

# Vaisala

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**VAISALA**

# Vaisala

Vaisala is a global leader in environmental and industrial measurement.

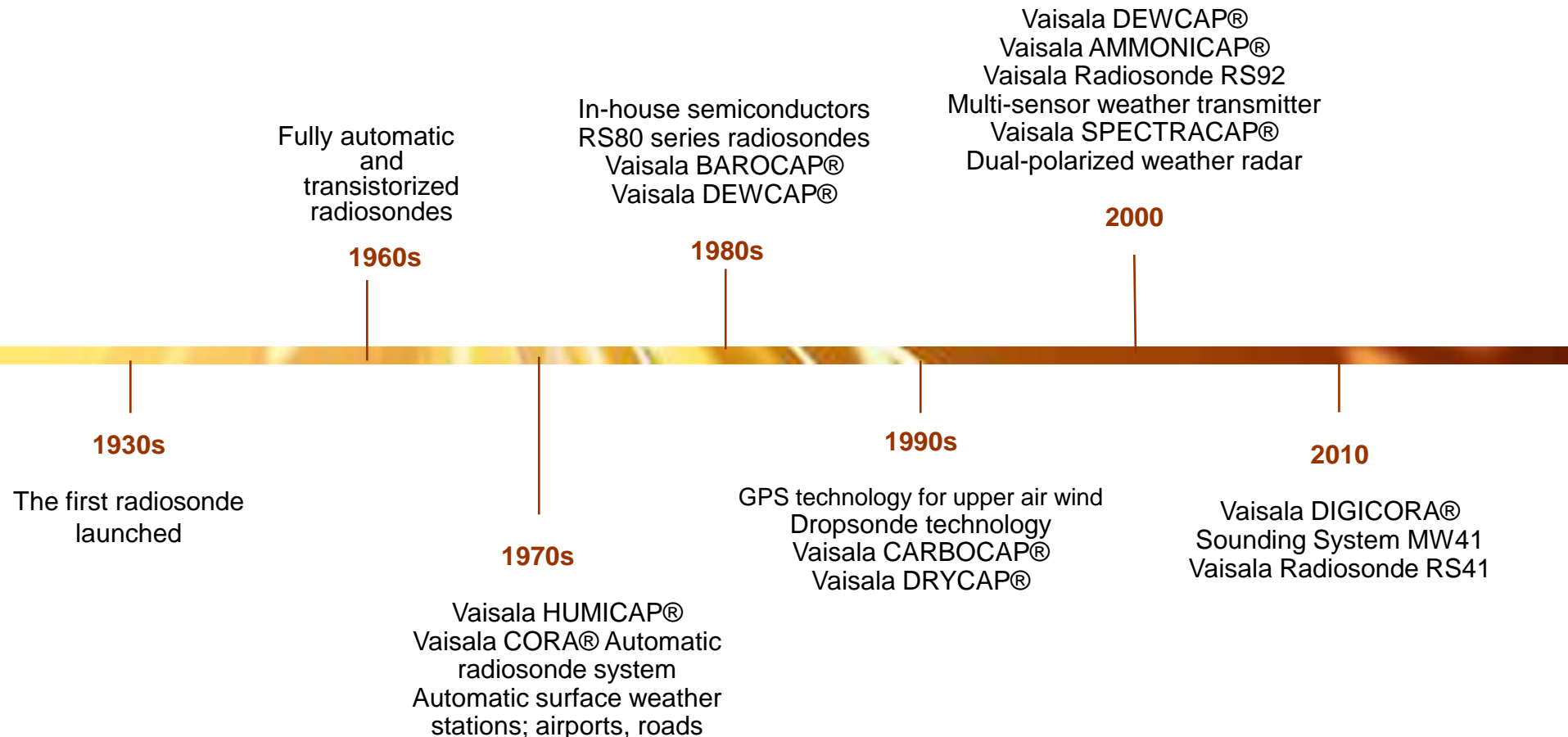
We serve customers in weather and controlled environment markets.

# Vilho Väisälä

- The founder of the Vaisala Group  
Dr. Vilho Väisälä 1889–1969
  - Received university degree and doctorate in mathematics
  - Worked at the Finnish Meteorological Institute in 1916–1948
  - Professor of meteorology at the University of Helsinki
  - Produced over one hundred scientific papers and ten patented inventions



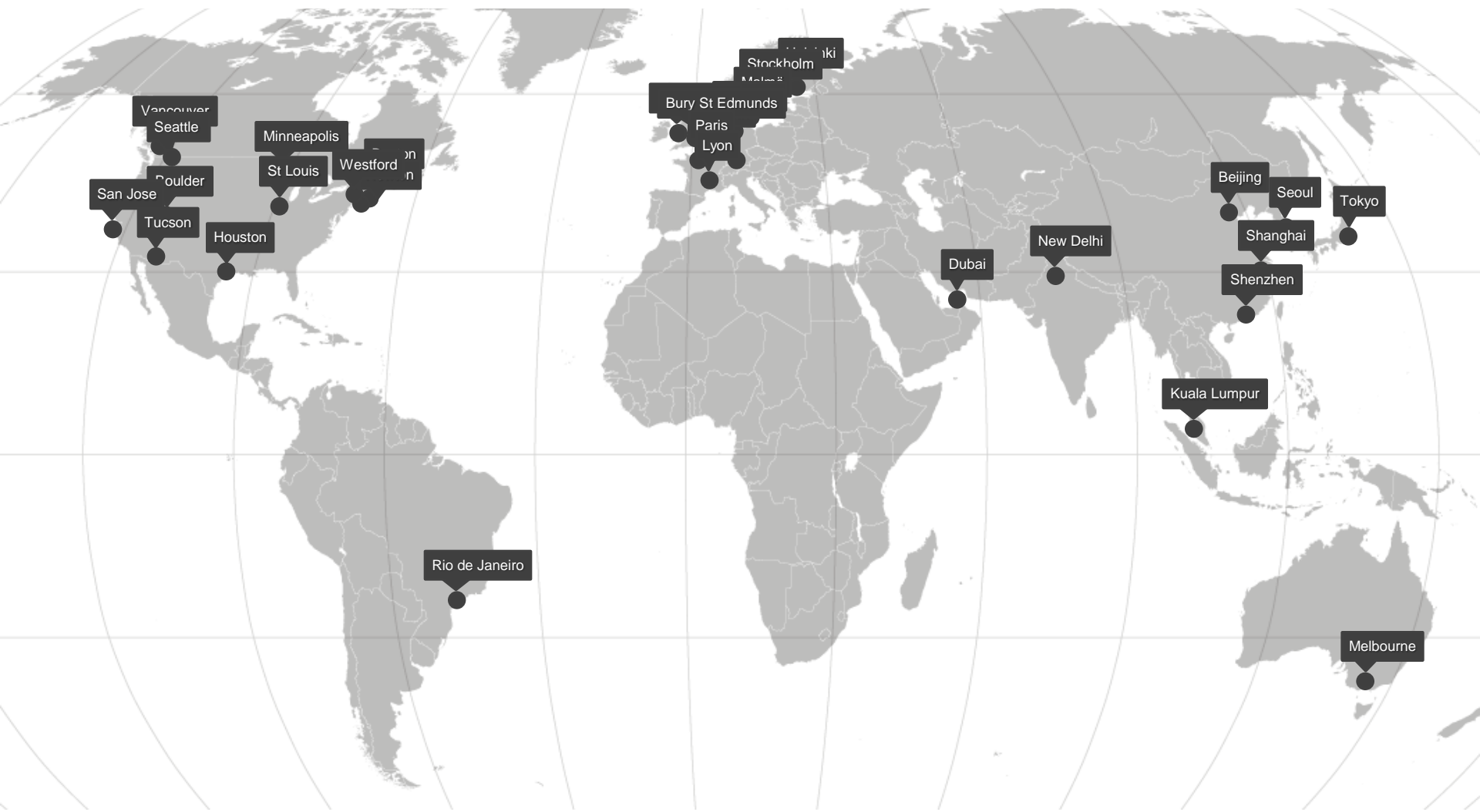
# Technological Milestones



# Vaisala Group

- Serves customers in over 150 countries
- Employs over 1,500 professionals worldwide
- Has over 30 offices in 16 countries
- Net sales of 273 million euros (2013)
- Main markets Americas (39%), EMEA (36%), APAC (24%)
- A series shares quoted in NASDAQ OMX Helsinki stock exchange
- Established in 1936


# Vaisala Offices





# Markets We Serve


## Weather



Meteorology



Airports



Roads and Rail



Defense



New Weather Markets

## Controlled Environment



Life Science



Targeted Industrial Applications

# Our Offering

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# Measurement Instruments

- Humidity and temperature measurement instruments
- Dewpoint measurement instruments
- Barometric pressure measurement instruments
- Carbon dioxide measurement instruments
- Moisture in oil measurement instruments
- Wind measurement instruments
- Weather multi-sensor
- Optical weather instruments



# Measurement Systems

- We provide our customers with comprehensive measuring and observation systems
- Weather
  - Radiosondes and sounding systems
  - Dropsondes
  - Surface weather systems
  - Thunderstorm information systems
  - Weather radars
- Controlled Environment
  - Continuous monitoring systems

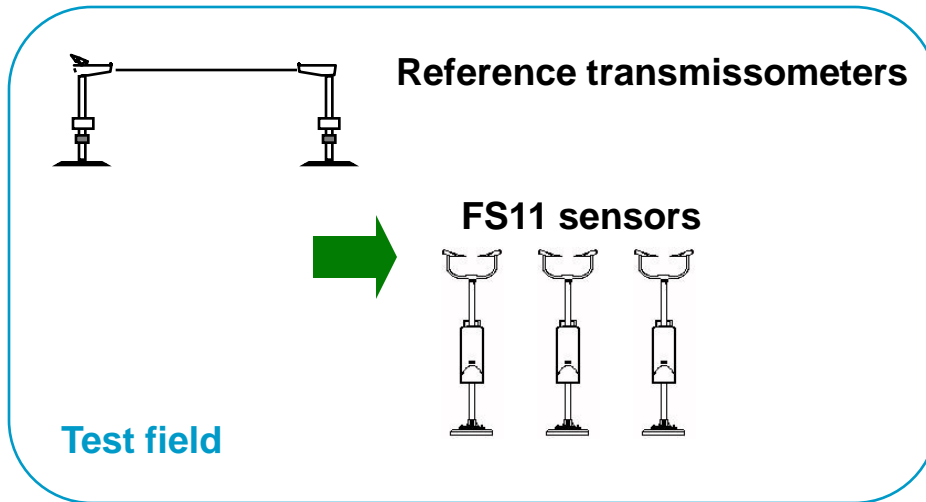


# Visibility Sensor FS11 for Demanding Applications

- Accurate and reliable measurement
  - Well suited for Synoptic observations
    - Measurement range 5m-75km
  - Meets ICAO/WMO and FAA RVR requirements.
    - Design based on FAA experiences and ICAO guidelines for RVR
    - Approved by FAA, used in FAA's systems
    - Approved and used by NOAA/NOS
  - Built in compensation for different types of precipitation
  - Unique window contamination compensation
- Safety
  - Extensive self-diagnostics



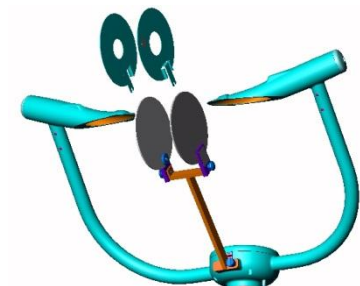
# Calibration chain



- Test field is equipped with reference sensors
  - visibility
  - present weather
  - etc.

- A set of FS11 sensors is calibrated against reference sensors
- This calibration is transferred to production units with a calibration device

 **Calibrator**



**Production units**

# AWS310 Automatic Weather Station

- Simple plug-and-play interface
- Meets WMO guidelines
- Rapid delivery (5 weeks)
- Ultrasonic Wind speed and direction.
- Precipitation intensity and Accumulation
- Soil surface temperature
- Solar Radiation
- Visibility
- Cloud Height
- Ultrasonic Snow Depth Sensor
- Multiple mast options



# MAWS50

- 2 Year Warranty
- Low life cycle cost
- Multiple SDI-12 ports for up to 30 sensors
- Din rail connections
- Flexible programming options
- Fast shipping
- NEMA 6
- CS2 GOES certified radio
- Basic Vaisala sensors connections and configurations at no additional cost.





# MAWS50

- MAWS uses a standard RS232 interface for the Program I/O port – Service Connection
- Any terminal program can be used. We provide one at no charge.
- Vaisala offers a standard USB interface cable
- Any of the I/O ports can be used as a service connection



# Weather Transmitter WXT520 in brief



- Six weather parameters in one package
  - wind speed 0..60 m/s
  - wind direction 0-360°
  - liquid precipitation and hail (accumulation, duration, intensity)
  - pressure 600...1100 hPa
  - temperature -52...+60 °C (-60...+140 °F)
  - relative humidity 0...100 %RH
- Options available:
  - Windows® based configuration software and cable
  - USB
  - Heating for the precipitation and wind sensors
  - 8-pin M12 connector
  - Mounting kit
  - Bird kit
  - Available at HIF

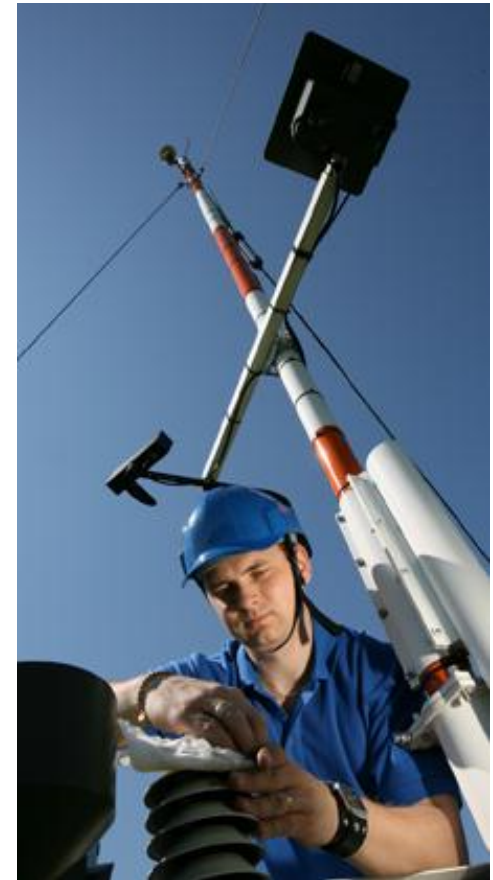
# Solutions

- We provide solutions for environmentally critical operations
- The focus is on
  - Aviation solutions
  - Traffic solutions
  - Meteorological and hydrological solutions



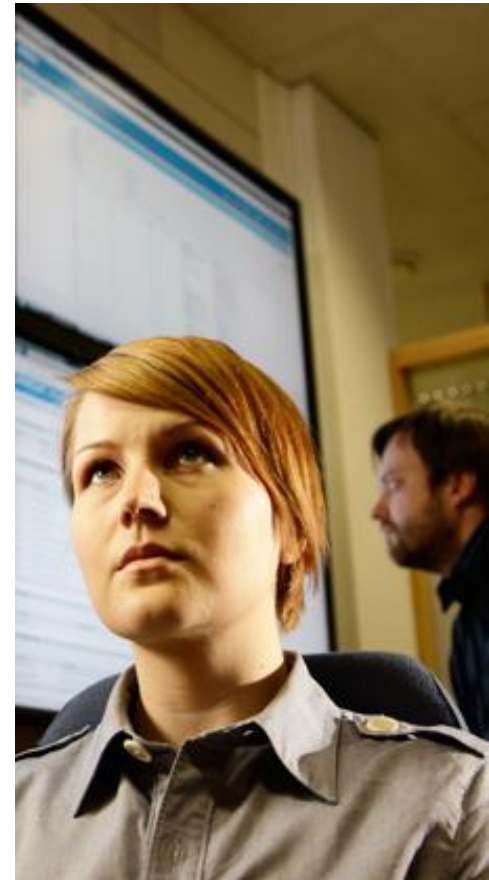
# System Life Cycle Services

- Vaisala offers a selection of services during different phases of life cycle.
- Services include
  - Delivery Project Services
    - Project management, installation, training
  - Support and Maintenance
    - Technical support, remote monitoring, preventive & corrective maintenance, spare parts, calibrations
    - Available on request or by contract
  - Modernization Services
    - System upgrades, software upgrades



# Service Solutions and Data Subscription Services

- Vaisala provides measurement information in the right place at the right time in the right format, based on customer needs.
  - Service Solutions
    - Customer specific solutions based on a combination of customer's business goals and concerns, critical environmental challenges and organizational competencies and capabilities.
      - For example network operation, decision support activities and guaranteed performance levels
  - Data Subscriptions
    - Guaranteed quality and availability of data, through observation network owned and operated by Vaisala





# Research and Development

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# Research and Development

- Research and development activities are a prerequisite for Vaisala's success.
- The R&D expenditure is around 10% of net sales.
- In addition to internal research activities, Vaisala
  - Partners with leading research organizations
  - Supports meteorological programs and studies
  - Supports student research internships and fellowships



The background is a vibrant blue with a dynamic, abstract pattern. It features numerous bright, white and light blue streaks that radiate from the left side, creating a sense of motion and energy. In the lower right quadrant, there are subtle, concentric ripples or wave patterns, suggesting a liquid or fluid surface. The overall effect is one of a high-tech or futuristic environment.

**Thank You**