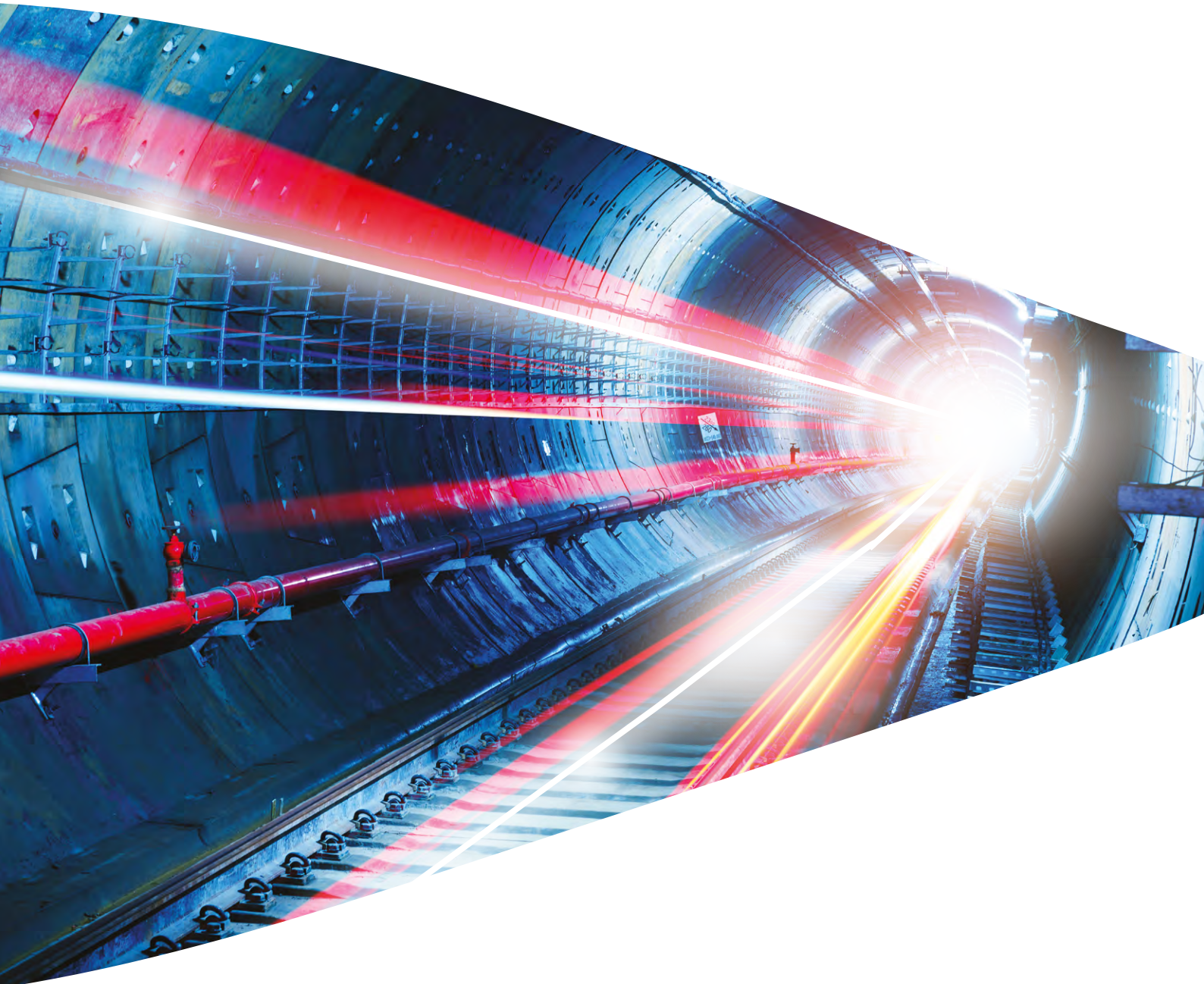




Bandweaver



MONITORING SOLUTIONS FOR
Fire & Security



SMART MONITORING SOLUTIONS FOR INTELLIGENT ASSETS

› Informed decision making from integrated monitoring at all points on your critical infrastructure

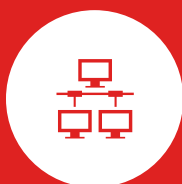
Bandweaver has worked together with customers and partners for more than 10 years to develop monitoring solutions to enhance the safety and security of your critical infrastructure and personnel.

Our range of fiber optic monitoring instrumentation combined with our smart software and services provide you with the right information at the right time to detect risks early.

Bandweaver's solutions enable swift decision making and help you to minimize damage, avoid catastrophic failure and to reduce financial, environmental and reputational risk.



› **MORE THAN 1,250
INSTALLATIONS
WORLDWIDE**



› **10,000KM OF
INSTALLED FIBER
BEING MONITORED**



› **MTBF* OF OVER
31 YEARS FOR KEY
COMPONENTS**

*MTBF - Mean Time Between Failures



THE BENEFITS OF INTELLIGENT MONITORING

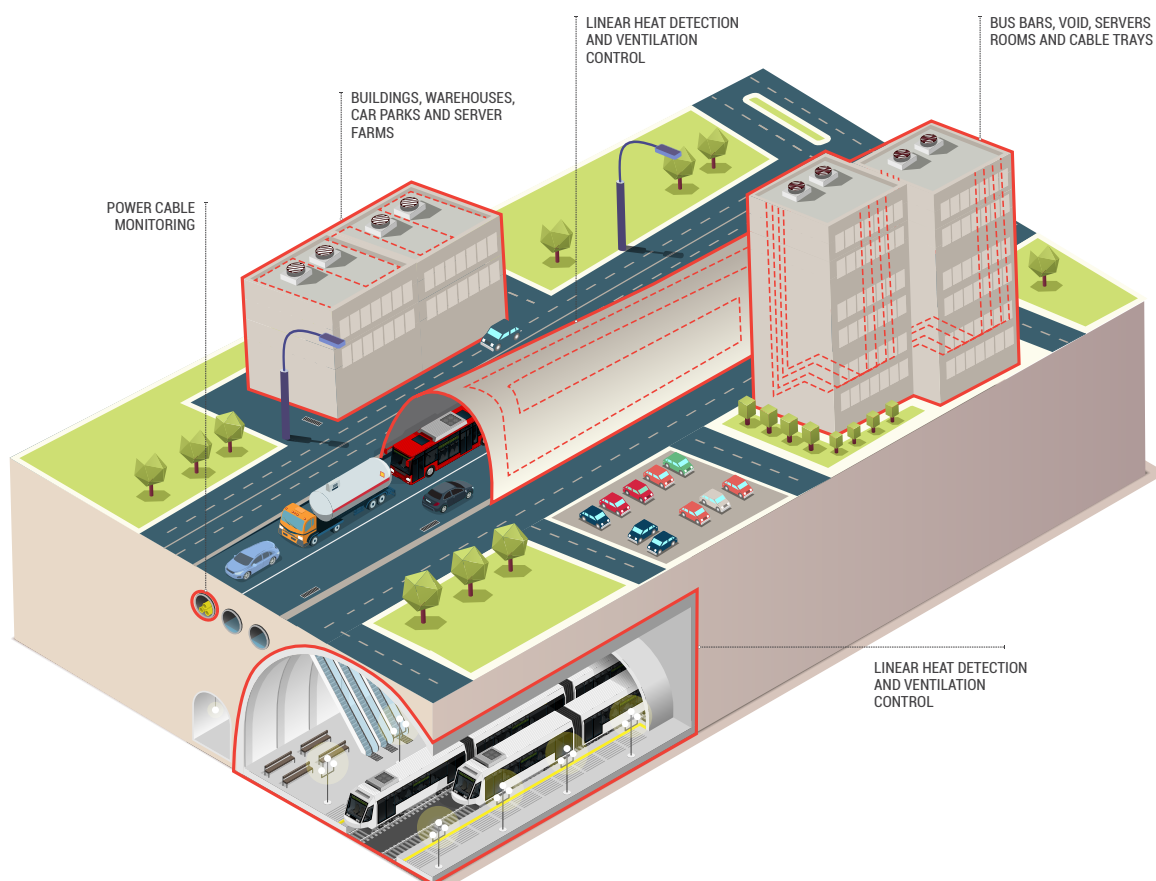
Feature	Benefits
DAS monitoring for Third Party Intervention (TPI) detection before the event occurs, whether it is malicious (terrorist or product theft) or accidental (3 rd party digging)	> Prevention of theft, improved safety, lower maintenance and lower repair costs
Precise, real-time and actionable information at all points on your asset	> Rapid and focused decision making which improves custodianship over assets thus reducing risk to reputation damage
Smart configurable alarms - early rate of rise detection	> Early detection of fire - prevention of damage to assets and protection of personnel
Passive optical components, no electronics or moving parts	> Low maintenance and low cost of ownership - suitable for use in ATEX areas
Temperature monitoring information - dual use for ventilation control	> Low cost of investment for assets
Utilize existing telecoms infrastructure working closely with telecoms/SCADA installer	> Ease of installation, lowering overall cost of ownership

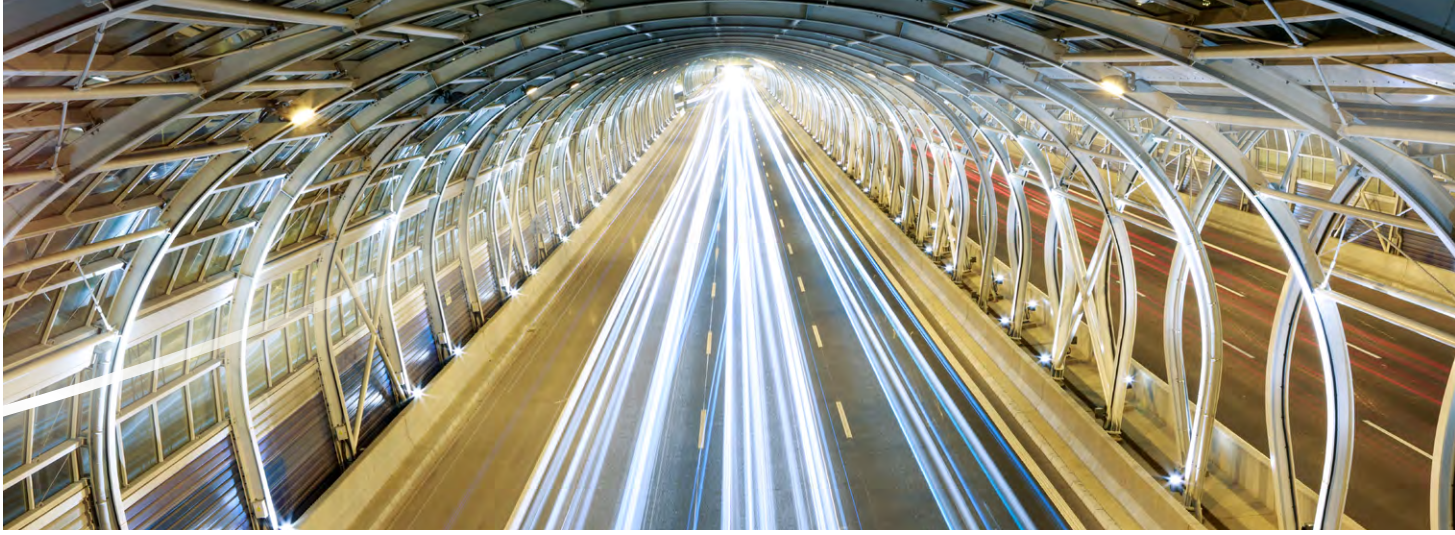


FIRE & SECURITY MONITORING APPLICATIONS

Application areas

- › Transport
 - › Airports – linear heat detection and perimeter security (PIDS)
 - › Tunnels – linear heat detection
 - › Roads
 - › Rail and metros
 - › Parking garages
- › Power
 - › Cable trays and tunnels – linear heat and access
 - › Transformers and switchgear – linear heat
 - › Substations – perimeter
- › Petrochemical
 - › Refineries and storage tanks – perimeter security (PIDS)
 - › Offshore platforms – heat
- › Warehousing and storage
- › Mining and minerals – conveyor belt





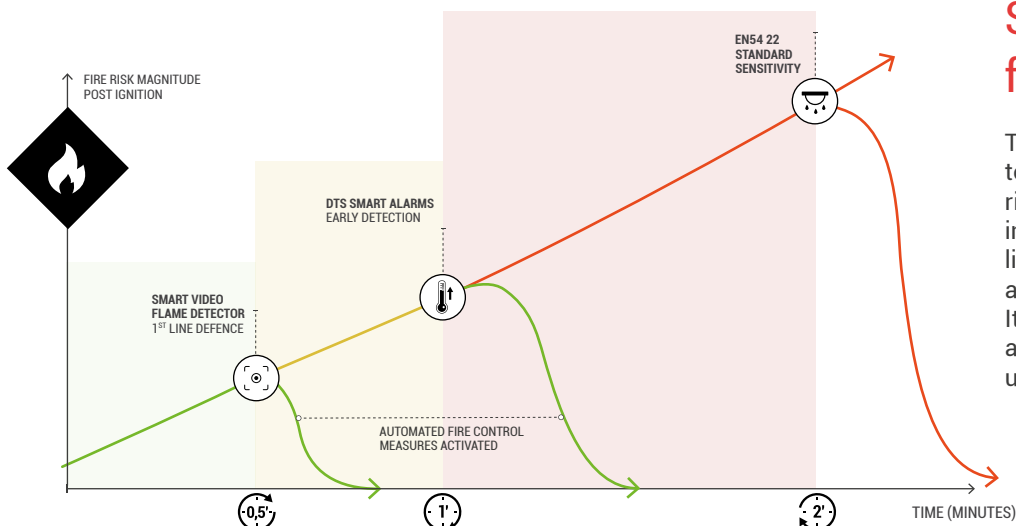
INTEGRATED INTELLIGENT FIRE PREVENTION MONITORING

› Bandweaver's range of fiber optic linear heat detection and smart flame detectors provide complete coverage and security for your critical infrastructure and personnel.

Linear heat detection systems are an established form of defence in special hazard situations. Bandweaver's FireLaser and Access range of fiber optic DTS linear heat detection systems are uniquely designed to detect fires significantly faster than conventional technologies.

These can be combined with Bandweaver's ViVid range of smart flame detectors to provide complete coverage at all points.

INTELLIGENT EARLY DETECTION REDUCES RISK



Smart Detection for Rapid Response

This rapid response allows you to take action early, reducing risk to personnel and critical infrastructure. This helps you to limit downtime, reduce damage and protect your reputation. It is enabled by the intelligent alarms including rate of rise and user configurable smart zones.

TECHNOLOGY TO SIMPLIFY AND IMPROVE RELIABILITY

› Bandweaver systems are designed with simplicity of installation in mind and to maximize reliability and redundancy options.

Reliability and redundancy

With their passive components and no moving parts (all Bandweaver instruments are fan free), fiber optic DTS linear heat detection systems are inherently low maintenance. Bandweaver designs and tests its systems to the highest international standards and utilizes components with an MTBF of > 30 years.

When you combine this approach with the redundancy achieved through system design, you achieve the most reliable systems in the industry.

Ease of installation and system integration lowers cost of ownership

The Bandweaver FireLaser and Access DTS are designed to be simple to install and are versatile in configuration with multiple options for physical configuration and system integration.

- › Pre-connectorized cables – no onsite splicing required
- › Panel and rack mounted available for versatile location placement
- › Integration with multiple systems including – SCADA, Relays, Modbus and customized for proprietary customer specific protocols

Examples of redundant System Configuration

Single system loop configuration



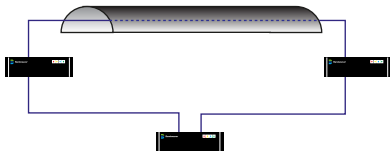
Dual System - redundancy



Dual System - Dual Tunnel



Long Range Tunnel - Tri system configuration



FireLaser panel mounted



ViVid Flame Detector



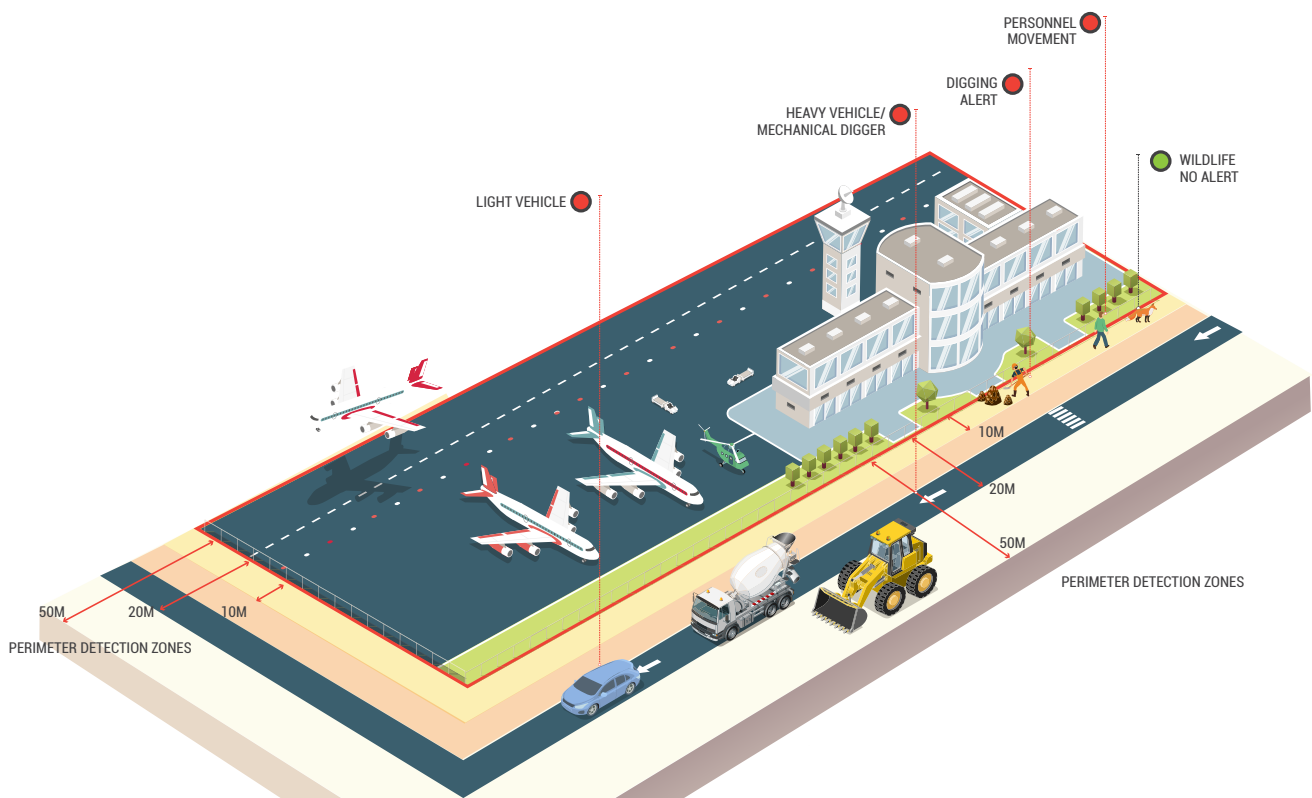
Pre-connectorized cable lengths

PERIMETER MONITORING FASTER THAN THE SPEED OF SOUND

› With the Horizon Distributed Acoustic Sensor (DAS), Bandweaver is able to provide a Perimeter Intrusion Detection System (PIDS) to provide early warning of any intruders.

The Bandweaver Perimeter Intrusion Detection System (PIDS) combines Bandweaver's Horizon Distributed Acoustic Sensing (DAS) system with its smart software measuring perimeters and borders up to 100km per unit:

- › Intelligent event classification engines
 - › Minimize nuisance alerts – distinguish between personnel, wildlife and environmental factors
- › Maxview system integration platform – integrates across multiple sites and can pull in multiple sensors and feeds as well as cue other systems (video cameras and rapid response units)



- › Complete coverage of assets pinpointing the location of any incident within 5m
- › High probability of detection with a very low probability of false alarm activations
- › System integration with 3rd party sensors and data feeds to provide total domain awareness over the whole infrastructure

BANDWEAVER – A GLOBAL LEADER

› With more than 300 employees and facilities in 4 global hubs and 450 projects across 6 continents, Bandweaver is committed to providing you with state of the art, reliable monitoring systems to improve the efficiency and security of your assets.

Reliability and approvals

Bandweaver is ISO 9001 certified and undergoes a rigorous continuous improvement program and tests all of its products to leading international standards.

- › Extensive environmental testing on all products
- › Components to meet telecom standards
> 31 years MTBF
- › Products designed to minimize maintenance (e.g fan free design) and low total cost of ownership



› 10,000 SQM
STATE-OF-THE-ART
PRODUCTION FACILITY



› CLASS 100
CLEANROOM AND
TESTING FACILITIES



› MORE THAN 30
R&D ENGINEERS



North America

United Kingdom

Dubai

China



Bandweaver

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