Observations for a Better World

Agenda

12:15  Vaisala in Brief
12:45  Weather Business Area
13:45  Break
14:00  Controlled Environment Business Area
14:45  Vaisala Production System
15:15  Vaisala Strategy
15:45  Introduction to Vaisala’s products
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Vaisala in Brief
Weather Business Area
Break
Controlled Environment Business Area
Vaisala Production System
Vaisala Strategy

Vaisala is a Global Leader in Environmental and Industrial Measurement
Best-in-class Weather Observation Measurement

Serves weather impacted customers’ with comprehensive offering
- Soundings
- Weather instruments
- Weather systems
- Weather radar
- Lightning
- Information services

Leading Industrial Measurement Solutions

Helps customers to improve operational quality and productivity, and to gain energy savings
- Industrial instruments: humidity and temperature, dew point, moisture in oil, pressure, carbon dioxide
- Continuous monitoring systems
- Power transmission
Vaisala Performed Well in 2015 Despite Challenging Market Conditions

May 11, 2016

Strong Order Intake in 2015

• Orders received in 2015 were 318.5 MEUR, +8%
• Growth strongest in Americas

- Orders received had a slow start in Q1/2016, -6%, totaling 64.8 MEUR
- Decline was due to Weather’s order intake -10%
Net Sales Records Were Set in 2015 and Q1/16

- Net sales growth was strong, +6%, totaling 318.5 MEUR
- Controlled Environment performing especially well, +16%, reaching 93.0 MEUR
- Weather Business Area +3%, reaching 225.5 MEUR

EBIT Margin Improved to 9.3% in 2015

- EBIT 29.6 MEUR, +12% following net sales increase
- Includes 1.8 MEUR expenses related to the restructuring
- Weather EBIT 15.2 MEUR, -11% mainly due to lower sales volumes especially during the first half of the year
- Controlled Environment EBIT 18.3 MEUR, +51% mainly due to positive impact of USD/EUR exchange rate as well as higher sales volumes
Consistent Investment in R&D Enable World Class Products

- Vaisala R&D investment 36.1 MEUR
- R&D share of net sales
  - Vaisala 11.3%
  - Weather 11.8%
  - Controlled Environment 10.1%
- Vaisala R&D expenses 9.5 MEUR
- Controlled Environment R&D expenses increased 0.6 MEUR

Strong Cash Flow from Operating Activities

- Cash flow improvement of 15 MEUR during 2015 as a result of profitability and working capital improvement
- Q1/16 cash flow -0.6 MEUR million despite considerable profitability improvement year-on-year, weakening mainly due to increase of trade receivables
Stable Dividend Through Out Years

* Return of capital to shareholders in 2013

Observations for a Better World
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Strategy
Conclusions

Weather Business

Our Markets

Mega Trends Impacting the Markets

Weather Observation Solutions

- Climate Change
- Digitalization and Big Data
- Renewable Energy
- Connected Devices
Weather Business Strategic Goals

- **Growth** through industry leading offering and information services expansion
- We have **strong expertise in applications, science and technologies**
- Customers view us as the **leader in reliability**

Weather Business Scope

**WEATHER BUSINESS**
Serving national MET agencies and weather impacted customers with comprehensive offering
Rich set of business and delivery models to match each customer’s need

**CUSTOMERS**
Meteorology, Aviation, Road & Rail, Maritime, Renewable Energy

**GEOGRAPHY**
Global delivery together with local partners
Contents

Goals and Scope

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Conclusions

Reliable Weather Technology
Global Leader Across the Offering

- Radiosonde
- Weather
- Visibility
- Weather stations
- Weather radars
- Weathersonde
- Weather Multiweather
- Present weather
- Ceilometers
- Road/Airation
- Weather stations
- Weather radars

#1 #1 #1 #1 #1 #1-3

Truly Global Business and Presence

Countries where sold 2015
156 countries out of 196 in the World

Countries with own office or representation
117 countries out of 196 in the World

- Vaisala Office
- Representative Office
### Continuous Innovation to Sustain Leadership Position

- **300** Personnel in Research and Development
- **2/3** of Vaisala personnel with University or Doctoral degree
- **30** Research and Technology Team involved in applied science

<table>
<thead>
<tr>
<th>Year</th>
<th>MEUR</th>
<th>Weather Business R&amp;D</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>24.9</td>
<td>13%</td>
</tr>
<tr>
<td>2011</td>
<td>22.2</td>
<td>11%</td>
</tr>
<tr>
<td>2012</td>
<td>21.7</td>
<td>10%</td>
</tr>
<tr>
<td>2013</td>
<td>22.4</td>
<td>11%</td>
</tr>
<tr>
<td>2014</td>
<td>25.7</td>
<td>12%</td>
</tr>
<tr>
<td>2015</td>
<td>26.7</td>
<td>12%</td>
</tr>
</tbody>
</table>

### Software Development Scale Significant

- Small scale embedded SW
- Large scale embedded SW
- Vaisala SW platforms
- Hosted software as a service

Mobile devices supported with the same software utilizing standard browsers or device specific apps utilizing partner network
Software Product Examples

IRIS Weather Radar Software
- Updates through releases
- Simple and easy-to-understand interface
- Accurate precipitation estimation and classification
- Earlier weather watches and warnings
- Track Storm Movement and Vertical Structure of Storms
- Access and share data from anywhere

Network Manager
- One secure platform to manage small and large observation networks with high-quality data 24/7
- Affordable and easy to buy and maintain over the product life cycle
- Efficiency through optimized central operations combining remote monitoring, control and diagnostics
- Possible to integrate also non-Vaisala instruments

Dependable Project Delivery

BUSINESS PARTNER PROVIDING OPERATIONAL VALUE
Information Services

ONE STOP SHOP PROJECT HOUSE
Installation and integration

RELIABLE WEATHER TECHNOLOGY PROVIDER
Hardware, Software & Basic Services
Aviation Total Weather Solution

Complete Meteorological Infrastructure
Cutting-edge Information Services

Weather Impacts Society, Business and People

Climate change implies
- More frequent and severe extreme weather
- Increased volatility in weather

Weather impacts business and behavior
- “70% of global activities are weather dependent”
- “50% of global businesses are weather sensitive”
- “30% of global GDP is weather impacted”
- “2nd biggest influence on consumer behavior after the state of economy”

Need for accurate weather data is increasing
- More innovative services will emerge

Note: Statements have not verified for accuracy – used as indicative only
Dynamic Traffic Signal in Colorado

Issue
- Accumulation of snow in a blind curve
- Snow would melt during the day and refreeze later in the day
- Customer noticed crashes were occurring at this curve during otherwise good driving conditions

Solution
- Use a non-intrusive fixed weather station to monitor grip.
- When refreeze occurred, weather station would activate warning sign located prior to the curve

Result
- 80% reduction in crashes at the site

Observation Enhanced Decision Support

- CheckTime for airlines to calculate aircraft anti-icing fluid failure
- AviCast run as software as a service for airport operations and maintenance
  - Real-time thunderstorm and lightning combined with weather radar image
  - Integrated for a convenient use at airport control towers with AviMet

- Road DSS product family for winter road maintenance decision makers
  - De-icing [reactive] and anti-icing [proactive] treatments
  - Improve operational efficiency and reduce environmental impact
  - Audit trail for treatment and performance reporting
Observation Enhanced Decision Support

- Pre-assessments supported by decade long global wind data and solar maps
- Investment due diligence services including measurement campaigns
- Short-term forecasts based on numerical weather models and learning systems

Over 90% of the world’s national weather services with lightning detection networks use Vaisala technology, to support protecting life and property
- 8 of the world’s top 10 electric utility companies rely on lightning data from Vaisala manufactured lightning detection networks

Our System Vision

- Single sign-on
- IoT weather data gateway
- IoT compatible NG sensors
- WEA std APIs
- Mobile, free and open data
- Remote monitoring "anywhere"
- Private and/or public cloud
- New xCasts
- Long term data storage
- Energy Assessment & Forecasting
- Weather Impact Analytics & Observation Enhanced Forecasts
- API ecosystem, 3rd parties e.g. SmartMet
- Generic weather models
## Contents

- Goals and Scope
- Strategy
- Conclusions

### Global Market Sizes and Growth 2016

<table>
<thead>
<tr>
<th></th>
<th>Meteorology</th>
<th>Transportation</th>
<th>Energy</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Market size</strong></td>
<td>450-500</td>
<td>300</td>
<td>300-350</td>
</tr>
<tr>
<td><strong>Market growth p.a.</strong></td>
<td>0%</td>
<td>0-5%</td>
<td>&gt;10%</td>
</tr>
<tr>
<td><strong>Vaisala market share 2016</strong></td>
<td>High</td>
<td>High</td>
<td>Low</td>
</tr>
<tr>
<td><strong>Market size total</strong></td>
<td>1,000 – 1,200 MEUR, ~20% market share</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Market share indication:**
- Low <10%
- Mid 10–25%
- High >25%

- No major changes to market overviews or growth rates
- Market sizes updated based on the growth rates

* Vaisala estimate of the size of market that is addressable currently or with organic development in the roadmaps
Weather Business Area

- **Growth** through industry leading offering and information services expansion
- We have **strong expertise in applications, science and technologies**
- Customers view us as **the leader in reliability**

Questions Welcome!
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Observations for a Better World
Controlled Environment

We Help Our Customers to Improve

- Product quality
- Productivity
- Energy efficiency
- Maintenance activities
- Regulatory compliance
Global Market Sizes and Growth 2016

<table>
<thead>
<tr>
<th></th>
<th>Instruments</th>
<th>Power Transmission</th>
<th>Life Science</th>
</tr>
</thead>
<tbody>
<tr>
<td>Market size*</td>
<td>400-450</td>
<td>150-200</td>
<td>250-300</td>
</tr>
<tr>
<td>Market growth p.a.</td>
<td>5%</td>
<td>15%</td>
<td>10%</td>
</tr>
<tr>
<td>Vaisala market share 2016*</td>
<td>Mid</td>
<td>Low</td>
<td>Low</td>
</tr>
<tr>
<td>Market size total</td>
<td></td>
<td></td>
<td>800-950 MEUR</td>
</tr>
</tbody>
</table>

Market share indication:
- Low <10%
- Mid 10–25%
- High >25%

- No major changes to market overviews or growth rates
- Market sizes updated based on the growth rates

* Vaisala estimate of the size of market that is addressable currently or with organic development in the roadmaps
Examples of Industries We Serve

- Power Transmission
- Life Sciences
- Industrial Drying (e.g. paper)
- Electronics
- Building Automation, e.g. demand controlled ventilation
- Automotive Industry
- Agriculture and Food Industry
Power Transmission

We measure multiple gases in transformer oil.

Early indication about the possible faults in high voltage transformers.

Improves the efficiency of customers’ operations, generates cost savings.

Life Sciences

Control of environmental conditions
- improved quality and efficiency
- reduced risk of damage

Continuous monitoring system

New carbon dioxide meter GMP251 for applications with higher CO₂ concentrations
Building Automation

Our products are used to optimize ventilation e.g. in office buildings, hospitals, data centers or factories.

Considerable cost savings through improved efficiency of heating, ventilation and air conditioning.

Johnson Controls Leadership Innovation Award

Johnson Controls a long-time customer of Vaisala for building automation projects and data centers

Using world-renown CARBOCAP® Carbon Dioxide Transmitters

Vaisala awarded for being one of their best suppliers
Growth through Product Leadership

- Understanding our customers’ needs
- Achieving #1 position in selected markets
- Continuously creating winning products
Understanding Our Customers’ Needs

Growth Markets
- Strong growth potential in Life Science and Power Transmission markets
- Investments in new offering addressing the specific market needs
- Identification of new attractive growth markets

Flagship Markets
- Strong position with our high-end humidity and carbon dioxide offering
- Continuous investments in offering development

Achieving #1 Position in Selected Markets

Sales Channel
- Channel with best fit to the market
- Partner management

Application Expertise
- Strong in-house expertise in industry demands, such as Life Science specific regulations

Geographical Reach
- Regional go-to-market strategies
- Expansion to new regions
Focus on Channel Partner Management

Partner selection
Non-exclusive contracts
Training
Active sales management

Partner Management Model
- Annual global distributor meeting in Vaisala head office
- Local distributor meetings in regions
- First-class support organization
- Regular performance follow-up

Superior Products and Technologies
- Solutions that outperform competition
- Clean room sensor manufacturing and calibration
- New parameter development

Software Development
- System software and IoT connectivity layer

Scalability of Our Products
- Using new technologies in all suitable applications and industries to accelerate growth
Growth Plan

- Focus on organic growth with existing R&D roadmap
- Leverage new parameter capabilities in new markets
Growth through Product Leadership

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Developments Correspond with Delivery Performance

<table>
<thead>
<tr>
<th>Year</th>
<th>Global Operations Founded</th>
<th>Lean Production Cells</th>
<th>PDCA practices</th>
<th>Daily Management</th>
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<tbody>
<tr>
<td>2009</td>
<td>62%</td>
<td>Kaizen Events</td>
<td>Process Modeling Pilot</td>
<td>Process level Continuous Improvement Forums</td>
</tr>
<tr>
<td>2010</td>
<td>85%</td>
<td>Improvements via Kaizen Events</td>
<td>Vaisala-wide Process Modeling</td>
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<tr>
<td>2011</td>
<td>90%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2012</td>
<td>88%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2013</td>
<td>93%</td>
<td></td>
<td></td>
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<tr>
<td>2014</td>
<td>98%</td>
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<tr>
<td>2015</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>2016</td>
<td></td>
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</tr>
</tbody>
</table>

On-Time-Delivery Performance

Operations

Vision
Winning high mix – low volume supply chain and awesome place to work

Mission
We create value for our customers with reliable and flexible supply chain network
Vaisala Production System – Way to Drive Operational Excellence

Operations Strategy
Conscious choices between several alternatives with long-term commitment

Strategic Development Initiatives
- Sourcing Development
- Core Technologies
- High Performing Teams
- Life Cycle Management Processes
- Systematic Operational Excellence Improvement

Systematic Improvement
Entire organization engaged in improving our ways of working

Improvement Phases
- Harvest ideas
- Prioritize
- Execute

Standard Way of Working
Agreed, standard ways of working lay foundation for efficient operations

Our Standards Cover
- Processes
- Standardized Work
- Working environment

Make or Buy?

<table>
<thead>
<tr>
<th>Sensor chip manufacturing</th>
<th>Sensor assembly</th>
<th>Printed circuit board assembly</th>
<th>Final assembly</th>
<th>Calibration</th>
<th>System integration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Make</td>
<td>Make</td>
<td>Buy</td>
<td>Make or Buy</td>
<td>Make</td>
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</tbody>
</table>

High IP-value
High intellectual property value = Make
# Factory Footprint

2 Own Factories + 6 Partners

<table>
<thead>
<tr>
<th></th>
<th>Boulder USA, CO</th>
<th>Helsinki Finland</th>
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</thead>
<tbody>
<tr>
<td>Processes</td>
<td>Assembly &amp; test Integration</td>
<td>Sensor chip manuf. Sensor assembly Integration</td>
</tr>
<tr>
<td>Products</td>
<td>Lightning detection Wind energy systems US specific aviation US specific road</td>
<td>Final assembly Calibration Integration</td>
</tr>
<tr>
<td>Employees</td>
<td>25</td>
<td>Full range</td>
</tr>
<tr>
<td>Employees</td>
<td>350</td>
<td></td>
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</table>

<table>
<thead>
<tr>
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<th>500 Suppliers’ Network</th>
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<tr>
<td>Sourcing strategy aims for:</td>
<td>Supplier base consolidation</td>
</tr>
<tr>
<td>• Supplier base consolidation</td>
<td>Long-term partnerships with main suppliers</td>
</tr>
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<td>One-stop-shop suppliers</td>
</tr>
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<td>• One-stop-shop suppliers</td>
<td>Early supplier involvement to new product design</td>
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**Vaisala Operations**

*We Deliver.*
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Weather Business Area

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- Customers view us as the **leader in reliability**
Controlled Environment Business Area

Growth through Product Leadership

- Understanding our customers’ needs
- Achieving #1 position in selected markets
- Continuously creating winning products

Sustainability
Committed to use 100% renewable energy by 2020

Emission reductions from electricity consumption were -33% compared to 2014

Waste recovery rate of the manufacturing sites was 98%

Vaisala sites send no waste to landfills at all recycling 100%

Water consumption from manufacturing sites decreased 9% from 2014

Outlook and Targets
## Vaisala markets

### Global market sizes and growth in 2016

<table>
<thead>
<tr>
<th>In MEUR</th>
<th>Meteorology Infrastructure</th>
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<td>Mid</td>
<td>Low</td>
<td>Low</td>
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<tr>
<td>Vaisala addressable market size total</td>
<td>~1,800–2,150 MEUR</td>
<td></td>
<td></td>
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<td></td>
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</tr>
</tbody>
</table>

* Vaisala’s estimate of the size of market that is addressable currently or with organic development in the roadmaps, no external market information available

## Market outlook 2016

- Market outlook for Vaisala is generally stable.
- However, in many emerging countries situation remains uncertain and this is expected to impact adversely on governmental finances and delay public customers’ decision making.
- Business opportunities in oil and gas related businesses are expected to remain weak throughout the year due to low crude oil prices.
- In renewable energy market outlook is positive.
- Also market outlook for industrial measurement solutions is solid.
Business outlook 2016

Vaisala updated its business outlook for 2016 to include restructuring expenses in the operating result estimate.

- Vaisala continues to estimate its full year 2016 net sales to be in the range of EUR 305–335 million.
- Vaisala estimates its operating result (EBIT) to be in the range of EUR 25–35 million.

- Previous business outlook from February 10, 2016: Vaisala estimates its full year 2016 net sales to be in the range of EUR 305-335 million and the operating result (EBIT) excluding non-recurring items in the range of EUR 28-38 million.

Vaisala’s long-term targets

Our objective is profitable growth with an average annual growth of 5%

In selected growth businesses such as renewable energy, life science and power transmission the target is to exceed 10% annual growth and to achieve 15% operating profit margin (EBIT) by 2018.
Long-Term Financial Targets: EBIT %

- EBIT % 2015
- Weather Gross profit
- Controlled Environment Gross profit
- OPEX and others
- EBIT % 2018

Net sales growth with higher than average gross margin %:
- Energy business, Information services, Transportation business restructuring

Power Transmission and new product offering improving capacity utilization and bringing scale economies

Investments in R&D

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