



PMeye sensor

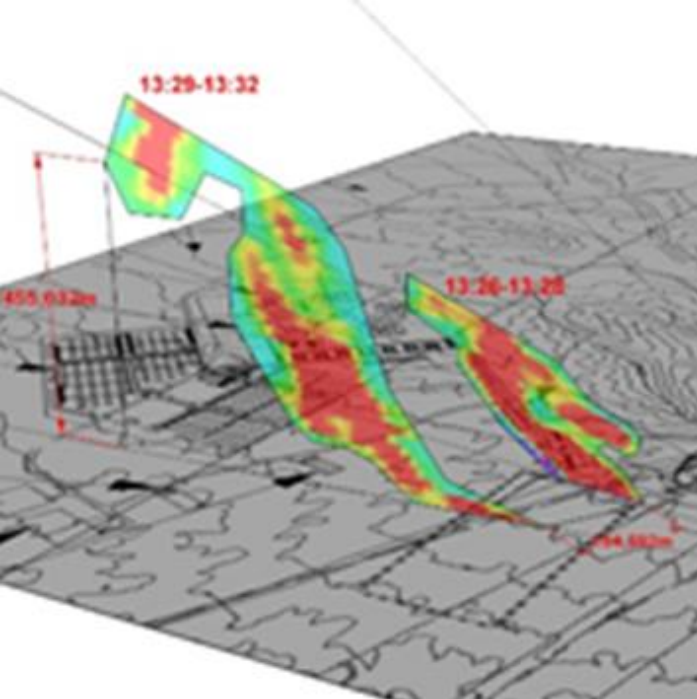
- IDENTIFICATION AND MAPPING OF ALL POSSIBLE PM SOURCES
- REAL TIME REMOTE POLLUTION MONITORING



Raymetrics SA

PMeye

Environmental solutions
made easy

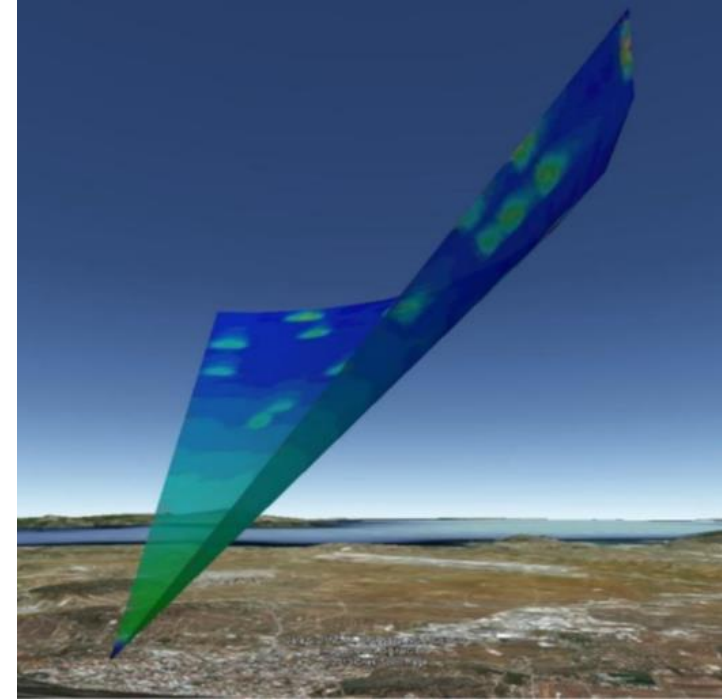


State-of-the-Art DESIGN

All critical optical components are fully characterized for depolarization effects.

The custom-built telescopes use carbon-fiber structure for maximum thermal stability and are designed to maximize their optical efficiency for lidar application.

The custom-built wavelength separation units provide robust, fully sealed, and upgradable detection system.



Our Services

Wide coverage: A single lidar can cover 5Km² area and identify all PM sources.

3D monitoring: Lidars is the only technology that can monitor horizontal and vertical PM dispersion

High sensitivity: Lidars are highly sensitive to PM particles and can identify them even when they are not visible by eye or a video camera.

Real-time information: All data are provided in real-time, giving a good understanding of the temporal behaviour of the PM productions



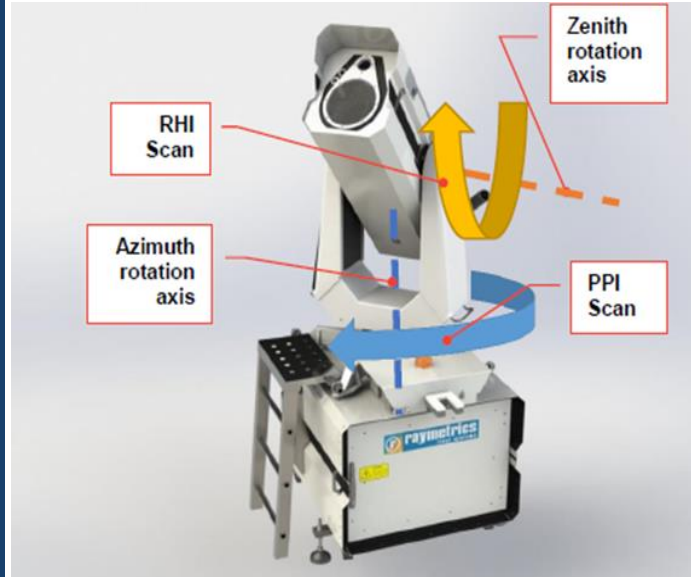
Our team of experts are here to help you develop successful strategies for air pollution monitoring

Emission

- Type of Laser: Nd: YAG DPSS
- Emission wavelengths: 355 nm
- Laser energy: ~12mJ at 355nm
- Repetition Rate: 20Hz
- Beam divergence: < 0.15 mrad

Operating Conditions

- Consumption and power requirements
 - Electricity system: 220-230 VAC / 50 Hz
 - Max. consumption: < 2.5 kW
 - Peak Current: < 25Amps
 - UPS: Yes
- Operating environmental conditions
 - Temperature: -15°C – 35°C
 - Relative humidity: 0% – 100%
- System Storage conditions:
 - Temperature: +5°C – +40 °C
 - Relative humidity: 0% – 80%

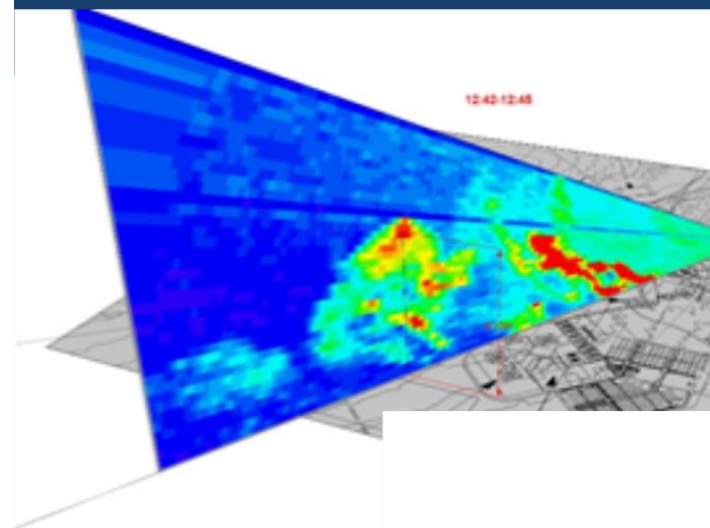


Measurement scheduling and data products

- **Computer:** Integrated industrial computer for operation and data storage
- **Connectivity:** Ethernet or Wi-Fi
- **Scheduling:** Flexible scheduling software allows setting up complex measurement schedules (e.g., day/night measurements, weekly measurement, 24/7 measurements etc.)
- **Data transfer:** Automatic uploading of measurement data to FTP server
- **Data processing software:** Included software to manually perform pre-processing, depolarization calibration, and aerosol optical property retrieval.
- **Automatic data processing:** Software to automatically retrieve PM2.5 concentration estimates.
- **Visualization:** Web-based browser of measurement archive

Detection

- Telescope diameter: 200 mm
- Channels:
 - Elastic: 355nm
 - Linear depolarization: 355nm
- Spectral bandwidth of channels: 0.5 nm
- Detectors: PMT
- Depolarization calibration: $\Delta 90$ calibration using motorized $\lambda/2$ waveplate
- Waveplate position unidirectional repeatability: 0.002°
- Full overlap range: 200 m
- Raw signal range: > 60 km
- Data acquisition mode: Analogue and Photon counting
- Range resolution: 3.75 m
- 3D Scanning Range: Azimuth: 0°-360°,
Zenith: +6 up to - 90°



Ready for Operations

- Fully automated and remotely controlled operation.
- Advanced measurement scheduling capabilities, e.g. continuous operation or pre-defined weekly schedule.
- Measurement scheduling through Web API.
- Motorized alignment.
- Ergonomic design for easy maintenance.
- Automatic uploading of measurement data to FTP server.
- Web-based browser of measurement archive.
- Automatic alerts for system maintenance
- Temperature and humidity-controlled enclosure.
- External cameras for system monitoring.
- The lidar is following EARLINET / ACTRIS Quality Assurance procedures
- CE certification
- Total weight: ~350kg
- Approx. dimensions: 1800 mm (H) × 1000 mm (W) × 1000 mm (D)



Contact Us

Spartis 32 & Filikis Eterias
Metamorphosis, GR 14452
Tel: 210 6655860
info@raymetrics.com
raymetrics.com

Raymetrics SA

Environmental solutions
made easy

ISO 9001:2015
ISO 14001:2015
ISO 27001:2013