responders when every second counts.



Live building navigation
see risk locations, occupants,
and safe paths in real time.



Laser-guided firefighting and evacuation
fastest route in, safest route out.



3D display
move through buildings like a
digital twin.



Plan your response remotely
from tablet to
command centre.



Make faster, smarter decisions
using live data from inside
the building.

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Gulf Fire نار الخليج

REPORTING TO THE MIDDLE EAST FIRE PROTECTION INDUSTRY AND FIRE SERVICES

في إعداد التقارير عن الخدمات المتعلقة بصناعة الحماية من الحرائق والإطفاء في منطقة الشرق الأوسط.

OCTOBER 2025

Ci Global

Connected innovations for a safer world

FROM REACTION TO PREVENTION

Minimising fatal building fires – British innovator Anthony D. Parfitt bringing prevention-first fire and building safety to the GCC

AWARD-WINNING BRITISH INNOVATION: ELECTRICAL SAFETY FIRST (2022), IOT GLOBAL AWARDS (2023)

WHY REACTION IS NOT ENOUGH

Few regions are better placed to lead the next era of building safety than the Gulf. At the centre of this shift is Anthony D. Parfitt, a British Home Office-accredited innovator and the founder of Ci Global. Parfitt has spent decades developing safety and security systems for the UK government, police, and railways. Today, he and his team are introducing Ci Safe – a prevention-first ecosystem designed to stop ignition at its source and give Civil Defence unprecedented live intelligence across entire buildings.

Tragically, **around 13,500 people still lose their lives in building fires worldwide each year**, according to the latest Centre of Fire Statistics research.

Electrical faults remain one of the leading causes of accidental domestic fires – responsible for around half of all cases. In hotter regions such as the GCC, the proportion is thought to be even higher. Some fire safety experts warn that electrical faults may account for most fires in the region.

It is a pattern seen in too many tragedies. A faulty fridge-freezer ignited the Grenfell Tower fire in London in 2017. Overloaded sockets triggered deadly high-rise fires in Doha, Medina, and Sharjah. In every case, the ignition point was electrical.

The challenge with all fires is timing. By the time smoke or flames are severe enough to trigger an alarm, it may already be too late to save lives or property.

The Gulf region has some of the fastest and most advanced Civil Defence forces in the world. Yet even the best-trained crews are limited by the fact that most safety systems only act once fire, smoke, or panic has already taken hold.

The fundamental question is simple: if dangerous electrical faults can be detected and shut down before ignition, why are we still waiting for smoke to appear?

After eight years of development, Ci Global has launched Ci Safe – a prevention-first building safety system that, the company says, is designed to make electrical fires the rare exception, not the norm.

INTRODUCING CI SAFE: FROM FIRE PREVENTION TO FULL BUILDING SAFETY

After a near-miss electrical fire in his own home, and later witnessing the Grenfell tragedy unfold, Anthony D. Parfitt left a successful career developing safety and security systems for the UK government to pursue a single mission: to make prevention, not just reaction, the global standard in fire and building safety.

That mission became Ci Safe – a prevention-first building safety system that combines AI in the cloud with cloudless Intelligent Autonomy (IA) at the edge. With embedded intelligence in every connected device, and an ecosystem of safety solutions working together, it detects risk early and acts instantly – transforming passive buildings into active protectors.

THE CI SAFE ECOSYSTEM

Ci Safe brings prevention into the infrastructure of every building through an integrated ecosystem of safety components. These include:

- **Ci Sockets** – intelligent outlets that detect faults, overheating, or overloads and cut power before ignition.
- **Ci Sensors and Devices** – environmental detectors that spot hazards traditional systems miss: water and gas leaks, poor air quality, mould risk, seismic activity, and human presence through movement, location, heartbeat, and breathing.
- **Ci Command & Control** – provides Civil Defence, emergency crews, and building managers with real-time visibility across every connected device, automated alerts, and faster, safer decision-making when every second counts.
- **Ci Connect** – dashboards, apps and interfaces that stream critical data and integrate Ci Safe with existing building systems and national platforms.

ADVANCED TOOLS FOR CIVIL DEFENCE

Within Ci Command & Control sits a suite of specialist tools designed for first responders and Civil Defence: Ci SafeMap, PathFinder, SafeSign, Drone, and RemoteView. Together they create a live digital twin of a building, show safe routes through smoke, and stream instant aerial and AR views.

Whether viewed on a tablet or through an AR headset, Ci Safe equips Civil Defence with unprecedented clarity. According to Ci Global, the technology enables emergency crews to enter a building with live intelligence – making faster decisions, reducing risk, and improving outcomes.

DUAL INTELLIGENCE: AI + INTELLIGENT AUTONOMY (IA)

At the heart of Ci Safe is 'dual intelligence' – artificial intelligence in the cloud combined with cloudless intelligent autonomy at the edge. The cloud layer analyses building safety data to identify patterns, risks, and emerging trends across buildings, districts, and entire cities. These predictive insights turn raw data into preventive action and long-term safety planning.

At the same time, intelligent autonomy is built into every Ci device. That means local decision-making happens in milliseconds, cutting power or shutting valves instantly, even if the building has lost connectivity.

Together, these two layers form a dual shield – one predictive, one immediate – ensuring communities and property are protected not just from ignition, but right through to safe evacuation.

WHY THE GULF IS THE IDEAL FIRST DEPLOYMENT

As long as the world relies on response-driven strategies, building fires will remain a recurring risk. But it doesn't have to be this way.

By adopting a prevention-first model – where reaction becomes the last resort and prevention the first line of defence – most electrical building fires can be avoided entirely, with minimal loss of life or property.

The GCC now has the chance to lead globally by embedding prevention and rapid response into the very fabric of its homes, towers, and smart cities. Such a model could reduce electrical fires to a level that sets a new international benchmark – one other nations will quickly follow.

The UAE's ambition to be the world's safest and smartest country, and Saudi Arabia's Vision 2030, both demand intelligent infrastructure that protects people as cities scale.

BRITISH INNOVATION, GLOBAL RECOGNITION

Anthony D. Parfitt is a British Home Office-accredited innovator with decades of experience developing safety and security systems for the police, railways, and government.

His mission began after a near-miss in his own kitchen and was cemented by the 2017 Grenfell Tower tragedy in London – a fire started by a faulty fridge-freezer. If Ci Safe had existed then, ignition could have been prevented.

This journey has already earned international recognition. In 2022, Ci Safe received the Electrical Safety First Innovation Award from the UK's leading fire safety charity. The following year, it was named winner of the IoT Global Award in the Connected Consumer & Smart Home category, recognising excellence in connected safety on a worldwide stage.

AI in the cloud and autonomy at the edge form a dual shield – one predictive, one immediate.



'THE GCC CAN BE THE FIRST TO DEPLOY PREVENTION-FIRST SAFETY AT SCALE – AND SET THE STANDARD THE WORLD WILL FOLLOW'

Ci Safe is fully certified, operationally ready, and pilot ready. Its modular ecosystem can be deployed villa by villa, tower by tower, or city-wide, and integrates seamlessly with national platforms such as Hassantuk in the UAE and Saudi Arabia's Civil Defence systems.

This is not simply a British innovation brought to the Gulf. It is an invitation for the GCC to be the first to deploy prevention-first safety at scale – and in doing so, to set a global standard the rest of the world will follow.

The future of fire and building safety won't be built on reactive alarms – it will be built on intelligent prevention.

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For more information, go to www.ci.global

Ci Safe is a prevention-first building safety system that detects risks early and acts instantly – turning passive buildings into active protectors.

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Detection

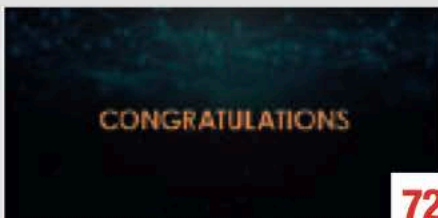
The development of intelligent fire detection and interpretation



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Fire risk and the need for uninterrupted data centre uptime



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Fire Buyer Award Winners

Products and people shaping excellence in the international fire sector

AU RA



sensitron

A Halma company

**CONTROL
PANEL**

FOR
RELIABLE
GAS
DETECTION
SYSTEMS

BORN FROM PL4+

**STRONG
HERITAGE,
NEW
DESIGN.**

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Modern Design Meets Gas Control Detection

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The safest fire *is the one that* **NEVER STARTS**

Electrical faults are one
of the leading causes of
building fires worldwide

Yet most safety systems only react once it's
too late. By then the damage is already done.

Homes lost.
Towers gutted.
Lives changed forever.

Ci Safe

The next generation of building safety doesn't
wait for the fire to start.

Prevention, not just reaction.

Prevention-first building safety

from socket to skyline to smart city.



Ci Safe is an intelligent, embedded safety system - using cloud AI and Intelligent Autonomy (IA) - that detects danger early and acts instantly, even offline.

Electrical Fire Prevention

- Detects overheating, arcing, and overloads at the socket
- Cuts power instantly to stop ignition
- Prevents fires before smoke, flame, or chaos begin

Water & Gas Leak Prevention

- Detects leaks early through integrated and external sensors
- Automatically closes valves to prevent flooding or explosion
- Allows remote shut-off during emergencies

Mould & Damp Risk Detection

- Identifies early mould-risk conditions from humidity, airflow, and temperature
- Alerts early - long before structural or health risks emerge
- Protects residents, compliance, and asset value

Command & Control

Real-time visibility and navigation for emergency crews.

- SafeMap: live 3D digital twin showing risks, heat data, and safe routes
- PathFinder: laser-guided evacuation paths visible even in dense smoke
- Faster, safer decisions for building teams and fire crews when every second counts

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12 – 14 January 2026
Dubai World Trade Centre

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PREVENTION FIRST SAFETY FOR ELECTRICAL FIRES

Anthony D. Parfitt, UK Home Office approved safety systems innovator and founder of Ci Global, discusses prevention first fire and building safety, and why preventing electrical fires is now possible and essential



ANTHONY D. PARFITT
CHAIRMAN & FOUNDER
CI GLOBAL

For decades, the fire safety industry has been optimised around speed. Seconds to detect smoke and trigger alarms. Minutes to respond. Minutes to evacuate.

This speed has saved countless lives. But speed, on its own, is no longer enough. Because even the fastest response still begins after a fire has already started. And that can be too late.

It's an uncomfortable truth, but if we want to reduce fire deaths, injuries, and catastrophic building and property losses, we must be prepared to challenge a long standing assumption at the heart of fire and building safety, that fire safety measures only begin after a fire starts.

ELECTRICAL FIRES ARE NOT INEVITABLE

When it comes to electrical fires, we have designed systems that respond exceptionally well once danger is visible, but we have largely ignored the conditions that cause that danger in the first place.

"By the time a smoke detector detects smoke, an electrical fire has already started. From that point onwards, the objective is no longer prevention, but survival"

That limitation becomes increasingly risky as cities grow taller, buildings become more interconnected, and electrical systems work harder than ever before.

Electrical fires, one of the most common causes of building fires worldwide, begin silently. Developing over time, as components degrade, connections loosen, or electrical systems are pushed beyond their intended limits.

For fire safety professionals, regulators, specifiers, and buyers, the key question is no longer how efficiently we respond to fire. It is, if most electrical fires could be prevented before they start, would we be willing to redesign our safety strategy around prevention rather than just reaction.

THE RISE OF GLOBAL RISK

Electrical fires are often associated with ageing buildings or poor maintenance, but this is a dangerous misconception. Electrical fire risk is systemic and driven by modern living.

A faulty charger can ignite just as easily in a luxury hotel, shopping mall, or high

rise apartment as it can in an older building. Newer buildings are not immune. In many cases, they carry higher risk due to denser electrical loads and more complex systems.

Buildings today consume more electricity than at any point in history. In hot regions such as the Middle East, air conditioning systems run almost continuously. Data networks and Internet infrastructure operate 24/7 too. The global shift toward electric vehicles introduces high load EV charging into residential and commercial environments. Smart buildings, automation systems, appliances, and personal portable electronics all place sustained pressure on wiring, sockets, and electrical connections.

PUSHING SYSTEMS TO THE LIMIT

In many environments, these systems operate close to their maximum safe capacity for extended periods.

High ambient temperatures only amplify the problem. In the Gulf, daytime temperatures regularly exceed 45°C. Heat accelerates material and electrical component fatigue, increases electrical resistance, and shortens the lifespan of electrical insulation, all typically invisible.

Compounding this risk is the widespread availability of substandard or counterfeit electrical devices within global supply chains. These products can look identical to legitimate devices, making the risk

once again almost impossible to detect.

The fact is electrical fire risk does not discriminate by location or building type. Every building is exposed to the same fundamental reality. Electricity behaves the same way everywhere, and when it overheats, it can start a fire that can spread very quickly.

THE INVISIBLE DANGER

Most electrical fires are the result of a long, hidden process. Loose connections create micro arcing. Overloaded circuits generate excess heat. Components degrade. Internal connections loosen slowly, all causing operating temperatures to rise over time.

Circuit breakers are often assumed to provide protection, but their role is frequently misunderstood. They are designed to trip during short circuits or extreme overcurrent events, not during slow thermal buildup or unstable electrical behaviour. Yet it is precisely these gradual conditions that cause many electrical fires.

By the time a smoke detector detects smoke, an electrical fire has already started. The fire now has energy, momentum, and the potential to spread. From that point onwards, the objective is no longer prevention, but survival. It's a high risk strategy.

PREVENTION AT THE SOCKET

Despite enormous advances in fire detection, suppression, and evacuation technology and strategies, one of the most critical components in any electrical system has remained largely unchanged for over a century, the socket.

Sockets deliver power without awareness. They do not know what is plugged in, how it is behaving, or whether conditions are becoming unsafe. Power flows regardless of context.

Yet the socket is where risk converges. If

abnormal electrical and thermal behaviour can be identified at the point of use, action can be taken before a fire becomes possible.

By continuously monitoring temperature, current flow, arcing behaviour, and load anomalies, danger can be identified while it is still preventable. Power can be cut. Instantly, and safely.

This represents a fundamental shift, from reacting to fire, to stopping the conditions that cause it, including the electrical fuel supply that feeds overheating and fire.

FROM REACTION TO PREVENTION

Early detection alone is not enough. True prevention requires autonomy. Systems must be able to act at the edge, at the socket, appliance, or circuit, without waiting for cloud connectivity or external instruction.

This is not a lifestyle feature or a smart home convenience. Prevention first electrical safety is safety critical infrastructure.

Autonomous systems operate continuously and silently. When abnormal conditions are detected, power is cut before ignition. Alerts and data follow, but the primary action happens first.

Importantly, this approach does not replace existing fire safety systems. It complements them by addressing a phase of risk they were never designed to reach.

SCALING PREVENTION BEYOND INDIVIDUAL HOMES

While socket level intervention is powerful on its own, its true value emerges at scale. In multi-unit residential buildings, hotels, hospitals, and commercial buildings, for example, early electrical intervention reduces the likelihood of electrical fires to extremely low levels. When integrated into a building wide safety platform, prevention first systems provide real time insight into electrical health across thousands of connection points simultaneously. Patterns emerge. High risk areas can be identified early. Maintenance becomes predictive and preventative, rather than reactive. ➔



WHAT THIS MEANS FOR FIRE BUYERS

For international fire buyers, the implications are profound. Prevention first electrical safety directly addresses one of the most common causes of fires worldwide. It reduces incident frequency rather than simply mitigating consequences. It supports insurers by lowering claims exposure. It improves resilience in high density and high risk environments.

Crucially, it aligns with existing regulatory frameworks rather than competing with them. Prevention first electrical fire safety systems can operate alongside national alarm monitoring platforms, sprinklers, evacuation strategies, and civil defence protocols.

This is not about replacing standards and strategies. It is about extending them into territory they were never designed to cover, the invisible prevention window where danger can be stopped.

THE STRATEGIC OPPORTUNITIES

Regions investing heavily in smart cities and digital infrastructure are uniquely positioned to lead this shift. The Middle East combines rapid urban development, world class civil defence capabilities, and a willingness to adopt new technologies at scale.

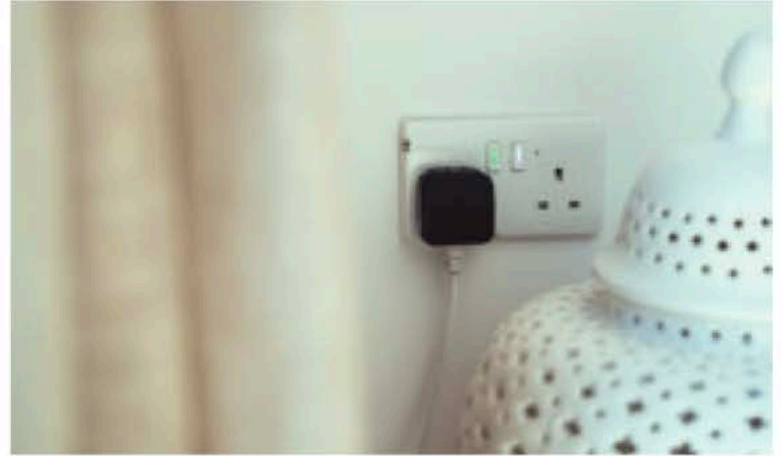
Here, the question is not whether prevention first systems are technically viable. It is whether they are recognised as the next logical evolution of a world class fire safety policy.

STOPPING FIRES BEFORE THEY START

To stop electrical building fires once and for all my company and I have developed Ci Safe, a prevention first fire and building safety system designed to stop electrical fires at their point of origin, before heat, smoke, or flame are allowed to start.

Ci Safe continuously monitors electrical behaviour at the socket and device level, where most electrical fires begin. It detects early indicators of developing faults, including abnormal temperature rise, unstable current draw, arcing, loose connections, and sustained overload conditions.

When Ci Safe identifies unsafe conditions, it acts immediately. Power is shut off locally at the source, before a fire can start. This action is autonomous and automatic.



Once intervention has taken place, Ci Safe communicates. Alerts and data are shared with occupants, building managers, or control systems to support maintenance and compliance. The sequence is deliberate, prevention first, notification second.

Ci Safe is not a smart home lifestyle product. It is safety critical infrastructure designed to operate continuously and quietly alongside existing fire detection, alarm, and suppression systems, filling the gap they cannot reach.

At scale, Ci Safe provides real time insight into electrical risk across buildings and portfolios, enabling proactive risk management, predictive maintenance, and better informed emergency response.

In simple terms, Ci Safe moves fire safety upstream, from reacting to fires, to preventing most of them from starting at all.

REDEFINING WHAT SAFE MEANS

Fire safety has long been defined by what happens after a fire starts, alarms, evacuation, suppression, rescue. These systems will always matter.

But safety should also be defined by what does not happen. The safest fire is the one that never starts. And a fire that never starts does not need a response. It does not endanger communities and fire crews.

Electrical fires are not acts of fate. They are the result of conditions that can now be measured, recognised, and interrupted.

The safest cities of the future will not be remembered for how well they fought fires. They will be remembered for how rarely they had to.

Meet us at Intersec, 12–14 January 2026, Hall 8, Stand 8 G12 **FB**

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FIRE SUPPRESSION

Head to Head Exclusive

Our world **PROTECTING** *your world*

p18

Sam Malins, Chief Executive Officer at Reacton Fire Suppression, breaks down the key developments driving Reacton's momentum and the priorities set for the year ahead

PLUS

Detection
Suppression
Safety in
Focus

From SOCKET to *skyline*

Anthony D. Parfitt – a Home Office approved safety systems innovator and founder of Ci Global – outlines how rising electrical loads in GCC buildings demand earlier fault detection before hazardous conditions develop

Electrical faults remain a leading cause of serious fires across the GCC – and around the world – intensified by high temperatures and rising electrical demand. The question is no longer how fast we respond – but how early we prevent the fault that starts the fire.

In the GCC, summer temperatures regularly reach 45–50°C – which may be great for tourism and lifestyle, but the same extreme heat places real stress on electrical systems.

This continuous thermal-electrical load accelerates wear, especially in older or poorly maintained buildings. Air conditioning is used almost continuously across the region, and it is also an electrical system that carries elevated fire risk when operating around the clock in a hot climate.

A region under extreme electrical stress

The GCC also has one of the world's highest concentrations of mega-

high-rise residential buildings. While these feats of engineering are deeply impressive, they rely on complex electrical systems – longer cabling routes that create greater resistance and heat, heavier transformer and substation loads, and a much higher density of sockets and appliances, all drawing significant current.

The region has built some of the world's most advanced and luxurious towers. But even in these buildings, the basic risk remains the same: a single electrical fault in one apartment can still start a fire. That's why protection has to begin with prevention, not response.

Like every nation in the developed world, the GCC is also exposed to a steady influx of counterfeit or substandard electrical goods. And it doesn't matter how expensive or advanced the building is – the risk is identical the moment a resident plugs in a faulty device that can overheat and ignite.

All of this places the Gulf on the front line of electrical fire risk. Yet the systems designed to protect

us – alarms, detectors, sprinklers, evacuation routes – still only react once a fire has already started. And by that point, it's already too late; the damage has begun.

Across the GCC, Civil Defence teams are among the most well-funded, technologically advanced, and fastest responders in the world. But even with world-class response, too much is still left to chance. If we want fewer fires, fewer deaths, and fewer catastrophic building losses, one thing is clear:

We must stop treating electrical fires as inevitable – and start preventing them at their source.

The problem we still aren't addressing

The fundamental design of the electrical socket has barely changed in over a century. It continues to pass power blindly, without questioning what it is powering or whether conditions are safe, which is why electrical faults so often develop invisibly and are only noticed once smoke appears.



Most people assume a circuit breaker will prevent this, but it won't. Breakers trip on short circuits or extreme overcurrent, not on the slow, quiet overheating that causes most electrical fires.

As the 2017 Grenfell Tower tragedy in London exposed, a single faulty appliance can trigger devastation on a scale that no traditional system is built to withstand. The UK Government's public inquiry confirmed that a malfunction in a fridge-freezer was the source of the fire – a silent electrical fault buried out of sight.

Nothing in today's standard building-safety stack – no smoke detector, alarm, or sprinkler – would have stopped that fridge-freezer from overheating and catching fire. That is not a UK-only lesson. It is a global one.

Why waiting for smoke is no longer acceptable

In most electrical fires, the first signs of danger are subtle: small temperature changes, increased current draw, persistent overloading, micro-arcs, or

degrading components. None of these will trigger a traditional detector.

Smoke alarms, heat sensors, and suppression systems have saved countless lives, but they all share the same flaw: they activate after the fire has begun – and they rely on human reaction to work.

“We must stop treating electrical fires as inevitable – and start preventing them at their source.”

By that stage, toxic smoke may fill a room within minutes, visibility can collapse to near zero, evacuation routes quickly become hazardous, and firefighters are forced to work blind as conditions worsen by the second.

Fire crews often enter burning buildings with little or no knowledge

about where people are or how the fire is spreading. Even the most skilled firefighters are constrained by the absence of real-time information.

This isn't a criticism of those on the front line. It's a limitation of the systems they're given.

The question we should be asking is simple: if electrical faults can be detected before a fire starts, why are we still relying on alarms after smoke appears?

The shift from reaction to prevention

Across the GCC, governments are investing billions into smart cities and next-generation safety systems. Dubai's ambition to become the world's safest and smartest city, and Saudi Arabia's Vision 2030 transformation, are not just economic programmes – they are signals. Signals that the region is ready to adopt solutions that act before life-threatening danger takes hold. ▶



That shift begins at the socket.

At Ci Global, we spent the last eight years asking a simple question: what if the socket itself could detect the earliest signs of electrical danger and stop a fire before it starts? This led to Ci Safe – an intelligent, prevention-first building-safety system built to stop a fire long before heat or smoke ever appears.

Ci Safe is a full-spectrum building-safety system that uses intelligent sensors, cloud AI for real-time building intelligence, and cloudless Intelligent Autonomy (IA) for local, instant action – even offline. It prevents electrical fires by detecting overheating, arcing, load anomalies and other early-stage electrical risks long before a fire can start, and it also detects water and gas leaks and identifies mould-risk conditions.

If danger is detected, Ci Safe shuts off power locally and instantly. This is the fire-prevention window – the brief but critical moment between a fault forming and a fire starting. Most electrical fires begin here, and Ci Safe intervenes before they do.

Ci Safe isn't a smart-home gadget. It's safety-critical building infrastructure that works alongside – not instead of – existing building or national safety systems. It adds the preventive layer that traditional detection-only systems cannot provide.



A whole-building safety revolution

In large buildings and public infrastructure, Ci Safe forms part of a wider safety ecosystem:

- Ci Sockets prevent electrical fires at the point of use
- Ci Sensors detect water and gas leaks and can shut off valves remotely
- Ci Inside embeds Ci Safe electrical-fire prevention into appliances, EV chargers, and other products
- Ci Command & Control provides live digital-twin visibility for building managers and emergency services
- Ci PathFinder uses laser guidance to show the fastest route to the fire and the safest way out – even in zero visibility
- Ci Drone provides rapid rooftop-to-ground response and aerial insight at any height

Together, these layers of protection turn passive buildings into active protectors, delivering intelligent, autonomous prevention at every critical point of risk.

A unique opportunity to lead the world

Few regions are better positioned than the GCC to adopt prevention-first safety at scale. The UAE, for example, has already demonstrated leadership by integrating national fire-monitoring systems, investing in digital infrastructure, and prioritising life-safety standards. Embedding

prevention-first electrical-fire safety into this ecosystem is the next logical step – and one that could set a global benchmark.

The GCC can become the first region in the world to treat true electrical-fire prevention as a national standard.

“Smoke alarms, heat sensors, and suppression systems have saved countless lives, but they all share the same flaw.”

A fire that never starts saves lives

We cannot stop every fire. Human behaviour is unpredictable. But we can stop most electrical fires – and give emergency crews the information they've been missing for decades.

Electrical fires are not an inevitable fact of life. They happen when we fail to act early – at the socket, where intervention is most effective.

With intelligent, embedded prevention, buildings no longer wait for danger. They guard against it. And in a region growing as fast and as vertically as the GCC, that matters.

The safest city in the world will not be the one that responds fastest. It will be the one where electrical fires rarely begin – and when they do, the response is immediate. ■



Anthony D. Parfitt
Founder of Ci Global

KNOW THE BUILDING. OWN THE MOMENT.

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Smart visibility for first responders when every second counts.



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Gulf Fire

نار الخليج

REPORTING TO THE MIDDLE EAST FIRE PROTECTION INDUSTRY AND FIRE SERVICES

في إعداد التقارير عن الخدمات المتعلقة بصناعة الحماية من الحرائق والإطفاء في منطقة الشرق الأوسط.

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FROM REACTION TO PREVENTION

Why the future of fire safety must start before ignition

For more than a century, the architecture of fire safety has barely changed. Buildings around the world are still fitted with the same core technologies – smoke detectors, sprinklers, alarm panels – designed to trigger once a fire is already underway.

These systems have saved countless lives. But they all share one unavoidable flaw: they are reactive, not preventive. They do nothing to stop a fire from starting in the first place.

In high-rise buildings, that limitation can be fatal. By the time detectors sound and crews are dispatched, precious minutes have gone. Flames may be spreading, panic rising – and the outcome may already be beyond saving.

THE HIDDEN RISKS INSIDE MODERN BUILDINGS

Tragically, around 13,500 people still lose their lives in building fires worldwide each year, according to the latest Centre of Fire Statistics research.

Electrical faults are one of the leading causes of accidental domestic fires worldwide – responsible for around half of all cases. In hotter regions such as the Middle East, the proportion is thought to be far higher. Some fire safety experts warn that electrical faults may account for most fires in the region.

Electrical fires do not start with dramatic explosions. They begin with silent faults that lurk in everyday life:

- Overloaded sockets powering too many appliances

- Cheaply made devices with poor insulation
- Ageing wiring hidden behind walls
- Loose connections that arc, heat, and ignite nearby materials
- Appliances that suddenly switch from safe to dangerous without warning

The danger is compounded by timing. Many electrical fires ignite at night, when households are asleep and no one is awake to spot the early signs. By the time alarms trigger, the vital window for escape has already narrowed.

It's a pattern repeated in too many tragedies worldwide. A faulty fridge freezer ignited the Grenfell Tower fire in London in 2017. Overloaded sockets triggered deadly high-rise fires in Doha, Medina, and Sharjah. In every case, the ignition point was electrical – and now, after eight years of relentless work by my team at Ci Global, I know these electrical fires are entirely preventable.


WHY ALARMS ALONE AREN'T ENOUGH

The fundamental question is simple: if we can detect and shut down dangerous faults before ignition, why are we still waiting for smoke to appear?

The truth is that modern cities need more than response. They need embedded prevention – intelligent safety systems that monitor, analyse, and act continuously to stop fire before it starts.

And prevention cannot be about fire alone. Buildings today face multiple, overlapping risks. Gas leaks, water leaks, and mould-forming humidity all have the potential to spiral into emergencies that endanger lives and disrupt communities.

A true prevention-first system must therefore be holistic:



Ci Safe is a prevention-first building safety system that detects risks early and acts instantly – turning passive buildings into active protectors.

AI in the cloud and autonomy at the edge form a dual shield – one predictive, one immediate.



- Automatically cutting electrical power before heat turns into flame
- Detecting and closing gas or water valves before leaks escalate
- Monitoring air quality to flag dangerous mould or damp before it harms health
- Coordinating all this data in real time so decision makers have full visibility when action is needed
- Collecting and analysing data continuously to spot dangerous trends and trigger early intervention

With the right combination of prevention and detection, the risk of a catastrophic building fire can be cut dramatically – with the goal of driving it as close to zero as possible.

TECHNOLOGY HAS CAUGHT UP

Until recently, the vision of fire-proof buildings might have sounded like science fiction. But advances in IoT, AI, and edge-level Intelligent Autonomy (IA) have changed what’s possible.

Sensors embedded at the socket level can detect abnormal heat, arcing, or overloads in milliseconds. Local autonomy means they don’t wait for instructions from the cloud – they cut power instantly, removing the ‘fuel’ before a fire can ignite.

The same logic applies to gas and water. If a sensor picks up a leak, valves close automatically. If humidity rises to

unsafe levels, alerts are triggered before mould takes hold.

Layered above this prevention is a new generation of command-and-control tools. Live 3D building maps – digital twins – can show incident commanders exactly where risks are, where people are located, and what routes are safe for evacuation. Autonomous drones can launch from rooftops to stream live video within seconds. Laser pathfinding systems can guide people through smoke to safety.

It is a complete ecosystem – prevention first, supported by smarter, pin-point response.

THE ROLE OF CI SAFE

This is the principle behind Ci Safe, developed by my company Ci Global. After a near-miss at home and watching the Grenfell tragedy unfold, I left a career in government security systems to focus on one mission: to make prevention the global standard in fire and buildings safety.

Ci Safe combines AI-driven analytics in the cloud with edge-level Intelligent

Autonomy inside sockets, sensors, valves, and rooftop drones. That dual model ensures the system is both predictive and instant. It can act locally without internet access – but also stream real-time data to command centres and civil defence networks when needed.

The result is a system that doesn’t just raise the alarm. It stops danger at its source and connects seamlessly into the wider safety ecosystem that can spot and predict risks long before they turn into disasters.

This includes live 3D building maps that act as digital twins of real structures. Far from static blueprints, they are dynamic, data-rich, live models that use real-time sensor readings, occupant locations, and environmental conditions throughout a building.

Ci Safe delivers these maps either on standard control room screens or through AR headsets, allowing incident commanders to move through and see inside a building remotely – as if they were physically present. ▶

‘CI SAFE COMBINES AI-DRIVEN ANALYTICS IN THE CLOUD WITH EDGE-LEVEL INTELLIGENT AUTONOMY INSIDE SOCKETS, SENSORS, VALVES, AND ROOFTOP DRONES’

SEEING THROUGH SMOKE

In a fire, every second counts. Smoke robs people of both time and clarity. As visibility drops, confusion sets in. Obstacles become harder to avoid. Disorientation increases the risk of injury or worse.

Laser-guided navigation tools address this challenge by projecting guidance paths that remain visible even through heavy smoke. Instead of relying on instinct, occupants and firefighters can follow colour-coded laser patterns on floors and walls – green for a clear route, red for danger.

When integrated with a smart building management system, these routes can adapt in real time, shifting as conditions change to lead people away from hazards.

This is what firefighting should look like in the 21st century: no blind spots, no guesswork – just clear, reliable direction when it matters most.

A REGIONAL OPPORTUNITY TO LEAD

Few regions are better placed to adopt this shift in fire safety mindset than the Middle East.

The UAE has already set ambitious goals to be the world's safest and smartest country. Saudi Arabia's Vision 2030 is investing billions into smart, resilient infrastructure. Rapid urbanisation, dense high-rises, and extreme climate conditions all make prevention an urgent necessity, not a luxury.

By embedding prevention systems like Ci Safe alongside existing response networks, Gulf cities have the chance to pioneer a new global standard: one where buildings themselves act as the first line of defence.

This includes the use of drones.

Across the Middle East, fire services are already putting them to work. Abu Dhabi Civil Defence recently unveiled Suhail, the world's first jet-powered firefighting drone, while Saudi Arabian authorities deployed an AI-powered UAV for the first time during this year's Hajj to support firefighting and rescue operations.

Drones can give incident commanders a real-time aerial view, with thermal imaging to locate occupants and identify safe exit routes before crews enter. Equipped with microphones and loudspeakers, they can also issue instructions – and reassurance – to people trapped inside a burning building.

SHIFTING THE MINDSET

The biggest barrier isn't cost. Prevention-first technologies cost a fraction of the damage they prevent to property. The real challenge is mindset – breaking the assumption that fire is inevitable, and that alarms are all we can do.

To change that, three groups must act:

- **Regulators** must move beyond compliance and mandate prevention as standard.
- **Building developers and managers** must treat safety systems as core infrastructure, not optional extras.
- **The public** must demand protection that works before an emergency – and that helps fire crews get in, and people get out, safely when the worst happens.

TOWARDS A SAFER FUTURE

For families who have already suffered loss, this change comes too late.

But it could save tens of thousands of lives a year.

We now have the technology to drive fire risk to its lowest level yet – embedding safety into the walls, sockets, and systems of every building. Not just stopping fires, but preventing water damage, gas leaks, and mould through the same integrated infrastructure.

This isn't about smart gadgets. It's about life-saving infrastructure. It's about moving from a world where fires are expected, to one where they are rare exceptions.

The choice is clear: stay reactive and exposed – or combine prevention and reaction to cut risk to the minimum.

With the right investment and leadership, the Gulf can show the world what prevention-first building safety looks like – and prove that a future with minimal fires and fatalities is within reach.

This can set a new benchmark standard in fire and building safety – and one the rest of the world will follow. 🌱

Ci Global

Connected innovations for a safer world

WRITTEN BY

Anthony D Parfitt

Anthony is chairman, founder and inventor at Ci Global



For more information, go to
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A NEW DIMENSION OF PASSIVE FIRE SAFETY



Anthony D. Parfitt, Chairman & Founder of Ci Global, explains why Intersec's Best Passive Fire Safety Product award signalled a shift in fire safety – from managing fires after ignition to preventing electrical fires before they begin

For decades, passive fire safety has meant static, built-in protection – systems and materials that sit quietly in the background, requiring no power, activation, or human intervention. Their purpose has not been to prevent fire from occurring, but to resist it once ignition has taken place – slowing spread, preserving structural integrity, and buying time for evacuation and response.

In practice, fire safety strategy has therefore focused on managing consequences rather than eliminating causes. Containment, evacuation, alarm, and suppression systems assume that risk cannot be removed entirely, and that



"Ci Safe is an intelligent fire and building safety system that continuously monitors electrical behaviour"

safety begins only once smoke, heat, or flame is present. Prevention, where it exists, has largely been understood as good practice: correct installation, compliance with standards, and ongoing maintenance. That mindset has shaped the way buildings are designed and protected for generations.

The approach behind the award-winning system, Ci Safe, starts with a simple observation: a significant proportion of electrical fires originate locally – at sockets, plugs, and connection points where electricity is actively being used. Ci Safe is an intelligent fire and building safety system that continuously monitors electrical behaviour at those points of use.

When abnormal conditions emerge – such as excessive heat build-up or unsafe electrical patterns – power is automatically removed before ignition can occur. The system operates autonomously, without relying on human intervention, turning the socket itself into an active safety device rather than a passive termination point.

The Best Passive Fire Safety Product award at Intersec this year recognised a rethinking of a long-standing model. Not a

rejection of traditional passive fire safety, but an extension of it – and the possibility that, for certain categories of fire risk, particularly electrical fires, safety no longer has to begin at the point of ignition.

THE CONTRADICTION INSIDE MODERN BUILDINGS

That shift matters because the buildings we are trying to protect have changed. Today's buildings are electrically dense, digitally connected environments. Power flows continuously through sockets, devices, chargers, appliances, data infrastructure, and integrated building systems. Loads fluctuate constantly. Usage patterns evolve. Electrical systems are pushed harder, for longer, than at any time in the past.

Yet one of the most critical layers of protection remains rooted in a model developed for a far simpler, less electrically intensive era.

Much of fire safety strategy is still structured around a reactive sequence: wait for a fault to escalate, detect smoke or heat, trigger alarms, and respond. By the time those systems activate, energy has already been released in an

uncontrolled way. At that point, prevention has given way to mitigation. This creates a fundamental mismatch. Buildings are dynamic and increasingly complex, but protection against one of their most common sources of fire risk is still designed to intervene only once visible danger has emerged.

What the Intersec judges recognised is that this no longer has to be the case. Advances in sensing, autonomous decision-making, and edge-level control now make it possible to identify abnormal electrical behaviour where it most often begins – at the point of use – and to intervene before heat, smoke, or flame are present.

FROM RESISTANCE TO PREVENTION

This capability forces a re-examination of what passive fire safety can mean. Passive does not have to imply inert. It can also describe systems that are embedded, always active, and

autonomous – operating continuously without human intervention, behavioural change, or manual activation. Prevention-first electrical fire safety works quietly in the background, monitoring conditions that have historically remained invisible. When unsafe patterns are detected, intervention happens locally and immediately. Power is removed before temperatures reach dangerous levels, before materials degrade, and before ignition becomes possible. Only then do alerts, data, and notifications follow.

In this context, prevention becomes a new form of passive protection. Not resistance to fire, but the absence of fire altogether.

WHY THIS REDEFINITION MATTERS

Redefining passive fire safety changes more than technical outcomes. It changes responsibility. When safety systems are designed solely around

response, risk is treated as unavoidable. When prevention becomes technically possible, that assumption no longer holds. The question is no longer only how well a building responds to fire, but how effectively it avoids it. For developers, designers, regulators, insurers, and building operators, the implications are significant.

This does not suggest that all fires can be prevented. Fire will always remain a risk, and detection, evacuation, containment, and suppression will always be essential. But electrical faults are among the most common causes of building fires globally, and they are often the hardest to detect before damage is already underway.

Because electrical faults account for a substantial proportion of building fires, reducing that risk even partially would translate into fewer evacuations, less disruption, reduced risk to occupants, and safer conditions for emergency crews. Maintenance shifts from reactive repair to predictive intervention. Safety is addressed earlier – before faults escalate into visible danger.

WHAT THE AWARD SIGNALS

Intersec has long been a platform for exploring the future of fire safety. This year's Best Passive Fire Safety Product award signalled that progress is not defined solely by faster detection or more effective response, but by the ability to intervene before a fire can begin.

Historically, fire safety has been measured by how well buildings withstand fire. The next evolution may be measured by how rarely fire occurs at all. A fire that never starts does not need to be contained.

This award has recognised that shift – and with it, a new way of thinking about what passive fire safety can be in a world where true prevention is finally possible. **FB**



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Building safety FROM THE START

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Craig Wells, Sales Director, Quelfire argues that embedding fire safety from the earliest design stage ensures compliance, collaboration and successful Gateway approvals

The Last Word With...

Anthony D. Parfitt



Anthony D. Parfitt, Chairman & Founder of Ci Global, discusses how the company’s AI-driven system embeds electrical fire prevention into smart buildings

Now that Ci Global has established a presence in the UAE, how do you plan to integrate Ci Safe with existing building and safety infrastructures?

The UAE already operates within a sophisticated safety environment, with Civil Defence regulation, fire-detection systems and advanced building-management platforms in place. Our integration plan is to embed prevention into that existing model. Ci Safe is embedded within the building’s electrical infrastructure, where it continuously monitors thermal behaviour and can isolate power automatically if dangerous heat build-up is detected.

At building level, the system communicates through a secure gateway, allowing relevant safety

data to interface with building-management systems and national fire safety platforms, while also incorporating selected third-party sensors where required. It is designed to operate alongside detection, suppression and smoke-control systems – adding a prevention layer beneath them so detection becomes the safety net, rather than the first line of defence.

What long-term goals does the company have for its UAE presence?

The UAE has prioritised smart city development, resilient urban growth and modern fire-safety standards. That makes it a serious market for prevention-first fire protection. Our long-term objective is to see electrical fire prevention embedded as standard across residential towers, villas and major developments – not as an upgrade or feature, but as baseline infrastructure.

We see the UAE as a strategic launch point for the GCC – a market where prevention can be demonstrated at scale and adopted across fast-growing urban environments.

Can you explain how its AI-driven and autonomous features work in practice, especially in environments where connectivity may be limited?

Ci Safe uses AI in two places – within the device and in the cloud. At device level, AI continuously monitors electrical load and thermal behaviour in real time and identifies dangerous heat escalation before ignition. If risk is detected, intelligent autonomy isolates power immediately at source. That decision is made locally, so

protection continues even without internet connectivity or cloud access. In parallel, cloud-based AI analyses safety data across buildings, identifying recurring fault patterns and strengthening prediction over time.

“If risk is detected, intelligent autonomy isolates power immediately at source.”

Ci Safe monitors other safety risks. How do you see this system evolving to address a wider spectrum of building safety challenges?

Electrical fire prevention is the foundation. From there, the system expands into monitoring gas and water leaks with automatic shut-off, and environmental conditions that can lead to mould. It can also recognise unsafe sounds, such as glass breaking, which may indicate a break-in or wider risk.

The longer-term evolution is about distributed intelligence across the building. In high-rise environments, this can extend to real-time digital building mapping and drone visual support, giving emergency responders clearer visibility of emerging risk within complex structures. That level of situational awareness can materially improve decision-making during an incident. Buildings should not be passive structures that simply trigger alarms. They should actively help protect the people inside them. ■

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KNOW THE BUILDING. OWN THE MOMENT.

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Smart visibility for first responders when every second counts.



Ci SafeMap



Ci Drone



Ci RemoteView



Live building navigation
see risk locations, occupants,
and safe paths in real time.



Autonomous aerial response
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from tablet to
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using live data from inside
the building.

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BUILDING SAFETY *FROM WITHIN*

Anthony D. Parfitt, Chairman and Founder of Ci Global, explains how early-stage electrical fault detection, integrated infrastructure and regulatory reform are redefining fire prevention

PLEASE INTRODUCE YOURSELF AND TELL US ABOUT YOUR BACKGROUND IN FIRE SAFETY.

I'm Anthony D. Parfitt Founder of Ci Global. For decades, I have designed safety-critical fire and security systems. I was involved in the development and installation of early intelligent fire alarm systems, working across large commercial and public buildings in the UK for major PLCs. I went on to form a company delivering technology for the UK Government, Network Rail, the DVLA and police forces in the UK and overseas, including developing the first Home Office-approved ANPR system.

The turning point came later, after a near-miss electrical fire at home. A water leak caused an electrical fault that blew the appliance. That is what led me to build the first Ci Safe prototype on my kitchen table, but I didn't take it any further.

Then the Grenfell tragedy happened. Learning that it had been caused by an electrical fault changed everything. I realised I already knew how to stop a fire like that from starting. Doing nothing wasn't an option. From that point on, it became my mission.

FROM YOUR EXPERIENCE, WHAT'S THE SINGLE MOST IMPORTANT MINDSET CHANGE THE FIRE SAFETY INDUSTRY MUST EMBRACE TO PRIORITISE PREVENTION OVER TRADITIONAL RESPONSE-FOCUSED APPROACHES?

We must stop treating electrical fires as inevitable. For decades, the

industry has assumed fires can't be fully prevented, so the focus has been on detection, evacuation and response. That mindset runs through regulation, procurement and training.

But electrical fires don't start with flames. They start with faults: overheating, abnormal load behaviour, electrical arcing and connections degrading over time. If we can see those warning signs early and act on them, prevention stops being an aspiration and becomes a responsibility. The real question isn't how fast we respond once something has gone wrong, it's why we are allowing risk to build up in the first place.

IN YOUR VIEW, WHY HAS THE INDUSTRY HISTORICALLY OVERLOOKED EARLY-STAGE RISK DETECTION, AND WHAT NEEDS TO HAPPEN FOR THAT TO BECOME MAINSTREAM PRACTICE GLOBALLY?

Because early-stage electrical risk hasn't been visible. Traditional fire safety systems are designed to detect outcomes – smoke, heat and flame – not causes. Electrical fires start much earlier, with faults developing inside plugs, sockets and appliances.

For electrical fire prevention to become mainstream, it must be built into the infrastructure itself – automatic, certifiable and always on – and designed to work alongside existing safety systems.

Ultimately, that means it must be written into standards and building regulations. Electrical fire prevention technology needs to be treated in the same way as earthing or RCDs, something that's simply expected to be there. When it is part of the standard, not a choice, that's when it scales.

HOW DO YOU THINK BUILDING SAFETY CULTURES – FROM ARCHITECTS TO FACILITIES MANAGERS TO POLICYMAKERS – NEED TO EVOLVE TO SUPPORT PREVENTION-FIRST SYSTEMS AT SCALE?

Safety systems need to be built in from the start, at the design stage. Architects and developers make decisions early that shape risk for decades. Facilities managers and emergency crews are left managing the consequences, often with limited visibility. Government and regulators typically step in once outcomes are visible, not while conditions are forming.

A prevention-first culture closes that loop. It asks what intelligence a building should have from day one, what risks it should be able to detect and isolate autonomously, and where accountability should sit when something starts to go wrong. That requires collaboration across disciplines and much clearer responsibility for prevention.

WITH THE ADVENT OF IOT AND AI-DRIVEN SAFETY INTELLIGENCE, HOW DO YOU SEE FIRE PREVENTION

AND SMART-BUILDING RESILIENCE CONVERGING OVER THE NEXT DECADE?

They're already converging. Smart buildings have focused on efficiency and convenience, while fire safety focused on compliance and response. The next decade will bring those worlds together.

IoT provides continuous visibility, while AI identifies patterns, anomalies and degradation. Intelligent autonomy allows systems to act locally in milliseconds, without waiting for cloud instructions or human intervention even if connectivity is lost.

The result is buildings that don't just report danger but actively remove it, isolating faults, shutting off gas or water and feeding intelligence into wider safety and emergency response systems.

WHAT ROLE SHOULD INTEGRATED DATA AND SITUATIONAL AWARENESS SYSTEMS PLAY IN FUTURE FIRE SERVICE STRATEGIES AND TRAINING?

They should remove guesswork. Firefighters are still too often sent into complex, high-rise environments with limited real-time information. That's not a skills problem, it's a systems problem.

Integrated situational awareness changes that. Live data can show where risk is developing, which routes are safe and where people are likely to be. Digital twins and 3D mapping can give incident commanders clarity before crews even enter.

Training shifts away from reactive decision-making in the dark towards informed, strategic response. That affects not just training, but how crews prepare for real incidents. It's safer for firefighters and the people they protect.

PREVENTION-FIRST FIRE SAFETY CHALLENGES THE NOTION THAT RISK IS ACCEPTABLE UNTIL SOMETHING GOES WRONG. HOW CAN THE INDUSTRY BUILD

CONSENSUS THAT PREVENTION SHOULD BE THE DEFAULT?

By making the cost of inaction impossible to ignore. Every major fire demonstrates the same truth: the human, financial and reputational costs of reaction far exceed the cost of prevention. Insurers see the cost of catastrophic loss, governments respond to public risk and developers ultimately build to the standards and incentives those systems create.

Consensus comes when prevention is measurable, certifiable and aligned with incentives. When insurers can quantify risk reduction, when regulators can recognise early intervention and when prevention complements, rather than disrupts, existing safety frameworks. This isn't about blame. It's about responsibility.

THE GRENFELL TRAGEDY WAS A TURNING POINT FOR MANY. WHAT LONG-TERM LESSONS MUST CONTINUE TO INFLUENCE INNOVATION AND POLICY?

That safety systems must be designed for reality, not assumptions. Grenfell showed us what happens when a system is built around 'it should be fine'. Whether that's a building material being sold as acceptable, a policy like 'stay put' being treated as gospel or warnings being ignored because they are inconvenient.

It also showed that compliance does not equal protection. You can meet guidance on paper and still leave people trapped in a building that cannot fail safely.

The long-term lesson is this: if risk is known and

preventable, allowing it to persist becomes a choice.

Innovation must move closer to the source of danger not just detect consequences after the fact. Regulation must stop rewarding paperwork and start rewarding outcomes: safety that works in the real world, for real people, every time.

LOOKING AHEAD, WHAT EMERGING TECHNOLOGIES OR METHODOLOGIES COULD FURTHER TRANSFORM HOW WE PREVENT AND MANAGE FIRE RISK?

The real step forward will be moving prevention technology directly into the fabric of the building itself. Advances in sensing and real-time monitoring now make it possible to recognise abnormal thermal behaviour, electrical load changes and degradation much earlier than before. When that intelligence is combined with AI analysis and local autonomous decision-making, risks can be isolated in milliseconds often before anyone even realises there is a problem.

Alongside that, we'll see far better interoperability. Systems will share a single view of risk across electrical, fire and building management infrastructure and pass usable intelligence to emergency services when it matters. The real transformation is buildings that can actively prevent risk, protecting the people inside them

24/7. **FB**

