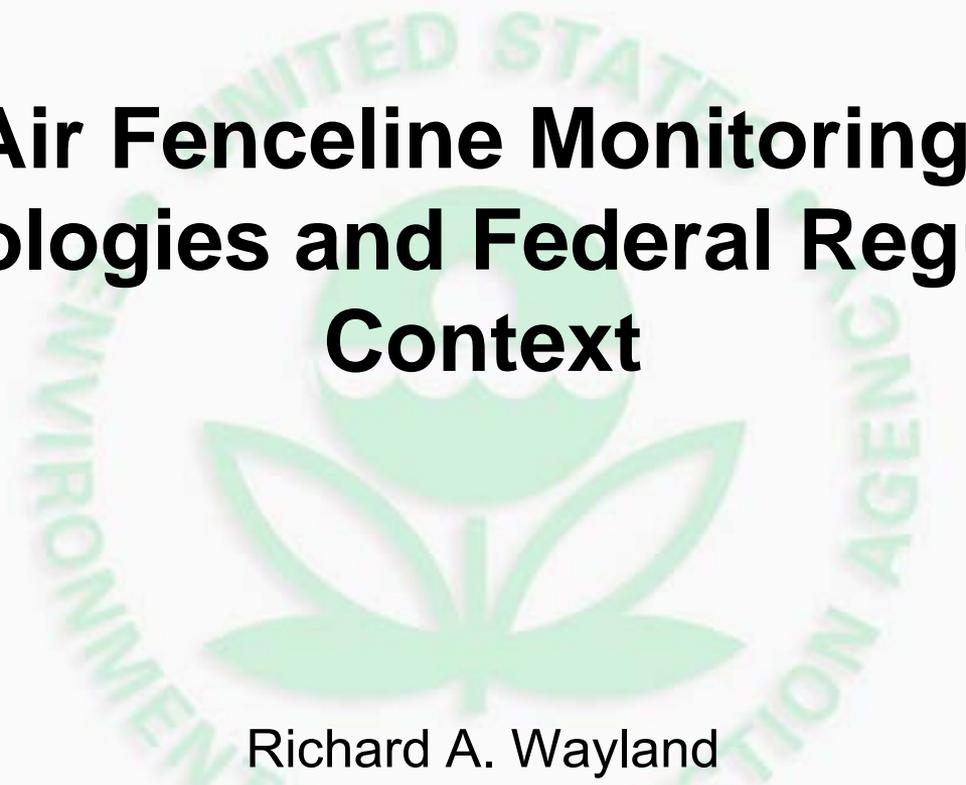# Air Fenceline Monitoring: Technologies and Federal Regulatory Context

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Technology Market Summit

May 14, 2012

Overview

- What problem are we trying to solve?
- Types of air monitors and what they measure
- Examples of regulatory applications
- EPA's role in fenceline monitoring

What is the Problem We Are Trying to Solve?

- Industries can have hundreds of emission points (air toxics and criteria pollutants); some emission points are well-understood and well-characterized
- Others (mostly fugitive ground-level sources) not well characterized in the inventories
    - Fugitives from process piping
    - Wastewater sources
    - Pressure release valve emissions
    - Tanks
    - Unplanned or unknown emission sources (e.g., not on the books)
- Highest concentrations of these sources outside the facility likely occur by the property boundary near ground level
- Air monitoring at the property boundary can provide a direct measure of the annual average concentrations of these pollutants directly surrounding a plant
- With data on air pollution concentrations, EPA can estimate cancer and noncancer risks, providing a more certain measure than our current modeling of emission inventories

Typical air monitoring

State and Local Air Monitoring Stations
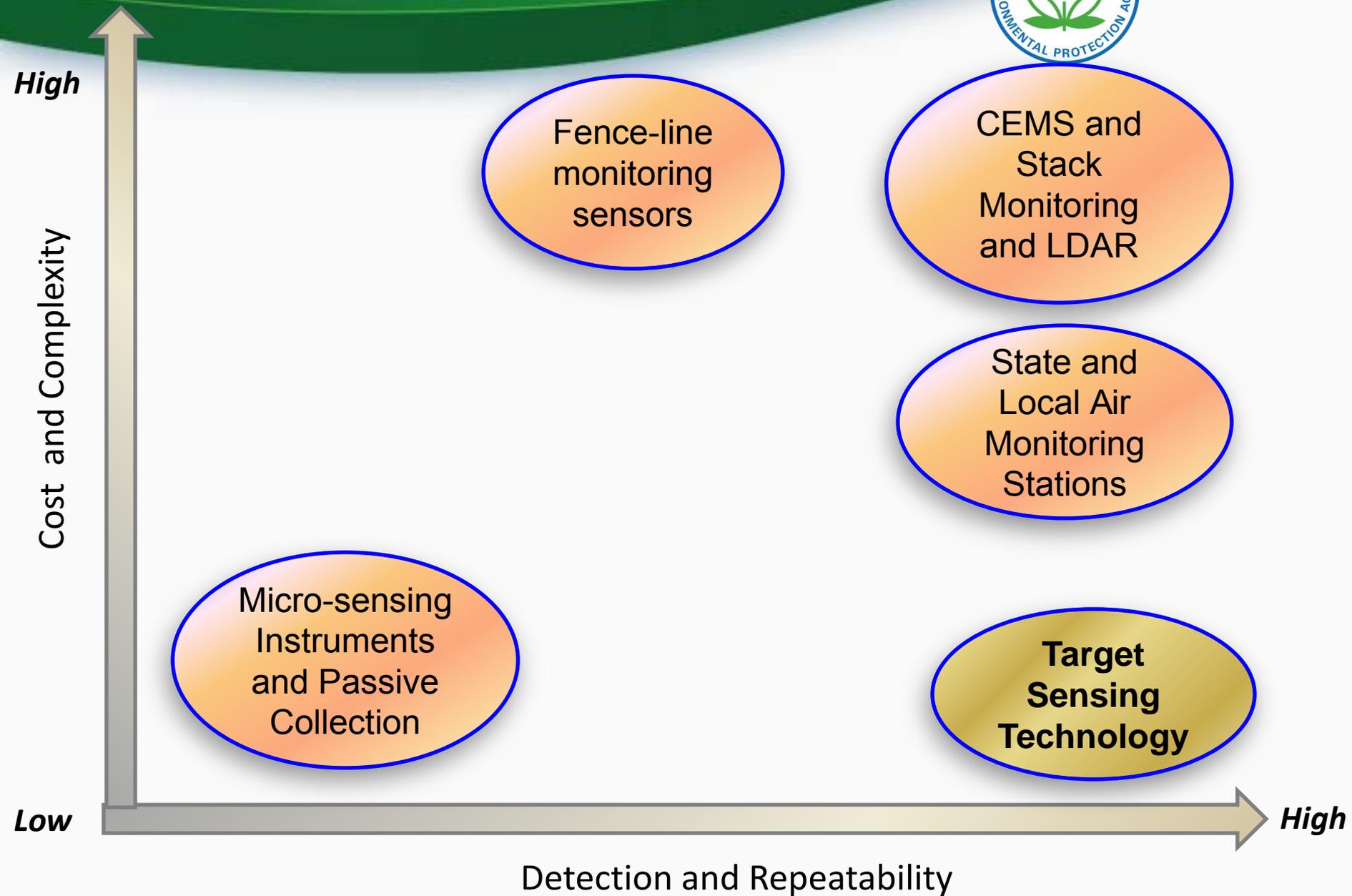

CEMS and Stack Monitoring

Micro-sensing and Passive Monitoring

Open-Path Monitoring

Air Pollution Measurement Regimes

Future Technology and Fenceline Monitoring

- Monitoring in general must be infused with new technology to provide better and more cost effective methods

- Fenceline monitoring is a unique opportunity for vendors and academia to leverage their expertise to advance monitoring science

- The old paradigm needs to change
  - New technologies need to come to EPA well tested and evaluated to be adopted
  - "If you build it… we will come"

EPA's Role in Fenceline Monitoring

- Continued research jointly with developers and academia

- Development of monitoring networks

- Development of regulations/Leak Detection

- Enforcement

Who's at the Fenceline?