FREDsense™ Technologies

Building Better Biosensors

ACAMP Advanced Monitoring Systems Seminar

June 1, 2016

Do You Know What's In Your Water?

FREDsense™ Technologies

BUT MEASURING WHAT'S IN YOUR WATER TAKES…

TIME

Multiple days

MONEY

Expensive

SENSITIVITY

No accurate test exists to measure contaminates at the source

RESULT

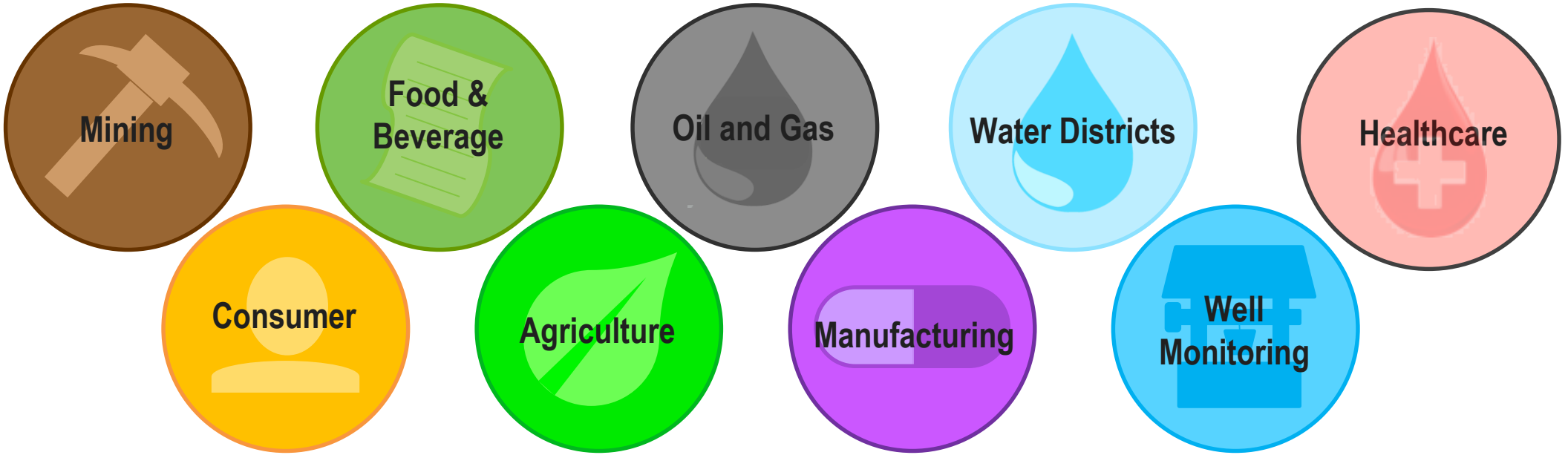
Missed Contamination

Delayed Remediation

Increased Operational Cost

Risk of Health Impact

Industry and Government NEED to Monitor Water Quality



$3B Market

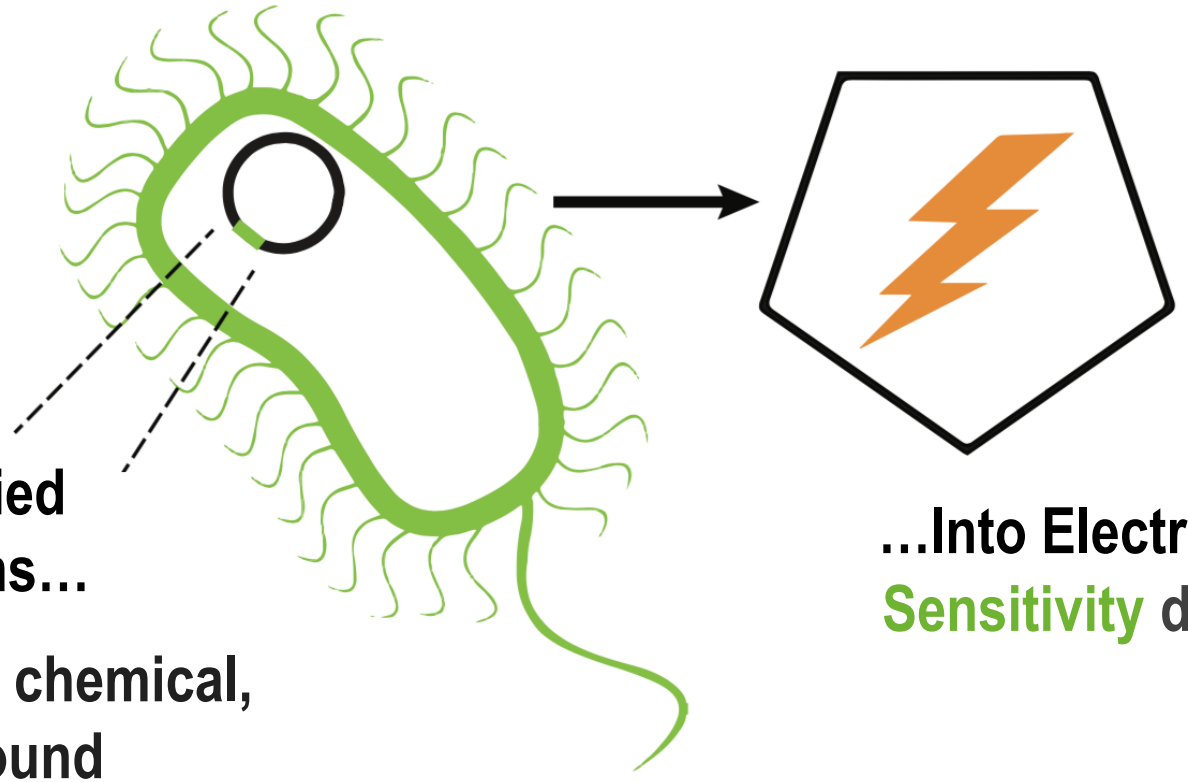
Global water monitoring is multi-billion dollar business & growing at over 7.5% per year*

*MarketsandMarkets Environmental Monitoring Market Freedonia Group 2013

WE HAVE THE SOLUTION: MEET FRED™

Field Ready Electrochemical Detector:

A portable, cost effective, and sensitive chemical detection platform



Turning Modified Microorganisms…

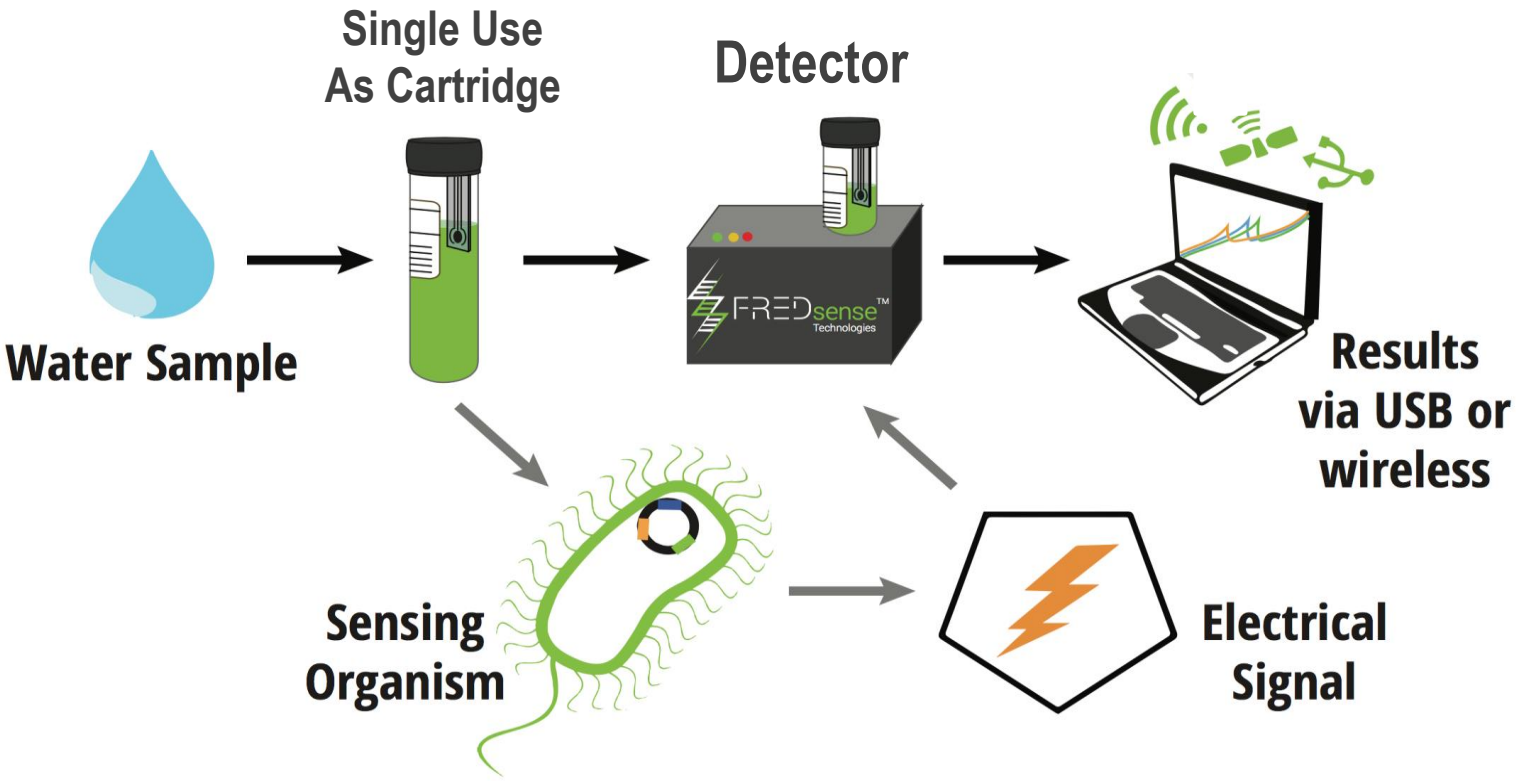
Customizable for any chemical, metal or compound

…Into Electrochemical Sensors!

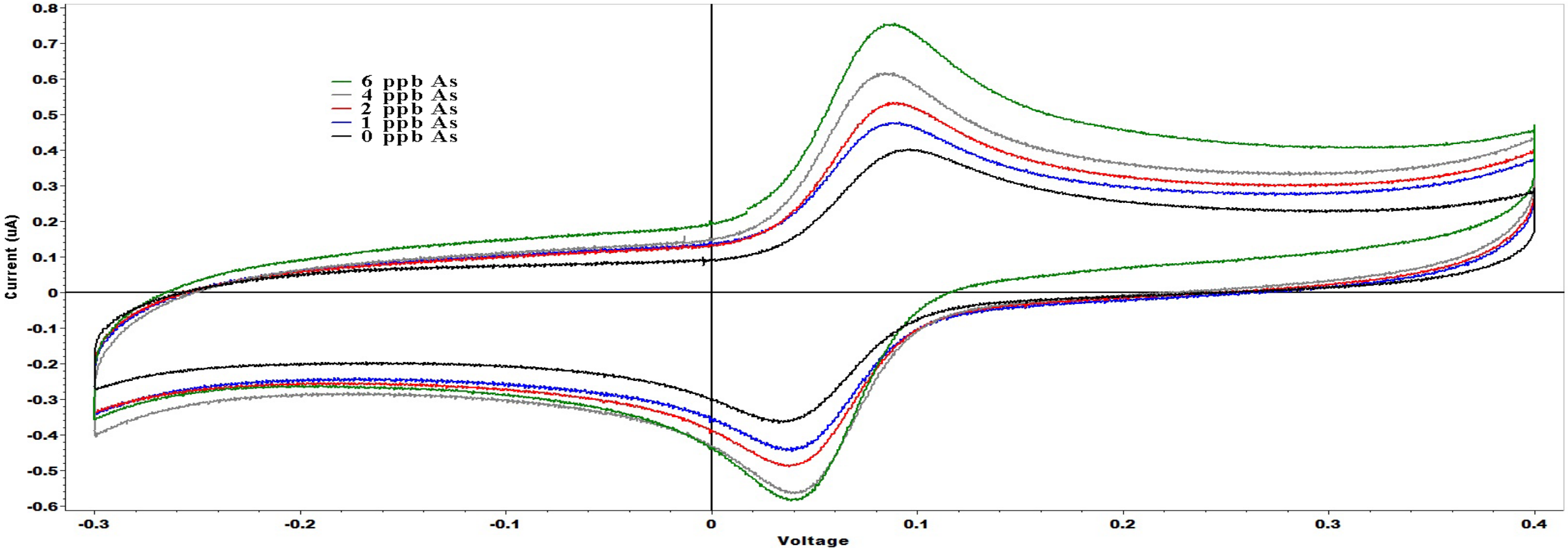
Sensitivity down to the ppb level

OUR FIRST PRODUCT: FRED-As™ Test

Detects Arsenic (As) levels at 1 ppb at the source of contamination within 1 hour.



Example Data



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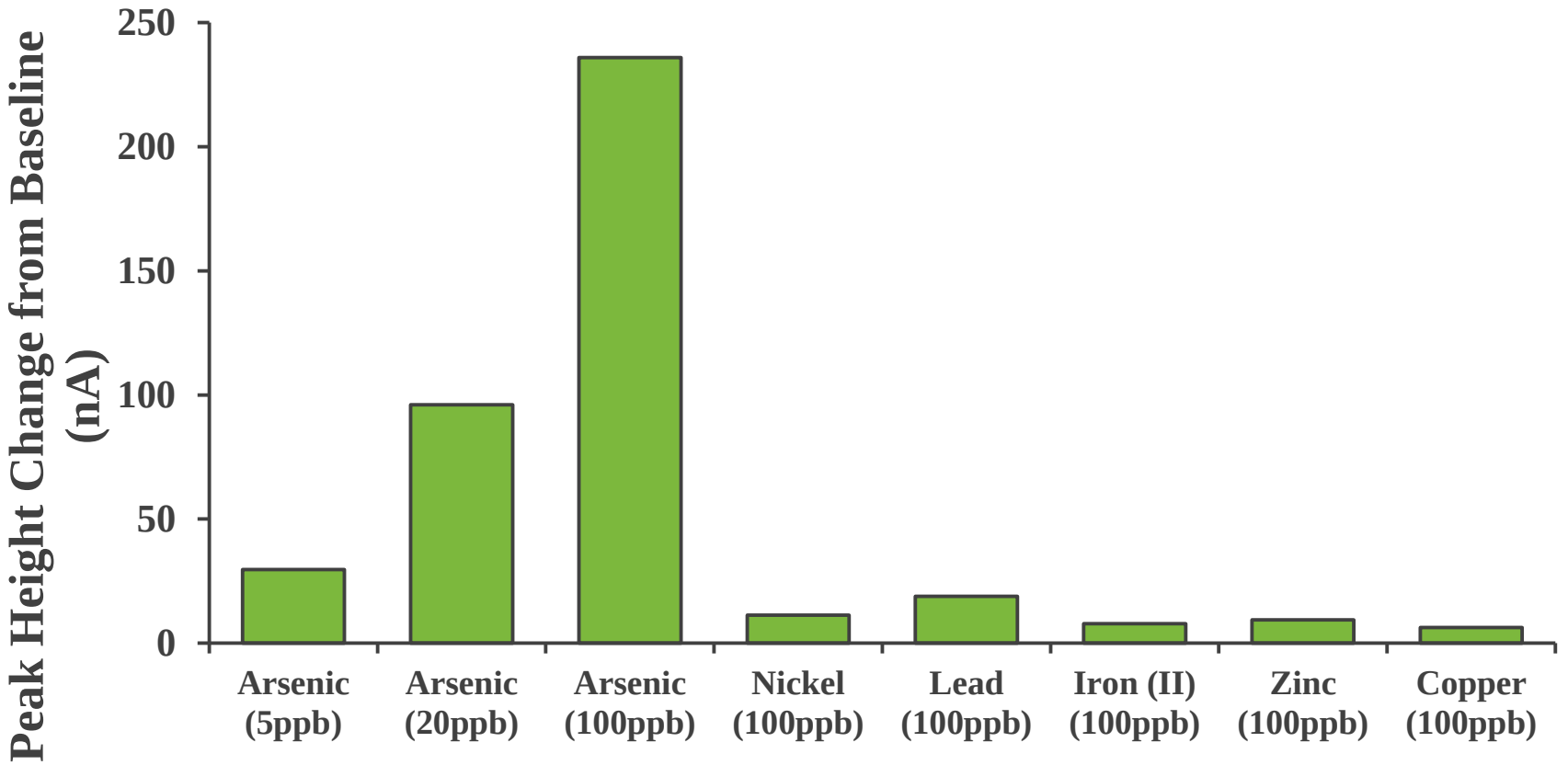
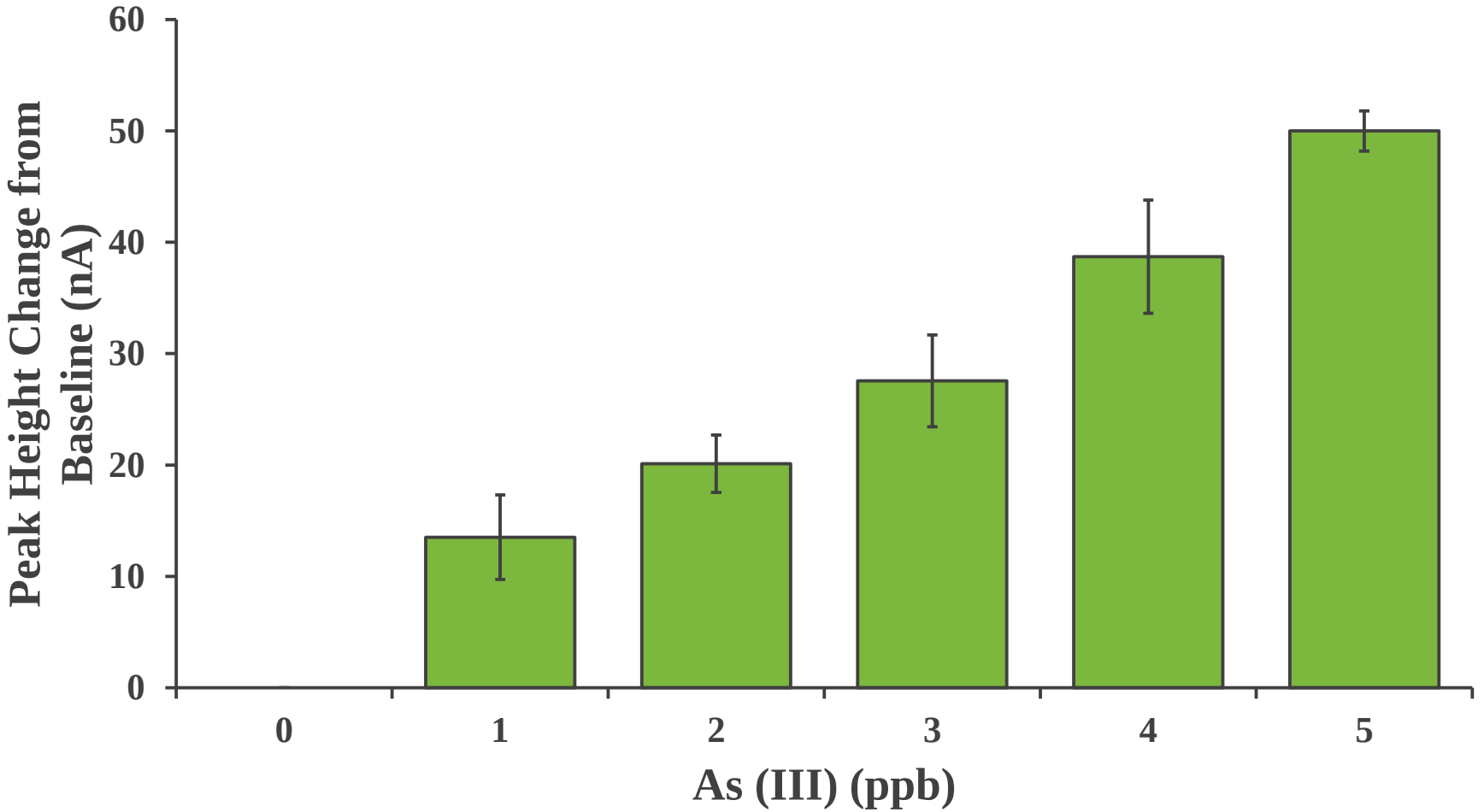
Specific response using FRED-As



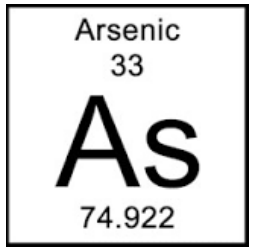
1 PPB detection using FRED-As



Water Districts and the Detection of Arsenic
$110 Million Beachhead Market Opportunity

Market:

- Over 3,000 Water Districts in the US contaminated with Arsenic.
- Currently unable to rapidly and accurately detect Arsenic at ppb level at the source.

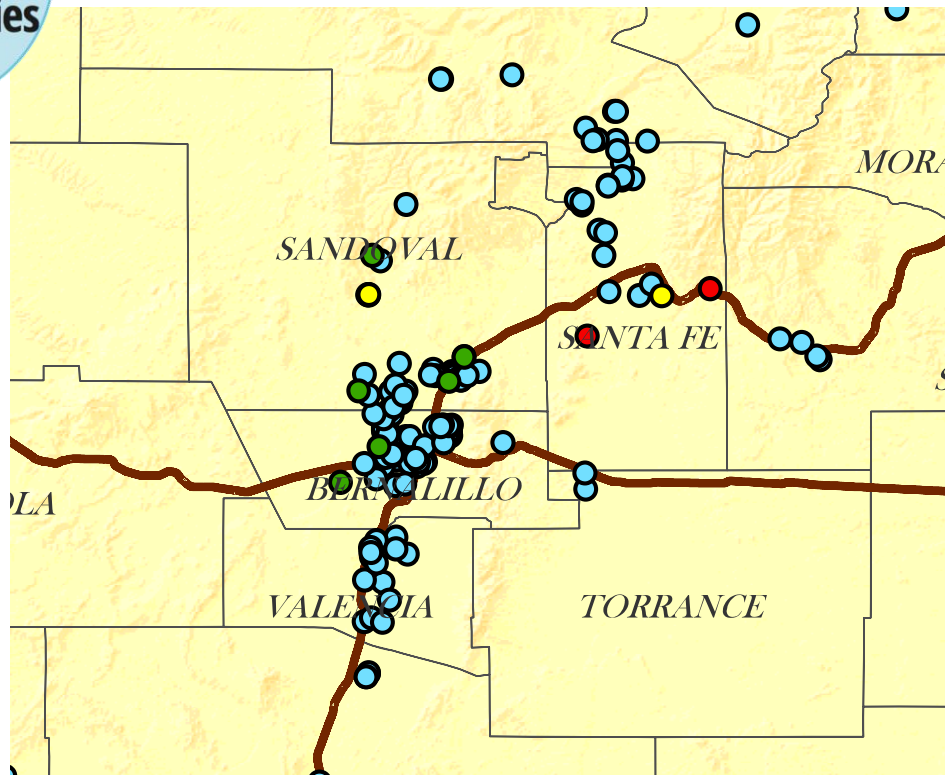


FREDsense Value Proposition (FRED-As™ Test):

- FRED-As™ Test will provide actionable data at the source

TRACTION TO DATE

Water Districts & Municipalities



Arsenic Concentrations
mg/l
- 0.01 - 0.05
- 0.06 - 0.10
- 0.11 - 0.50
- 0.51 - 1.00
- 1.01 - 3.50

The WATER Program

Test water samples in-house
Offer beta units for testing

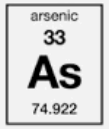
Current Participants:

Water Districts USA (2)
Water Consultants (3)

AJM ENVIRONMENTAL INC

Albuquerque Bernalillo County Water Utility Authority

BUILDING A BROAD BIOSENSOR PLATFORM

	Today	Future Platform					
Water Type	Tap/Well 	Dirty 	Industrial 	Polluted 	Agriculture 	Food 	Biological 
FRED Cartridge	FRED-As 	FRED-Ammonia NH_3	FRED-Sugar 	FRED-BTEX 			
Customer	Enterprise (B2B)	Enterprise (B2B) & Consumer (B2C)					
Market	Water Districts	Mining, Industrial, Agriculture, Food, Medical					


Human Practices Prize
presented by Anastasia Rogaeva, Megan Palmer, & Nancy Burgess
Calgary


-2014-
JANUARY 18, 2014
FIRST PLACE AWARD
$15,000
FIFTEEN THOUSAND DOLLARS
QUEEN'S MBA CLASS OF 1970
ENTREPRENEURSHIP FUND


10
years

THE EARLY DAYS


EXIT

MAJOR ACHIEVEMENTS

- Won **most awards** at International Genetically Engineered Machines competition
- Developed **patent pending** detection platform
- Water districts approaching us, anticipating hundreds of samples by end of summer through our **water program**
- Ranked by prominent Mining Innovation Council as **#1 upcoming water monitoring technology**
- Accepted and completed **Singularity University's Accelerator** Program (F15)

FREDsense™ Technologies

Traditional water monitoring is out of date

FRED is the fast, easy alternative

scalable opportunity

Help us Build Better Biosensors

robert@fredsense.com