QUEENSTOWN
LAKES DISTRICT
COUNCIL

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Environmental Monitoring System

Find out about a technology trial starting soon which will monitor conditions within Ben Lomond and Mount Iron Recreation Reserves.

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We're working with Attentis Technology and Spark New Zealand to trial cutting-edge technology which delivers accessible, real-time information on environmental conditions for the Queenstown Lakes community.

The construction of the Environmental Monitoring System delivers a new level of continuous real-time, accurate, region-wide information, available for all residents, visitors, local industry and services, providing situational awareness for the entire community.

This year-round resource provides micro-climate weather, air quality, fire detection, notification and live information to aid informed decisions regarding personal safety, health and well being as well as support the local tourism industry.

Access to live information

The system interface and app provides 24-hour access to view live local weather, rainfall, visual and thermal images and air quality readings at multiple locations surrounding the Ben Lomond Recreation Reserve in Queenstown and the Mount Iron Recreation Reserve in Wānaka.

The network also provides 24-hour thermal monitoring at each location to detect fire ignition from multiple sources - a key safety element for Queenstown and Wānaka communities.

Instant notification

Registered users can establish threshold alerts to receive instant notification via email or SMS of adverse conditions or hazards information. Notifications enable users to view images and conditions at the location, delivering critical information throughout an event. Ignition notifications and live conditions are provided directly to first responders to enable rapid response, ongoing intelligence and live situational awareness.

Hi-resolution visual and thermal imaging

Attentis multi-sensors incorporate thermal and visual imaging to detect hot spots, fire ignitions and changes in equipment temperature that can lead to faults, outages and fire starts.

Live, local, timely and accessible information.

A series of integrated localised information sources

Council-wide, region-wide and island wide

Attentis is constructing neighboring networks, creating an integrated information network throughout the South Island. This series of integrated, localised networks allow all residents, visitors, local industries and services the ability to view live micro-climate weather, rainfall, air quality, notifications and risk conditions across regions, to provide a better understanding of impacts BEFORE they arrive.

Every additional multi-sensor provides greater insight and prediction capabilities including flood and fire risk.
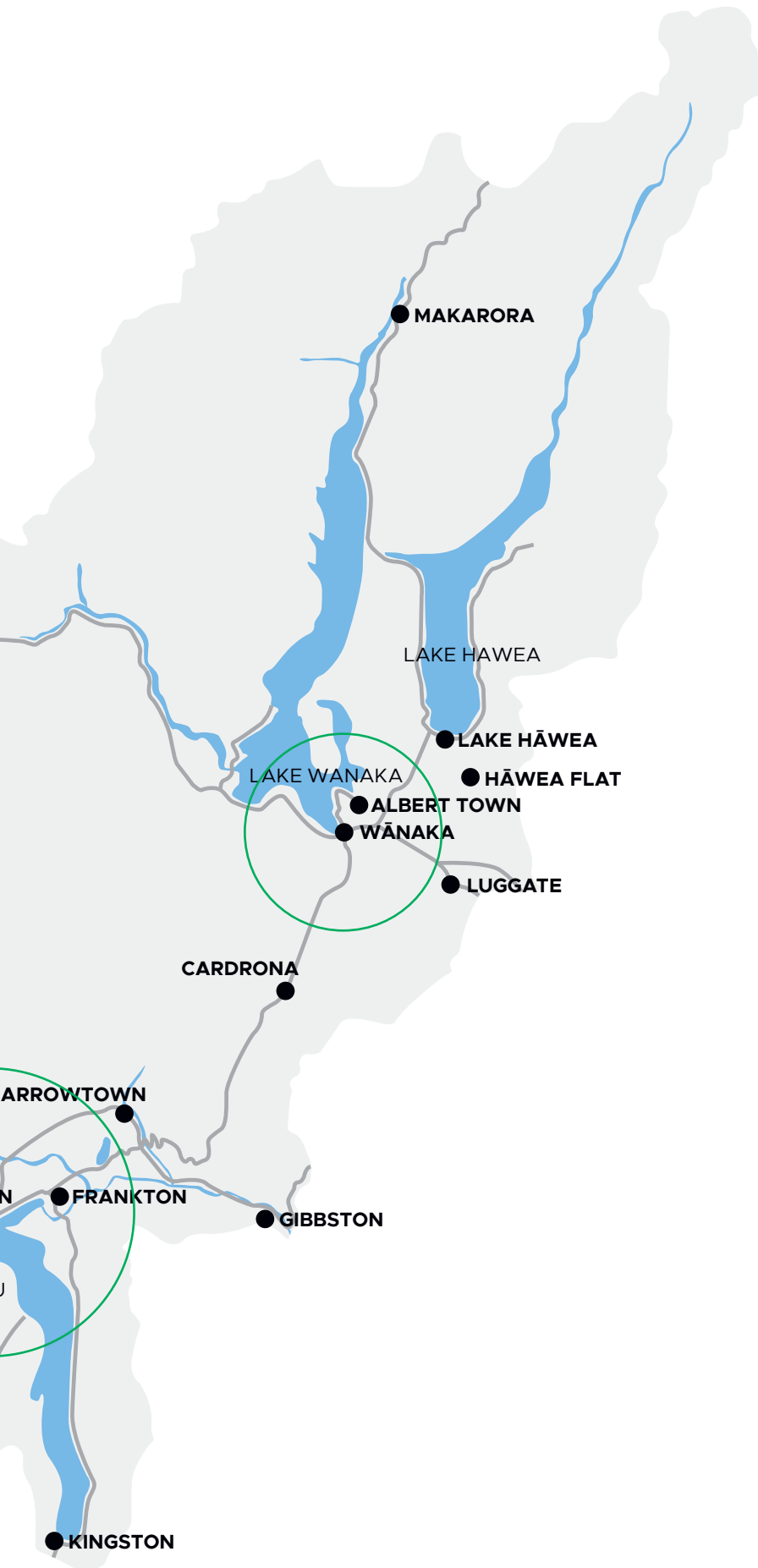
Micro level localised information enables informed decisions and supports Fire & Emergency Services NZ and local services.

Additional information that will be provided includes local amenity, medical, emergency, tourism, access, flood zones, communication and cultural overlays to support every element of each region.

Accessible via the local interface and app, the network automatically updates as you move through regions ensuring you remain aware and informed.

Queenstown Lakes District area **8,467** square kilometres

GLENORCHY

QUEENSTOWN

LAKE WAKATIPU

MAKARORA

LAKE HAWEA

LAKE HĀWEA

HĀWEA FLAT

LAKE WANAKA

ALBERT TOWN

WĀNAKA

LUGGATE

CARDRONA

ARROWTOWN

FRANKTON

GIBBSTON

KINGSTON

Sensors in the Queenstown Lakes District.

Two key areas in Queenstown and Wānaka are the focus of the initial installations to provide insight into fire risk conditions and micro-climate weather.

QLDC is delivering awareness and improved public safety to support the community.

Ben Lomond Recreation Reserve

Fire detection, air quality, weather, rainfall, fire risk levels, camera images, and local tourism and support information.

Mt Iron - Wānaka

Fire detection, air quality, weather, rainfall, fire risk levels, camera images, hiking information and local amenities information.

What do these units look like?

Small, on poles, low impact

Each installation will be on an existing light pole or on a new pole, similar to a light pole.

The footprint is approximately 600mm x 600mm on a concrete footing.

There is no cabling or trenching required.

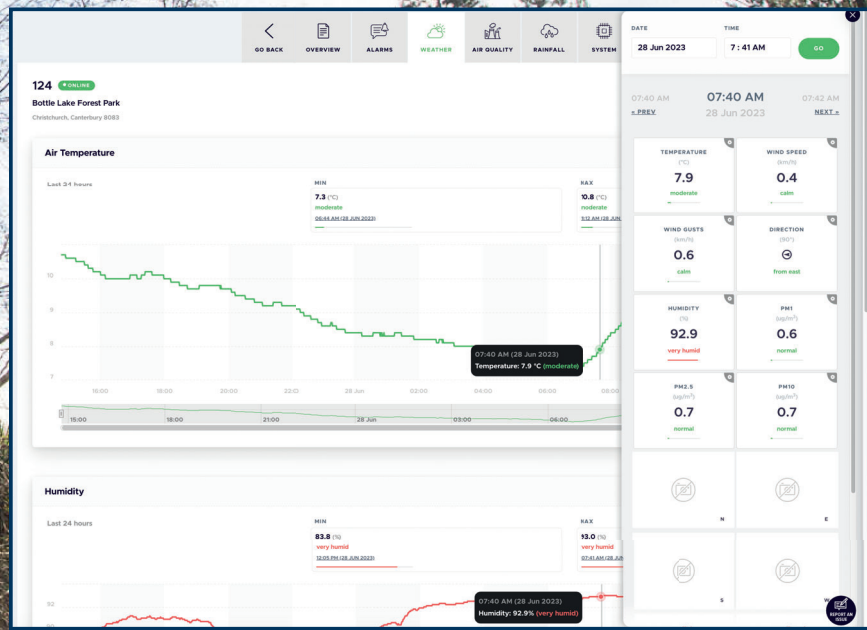The unit itself is a small 30cm x 15cm device with small attachments - see left.
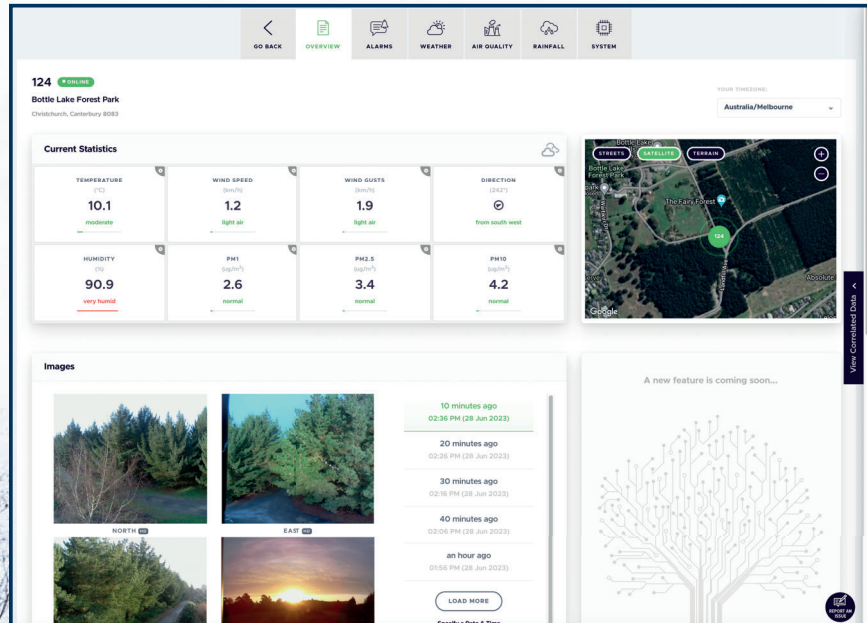
The unit has four cameras that take images in 15 minute intervals - this is not a surveillance camera.

The cameras produce images to provide visual context to weather and will be used by FENZ, emergency services and QLDC to remotely view the location - essential during a hazardous event (sever weather, fire, smoke, poor air quality etc).

The public can access the still images to view real-time weather conditions, in some cases parking availability, people congestion at the gondola, conditions on the bike and hiking trails - a range of information to support awareness, preparedness and public health and safety.
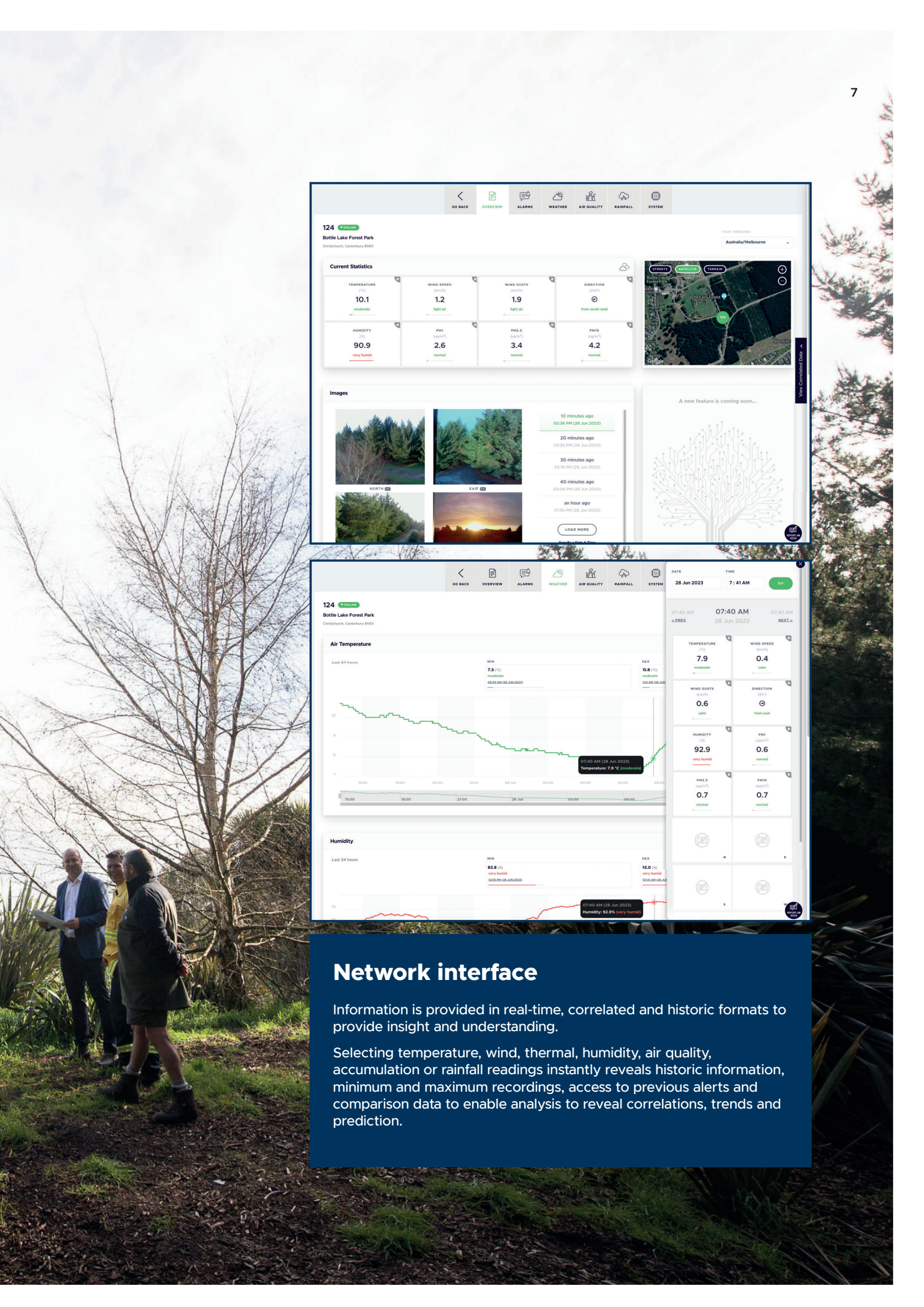
An Attentis multi-sensor located at Bottle Lake Forest Park

Network interface

Information is provided in real-time, correlated and historic formats to provide insight and understanding.

Selecting temperature, wind, thermal, humidity, air quality, accumulation or rainfall readings instantly reveals historic information, minimum and maximum recordings, access to previous alerts and comparison data to enable analysis to reveal correlations, trends and prediction.

Capabilities

For councils and communities, a 24x7 support system.

Councils

Early identification, notification and response are crucial to public safety.

The system incorporates a range of early detection capabilities, coupled with notification and continuous live and real-time information to improve public safety and situational awareness.

Access to localised information reduces public exposure, environmental impacts and disaster recovery costs.

Emergency management

Access to 24x7 local information is critical in natural disaster management. Live risk level maps highlight areas of high risk year round to focus mitigation efforts whilst maintaining a focus on highlighted areas during fire and flood seasons.

Fire and flood detection

Attentis multi-sensors have a range of modular capabilities including 24x7 fire and flood detection. Continuous real-time measurement of multiple elements provides a complete picture of an event as it unfolds. Fuel loads, humidity, wind conditions, air quality and composition and thermal imaging are used to measure live risk levels and detect fire ignition. River heights, water flow rates, images, active rainfall tracking and soil moisture information throughout the region are combined to identify flood conditions early and detail flood zones and access impacts.

Utilities

24x7 localised situational awareness of live environmental conditions, structural integrity, line clashing, fire ignition and asset degradation (substations and towers) maintains power generation, transmission and distribution throughout a region.

Road conditions and access

Bridge movement, vibration, noise, structural integrity, speed and vehicle identification can be incorporated into the network, providing images, notification and overtime analysis to assist in maintaining road and bridge conditions. Access monitoring during floods also forms part of the network.

Tourism

To support local tourism, visitors can access the Network Information App to view local attractions, access camera images and live conditions at locations. Amenity locations, medical facilities, camp sites, hiking and bike trails are all accessible via the App, making visiting a location easy whilst providing a level of support and confidence.

Local support - agriculture

Fine-scale accurate micro-climate weather, air quality, soil moisture, frost, dew, fire danger index and delta-T provides an unparalleled level of information to support local industry, agriculture and viticulture.

Regional-wide networks provide live weather and rainfall tracking, enabling inexpensive system automation (irrigation, frost fans) for farms and vineyards.

Improved information and automation increases efficiency and production, and allows increased family time and improved mental health.

Forest / Plantation Management

Real-time thermal imaging, visual images, air composition and weather combine to maintain 24-hour live operational awareness of factors and events that impact Assets and operations. Visual imaging and fire detection reduce the risk associated with arson, trespass and dumping.
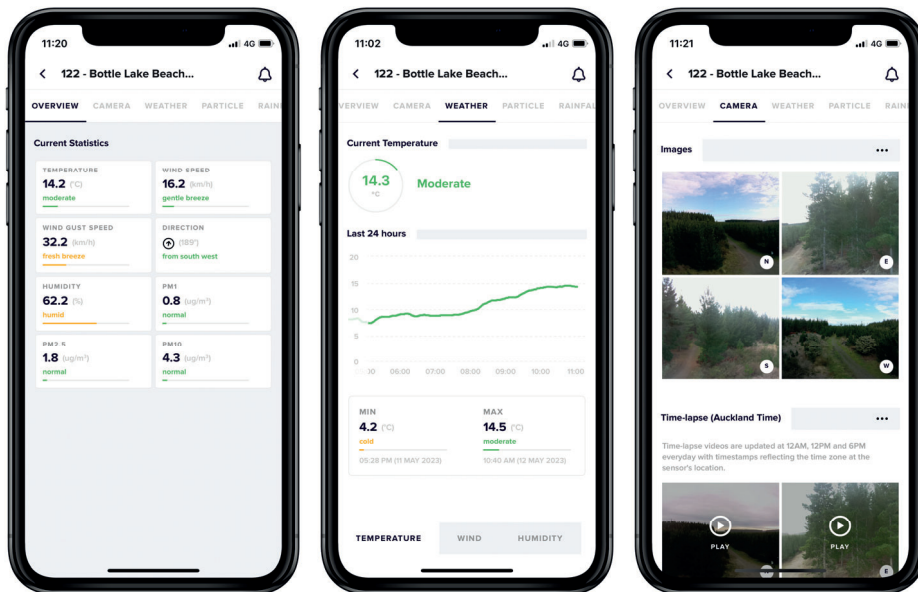
An app for all seasons

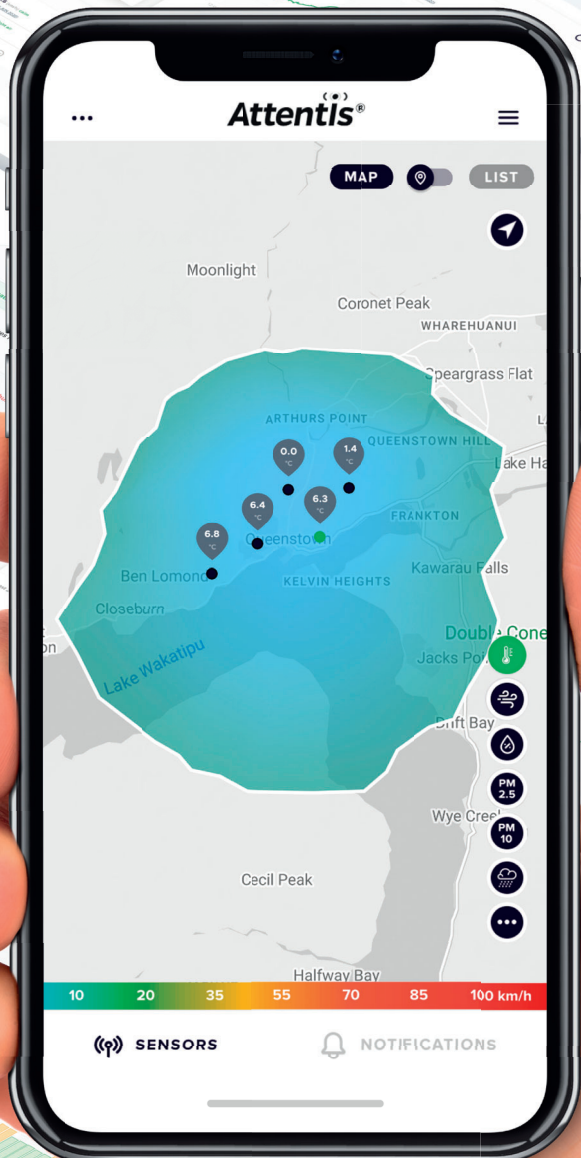# Connecting you to your local environment in real-time.

The value of real-time / live local information lies in the ability for people to understand and adjust to changing conditions.

The app supports local governments, agencies, emergency services, industries, individuals and communities maintaining greater awareness, safety and health.

Access conditions on a hiking trail to ensure appropriate clothing or view camp grounds, boat ramps or car parks to view congestion levels supports local tourism, recreation and live-ability.

In the event of an incident, local government, related agencies and emergency services can send messages directly to local residents detailing the event, provide updates and detailed information to maintain awareness, reduce impact and support community resilience.

The app details live wind movements, event locations, air quality conditions and images to maintain 24 x 7 situational awareness

Available on the
App Store

GET IT ON
Google Play

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Creating intelligent sensor networks is a major step in understanding environmental factors that impact our daily lives.

Attentis has invested years of research and development, operating networks in extreme conditions to ensure reliability.

Attentis intelligent networks transform life through improved human understanding of, interaction with and response to, the environment we live in.