Notifier offers Castello di Urio Hotel five star life safety...

...with its wireless fire detection technology

Located on the shore of Italy's beautiful Lake Como, Castello di Urio is a hotel and conference centre that is steeped in history. When it needed to upgrade its life safety system without affecting the structure of the building, the owners decided to use wireless fire detection technology from Notifier.

With its spectacular coast, picturesque villages and glorious sunshine, Italy's Lake Como features a number of architecturally stunning and historically significant buildings along its shoreline. Foremost amongst them is Castello di Urio, which is built on the remains of an ancient fortification. In the eighteenth century it was home to the Della Porta family and has since been lived in by Mary Teresa of Hapsburg Lorraine, the King of Sardinia, Charles Albert's, wife.

Centre of Excellence

Castello di Urio is now a 150-room hotel and conference centre, and a meeting place for people from all over the world who come to enjoy the surrounding area and walk in the vast English garden that it is famed for. Managed by the Le Magnolie Association, the welfare of staff, guests and visitors at Castello di Urio is taken very seriously and recognising that the existing fire detection system was nearing the end of its life, it decided to invest in a new life safety infrastructure.

Domenico Magnani Quantity Surveyor, Soc. Cooperativa BaSE a r.l, explains: "We needed to avoid any disruption to the day-to-day operation of the business, prevent disturbance to the fabric of the building and, just as importantly, ensure that the new system was both reliable and cost effective. After assessing the available options we decided to implement the Agile wireless fire detection system from Notifier".

User friendly

The use of wireless based fire detection technology has grown massively in recent years and has proven to be particularly suitable for use in hotels, where installation flexibility and high levels of business continuity are all prerequisites and access can be an issue.

"Hotels and conference centres like Castello di Urio are usually unfamiliar environments for guests and visitors, who have little awareness of evacuation routes and fire safety regimes,' comments Alessandro Folli, Product Manager at Honeywell. 'Therefore, a correctly designed, installed and maintained fire detection system is vital when it comes to effective life safety. Wireless fire detection systems have seen huge improvements over the past 20 years in terms of their reliability, ease of use and cost effectiveness – attributes that make them the ideal life safety solution for hotels.".

Fit for purpose

Wireless fire detection systems must comply with EN 54-25, which ensures that they provide the same level of protection as their hardwired counterparts.

This standard specifies the requirements for how wireless systems operate, such as communication, redundancy through dual battery back-up, minimum battery life, improved fault monitoring and defined product testing procedures.

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Each device must be marked with the number of the standard, the name of the manufacturer, the model, a CE mark and the notified product certification body number.

Even though product quality should be given due consideration, perhaps the most important element of any wireless fire detection system installation is a site survey. This process and must be thorough and comprehensive, as much of the subsequent configuration will depend on the results. Previously, this process was only achievable by visiting a site, however, software tools are now available that allow the user to design and simulate the quality of the wireless network from a remote location. Building plans can be easily imported via the software as images or computer aided design (CAD) files and networks can be easily tested to identify critical communication links.

All survey results should be recorded and data should include signal levels relating to all the radio devices and the background noise level, and confirmation that these signal levels are in compliance with the manufacturer's recommendations. In the case of a networked system, this should also include the signal levels for the radio links between panels.

Something in the air

Wired systems can be challenging to install, labour intensive and, of course, require the extensive use of cabling. Therefore, at Castello di Urio this type of system was out of the question.

Alessandro Folli, Product Manager at Honeywell states, “Addressing many of the concerns traditionally levelled at wireless based systems, Agile offers unmatched levels of communication reliability and installation flexibility, providing a robust and efficient method of delivering an integrated solution with greater simplicity and scalability”.

Castello di Urio’s walls and general layout would have made it difficult for a typical wireless fire detection system to provide the requisite level of protection. In stark contrast to a star network, where wireless devices are in direct communication with either a central wireless gateway or a repeater, and can be blocked, Agile’s platform is built on powerful, patented mesh technology that uses multiple communication paths to minimise interference and maximise system robustness.

Always On

EN 54-25 requires wireless systems to conform to three specific areas – site attenuation, alarm signal integrity and interference immunity. Agile’s multichannel frequency diversity ensures that these requirements are met.

Alessandro Folli says: “Multiple connection paths between each transmitter and receiver allow continuous, bidirectional communication. If a connection path is broken, the mesh network automatically re-routes the signal, providing a secure and uninterrupted network. Each device acts as an independent router, allowing for multiple communication paths and the Agile system is designed so that if one link is broken, all of the devices continue to communicate with each other without any loss of coverage. Furthermore, the ability to switch between as many as 18 radio channels and two antennas per device provides greater tolerance to interference, improving overall system effectiveness”.

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Do not disturb

Anyone that has had to evacuate a hotel in the middle of the night will understand the negative impact such an event has on customer satisfaction.

In addition to the unnecessary intervention of personnel and high costs of having the fire and rescue services attend, the loss of revenue, wasted food in restaurants and reputational damage should not be underestimated.

Regular maintenance can identify issues in advance and the Agile IQ design software tool has a diagnostic function that provides a real time picture of the network status that can identify any faults at Castello di Urio. Furthermore, Agile’s monitoring technology accurately predicts battery status, reducing unplanned maintenance requirements and eliminating the need to replace batteries on every inspection.

Domenico Magnani, Quantity Surveyor, Soc. Cooperativa BaSE a r.l, says “Castello di Urio required full uptime while the Agile system was being installed, so work was phased so that at no stage were we without fire protection. Configuration of the network infrastructure and the

fire detection system components was achieved on schedule, which is even more impressive given that it was the first time that our systems integrator had installed the Agile solution".

At Castello di Urio more than 250 optical wireless detectors, 30 manual call points and 11 gateways have been installed, networked to the Honeywell control panel situated in the building's reception area. It now has a fully zoned, addressable system that gives immediate visibility across the estate.

A new era

Alessandro Folli concludes: "CAs Castello di Urio demonstrates, wireless fire detection has entered a new era and gone are the days where it could be considered an inferior alternative to wired technology, or only used for heritage buildings or as part of a 'hybrid' solution. The fact that Agile can be installed quickly and easily makes it the ultimate flexible, cost effective and reliable solution for hotels".