



WIRELESS FIRE SYSTEMS

Case Studies

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Education

Solutions & Applications



Typical Challenge

Provide a flexible system that can be deployed in rapid time across buildings, preventing disturbance to the buildings occupants.

EMS Wireless Suitability

Excellent

EMS Wireless Installations In Education Sector

850+

FireCell At Eco-friendly Children's Home



New Jerusalem Children's Home (NJCH) in Midrand, South Africa was established in the year 2000 by two sisters, Anna and Phina Mojapelo.

With help of donations from volunteers, corporations and the government, the centre is a place of safety for abandoned, abused, orphaned and vulnerable children. More than 1000 children have since been sheltered. It is a small entity with a big vision, aiming to become one of the best children's homes in Africa, with the provision of holistic and integrated quality care to orphaned, abandoned, abused, traumatized, vulnerable and HIV positive children.

The first eco-friendly house was officially opened in 2012. New Jerusalem's mission is located within an environmental sustainability framework and the home has committed to use any means possible to reuse and recycle and to minimize its carbon footprint.

Built out of 28 recycled shipping containers, the container house provides accommodation for 40 children, complete with bathrooms, communal areas and a kitchen.

There is also a brand new computer lab to enhance the children's IT skills and broaden their education, in preparation for when they leave the home.

A number of offline content systems have also been installed to provide access to further educational material.

It was whilst donating towards and assisting with the computer lab setup, that G2 Security of South Africa became involved with the children's home. As with many facilities in South Africa, the inclusion of fire detection in facilities is commonly overlooked. Being a building accommodating a large number of children, the risk to life from fire is clearly substantial.

G2 Security wanted to further help the home and so they surveyed the premises to seek the most suitable form of fire detection. With a large number of systems to choose from, including standard conventional and analogue addressable systems, designs were drawn up to see which system would be the most cost effective and easy to install so that a budget could be created to seek funding.

Due to the architectural makeup of the building, the major challenge would be the cable routing as the container house was by now fully established. There are also very few voids to utilise for cabling within this two storey building. Any cabling would need to surface run inside conduits and because of the many individual rooms this would require either additional engineering through the container walls or untidy conduit runs.

Further to the associated cost implications, cabling would also cause many days of installation and consequently unnecessary disruption to the children in the home. It was subsequently agreed that a fully wireless detection system would overcome the aforementioned issues associated with the project.

The initial feeling was that the unique structure of the building would make it very difficult to facilitate a wireless solution. In order to establish the feasibility of going wireless, Ryan Lawrence of G2 undertook a wireless survey to assess the design feasibility. The entire container house could be serviced from a single EMS wireless module, connected to the fire detection panel.

All points tested provided excellent results in this survey. This meant that the use of a totally wireless solution was a very realistic option. When compared to the pricing of a standard wired solution along with the necessary cabling, the prices were similar. There would be an added advantage that the installation and commissioning would only take a single day. This made EMS wireless a desirable solution.



“Wireless signaling works well in shipping containers used to create the building.”

EMS donated all of the FireCell equipment to the system. This meant that with a little bit of extra funding from G2, the entire container house was fitted with a full EMS wireless system including fire control panel, optical smoke and heat detection, manual call points and sounders. The entire installation was completed in less than eight hours, including testing and commissioning.



“Only one working day to install / commission and handover the system to the client,”

The FireCell wireless fire detection system is a perfect fit for the New Jerusalem Children's home.

As all of the wireless field devices are battery powered, the drain on electricity usage is significantly reduced, working in harmony with the eco-friendly philosophy of the home, while providing reliable fire protection for all of the occupants.



“EMS Fire Detection System is suitable for unique buildings made from shipping containers”

Wireless technology is now widely accepted as being every bit as reliable and robust as traditional wired alternatives, yet offering so much more in terms of flexibility, making EMS FireCell an ideal choice.

FireCell is a fully scalable fire detection system that can be 100% wireless based, where cables just cannot be accommodated, or a hybrid combination of wired and wireless dependant on the building and customer's needs.

Fully certified to EN54-25, FireCell can provide protection for a single building or a number of properties using wireless or a conventionally wired network infrastructure, again dependant on specific requirements.

FireCell enables fast installation, reducing interference on day-to-day activities, almost no impact on internal decoration and seamless installation based on your requirements, all without any compromise on the level of protection.

For more information on FireCell wireless and hybrid fire solutions, contact EMS today.

Take A Break, Fit A FireCell



Ysgol David Hughes is a bilingual Comprehensive School situated in Anglesey, Wales. The school accommodates over 1,000 pupils aged between 11 and 18, with the aim of providing a broad education. In doing so, they have seen many former pupils pursue notable careers in sport, music, television and politics.

The school building was first opened in 1963 and has since been significantly updated with considerable investment made, notably in technology, keeping the school at the forefront of modern technological advancement.



More recently Anglesey County Council identified the need for a new fire alarm system at the school. In keeping with the school's other cutting edge technology, they sought the expertise of Snowdonia Fire Protection Ltd.

Both hardwired and wireless systems were viable, however the ability to install the large system during the summer holiday soon made wireless the obvious choice.

Snowdonia contacted EMS to arrange a free FireCell wireless survey. Once site-wide wireless coverage was proven, EMS FireCell equipment was ordered and swiftly shipped.

The installation consisted of two wireless networked fire alarm panels, wireless infrastructure and almost four hundred devices.

Since the new system was methodically planned beforehand, installation and handover went smoothly within the planned time scale.

All EMS wireless and hybrid solutions, including FireCell are fully third party approved to all current standards, carrying CE marks confirming compliance with all applicable EU directives.

The FireCell system utilises the European harmonised frequency of 868 MHz and is fully scalable from smaller standalone systems to large multi-building networks.

For more information on EMS FireCell or other EMS wireless solutions, contact EMS today.

FireCell swiftly installed at Swalcliffe Park School Trust



Swalcliffe Park School Trust is a specialist independent school in Banbury, Oxfordshire. Due to its educational and residential standing, the installation of a hardwired system would have been far too time consuming and intrusive. It also had to be completed out of term time to ensure no disruption to the school.

Swalcliffe Park School Trust tasked Pyrotec Systems with fitting a fire system, across multiple buildings, in a two week school holiday. The need for a cutting edge wireless fire system was identified. There was only one solution... An EMS FireCell System.

With the need for a seven panel network linking multiple buildings plus almost 300 devices, FireCell was perfect for the application, as it offers wireless networking between up to sixteen control panels reducing the need for cabling, that is both time consuming and costly.

FireCell operates on the 868 MHz European harmonised frequency and is fully certified to the latest EN European fire standards.

Being highly adaptable, FireCell is suitable for virtually any building. In many cases, FireCell exceeds the performance and flexibility of a wired system and with such quick installation times, FireCell is a very popular choice for fire systems at schools, colleges and academies.

The buildings were also undergoing refurbishment at the time, but given the flexibility of FireCell, this was not a problem.

“It’s so flexible. That’s the beauty of it.”

We were able to install devices, as and when access became available, without having to run any cables.”

Justyn Soames, Pyrotec

Pyrotec successfully installed and commissioned the entire system within the planned two weeks. Both Pyrotec and the school were impressed at how well the FireCell system went in.

FireCell fitted at top Scottish School



Inverkeithing High School in West Fife, Scotland has a proud history of strong academic tradition, with a number of former pupils also achieving significant sporting accolades. Recently, the schools fire system was updated with the latest top grade wireless fire system, FireCell by EMS.

The buildings construction provided complex challenges. A wireless fire detection system was considered to be the most viable and cost effective solution, entrusted to EMS FireCell to protect the school.

Due to the flexibility of FireCell, installation was undertaken in phases and went very well.

There are now no fewer than eight FireCell control panels on site, linked wirelessly with almost 1,000 devices.

To avoid disruption of the pupils and staff at the school, Caledonia Fire and Security installed the majority of the system within school holidays, over a 12 week period.

EMS FireCell is third party certified to the latest EN European standards, making it suitable for almost any application.

FireCell incorporates industry standard sensors, whilst each device is alkaline battery powered for quick and simple routine battery changes.

The wireless devices communicate with the FireCell Control Panel using secure, dual frequency signalling on the European harmonised frequency of 868 MHz.

FireCell can be wirelessly networked, connecting up to sixteen control panels.

Additionally, with the ability to mix hardwired and wireless devices at each control panel, FireCell offers optimum performance and flexibility.

For more information contact EMS today.



Easter Upgrades



A local education authority was instructed, as a matter of urgency, to have seven of its schools upgraded from manual fire alarm systems to automatic fire detection.

The Problem

- Seven schools were deemed to not have suitable fire alarm systems for the protection of pupils, staff and property, requiring urgent rectification.
- All the work had to be carried out in the short Easter break to avoid disruption to the normal timetable of the schools.
- As well as normal school buildings, all of the schools had mobile/remote classrooms, many separated by playing fields, playgrounds and internal roads and pathways.

The Solution

The local education authority had used EMS wireless fire alarm systems before and through experience had learnt that hard-wired systems would take longer to install due to the layout of the school grounds.

In particular the external works required to provide protection for the remote classrooms would have been prohibitive.

The installation on all seven schools was successfully carried out in the 3-week Easter break. No wiring was required which meant there was no disruption to the school environment or external works in the grounds.

The school timetable was unaffected and pupils and staff returned to their schools after the Easter break to a safe and protected environment.





Entertainment

Solutions & Applications



Typical Challenge

Provide a system with absolute maximum flexibility and rapid deployment potential, that can be switched between normal and show modes seamlessly.

EMS Wireless Suitability

Excellent

EMS Wireless Installations In Entertainment Sector

450+

EMS's FireCell at the Edinburgh Festival Fringe



Atlantas Security & Electrical Ltd carried out the installation of the wireless FireCell system, providing temporary fire protection to the grade A listed building for the duration of the Festival.

Leading Edinburgh Festival Fringe operator, C venues, has chosen to have an EMS FireCell system installed to protect their new, pop up, multiplex venue at the Festival.

C venues has taken over central India Buildings; a Victorian, multi-storey office block in Edinburgh that has been vacant for some time. The new venue, known as C nova, is a replacement for C SoCo venue which was created in the gap site left by Edinburgh's 2002 Cowgate Fire.

"The FireCell system was easy to install and technical assistance from technical support staff was excellent.

Due to the nature of the client's specific theatrical requirements, the custom programming was quickly achieved by EMS technical, showing the adaptability of the system. The customer was happy with the end product and it was a joy to install."

- Ian Watson. Atlantas Security & Electrical Ltd.



The new C nova venue has been transformed into the hub of activity for the largest arts Festival in the world, with performance spaces, bars and restaurants attracting large crowds.

The application of a wireless fire system is ideal for a listed building, where disruption to the building from wires and cables is not an option. An EN54 part 25 solution was required for this installation in order to meet the objectives set by the local authority, given the temporary nature of the building's intended use.

The wire-free FireCell system installed for C venues is portable, so that they can remove it at the end of the event and take it to their next Festival venue, whether that be in the UK or further afield.

Historic Cinema



A Cinema located in a 'listed' historic building required a fire alarm system to be installed without disrupting the normal operation of the cinema or damaging the fabric of the building.

The Problem

- All installation work had to be carried out between midnight and 9:00 am.
- Installation work and materials were not to be visible in public areas.
- A very short time scale for project completion was required.
- The internal fabric of the building had to be protected due to its historic nature.

The Solution

The property management department of this national cinema group had investigated various fire alarm systems. The labour costs quoted were very high due to night time working and the extra works required to accommodate the sensitive installation in the historic building. They had also been quoted 13 weeks for the project, and from experience were not convinced this was achievable due to unplanned problems and project overruns typical of these types of installations.

An EMS wireless analogue addressable fire alarm system was installed in just eight working days, whilst still meeting the demanding requirements and working hours required by the cinema.

The system consisted of two networked control panels, plus wireless devices and four text message pagers.

The speed and success of the project impressed the property management team so much that they have subsequently installed a further sixteen systems within the group.

These have not just been in other historic cinemas but also in a wide range of other public entertainment venues including new multiplex cinema developments and theatres.

FireCell At Major London Events Arena



A top London events arena required a new fire system to be installed. The venue constantly changes, hosting high profile award dinners, conferences, concerts, exhibitions and Christmas parties. The Christmas parties alone see over 1,000 visitors each year.

Erected annually on a three acre site, the arena had been protected by a trusted EMS FirePoint 5000 system for a number of years. The system had been quick to install, robust and unobtrusive. With future expansion planned and site evolution in mind, a new EMS FireCell wireless fire system was acquired. FireCell provides easy expansion and vast area coverage.

Like the previous FirePoint 5000 system, FireCell offers the same rapid installation, reliability and ease of use, along with the latest cutting edge technology.

The new FireCell system consists of five Radio Cluster Communicators (RCCs) and over one hundred wireless fire devices. Voice sounders coupled with visual indicators provide easy to follow phased evacuation for the often bustling venue.

The FireCell installation was a resounding success and the system is expected to be used in the same way for many years to come.

EMS have a number of wireless and hybrid fire solutions available, that can be used to meet almost any application.

All of the solutions, including FireCell, are fully third party approved to all current standards, carrying CE marks confirming compliance with all applicable EU directives.



The FireCell system utilises the European harmonised frequency of 868 MHz and is fully scalable from smaller standalone systems to large multi-building networks.

For more information on EMS FireCell or other EMS wireless solutions, contact EMS today.

Government

Solutions & Applications



Typical Challenge

Provide a system with that can be installed into often very busy buildings with absolute minimum disruption, to both the people and the properties.

EMS Wireless Suitability

Excellent

EMS Wireless Installations In Government Sector

300+

EMS Tackles Army Barracks



A FireCell system from EMS is installed at Ravensdowne Barracks, Berwick upon Tweed, an English Heritage site in north east England.

Ravensdowne Barracks, a Grade 1 listed building in the care of English Heritage, was built around 1720 as part of the earliest planned barrack complex in England, pre-dating most other English barracks by nearly 80 years because of the need for a permanent garrison on the Scottish border.



Originally providing accommodation for 600 men and 36 officers, it has been fitted with a 4 panel FireCell wireless network system. English Heritage, which has used EMS for its fire solutions for over 12 years, required a EN54-25 compliant system to protect the historic asset, minimising disruption during the installation for itself and the multiple tenants occupying the site, and offering flexibility for future usage.



Safe Services, a fire and security company based in Galashiels that has been established for 30 years, was awarded the contract to install FireCell from EMS. Safe Services required over 240 devices to complete the network system, protecting the historic site from otherwise invasive work.

All existing cable, which was too old and did not meet current specifications, was removed as the FireCell was installed ensuring no loss of coverage during the refurbishment works.

The FireCell system, which can be linked wirelessly across buildings and estates, communicates via radio using 868 MHz frequency and can be fully programmed to meet each customer's fire plan.

The EMS FireCell system, which provides a swift and disruption-free method of preserving nationally protected sites, was required to meet L1/2 specification to upgrade the previous fire alarm system.

“At English Heritage we aim to protect the historic built environment for future generations to enjoy. When we update fire protection systems in our protected sites, it has to be carried out with minimum intervention to the historic fabric, which often incorporates valuable materials such as timber, stone or historic plasterwork.

The works at the Barracks included some historic sheet metal clad ceilings which could not be damaged as well as the significant collections of three local museums and an art gallery. The FireCell wireless LAN system, avoided invasive work to the buildings and provided an adaptable solution with flexibility for potential changes where the future use of whole or partial buildings may be uncertain.”

- Paul Anderson, Technical Manager, English Heritage



Graeme Millar, Managing Director at Safe Services, concluded that this was their first FireCell site and we are very impressed with the product.



FireCell

Bo'ness Town Hall Goes Wireless



Bo'ness Town Hall dates back to 1904 and was built using stone from the town's Maidenpark Quarry. Situated in Scotland's Central Lowlands, the town hall is a popular venue for weddings, parties, concerts, exercise classes, exhibitions and a variety of local fund-raising events.

There was a need for a new fire alarm system. The buildings construction provided complex challenges, so a wired system was simply not an option. A wireless EMS FireCell system was the obvious solution.

AFA Fire & Security were entrusted with fitting the new system. The system would consist of one Control Panel, three Radio Cluster Communicators (RCCs) and over seventy wireless devices.

AFA Fire & Security quickly and successfully installed the system. The customer was very happy with the swift, efficient installation and with the systems operation.

EMS have a number of wireless and hybrid fire solutions available, that can be used to meet almost any application.

EMS FireCell is fully EN54-25 third party approved, meeting all current standards and carrying the CE Mark confirming compliance with all applicable EU directives.

A FireCell system can be a single loop, two loops or four loops, supporting up to 126 devices per loop and up to 504 devices per panel (four loop panel). Devices can be wired or wireless, depending on the configuration.

Each loop must be dedicated as wired or wireless, although Radio Loop Modules (RLMs) can be added to a wired loop for localised wireless devices.

Larger systems, with up to sixteen panels, can be wirelessly networked using the EMS Radio Network Communicator (RNC) and support in excess of 8,000 devices.



For more information, contact EMS today.

EMS FireCell ideal for large scale retrofit



Southern Fire Alarms has installed a four loop, wire-free FireCell fire detection system from EMS at the offices of West Sussex County Council (WSSCC) in Worthing, on the south coast. The system was selected for its versatility, ease of installation and reduced disruption, the cost and time saving benefits it affords as well as the potential to move or reconfigure the system at a later date.

Centenary House in Worthing is a 1960s build, covering six floors. It is flanked by two further two storey office structures and the main block adjoins the headquarters of West Sussex Police. Taken as a whole site the building is at the administrative centre of the council's varied services, including social services and the registrar's office. When the existing fire detection system became obsolete and less than reliable, a modern solution needed to be identified for this large scale building.

Southern Fire Alarms turned to EMS. Working together a site survey was carried out and the FireCell system proposed.

On this basis Southern Fire Alarms won the tender for the contract.

FireCell was the UK's first fully addressable wireless fire system that complied with EN54 Part 25. The wire free nature of the system makes it a favourite in applications where downtime and disruption caused by installation are not an option.

In addition the time involved in wiring a new system of this scale would have required CDM regulations compliance, again incurring further cost for the council.

In excess of 580 radio field devices can be connected to each FireCell panel using EMS's unique Smart Cluster Technology. This provides a totally wireless communication structure to protect the whole building.

On larger sites panels can be wirelessly networked increasing the capacity to over 4,000 wireless devices of any combination.

"Due to the nature of the offices, the client wanted a system that was swift to install,"

"Wireless was the obvious choice. It enabled us to overcome several challenges: without this flexibility we would have had to install the entire system out of office hours, at huge expense to the client."

"The flexibility of wireless was a key benefit in its use at Centenary House,"

"For organisations in the public sector, any investment in upgrading plant and equipment must be justified. EMS FireCell represents an asset which, because it is portable, can be moved or reconfigured where necessary."

- David Fell, Southern Fire Alarms.

Salford Landmark Goes Wireless



Salford Civic Centre was originally built as the new town hall for Swinton and Pendlebury in 1938. Designed by award winning architects Sir Percy Thomas and Ernest Prestwich, features include an impressive 125 foot tall clock tower, with clock faces on all four sides and neoclassical architecture. In 1974, following local government reorganisation, the new city of Salford was formed. This saw the town hall renamed Salford Civic Centre and a new computer centre built next door, to accommodate the increased administration.

Nowadays the landmark building hosts the council chamber and committee rooms and is the administrative headquarters of Salford City Council. Recently the building required a new fire alarm system. There would be some challenges presented to ensure the fabric of the historic building would remain undamaged. With thick walls and no roof voids or false ceilings, a fully wireless fire alarm system was the obvious solution.

Jackson Fire & Security Solutions were contracted to install the new system.

With an EMS FireCell system specified, the new system would consist of three fire control panels, nearly fifty call points and over four hundred field devices.

As a public authority building, there is a constant flow of the public and staff. Using wireless technology and installing mainly at night, minimum disruption was caused. The whole installation and commissioning was completed in just nine weeks.

Urban Vision, the facilities management company for Salford City Council were also closely involved throughout the whole installation. They were very happy with the system installation from start to finish and they found the system easy to use. This allowed them to carry out required duties with ease.

EMS FireCell is fully third party approved to all current European standards and is fully scalable from smaller standalone systems to large multi-building networks.

For more information on EMS FireCell or other EMS wireless solutions, contact EMS today.

Local Authority Embraces EMS Wireless



Unity House, Salford Town Hall is the home of Salford's council offices. Following the similar recent installation at the neighbouring Salford Civic Centre, Unity House also required a new fire alarm system.

Jackson Fire & Security were again awarded the contract. Due to time constraints and the new system being upgraded to an L1 category with automatic detection, a new EMS FireCell wireless fire alarm system was specified.

The system installation was overseen by Urban Vision, the facilities management company for Salford City Council.

All EMS wireless and hybrid solutions, including FireCell are fully third party approved to all current standards, carrying CE marks confirming compliance with all applicable EU directives.

The FireCell system utilises the European harmonised frequency of 868 MHz and is fully scalable from smaller standalone systems to large multi-building networks.



"We were tasked with replacing a conventional system which had become outdated, resulting in poor coverage throughout the building.

It needed upgrading to a category L1 system, which features automatic detectors throughout all areas of a building, including roof space and voids, to give the earliest possible warning that there is a danger present.

With lots of staff busy at work in the building, installing a wireless system provided minimum disruption and made areas much more accessible, both during the fitting and in the long-term when it's time to carry out a service.

We were also working to a tight deadline, which again was made easier by using wireless equipment, as we didn't need to run new cables throughout the premises.

EMS is a leading provider of wireless fire alarms, and we completed the whole project in just six days, again minimising disruption for the council staff at work."

- Andy Shone, Jackson Fire and Security

For more information on EMS FireCell or other EMS wireless solutions, contact EMS today.

EMS Protects Melton Carnegie Museum



Melton Carnegie Museum showcases the history of the Medieval market town of Melton. With a state-of-the-art gallery study area and space for community activities, the museum has many exhibits including the town's world-renowned Stilton cheese and pork pie industries and well as a fox hunting display.

The former Andrew Carnegie Library has been transformed in recent times with major refurbishments that have seen the building extended to double its original size.

The museum recently required a new fire detection system and being at the heart of the community, a lengthy closure to fit a wired system was simply not an option. It was soon identified that an EMS wireless FireCell system would be the system of choice.

ProudCastle Solutions were contracted to install the new system and EMS carried out a wireless survey to guarantee the suitability of the new system and to affirm the necessary infrastructure. The new system would consist of one control panel, three wireless clusters and over 50 wireless devices.

"The use of EMS FireCell provided us with maximum flexibility upon installation and enabled us to install the system quickly with minimum disruption to the museum and its visitors."

- James Morris, ProudCastle Solutions.

Over 10,000 EMS wireless fire detection systems have been installed to date within the UK alone. With almost 50 years of engineering excellence and wireless innovation, EMS have developed the FireCell wireless detection platform to meet the requirements of EN54-25 and to satisfy the need for an easy to install fire detection system based on wireless technology.

FireCell is a totally wireless based solution which now incorporates HYBRID technology providing optimum flexibility to meet today's demanding building requirements around fire safety.

Incorporating EMS Smart Cluster Technology (SCT) and utilising the 868 MHz European harmonised frequency band, FireCell was the first wireless fire system to meet EN54-25 and boasts a wireless coverage which exceeds other 868 MHz based systems.

If you would like to discover more about FireCell, the convenient and cost effective fire detection solution, call EMS today.

Second Generation of EMS at Scottish Landmark



First constructed in a Baronial and Flemish style from 1878, the Inverness Town Hall was the design of local architect William Lawrie and was built to replace the old Inverness Town Hall.

The grand building comprises of two tall stories and an attic together with elegant towers, turrets and large stained glass windows. Two panels were also fitted from the Old Bridge of Inverness, one that contained the Burgh Arms of 1686 and one the arms of Charles II. Further renovations were subsequently made between the 60s and the 80s, resulting in a building of various construction types.

The town hall is famous for hosting the only British government cabinet meeting outside of London in 1921.

The building is still in everyday use and is very popular for concerts, civic functions, meetings and civil marriages.

The town hall had an EMS FirePoint 5000 system that had been installed and maintained by Logic Alarm Systems. Although the system was in full working order, it only covered selected areas of the building and the entire building now required coverage, or a sprinkler system would be required.

It was soon identified that a new sprinkler system would not be viable, so the council decided to proceed with the installation of a new L1 fire system to cover the Grade A listed building.

Logic Alarm Systems were again entrusted to fit the new system that would consist of over 300 wireless devices. The new generation FireCell equipment was successfully fitted and offers the same renowned reliability that the previous System 5000 had offered plus a whole host of improvements such as:

- Full EU certification
- Faster 868 MHz wireless data transmission
- Rapid fault reporting
- Enhanced bi-directional wireless monitoring
- Improved reliability via dual channel signalling, with 32 wireless channels available
- Refined diversity aerial configuration, combined with 20 dB overhead for robust signalling and immunity to site attenuation (path loss)
- Instant on screen fault information
- Maximum flexibility - wireless hybrid, allowing a mix wireless and wired devices

For more information on FireCell contact EMS today.

UK Military Base



Situated on a huge remote site in the West of England, this front line operational military base required a new fire alarm system to provide total protection for a number of buildings spread over the site. Buildings included hangars, dormitory blocks, administration offices, arm stores and canteens.

The Problem:

- Requirement to monitor entire site from a central location.
- Hundreds of devices would be required to provide comprehensive protection of all the buildings.
- Normal operation of the base could not to be disrupted.
- Equipment had to operate in areas with high levels of radio communication systems, radar and aircraft.

The Solution

Clearly a traditional wired fire alarm system would have been unacceptable on the basis of both disruption and cost. The end user thought that the project was not possible with current technology until EMS put forward their solution.

An EMS Wireless Analogue Addressable Fire System was installed consisting of 11 control panels networked with one master panel. Over 700 devices were used including smoke and heat detectors, combined sounder / detectors, call points, sounders and interface modules for remote plant monitoring and operation.

All of this equipment was installed without disruption to the operation of the base and in a fraction of the time that would have been required for a wired system.

The installation followed an extensive testing procedure to ensure that EMS's wireless equipment could operate reliably and safely in what is a very demanding environment. To date the system has operated faultlessly without interference with the electronic wireless systems on the base.

Due to the success of the wireless solution, EMS has been specified for similar military projects.

Healthcare

Solutions & Applications

Typical Challenge

Provide a versatile, fully scalable system that can be installed with minimum disruption to patients.

EMS Wireless Suitability

Excellent

EMS Wireless Installations In Healthcare Sector

375+



FireCell Gets Top Marks At Royal College Of Physicians Of Edinburgh



The Royal College of Physicians of Edinburgh (RCPE) is an independent body that sets medical training standards for Physicians throughout the UK. Chartered in 1681, the Royal College has a rich vein of history spanning over 150 years.

The RCPE throughout its history has embraced new practices and technologies such as introductions and changes to examinations, advances in medicines and vaccines and the introduction of the NHS in 1948.

In 2000 EMS supplied the RCPE an innovative System 5000 wireless fire system, comprising of two wirelessly networked panels and over 250 devices. The system was in fact one of the very first wireless networked fire systems.

Fifteen years later in advance of major site-wide refurbishments, the client requested that the trusted System 5000 fire system would be upgraded to a next generation EMS FireCell system, enriched with the latest cutting edge technology.

A new FireCell wireless system would continue to offer the reliability and simplicity of maintenance.

Additionally, the FireCell wireless system would ensure that the fabric of the treasured historic building would remain untouched. Unsightly, intrusive cables were simply not an option.

Finally, there could be absolutely no loss of system coverage at any point of the process.



EMS attended site with the installing company STANLEY Security. A strategic upgrade was planned, that would involve running both the existing and the new system side by side. This would allow a device by device replacement programme, ensuring all areas remained fully covered at all times.



All of the solutions, including FireCell are fully third party approved to all current standards, carrying CE marks confirming compliance with all applicable EU directives.

The FireCell system utilises the European harmonised frequency of 868 MHz and is fully scalable from smaller standalone systems to large multi-building networks.

Such is the flexibility of EMS wireless systems, the original System 5000 equipment was to be re-deployed as a temporary system, during further extensive refurbishment throughout the next few years within a construction zone. Upon completion, a further phase of FireCell system installation is to be undertaken.



For more information on EMS FireCell or other EMS wireless solutions, contact EMS today.

The installation is said to have gone brilliantly, with the upgrade completed within just a few weeks.

Such was the meticulous planning by all parties and everyone's thorough understanding of the new system, there were no issues encountered during the installation.

The fire system upgrade from start to finish was a resounding success.

EMS have a number of wireless and hybrid solutions available, that can be used to meet almost any application.



Hospital Complex



Within the grounds of an existing hospital complex a new central administration block had been built. One of the functions of this new building was to monitor all fire alarms around the site.

The Problem

- The hospital complex consisted of eighteen remote buildings.
- Each building had its own operational hardwired fire alarm system from different manufacturers – some were just two years old, but many were much older.
- There was an operational requirement for staff in the new central admin block to monitor the condition of the fire alarm systems in each of the remote buildings.

The Solution

Due to the nature and layout of the site, costs for hardwired solutions were very expensive. In addition, time scales of six months had been quoted to implement the costly external civil and electrical engineering works.

The solution was provided by an EMS wireless site-wide signalling system. This consisted of eighteen half watt transmitter units interfaced to each of the fire alarm panels, one for each building.

Some of these buildings were in excess of 1 km away. Each wireless unit transmitted to a multi-zone EMS control panel situated in the central admin block.

This was interfaced to the existing fire alarm system in the admin block.

The EMS control panel then provided all the necessary alarm and fault monitoring for the entire site.

The whole system was successfully installed and commissioned within four days and at a fraction of the cost of traditional solutions.

Heritage

Solutions & Applications



Typical Challenge

Provide a fast versatile system installation with absolute minimum disruption to the fabric of the buildings.

EMS Wireless Suitability

Excellent

EMS Wireless Installations In Heritage Sector

350+

EMS helps overcome complex challenge at historic site



The City of Bath boasts a rich heritage; a Grand Pump Room from the Georgian period sits atop the ancient Roman edifice of Aquae Sulis. For a site that sees more than a million visitors each year, in addition to those who work and volunteer there, it is vital to provide the best level of fire detection and prevention. EMS were entrusted to provide a complex wireless fire protection system to replace the old hardwired system in the most effective way possible.

The installer faced an unusual challenge; the old hardwired system in place at the Bath Roman Baths and Pump Rooms was becoming unreliable and troublesome. Yet local authority stipulations meant that a new fire detection and protection system needed to replicate the pattern of the older installation, so that no additional drilling into old and in some cases ancient building fabric was required. The installation of a new hardwired system within this framework would require the site to be closed, with large periods of downtime and disruption.

Coupled with the architectural and the archaeological sensitivity of the site, the presence of asbestos with wet limestone and concrete walls provided an unusual challenge to the installing team. This led to the conclusion, that a hardwired system was not an option and that a wireless fire system was the right solution.

325 devices were installed in some 100 rooms across all the public areas and back office areas of the site, with 25 clusters and around 300 sensors.



Once the tender process was complete the installation of the new system had to be carefully scheduled. The site remained open to visitors throughout the entire process, meaning work had to be kept to a very strict schedule. The flexibility of the FireCell system enabled an efficient installation, keeping to important time scales.



FireCell from EMS, is fully certified to the latest EN European standards. With the ability to wirelessly link over 500 industry standard sensors using secure, dual frequency signalling on the European harmonised frequency of 868 MHz, FireCell is suitable for almost any application.

Particularly relevant in heritage contexts where the architectural integrity of an older building cannot be compromised by modern cable runs, a wireless solution presents the ideal solution.

“Because there is no cabling required, the time and cost of installing a new fire protection system is dramatically reduced,

Equally, the headache associated with the unlimited access required for cable installation is also removed; itself a benefit for applications where timing and logistics all play a role during installation.”

- Ray Puttock, EMS

Contact EMS today for more information.



Belton House



Belton House is a Grade 1 listed country house in Belton near Grantham in Lincolnshire.

The mansion is surrounded by formal gardens within a larger wooded park. Belton has been described as the finest example of Carolean architecture that England had produced since the Tudor period.

For three hundred years, Belton House was the seat of the Brownlow and Cust family, who had first acquired land in the area in the late 16th century. Between 1685 and 1688 Sir John Brownlow and his wife had the present mansion built. Despite great wealth they chose to build a modest country house rather than a grand contemporary Baroque palace.

In 1984 the house with most of its contents was gifted to the National Trust and is open to the public and visited by many thousands of tourists each year.

David Young of David J Young Ltd www.davidjyoungconsultant.co.uk was asked to look at the existing fire protection installation as the system was obsolete, did not meet current standards and needed to be updated.

David has worked with the National Trust on many projects and understands the complexities of working in environments which present many challenges such as working around irreplaceable artefacts in very sensitive and historical properties as well as extremely demanding time frames.

As an initial stage of the upgrade it was decided to use existing cables, with additional phases to follow to bring the property up to L1/P1 standard.

David turned to Pointerfire in Birmingham to assist with the installation and to EMS to provide the system components. The approach was to have a site-wide integrated system and the hybrid solution provided by EMS with FireCell Fusion was an ideal fit.

Because of the nature of the property and public access, as well as commercial considerations, time was limited and a programme of works had to be delivered in the very limited and agreed time frame. The project was managed by Steve Parsons of Pointerfire who was familiar with the issues and sensitivities around National Trust properties.

The first phase was completed on time and handed over to the Trust in March 2013, a testament to the detailed planning and dedication of the entire team. The system comprises of seven EMS FireCell panels located in both the house itself as well as buildings that make up the estate including the Stable Restaurant.

All previous obsolete equipment was removed and replaced with EMS detection, call points and sounders as appropriate, to existing locations. All panels were then wirelessly networked.

“Due to the importance of the property and its contents, the success of the project undoubtedly relied on gaining the confidence of the Trust that a sympathetic and reliable solution could be delivered within the required time frame.

The experienced and conscientious approach of our engineering team coupled with the flexibility of the EMS FireCell range of equipment provided the ideal solution for their needs.”

- Steve Parsons, Pointerfire

A wireless network was selected as existing cable runs throughout Belton House and the surrounding buildings could not be verified and civil works would be out of the question as these would be protracted and prohibitively expensive. The use of wireless ensured that the network would be up and running to meet the specified programme dates.

An additional benefit of the wireless network is that management staff resident on site, in a remote property adjacent to the gatehouse, would be immediately made aware of any activity on the system across the entire estate and therefore act appropriately.



With an integrated system from EMS staff familiarity with operation and day to day activity is easily achieved, as all seven control panels are identical.

The future planned expansion of the system, with wireless devices, can also now be planned to fit in with the National Trust's programme as well as Belton House activities.

The importance of maintaining visitor access as well as continuity of service across the retail and restaurant facilities is imperative. The moving of artefacts and instigating protective measures for floor coverings and curtains is also minimised as the installation of future wireless devices will be much less intrusive.

The National Trust has a considerable responsibility in protecting historical properties, and their contents, but this has to be tempered with the invasive works which need to be done to install necessary upgrades.

The decision to use EMS wireless enabled this fire protection to be installed to meet these criteria.



“Throughout our long standing role as Independent Security Consultants working within the Heritage environment, we fully appreciate the absolute need to work with manufacturers, distributors and installation companies who can deliver in terms of demanding time scales and high risk environments.

We are confident that Phase One has provided a platform for the more complex further development where the EMS FireCell product will support additional protection.”

- David Young, David J Young Limited

Floors Castle



Scotland's largest inhabited castle has been equipped with a wireless fire detection system from EMS.

The EMS system has been installed at Floors Castle near Kelso in three phases. The first phase replaced the original system which protected escape routes and other key areas; the second phase saw extra devices installed in locations such as the dining room; and phase three covered all of the remaining areas.

"This project has involved an upgrading of our fire protection system, initially encompassing the replacement of existing devices, and then adding further protection, including throughout much of the basement."

- Gordon Little, Inspector of Works.

Floors Castle near Kelso is the ancestral seat of the Roxburgh family who still occupy a large part of its accommodation today, while other areas are used for a variety of activities.

Following an enquiry to EMS from the Castle's Inspector of Works regarding the suitability of wireless technology, a survey was undertaken on behalf of Safe Services which resulted in a successful contract to install the EMS wireless system.

"As an installer we get excellent technical support from EMS and in situations such as this with Floors Castle."

"Due to the thickness of the historic stonework in places we did have to install some aerials concealed around the parapets."

- Graeme Millar, Managing Director of Safe Services



EMS FireCell At Lincoln Landmark



Lincoln's Medieval Bishop's Palace, is a historic visitor attraction that was first built in the late 12th century and is just a stone's throw from the cathedral. At the time, it was one of the most magnificent buildings in the country and the administrative centre of the largest diocese in medieval England.

In the next few centuries, the palace was enlarged, with the undercrofted East Hall being built. Still standing today, it is notably one of Britain's first examples of a domestic roofed hall. Later modernisation saw the chapel expanded and the tower gatehouse added. The palace also saw a number of very powerful guests, including Henry VIII and James I.

During the English Civil War, the palace was fire damaged, and subsequently sacked. The palace was left abandoned until the mid 18th century, when the new palace was built on the old ruins.

The palace was sympathetically refurbished, retaining its elegance whilst matching the various periods and was re-opened in 2009.

In 2012 the old palace was opened as a hotel, with the adjacent redundant church St. Michael on the Mount also purchased and renovated, increasing the hotel's capacity.

The remaining medieval ruins are now managed by English Heritage and they decided recently to upgrade the fire system. It was imperative that the fabric of the precious buildings would remain untouched and that the new system would offer the latest in technological advances, assuring the palace's optimum protection. Appropriately, they specified a new wireless EMS FireCell system.

SS Systems were called upon for their expertise in wireless fire protection. The EMS FireCell system was purchased and swiftly installed. The installation went very well and the English Heritage were very pleased with their investment.

All EMS wireless and hybrid solutions, including FireCell are fully third party approved to all current standards, carrying CE marks confirming compliance with all applicable EU directives.

The FireCell system utilises the European harmonised frequency of 868 MHz and is fully scalable from smaller standalone systems to large multi-building networks.

For more information on EMS FireCell or other EMS wireless solutions, contact EMS today.

Preserving historic buildings with EMS wireless solutions



An EMS FireCell system provides engineers, managers and owners of historic buildings with a means to comply fully with modern fire regulations.

One of the key maintenance requirements of attractions and listed properties is protecting the building fabric from damage and alterations so that to preserve the heritage, look and feel of the building. With this, any retrofit installation presents a challenge to those responsible – how to ensure the building complies with modern requirements without compromising the past.

EMS's FireCell presents a wireless solution to this challenge. It is not only less intrusive than wired systems but is also quick to install. With nearly 50 years experience in the development and UK manufacture of radio-based wireless solutions for complex fire and security installations, EMS understands the challenges posed by historic and existing buildings.

FireCell, which is EN54 Part 25 certified with 3rd party approvals, is a full analogue addressable fire detection system, which boasts a set of features that makes it one of the most advanced wireless fire detection systems on the market.

The system incorporates industry standard detectors with each device powered by an alkaline battery pack that typically gives a five-year service life, which is in excess of the current British Standards. These communicate with the controllers using secure, fully compliant, dual frequency signalling.

The installation of a wireless product such as FireCell from EMS provides a number of benefits for the building engineer, building manager or owner.

The most important is that drilling can be avoided, which means that the building fabric is not altered and therefore the historic integrity of the building is preserved. In addition, unsightly cables are not visible, which furthermore helps to preserve the original architectural aesthetics.



Asbestos is a consideration that can be avoided with the specification of the FireCell system. Because there is no need to penetrate walls or ceiling panels to install devices such as detectors, call points and sounders, there is no risk and no additional cost involved in asbestos removal.



With full network communication across all panels and every device, as well as global 'cause and effect' programming, FireCell provides an easy solution to a complex problem.

- ✓ Up to 16 FireCell panels
- ✓ Over 8,000 wireless devices
- ✓ Fully addressable
- ✓ Fully configurable
- ✓ Up to 5 years battery life

The system is also cost-effective since it eliminates the need for expensive fire-rated cable. In terms of installation, FireCell can be installed in a very short time scale when compared to cabled systems, which reduces labour costs.

Thanks to this speed of installation there is far less disruption and therefore minimal downtime too; visitors need not be excluded for long periods of time. Similarly, with no need to specify fire-rated cable, the risk associated with low cost, counterfeit cable is also avoided.

For extra peace of mind, EMS has an industry leading five-year warranty to all its products (excluding batteries). This warranty confirms the reliability of EMS products, and firmly establishes radio-based systems as an ideal solution for long term fire and security applications.

FireCell systems can also be wirelessly networked using the EMS RNC or Radio Network Communicator.

The expense and complexity usually associated with networks is now a thing of the past as communication paths are no longer reliant on cables between buildings. No extensive civil works are needed and the inconvenience and time rich installation works normally associated with a network are totally eradicated.





Property Management

Solutions & Applications

Typical Challenge

Provide a flexible system that can be rapidly deployed to minimise disruption the buildings and it's occupants.

EMS Wireless Suitability

Excellent

EMS Wireless Installations In Property Management Sector

1350+

EMS's FireCell at Caledonian House



FMS Fire and Security have installed an EMS FireCell system at Caledonian House in Aberdeen, while keeping downtime to a minimum.

Caledonian House is a 1980s office building which is fully occupied by the current tenants. As part of the landlord upgrade works the existing hard wired conventional fire alarm system was obsolete and needed to be replaced.

The main criteria for a successful fire alarm replacement revolved around a speedy installation, along with having little impact on the operations and business. The site holder was also keen to have a minimal effect on interior decoration.

FMS fire and security carried out the installation of the wireless EMS FireCell system, providing a quick installation that minimised disruption.

“This is a live building which cannot have any downtime and to start cabling a building of this nature and size would be very time consuming. Using a cable system would also create additional works, having to remove ceiling tiles for the cable routes and new containment systems. The radio system also avoids the need for any unsightly surface clipped cabling.”

Dom Rea, FMS

“We have used the EMS fire alarm system on numerous projects and have had good experiences of the system, which we believe gives a cost effective alternative to a hard wired system, especially where retrofitting within an occupied building.”

Keith Robertson, KJ Tait Engineers

FMS Fire and Security, together with KJ Tait Engineers have helped to ensure that Caledonian House is protected against accidental fire damage for many years to come.

Wireless Fire Detection in HMOs



Wireless fire detection is ideally suited for HMOs, providing a fast and practical solution for multi tenanted properties with perhaps elderly or venerable people.

Meeting EN54-25, and with 3rd party approvals, EMS FireCell is the fast track solution which minimises disruption and damage without comprising on features.

With many recent changes to Fire Safety law and new guidance, such as the 'Fire safety in purpose- built blocks of flats' being published, compliance is no longer just about installing any fire system.

An EMS wireless fire detection system can be installed in days rather than weeks and each dwelling can be added to the system as each tenant grants access. No more lengthy delays because an area has to be bypassed. Impact to the fabric is minimised to a point where no redecoration or refurbishments works are needed taking this additional cost out of the equation.

Link this to the savings in labour as well as the reduced installation time, and the benefits of choosing an EMS wireless system become very real indeed.

But is wireless reliable? It has to be, EN54-25 was introduced in 2011 and documents exactly how a wireless system must meet or exceed the performance of a 'hard wired' variant.

EMS was established nearly 50 years ago and has led the development and manufacturing of wireless fire detection systems as the acknowledged industry expert.

Based in Herne Bay, Kent we are the recipient of many key industry awards with our factory being named 'Best UK Factory' in 2010.

Our wireless fire detection protects many of the UK's most famous buildings including royal palaces, monuments and castles. However wireless is now being deployed across all business sectors due to its convenience and flexibility.

EMS FireCell is the latest generation using the very latest in technology, designed for reliability and robustness to false alarms, FireCell includes a HYBRID option so a combination of wireless and wired devices can be used should this be the best solution, again flexibility being the key.

Need to know more? For more information on EMS, visit www.emsgroup.co.uk



Retail

Solutions & Applications



Typical Challenge

Provide a fully scalable system with maximum flexibility, that can be installed rapidly, minimising downtime and preventing unnecessary disruption.

EMS Wireless Suitability

Excellent

EMS Wireless Installations In Retail Sector

600+

EMS Protects York Iconic Tea Rooms



Bettys was established in 1919 by Frederick Belmont and has since become world famous, with six Café Tea Rooms in Yorkshire.

In 1936 Frederick travelled on the RMS Queen Mary and the journey captured his imagination. Frederick soon commissioned the Queen Mary's craftsmen, to turn an old furniture store, into an elegant art deco styled café in the heart of York.

In World War II the Café thrived, also welcoming American and Canadian soldiers whilst they were stationed nearby.

Almost 100 years later, visitors flock to Yorkshire from all over the world to visit Bettys iconic, still family owned, Café Tea Rooms.

Bettys recently required a new Fire Alarm System, for installation at their historic York branch with minimum disruption and without damaging the fabric of the building.

SS Systems of Yorkshire were called upon for their expertise in Wireless Fire Systems. SS Systems have worked with many other significant customers, in other historic and iconic buildings throughout the UK.

SS Systems identified that the solution was indeed a Wireless Fire System and contacted EMS. A wireless survey was undertaken, to ensure site-wide wireless coverage.

They quickly installed the system, whilst also working overnight, to ensure disruption was kept to an absolute minimum. The system was installed in next to no time.



EMS have a number of wireless and hybrid solutions available, that can be used to meet almost any application.

All of the solutions, including FireCell are fully third party approved to all current standards, carrying CE marks confirming compliance with all applicable EU directives.

The FireCell system utilises the European harmonised frequency of 868 MHz and is fully scalable from smaller standalone systems to large multi-building networks.

For more information on EMS FireCell or other EMS wireless solutions, contact EMS today.

FireCell Protects Top European Bakery



A leading European sandwich bar chain was investing significantly in their main UK production plant. Whilst bringing in a whole host of technological advancement to the plant, they needed a new fire alarm system with just as much cutting edge technology. The obvious choice was a wireless EMS FireCell system.

FireCell offered the robustness and flexibility required at a busy plant undergoing major expansion.

The installation was a resounding success with all parties happy with the system and its installation.

EMS is the leading developer and manufacturer of wireless fire detection systems in the UK.

FireCell has been wholly developed by EMS to meet the requirements of EN54-25 and to satisfy the need for an easy to install fire detection system based on wireless technology.

FireCell is a totally wireless based solution that also incorporates HYBRID technology, providing maximum flexibility to meet today's demanding building requirements around fire safety.

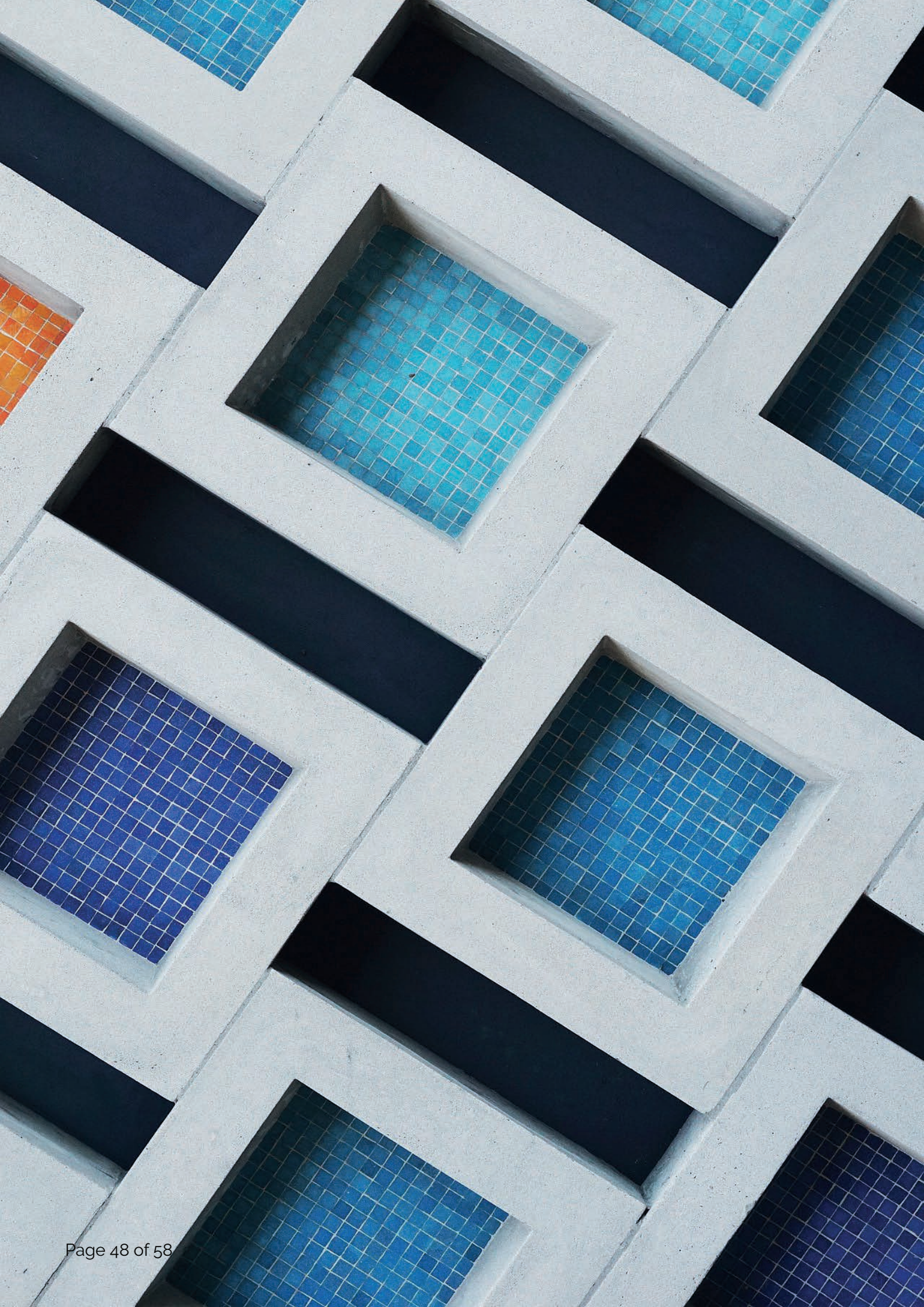
Incorporating EMS Smart Cluster Technology and utilising the 868MHz European harmonised frequency band, FireCell was the first UK wireless fire system to meet EN54-25 and boasts a wireless coverage which exceeds other 868 MHz based systems.



FireCell



For more information on EMS FireCell or other EMS wireless solutions, contact EMS today.



Services / Other

Solutions & Applications

Typical Challenge

Provide a system of maximum flexibility to suit the application, with the fastest installation times and least disruption possible.

EMS Wireless Suitability

Excellent

EMS Wireless Installations In Services / Other Sectors

1150+

EMS Hybrid Solution for Castle Hotel



The Shieldhill Castle Hotel, Biggar is a truly magnificent castle dating back to 1199 and offers great character and charm. With many significant awards to its name, the Shieldhill Castle is a 4 star hotel, set in beautiful surroundings and is located just 30 minutes from both Glasgow and Edinburgh. The Shieldhill Castle offers first class conferencing, banqueting, lovely hotel accommodation and charming candlelit wedding ceremonies within the castle's chapel.

The hotel required an extension to their fire alarm system, including a newly converted Victorian stable block, accommodating 10 en suite bedrooms. With an existing hardwired system in place and a busy castle with little room for downtime, a hybrid FireCell Fusion system was the obvious solution. The hybrid system would merge the existing system with new FireCell wireless equipment. This would also see the stable block, wirelessly communicating with the main system.

AFA Fire & Security were called upon to install the new system, that was designed in conjunction with EMS. Once purchased, AFA swiftly installed the new FireCell Fusion system, whilst linking the existing devices and their cabling.

This meant that the existing system would be monitored by the new FireCell control panels.

The installation was a resounding success and the customer was happy with the system's installation and its operation.

As buildings become more complex and fire safety requirements increase, there needs to be a highly flexible solution which meets these demands.

EMS FireCell Fusion hybrid is just that. Based on the award winning and highly successful FireCell platform, Fusion is a hybrid solution providing almost unlimited configuration and installation options.

A FireCell Fusion hybrid system allows you to mix wireless and wired devices, 126 per loop, wired or virtual, using trusted EMS technology. Flexibility does not stop there; as a Radio Loop Module (RLM) can be added to the wired loop, providing up to 31 additional wireless devices to a specific location.

For more information on EMS wireless and hybrid solutions, contact EMS today.

First Class FireCell Delivery At Royal Mail



Royal Mail's 10 storey Belfast depot was originally built in the early 1970s. Situated next to the River Lagan, it is the main Royal Mail delivery and sorting building in Belfast.

The large building required a new L3 fire detection system. Whilst presenting extremely complex challenges, a wired system made an unfavourable proposition. A wireless fire alarm system was the obvious solution.

EMS FireCell was chosen for its industry renowned robustness in wireless technology and the ability to fit the system in the quickest time possible with absolute minimum disruption to the building and its staff.



Romec were awarded the job and quickly got to work, meticulously planning the system installation in conjunction with EMS. The installation would consist of 6 fire control panels and over 800 wireless field devices. The Service Manager from Romec designed and project managed the system installation.

"The project went exactly to plan, well within the allocated time-frame. In fact the installation went so well that only 4 of the 10 allocated integrity testing days were required".

"We were advised by EMS to install one RCC at a time, due to the size of the job and to soak test it as we went along. This worked really well and enabled us to fit the system without restrictions."

- Service Manager, Romec

Due to the precise project planning and extra hard work put in by Romec engineers fitting the system, the installation and commissioning was successfully completed within the required 7 week time-frame.

Such was Service Manager's confidence in FireCell, that prior to completion, he oversaw the purchase of another FireCell system for a forthcoming installation.

FireCell operates on the 868 MHz European harmonised frequency and is fully certified to the latest EN European fire standards.

Being highly adaptable, FireCell is suitable for virtually any building. In many cases, FireCell exceeds the performance and flexibility of a wired system and offers significantly faster installation times.

FireCell can also be wirelessly networked, connecting up to 16 control panels. Additionally, with the ability to mix hardwired and wireless devices at each control panel, FireCell offers optimum performance and flexibility.

For more information on FireCell contact EMS today.

FireCell Protects Global Engineering Firm



Howden is a leading global application engineering company. With a vast history spanning over 160 years, Howden have produced a long list of innovations, mainly in the air and gas handling field and many of which helped shaped modern engineering today.

Howden has grown significantly since it's formation. Based at a global headquarters near Glasgow, over 6,000 employees are currently positioned across 27 countries.

Howden provide high quality air and gas handling products and services to the power, oil & gas, mining and petrochemical industries - plus many more.

Within the busy Howden Glasgow headquarters, there was a need to link 5 separate XP95 hardwired fire alarm systems to a control panel at the main gatehouse, to empower security staff with single point control of the entire network.

Due to the sheer scale of the site, cabling between the control panels would present a very unfavourable task and would undoubtedly take weeks to complete.

The solution would be to use EMS FireCell wireless networking. This would offer the full control required, with absolute minimum disruption.

Kings Security of Wishaw near Glasgow were awarded the contract and quickly set to work, organising the installation.

EMS supplied 6 wireless control panels to Kings Security, to accommodate the hardwired field devices, whilst additional existing sounder devices would also be supported by 2 auxiliary addressable sounder control units. The new control panels were also accompanied by 6 Radio Network Communicators (RNCs).



The installation of wireless RNCs to link the control panels saved weeks in installation time, causing little disruption and was a resounding success.

A FireCell Wireless Hybrid system allows you to mix wireless and wired devices, 126 per loop, wired or virtual, using trusted EMS technology. Flexibility does not stop there, as a Radio Loop Module (RLM) can be installed onto the wired loop to provide up to 32 additional wireless devices to a specific location.

With up to 504 devices per panel and a wireless network capability providing a capacity in excess of 8,000 devices, FireCell Wireless Hybrid offers the most comprehensive route to fire safety.

FireCell operates on the 868 MHz European harmonised frequency and is fully certified to the latest EN European fire standards.

For more information on FireCell, contact EMS today.

Hydro Electric Power Station



During scheduled 5-year maintenance of the main water feed pipes between the dam and turbines at Cruachan Hydro-Electric Power Station, a system had to be developed to provide remote worker safety.

The Problem

- Maintenance engineers are lowered into the 12-foot wide pipe in a small cradle to inspect the internal condition.
- The pipe drops approximately 1,300 feet down from the dam to the turbine hall and is buried underground.
- Health & safety guidelines stated that the personnel in the pipe had to be aware of any fire alarm being activated within the power station complex.
- It would have been prohibitively expensive to run a cable harness all the way down the pipe to provide communications.

The Solution

EMS provided a simple yet very effective wireless signalling solution.

An EMS input/output unit was installed to the existing fire alarm system. This sends the signal through a directional aerial up the pipe to the cradle.

In the cradle a sounder strobe was fitted providing the engineers with an audible and visual indication of any alarms.

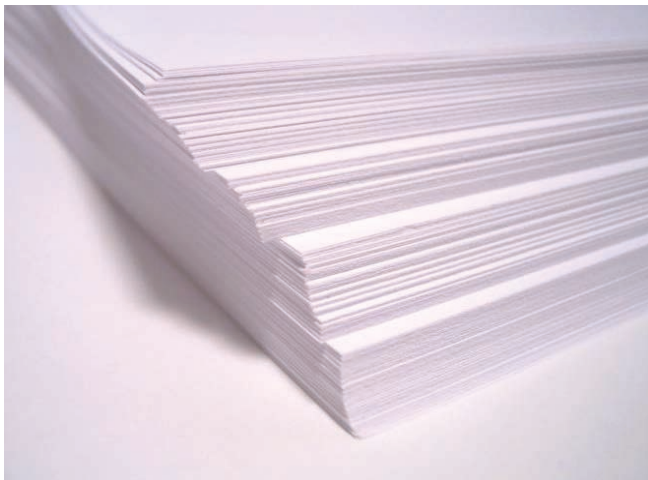
A pager was also supplied that would vibrate in the foreman's pocket.

A call point was installed in the control room, which gives the operators the option to manually evacuate the pipe if necessary.

The technical challenges of this simple application were quite significant. The signal had to propagate to all parts of the 1,300-foot underground pipe, passing through steel, concrete and rock.

The system has successfully provided remote alarm monitoring along the entire length of the pipe, helping to protect the inspection team.

Paper Mill



A large paper mill was instructed by their insurers that unless a new fire alarm system meeting all the current standards was installed, their insurance cover would be revoked.

The Problem

- Insurers imposed a short time scale for project completion.
- The site was vast and complex.
- Any mill production downtime would add significantly to the overall project costs.

The Solution

The mill management had already received quotations for a number of fire alarm systems, with the most competitive totalling in excess of £250,000. The high cost of the quotations reflected the complexity of the site and the amount of civil engineering works that would need to be undertaken to provide total protection for the site.

In addition to the installation, disruption to the operation of the plant would have added further costs to the project. The time scales quoted for completion of the project were months, which didn't meet the short time scales imposed by the insurance company.

An EMS wireless solution solved all of the mill's problems and insurance company requirements.

A wireless networked system consisting of six EMS control panels and over 680 wireless devices were successfully installed, tested and commissioned in five weeks. This was achieved without disruption to the plant and without any additional hidden costs often associated with large complex installations.

The paper mill not only achieved the installation in the required time but at half the cost of previously quoted solutions.

The paper mill group has since installed another EMS system in one of their other plants.

Why use an EMS Radio Loop Module or Wireless Zone Monitor?



The EMS Radio Loop Module (RLM) is an ideal way to add wireless devices to any new or existing fire detection system that uses XP95 protocol.

With a wide range of wireless field devices and the ability to have up to five RLMs per loop it becomes simple to extend a system where additions are needed fast to comply with legal and engineering requirements.

With the recent introduction of EN54-23 the use of Visual Alarm Devices (VAD) on all new systems becomes a mandatory consideration and raises a huge challenge. Each VAD draws significant current from the loop and with many systems there is a distinct possibility that only a few can be added before loop power is exhausted. One solution is to add additional loops and or control panels but this can attract considerable cost as well as protracted time delays.

The smart solution is to use EMS Radio Loop Modules as each wireless field device (up to 31 per RLM) is locally powered by batteries.

This allows population of the loop up to its full address capability without worrying about complex power calculations.

This scenario can also be utilised for existing systems as whilst EN54-23 is mandatory for new installations, regular Risk Assessments may well identify that VADs are needed to meet disability legislation on those already installed.

The RLM is easy to programme using an EMS innovation, the "Jog Wheel", which, with a few simple turns and clicks, installs and configures wireless devices in minutes. No special software or tools are needed and with the physical installation taking only a few minutes and two screws the entire wireless system can be installed in hours rather than days!

The WZM is similar in infrastructure and deployment with only one less wireless device (30 per WZM) yet can be added to virtually any system, addressable or conventional.

The difference is that as the system protocol is not XP95 the WZM reports back to the panel as a zone although locally at the WZM individual devices can still be identified and interrogated.

Installation and programming is almost identical to the RLM, easy and quick, making important additions without compromising on the safety of the building and occupants.

If your fire system is not XP95 protocol then the EMS wireless zone monitor (WZM) can be utilised and is equally easy to install and configure.

Wireless Fire Detection preserves integrity of Fire Compartmentation within buildings



When designing a fire detection system it is necessary to ensure that detectors, call points, sounders and VADs are distributed around the building in accordance with BS 5839 to ensure the building is adequately covered. If devices are to be hard wired back to the panel it may require that holes are drilled through walls, ceilings and floors in order to run associated cable around the building to the alarm panel.

Buildings are broken down into fire resistant cells constructed from fire compartment walls and floors which must contain fire for a specified period of time. If, in the course of running cable around a building one of these cells is penetrated it is the responsibility of the contractor to ensure that any holes drilled are properly filled with certified fire stopping filler so that they are smoke tight and, in some cases, it may be necessary to have this work carried out by a 3rd party accredited fire stop contractor.

According to the Association of Specialist Fire Protection (ASFP) and the Fire Industry Association (FIA) a square room measuring 6M x 6M x 3M that has a pencil sized hole between fire compartments can take less than 4 minutes to fill with smoke from a fire in an adjacent room to a thickness such that you cannot see your hands half a metre in front of you.

The Simple Solution

The simplest way to avoid damage to fire compartments within a building is to use a wireless fire detection system, such as FireCell from EMS, as no cabling is required in such a system.

Using a wireless fire detection system means that there is no necessity to drill holes in ceilings or walls; detectors, sounders, VADs and Call Points all communicate wirelessly to the Fire panel thus preserving the integrity of the building fabric and, more importantly, the integrity of fire compartments within the building.





EMS

WIRELESS FIRE SYSTEMS



The information contained within this document is correct at time of publishing. EMS Ltd reserves the right to change any information regarding products as part of its continual development, enhancing new technology and reliability. The latest issue of this document can be found by visiting www.emsgroup.co.uk