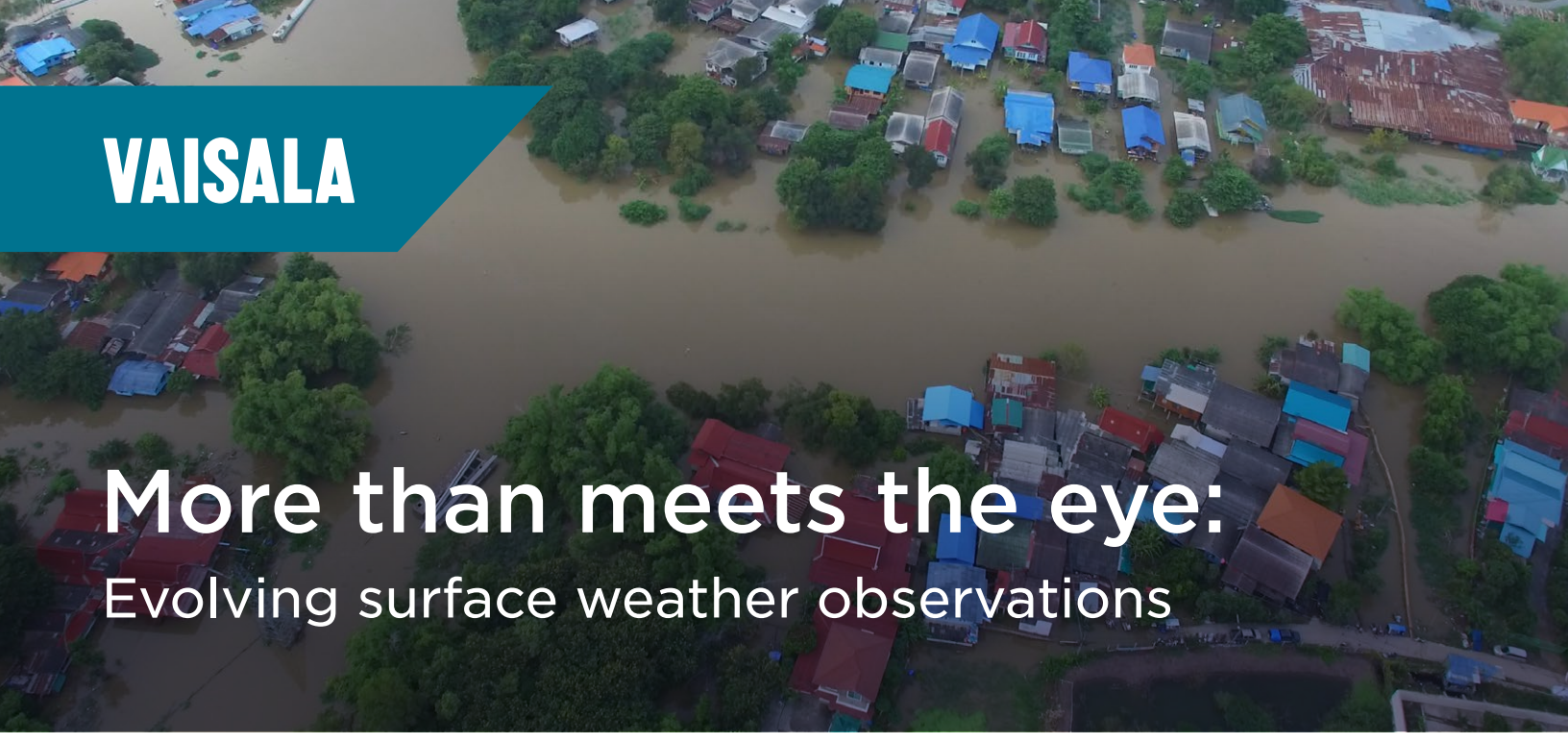


VAISALA

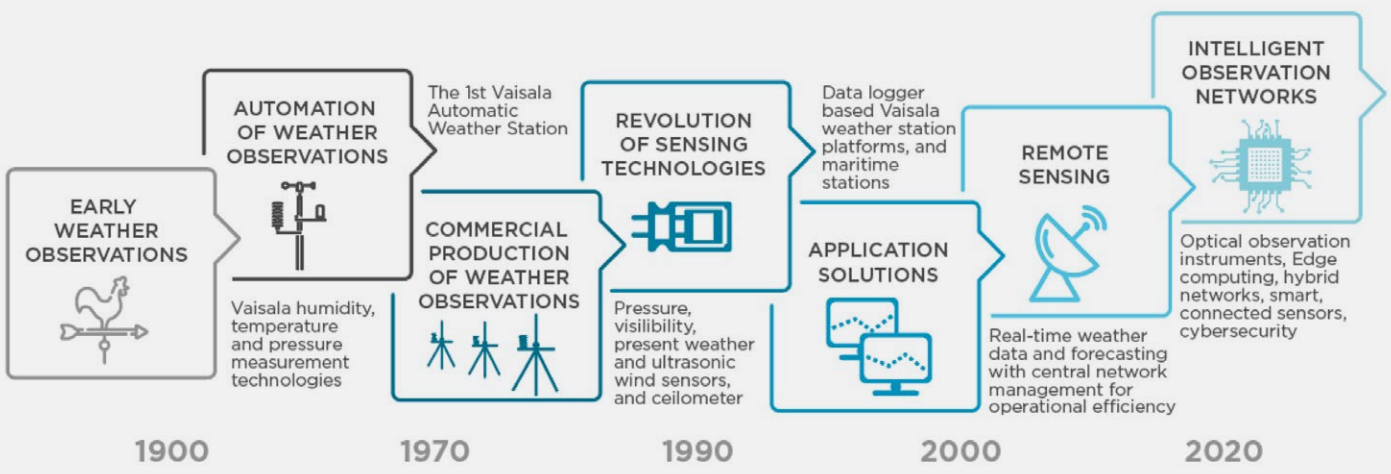
More than meets the eye:
Evolving surface weather observations

The number of weather- and climate-related disasters has more than doubled over the past 40 years — a truly global trend that highlights the need for climate situational awareness.

With budget constraints and inadequate technology cited as two of the most important challenges facing leaders, how can surface weather observation be made more attainable and actionable in budget-scarce environments?

Now is clearly the time for an evolution.

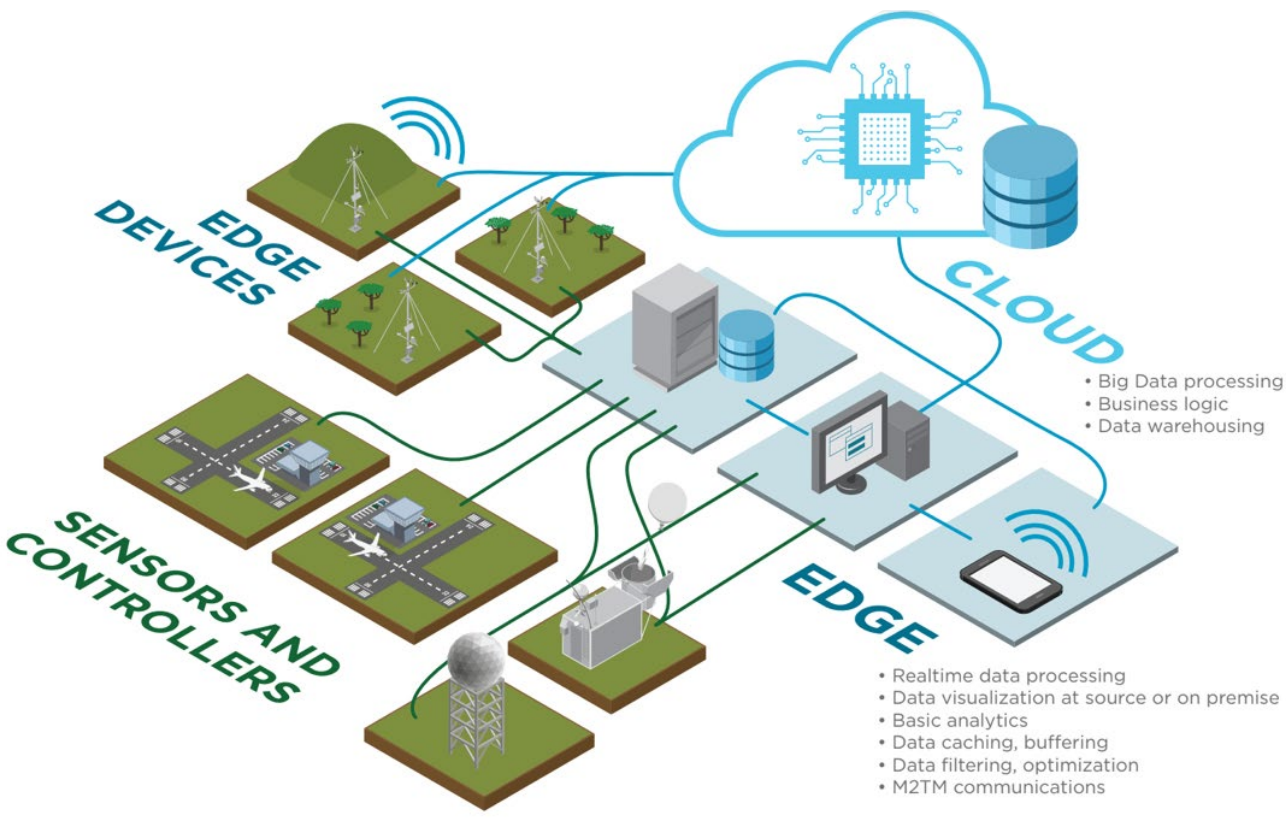
How observation technology is evolving



Today's modern, multipurpose instruments allow users to do more with less — a constant priority no matter the industry or purpose — and result in longer, more problem-free service lives, even under the harshest conditions.

Moving forward, observation systems will incorporate trends such as cloud computing, AI, and edge computing as these technologies have the potential to further improve weather sensors and systems.

Important future trends



	What is it?	Why do they matter?
Edge computing	Allows advanced data processing at or near the source of the data itself, rather than transmitting the data to a datacenter or cloud first.	Avoids latency and the need to queue the data within the larger IT ecosystem; also allows for more autonomous and efficient machine-to-machine communication (important for IoT).
Hybrid networking	Includes edge computing and a centralized management system operated through the cloud or on-premises.	Provides flexibility, scalability, network security, and a robust common platform architecture.
Optical observation instruments	New advanced types of sensors with evolved weather identification, quantification, analysis, and accuracy.	Uses one sensor to replace older ones, such visibility and present weather detectors, disdrometers, freezing rain sensors, and rain gauges.
Smart, connected sensors	Provide enough processing power to handle more sophisticated functionalities, like device management, monitoring, and proactive alerts based on monitored parameters.	Offer intelligent capabilities like automated diagnostics and software updates, reducing maintenance and extending service lives.
Cybersecurity resilience	Next-generation sensors and weather stations in which cybersecurity has been taken into account in the best possible way without any compromises.	Connected sensors and weather stations are potential targets for random cyberattacks.

Can you hack it?

In January 2020, Vaisala took part in the Nokia Hackathon, contributing one of our newest technologies to see how secure it was. The hackers were unable to compromise it, even after several hours of intense work. Not all companies would have submitted one of their newest technologies to a Hackathon, but we're glad we did.

Observation technology is always evolving. Vaisala has the solutions and the guidance.

Your communities rely on you to provide the most reliable and accurate weather information available. You can rely on Vaisala to help you succeed, even when the industry is changing rapidly.

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