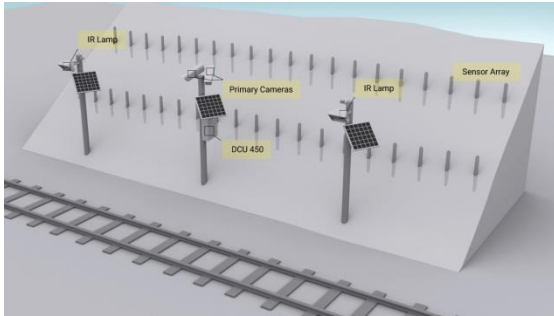
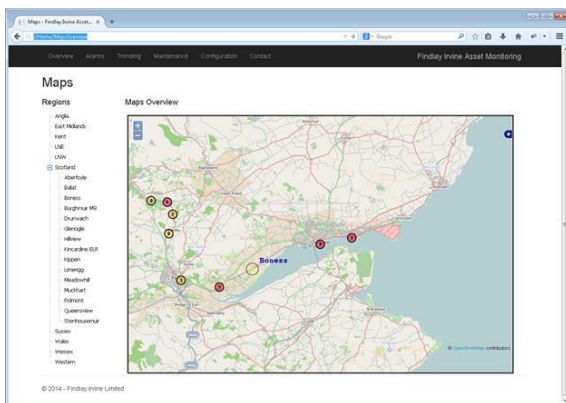


Earthworks Monitoring



Features & Benefits

- Solar-powered data loggers
- No mains power required
- Wireless mesh tilt sensor network
- Auto triggered day/night cameras
- Configurable alerts email/SMS
- Multi asset management system
- Over 5 year battery life
- Low battery warning
- All required parts provided
- Near zero maintenance



Application

The effects of extreme weather on rail services can be severe, yet operators across the world are under pressure to increase capacity, reduce costs and improve safety.

An embankment slip or other earthworks problems may be un-noticed until a driver comes across it, by which time it might be too late to take evasive action and in the worst cases, can cause derailment.

The Findlay Irvine Earthworks Monitoring System provides an automatic alarm backed up by images if a serious earth movement has occurred.

The Solution

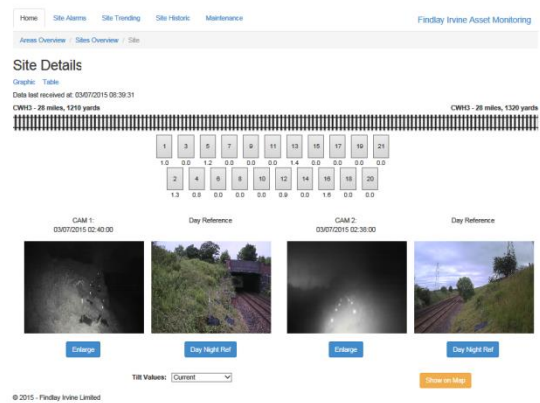
An array of battery-powered tilt sensors is arranged along the length of the site. These sensors communicate back to a central solar-powered data-logger which relays the information via GPRS to a management system.

Once an alarm is triggered, images of the site are captured by the day/night cameras.

The images allow visual confirmation of the actual site conditions, allowing an operator to quickly determine if speed restrictions or a line blockage are required.

The Findlay Irvine RailAlert Asset Management system is used to manage the data from site and can be configured to trigger alarms based on sensor location, alerting configurable stakeholder groups by SMS or email.

RailAlert is Findlay Irvine's asset management system with a broad range of capabilities from point condition monitoring to track temperature to flooding.



Technical Specification

Wireless Tilt Sensor

Resolution:	0.2 degrees in all axis
Battery life:	5 years minimum
Environmental protection:	IP68
Operating temperature:	-40 to +70°C
Dimensions:	100x40 (diameter) mm
Weight:	500g
Transmission range minimum:	100m
Fixings:	M6 Stud with locking nut Mounting poles available (other options available)



Data-logger (DCU450)

Power requirements:	12V, 2A maximum
Environmental protection:	IP67
Operating temperature:	-20 to +70°C
Fixings:	Pole/Structure Mounting
Weight:	20kg
Power source:	Solar/Battery/Mains
Cameras:	Up to 2 cameras Colour (Day), Greyscale (Night)
Illuminator:	IR Covert or Semi Covert
Communications:	GPRS/3G

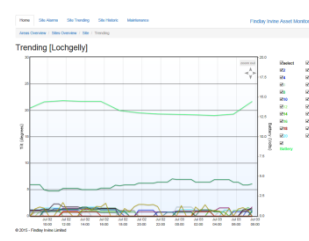
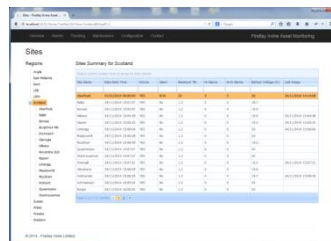


Remote Cameras

Power requirements:	12V, 2A maximum
Environmental protection:	IP67
Operating temperature:	-20 to +70°C
Fixings:	Pole/Structure Mounting
Weight:	20kg
Power source:	Solar/Battery/Mains
Cameras Day Night:	Colour (Day), Grayscale (Night)
Illuminator:	Covert or Semi Covert
Communications:	GPRS

Rail Alert

Compatible with Desktop and Mobile browsers



Findlay Irvine Ltd
42-44 Bog Road
Penicuik
EH26 9BU
Scotland, UK

t: +44 1968 671 200
f: +44 1968 671 237

e: sales@findlayirvine.com
w: www.findlayirvine.com



Railway Industry Association