



# Observations for a Better World. Weather Business Area

Vaisala's Capital Markets Day, May 11, 2016

**VAISALA**



## Contents

Goals and Scope

Strategy

Conclusions

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# Weather Business

## Our Markets

**Weather**

- METEOROLOGY**  

- ENERGY**  

- TRANSPORTATION**  
  


## Mega Trends Impacting the Markets

-   
Climate Change
-   
Digitalization and Big Data
-   
Renewable Energy
-   
Connected Devices

**Weather Observation Solutions**

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# 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





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# Reliable Weather Technology



# Global Leader Across the Offering



# Truly Global Business and Presence

## Countries where sold 2015

156 countries out of 196 in the World



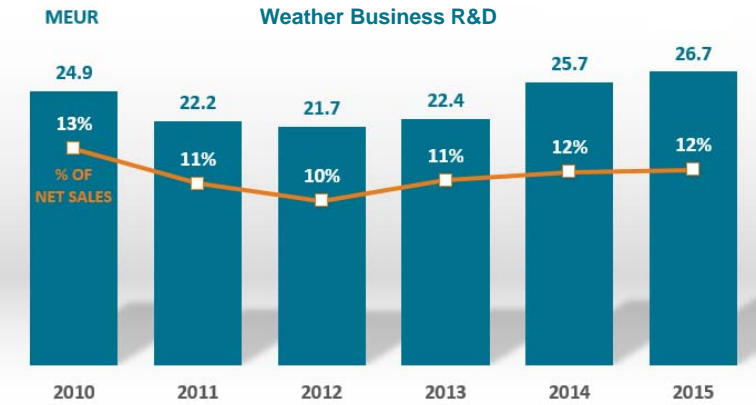
## Countries with own office or representation

117 countries out of 196 in the World

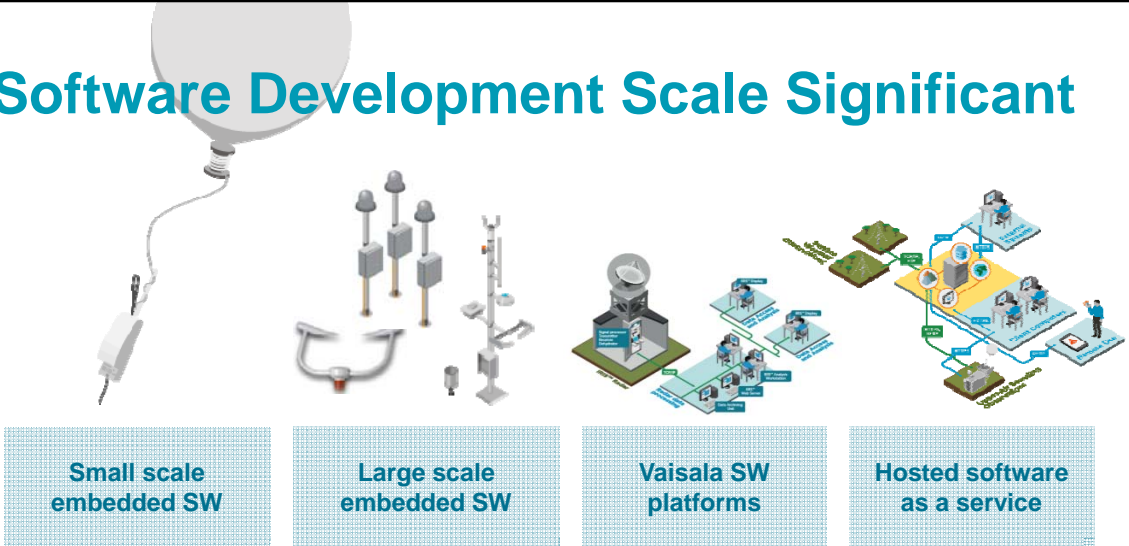


# Continuous Innovation to Sustain Leadership Position

- 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



# Software Development Scale Significant



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

## Software Product Examples



### IRIS Weather Radar Software

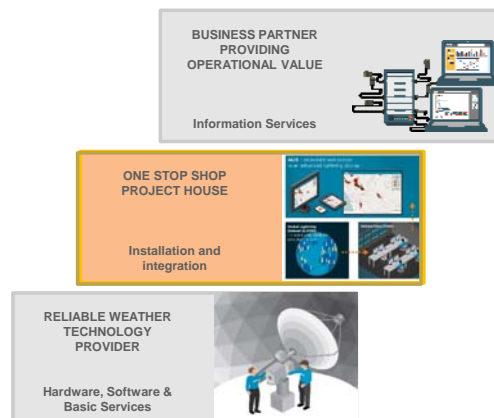
- Updates through releases
- Simple and easy-to-understand interface
- Accurate precipitation estimation and classification
- Earlier weather watches and warnings
- Track Storm Movement and Vertical Structure of Storms
- Access and share data from anywhere



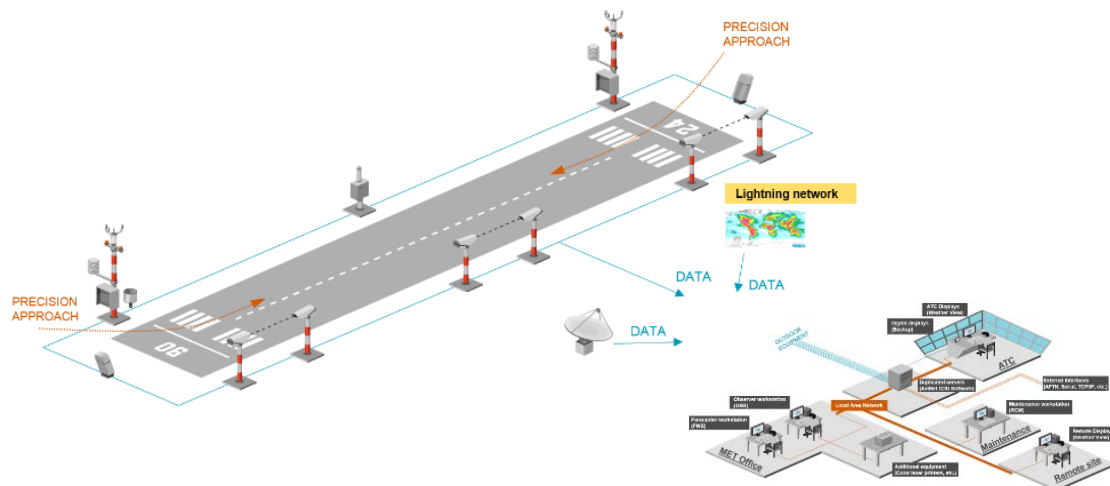
### Network Manager

- 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

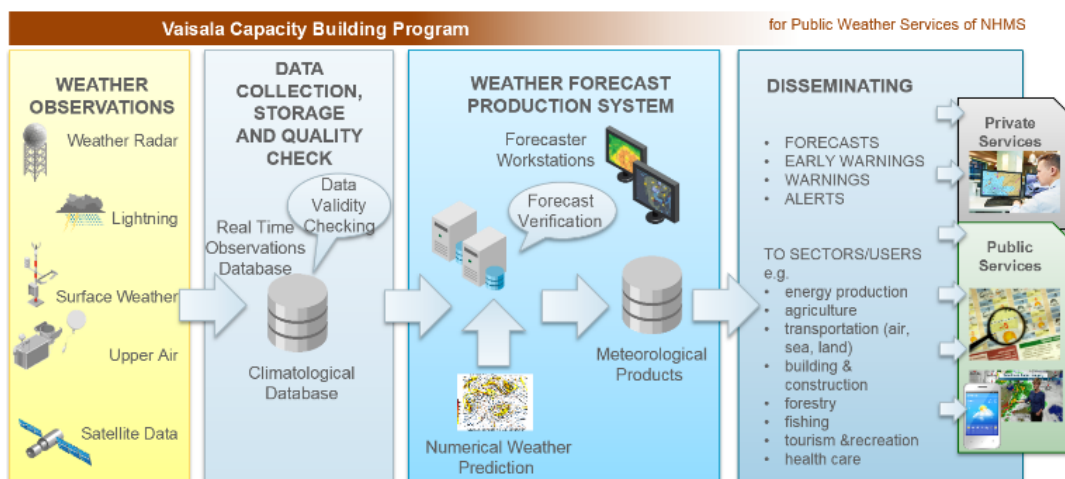
## Dependable Project Delivery



# Aviation Total Weather Solution



# Complete Meteorological Infrastructure





# Cutting-edge Information Services



# Weather Impacts Society, Business and People

Climate change implies

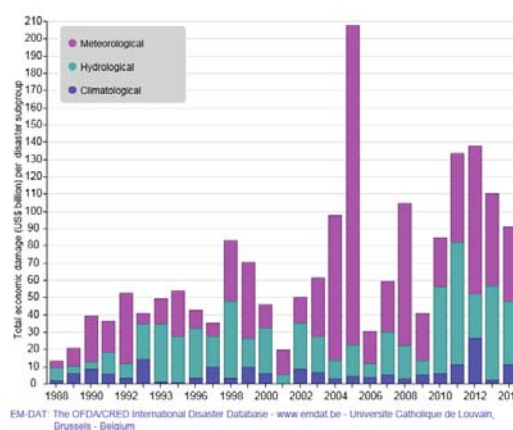
- More frequent and severe extreme weather
- Increased volatility in weather

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"
- "2<sup>nd</sup> 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



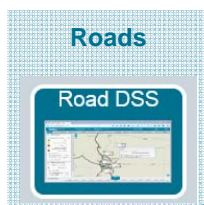
### Result

- 80% reduction in crashes at the site

## Observation Enhanced Decision Support

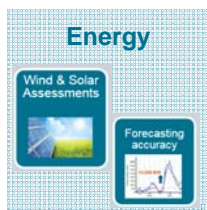


- CheckTime for airlines to calculate aircraft anti-icing fluid failure
- AviCast run as software as a service for airport operations and maintenance
  - Real-time thunderstorm and lightning combined with weather radar image
  - Integrated for a convenient use at airport control towers with AviMet

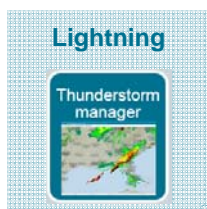


- Road DSS product family for winter road maintenance decision makers
  - De-icing [reactive] and anti-icing [proactive] treatments
  - Improve operational efficiency and reduce environmental impact
  - Audit trail for treatment and performance reporting

# Observation Enhanced Decision Support

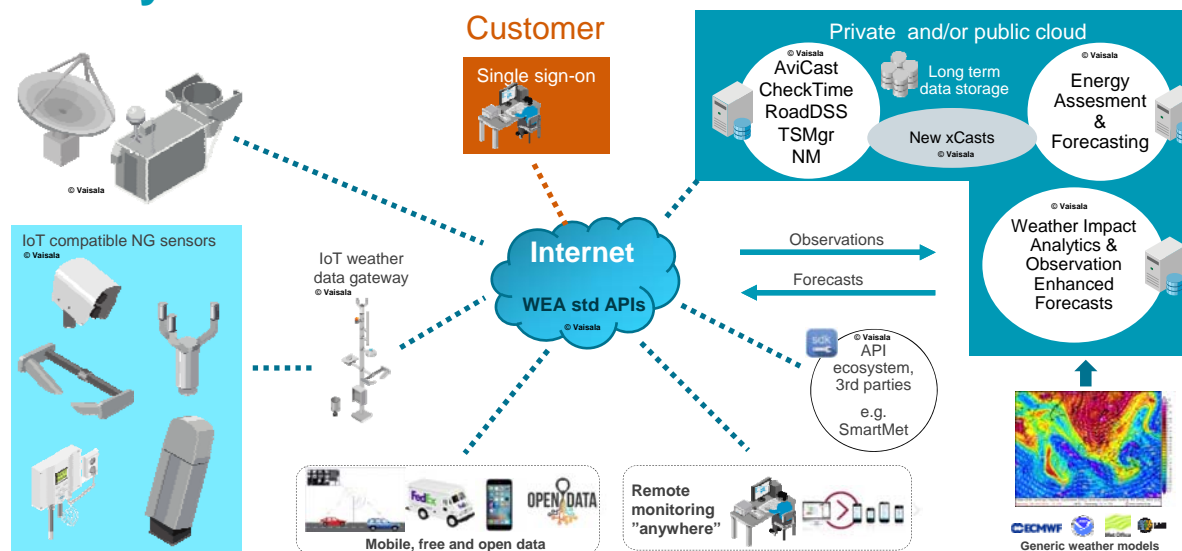


- Pre-assessments supported by decade long global wind data and solar maps
- Investment due diligence services including measurement campaigns
- Short-term forecasts based on numerical weather models and learning systems



- 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





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## Global Market Sizes and Growth 2016

in MEUR	Meteorology Infrastructure	Transportation	Energy
Market size*	450-500	300	300-350
Market growth p.a.	0%	0-5%	>10%
Vaisala market share 2016*	High	High	Low
Market size total	1,000 – 1,200 MEUR, ~20% market share		

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

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