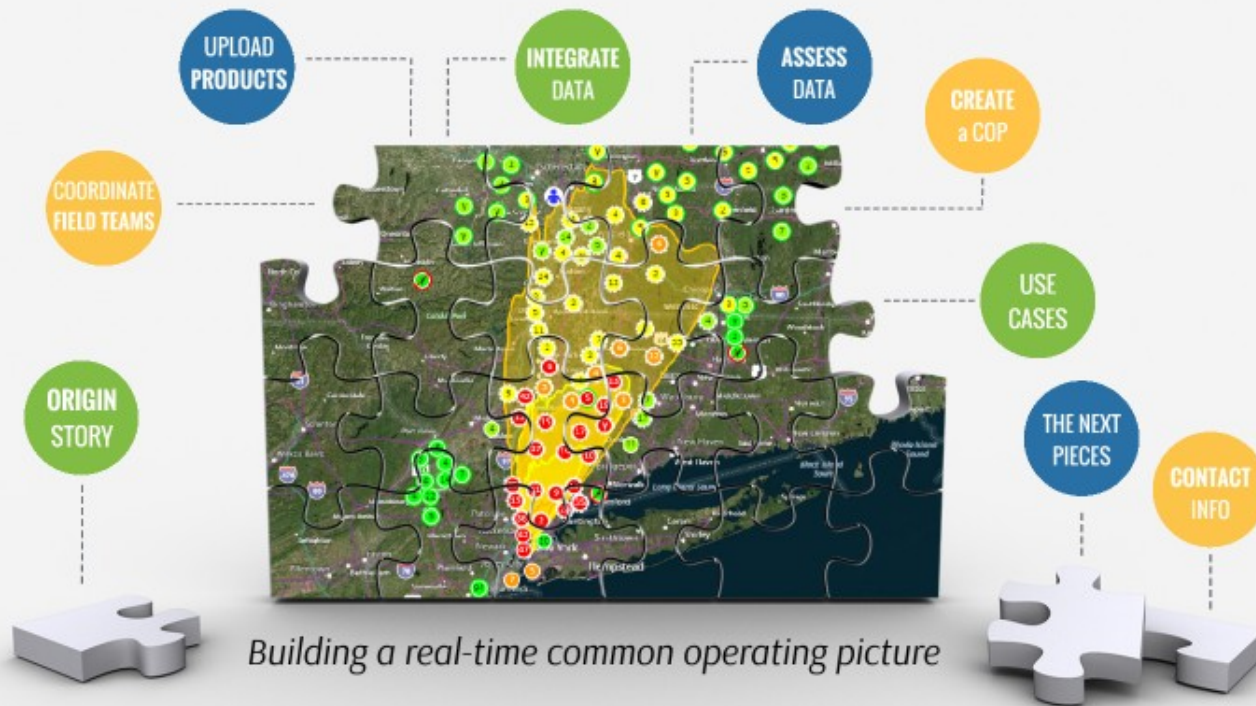


RadResponder Network



In the beginning...

There was only pencil and paper.

Fukushima Daiichi Disaster

March 11, 2011



Los Angeles Times

3 Japan nuclear reactors had full meltdown, agency says

Japan's Fukushima Daiichi nuclear power plant experienced full meltdowns at three reactors in the wake of an earthquake and tsunami in March, the country's Nuclear Emergency Response Headquarters said Monday.

The nuclear group's new evaluation, released Monday, goes further than previous statements in describing the extent of the damage caused by an earthquake and tsunami on March 11.

The announcement will not change plans for how to stabilize the Fukushima Daiichi plant, the agency said.

Radioactivity surges again at Japan nuclear plant

Work on containing the crisis at the Fukushima Daiichi complex is hampered because the level of radioactive iodine found in water inside exceeds 10,000 times the safety standard, officials say.



6 days

U.S. nuclear officials suspect Japanese plant has a dire breach

A leak in a spent fuel pool at the Fukushima nuclear plant would be an unprecedented problem with no clear remedy, experts say.

By Ralph Venable, Barbara Demick and Susan King, Los Angeles Times
March 12, 2011 1:00 p.m.

Reporting from Los Angeles, Kansas and Tokyo— U.S. government nuclear officials suspect a major breach in the Fukushima Daiichi nuclear power plant that could create a major obstacle to refilling the pool with coolants to prevent further meltdowns.

That assessment by U.S. Nuclear Regulatory Commission officials is based on the sequence of events since the earthquake and information provided by key American contractors who were in the plant at the time, said government officials familiar with the evaluation. It was compelling evidence, they said, that the level of the No. 4 reactor pool has a significant hole or crack.



Spent fuel pool at Fukushima Daiichi nuclear power plant, before and after the earthquake.

Unlike the reactor itself, the spent fuel pool does not have its own containment vessel, and any radioactive particles and gases can more easily spread into the environment if the concrete shell begins to leak. In addition, the pool, which contains up to 1,000 tons of spent fuel, is housed in a building that Japanese authorities say appears to have been damaged by fire or explosion.

CNN



Funded by FEMA's Nuclear Incident Response Team Program



Partnered with the Conference of Radiation Control Program Directors (CRCPD), and the National Association of City and County Health Officials (NACCHO)



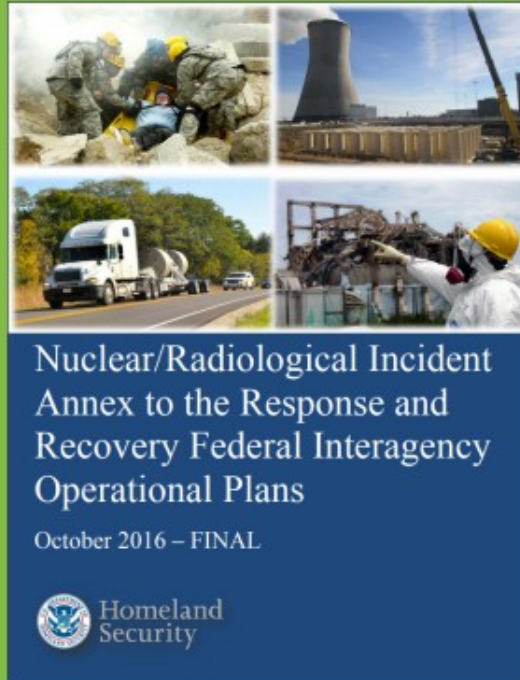
Sponsored by FEMA, DOE/NNSA, and the EPA



FEMA

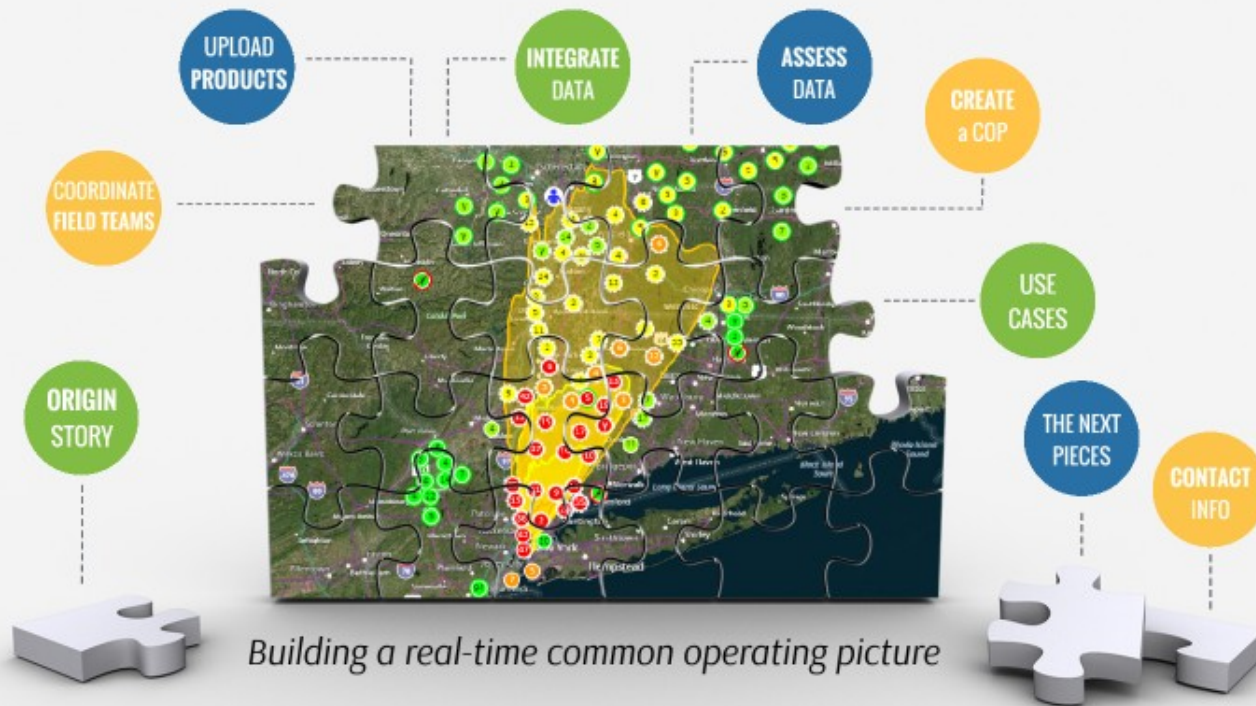


October 2016



"The National Standard and Whole Community Solution for the management of radiological data"

RadResponder Network



Coordinate Field Team Operations

Coordinate Field Team Operations

Upload
Equipment
&
Manage
Personnel

Coordinate Field Team Operations

Upload
Equipment
&
Manage
Personnel



Assign
Field Teams

Coordinate Field Team Operations

**Upload
Equipment
&
Manage
Personnel**



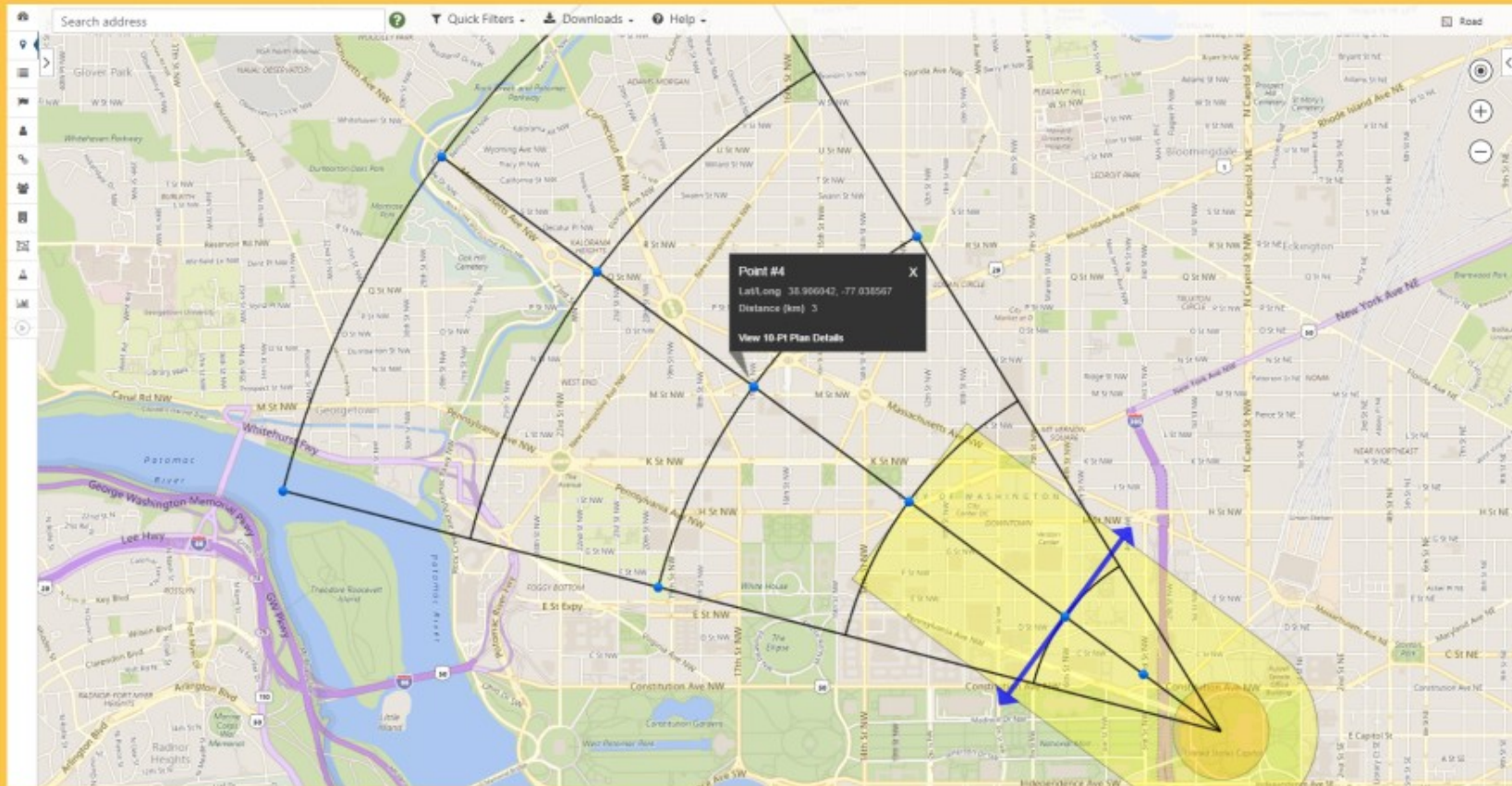
**Assign
Field Teams**



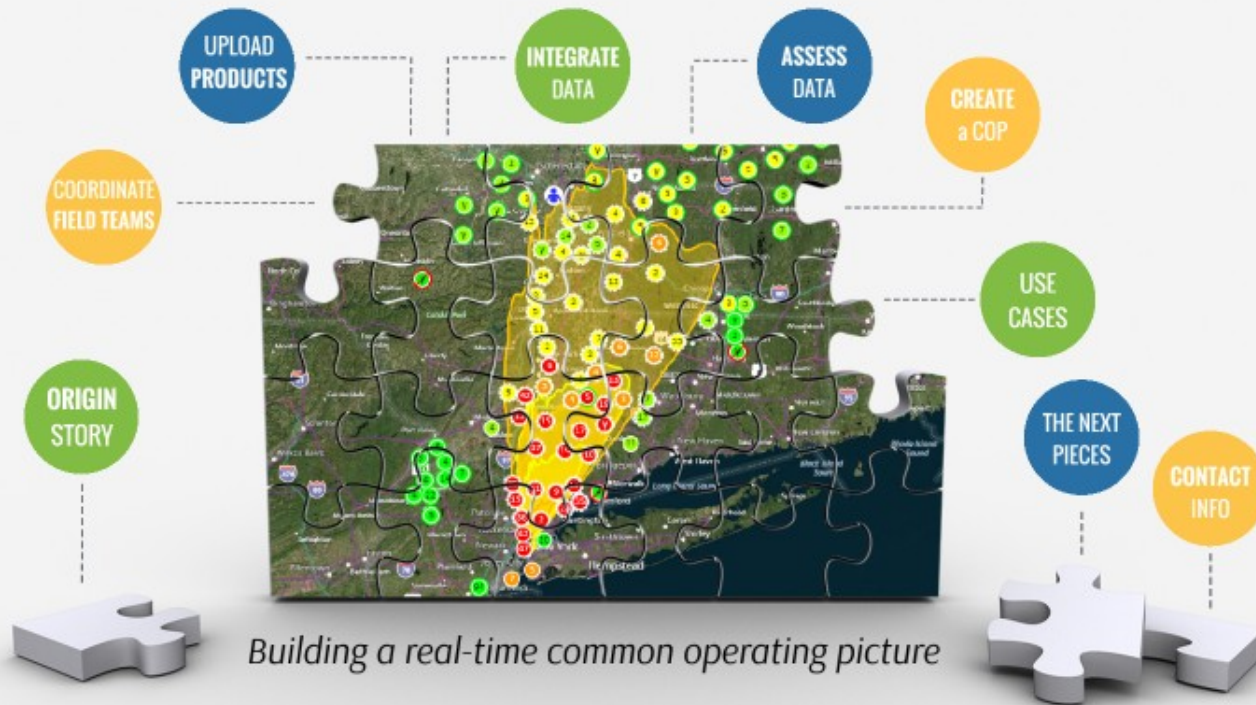
**Track
Responders
in the Field**



Use Existing Guidance to Direct Data Collection



RadResponder Network



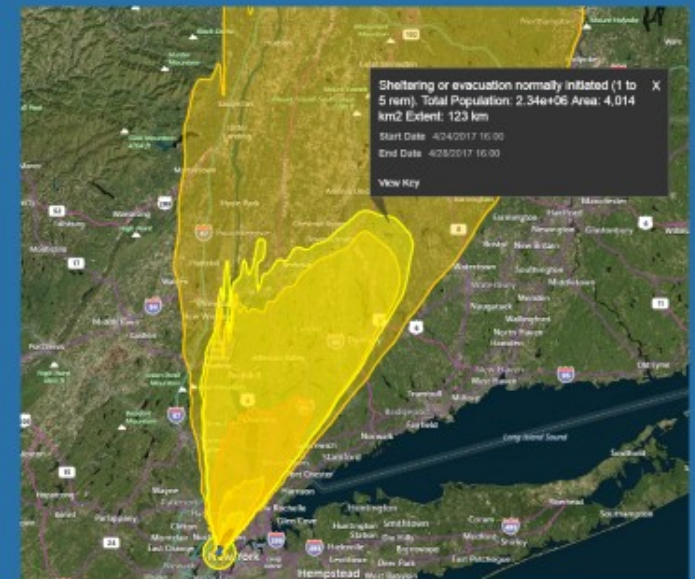
GIS Files

Get NARAC initial prediction models or products pushed directly to the RadResponder event map

- Includes briefing products (PDFs), legends, and NARAC's ability to archive outdated products

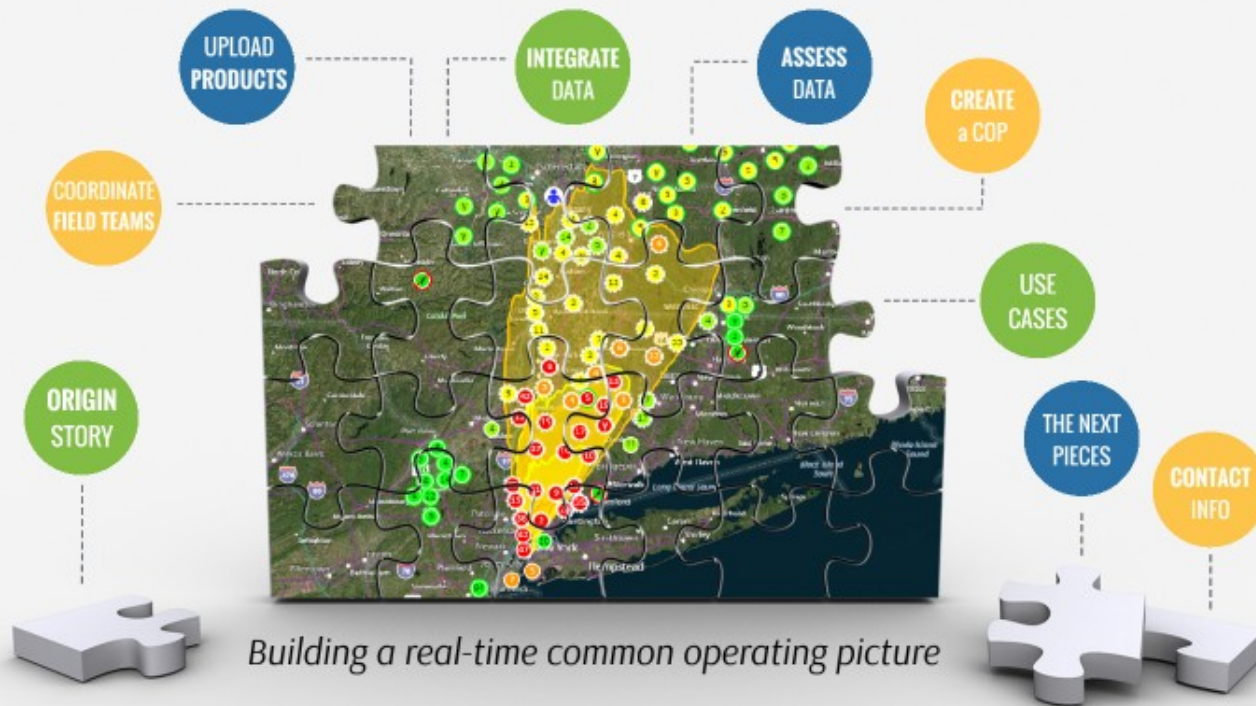
Upload your own GIS files (KML, KMZ, or Shape files)

- Aloha or DTRA products
- Critical infrastructure
- Weather



NARAC Initial Prediction Model (Exercise)

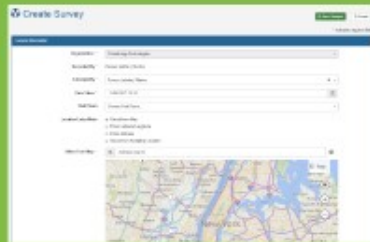
RadResponder Network



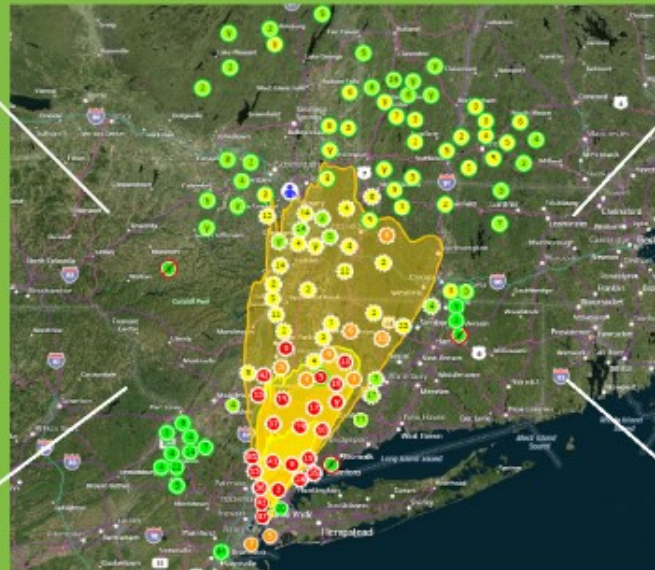
Integrate Raw Data



Mobile application uploads data in real-time, saves data locally when no connection is detected



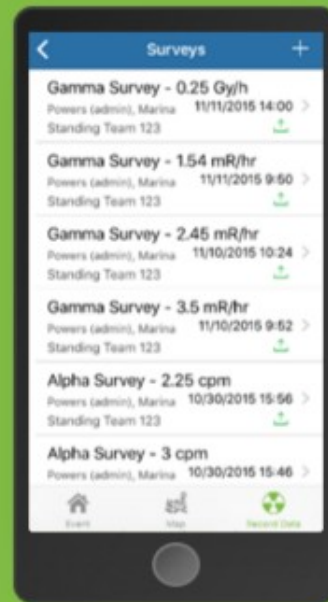
Enter individual records or bulk upload data via the **website**



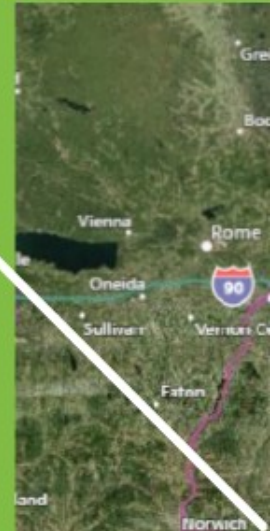
Integrated **Bluetooth-enabled equipment** can telemeter data directly to the website




Integrate **fixed monitoring sensors** to stream minute-by-minute data



Mobile application uploads data in real-time, saves data locally when no connection is detected



 Create Survey Save Changes Cancel

* Indicates required field

General Information

Organization * Chainbridge Technologies

Recorded By * Powers (admin), Marina

Collected By * Powers (admin), Marina


Date Taken * 11/06/2017 23:16

Field Team Choose Field Team...

Location Entry Mode

- ☒ Select from Map
- ☐ Enter Latitude/Longitude
- ☐ Enter Address
- ☐ Select from Sampling Location

Select from Map *

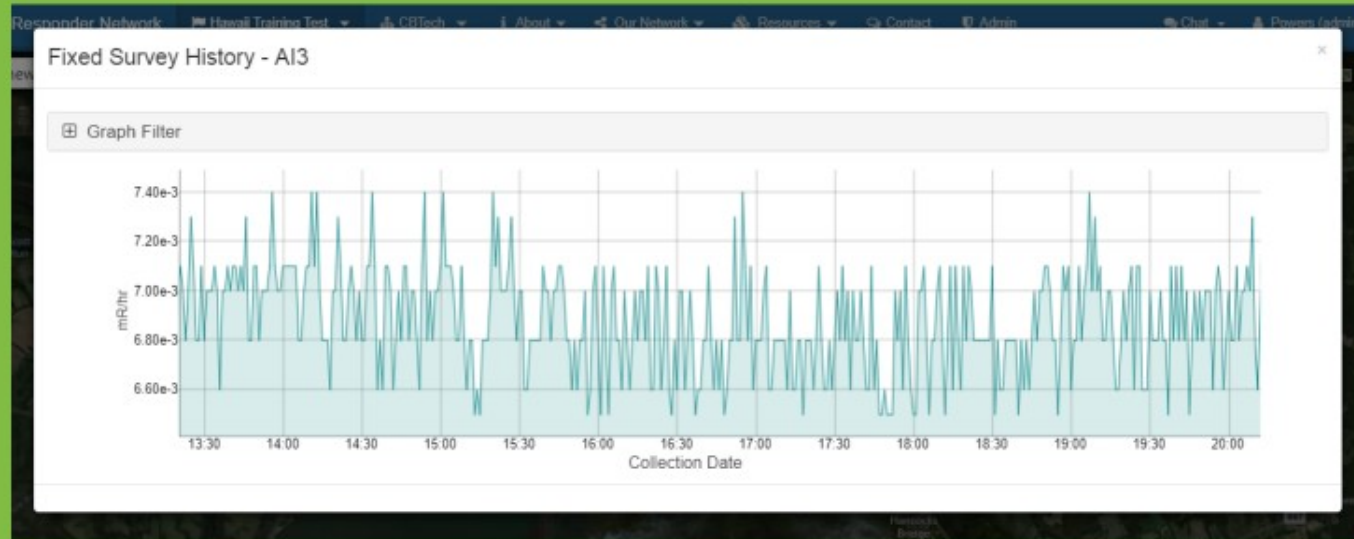


Enter individual records or bulk upload data via the **website**

Thermo
SCIENTIFIC



Integrated **Bluetooth-enabled equipment** can telemeter data directly to the website

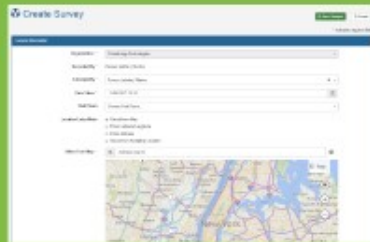


Integrate **fixed monitoring sensors**
to stream minute-by-minute data

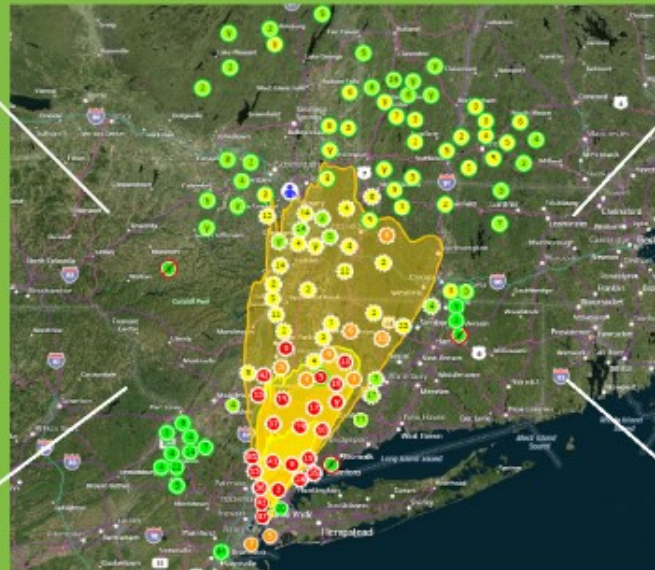
Integrate Raw Data



Mobile application uploads data in real-time, saves data locally when no connection is detected



Enter individual records or bulk upload data via the **website**

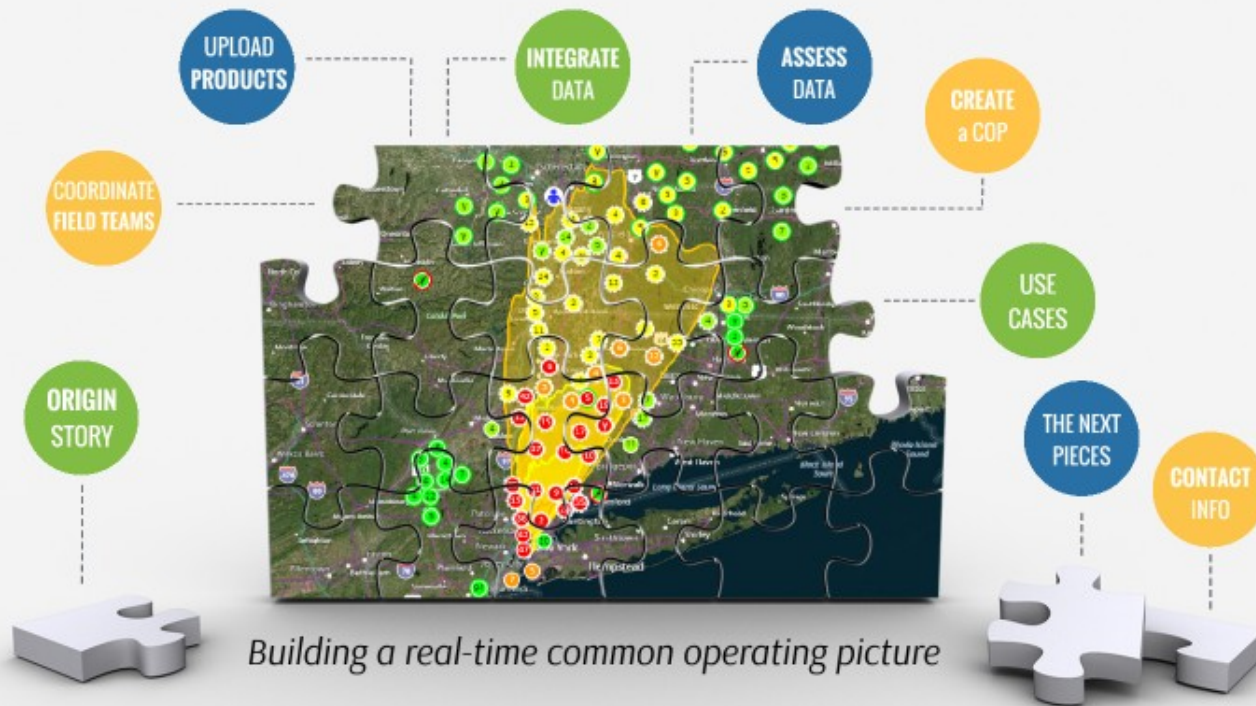


Integrated **Bluetooth-enabled equipment** can telemeter data directly to the website



Integrate **fixed monitoring sensors** to stream minute-by-minute data

RadResponder Network



Assess Data



Approve and reject data

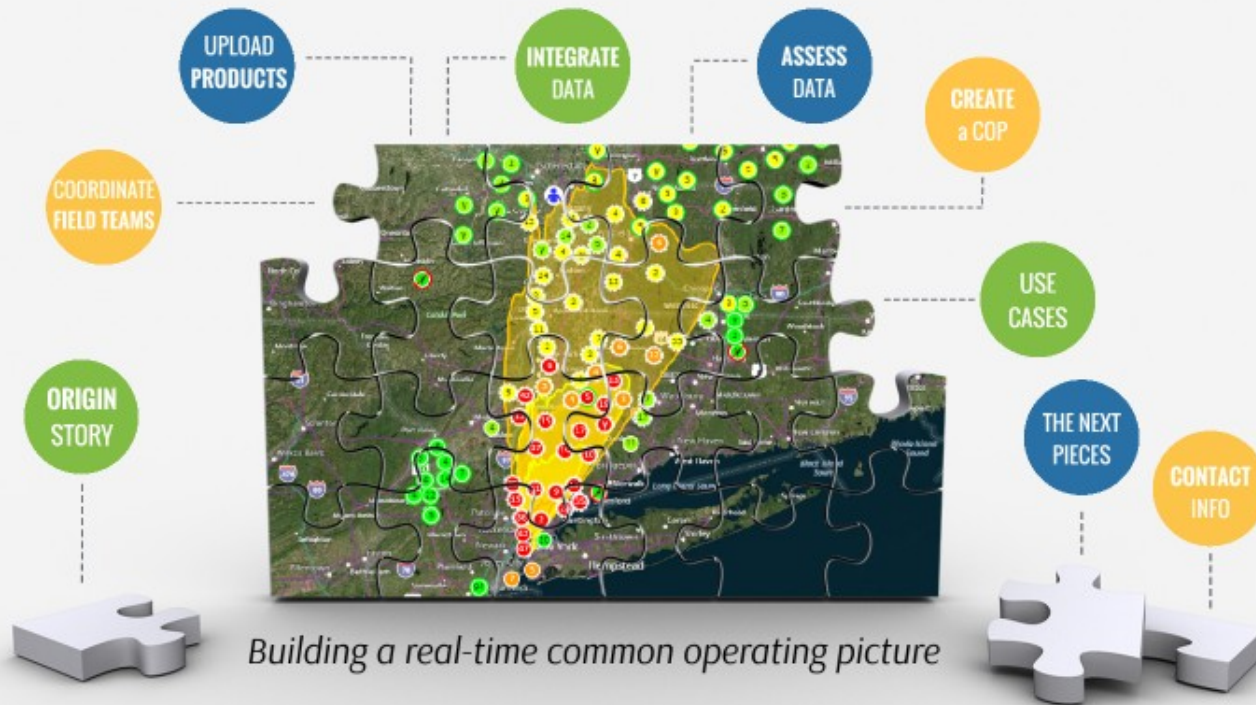


Choose to share only **approved** data with select partners

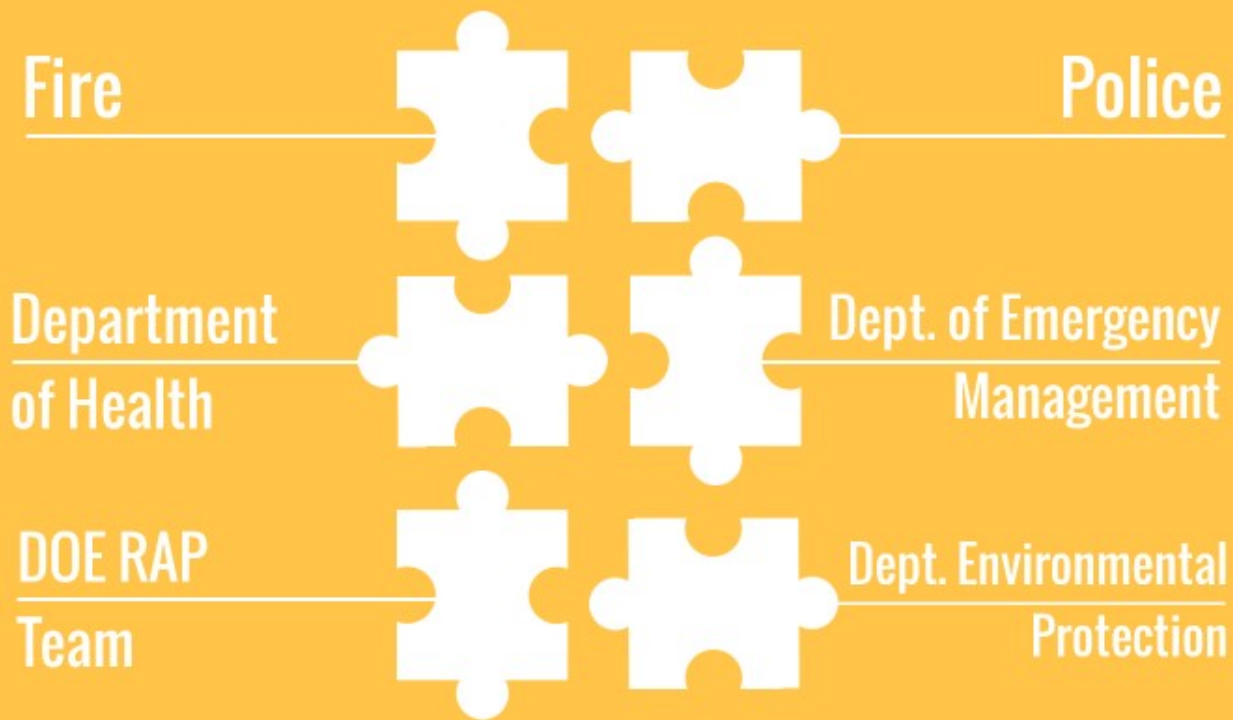


Enable sharing with FRMAC to allow FRMAC to sync data to their system for assessment

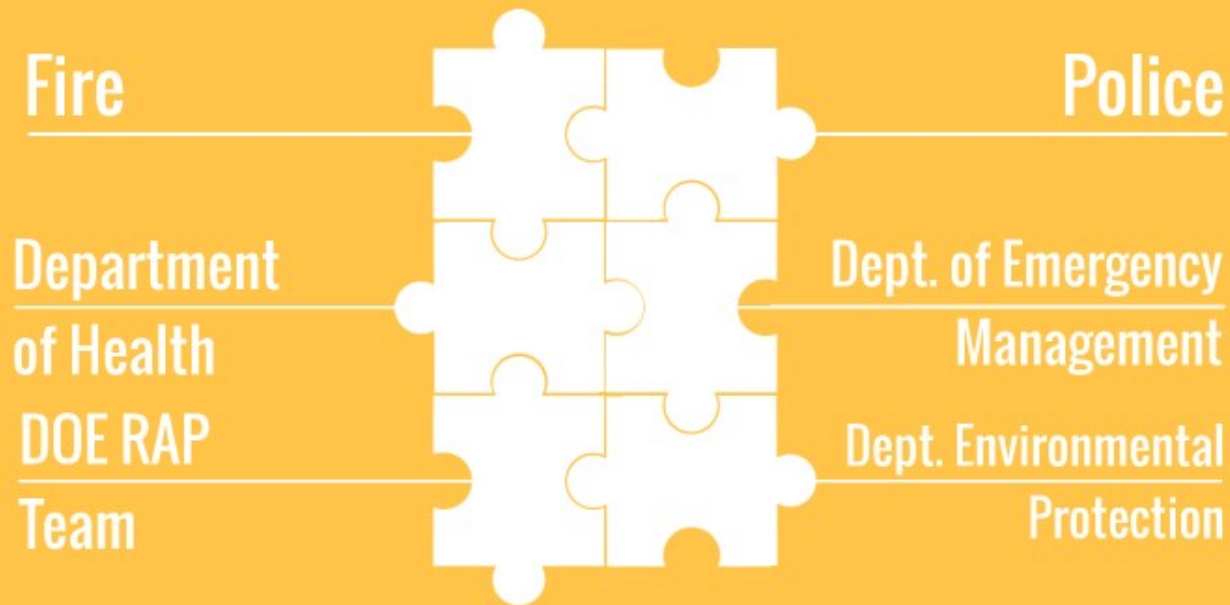
RadResponder Network



Establish Default Partnerships...



...To Share Data in Real-Time...



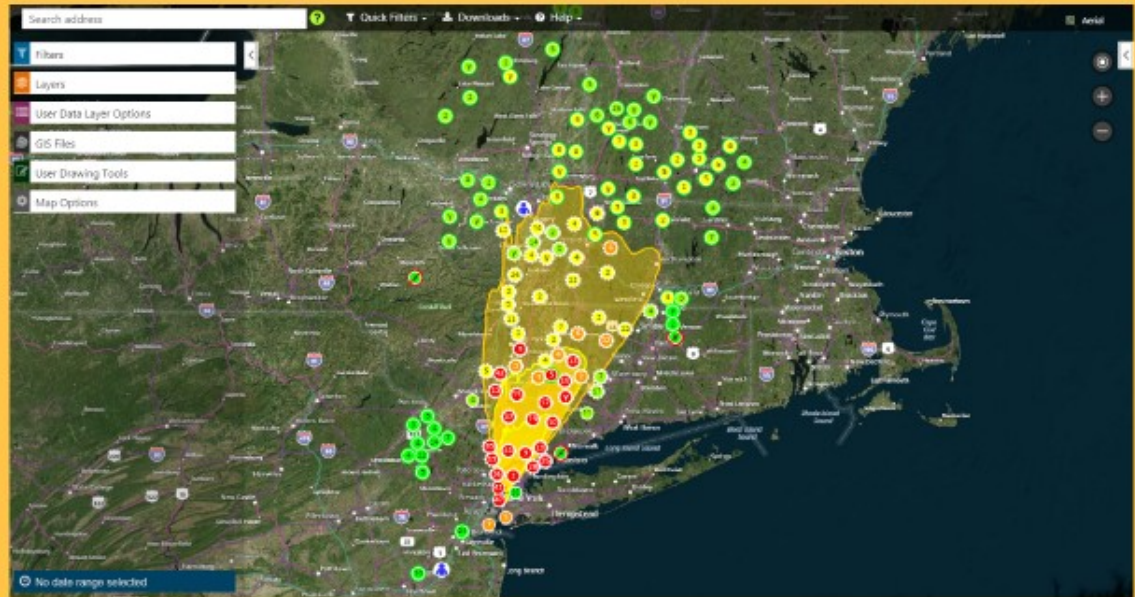
...and Enable Decision-Making



Gotham Shield 2017

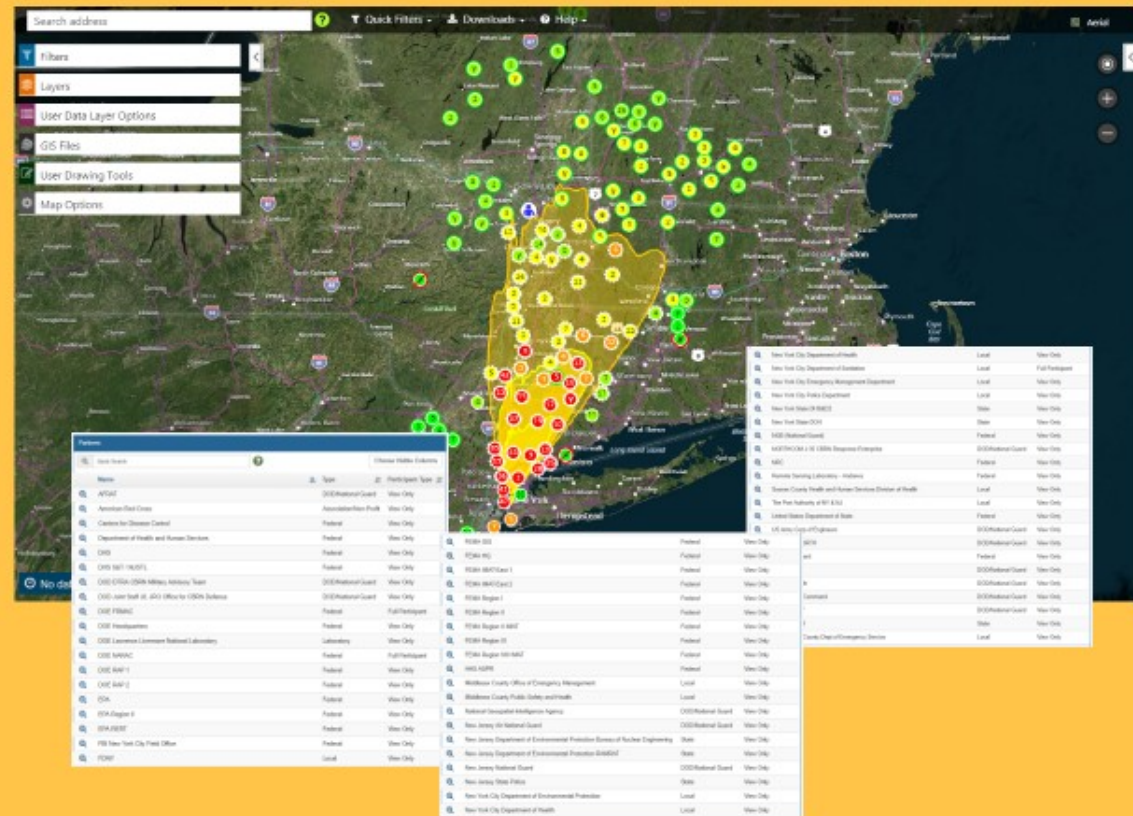
Gotham Shield 2017

- **>1000** Measurements
Uploaded

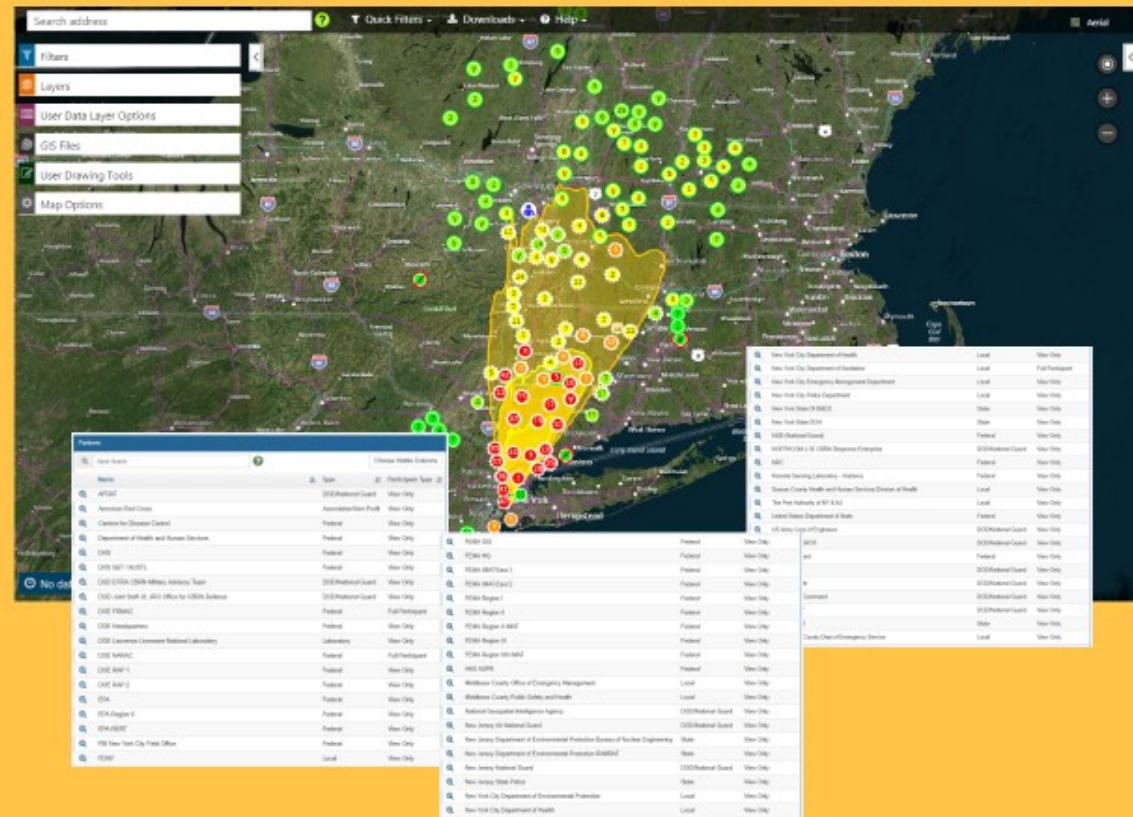


Gotham Shield 2017

- **>1000** Measurements Uploaded
- **60** Partner Organizations

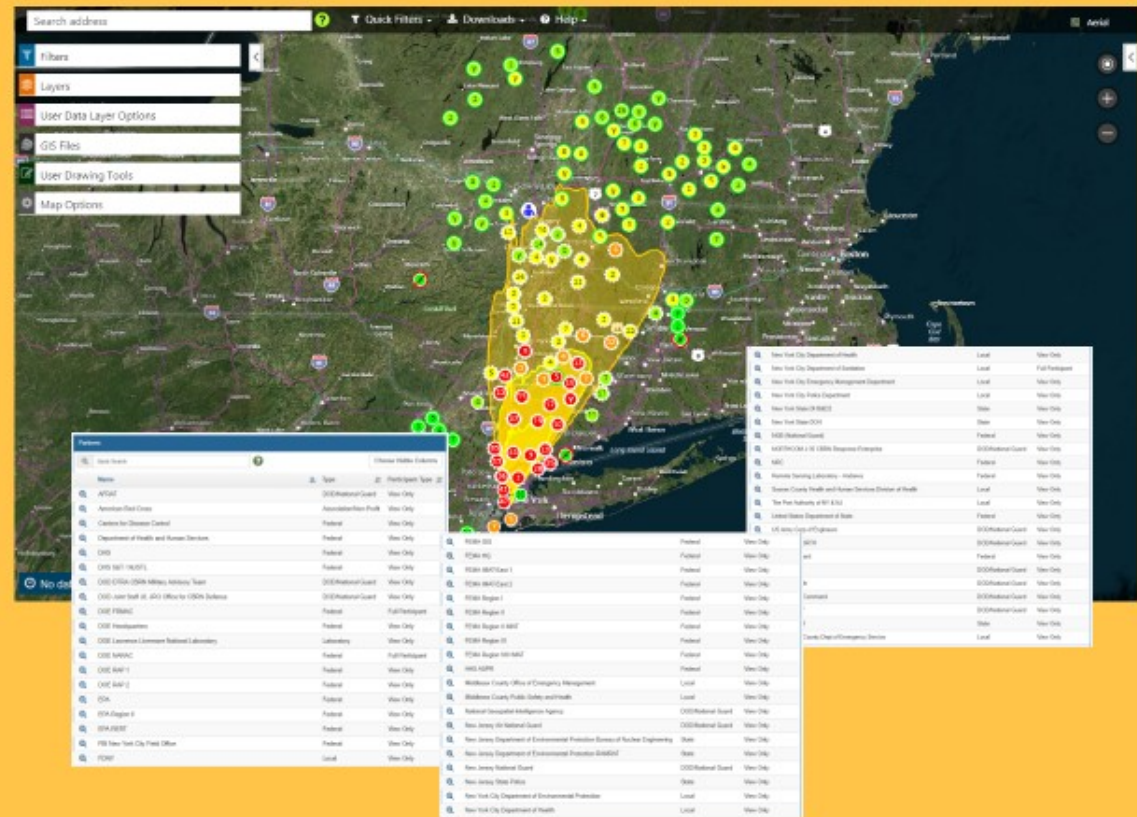


Gotham Shield 2017

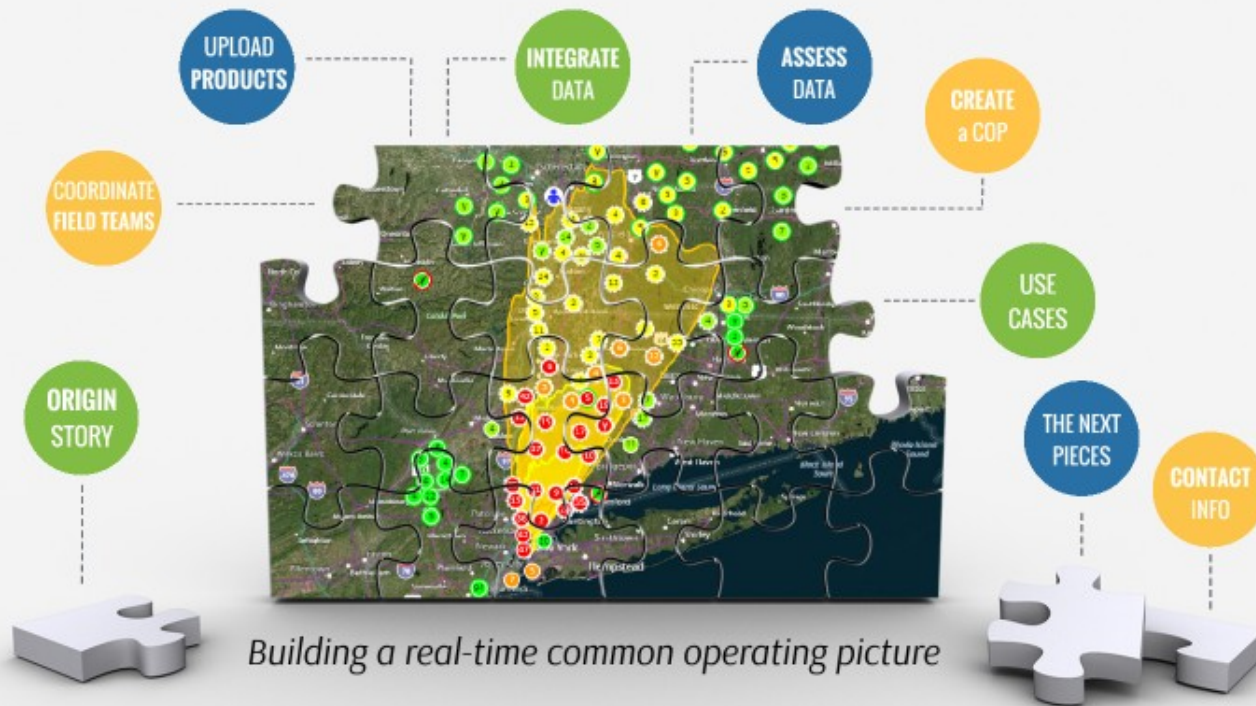


Gotham Shield 2017

x 5



RadResponder Network



Use Cases



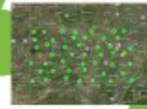
*RDD Exercise,
NE Regional Training*

**Radiological
Dispersal Device**



Northern Lights 2016 Exercise

**Nuclear Power
Plant Release**



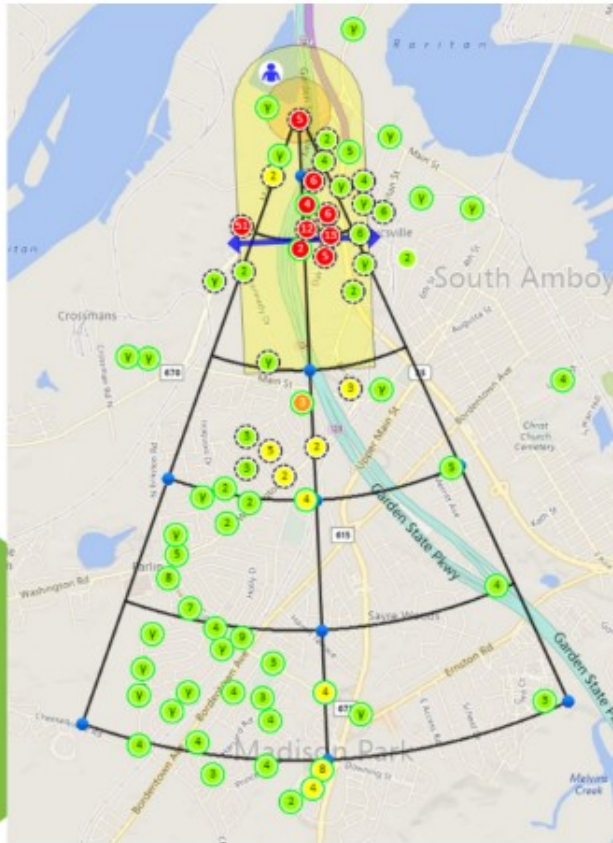
*Kansas Background
Radiation Study*

**Routine Monitoring/
Background Mapping**



Colorado State PRND Exercise

**PRND/Special
Event Monitoring**



*RDD Exercise,
NE Regional Training*

Use Cases



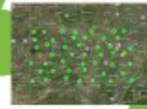
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Use Cases



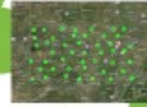
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Northern Lights 2016 Exercise

**Nuclear Power
Plant Release**



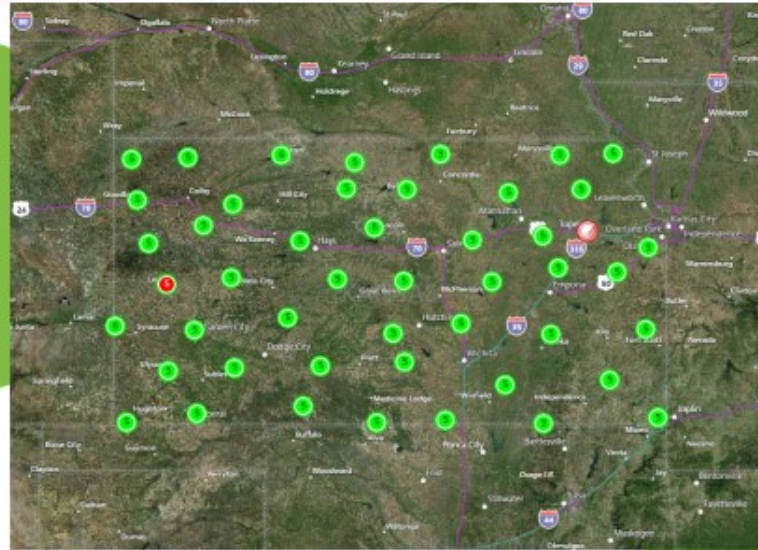
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Use Cases



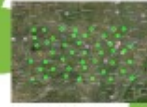
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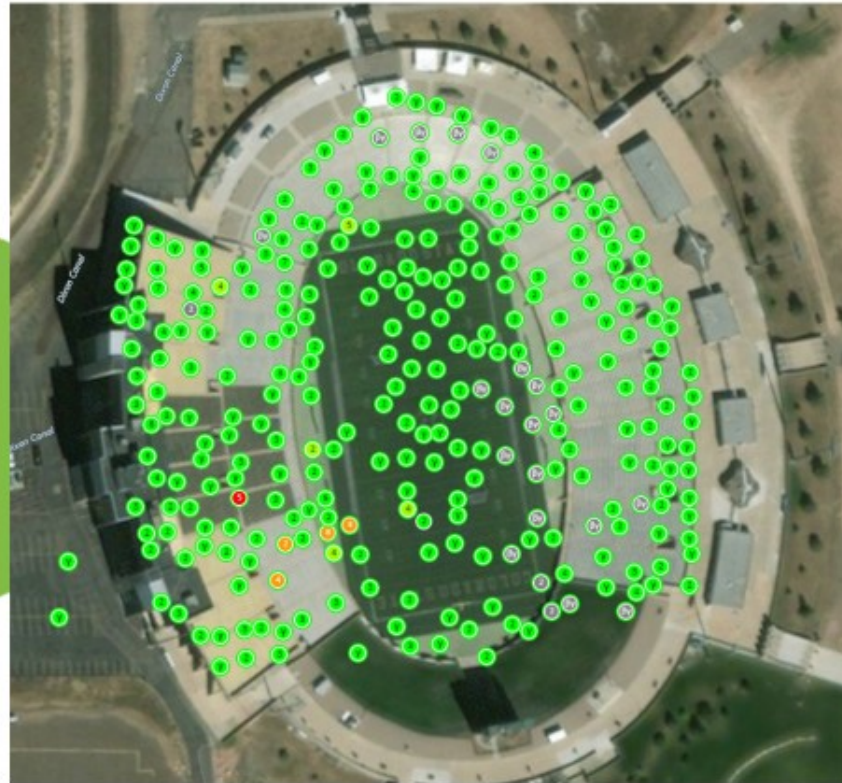
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Colorado State PRND Exercise

**PRND/Special
Event Monitoring**



Colorado State PRND Exercise

Use Cases



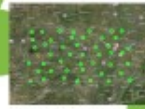
*RDD Exercise,
NE Regional Training*

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Dispersal Device**



Northern Lights 2016 Exercise

**Nuclear Power
Plant Release**



*Kansas Background
Radiation Study*

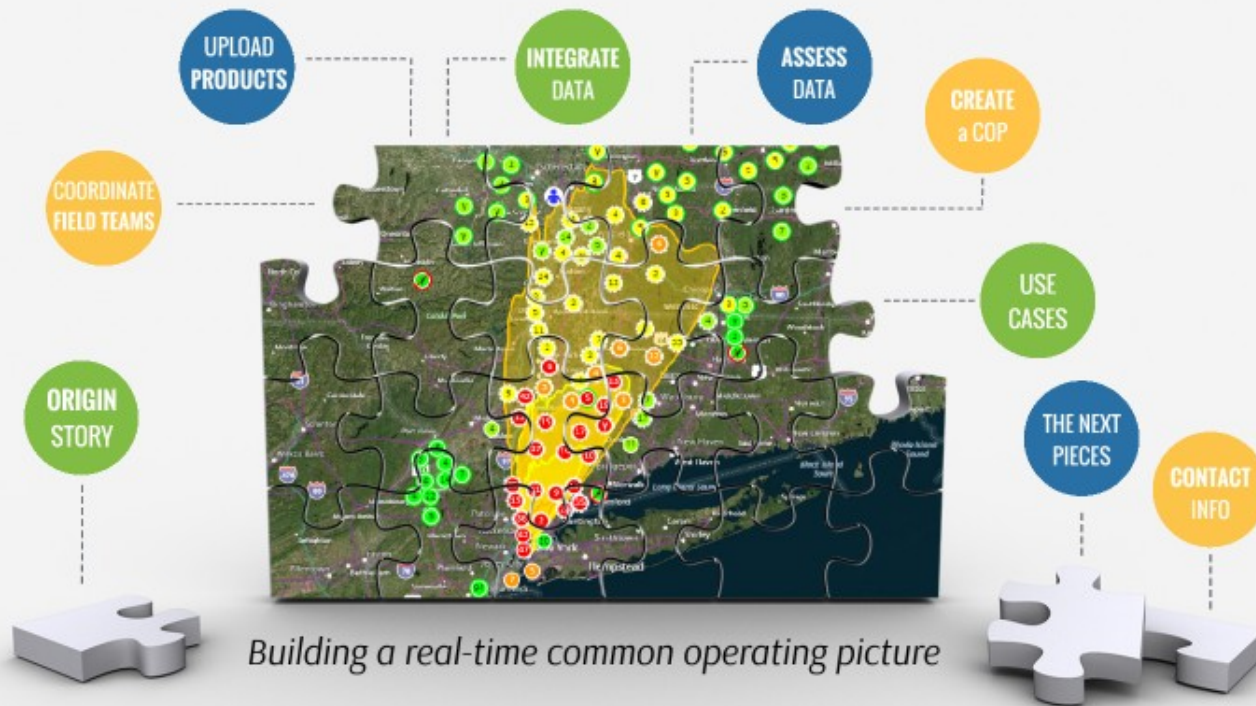
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Colorado State PRND Exercise

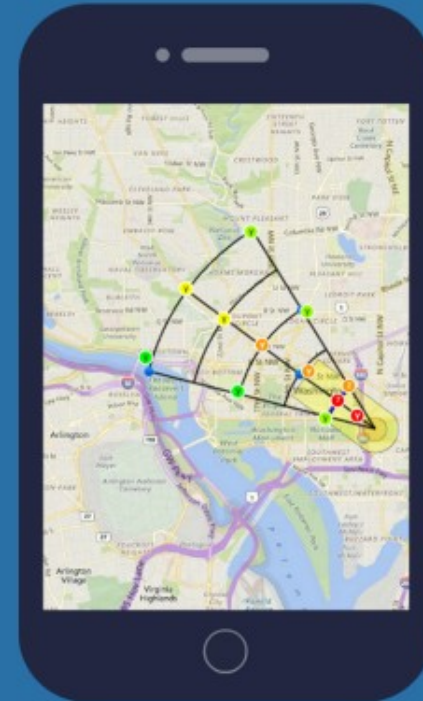
**PRND/Special
Event Monitoring**

RadResponder Network



What's Next?

- Dispatching field teams
- Mobile mapping
- New Windows Application
- Alerts on survey thresholds
- Integrating UAS data
- Create-Your-Own Simulation



The Vision:

CBRN Portal

Chemical

ChemResponder

Biological

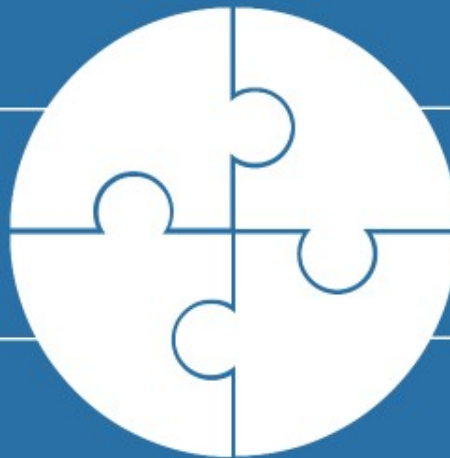
BioResponder

Radiological

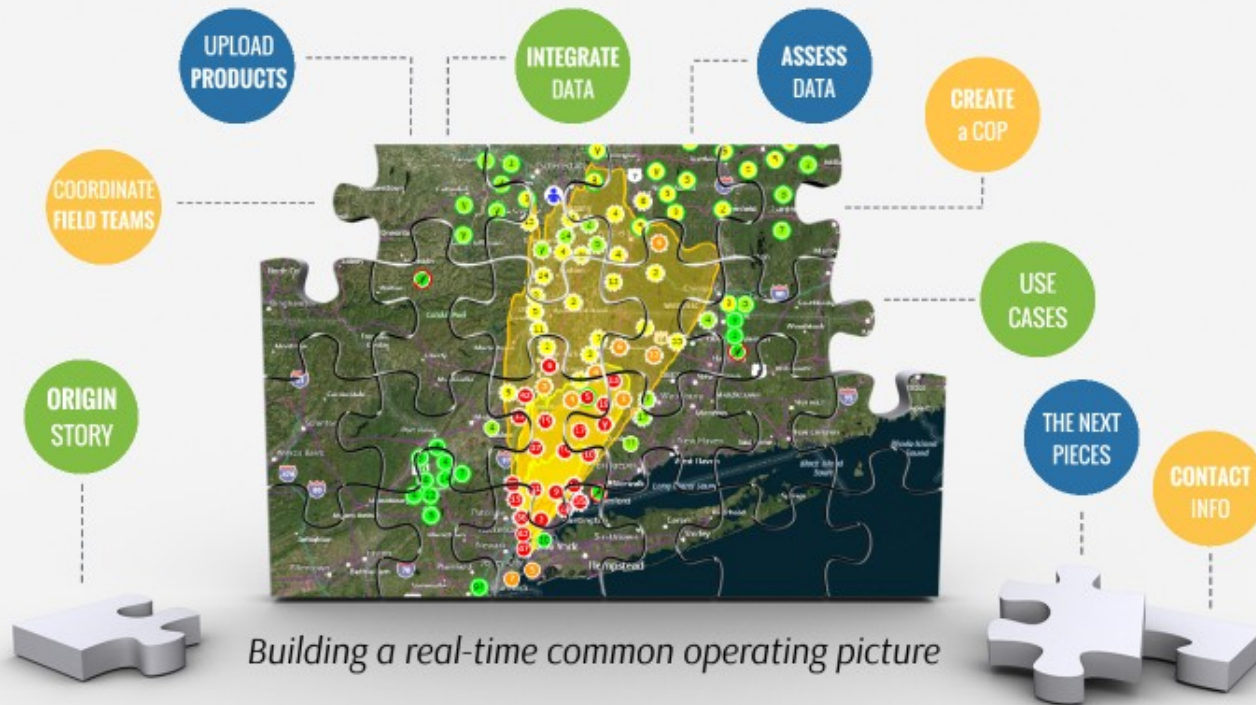
RadResponder

Nuclear

RadResponder



RadResponder Network



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RadResponder Network

