Incident Detection Systems

Incident Detection System

Downer has formed a partnership with Future Fibre Technologies (FFT) to provide the transport sector with a unique monitoring tool for the detection of incidents on roads, rail lines, bridges, tunnels and more.

Utilising existing fibre along a road or rail line, or installing new fibre cable, we can continuously monitor along the entire length for incidents that transmit vibrations to the fibre optic cable.

This unique solution can work in with existing CCTV to enable control centres to be alerted of an incident and location in real time, and then viewing the incident via live video, saving valuable time in emergency situations and enabling physical crews to get to incidents quicker.

Additionally the technology has the potential to track traffic movements, enabling road authorities and other infrastructure owners to have, for the first time, continuous monitoring of vehicle speeds along a fibre optic monitored route.

How does the Technology Work ?

Existing or newly installed fibre optic cable is turned into a linear vibration sensor effectively feeling vibrations caused by incidents anywhere along its length.

World Leading Technology

We connect measurement equipment on the end of existing fibre optic cable to detect barely perceptible vibrations that travel through the earth. These vibrations are then sensed on the optic fibre cable and compared against a library of normal background signals to categorise incidents as they occur in real time.

The nature of our equipment not only classifies incidents, but also records the location of incidents, providing vital information fast.

Advanced artificial intelligence technology uses behaviour and signature recognition, and signal processing software to identify the difference between a background event (like rain) and a real incident, reducing the frequency of nuisance alarms.

Incident Detection

Pressure and shear waves transmit vibrations through the ground from monitored events to the sensing optical fibre in the fibre optic cable. Laser light travelling in the sensing fibre is disturbed by these vibrations.

The measurement system is able to detect, analyse and track the nature and movement of these vibrations along the optical fibre cable. The system is calibrated to take into account ground conditions.

Measuring Traffic Flows

As vehicles move along, we can plot the movement of resulting vibrations along the fibre optic cable, enabling us to also monitor traffic flow speeds on a continuous basis. Other traffic speed detection systems simply measure speed at specific locations or between locations.

Creating Safer Transport

Downer with our partner FFT are focused on improving safety outcomes for all users of transport.

Intelligent Transport Systems

Downer has significant market share and maintains long term relationships with road and rail authorities across Australia and New Zealand.

As a business, we have:

- a long history of service to transport sectors in Australia and New Zealand;
- a successful track record in delivery of design, build, operate and maintenance;
- well-developed systems for delivery and reporting of engineering, asset management and maintenance;
- services across diverse and geographically challenging portfolios; and
- demonstrated expertise in transitioning into new contracts and improving customer outcomes.

“With a proven track record in quality and safety, we can detect incidents in real time providing safety benefits and keeping traffic flowing.”

Zero Harm

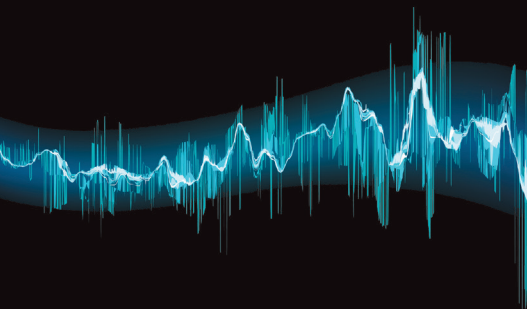
Zero Harm is embedded in Downer's culture and is fundamental to the company's future success.

Zero Harm means sustaining a work environment that:

- supports the health and safety of our people; and
- minimises the impact our business has on the environment.

Our relentless drive to stamp out injury has delivered us an industry leading performance of Lost Time Injuries per million hours worked.

- independently audited and published data confirms our safety performance since 2010 clearly outranks that of our competitors; and
- the excellent results we achieve are testament to our Zero Harm culture and our proven AS/ NZS 4801:2001 certified Safety and Health Management System.



Downer and Future Fibre Technologies

Downer, a leader in transport, is working in collaboration with Future Fibre Technologies (FFT), the leader in fibre optic based security systems.

About FFT

Since 1994 FFT has been involved in the development and manufacture of fibre optic based sensing systems for security applications. FFT products are designed to protect perimeters, country borders, pipelines and data/communications networks from intrusion, excavation, theft, terrorism, and espionage activities.

With many hundreds of high security sites in close to 60 countries around the world, FFTs products have been tested by some of the world's most demanding independent authorities for use in Military, Government, Energy, Transport, Industrial and many other applications.

FFT's fibre optic based systems achieve performance levels and cost advantages beyond the reach of other sensing technologies. With numerous international patents, FFT's technology is world class and internationally proven.

About Downer

Downer is a leading provider of services to customers in markets including: Transport Services; Technology and Communications Services; Utilities Services; Engineering, Construction and Maintenance (EC&M); Mining; and Rail.

Downer is listed on the Australian Securities Exchange and employs about 19,000 people. We operate primarily in Australia and New Zealand but also in the Asia-Pacific region, South America and Southern Africa.

At Downer, customers are at the heart of everything we do. It is our relationships with them that enable us to deliver shared success. By truly understanding and predicting their needs, we bring world leading ideas to transform possibilities into reality.

It's the trusted relationships we build with our customers, colleagues and communities that allow us to create and sustain our modern environment.

Downer and FFT

Downer and FFT have formed a relationship to bring their respective skills, products and experience together to create a new product range for the detection of incidents on transport corridors.

This unique partnership brings the best of both companies, combining FFT's world leading detection systems with Downer's world leading expertise in the transport sector. The combined offering is unique in the market, providing transport infrastructure owners with real time knowledge of incidents on their assets and assisting response teams with earlier access to incidents, potentially saving lives.

The key to Downer's success is our people, who demonstrate daily the commitment we have to our clients and the communities we work in. We listen, understand and partner to ensure all parties interests are considered, as we uphold our mission and role as protector and connector and ensure zero harm outcomes.

Solutions

Downer has partnered with Future Fibre Technologies to take a proven technology in the security sector and apply it to transport. This unique product offering provides new insights to our customers and improves safety outcomes.

FUTURE FIBRE TECHNOLOGIES

Downer
Relationships creating success

www.fftsecurity.com **www.downergroup.com**