

Observations for a Better World

Vaisala's Capital Markets Day, June 11, 2015

VAISALA

Agenda



12:00 Welcome and introductions

12:15 Weather and Energy

13:00 Break

13:15 Controlled Environment

14:00 Vaisala's strategy

14:30 Introduction to Vaisala's products

Vaisala Group

VAISALA

Markets We Serve

Weather

METEOROLOGY



ENERGY



TRANSPORTATION



Controlled Environment



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Uncertainty, The Enemy of Renewables



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Taking the Guesswork Out of Deicing



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Efficiency in Power Transmission



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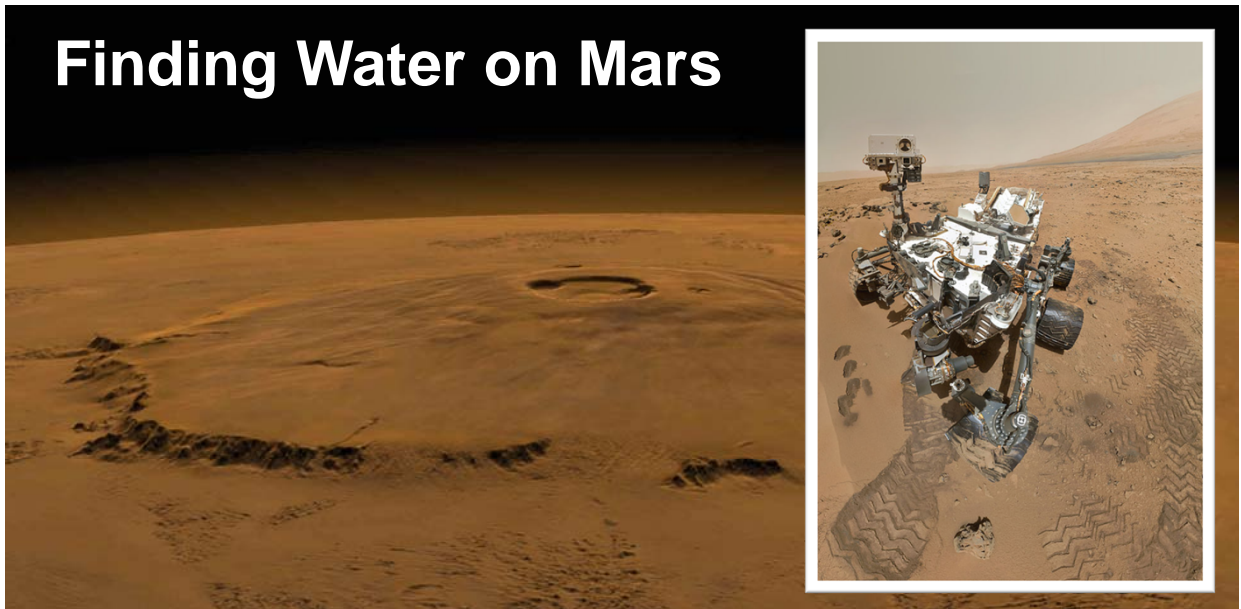
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Finding Water on Mars



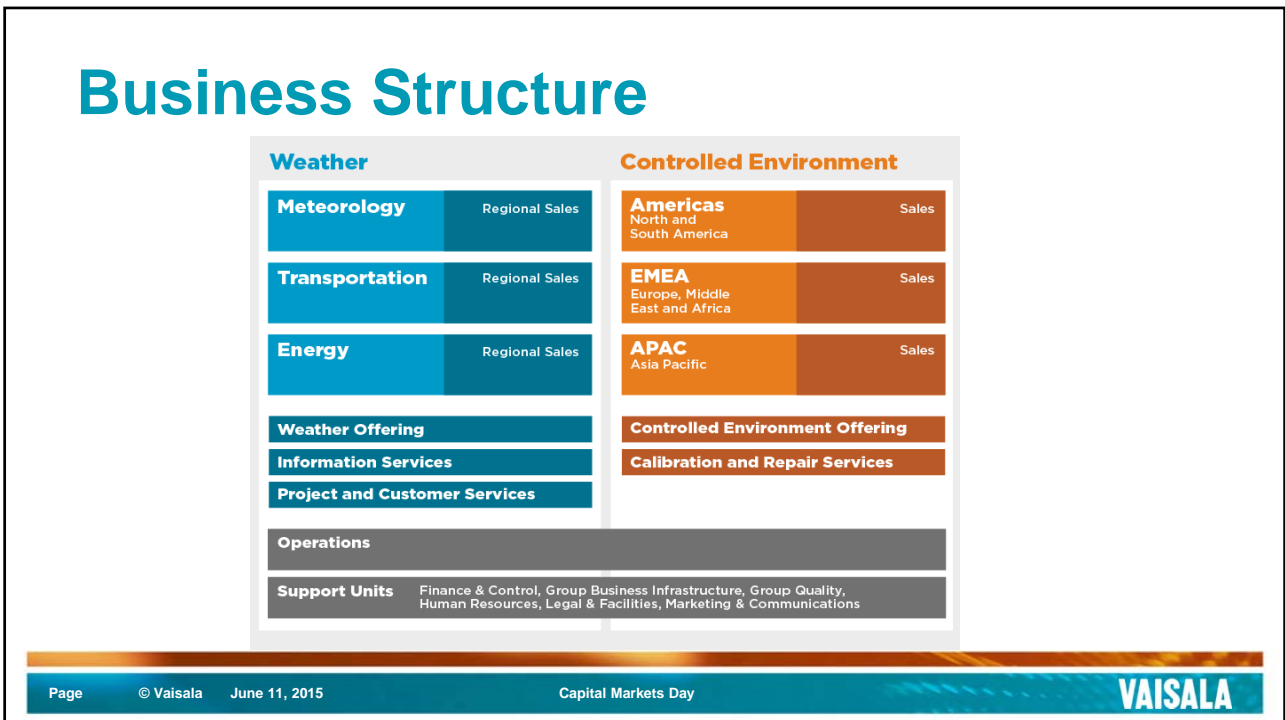
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Weather



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Business Scope

Growth Strategy

Conclusions

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- Growth Strategy**
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Weather Business

Our Markets

Weather

- METEOROLOGY
- ENERGY
- TRANSPORTATION

Mega Trends Impacting the Markets

- Weather Observation solutions
- Climate Change
- Information Technologies
- Renewable Energy
- Growth of Traffic

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Global market sizes and growth 2015

in MEUR	Meteorology Infrastructure	Transportation	Energy
Market size*	475	300	260
Market growth p.a.	0%	3%	>10%
Vaisala market share 2015*	Mid	High	Low
Market size total	1,020 MEUR, ~20% market share		

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

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

We Help Our Customers to Improve

- Safety and protection of lives and property
- Quality of their services
- Operational effectiveness
- Environmental compliance



Weather Business Scope



Broad & Reliable Weather Offering

High mix, low volume business

- Observation Instruments
- Measurement Systems
- Decision Support Solutions
- Project & Maintenance Services



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- Business Scope
- Growth Strategy**
- Conclusions

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Weather Business Area Strategic Goal

Growth through renewed offering and information services

- Customers view us as **the leader in reliability**
- Investment into software and Information service capabilities
- Renewable Energy as fastest growth area



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Weather Business Area

Weather Business

- Serving weather impacted customers' needs with comprehensive offering
- Flexible use of business and delivery models to match each customer's need

Customers

- Meteorology infrastructure, Transportation and Energy
- Global delivery together with local partners

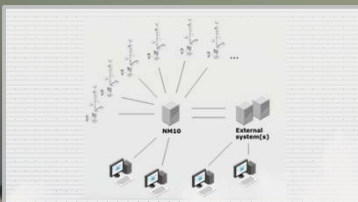


Industrial Internet and Weather Business




Industrial Internet and Weather Business

Sensor & weather stations networks



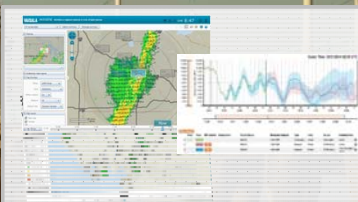
- Connectivity
- Data Collection
- Network level monitoring

Network management and automation



- Analytics for Data Quality
- Network and Maintenance Optimization

Information for decision making



- Unique models
- Decision making tools for selected applications

CheckTime Solution for Airlines

- Improves efficiencies of airlines and reduce unnecessary use of de-icing and anti-icing chemicals



DE-ICING



ANTI-ICING

- Sold as a hosted service



CheckTime Solution Benefits

- **Savings** on reduced anti-icing fluid use.
- **Savings** by using diluted fluids whenever feasible.
- **Savings** on environmental fees due less fluids used.
- **Safety** improvements especially in heavy snow conditions.



Build New Business around Information Services

Roads winter maintenance optimization



RoadDSS Manager
Traffic Weather Consulting

Airport winter maintenance and Aircraft de-icing optimization, Lightning warnings



AviCast
CheckTime
ALIS

Renewable energy operations



Long and short-term forecasts
Assessment Consulting

Energy

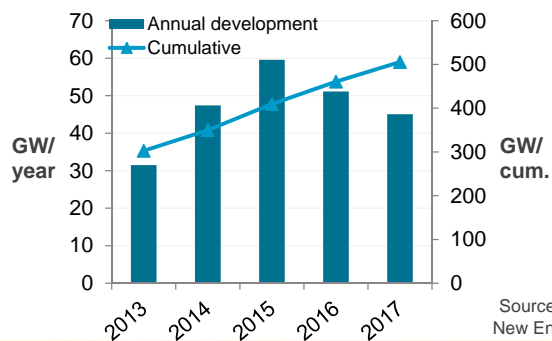
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Market Update

Onshore wind

- Utility scale major plants
- Top 10 countries form ~85% of market
- Increasing focus on asset optimization

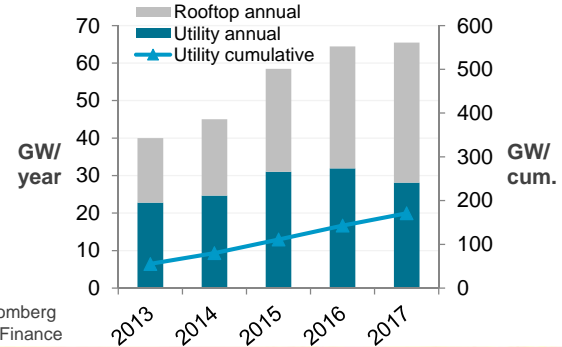
Global on-shore wind energy development



PV Solar

- Panel prices decreasing, easy deployments
- Rooftop solar expected to grow faster than utility-scale

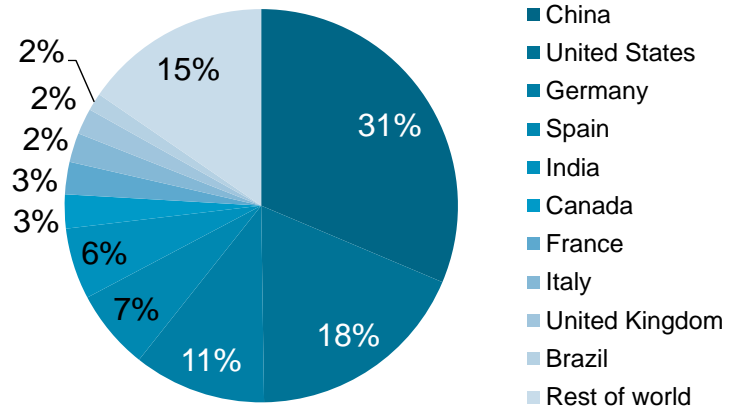
Global PV solar energy development



Source: Bloomberg New Energy Finance

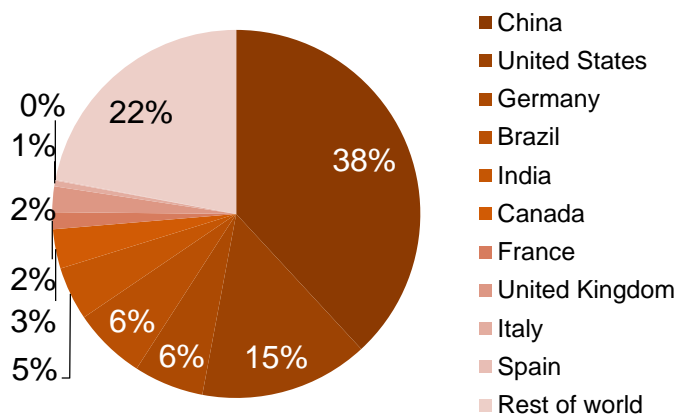
Installed Wind Capacity 2014

- Installed wind capacity dominated by China, US and Germany



Development of Wind Energy 2015

- 60 GW of new capacity expected in 2015 globally
- Growth dependent on
 - political decisions (energy policies)
 - energy demand



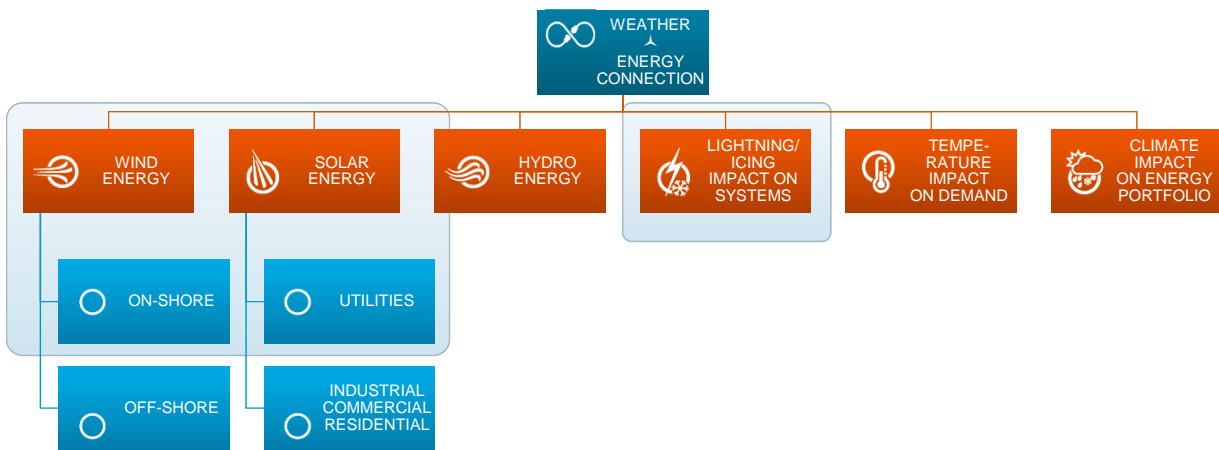
Energy Business Unit



- Use our knowledge in weather to manage risk and increase ROI of renewable energy and transmission
- The recognized leader to manage weather related risks in the energy industry

Business Focus

On-shore Wind, Utility Solar and Lightning Detection



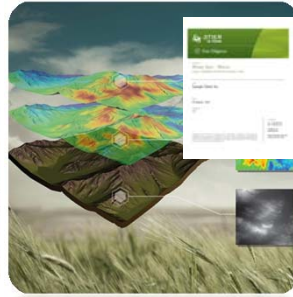
Widest Weather Offering Portfolio



Lightning sensors and data



Weather observations



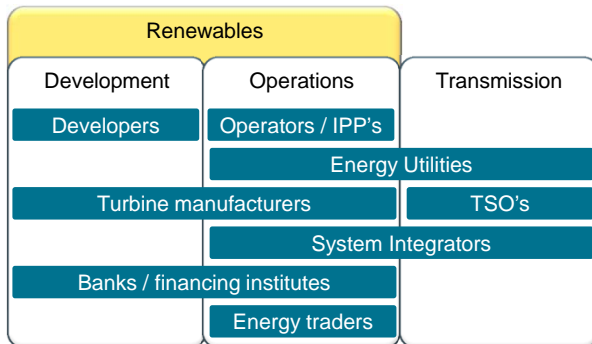
Energy assessment services



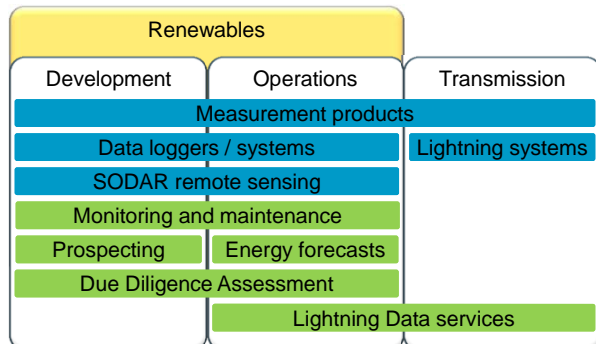
Energy forecasting services

Markets and Offering

MARKET



OFFERING




IPP Independent Power Producer
 TSO Transmission System Operator

Business Progress

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3TIER
SECONDWIND

Acquisition and integration

- Vaisala
- SecondWind
- 3Tier



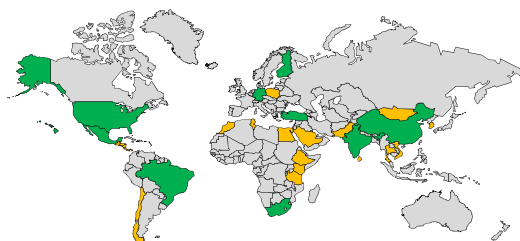
New products and services, e.g.

- Wind and solar data collection and management
- Validation of wind energy assessment
- Thunderstorm visualization and alerts software



Geographical expansion

- Establish operations in Brazil
- Strengthen presence in India



- Key growth countries
- Potential next growth
- Opportunistic

Cases

Case Example:



SunEdison®



TerraForm POWER
a SunEdison company

- Background:
 - SunEdison Inc. (TerraForm Power Inc.) \$2.4 billion purchase of First Wind Holdings Inc. in late 2014
 - 521 MW of active wind and solar power plants
 - More than 8 GW of total pipeline, backlog, and leads.
- Vaisala:
 - Wind energy analysis to evaluate key development assets
 - Competency and short delivery time key selection criteria



Case Example:

PUHURI



- Background
 - Puhuri operates 3 wind farms
 - Several wind farms in development pipeline in Finland
- Vaisala
 - Evaluation of energy potential for the development pipeline:
 - Measurement equipment
 - Data management and maintenance services
 - Energy assessment services



Case Example:



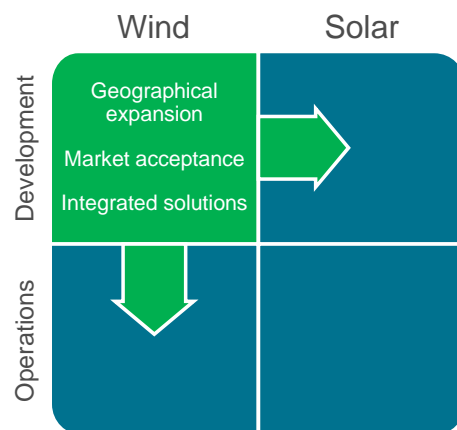
U.S. DEPARTMENT OF
ENERGY

- Background
 - Wind farms built in windy but complex (mountainous) terrain make energy forecasting challenging
 - U.S. Department of Energy is investing \$2.5 million in its Wind Forecasting Improvement Project (WFIP)
 - Makes wind development more viable in complex terrain
- Vaisala
 - Project lead, management of project partners
 - Measurement technology provider




Way Forward

- Growth from current offering portfolio through **wider geographical presence** and **market acceptance**
- Expand to operational renewable energy production / **asset management and optimization**
- Capture new opportunities in **utility scale solar** energy development
- Introduction of **integrated solutions**
 - Based on measurement technologies, data management and analysis capabilities



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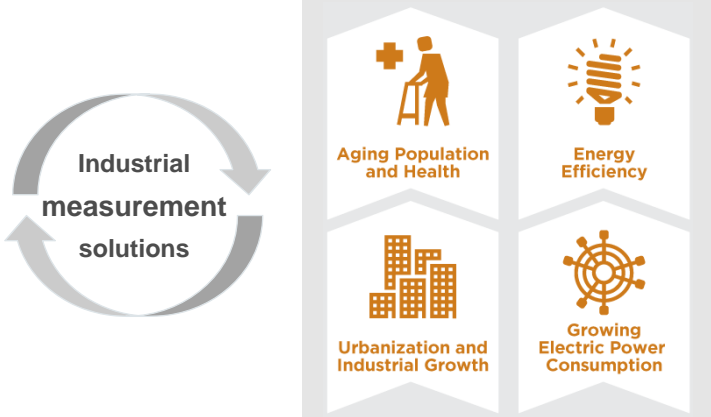
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Controlled Environment

Our Markets



Mega Trends Impacting the Markets



Industrial measurement solutions

- Aging Population and Health**
- Energy Efficiency**
- Urbanization and Industrial Growth**
- Growing Electric Power Consumption**

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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



Global Market Sizes and Growth 2015

in MEUR	Instruments	Power Transmission	Life Science
Market size*	400	150	230
Market growth p.a.	5%	15%	9%
Vaisala market share 2015*	Mid	Low	Low
Market size total	780 MEUR, ~12% market share		

Market share indication:

Low <10%

Mid 10–25%

High >25%

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

We Help Our Customers to Improve

- Product quality
- Productivity
- Energy efficiency
- Maintenance activities
- Regulatory compliance

Industrial Transmitters
Handhelds
HVAC



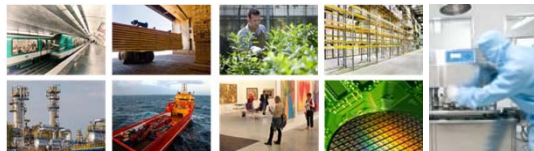
OEM Modules
Continuous Monitoring Systems
Services



Global

Our Business Scope

Direct Sales Online Store
Distributors Retailers



End Users

System Integrators

OEM

Industry Cases

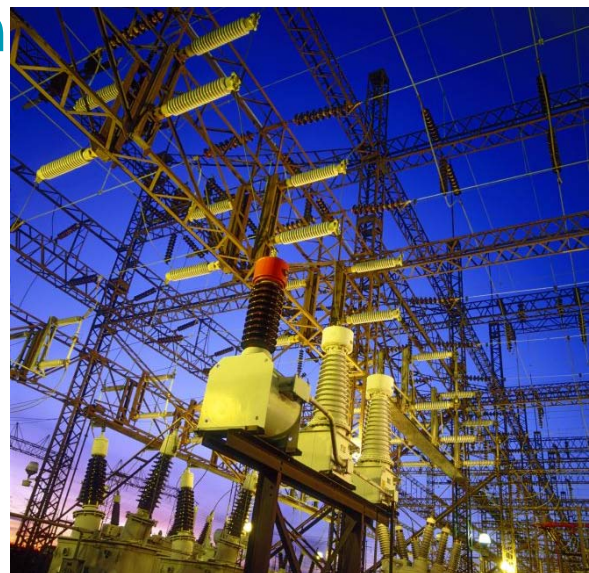
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Power Transmission

We measure moisture, temperature and hydrogen gas in transformer oil.

Early indication about the possible faults in high voltage transformers.

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



Near Catastrophe in NY Due to Failure in Power Transformer

- No information on what caused the transformer failure.
- Impacts can be tremendous
 - Electricity supply
 - Health and environment
 - Costs of a shutdown
- Vaisala transformer oil monitoring solutions monitor the condition of the high voltage transformers.



The Guardian - May 9, 2015

Life Sciences

- Control of environmental conditions
 - improved quality and efficiency
 - reduced risk of damage
- Used in pharmaceutical production, stability chambers, incubators, warehousing



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.

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Business Scope

Growth Strategy

Conclusions



Growth through Product Leadership

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

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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






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Achieving # 1 Position in Selected Markets

New Innovative Offering

- Life Science and Power Transmission offering
- High-end humidity and carbon dioxide offering

Application Expertise

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

Geographical Reach and Channels

- Regional go-to-market strategies
- Expansion to new regions and sales channels



Continuously Creating Winning Products

Our Superior Products and Technologies

- Instruments, systems and services that outperform competition
- Technological capabilities and in-house knowledge
- Clean room and calibration capabilities
- New parameter development

Scalability of Our Products

- Using new technologies in all suitable applications and industries to accelerate growth




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Conclusions



- Controlled Environment helps customers to improve operational quality and productivity and to gain energy savings
- Controlled Environment continues to grow through product leadership
- Controlled Environment invests in Life Science and Power Transmission offering and new parameter development

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Vaisala's Strategy

President and CEO, Kjell Forsén

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Vaisala Markets

Global market sizes and growth in 2015

	Meteorology Infrastructure	Transportation	Energy	Instruments	Power Transmission	Life Science
In MEUR						
Market size*	475	300	260	400	150	230
Market growth p.a.	0%	3%	>10%	5%	15%	9%
Vaisala market share 2015*	Mid	High	Low	Mid	Low	Low
Vaisala addressable market size total	~1,800 MEUR					

Market share indication:

Low <10%

Mid 10-25%

High >25%

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

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Observations for a Better World

Weather

Growth through renewed offering and information services

METEOLOGY

ENERGY

TRANSPORTATION

Reliable environmental observations for better decision making, safety and efficiency

Controlled Environment

Growth through product leadership

Leadership Built on

Reliability

Expertise in applications, science and technologies

Operational excellence in high mix – low volume businesses

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Research and Development

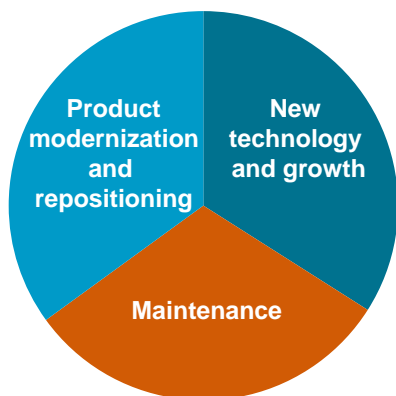
- Research and development activities are a prerequisite for Vaisala's success. We invest in R&D over 10% of annual net sales.
 - High reliability and performance are our core competitive advantages
 - Product lifetime is typically over 10 years
 - In addition to internal research activities, we cooperate with several research institutions

Year	R&D costs (MEUR)	% of net sales
2010	31.4	12.4
2011	28.0	10.2
2012	28.0	9.6
2013	28.9	10.6
2014	34.0	11.3

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R&D Investment Portfolio

R&D Costs



We have a balanced portfolio for maintenance, renewal and growth

- Large product portfolio that utilizes a wide range of different technologies

Long-Term Financial Targets

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



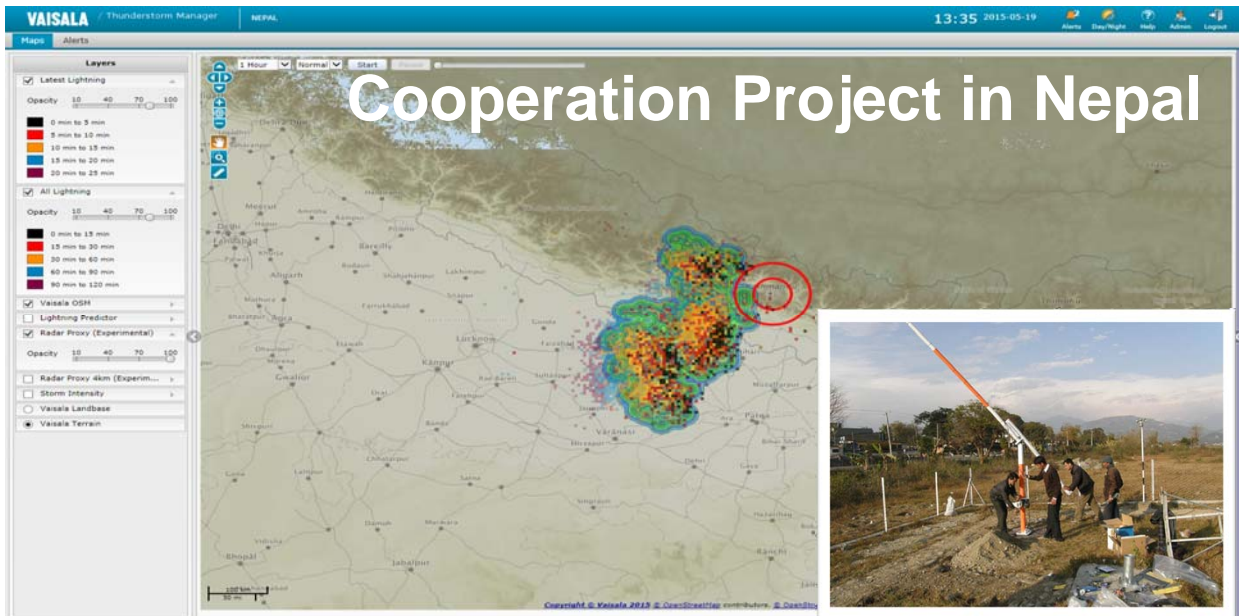
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Tsunami Detection Network in Chile



Cooperation Project in Nepal



World's Best Children's Hospital



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