

CORPS
NSF Innovation Corps

NSF's I-Corps™

December 6, 2013

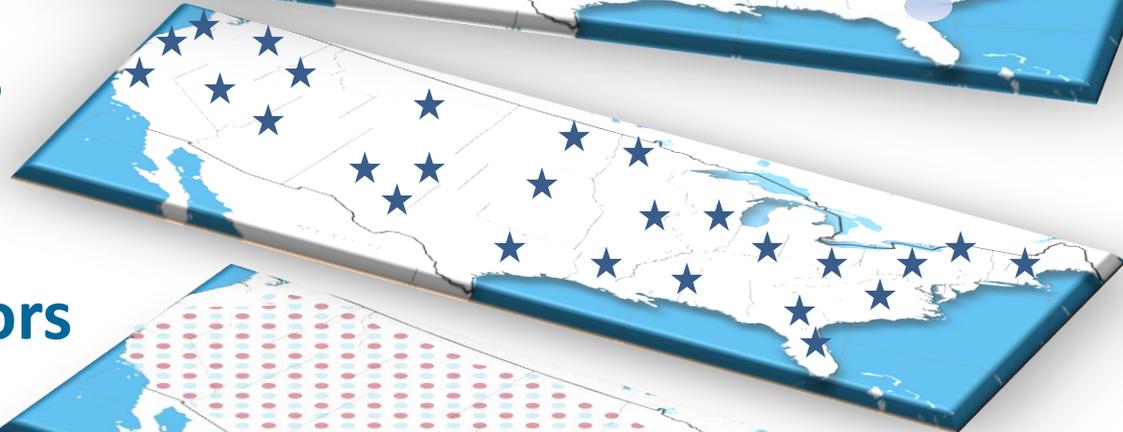
What are we trying to achieve
with I-Corps?

Building the Nation's I-Corps™ “Fabric”

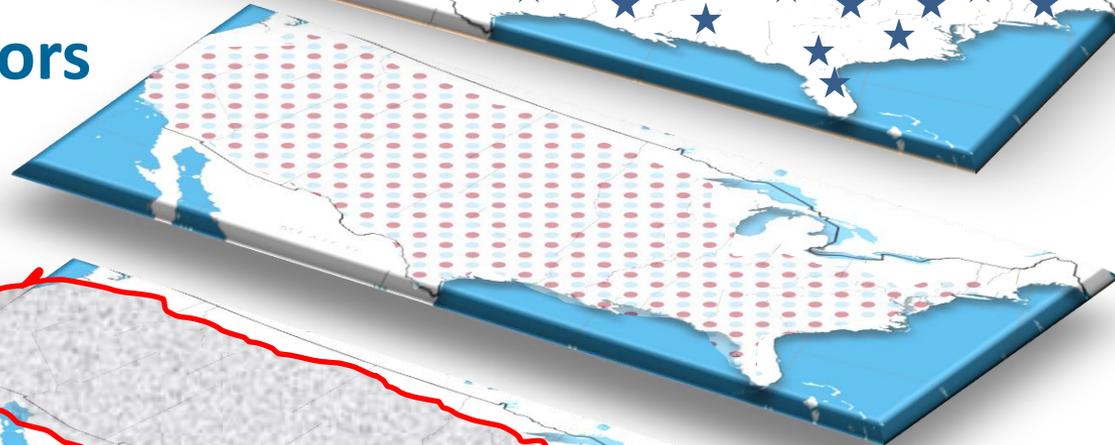
I-Corps Nodes



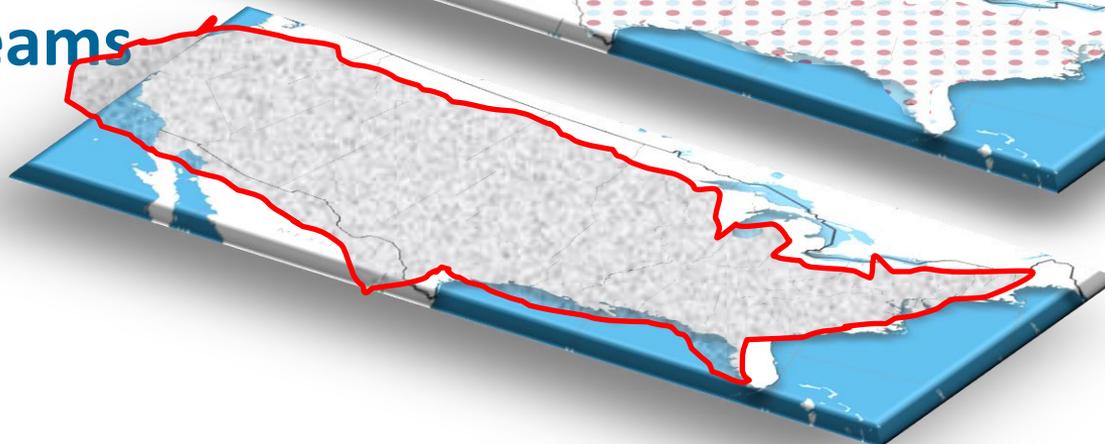
I-Corps Sites



I-Corps Mentors



I-Corps Teams



MYTH

Customers **want**
your technology.

TRUTH

Customers **don't care**
about (your) technology.

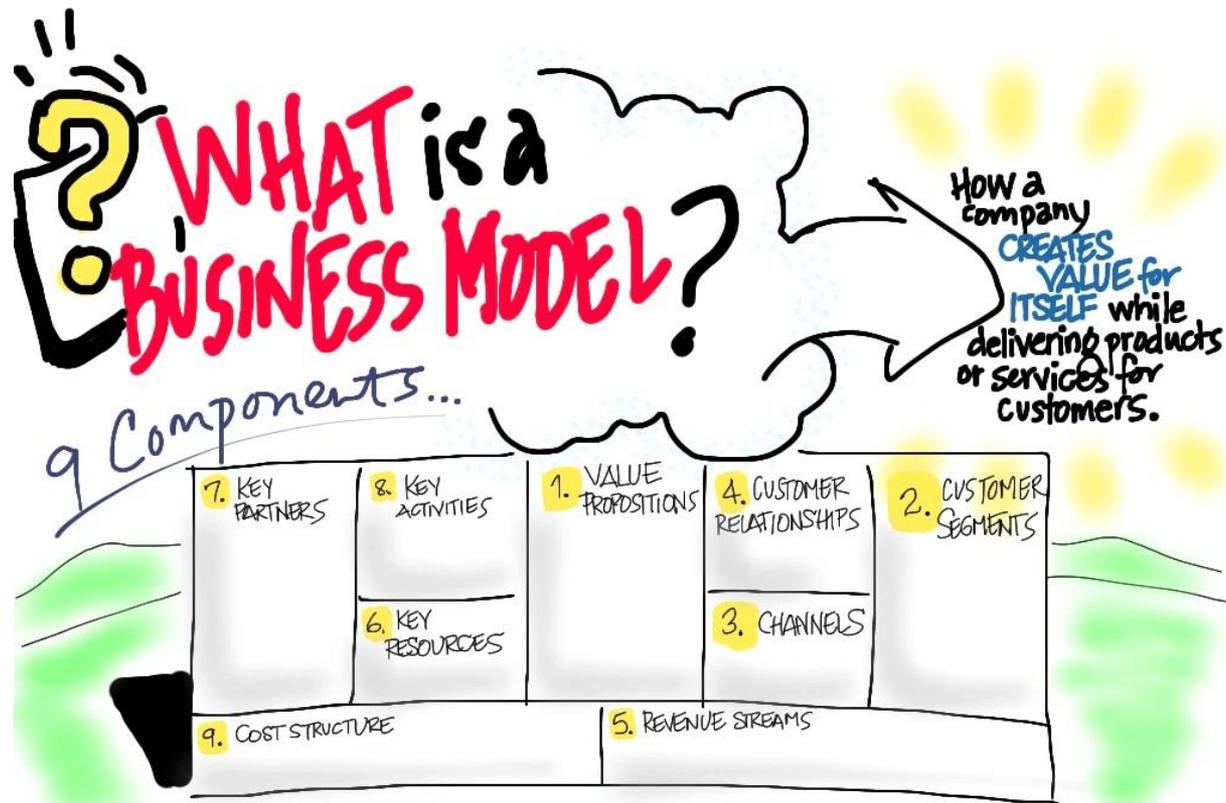
Customers just want **their**
problem solved.

the key idea

There are
NO FACTS
in the building!

I-Corps™ Approach

- Challenges teams to create their own business model canvas
- Values revision and continual improvement of business development elements



I-Corps™ Approach

- Emphasizes experiential learning and feedback
 - Getting out of the building – 10-15 hours/weekly
 - Formal methodology for customer interaction
 - Focus on **MVP** and **Pivots**
 - Scorekeeping and metrics
 - *Goal is product/market fit*

Minimal Viable Product

Continued...



Because customers didn't have input, many products were made that didn't satisfy customers' **WANTS** and **NEEDS**.



HOW ABOUT SOMETHING DIFFERENT?

MINIMAL VIABLE PRODUCT

1. Build the minimum features in order to get **FEEDBACK**.



of TIME...
of PEOPLE...
of MATERIAL...
of RESOURCES...



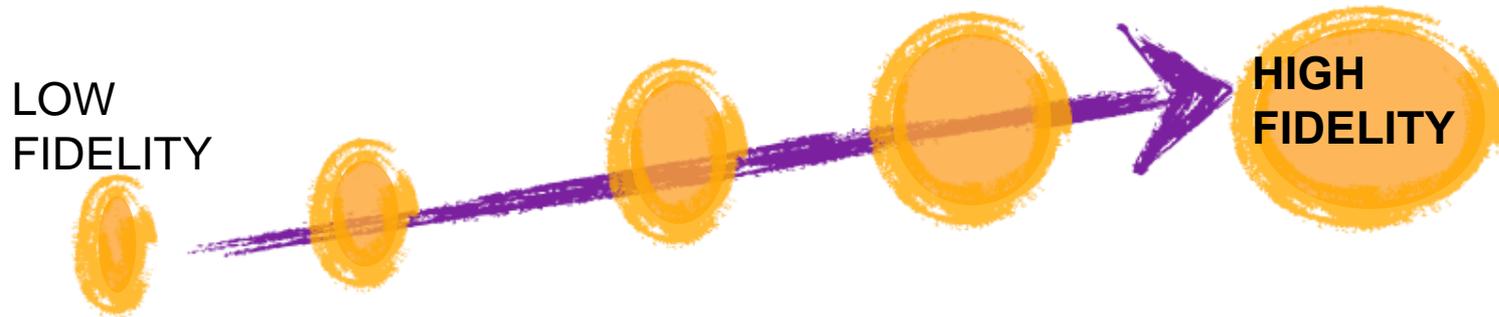
2. QUICKLY and ITERATIVELY GET CUSTOMER FEEDBACK...



3. As you get more feedback, you can **ADD MORE FEATURES**.



MVP *Minimum Viable Product*



Built to **LEARN**
Not to **SELL**

PIVOT



SPEED: On the web, you can reach thousands of customers in a short amount of time.

TEMPO:

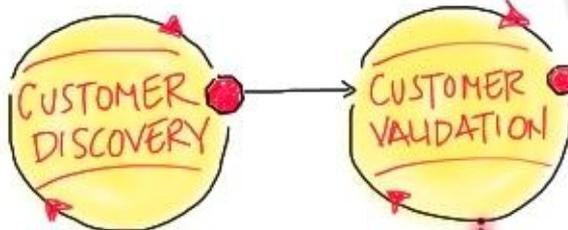
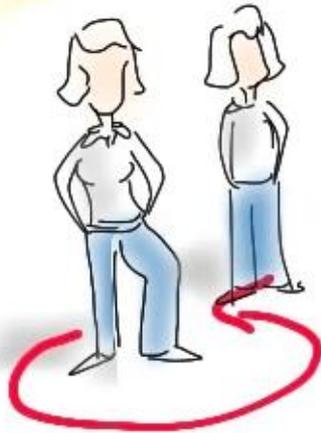
Like a metronome tempo is **CONSTANT, CONSISTENT, and RELENTLESS.**



PIVOTS are the **RESULT** of **HYPOTHESES TESTING** and **EXPERIMENTATION.**



REMEMBER!
Hypothesis testing involves **FAILURE!**



PIVOT

What do you do when **HYPOTHESES** do not match **REALITY?**

A **PIVOT** is a **SUBSTANTIVE CHANGE** to one or more business model components.

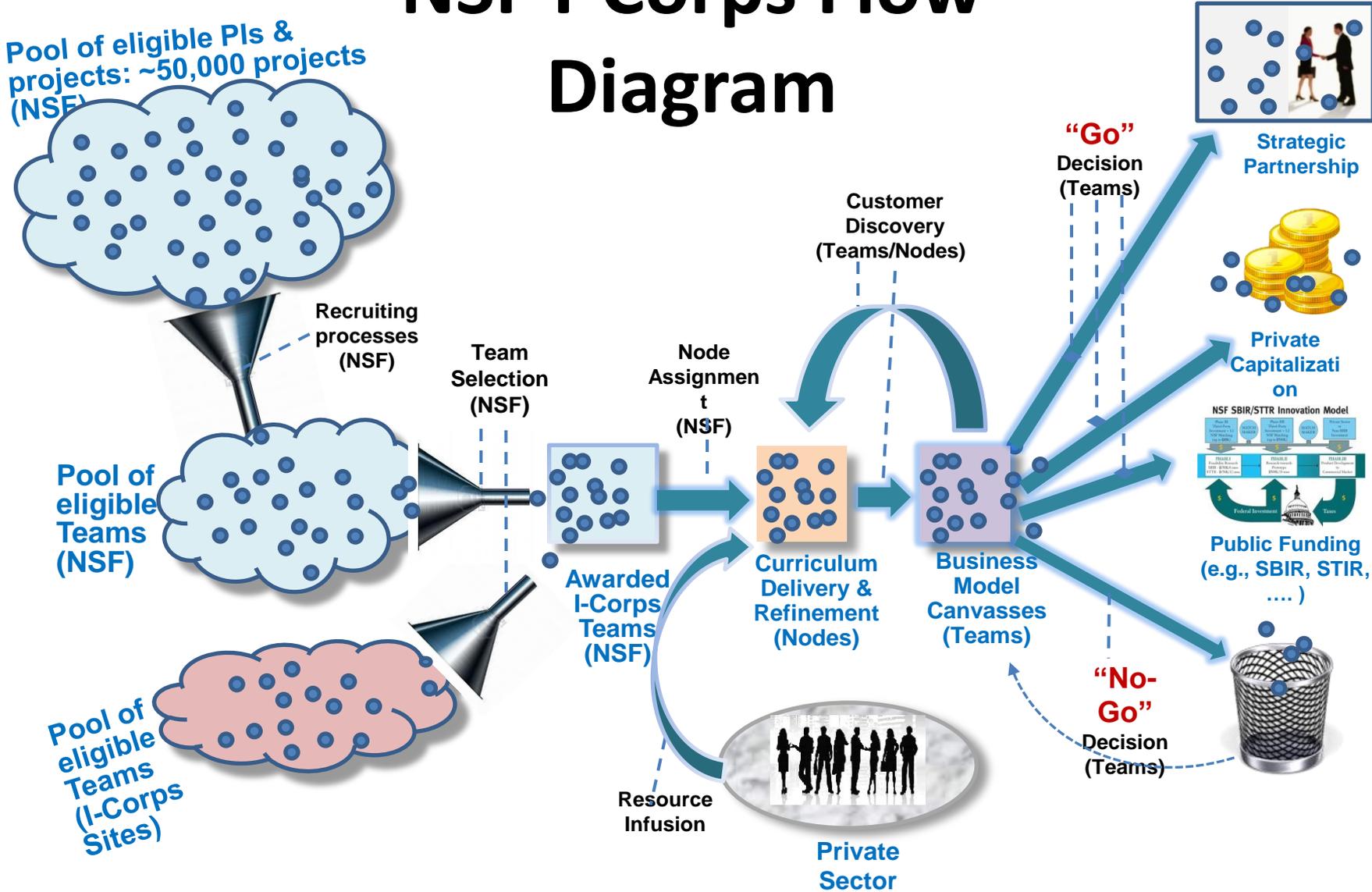
↓
An **ITERATION** is a minor change...

FIRE the **HYPOTHESIS**, not the **FOUNDER.**

Lessons Learned

- What we thought
- What we learned
- Where are we today
- Where are we going

NSF I-Corps Flow Diagram



Visible-Light Activated Photocatalytic Nanofiber Mesh Technology



- Novel nanotechnology that removes hydrocarbons from polluted water
- Turns wastewater from fracking operations into drinkable water
- Received SBIR Phase I funding

Perena Gouma, tenured Associate Professor, Dept of Materials Science & Engineering, SUNY Stony Brook; Director of Center for Nanomaterials & Sensor Development; Fulbright Scholar and NSF grantee since 2002.



New way to organize, browse and share your photos.

Acquired by Dropbox

Developed software to annotate a large number of images quickly and accurately

*Combining human input with an annotation algorithm
Facilitate image analysis*

Founders



[Serge Belongie](#)

Professor at UC San Diego



[Peter Welinder](#)

Award-winning research in computer vision, machine learning and crowdsourcing.



[Boris Babenko](#)

Co-founder of [@Anchovi Labs](#), Inc.

Sophie Lebrecht, Carnegie Mellon University, Entrepreneurial Lead;
Mike Tarr, PI; Babs Carryer, Mentor



Sophie Lebrecht identified that the brain computes a very rough, very rapid and automatic snapshot of perception in order to estimate the likability of an object. They had essentially discovered a way to predict the images people would be most attracted to, and that image discovery had huge market potential—anytime there is an image, and you want a human to relate to that image, the research is applicable.

NEON

home why thumbnails? **how it works** about contact thumblog

The service is simple, and grounded in science.

We select the best thumbnails for the audience you want to reach.

Neon builds on the perceptions and brain responses of everyday people watching video. We model how the brain perceives images and can predict which ones people will prefer.

Read Our Whitepaper

Neon Score 192

Forbes "[...Neon] is now integrating her research into an algorithm that helps determine which online images produce the greatest number of clicks."

North Carolina A&T State University Crowned Champion in \$100,000 ACC Clean Energy Challenge

Bioadhesive Alliance's winning technology, an environmentally friendly bio-based adhesive, is a sustainable alternative resource developed from the thermochemical liquefaction process converting swine manure to a bio-binder, while sequestering carbon and greenhouse gases otherwise released into the atmosphere.



... **Bio-Adhesive Alliance** was selected as the **\$25,000 grand prize winner**. The start-up company is a spin-out from NC A&T State University that has developed an innovative technology to produce liquid asphalt from swine manure.

According to the company, “This technology provides a sustainable and cost-effective solution to swine manure treatment while reducing pavement construction and maintenance cost.”

The Bio-Adhesive Alliance team completed the National Science Foundation's commercialization program known as I-Corps.

Bio-Adhesive Alliance