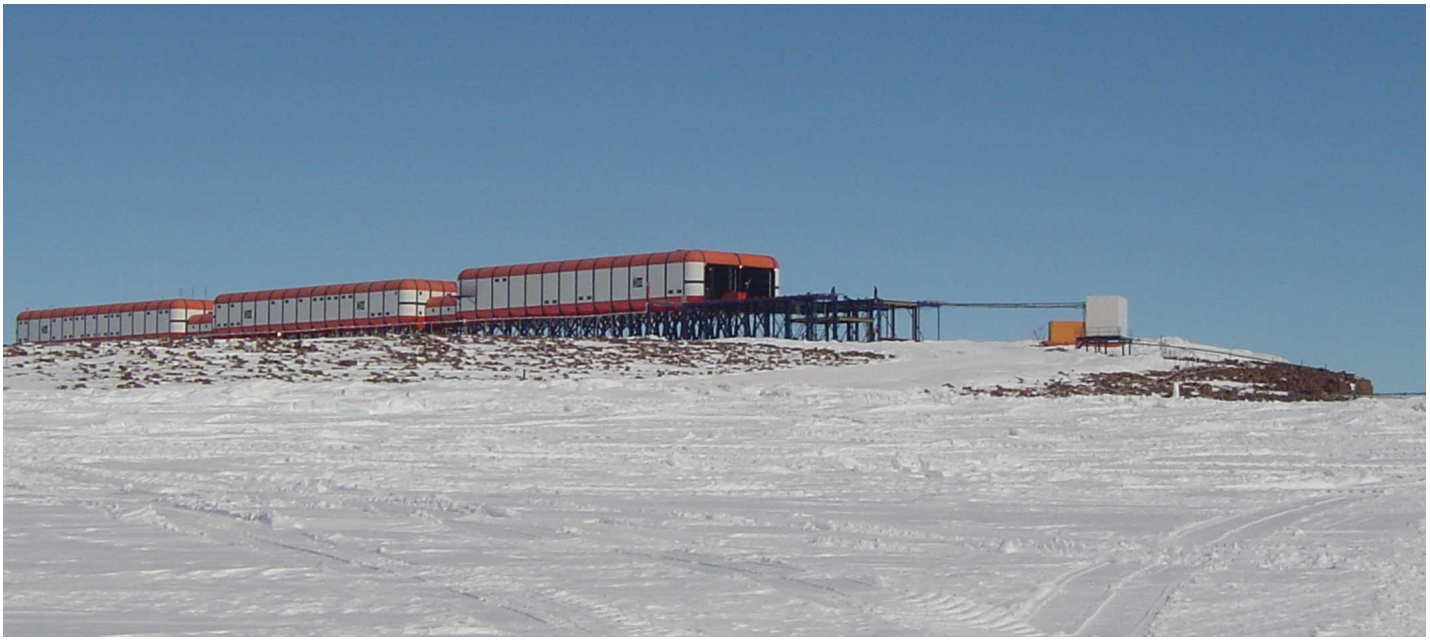
The Southernmost Fire Detection System on Earth

South African National Antarctic Expedition

The South African National Antarctic Expedition (SANAE) sits permanently on Vesleskarvet, a rocky outcrop in Queen Maude Land, deep in Antarctica.

The main activities of the South African National Antarctic Programme are to increase understanding of the natural environment and life in the Antarctic and Southern Ocean, with research into the interaction between the Earth's magnetosphere and charged particles from the sun as the primary ongoing project.

The design of the base consists of three interlinked double storey units, joined at the lower level by interleading passageways, which also serve as access and exit points.



Pre-existing situation & GE Security's role

Unique conditions at the base are harsh, with the extreme cold and dry environment, and high winds causing static build-up on the station structure. Static electrical discharge sparks of up to 1 foot are common inside the base areas. Because of its remote location, the fire protection system must be extremely reliable, self–diagnostic, and simple to maintain on a day-to-day basis: no outside service support is available throughout the Antarctic summer. The system receives only one annual visit during the summer when spares are replaced by supply ship.

GE Security's Solution

The installation of a Ziton ZP3 analogue addressable fire detection system enabled all areas of the base to be protected by the latest technology. The system, based on robust protocol, is configured to provide a central control panel supported by two remote display units.

Special detection is installed in hangars and the Ziton ZP3 system also controls fixed fire extinguishing in the weather balloon, helium storage area.

The system is self diagnostic and is remotely controlled at the expedition's headquarters in South Africa by direct satellite link, enabling remote adjustment and software modification to be completed immediately should it become necessary. In addition the system can send pre-service information enabling the annual maintenance to be planned prior to the arrival of the supply ship during the Antarctic summer.

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