



# Technical Solutions Monitoring

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**ENVEA – APAQ**

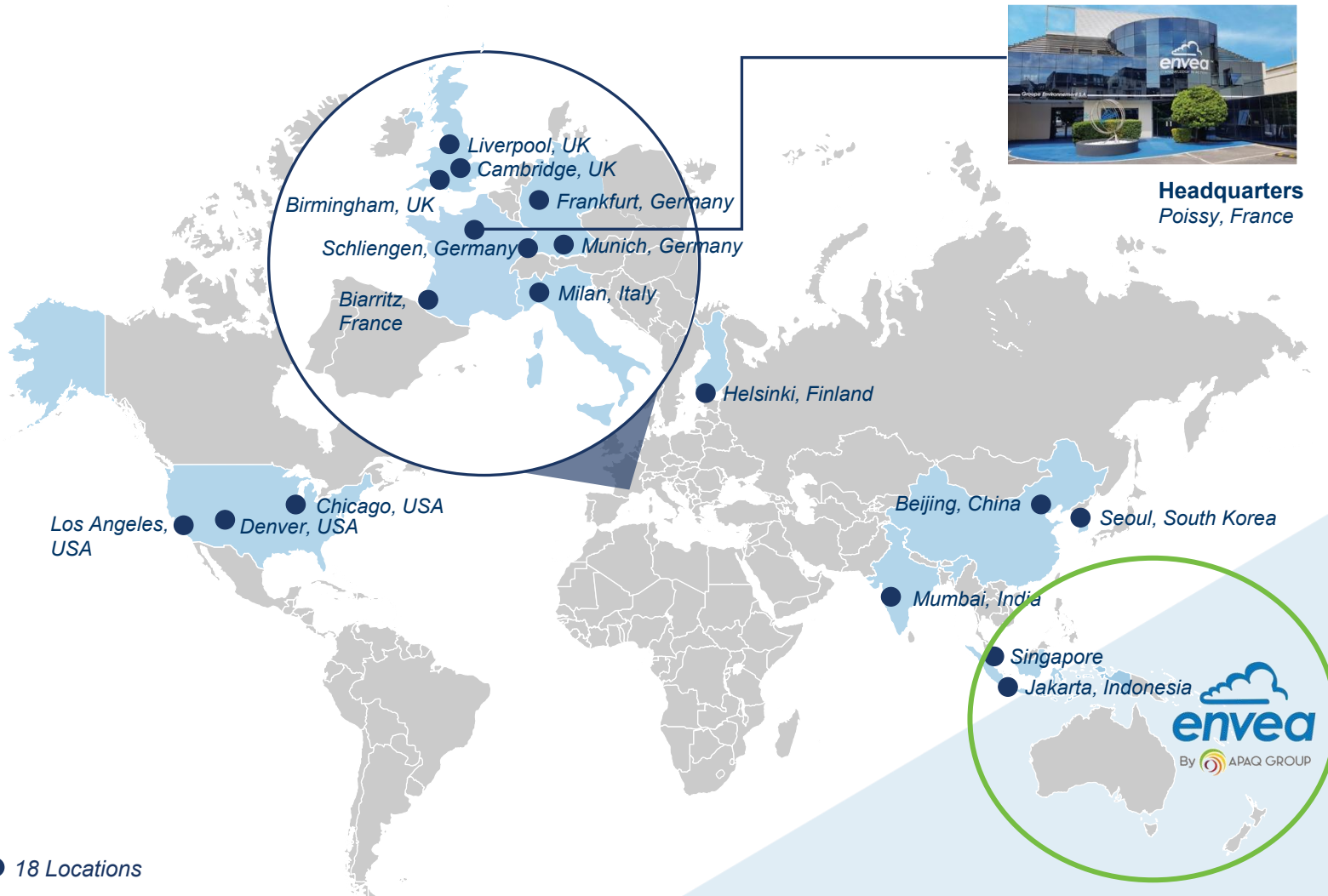
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Next-Generation Monitoring and Assessment System for Air Pollution in East Asia  
13 March 2026, 15:30 – 17:00

# Next-Gen Monitoring and Assessment System for Air Pollution in East Asia

Joseph Deng

# A GLOBAL PRESENCE



**Headquarters**  
Poissy, France

## GLOBAL PRESENCE & INFLUENCE

**16+**

Worldwide local entities

**110+**

Countries & regions with systems installed

**160+**

Global network of distributors

**50+**

Regulations compliance across the world

## R&D LEADERSHIP

**5+**

R&D platforms across the world

**80+**

Collaborators in R&D

**10M+**

Invested in R&D p.a

**20+**

PhD specialists worldwide

## TRUSTED BY...

### Industries Leaders



### Public Institutions



AND MANY MORE....

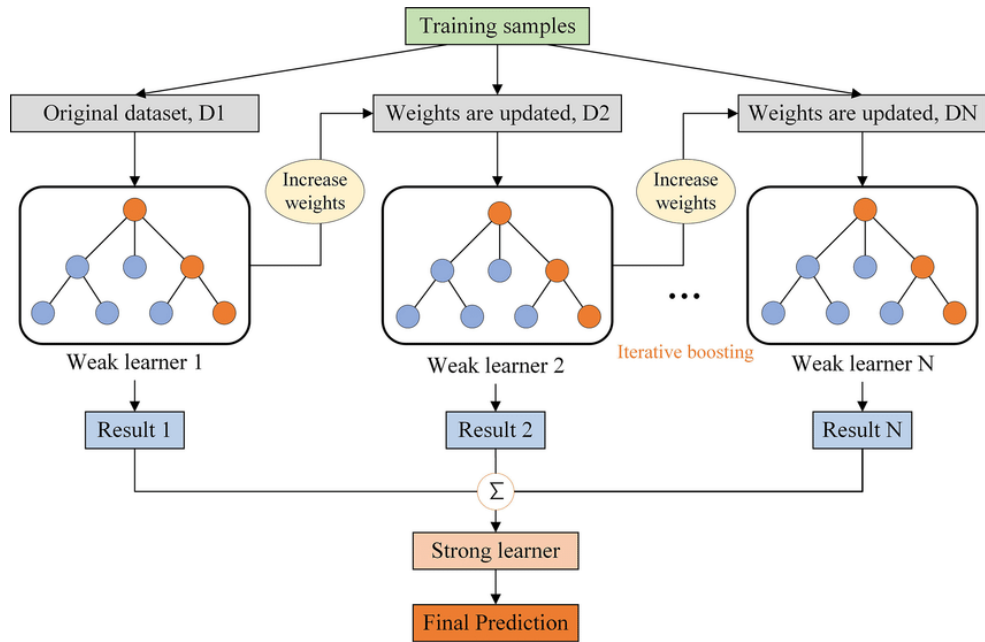
# Introduction to data validation



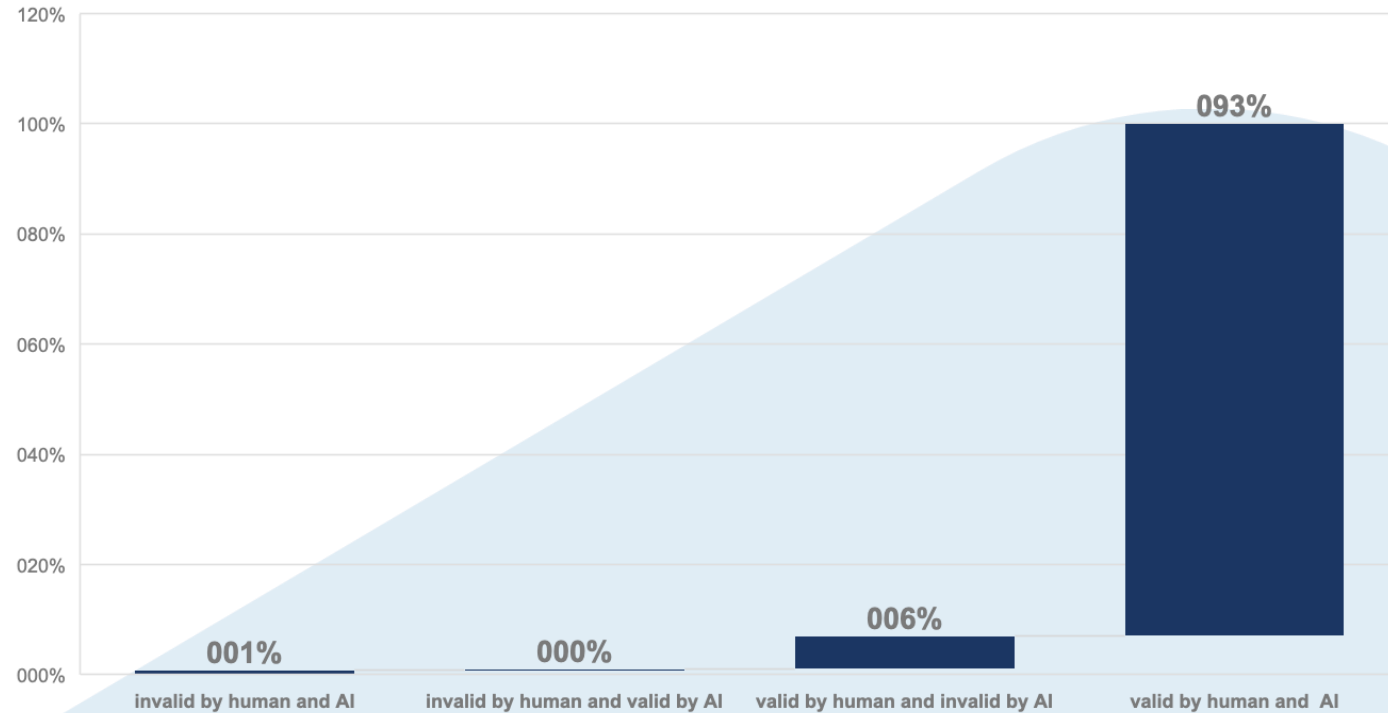
- **Commitment to In-Depth Analysis:** The validation process is demanding and **requires several hours of meticulous analysis each day** to check for data integrity and consistency, and a **weekly environmental validation** to ensure relevance and compliance with environmental standards.
- **Guaranteeing Data Accuracy for Regulatory Bodies:** The primary objective of this exhaustive validation is to **certify the exactness of the data** before it is transmitted to pollution monitoring authorities.
- **Vast Historical Dataset:** Since 2000, our partners have amassed **300 million data points from different regions and different instrument brands**, providing a rich and extensive dataset for analysis.



# Introduction on data validation



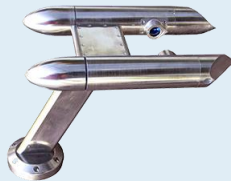
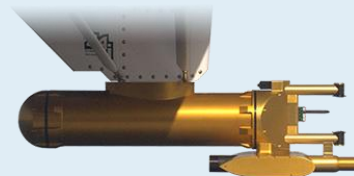
AI classification, based on an initial 1% invalid data ratio



# The future ENVEA Superstation Integrated Atmospheric Observatory



- **Trace gas analyzers:** SO<sub>2</sub>, NO<sub>x</sub>, CO, O<sub>3</sub>, VOCs (QAL1 and US-EPA certifications)
- **Particle suite:** PSM + CPC + SMPS + OPM covering 1 nm to 10 um complete size range
- **Aerosol-cloud-climate:** CCN counter, SP2 soot photometer, MicroPulse LiDAR
- **Bioaerosol monitoring:** WIBS-5 real-time fluorescence detection of biological particles



# The Future — AI-Accelerated Insights



## Data Mining and Measurement Integrity

- **Data integration:** Combining gases, particles, clouds from all stations and platforms
- **AI-accelerated data mining:** Building more accurate climate and air quality models
- **Critical principle:** Real-life monitoring data cannot be replaced by analytics alone
- **Foundation first:** Validated science-based instruments, then AI amplifies their value
- **For authorities and scientists:** Reliable evidence for policy and real data to improve models

***Measurement integrity:***  
*"If the monitoring principle is not correct, no AI can compensate"*



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**Thank you**

