HORIZON

THE NEW VISION OF AIR QUALITY

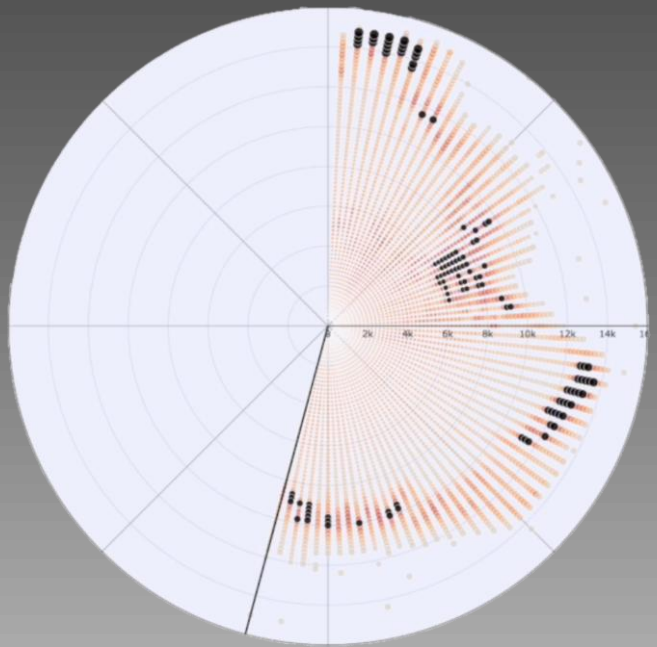
OPTIMIZE AIR QUALITY MANAGEMENT WITH HORIZON

HORIZON Technology

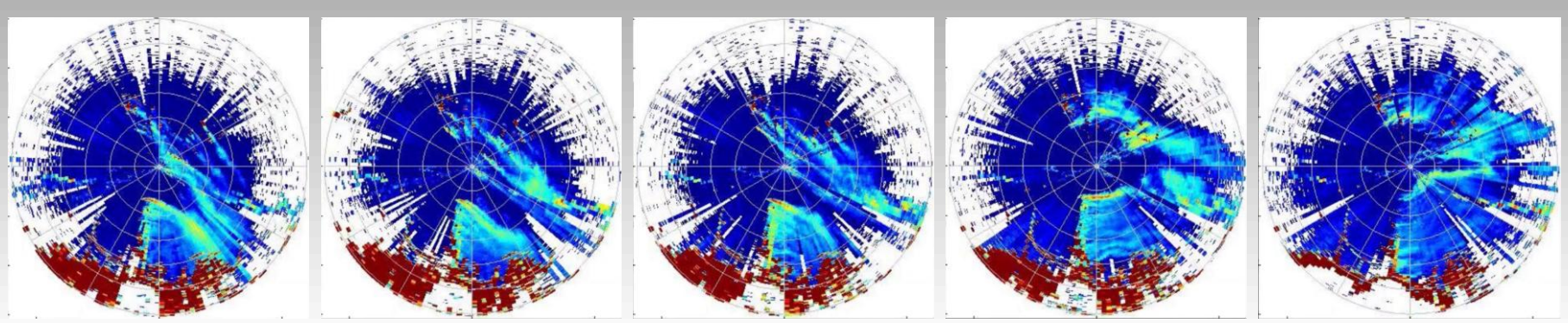
Discover HORIZON: Your cutting-edge lidar solution for precise, real-time dust monitoring and mapping.

Get a clear view of particle dispersion, optimize your operations, and ensure a healthier environment with the power of HORIZON.

Operational efficiency also involves dust management



- **Preventing unplanned production downtime due to dust**
- **Facilitating operation planning based on dust conditions**
- **Optimizing resource use (water for dust suppression, etc.)**
- **Optimizing work processes to minimize dust generation**
- **Reducing equipment maintenance costs**
- **Optimizing work processes to minimize dust generation**



Reliable data for profitable operations

INNOVM

Clear data for a GREEN future

Environmental responsibility begins with understanding our impact. HORIZON offers industries and environmental organizations an advanced lidar solution to accurately track and map dust emissions. By providing concrete, visualizable data, HORIZON enables informed action to reduce pollution, protect biodiversity, and minimize the environmental footprint of our operations.

- Optimization of water use and dust suppression (10% to 30%)
- Reduction of local and regional air pollution
- Reduction of the ecological footprint
- Early detection of anomalies or exceedances of regulatory thresholds
- Monitoring the effectiveness of implemented mitigation measures
- Raising awareness and engaging stakeholders

Your health is also measured in particles

Imagine an environment where dust inhalation risks are not only managed, but actively prevented through accurate, real-time awareness of their presence.

With HORIZON, this vision becomes a reality. Our lidar tracking and mapping system offers unparalleled clarity, allowing you to prioritize the well-being of your employees and communities by ensuring optimal air quality.

- Reducing worker exposure to inhalable particles
- Preventing respiratory diseases (silicosis, asthma, COPD, etc.)
- Contributing to a healthier and safer work environment
- Reducing the number of workdays lost due to illness
- Implementation of targeted and effective control measures
- Demonstrating the employer's commitment to health and safety

Feature	Lidar	Sensor	Dust trap
Spatial Coverage	**Extent:** Provides 2D or 3D mapping of dust concentration over a wide area, allowing visualization of plume dispersion and extent.	**Limited:** Measures dust concentration at a specific point only. Requires multiple measurement points to obtain a spatial overview.	**Very limited:** Often a single device provides a local measurement. Sensor networks can provide some coverage, but with limited spatial resolution.
Spatial Resolution	**High:** Provides fine spatial resolution, allowing concentration variations to be distinguished over short distances.	**Point:** No intrinsic spatial resolution. Spatial resolution depends on the number and distribution of measurement points.	**Variable:** Depends on the sensor type and its integration. Individual sensors have zero spatial resolution. Arrays have a resolution defined by the sensor spacing.
Temporal Resolution	**Variable:** Can provide data in real time or at regular intervals, allowing monitoring of dust dispersion over time.	**High:** Can provide measurements in real time or at frequent intervals at the measurement point.	**Variable:** Depends on the sensor type and its sampling rate. Many sensors offer real-time or near-real-time measurements.
Additional Information	**Vertical distribution:** Some lidars can provide information on the vertical distribution of dust (altitude profiles). **Wind speed:** Some Doppler lidars can also measure wind speed, influencing dust dispersion. **Particle type (with polarization):** Can potentially help distinguish certain particle types.	**Limited:** Focuses primarily on mass concentration or particle number.	**Variable:** Some advanced sensors can provide information on particle size.

LIDAR DATASHEET

GENERAL SPECIFICATIONS

Dimensions (L × W × H)

System	830 x 1008 x 1365 mm
Weight	225 kg

Outdoor Operating condition

Temperature	-40°C to + 55°C
Max. wind resistance	≥ 60 m/s
Installation altitude	Up to 3048 m

Laser

LASER source	Solid state pulsed at @1.54 µm
LIDAR eye safety	Class 1M according to IEC 60825-1:2014

Electrical

Power supply	100-240Vac, 18-9A RMS, 50-60Hertz With mains supply voltage fluctuations up to ±10% of the nominal voltage
Power consumption	1100W maximum average power (including the use of coolers and heaters), brief peaks up to 1600W

HARDWARE OPTIONS

External PTH sensor	Temperature Measurement range:-30°C to +80°C Pressure Measurement range: 600hPa to 1100 hPa Humidity Measurement range: 0% to100%
4G-cellular router	Cellular Router allows to plug In a sim and connect to a 4G network.

SCANNING CAPABILITIES

Scanner parameters

Scanner rotation speed	Up to 50°/s
Azimuth angle	0° ... 360° (with 0.01° increment)
Elevation angle	-20° ... 200° (with 0.01° increment)
Mirrors diameter	120mmDimensions 355 kg

TYPICAL MEASUREMENT RANGE

Model 100S	6 km to 14km
Model 200S	8 km to 15 km
Model 400S	10 km to 18 km

KEY FEATURES

- Full 3D wind map with high data quality and range
- Dedicated display software
- Resistant to harsh weather conditions with minimal maintenance
- API available for user's own configuration and data access

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