

Innovation in LIDAR technology heralds a transformation in real-time dust monitoring over long distances

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MEDIA RELEASE

The “Integro™ LIDAR Network” by [ECOTECH](#) is a tried and tested technology for the real-time measurement and monitoring of aerosols and dust particulates, giving users the ability to better manage and control their dust suppression systems.

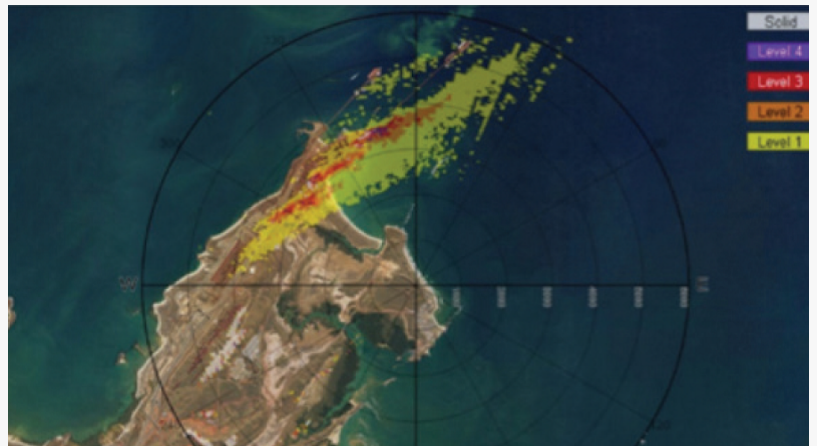
Light Detection and Ranging technology (LIDAR) is a remote sensing method that uses light in the form of a pulsed laser to measure ranges (variable distances) to the earth. Originally developed by Leosphere, a French company that specialises in atmospheric remote observations, the technology is most commonly used as a meteorological tool for weather applications.

Partnership leads to innovation, filling a gap in the market

ECOTECH approached Leosphere in 2013 with the idea of merging the two companies' technologies to create a solution for open path monitoring for aerosols and particulate emissions over long distances (up to 12 km in radius).



The LIDAR instrument is mounted at a height that allows a clear line of sight over the scanning area.



The Integro™ LIDAR Network continuously scans an area (up to 24 km diameter) and accurately measures dust concentration and radial wind speed/wind direction to identify dust emission sources and dust dispersion trajectories.

ECOTECH had received numerous requests from government authorities and the mining community it serviced, to develop a system that would allow customers to effectively measure and monitor dust movement over larger areas well beyond the fence line of a facility.

Fast-forward to 2017 and ECOTECH has successfully designed, installed and operates the Integro™ LIDAR Network, to effectively monitor and measure the movement and concentrations (ug/m3) of dust emissions over large areas, providing real-time data accessible online by industry or the public using ECOTECH [Airodis™](#) software.

This new and innovative application of LIDAR technology by ECOTECH and Leosphere has revolutionised the way government authorities and industry can monitor dust dispersal with a range of up to 12 km from the measurement point, allowing for accurate coverage over a full hemispherical 24 km diameter range.

Dust can have a major impact on not only the health of the workforce, but also local communities, waterways, and its flora and fauna. With its precise measuring and monitoring, the Integro™ LIDAR Network equips communities, government and industry alike with a powerful tool to advise and help protect people in their natural environment.

Safeguarding the environment with the mining industry and government

ECOTECH's Integro™ LIDAR Network has been used by Australian mining industry and government bodies, including the Western Australian Department of Environmental Regulations.

Following extensive trials of the technology by industry and regulators since 2014, Integro™ LIDAR Network campaigns have been launched across Australia.

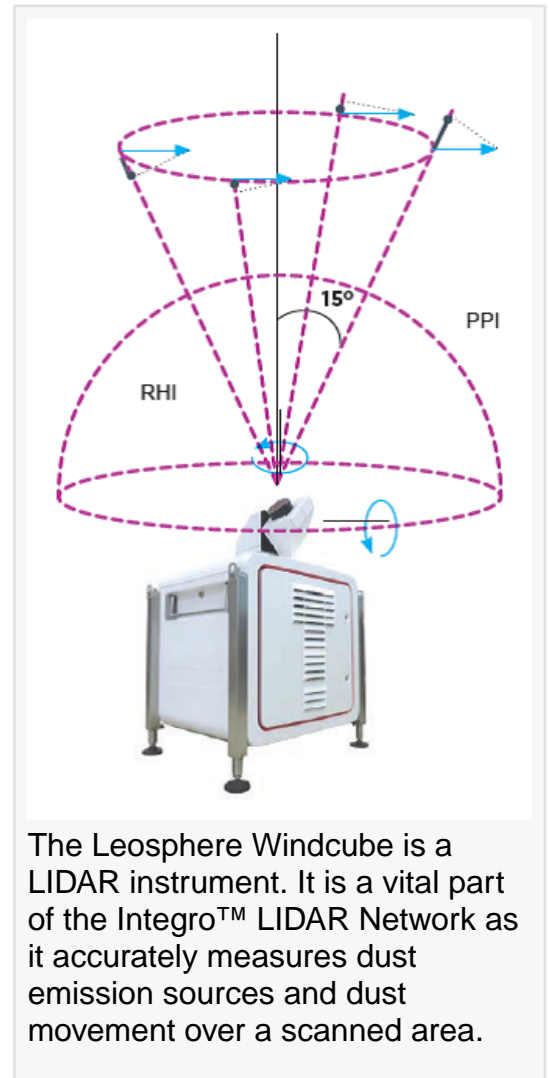
Public websites displaying real-time data captured by the Integro™ LIDAR Network were created by ECOTECH, giving industry and publics alike the chance to monitor dust emissions in their area.

Using the Integro™ LIDAR Network, ECOTECH can pinpoint the exact source of emissions. For the first time, this level of data granularity means that users can identify one or more emission sources, whether that is an individual ship loader, conveyor belt or stockpile.

In the news

In February 2017, Port Hedland in Western Australia received media attention for its use of ECOTECH's Integro™ LIDAR Network, amid plans of the potential expansion of the Port operations in Western Australia. At the time, the expansion had been paused, pending further investigation of dust levels generated by iron ore exporters in Port Hedland.

The data collected by the Integro™ LIDAR Network in Western Australia will be used along with other monitoring data in any future decisions regarding expansion at the port. The data will also assist mining companies operating at the port to review their dust management and control measures whilst



The Leosphere Windcube is a LIDAR instrument. It is a vital part of the Integro™ LIDAR Network as it accurately measures dust emission sources and dust movement over a scanned area.

increasing their efficiencies.

Going global

With the Integro™ LIDAR Network, ECOTECH is pioneering the way governments and industries around the world can monitor and track dust emissions. It is also paving the way for preventative outcomes that will improve air quality.

Following the success of the Integro™ LIDAR campaigns in Western Australia, the Integro™ LIDAR Network will be used by the WA Department of Environmental Regulations for similar projects throughout the state in the years to come.

ECOTECH's LIDAR technology for use in dust measurement and control has been recognised internationally, with a number of government authorities and mining companies from China, Taiwan and the United States now evaluating and investing in this technology.

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[High resolution images available on request.]

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About ECOTECH:

Problem solving is in our DNA. ECOTECH has pioneered innovative solutions in environmental monitoring for over 40 years and are global leaders in the design, manufacture, operation and maintenance of air, water, gas, meteorology, blast, fine particulate and dust monitoring systems. ECOTECH has a global footprint across 80+ countries with world-class manufacturing facilities (certified to ISO 9001 Quality Management standard) in India and Australia, and NATA accreditation for compliance with ISO/IEC 17025 for a range of testing and calibration services. ECOTECH is part of the [ACOEM Group](#).

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