IMAGINE H$_2$O | SWAMP - Company Presentations

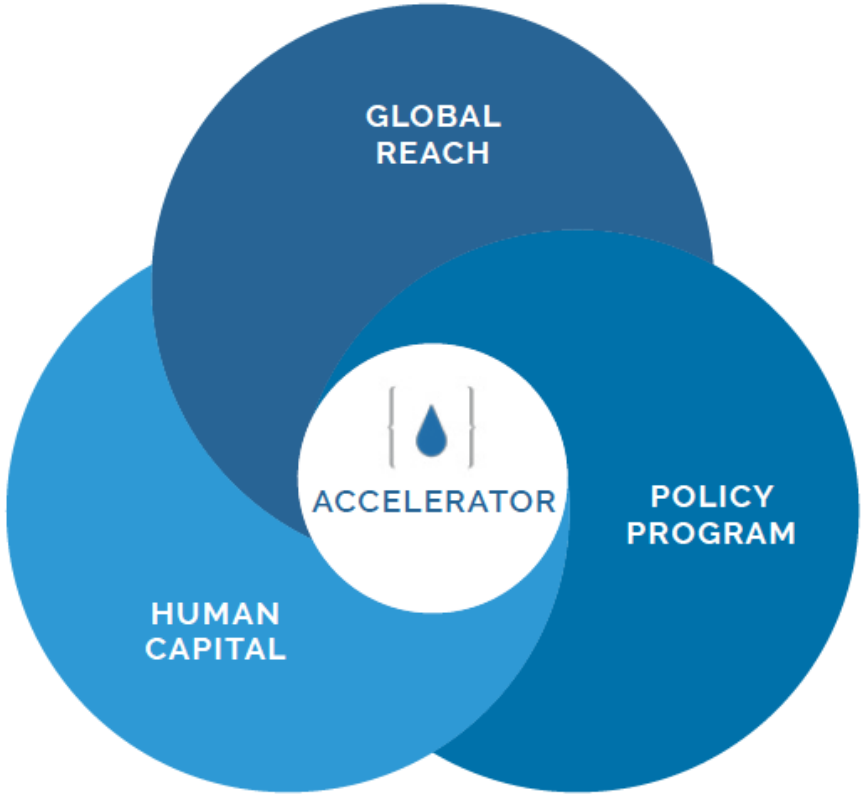
IMAGINE H$_2$O

Welcome

Who we are

IMAGINE H$_2$O

Empower people to develop and deploy innovation to solve water challenges



2017 Water Data Accelerator

IMAGINE H$_2$O

Creating an Unfair Advantage

IMAGINE H$_2$O

1	2	3	4
Capacity Development	Marketing & Visibility	Customer Introductions	Investor Introductions

Jan — Oct

• 60+ Mentors • Pitch Ninjas • Needs Assessment • 2nd Application	• Design • Blog/Profile • Media • Branding	• Beta Partners • SF Week/Gala • ACE17 • WEFTEC17	• 6 rounds open • 2016: 40+ Intros • Online Pitches • Investor Partners

Also
- Webinars
- 1 to 1 advice

Building
- Global
- Policy
- Pilots
- Funding

IH2O Policy Program

IMAGINE H$_2$O

45 Applications
4 Finalists

BerkeleyLaw
UNIVERSITY OF CALIFORNIA
Center for Law, Energy & the Environment

WATER AND POWER LAW GROUP PC

got produce?®

Water Policy Summit
100+ Attendees

MILKEN INSTITUTE
CALIFORNIA CENTER

1 Illuminate Barriers → 2 Source Solutions → 3 Enable Deployment

Presenting Today

IMAGINE H$_2$O

1. Ayyeka
2. Ceres Imaging
3. FREDsense
4. WellIntel

AYYEKA

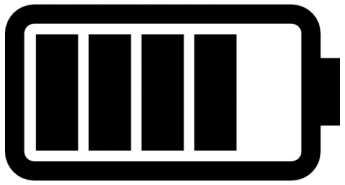
RETHINK REMOTE MONITORING

Prepared for:
SWAMP Symposium, June 2017

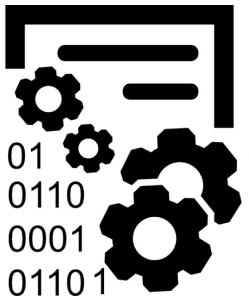
Prepared by:
Sivan Cohen, P.E., Ayyeka Inc. General Manager

THE CHALLENGE IS OVERCOMING
COMPLEX & FRAGMENTED FIELD DATA COLLECTION

CYBER SECURITY



POWER SUPPLY



DATA OVERLOAD

APPLICATION SPECIFIC

COMMUNICATION

BUSINESS MODEL

AYYEKA

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ANY TYPE OF DATA, ANY SENSOR, OVER ANY COMM NETWORK,
USING ANY SERVER, INTEGRATED INTO ANY SOFTWARE PLATFORM

Infrastructure and Environment

Sensing and Sampling

Collection and Communication

Data Display and Management

Schneider Electric
GE
VALOR WATER ANALYTICS
EMERSON Process Management
Trimble
IBM
SEDARU
dropcountr
WaterSmart SOFTWARE

SCADA and 3rd Party Software

AYYEKA'S WAVELET REMOTE MONITORING KITS

AYYEKA

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AYYEKA

SIMPLE, STREAMLINED, FLEXIBLE, AND SECURE
FIELD-DATA ACQUISITION ACROSS INDUSTRY SEGMENTS

ENVIRONMENTAL

WATERSHED

WATER QUALITY

WASTEWATER

OIL & GAS

AYYEKA

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QUESTIONS?

Sivan Cohen, P.E.
General Manager
sivan.cohen@ayyeka.com
+1 (310) 488-5238

www.ayyeka.com
info@ayyeka.com

AYYEKA

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ceresimaging

We use aerial spectral imagery to optimize water and nitrogen

347 599 3669

mike@ceresimaging.net

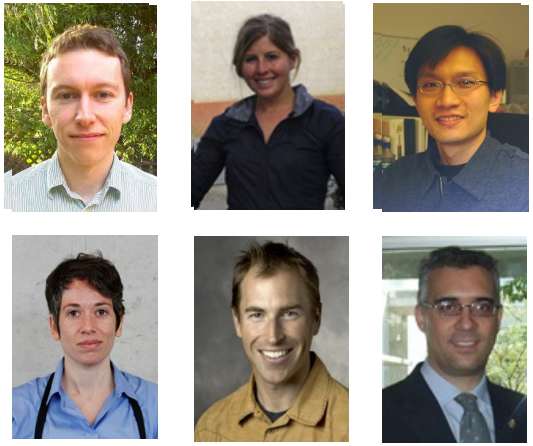
About Ceres Imaging

Next-gen imaging as a service

Proprietary nutrient and water imagery

- Founded in 2013 out of Stanford
- Team of 30+ people, growing to 40
- 300,000+ paying acres of customers
- Validated by California and Australian universities

Developed by the best spectral imaging talent



7 PhDs in spectral imaging, agronomy, data science (Stanford, Berkeley, UC Davis)

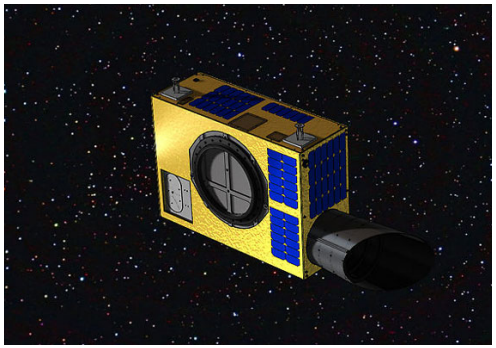
Efficient Data Acquisition | Three imaging platform options

Drone

1 to 200 acres

Legal issues, high resolution

Satellite



50,000+ acres

Low resolution
Suboptimal frequency

Airplane

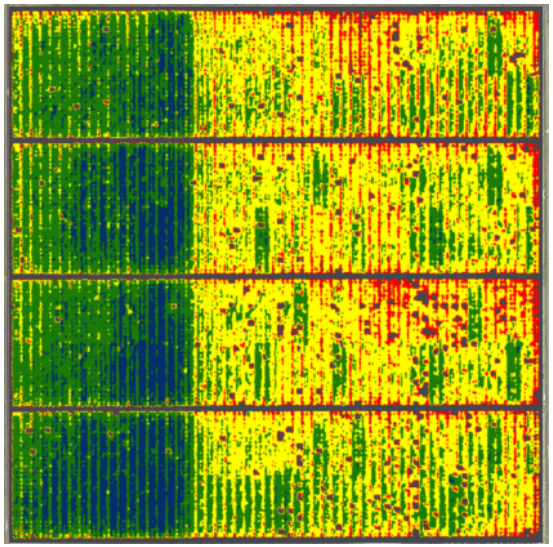
200 to 10,000 acres

High resolution

Ceres has full spectrum analysis: water stress, canopy vigor, and chlorophyll

UC Cooperative Extension 160 acre almond orchard

Water stress



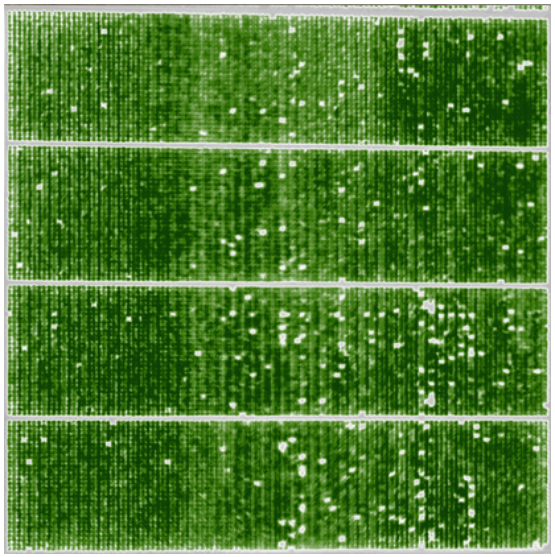
Unstressed

Low

Moderate

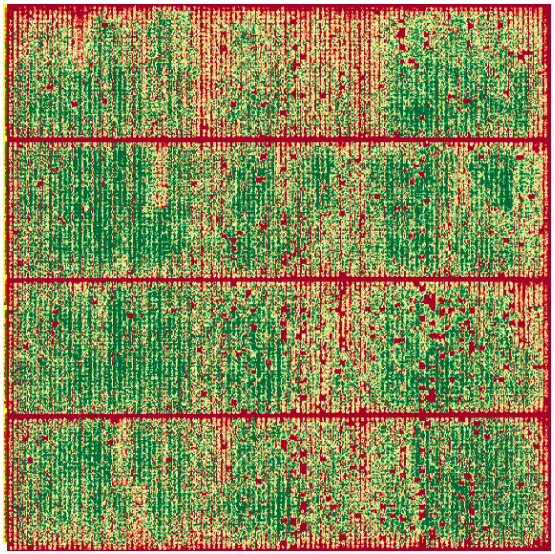
High

Canopy vigor (NDVI)



Low vigor ⟷ High vigor

Chlorophyll content

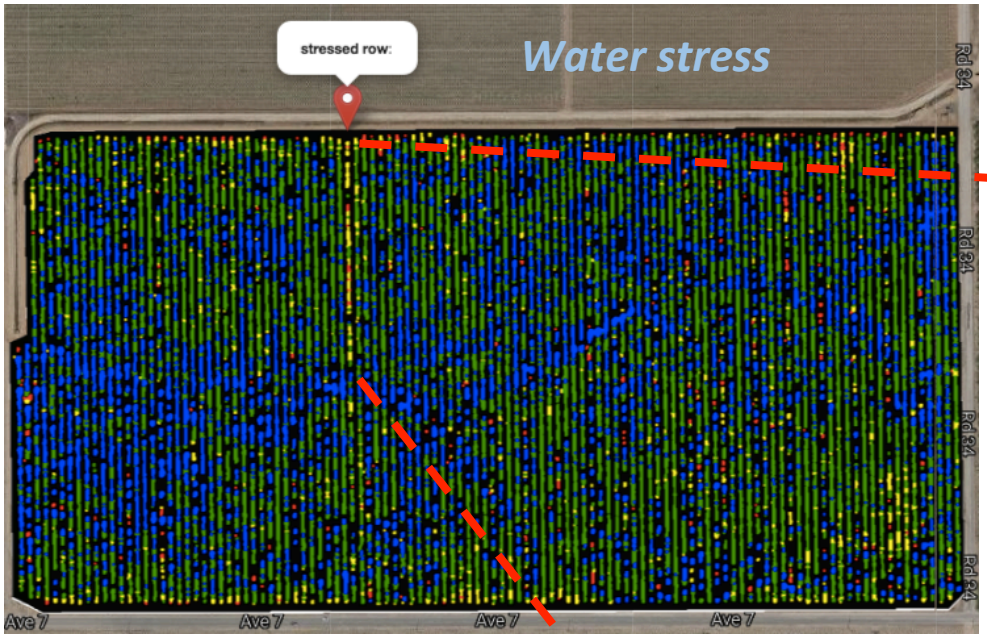


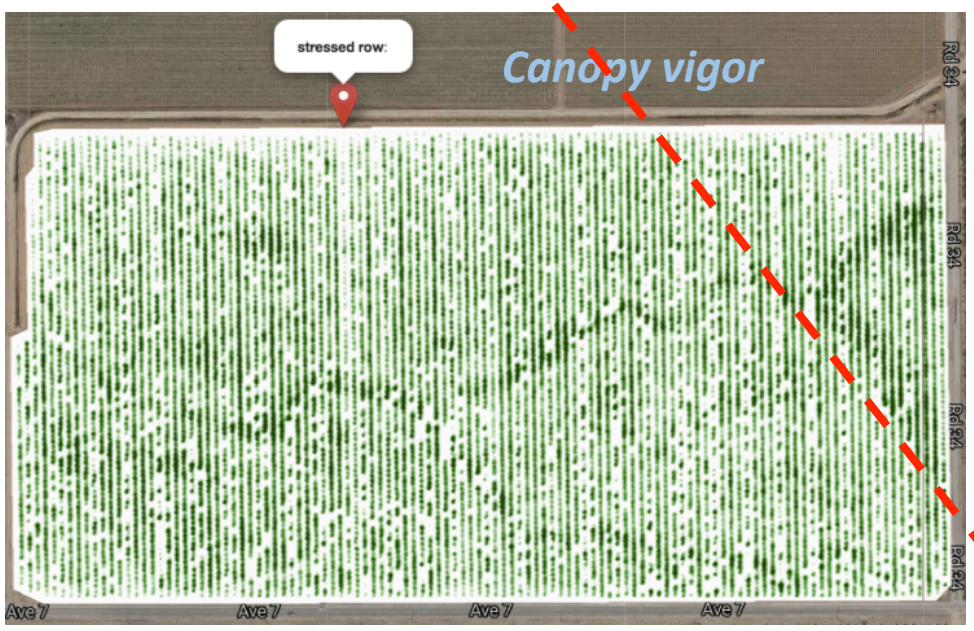
High Low

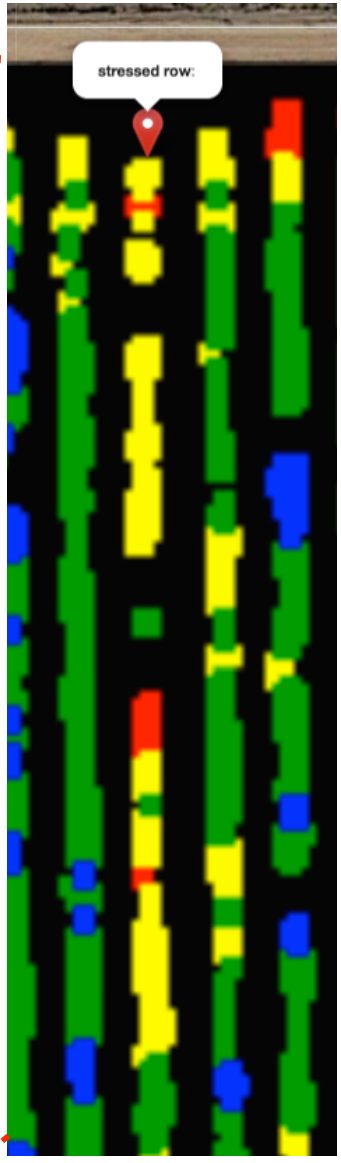
Accurate and high resolution

One row clearly showing water stress.

Stress has occurred long enough to affect foliage/vigor of trees.



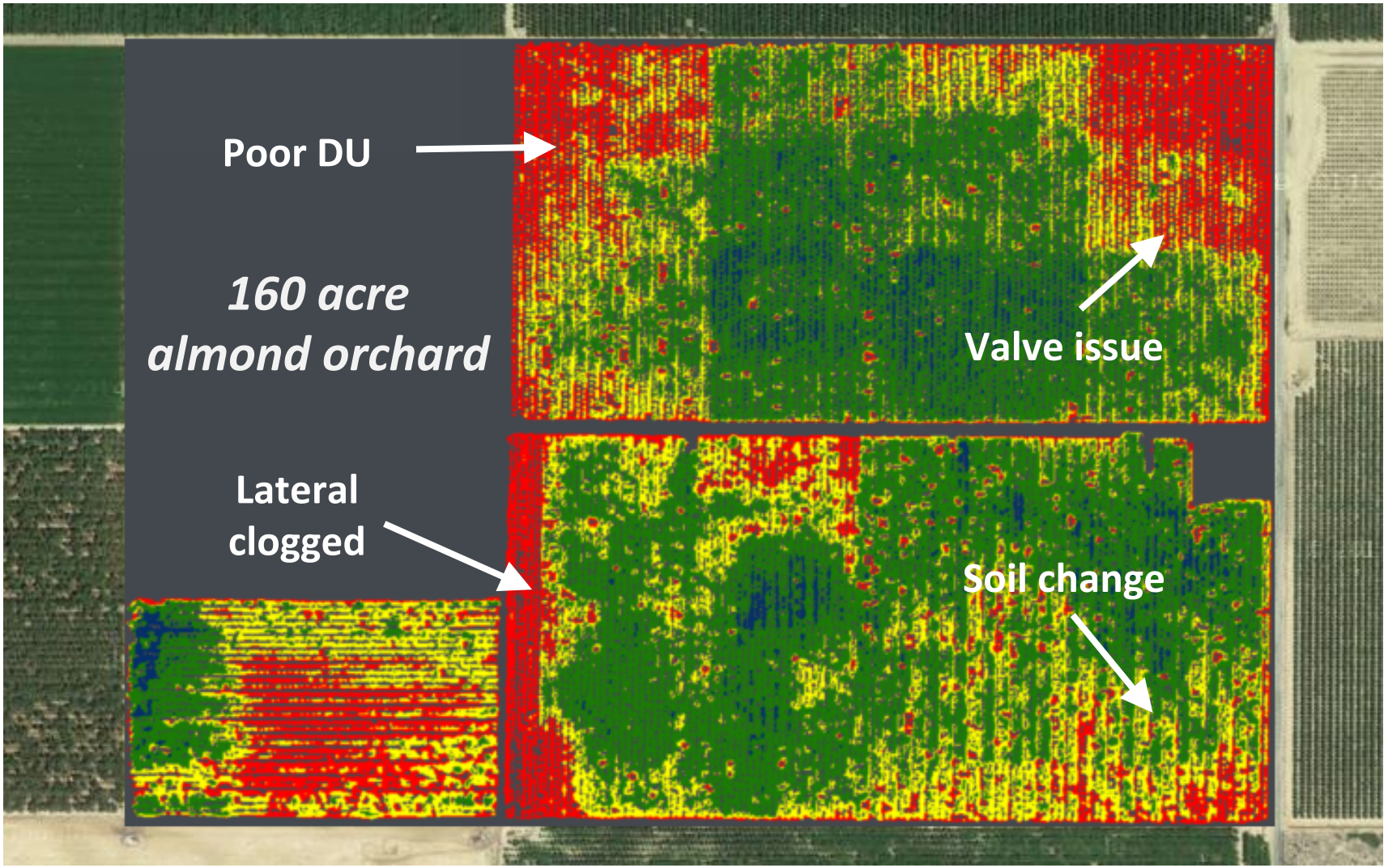




Distribution uniformity

160 acres of almonds

Water stress



Stem water potential *(negative bars)*

20-24 16-20 12-16 8-12

Applicability|
Success among broad commodities, crop sizes, and locations

- **Crop Clientele:** Walnuts, Almonds, Grapes, Pistachios, Peaches, Cherries, Tomatoes, Corn, Cotton, Alfalfa, Sweet Potatoes, Cattle, etc.
- **Crop size Range:** 30 acres – 30k+ acres
- **Location:** Aerial imaging enables accessibility of coverage to geographically diverse terrain), expansive fields (500 acres+), and non-contiguous blocks

ceresimaging

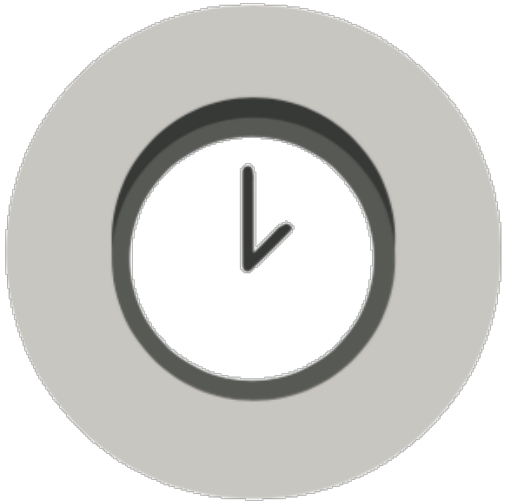
Mike Guerin
VP, Business Development
mike@ceresimaging.net
347 599 3669

FREDsense™
Technologies

SWAMP Presentation

June 29, 2017

MEASURING WHAT'S IN YOUR WATER TAKES…



TIME

Multiple Days

MONEY

Collecting, Shipping, Analyzing

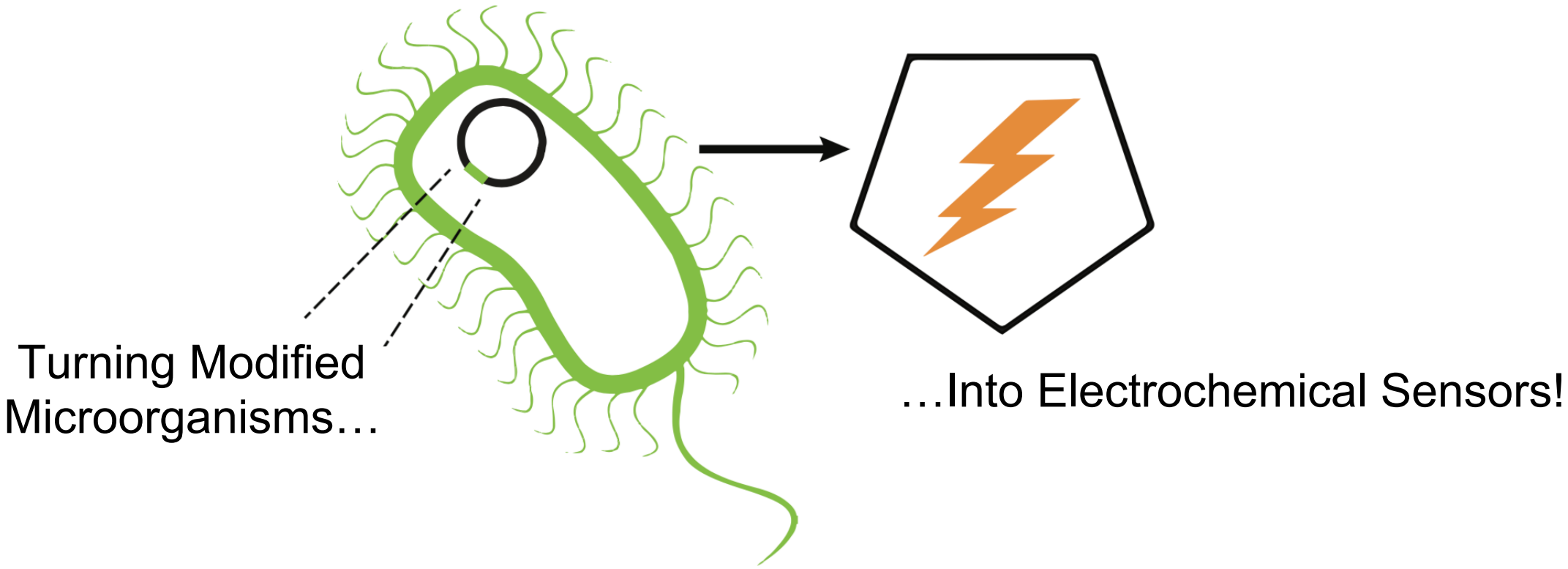
SENSITIVITY

Limited Accuracy

WE HAVE THE SOLUTION: MEET FRED™

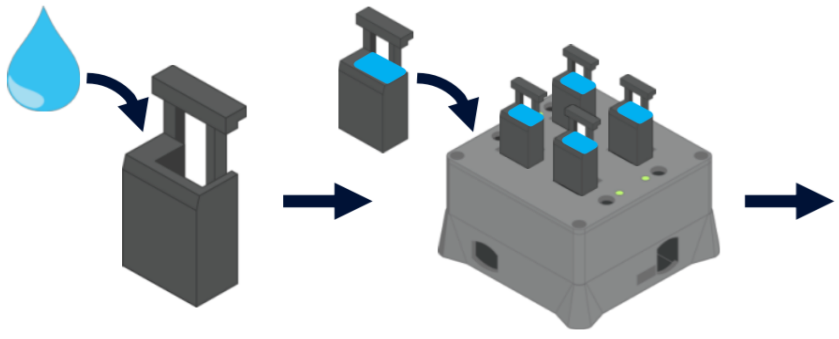
Field Ready Electrochemical Detector:

A portable, patent-issued, and sensitive chemical detection platform



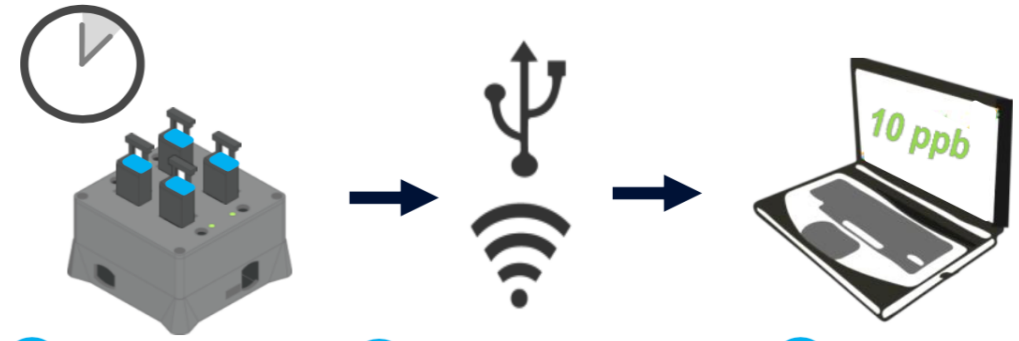
WE HAVE THE SOLUTION: MEET FRED™

How Does It Work?



1 ADD WATER SAMPLE TO FRED CARTRIDGE

2 PLACE MULTIPLE FRED CARTRIDGES IN DETECTOR



3 WAIT FOR ~ 1H

4 DETECTOR MEASURES AND TRANSMITS RESULTS

5 RESULTS DISPLAY CONTAMINANT CONCENTRATION

Prototype Unit

PILOT ROI's and FIRST REVENUES

FRED reduces operational costs

Reduce Rework, Prevent Repeated Visits to Site

Decrease Time to Make Decisions.

Arsenic

Groundwater
Surface Water
Waste Water

FRED is a Multi-Parameter Tool

Waste Water Applications – Custom Sensors For Fast Decision Making

Process Decisions and Integration

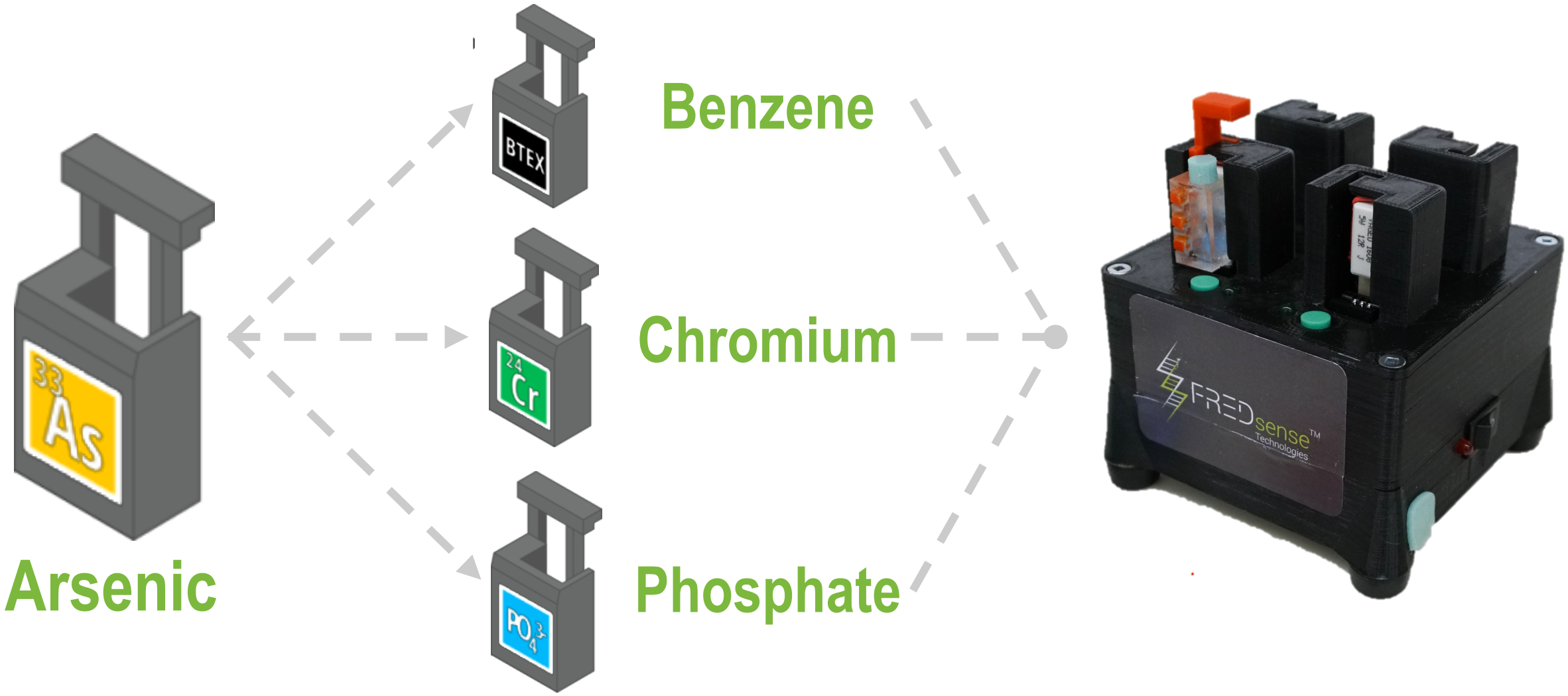
Custom

AMERICAN WATER

City of Phoenix

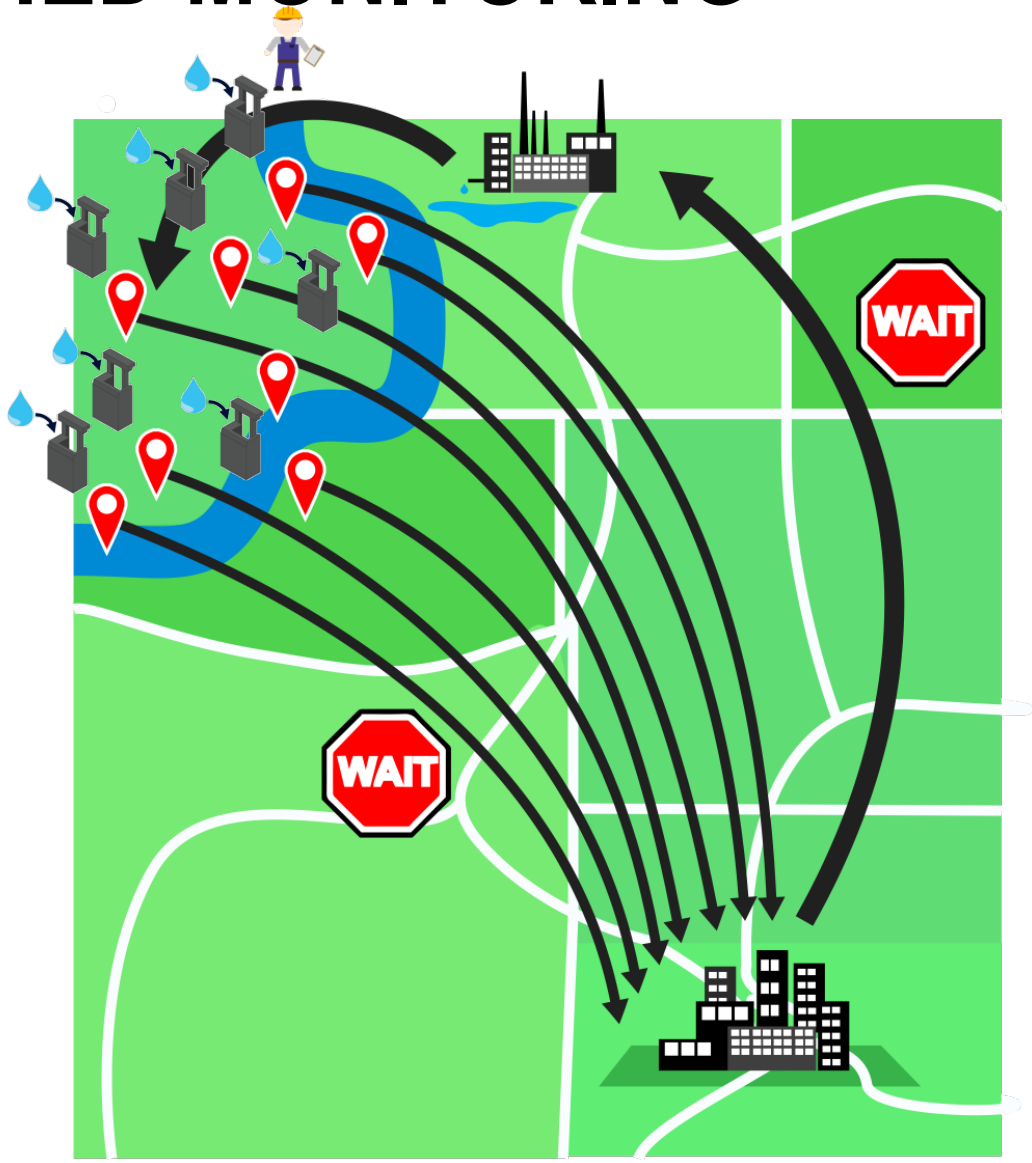
ALBERTA INNOVATES

FRED™ IS A PLATFORM NOT A PRODUCT



WATERSHED MONITORING

1. TRAVEL TO SITE
2. SAMPLE VARIOUS SITES
3. REPORT DATA IN 60 MINUTES

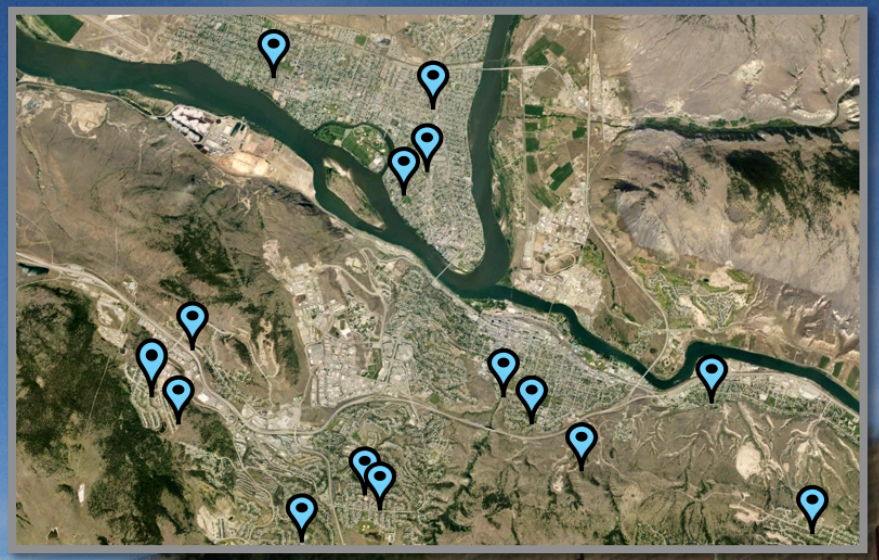


FREDsense™ Technologies

Water Monitoring Is Out of Date

FRED is Fast, Easy and Scalable

questions@fredsense.com



Community Groundwater Networks

WELLNTEL

JUNE 2017

SGMA

A groundwater sustainability plan includes

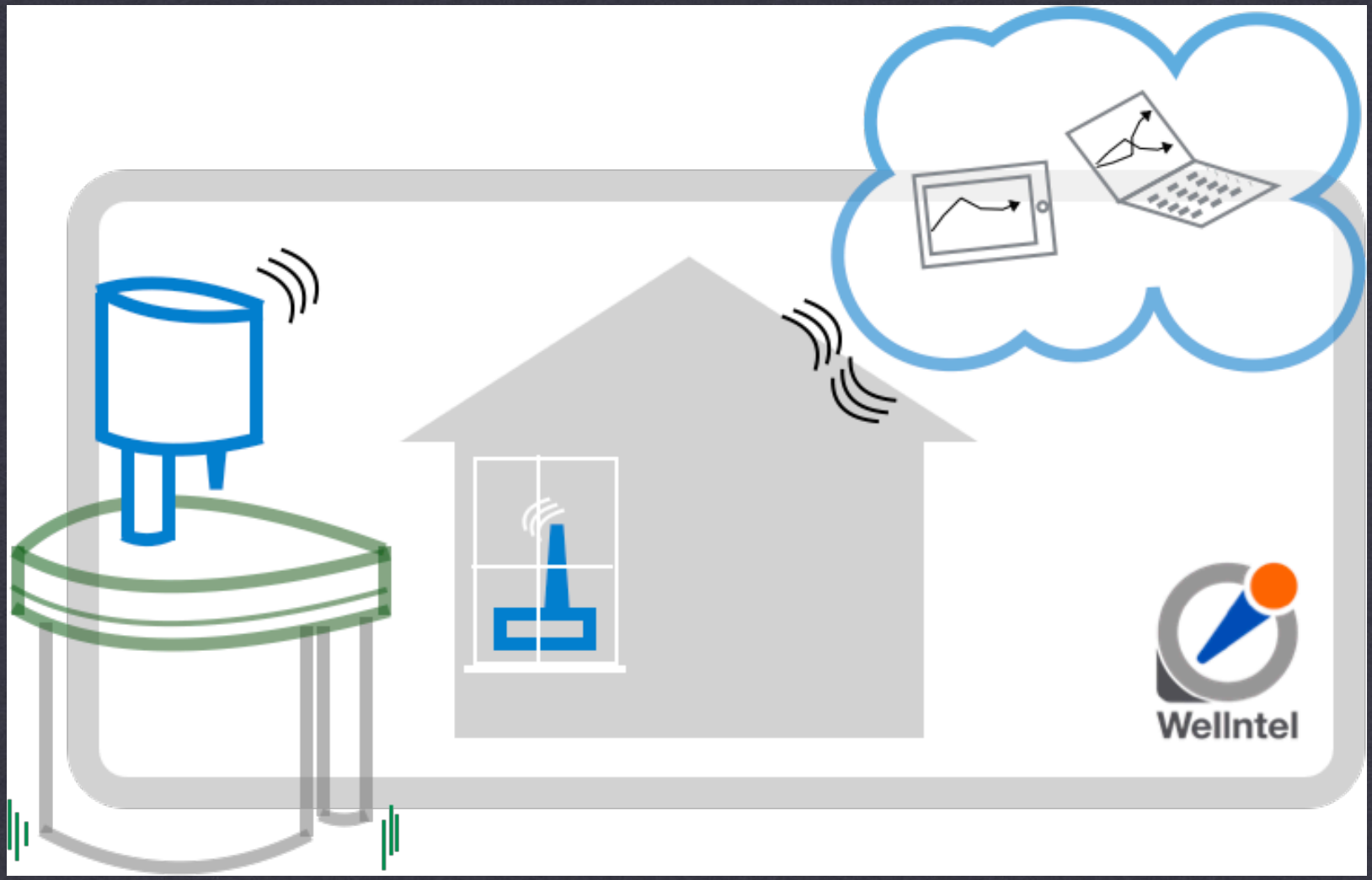
groundwater levels, groundwater quality, subsidence, and groundwater-surface water interaction

… and encourages

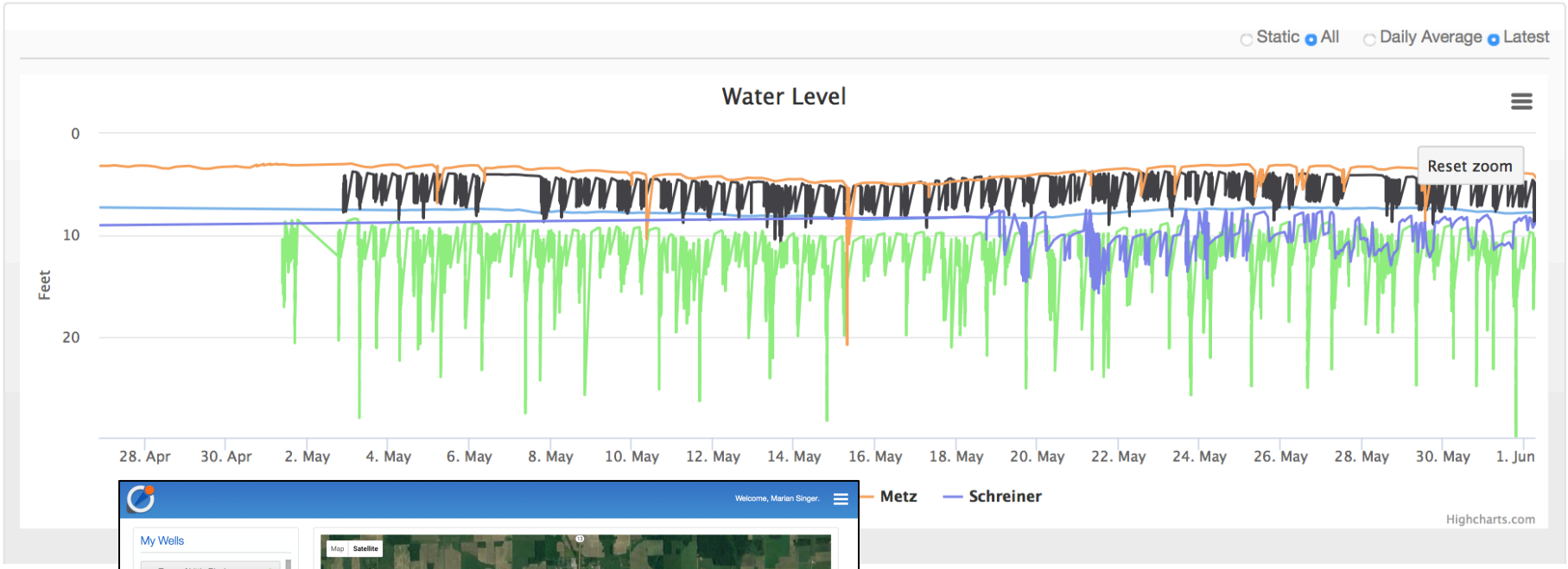
the active involvement of diverse social, cultural, and economic elements of the population within the groundwater basin

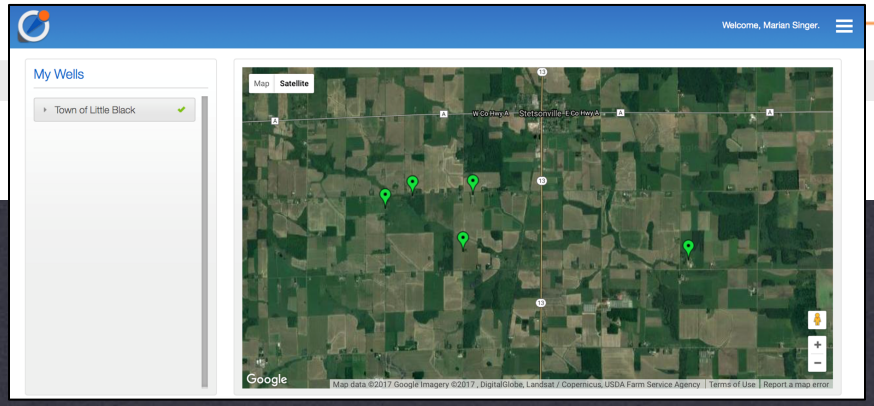
WELLNTEL

WellIntel groundwater information system



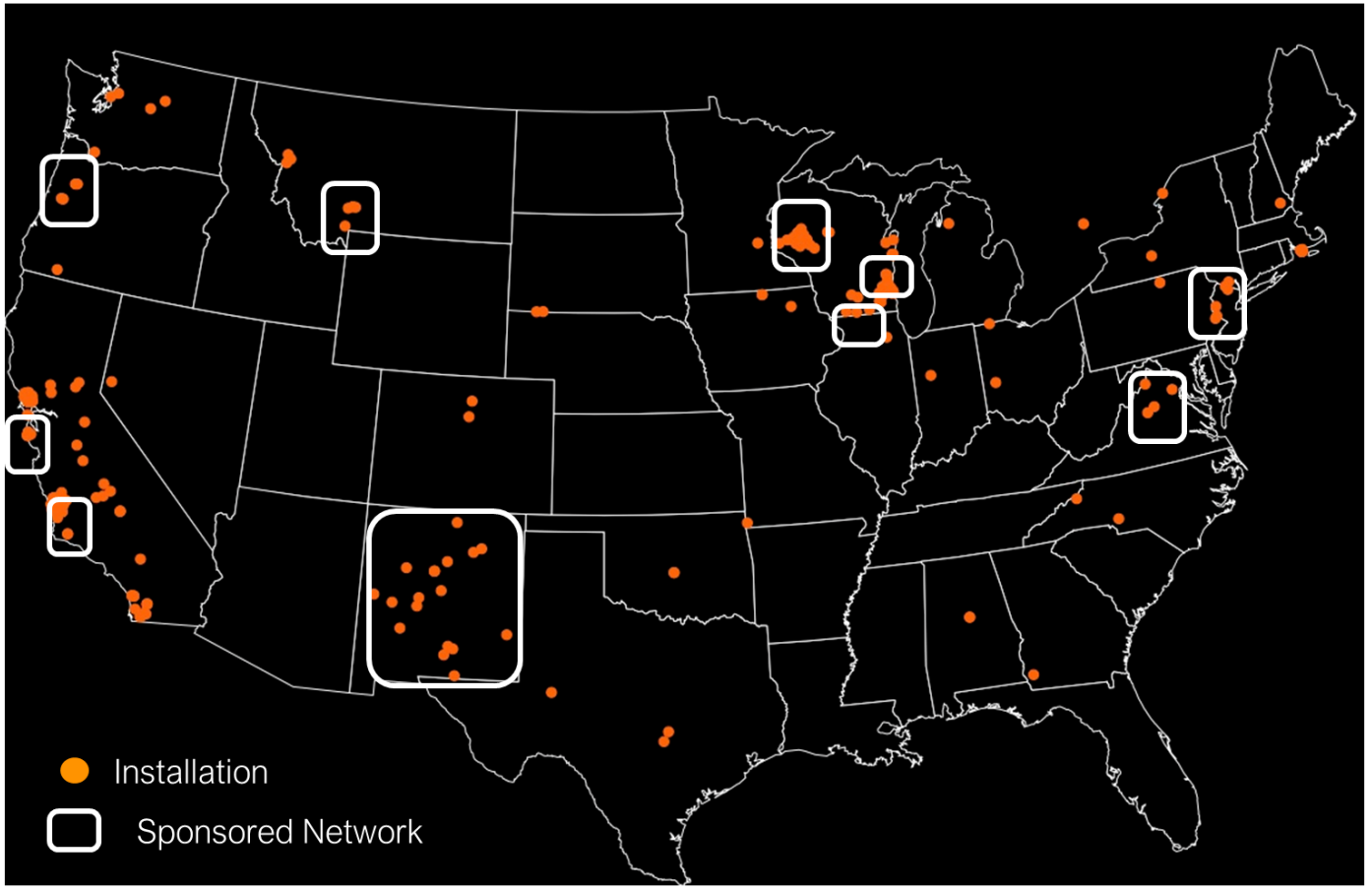
Wellntel dashboard





WELLNTEL

WellIntel networks



WELLNTEL

Thank you

WELLNTEL

IMAGINE H$_2$O

Thank You

nashelley@imagineh2o.org