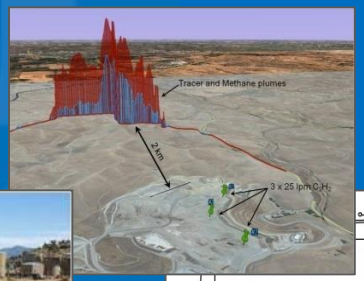
Rubbertown NGEM Demonstration Project Community Meeting 3

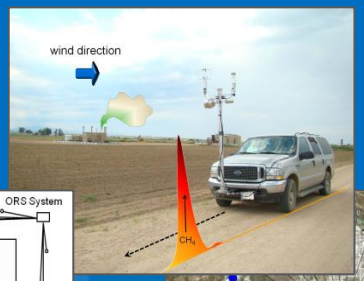
September 28, 2017

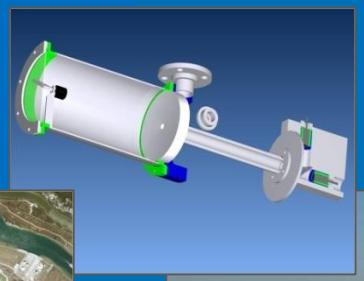
Eben Thoma (for the project team)

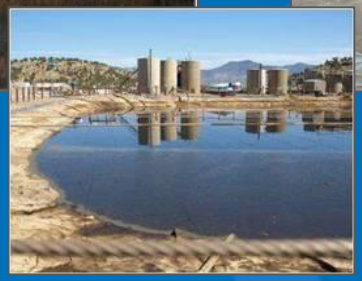
EPA Office of Research and Development, Durham, NC 27711

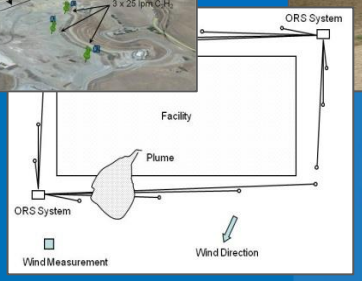
Disclaimer: Mention of companies, trade names, or products do not constitute endorsement by U.S. EPA. Information presented does not necessarily reflect the views of U.S. EPA. No policy implications are implied.

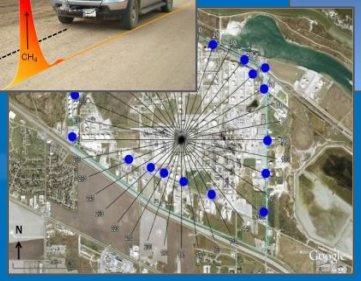












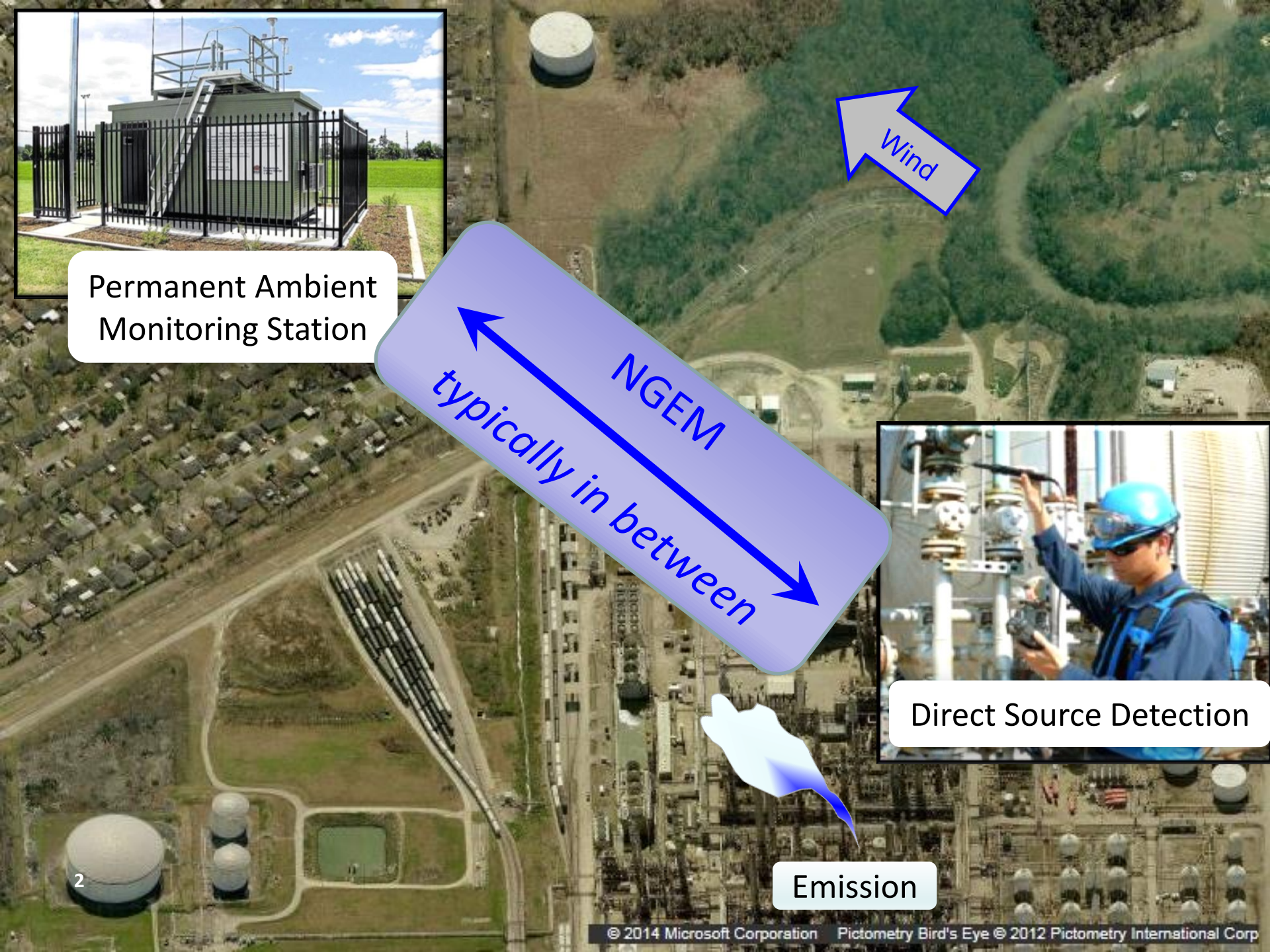
Rubbertown NGEM Demonstration Project

What is NGEM?

- NGEM stands for Next Generation Emission Measurements
- NGEM can help us understand sources of air pollution

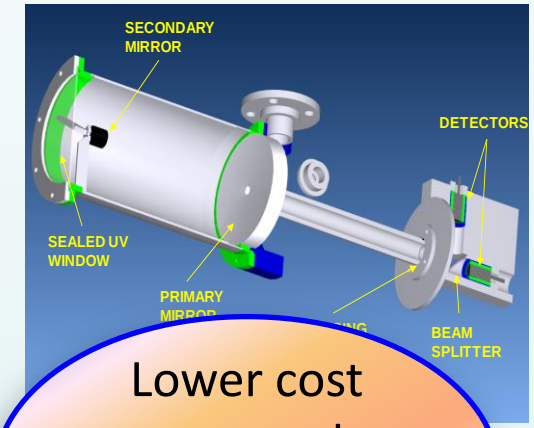
What do we want to do?

- Work together to try new NGEM approaches in Rubbertown
- Learn about new methods and air pollution sources (research)


Permanent Ambient Monitoring Station
Wind
NGEM
typically in between
Direct Source Detection
Emission
© 2014 Microsoft Corporation
Pictometry Bird's Eye © 2012 Pictometry International Corp

New type of NGEM tools for fugitive sources

Deep UV optical sensor

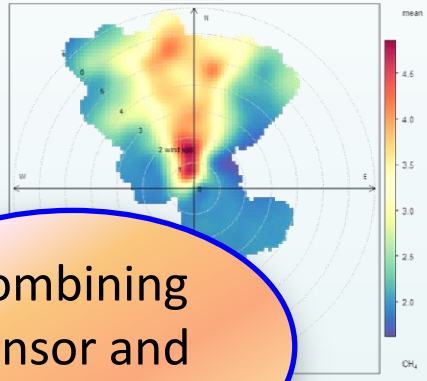


Lower cost open-path optical systems

Drive-by leak inspection

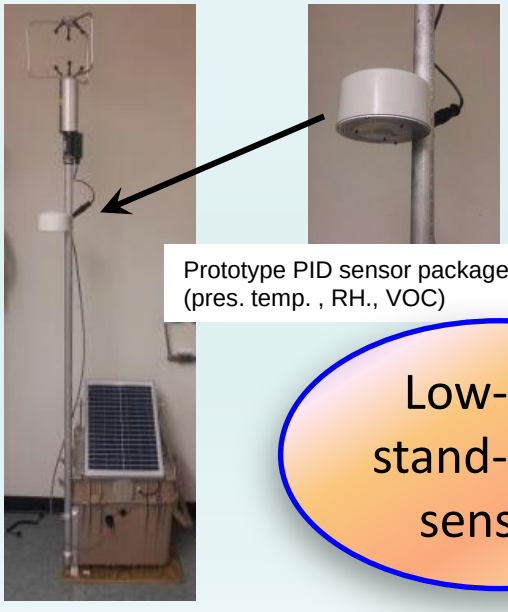
Mobile inspection systems

New leak-location algorithms



Combining sensor and wind data

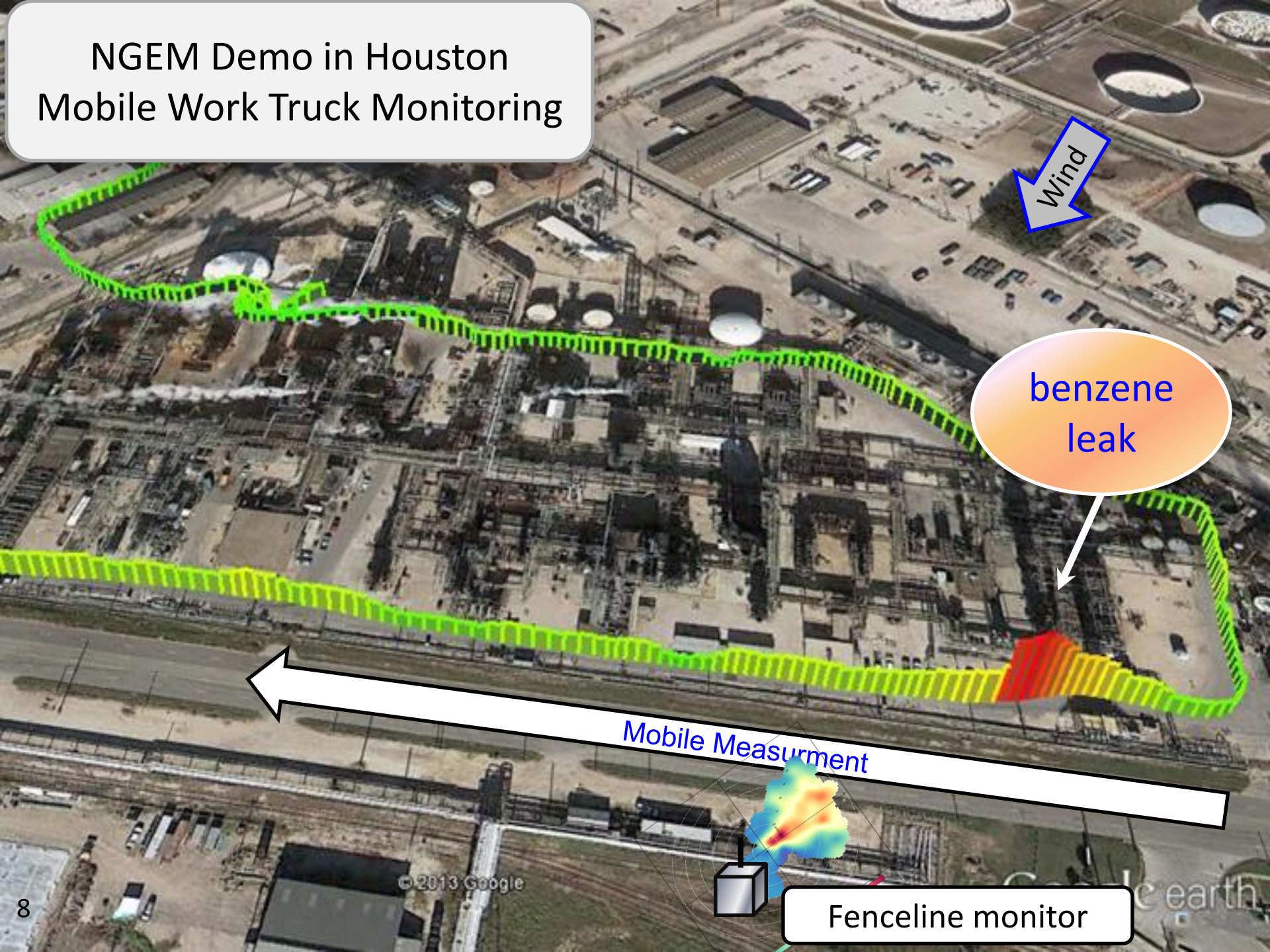
Drop-in-place sensor packages



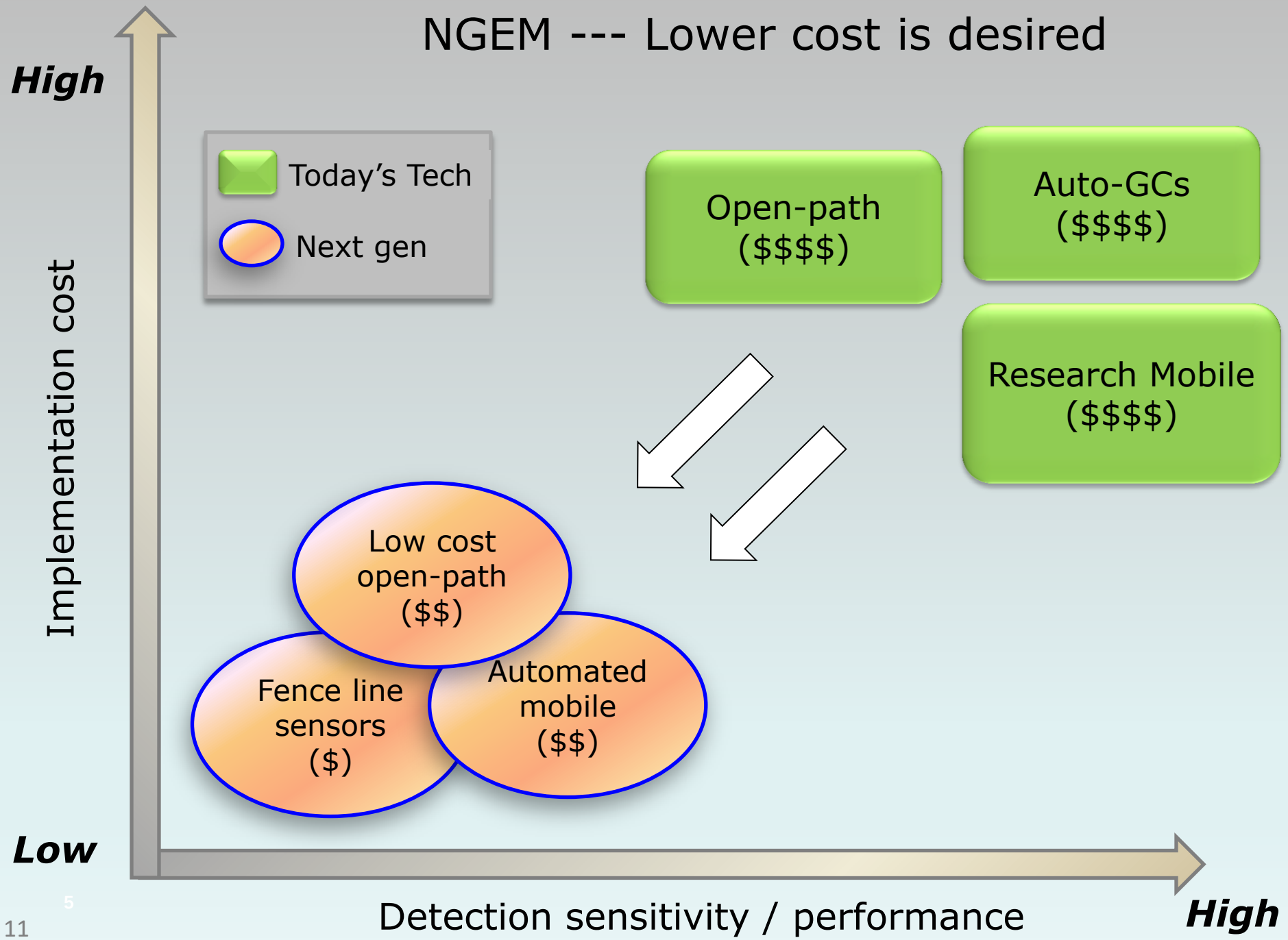
Prototype PID sensor package (pres. temp. , RH., VOC)

Low-cost stand-alone sensors

NGEM Demo in Houston
Mobile Work Truck Monitoring

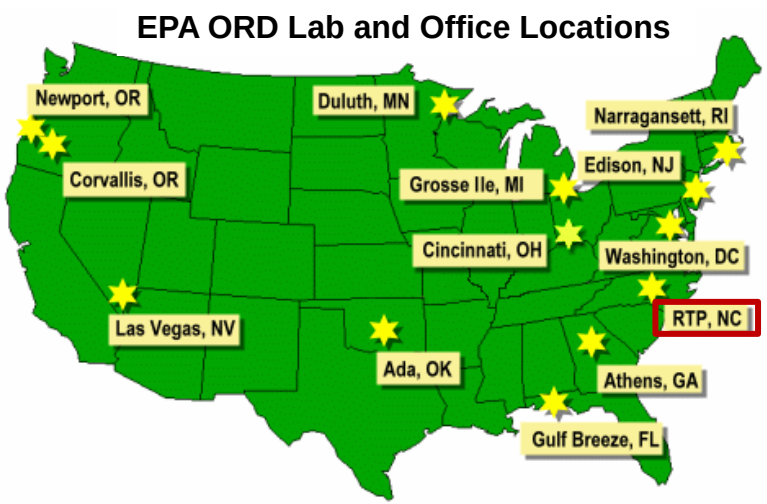


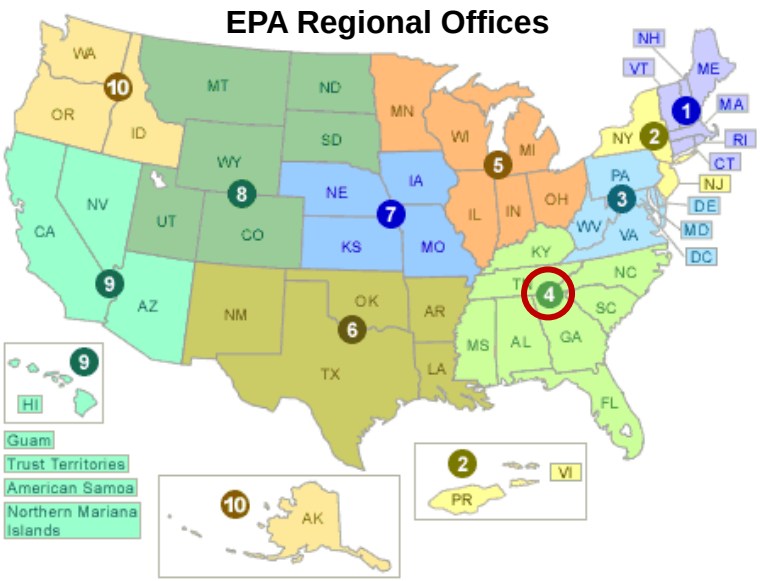
NGEM --- Lower cost is desired



Who is part of this effort?

- A team of folks with EPA ORD, EPA ORD Contractors, EPA Region 4, and LMAPCD
- Rubbertown industries might also participate
- Community feedback is always very important





Rubbertown NGEM Demonstration Project

What is the project focus area?

- NGEM measurements near Rubbertown facilities
- Select gas-phase air pollutants

Is this a community health or exposure study?

- No, this is a NGEM technology demonstration project that may inform some aspects of emissions from Rubbertown facilities

Is this an enforcement or compliance activity?

- No, this is a voluntary research effort
- We will provide information to facilities, communities, and publish

Rubbertown NGEM Demonstration Project

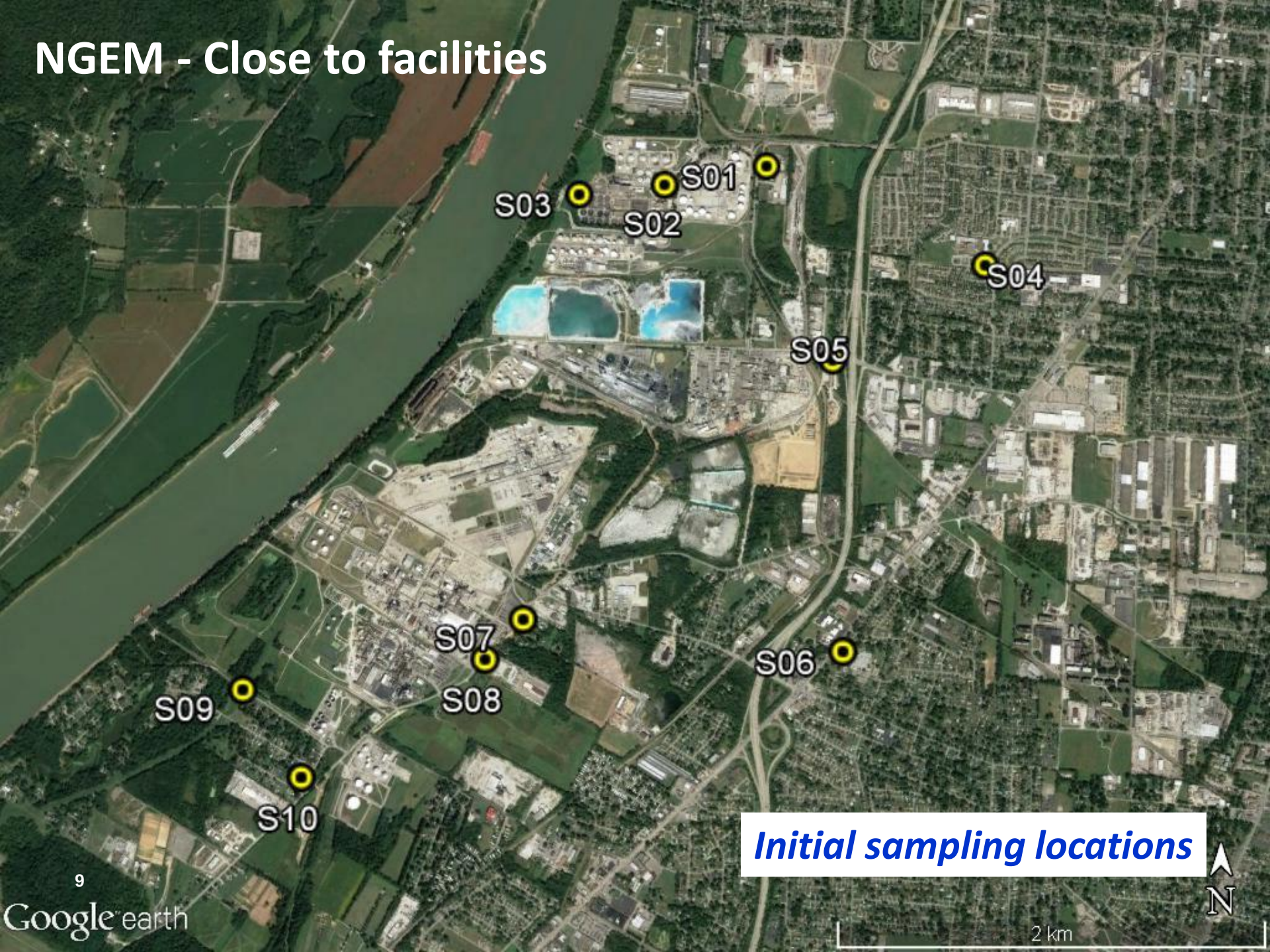
What do we want to accomplish?

- Work together to try new NGEM approaches in Rubbertown
- Learn about new methods and air pollution sources (research)
- Advance NGEM science
- Understand some issues, document improvements (as possible)

When is this project going to happen?

- Target field work Sept 2017- Sept 2018 (pending resources)
- Full data processing/analysis and publishing through 2019

NGEM - Close to facilities



Rubbertown NGEM Demonstration Project

How information will be shared?

General Project Information (updates, project fact sheets, QAPP, presentations, other)	**LMAPCD Website**
Raw Field Data	**Share with industry to help assess and fix emissions (if found)**
Preliminary Data	**Quarterly meetings with community groups**
Finalized Results	✓ **Publish in scientific journals** ✓ **Present at scientific conferences** ✓ **Community meetings**

Rubbertown NGEM Demonstration Project

Quality Assurance Project Plan (QAPP) describes the effort

Best use of technologies with available resources

Community feedback is welcome

QAPP will change over time – never too late to provide input!

United States Environmental Protection Agency

AIR POLLUTION CONTROL DISTRICT

Rubbertown NGEM Demonstration Project
G-APPCD-0021097-QP-1-2, Revision 0.4
August 07, 2017
Page 1 of 78

NRMRL QUALITY ASSURANCE PROJECT PLAN

Office of Research and Development (ORD)
National Risk Management Research Laboratory (NRMRL)
Air and Energy Management Division (AEMD)
Distributed Source and Buildings Branch (DSBB)

Rubbertown Next Generation Emission Measurement Demonstration Project

QA Category: B / Measurement

Extramural Research

G-APPCD-0021097-QP-1-2
Revision Number: 0.4
August 07, 2017

Prepared by
ORD/NRMRL/AEMD/DSBB
Research Triangle Park, NC 27709

Investigating a Potential Citizen Science Component

- In addition to NGEM project described in the QAPP can citizens join in?

- Answer: it is worth discussing……..
- Example: Odors….. Your nose is a great instrument!
- Can we define an add-on project that combines citizen observations and classification of odor types with sensors?

United States Environmental Protection Agency

Benefits of NGEM Research

- Improve source understanding
- Reduce local and regional air shed impacts
- Create safer working environments
- Reduce product loss
- Develop more efficient work practices
- Improve transparency and community relations
- Prepare for the future management strategies

Contact Information

Eben Thoma
EPA ORD Technical Lead
thoma.eben@epa.gov

Rachelle Duvall
EPA ORD Co-Technical Lead
duvall.rachelle@epa.gov

Jane Spann
EPA Region 4 Co-lead
spann.jane@epa.gov

Tiereny Bell
EPA Region 4 Co-lead
bell.tiereny@epa.gov

Billy DeWitt
LMAPCD Lead
billy.dewitt@louisvilleky.gov

Sheryl Good
EPA Region 4 EJ Coordinator
good.sheryl@epa.gov