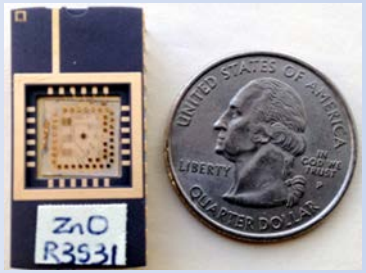
N5 Sensors, Inc.

smart sensors for a safer world

Disruptive mobile-device based chemical sensor technology for industrial, environmental, and safety monitoring



Multi-Sensor Chip

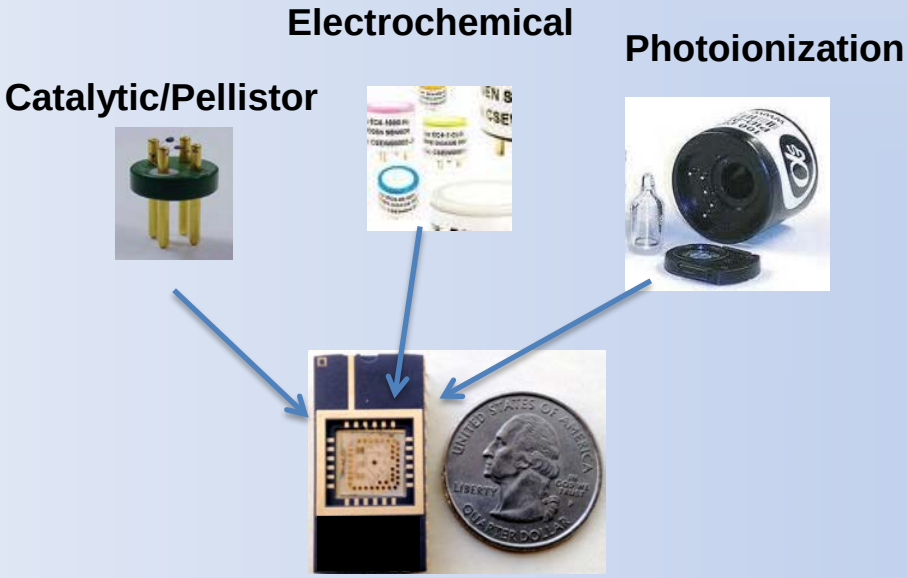
Sensor Module

User Interface on a Smartphone

www.N5Sensors.com, email: amotayed@n5sensors.com, Phone: 301-257-6756

N5's Single-Chip Sensor Solution

Toxic, Explosive, and Volatile Organic Compound Sensors – All in a chip!



What our technology can offer

- Low power, electrical detection
- Robust and Reliable
- Wide sensing range
- Highly Selective
- High sensitivity (ppb/ppt)
- Cost effective
- Extended Operating Life

Replaces multiple power-hungry sensor technologies with a arrays of microsensors on a single chip.

How Did We Get Here?

Core Technology (US Patent App# - US 13/861,962) developed jointly by University of Maryland, National Institute of Standards and Technology, George Mason University, and George Washington University researchers – Funded by National Science Foundation

N5 Sensors, Inc. of Rockville, MD is a University of Maryland spin-off founded in early 2012. N5 has obtained exclusive license to this patent-pending technology from University of Maryland.

N5 is currently funded at the level of $ 780,000/year with R&D and consulting contracts. In 2014, N5 has won TEDCO Maryland Manufacturing Initiative award, EPA SBIR Phase I, NSF SBIR Phase I, DHS Phase I, ARMY STTR Phase I, and UMD MIPS awards.

Decision to start the company was based on a commercialization study funded by Maryland TEDCO's TechStart award.

The Opportunity

Detection of gases and chemicals present in air is a global need across various industries and commercial applications

Residential and Commercial
- ❑ Indoor air quality for heating and ventilation control
- ❑ Carbon monoxide detection
- ❑ Natural gas leak

Industrial Operations
- ❑ Workers' safety
- ❑ Compliance with regulation
- ❑ Infrastructure safety
- ❑ Environmental safety and compliance

Firefighter, Hazmat Crews, Soldiers
- ❑ Toxic industrial chemical spills
- ❑ Hazards gases
- ❑ Chemical warfare agents

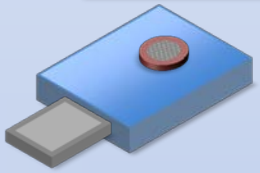
It is multi-billion dollar global industry

N5's Vision for Mobile Device-Based Detectors

Devices with Sensor APP

+

N5's Low power, Multi-analyte Sensor Plug-in Module



Creating innovative environmental monitoring solutions using N5's sensor technology platform

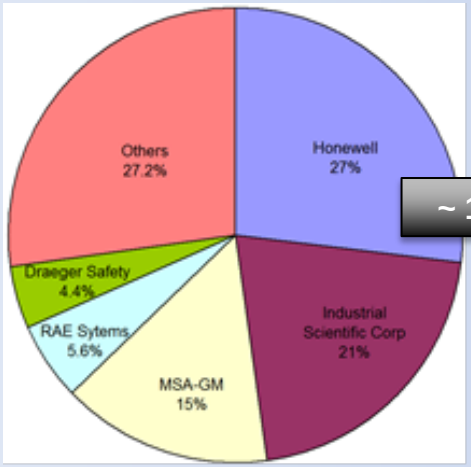
Industrial
Intrinsically-safe ATEX certified smart-phone based gas detectors for industrial workers

Fire-Fighter, Soldiers
On-demand smart-phone based toxic gas and chemical agent detection

Consumer
Smart-phone module for detection of carbon monoxide, natural gas, breath alcohol, out-door air quality

Customers and Competitions

1. Traditional Portable Detector Market ($ 0.5 Billion)



~ 10 Global Players

N5's Advantage

All existing products uses same mature sensor technologies with same problems

N5's Strategy

Working with dominant players in industrial detectors (such as Honeywell, MSA to introduce N5's sensor technology

2. Emerging Mobile Devices-Based Detector Market (~ $ 1 Billion)

Currently there doesn't exist any sensor technology that can be integrated with a mobile device!

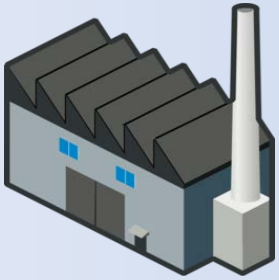
N5's Advantage

The sensor technology is a low-power, low-profile, low-cost platform – ideally suited to mobile devices

N5's Strategy

Working with mobile device manufactures such as Samsung, LG, Panasonic to introduce a new capability in monitoring for consumer and industrial application

Potential Markets and Applications



Industrial

- Exposure monitoring for industrial workers for compliance
- Hazard, leak monitoring

Possible Product – Detection of CO, H2S, O2, and CH4

End-User – industrial workers, safety managers

Commercial

- Indoor air quality for energy efficient smart ventilation management
- Hazard monitoring for CO and/or natural gas leak

Possible Product – Detection of CO, CO2, and CH4

End-User – Building managers and repair tech

Fire-Hazmat

- Personal protection
- Hazard agent detection

Possible Product – Belt-clip module for individual fire-fighters with communication capability with central command

End-User – Fire-fighters, hazmat crew

Personal

- Personal exposer monitors
- Breath analyzers

Possible Product – Detection of CO, NOX, SOX, Ozone

End-User – Individual citizen, in particular groups such as asthma patience vulnerable to outdoor pollution

Immediate Market

Growing Market

Market Creation!

Lessons Learned

Start-Up is an Act of Balancing Trade-offs and Managing Failures

- Focus
- Discover Customer
- Bootstrap/Federal Non-Dilutive Funds
- All In-House
- Accelerator/Incubator
- Team - Veterans

- Diversify
- Develop the Prototype
- Early Investment in Exchange of Equity
- Collaborate
- Or Not
- Team – Green

As founders we have to talk to hundreds to find that one contact that might lead to something!

Sometimes Just Showing Up Counts!

Team

Dr. Abhishek Motayed
Founder and President
10+ years semiconductor experience
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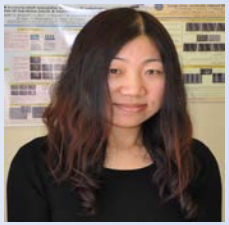
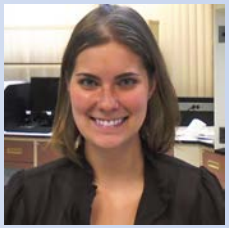
Dr. Ratan Debnath
Director of Research



Dr. Baomei Wen
Senior Device Engineer



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Serial Entrepreneur and Investors
Chair, IEEE Std for Wireless Sensor Networks
Member, Blu Venture Investors
Former CEO of an Intel Capital Portfolio company

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- TEDCO MII Phase III ($ 100,000)
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- National Science Foundation SBIR Phase I ($ 150,000)
- Department of Homeland Security SBIR Phase I ($ 150,000)
- ARMY STTR Phase I ($ 150,000)
- University of Maryland, 2 -Year MIPS Award (~ $ 180 K)
- National Institute of Standards and Technology Engineering Contract ($ 180 K)