

# NINESIGMA

## NineSights: Developing an Open Innovation Market Place

TII 2015, Innovating Innovation, Singapore

**Darren Coomber**, *Vice President Australia*

19 May 2015

# WHAT IS

# OPEN INNOVATION:

The process of going outside your company's four walls (or your industry) to find or inspire new concepts, talents and technologies. >

# NINESIGMA OVERVIEW



## OUR EXPERIENCE

**3,500+** Innovation Challenges  
**FROM 32** Industries

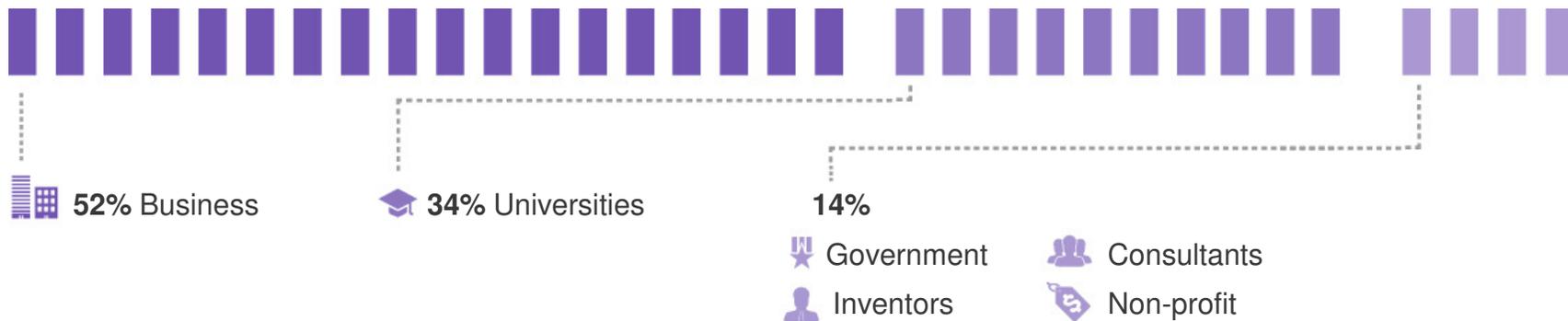
## DIVERSE CLIENTS

**OVER 700 CLIENTS**  
 Multinationals    Non-Profit  
 Middle Market    Government

## HEADQUARTERS & PARTNER OFFICES

U.S.      Japan      Australia      Brazil      Netherlands  
 Belgium    Korea      South Africa      Canada

## NINESIGMA NETWORK



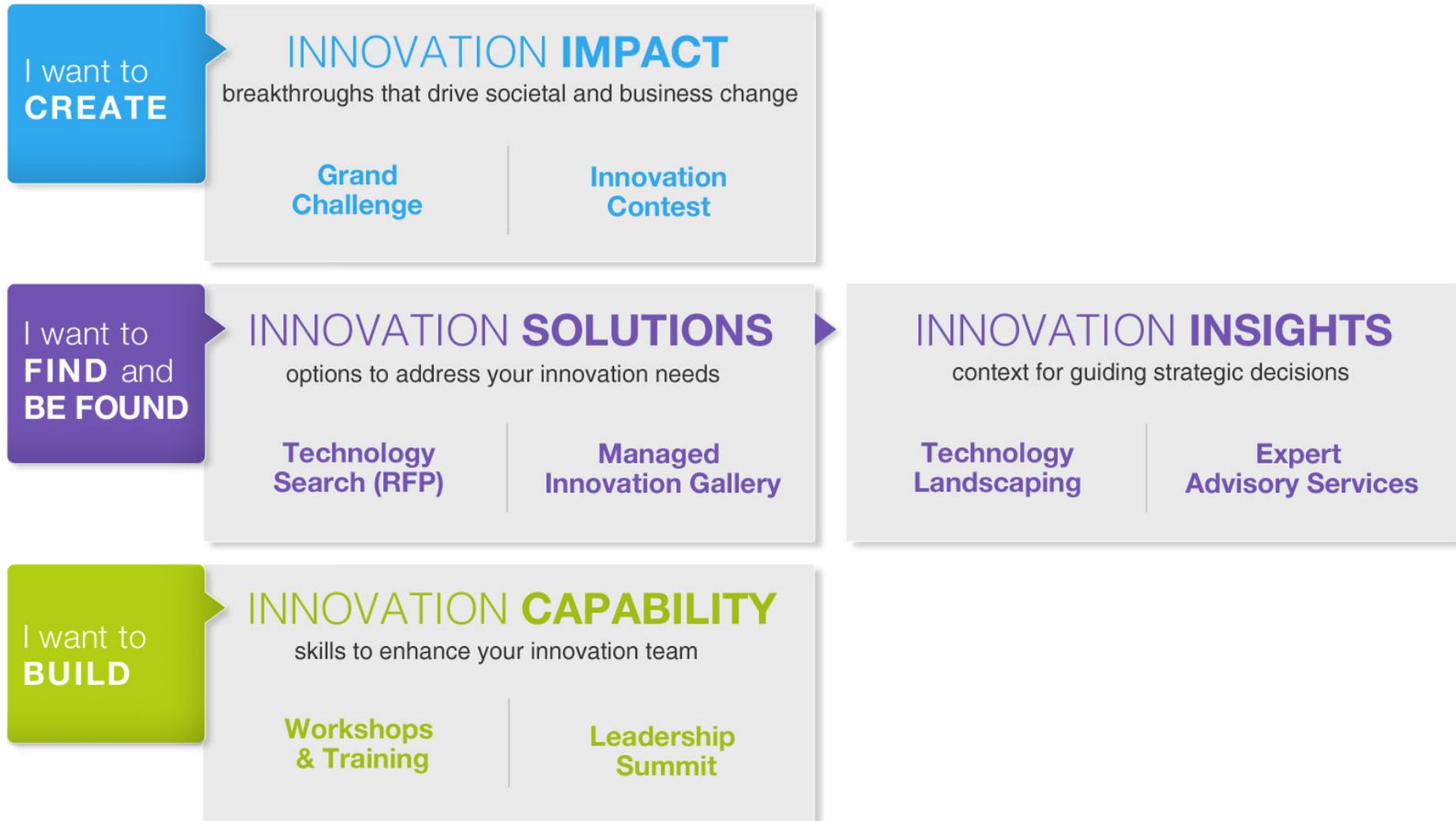
# A SAMPLE OF OUR GLOBAL CLIENTS



# WHAT ARE YOU LOOKING TO DO?

## *An overview of NineSigma's services*

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# NEEDS DRIVEN MARKETPLACE

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- Our Open Innovation programs are Needs Driven
- Innovation programs are more successful when they address Problems and Needs that if solved will have a positive impact on the organization.
- External technologies/ capabilities that address well defined Problems are more likely to be developed into Solutions

“There are few things as useless, if not dangerous, as the right answer to the wrong question.”

Peter Drucker

# WHAT IS YOUR NEED?

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Holy Grail



New Markets



New Products



Fill in Gaps



Pursue Parallel Paths



Stay Ahead of Competition



New Equipment / Components



New Materials



Process Improvements

A photograph of four hands of different skin tones (light, medium, and dark) forming a circle. The hands are positioned in the center of the frame. The background is a soft-focus sunset over a landscape. A diagonal teal overlay is present in the top-left corner. The text "FRAME PROBLEMS DIFFERENTLY." is centered over the hands in white, bold, uppercase letters.

**FRAME  
PROBLEMS  
DIFFERENTLY.**

# PROACTIVE: NON-CONFIDENTIAL NEEDS REQUEST

A PROBLEM WELL STATED IS A PROBLEM HALF SOLVED

## > CLEAR

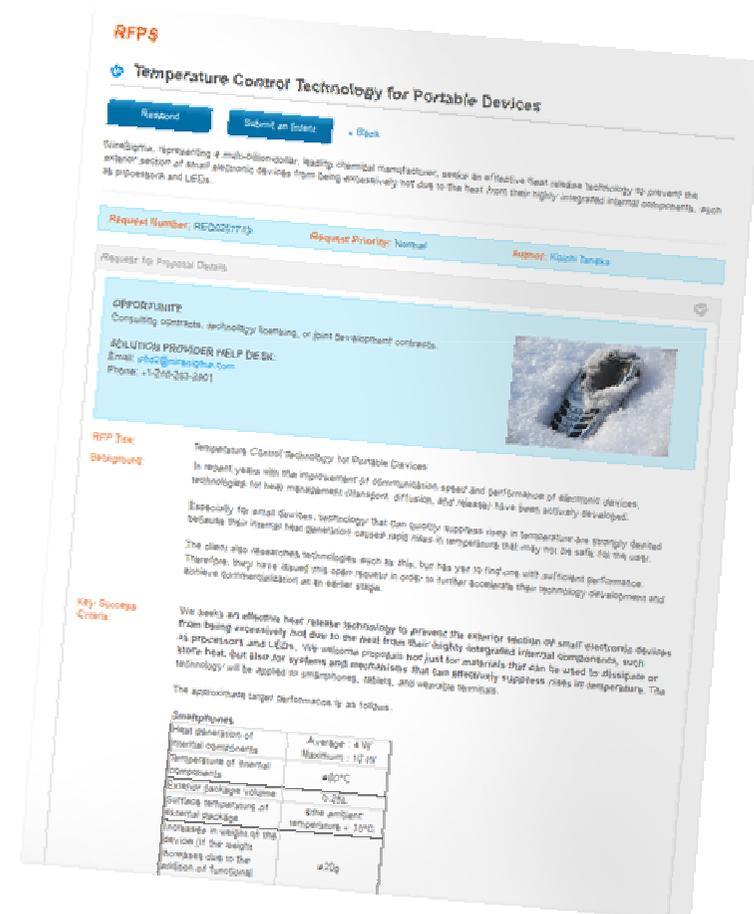
Written so that researchers in other industries can understand what is needed.

## > CONCISE

Provides critical information for potential Solution Providers to understand what is needed for the technology to be evaluated and acquired.

## > COMPELLING

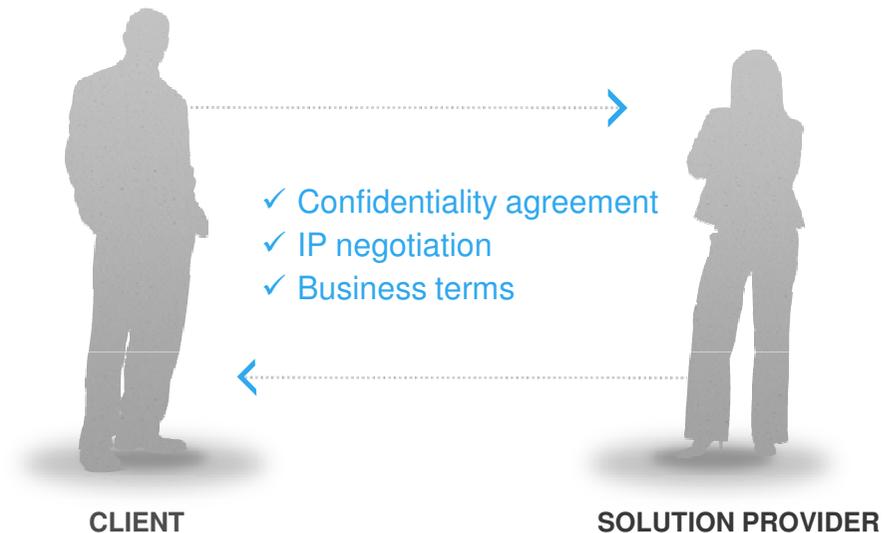
Has a financial reward that is commensurate with the proposed project.



# MANAGING INTELLECTUAL PROPERTY AND CONFIDENTIALITY

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- Requests contain no confidential or competitive information
- Can be issued anonymously
- Solution providers submit only non-confidential proposal briefs
- Avoids IP contamination and protects solution providers



➤ WE WILL COACH YOU TO WRITE A REQUEST AS IF IT WOULD GO TO A COMPETITOR.

A person is silhouetted against a clear blue sky, standing on a rocky mountain peak. The person has their arms raised in a 'V' shape. A large, white, conical beam of light emanates from the person's hands, extending across the sky. The text 'MAKE YOUR NEEDS KNOWN.' is written in blue, bold, sans-serif font across the middle of the beam. The mountain below is covered in green and brown vegetation.

MAKE YOUR NEEDS KNOWN.

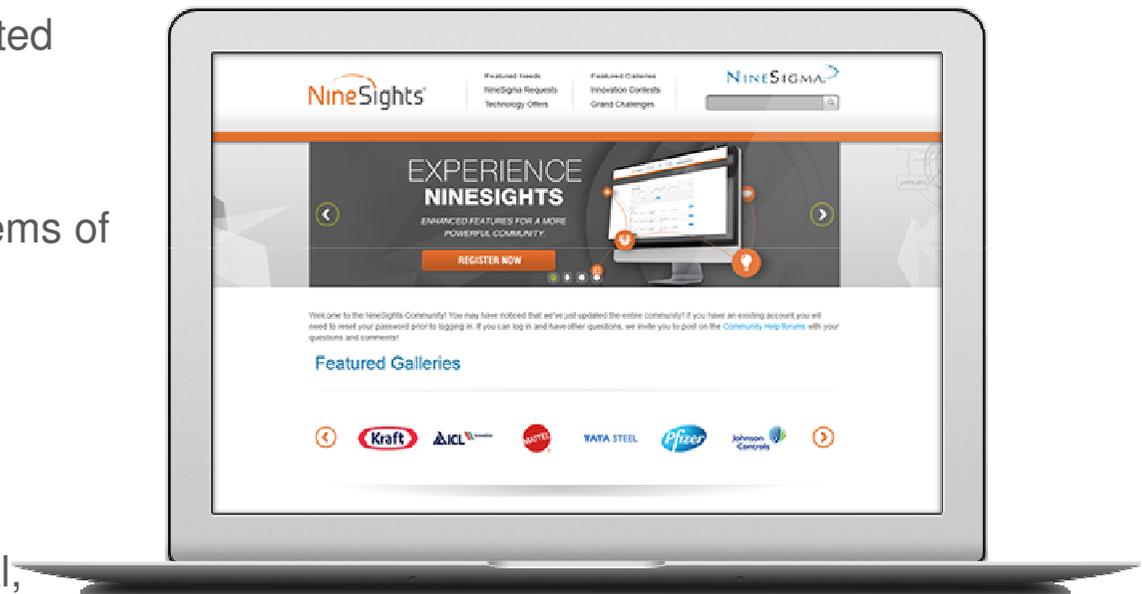
# NINESIGMA'S TECHNOLOGY SEARCH PROCESS

LEVERAGES THE GLOBAL INNOVATION COMMUNITY



## NINESIGMA OPEN INNOVATION COMMUNITY

- ENGAGE** Our community of vetted technical experts
- CONNECT** Innovators with problems of all sizes
- SOLVE** Real-world problems
- EXPLORE** Requests for Proposal, Grand Challenges, Innovation Contest and Needs



[www.NineSights.NineSigma.com](http://www.NineSights.NineSigma.com)



**BE OPEN  
TO SOLUTIONS  
THAT WEREN'T  
INVENTED  
HERE.**

# LET'S EXPLORE A FEW OPEN INNOVATION SOLUTIONS

## BREAKTHROUGH DISPENSING TECHNOLOGY

- ✓ Protected IP for highly strategic needs
- ✓ Accelerated system design and engineering
- ✓ Reinvented beverage dispensing



## AIDS VACCINE PROTEIN STABILIZATION

- ✓ Problem defined differently
- ✓ Peer reviewed solutions
- ✓ Funded in partnership with Gates Foundation



## ANTI-LEAK PACKAGING

- ✓ Urgent need regarding product quality
- ✓ Defective packaging rejected by consumer
- ✓ Solution found in agricultural fertilizer application that solved same problem



## DESIGNER SALT

- ✓ Challenge of sodium reduction
- ✓ An insight on salt surface area
- ✓ Solution found in pharma research



## SUCCESS STORY

# FRITO-LAY/PEPSICO DESIGNER SALT



*“There are a lot of productive connections out there waiting to happen. What turned out to be a great connection for PepsiCo could have never been predicted.”*

— CARLOS J. BARASSO  
R & D DIRECTOR (FORMER)

## OVERVIEW & CHALLENGES

- Consumers demanded better ingredients and reduced sodium without sacrificing taste.
- Needed new formulation technologies for creating nano and micro-sized particles, suspending for transportation, and application and drying techniques for halide salts.

## RESULTS

- A new approach was identified from a Swiss research lab that was testing a relevant pharma application for osteoporosis.
- Designer salt was created by reducing the salt's surface area; decreasing sodium levels while retaining a salty punch.

## KEY TAKEAWAYS



- A food need was translated into a pure science question.
- Actual need was not revealed in the Technology Search (RFP), thus protecting IP.
- Solution identified was cross-industry (pharma).

## DEFINE PROBLEM TO ATTRACT RESPONSES FROM ADJACENT SECTORS

**REQUEST # 50178-1**  
**Nanoparticle Halide Salt: Formulation and Delivery**

RESPONSE DUE DATE: **October 10, 2005**

[Download required response template](#)  
[Submit proposal online](#)

**POINT OF CONTACT:**  
Kevin C. Stark, Ph.D., [stark@ninesigma.com](mailto:stark@ninesigma.com)  
Program Management Office: 216-295-4800

**Opportunity**  
Possible business engagements include contract research/joint development through proof of principle, licensing/royalty of existing technology, supply, etc.

**Timeline/Financials**  
Proposers should define a project timeline and budget to demonstrate proof of concept, or describe how samples of existing solutions can be obtained for testing and evaluation



**REQUEST FOR PROPOSAL DESCRIPTION**  
NineSigma, representing a **Global Consumer Products Company** (Top 100 Fortune 500 Company) is seeking proposals for the development of **formulation and delivery of nanoparticle sized halide salts**. In particular, the following steps are desired:

- o Formulation (or molecular milling) of nano to micron-sized particles
- o Suspension to maintain the integrity of the particle size and avoid agglomeration
- o Spray/dip/coat surfaces with the suspension
- o Drying to prevent agglomeration and keep nanoparticle size on the surface.

**BACKGROUND**  
Due to confidentiality constraints, more information on the specific application for technology is not available at this time. H technologies to manufacture and enable of nanoparticle sized halide salts have the potential to become a breakthrough, **game changing capability that can impact a \$1 billion market**.

The technology must meet the following:

- o Particle size ranging from < 50 nm to 200 nm.
- o Extremely high surface area to weight ratio.

“Our client is seeking partners for formulation and delivery of nanoparticle sized halide salts”



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**PepsiCo Reduces Sodium by Restructuring Salt**

FoodProcessing.com  
03/30/2010

It was a relatively small part of an investor presentation, but R&D officials of PepsiCo Inc. in March acknowledged proprietary and patent-pending technology to change the crystal structure of salt, allowing the company (in the future) to reduce sodium by 25 percent “with no impact on taste.”

“Early on in our research, it became apparent that the majority of salt on a snack doesn’t even have time to dissolve in your saliva because you swallow it so rapidly,” explained Mehmood Khan, senior vice president and chief scientific officer and a former Mayo Clinic endocrinologist. A Wall Street Journal story later reported only about 20 percent of the salt on a chip dissolves on the tongue, and the remaining 80 percent is swallowed without contributing to taste.

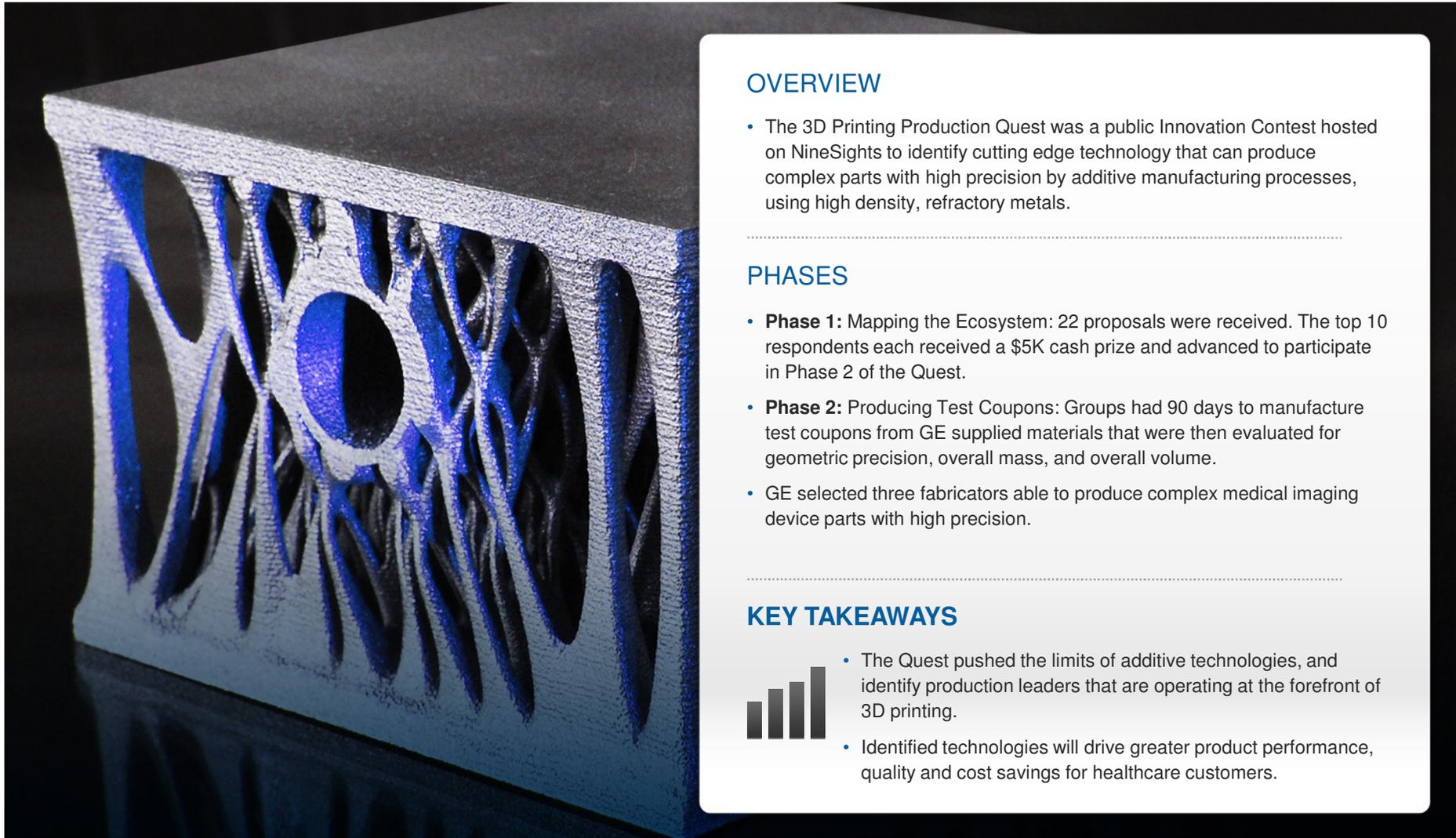
“There was an opportunity for our scientists,” said Khan. “If we could figure out a way of getting the salt crystals to dissolve faster, then we could decrease the amount of salt we put on a snack with no compromise on taste.”

Well, they did. Khan said PepsiCo researchers collaborated with scientists from around the world and found ways of changing the crystal size and structure to make the salt crystal dissolve more quickly, effectively putting the

Resulted in “PepsiCo reduces sodium by restructuring salt”

# GE 3D PRINTING PRODUCTION QUEST

## BUILD NETWORKS AND PROTOTYPE SOLUTIONS



### OVERVIEW

- The 3D Printing Production Quest was a public Innovation Contest hosted on NineSights to identify cutting edge technology that can produce complex parts with high precision by additive manufacturing processes, using high density, refractory metals.

### PHASES

- **Phase 1:** Mapping the Ecosystem: 22 proposals were received. The top 10 respondents each received a \$5K cash prize and advanced to participate in Phase 2 of the Quest.
- **Phase 2:** Producing Test Coupons: Groups had 90 days to manufacture test coupons from GE supplied materials that were then evaluated for geometric precision, overall mass, and overall volume.
- GE selected three fabricators able to produce complex medical imaging device parts with high precision.

### KEY TAKEAWAYS



- The Quest pushed the limits of additive technologies, and identify production leaders that are operating at the forefront of 3D printing.
- Identified technologies will drive greater product performance, quality and cost savings for healthcare customers.

## CASE STUDY

# CISCO SECURITY GRAND CHALLENGE: A GLOBAL INITIATIVE TO SECURE THE INTERNET OF THINGS



*“This Grand Challenge offers us the chance to build an exciting and secure future for the world, rather than forcing us to react to unknown threats.”*

— **MACIEJ KRANZ,**  
VICE PRESIDENT AND GENERAL MANAGER OF  
CORPORATE TECHNOLOGY GROUP, CISCO

- The Internet of Things (IoT) is the network of physical objects accessed through the Internet.
- The Cisco Security Grand Challenge is a global, industry-wide initiative to bring the security community together to address securing the Internet of Things.
- Specific focus areas include: malware defense, security credential management, and privacy protection.

## RESULTS

- A total of 109 proposals were received from 33 countries in 90 days.
- Four winning solutions were announced in October 2014 each receiving a total of \$75K and the potential for further collaboration with Cisco:

*Cornell Tech and Rice University, Excalibur Group, Aircloak and the Max Planck Institute for Software Systems, and Carnegie Mellon University*

## KEY TAKEAWAYS



- With this Challenge, Cisco has led the next step in the evolution of the Internet in order to help influence change in the way we work, live, play and learn.



**Third Frontier**  
Innovation Creating Opportunity

## OPEN INNOVATION INCENTIVE (OII)

### BACKGROUND

State of Ohio wanted to help Ohio mid-size companies become more globally competitive by helping them access the best technologies and partners worldwide

Click to  
**VIEW  
GALLERY**

### PROGRAM ELEMENTS

- » Ohio-based companies with revenues between \$10M and \$1B
- » Consultation sessions to identify innovation needs
- » Focused on key technology areas important to Ohio

### COMMITMENT

- » Ohio subsidizes 50% of the Request for Proposal cost
- » Funds educational training to develop companies' OI capabilities
- » Initially a 2-year program that extended due to program success

**“ INNOVATION IS CRITICAL** to Ohio's future. **NINESIGMA** has the **EXPERTISE IN OPEN INNOVATION** that we look for to help middle market companies take their **IDEAS TO THE NEXT LEVEL. ”**

**- CHRISTIANE SCHMENK, Director, Ohio Department of Development**

# OPEN INNOVATION FORUM

SPONSORED BY  
Metro Atlanta Chamber 

## BACKGROUND

Metro Atlanta Chamber created a strategy for regional economic vitality through job creation, growth of existing companies, increased collaboration and promotion of innovation success

Click to  
**VIEW  
GALLERY**

## PROGRAM ELEMENTS

- » Open to organizations of all sizes in the state of Georgia
- » Consultation sessions to identify innovation needs
- » Focus on identifying opportunities for regional collaboration, if applicable

## COMMITMENT

- » Companies pay reduced cost for a NineSigma Technology Search<sup>SM</sup>
- » MAC helps market program to chamber members
- » Pilot program launched in 2015

“ We want to **WORK COLLABORATIVELY** to increase **ATLANTA'S INNOVATION CAPACITY**. **NINESIGMA** is the organization that makes this **COLLABORATION** happen. ”

- HALA MODDELMOG, President & CEO, Metro Atlanta Chamber

# SOLUTION PROVIDER FEEDBACK

“

For Design Edge, working with NineSigma gave us an outlet to get our ideas in front of a large company. We view open innovation as a gateway for finding real problems to solve.

”

**SANDY RICHARDSON,**  
Director




**BIOASTRA**  
The Smart Materials Company

“

What NineSigma has achieved ... for companies like us has been nothing short of remarkable. If it were not for NineSigma, we would not be the company we are today. I appreciate the way NineSigma frames the problem...

”

**SUMITRA RAJAGOPALAN**  
CEO

“

At LEAP, we're not just interested in scientific research, we're also interested in practical applications that can generate useful effects in the field of energy and environment

”

**PROFESSOR STEFANO CONSONNI**  
PRESIDENT LEAP  
POLITECNICO DI MILANO



**LEAP**  
Laboratorio Energia e Ambiente Piacenza

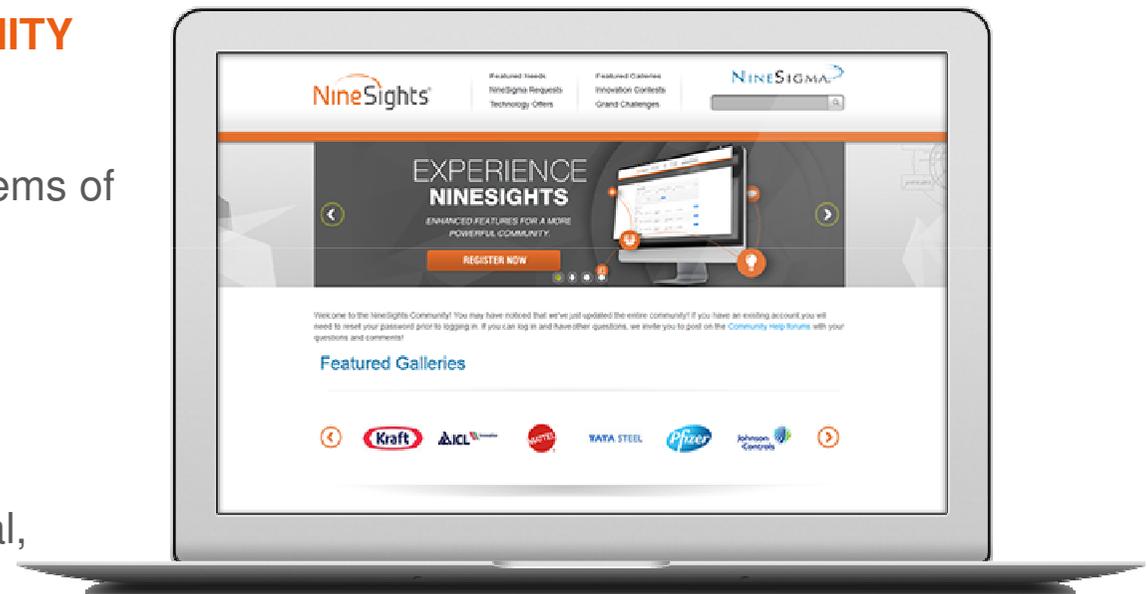
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[www.NineSights.NineSigma.com](http://www.NineSights.NineSigma.com)

# Thank You

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STAY  
CONNECTED



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