Future Fibre
TECHNOLOGIES

Securing Energy Infrastructure with Confidence

Intrusion Detection
Fibre Security Technology

fftsecurity.com

Why Energy Infrastructure Needs Stronger Protection

Energy infrastructure is critical to national resilience, economic stability and community safety. This makes it a high-value target for physical and environmental security threats that can disrupt generation and transmission, compromise safety, and trigger impacts across energy networks and industries.

Even brief security incidents can escalate into major outages, safety risks and financial losses. In highly interconnected energy systems, a single point of failure - on land or subsea - can have immediate and far-reaching consequences.

- Unauthorised access to secure perimeters, substations, generation facilities and control rooms
- Breaches of fences, barriers or exclusion zones at hydro, solar and nuclear sites, including drone incursions
- Tampering with monitoring, protection, power or communications systems critical to operations
- Vandalism or damage to generation, transmission and site security assets
- Uncontrolled access to restricted, safety-critical or high-risk areas, including cable routes and subsea infrastructure

The FFT advantage

We deliver multi-layered, integrated security solutions that protect critical energy infrastructure, from hydro plants and solar farms to substations, nuclear facilities and transmission assets, from the perimeter through to core operations.

PERIMETER INTRUSION DETECTION
FFT's fence-mounted or buried systems are well suited to energy sites, delivering high-confidence detection with low nuisance alarm rates.

DATA NETWORK PROTECTION
FFT monitors the physical cable layer to deliver clear visibility of network security and health, either stand-alone or alongside existing NMS platforms.

POWER CABLE MONITORING
DAS fibre sensing detects cable tampering and disturbance events in real time, helping operators respond at the earliest stage.

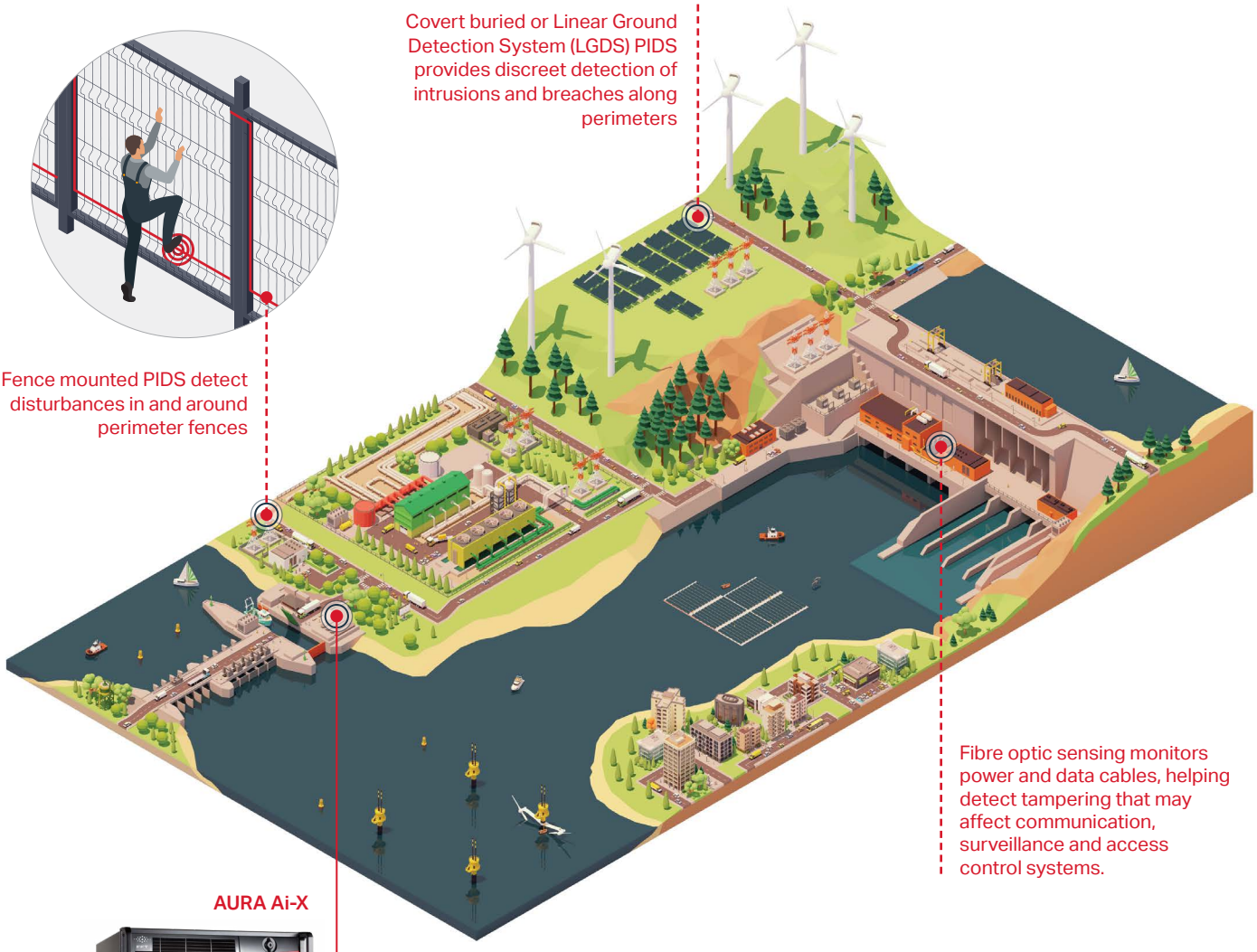
With operations across six continents and thousands of sites protected worldwide, FFT is trusted by governments, military, and industry leaders in over 80 countries.

Multi-layered protection in action

By integrating multiple detection strategies, **FFT delivers a seamless, layered defence for energy infrastructure**, including hydro plants, solar farms, substations, nuclear sites and transmission assets. From perimeter approach and climb detection to securing restricted and high-risk areas, each layer is designed to enable fast response to intrusion alerts and potential threats, while reducing nuisance alarms caused by environmental and operational noise.

Covert buried or Linear Ground Detection System (LGDS) PIDS provides discreet detection of intrusions and breaches along perimeters

Fence mounted PIDS detect disturbances in and around perimeter fences



Fibre optic sensing monitors power and data cables, helping detect tampering that may affect communication, surveillance and access control systems.

AURA Ai-X

Aura Ai-X filters environmental and operational noise, such as dam hum, mechanical clatter and other background vibration, helping reduce nuisance alarms and maintain focus on genuine threats.

From perimeter to core: How Future Fibre Technologies secures Energy Infrastructure

FFT's DAS (Distributed Acoustic Sensing) based fibre optic sensing technologies offer real-time, location-specific alerts for perimeter breaches, infrastructure tampering and unauthorised access across hydro plants, solar farms, substations, nuclear facilities and transmission assets. It can also be used to monitor the health of critical cables, alerting operators to issues that could impact generation, transmission and operational continuity.

Seamlessly integrating with existing security systems, FFT solutions deliver reliable detection with minimal nuisance alarms, protecting both physical infrastructure and critical energy assets.

PERIMETER INTRUSION PROTECTION

While perimeters can range from 50m to hundreds of kilometres, energy sites require the same high level of protection. Whether fence mounted or covert buried, FFT's intrusion detection technology is well suited to hydro, solar, nuclear and other critical energy infrastructure, performs effectively in demanding environments, and delivers high probability of detection with low nuisance alarm rates.

DATA NETWORK PROTECTION

Network management systems typically focus on higher-level network protocols and transactions, only detecting malicious activity based on interface and data flow health. At this point, the damage may already be done. Working stand-alone or in conjunction with existing NMS platforms, FFT's data network solution delivers a complete snapshot of physical network security and operational health by monitoring surveillance, power and communications cables across critical energy sites.

POWER CABLE MONITORING

Power cables are subject to a range of threats, including theft, tampering and malicious damage. To make the fast, well-informed decisions needed to protect critical cable infrastructure, operators require a solution that detects issues at the earliest possible stage. Using DAS-based fibre optic sensing technologies along the cable, tampering, theft and disturbance events can be detected in real time.

Trusted worldwide

- 80+ countries served
- Tens of thousands of installations
- Proven across critical infrastructure, government, and commercial sectors

Honeywell · M.C. DEAN BUILDING INTELLIGENCE · SIEMENS · Telstra · ExxonMobil

Johnson Controls · U.S. AIR FORCE · Transport Sydney Trains · U.S. Department of Homeland Security · Australian Government Department of Defence

> The excellent support from OEM suppliers contributed to the overall success of the project and **I would have no hesitation in recommending FFT's solution** for future projects.

— US REFINERY OPERATOR

> By far, FFT was the best proposal, best value, and as it turned out, theirs was the lowest price. Both the integrator and the customer were **extremely impressed with FFT's performance, timeliness, professionalism, as well as service after the work was completed.** The system is the best we have seen or heard of to date. **Every facet of the system exceeded our expectations.**

— US ARMY SECURITY CONTRACTOR

> Risk mitigation of unauthorised access to the Photovoltaic Alex Farm was the major challenge, especially considering its vast territorial expanse. The security solution (comprising PTZ cameras, horn speakers and FFT's fibre optic intrusion detection) allows the security team to act effectively in the analysis, detection and response of flagged occurrences.

— PROJECT MANAGER, ELERA RENEWABLE

> Fence security at Istanbul Airport is **smarter and more sensitive thanks to Future Fibre Technologies.**

— IGA ULV SYSTEMS GROUP MANAGER

Integrations

PARTNER SUPPLIED INTEGRATIONS*

Advancis WinGuard
Axone Systems
AxxonSoft
BEL Command and Control (Bharat Electronics Limited)
braXos Security Steward
Carnoustie Security
ECIL – Scada Integration
Ekin Red Eagle
FLIR 360 Surveillance
Genetec Security Centre RSA
GEW Technologies
Havelsan
HERNIS (Eaton)
Honeywell EBI
Honeywell HUS
Honeywell ProWatch
IP Fusion
KocSistem
Linc
Mindtree
NCS
Nightingale Intelligent Systems BrdsEye
Nirasys
Qognify
Siemens Siveillance Vantage
Sinpro
Sterlite
Synectics Synergy3
Tata Advanced Systems
Thales Airport Operation Control Centre (AOCC)
Tyco CEM Systems AC2000
Tyco Proximex Surveillint
Vector InfoTech
Verint Fusion SMC
Videonetics
Vidsys
Viettel Surveillance System

FFT SUPPLIED INTEGRATIONS

Avigilon Control Centre
Bosch Video Management System
FLIR Latitude
G4S AMAG Symmetry Enterprise
Gallagher Command Centre
Hikvision
IndigoVision Control Centre
Lenel S2 - Onguard
Milestone XProtect
Pelco VideoXpert
Sick Laser Scanner
Tyco Software House C-Cure 9000

CAMERA CONTROL INTEGRATIONS

Axis Cameras
ONVIF Compatible Cameras

INDUSTRY STANDARD INTERFACES

Configurable ASCII Device output
Email output
Modbus PLC
SMS output
SNMP v1 and v2

Secure Your Energy Infrastructure Today

Contact FFT to discover how our integrated solutions can protect your energy infrastructure, assets and uptime.

FFTSECURITY.COM

For more information about our products, visit: **www.fftsecurity.com**
Contact us: info@fftsecurity.com

Future Fibre
TECHNOLOGIES