

U.S. DEPARTMENT OF STATE AIR QUALITY MONITORING PROGRAM



REGULATORY MONITORS

In 2015, DOS launched a central contract, developed in collaboration with EPA, that:

- Uses FEM monitors (BAMs)
- Pushes data to AirNow
- Ensures monitors remain operational and calibrated
- Meets DOS' wide variety of operating environments and requirements
- Has the same basic components worldwide

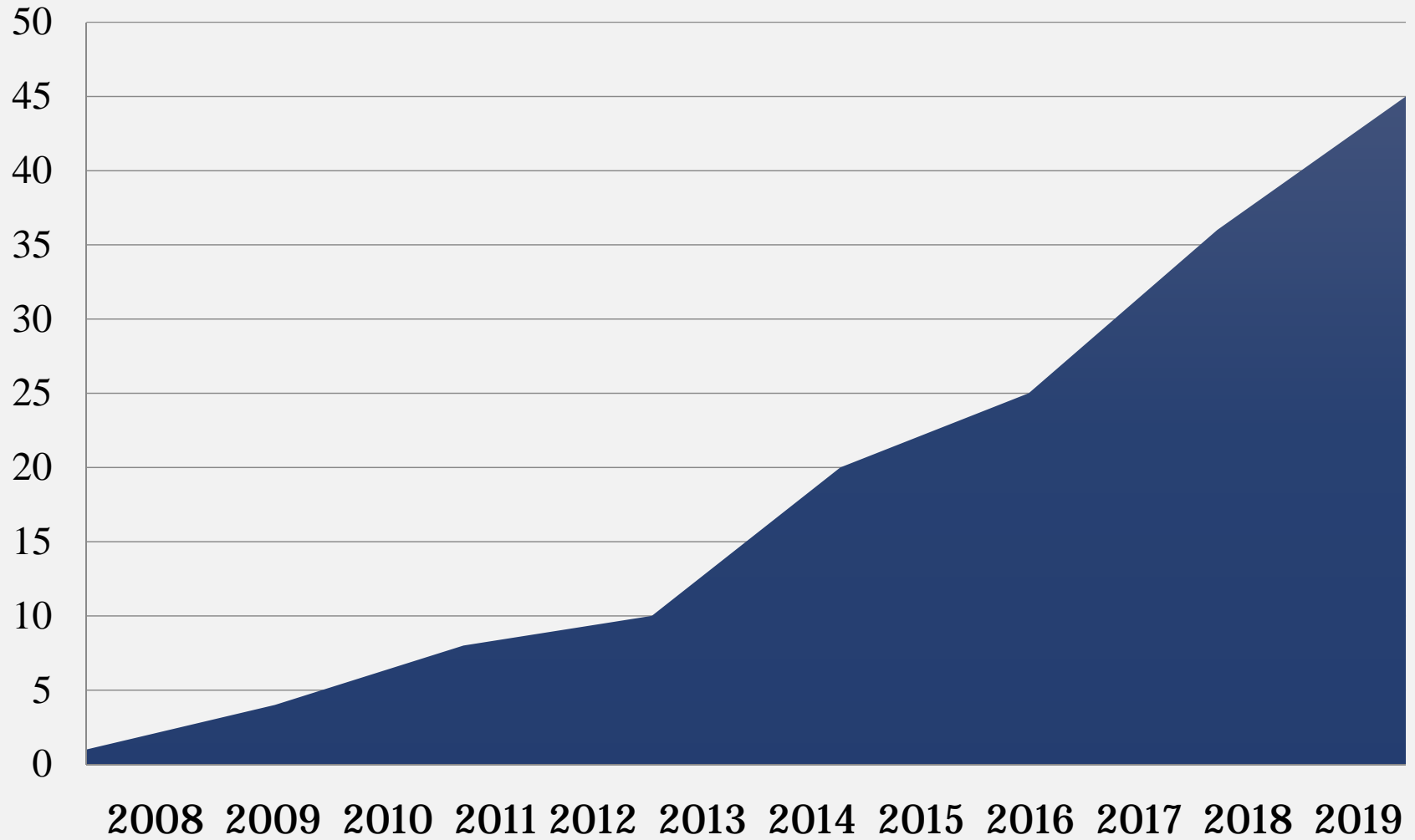


An U.S. embassy air quality monitor system with a BAM inside a shelter.

Central Program Goals

- **Protect U.S. personnel and their families**
- **Obtain sound data and analysis for management and health decisions to reduce exposure**
- **Evaluate and anticipate enterprise risk for Department**
- **Achieve economies of scale by leveraging partnerships**
- **Contribute to advancing scientific understanding**
- **Highlight US technology and leadership**

GROWTH IN MONITORS AT U.S. EMBASSIES AND CONSULATES



GLOBAL NETWORK



ENTERPRISE

DATA

MAINTENANCE

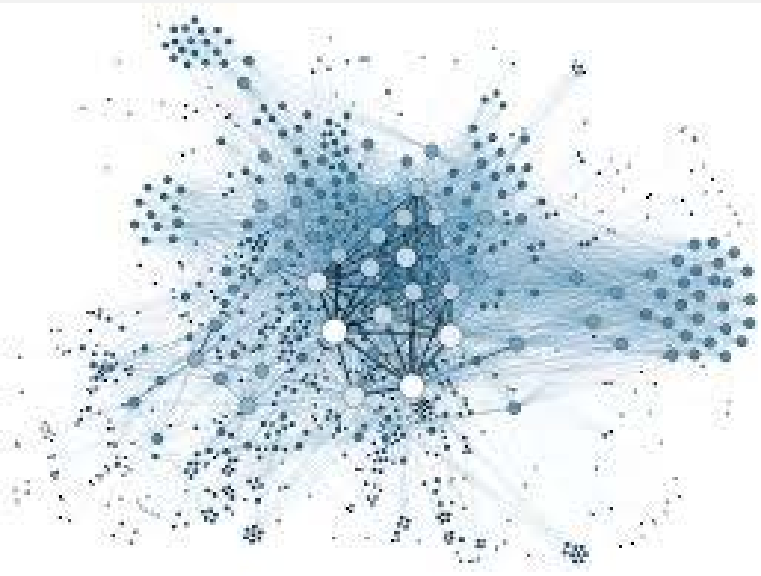
MESSAGING

ENTERPRISE

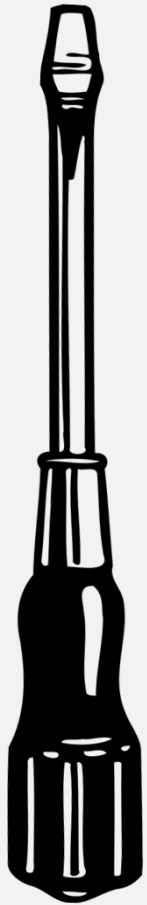
- How do we choose a sensor?
- What assurances do I have (third party verification, regular tests, remote support, guarantee, etc.) in product performance and product service?
- How are software updates tested and vetted?
- How secure is the network and the sensors?
- For wired sensors: can it be connected through a company firewall?
- Can location be scrambled?
- Can an enterprise view be created?

DATA

- How is data analyzed?
- What are the data quality assurance procedures?
- How is data managed?
- Who owns the data?
- Is historical and current data available (raw and analyzed)?



MAINTENANCE



- How often should maintenance be done?
- What is the lifecycle of the sensor?
- How is it calibrated? How often?
- Who do we call if we have an issue? Are we assured a response? What kind of warranty or service agreement is there?

MESSAGING



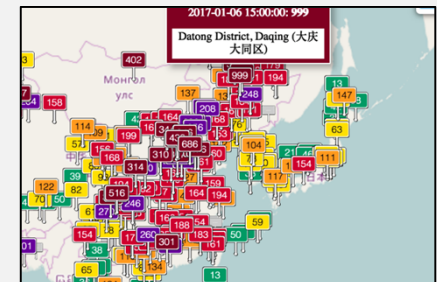
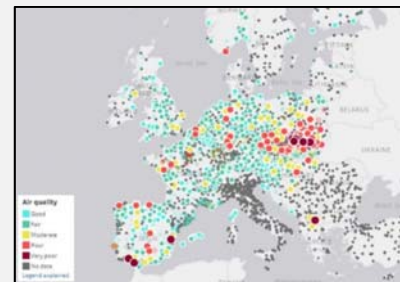
- General AQI confusion for public and personnel
- What's the research relating the sensor data to health effects?
- Can the customer customize messaging and display of data?

AQI categories and breakpoint concentrations with averaging times
(units: $\mu\text{g}/\text{m}^3$ unless mentioned otherwise)

AQI Category (Range)	PM _{2.5} 24 hr	PM ₁₀ 24 hr	NO ₂ 24 hr	O ₃ 8 hr	CO 8 hr (mg/m ³)	SO ₂ 24 hr	NH ₃ 24 hr	Pb 24 hr
Good (0-50)	0-30	0-30	0-40	0-50	0-1.0	0-40	0-200	0.033
Satisfactory (51-100)	31-60	31-60	41-80	51-100	1.1-2.0	41-80	201-400	0.6-1.0
Moderate (101-200)	61-90	61-90	81-180	101-168	2.1-10	81-380	401-800	1.1-2.0
Poor (201-300)	91-120	91-120	181-200	169-208	10.1-17	381-800	801-1200	2.1-3.0
Very poor (301-400)	121-250	121-250	201-400	209-748*	17.1-54	801-1600	1201-1800	3.1-5.0
Severe (401-500)	250+	250+	400+	748+*	54+	1600+	1800+	5.0+

*One hourly monitoring (for mathematical calculation only)

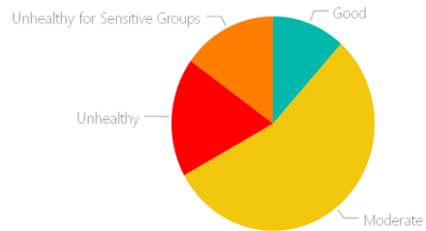
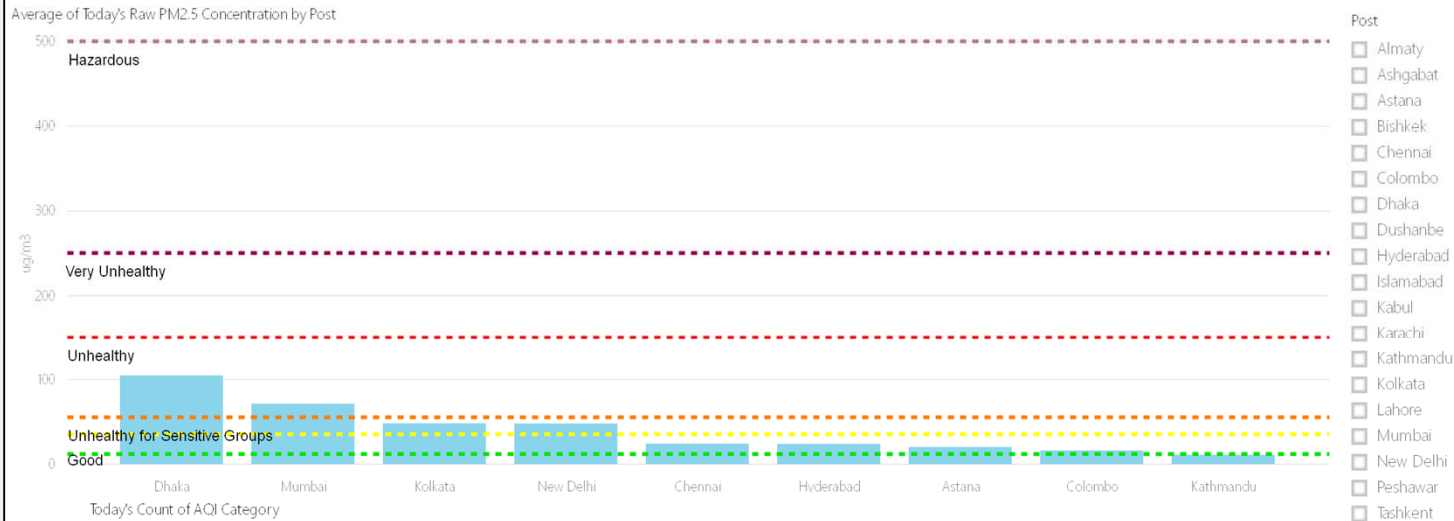
India



AUTOMATING ANALYSIS

Snapshot of Today's Air Quality

For more information and resources, visit the AirNow.gov.



41.41
Avg of Past 24-Hour Raw PM2.5 Concentration (ug/m3)

90.07
Avg of Today's AQI

90.07
Average of AQI

PARTNER WITH US

- **Air Quality Fellows:** Fellows are air quality experts that are paired with US embassies and consulates to help provide technical expertise and support to posts. The Fellows volunteer for one year and work with the posts remotely. The program is now in its second year and it **has matched 50 U.S. diplomatic posts with Fellows.**
- **Co-locate sensors with our BAMs**
- **Help us build the future of this program**

STAY IN TOUCH &
SHARE YOUR IDEAS



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