Advanced Perimeter Security for a Singapore Data Centre

Project Summary

- **Client**: Leading global telecommunications provider
- **Location:** Singapore
- **Application**: Data centre perimeter security
- **Solution**: FenceSentry™ DAS with MaxView™
- **Technology**: Fibre optic Distributed Acoustic Sensing (DAS)
- **Key Benefit**: Real-time perimeter intrusion detection with precise alarm location

The Scenario

The operator is one of the world's largest telecommunications providers, operating critical digital infrastructure across Asia and globally. Its Singapore data centre forms part of an international network supporting cloud services, connectivity, and digital communications for enterprises and telecommunications operators.

To protect this critical infrastructure, the facility required a **highly reliable perimeter security system** capable of continuously monitoring the site boundary and detecting potential intrusion attempts in real time, ensuring the security and operational continuity of the data centre.

Monitored | Secured | Safe

Client Requirements

The data centre required an advanced perimeter intrusion detection solution to secure the facility's boundary fence and prevent unauthorised access to the site. The system needed to provide **continuous monitoring of the entire perimeter,** accurately detect intrusion attempts such as climbing, cutting, or tampering with the fence, and minimise nuisance alarms in a complex operational environment.

Integration with the facility's existing security infrastructure was essential to enable **rapid verification and response by security personnel**. The solution also needed to be **highly reliable, low-maintenance, and capable of long-term operation** in Singapore's hot and humid tropical climate.
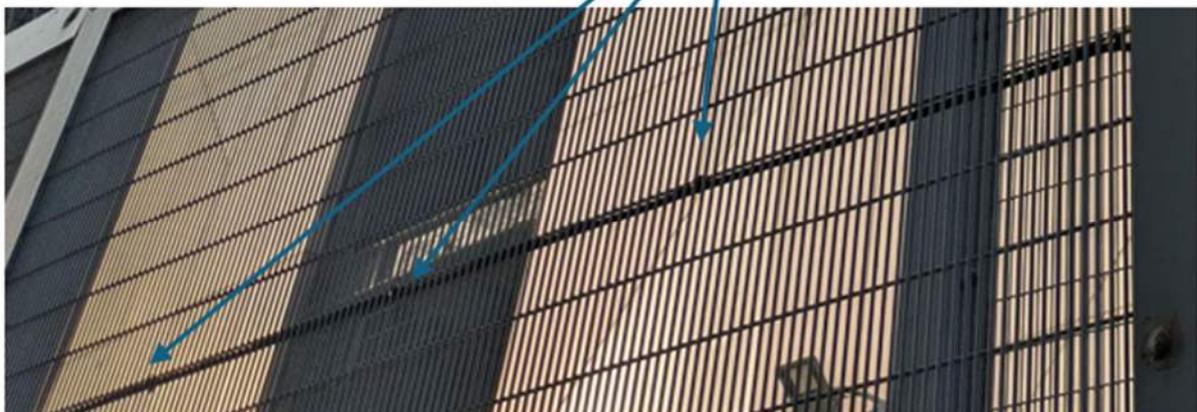
What Did We Do?

Bandweaver supplied and installed its FenceSentry™ Distributed Acoustic Sensing (DAS) system to provide continuous fibre optic monitoring along the data centre's perimeter fence. Using fibre optic cable as the sensing element, the system detects and precisely locates disturbances such as climbing, cutting, or tampering with the fence with location accuracy of less than 5 metres.
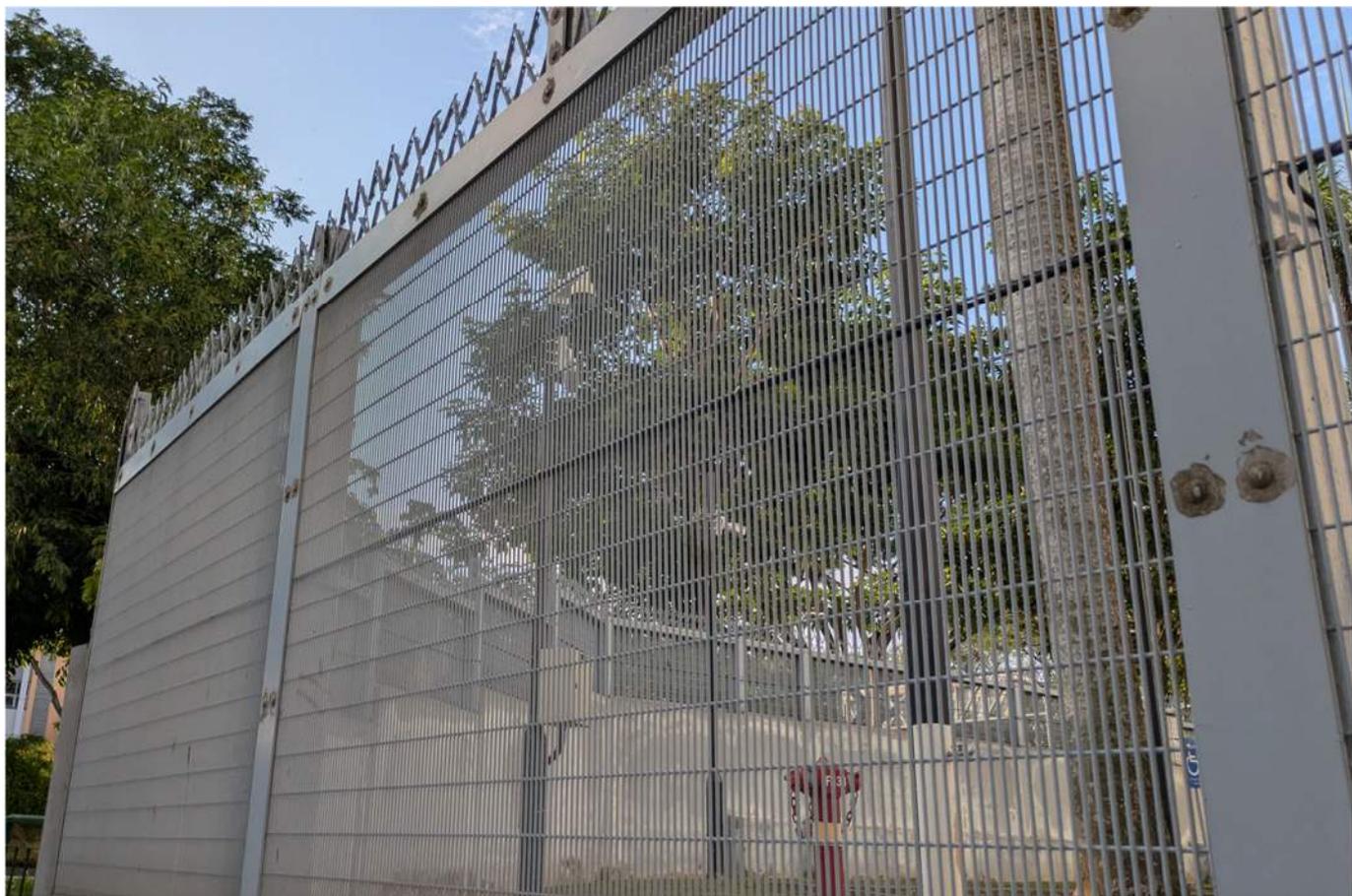
The system continuously analyses acoustic signals along the fibre to identify intrusion events while filtering out environmental noise. This ensures high sensitivity to genuine security threats while minimising nuisance alarms.

The solution was integrated with Bandweaver's MaxView™ monitoring software, providing security operators with a clear graphical interface displaying alarm locations, event information, and system status, enabling rapid assessment and coordinated response to potential perimeter breaches

UV rated Cable fasteners

Benefits To The Client

The Bandweaver system delivered several important operational benefits for the facility, including:Some of the key following benefits and advantages to the end user include.

- **Comprehensive perimeter protection: T**he distributed fibre optic sensing system provides continuous monitoring along the entire perimeter fence, ensuring there are no gaps or blind spots in the security coverage.

- **Rapid intrusion detection and location:** FenceSentry detects and locates intrusion attempts such as climbing or cutting with high accuracy, allowing security teams to respond quickly to potential threats.

- **Reduced nuisance alarms:**Advanced signal processing algorithms distinguish genuine intrusion events from environmental noise such as wind, rain, or nearby activity, improving operational confidence for security personnel.

- **Highly reliable security solution:** The passive nature of fibre optic sensing means there are no powered components along the fence line, resulting in a highly reliable system that is immune to electromagnetic interference and environmental conditions.

- **Low cost of ownership:** Fibre optic sensing cables are non-corrosive, contain no moving parts, and typically have operational lifetimes exceeding 30 years, resulting in minimal maintenance requirements and a very low total cost of ownership.

About Bandweaver Technologies

With an installed base of over 90,000km and 9,000 systems installed worldwide, Bandweaver's vision is to be the first choice for integrated distributed fiber optic sensing solutions across the globe. Since 2002, Bandweaver has been committed to delivering reliable, innovative, client-centric and value-added products and services, via a dedicated and talented team of people.

Bandweaver manufactures and distributes advanced fiber optic monitoring sensors and integrated technologies, enabling customers to monitor, secure and keep personnel and critical assets safe.

Utilising the latest technologies, Bandweaver provides solutions for Linear Heat Detection, Intrusion Detection, Condition Monitoring, Dynamic Cable Rating and Leak Detection.
For further information please contact our global team at info@bandweaver.com