

Axis helps to push the boundaries of sustainable physical security.

Sunstone Systems develops innovative solar surveillance solution utilising Axis technology to deliver highest standard of protection in the harshest of conditions.



Organization:
Sunstone Systems

Location:
UK

Industry segment:
Critical infrastructure

Application:
Safety and security

Axis partner:
Sunstone Systems

Mission

Sunstone Systems is a British technology company with a focus on creating robust, innovative, renewable energy solutions to help its clients protect their assets, some in the toughest of conditions. It prides itself on developing smart solutions to security challenges in rugged environments or unsafe settings which often offer limited or no access to power. Sunstone needed to design and install a solution to protect a giant oil field in Kazakhstan. The system would have to be capable of not only withstanding corrosive elements and extremes of temperature, but also incorporate a system of network surveillance cameras, passing high quality video data back to a central control location a great distance away.

Solution

Working in close partnership with Axis, Sunstone delivered a dedicated solution which utilised renewable energy, could withstand corrosion and incredible day and night temperature variations, and deliver high quality data for comprehensive protection of the oil field and machinery. Two systems were developed: a large Solar CCTV System (SICS) and a smaller Autonomous Remote

Communication System (ARC). The Solar CCTV System, designed for remote locations, utilised AXIS Q60 Series of PTZ cameras. For the smaller ARC system, fixed Axis bullet cameras from AXIS M20 Series as well as AXIS Q17 Series were used. Rugged PTZ cameras were utilised to provide exceptional clarity of image over long ranges; critically important when securing the vast surface area that the oil field spans.

Result

The system has been a resounding success. The use of a solar system, combined with cameras that require only low power to operate, has removed the need to employ diesel powered generators or to attempt to lay hundreds of miles of cable to the nearest town or city. In addition, the corrosion resistant coating of the Axis cameras and Sunstone equipment means they continue to operate perfectly in an environment that's high in hydrogen sulphide. As a result, the Sunstone and Axis solution will be replicated across additional oil fields, and Sunstone's expertise has led to further projects including a high-ways-related project in the UK.

“Axis has supported us and taken the time to understand the complexities of delivering such a solution, and we will continue to work closely alongside the team at Axis in the future.”

Simon Legrand, Sunstone Systems.

A challenging environment

Sunstone Systems was established in 2011, operating primarily as an integrator and working closely with several Blue-Chip organisations. Sunstone evolved into an OEM manufacturer working specifically in the clean energy space and specialising in providing surveillance solutions that utilise renewable energy in remote, off-grid locations. In its latest project, Sunstone was commissioned to design and install a security system to protect a large oil field in Kazakhstan. The system would have to be capable of not only withstanding extremes of temperature, but, with no local power source also needed to be able to facilitate several surveillance cameras and communicate high quality video data back to a central control location a great distance away.

Simon Legrand, Sunstone co-founder, explains, “The main oil field is in a very remote location. The system had to be able to withstand highs of 50 degrees Celsius to lows of minus 40 degrees. In addition, operating in a highly corrosive environment that’s rich in hydrogen sulphide will result in anything that isn’t properly protected disintegrating at an alarming rate.”

Sunstone worked in close partnership with Axis to develop the Solar CCTV System (SICS). The system, made from 316 stainless steel, is impervious to such corrosion, and the Axis cameras it incorporates, having an anti-corrosion coating themselves, are capable of operating within the area’s temperature range.

Sustainable technology

Power was a further consideration. In such a remote location it was simply not feasible to consider running cables from the nearest towns or cities for power or for online connectivity. With the guarantee of sunlight, solar energy was the most effective and cost-efficient choice, particularly given Axis’ innovation in low power cameras capable of providing high levels of security and surveillance.

Simon continues, “The lower power demand from Axis cameras and the efficiency of our solar system resulted in an incredible combination. We built 58 solar powered systems to power the Axis cameras, so confident were we in their ability to provide comprehensive coverage all year round.”

With the efficiency of renewable options constantly improving, while the power demand of cameras reduces, clean energy proved to be a perfect fit for powering Axis’ surveillance technologies. Daniel John, Key Account Manager UK & Ireland Field Sales, elaborated, “We’re seeing the move to clean energy replicated across the market. There is pressure from end users too as they work to reduce their carbon footprint, lowering emissions to meet global targets.”

Delivering on innovation

Sunstone has succeeded in developing and patenting a system that provides advanced surveillance and security in one of the most hostile environments on the planet. Its ability to take an innovative concept and deliver this successfully has given the team confidence in their ability to develop high quality solutions wherever they are required, regardless of the environment.

Simon expands on the working partnership with Axis that has helped the project come to fruition: “Axis has supported us and taken the time to understand the complexities of delivering such a solution, and we will continue to work closely alongside the team at Axis in the future. We’re constantly impressed by the capabilities of all the Axis solutions and their constant growth and evolution mirrors our own.”

The success of the project to date has led to plans to increase the area of coverage to include further oil fields. With 13 giant oil fields in total, this represents a substantial operation to secure a vast critical infrastructure site and ensure its ongoing protection. Sunstone has also been commissioned for a highways related project in the UK.



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