Observations for a better world
As our world faces pressing societal and environmental challenges...
...it’s more important than ever to base decisions on accurate and reliable data.
Take action, find answers and remove doubts with our measurement solutions

Weather and Environment
Serves selected environmental and weather-dependent markets where accurate, real-time, uninterrupted, and reliable information is essential to run efficient operations and make informed decisions.

Industrial Measurements
Provides accurate and reliable measurement instruments and systems to optimize processes, improve efficiency and productivity, minimize energy consumption, and ensure product quality.
<table>
<thead>
<tr>
<th>Vaisala in numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Net sales in 2022</strong></td>
</tr>
<tr>
<td><strong>514.2 MEUR</strong></td>
</tr>
<tr>
<td><strong>12% of net sales invested into R&amp;D</strong></td>
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<tr>
<td><strong>2,200+ employees worldwide</strong></td>
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<tr>
<td><strong>25+ offices in 17 countries</strong></td>
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<tr>
<td><strong>300+ product families</strong></td>
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<tr>
<td><strong>Business in over 150 countries</strong></td>
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<tr>
<td><strong>Employee engagement index 4.2/5</strong></td>
</tr>
<tr>
<td><strong>100% renewable electricity</strong></td>
</tr>
</tbody>
</table>
Systematic technology and product development investments
MEUR

Science-based innovations are the core of Vaisala
Home of over 300 Vaisala R&D specialists
Space: 7,900 m²
37 custom-made laboratories
- EMC lab
- Rain tower & IP lab
- Vibration laboratory
- Environmental chambers
- System testing laboratories
Reliability
Collaboration spaces
Maximizing our positive handprint through strong commitment to sustainability
Maximizing our positive handprint through strong commitment to sustainability

Sustainable solutions

- Reliable decisions
- Productivity
- Quality
- Better-informed societies
- Resource efficiency
- Safety

Sustainable business practices

- Sustainable product design and long product life cycles
- Resource efficiency and use of renewable energy in our facilities
- Occupational health and safety
- Diversity and inclusiveness
- Managing human rights risks
- Zero tolerance towards corruption
Observations for a better world
Industrial Measurements Products

Parameters

- Humidity
- Dewpoint
- Temperature
- Pressure
- Carbon dioxide
- Methane
- Hydrogen peroxide
- Dissolved gases in oil
- Liquid concentration

Sensors
Probes
Measurement instruments
Loggers
Handhelds
Liquid process instruments
Monitoring systems
Serving a variety of industries and applications

For example:
- Agriculture
- Automotive
- Battery manufacturing
- Biogas
- Building automation & indoor air quality
- Cleanrooms
- Compressed air
- Food & beverage
- Industrial drying e.g. paper
- Pharmaceutical
- Power
- Pulp & Paper
- Semiconductors
# Weather and Environment

- Leadership with a broad product portfolio

<table>
<thead>
<tr>
<th>Soundings</th>
<th>Pressure, wind, humidity, multiweather</th>
<th>Visibility, Present weather</th>
<th>Ceilometers</th>
<th>Remote wind measurement</th>
<th>Lightning sensors</th>
<th>Road and aviation weather systems</th>
<th>Weather radars</th>
<th>Air quality sensors</th>
</tr>
</thead>
</table>
Weather and Environment business

- Meteorology
- Aviation
- Ground Transportation
- Renewable Energy
- Maritime
- Automotive
- Road Asset Management
- Urban Weather & Environment
- Weather Dependent Industries

Developers, long tail
Product and technology examples
How and Why H₂O₂ is Used?

Sterilization & bio-decontamination

- Guarantees that process works as planned
- Continuous measurement
- Decrease use of biological, chemical or enzymatic indicators
HPP270 series

Capacitive thin-film polymer sensor
PEROXCAP® measurement technology
PEROXCAP® - Unique measurement principle

- Based on measuring two humidity HUMICAP® sensors
  - With (A) and
  - without (B) a catalytic layer

1 = Catalytic layer
2 = Thin film polymer between two electrodes
3 = Alumina substrate
WindCube®
- Wind lidar for vertical profiles
Dual Scanning lidar: increasing acceptance

Large coverage to reduce vertical and horizontal uncertainties
- 5-10 virtual tower locations
- 3-5 heights
- 10 min – 1 hr averages

Fine assessment of turbulence intensity for turbine suitability
- 1-2 locations
- 1-2 heights
- High measurement rate
Doppler wind lidar principle

- Doppler shift is measured from aerosol laser light scattering
- Optical coherent heterodyne measurement with pulsed narrow line laser
- 1 m/s is ~0.7MHz shift @200THz (1.5 µm)
RoadAI

Pavement inspections and asset inventories

• RoadAI cloud software and API
• Computer vision-based pavement condition assessment platform for informed maintenance decisions using a smartphone
• Collect and maintain road asset inventories
Road condition reports 4x faster half the cost
Fully automated and objective pavement assessment
Thank you!