

JENNERY ASSOCIATES

PORT LYMPNE SAFARI PARK

Singular fire detection and alarm system covering 100+
buildings & over 600 acres

eurotech[®]
fire systems limited

EUROTECH PARTNER

Jennery Associates are fully NICEIC Registered and have been providing customers with a comprehensive range of electrical services for over 50 years.

Based in East Sussex, Jennery Associates provide a range of electrical works across a range of businesses and sites, including a large project at the popular Port Lympne Safari Park in Kent.



PROJECT BRIEF

Following fire risk assessments on the 600+ acre site, Port Lympne needed a comprehensive fire detection and alarm system to ensure the buildings and structures, visitors and animals were safe from the risk of fire.

This was to be achieved by creating a linked fire alarm system across the entire site that could be easily controlled from a singular central hub. The system had to be simple to understand by the client and allow for client-driven weekly fire alarm tests.

The project required in-depth site surveys across the entire park alongside Jennery Associates. Using fire risk assessment results, we designed the best fire system solution, selecting equipment to fulfil the varying requirements and obstacles on-site.

We chose a hybrid addressable system of networked Advanced MXPro5 addressable fire panels with Argus Vega protocol and Sygno-fi by Eurotech wireless devices.

HIGH CAPABILITY

The award-winning Sygno-fi by Eurotech range of high-performance open protocol EN54-25 wireless detection, control and alarm devices offer exceptional capabilities, quality and reliability. Combined with user-friendly survey, install, commissioning and maintenance software, the innovative Sygno-fi range revolutionises the wireless fire systems market.

The wireless platform is suitable for both small-medium and large sites, with the capability to handle up to 128 devices per wireless translator and 240 per hybrid loop. There is also a 10-year battery life on sensors, call points and inputs and up to five years on output devices, sounders and VADs.

**SECURITY & FIRE
EXCELLENCE AWARDS**
2022 WINNER



The issues with creating a singular system were:









- the size of the site
- the distance between some of the buildings
- variable terrain including thickly foliated areas, steep hills and banks
- metal fencing and full or partially metal-clad buildings
- lack of electrical infrastructure and optical fibre network across various parts of the site
- buildings powered by generators only when in use






OBSTACLES ON-SITE

Other factors to be taken into consideration were:

- minimising the aesthetic impact on hand-painted images across walls and ceilings in the Grade II listed Mansion
- ensuring quick turnaround installations in guest accommodation to enable uninterrupted operations
- ensuring the layout of the system was easily understood to enable the client to quickly establish the location of alarm activations to assist the responsible persons on site, as well as the fire brigade
- create a system that could be adapted seasonally – e.g. when accommodation was dismantled for the winter months, the devices in these structures needed to be removed, de-energised and stored until needed again

-  **Open Protocol**
For easy integration with most addressable fire alarm panels.
-  **EN54-25 Certified**
In line with the European product standard for wireless fire alarms.
-  **Network Optimiser**
To avoid interference and channel collisions.
-  **SafePath**
Automatically identifies redundant communication paths and re-routes.
-  **Hybrid Technology**
Allows hardwired and wireless devices to work seamlessly together.
-  **10 Year Battery Life**
On sensors, call points and inputs. Up to five years on output devices, sounders and VADs.
-  **SafeSwitch**
Dual channel communication to ensure every message is delivered.
-  **Pathfinder Technology**
Point to point transmission range over 1km

TECHNOLOGICAL SOLUTIONS

-  **The existing optical fibre network wasn't site-wide with minimal fibre-pairs available.**
The solution was to break the site down into 6 defined areas based on fibre node locations, fibre pairs available, and local topography. This created a system design consisting of 6 distinct hybrid fire alarm systems linked by an optical fibre network.
-  **Linking fire panels to devices was difficult as radio signals were often blocked.**
Hills, banks and foliage, power supply availability and metal-clad buildings all blocked radio signals transmitted between fire panels and devices. To solve this we used FP400 external armoured zone cabling to expand the fire panel loops past obstructions, then added more wired radio translators and wireless expanders so that wireless detection could be fitted to structures in that vicinity. In other areas, we daisy-chained externally mounted Sygno-fi transceivers at various locations to direct and re-transmit the radio signals around or over obstacles.
-  **Some buildings had no power supply.**
The Orangery and Pergola were generator-powered only when in use. Permanent power supplies were fed in from other areas of the site to enable continuous operation of the alarm system.

Despite the vast size of the park, over 100 buildings, and terrain obstacles, we created a singular networked fire alarm solution that was easy for the client to manage and compliant with fire regulations.



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“The sheer size of the site and the variety of buildings and structures to protect from fire risk was immense. Eurotech Fire has been invaluable in providing on-site support and devising the best system design and equipment to ensure a robust, compliant solution is delivered.”

Myles Evans - Jennerry Associates

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SUMMARY

Despite the vast size of the park, over 100 buildings, and terrain obstacles, we created a singular networked fire alarm solution that was easy for the client to manage and compliant with fire regulations.

The previous fire system had 2-3 false alarm activation per week due to poor radio surveying and installation issues. Some guest accommodations had domestic (Part 6) detection fitted with no means of relaying activations to the central hub. On project completion, all accommodation buildings, staffed locations and animal enclosures will be upgraded from local Grade D (where fitted) to site-wide-connected Grade A systems.

The improvements include immediate awareness of activations and location-specific information about faults or fires in the 24-hour central hub, where there was none previously. Unlike with Grade D devices, the new system is designed to report information on device temperature, particulate (smoke) contamination, radio signal strength and battery-low conditions back to the fire panels, mobile staff members as well as to Jennerry Associates.

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Fire Industry Association



Assessed to ISO 9001
Cert/LPCB ref .1213