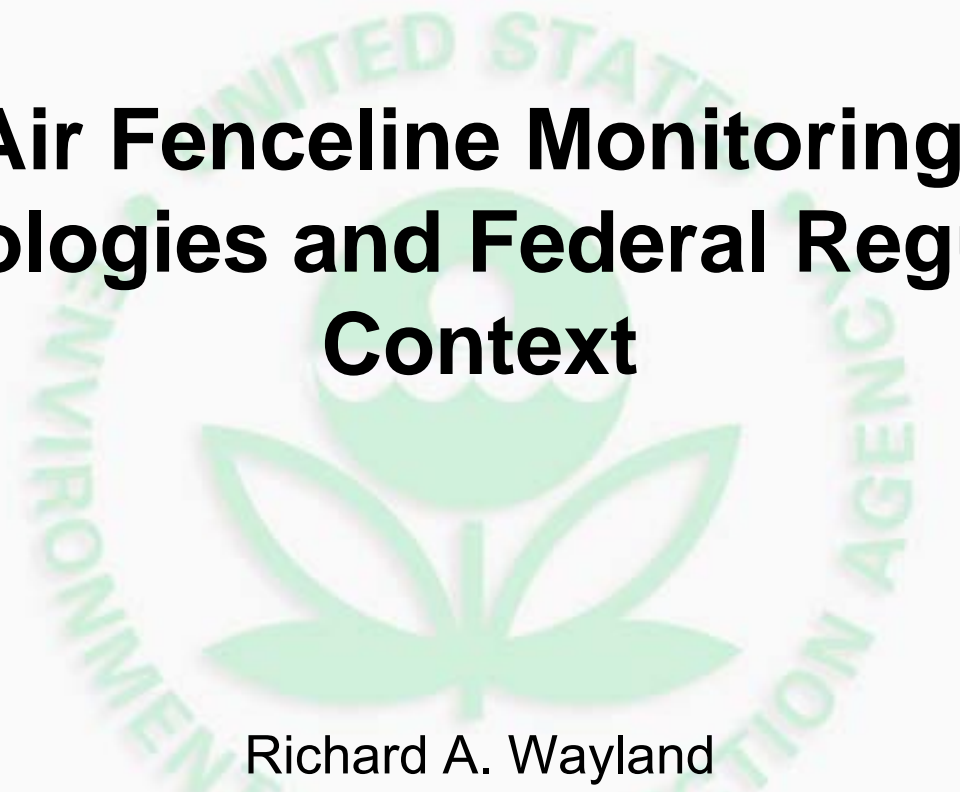


# **Air Fenceline Monitoring: Technologies and Federal Regulatory Context**



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# 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



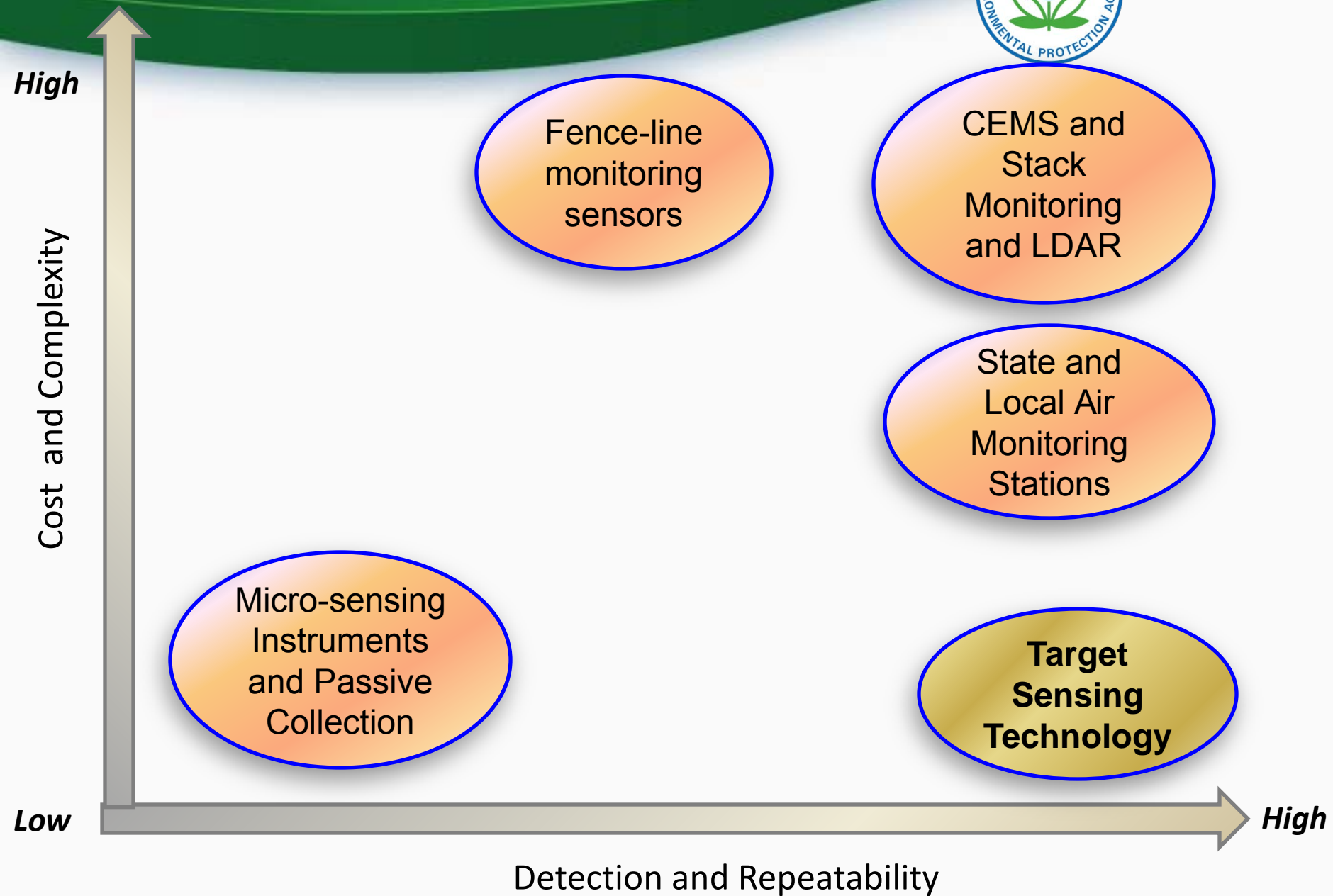
## Micro-sensing and Passive Monitoring



## 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?

