



# BMES

BIOMEDICAL ENGINEERING SOCIETY™

## Translation, Intellectual Property and Venture Capital

July 29, 2015  
3:00 PM ET

# Moderator



- ▶ **Ben Noe**

R&D Project Manager, Surgical Innovations  
Minimally Invasive Therapies Group  
Medtronic

BMES Industry Committee Chair

# BMES Industry Committee

- ▶ **Team of 46 professionals**
    - 11–person Industry Advisory Board
    - 35–person operational team
  
  - ▶ **Four strategic focuses**
    - Translation
    - Business Development
    - Talent Pipeline
    - BMES Industry Membership Services
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# BMES Industry Committee

## ▶ 2015 Annual Meeting – Industry Sessions

### Thursday, October 8<sup>th</sup>

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12:30 – 1:45 PM	Engineer to Entrepreneur
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2:00 – 3:30 PM	Product Development Panel: From Idea to Product
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4:00 - 5:30 PM	Transitioning from Academia to Industry
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### Friday, October 9<sup>th</sup>

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8:00 - 9:30 AM	Best Practices in Leadership and Management
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9:30 – 10:30 AM	Industry Career Chat
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12:45 – 1:45 PM	Best Practices in Quality and Regulatory
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2:00 – 3:00 PM	Start-ups and Venture Capital: Navigating the Funding Process and Investment Pitches
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3:15 - 5:00 PM	Tech Transfer and Licensing - Best Practices in Transferring Technologies from Academia and the Clinic into Industry
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Live investment pitches

### Saturday, October 10<sup>th</sup>

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9:30 – 10:30 AM	BMES Industry Update <i>All BMES members welcome</i>
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# BMES Industry Committee

- ▶ Coming soon! → Corporate memberships
- ▶ Local Industry Networking Groups
  - Tuesday, August 18<sup>th</sup> from 2–3 PM Eastern
  - [http://bmes.org/industry\\_networking](http://bmes.org/industry_networking)
  - <http://bmes.org/elearning>
- ▶ For more information, please visit [bmes.org](http://bmes.org)

# Announcements

- ▶ The archived recording, presentation slides and resources will be available a few days after the webinar at:  
<http://bmes.org/elearning>
- ▶ You may submit questions throughout the webinar by using the online chat function. Your questions will be addressed after the featured speaker presentation.
- ▶ Please take a few minutes to complete the brief survey following the webinar to provide us with your feedback.



**BMES**  
BIOMEDICAL ENGINEERING SOCIETY™

# Speaker

- ▶ **Clark Wilson**

Sr. Counsel, Merchant and Gould



# Biomedical Engineering Society

## Translation, Intellectual Property and Venture Capital

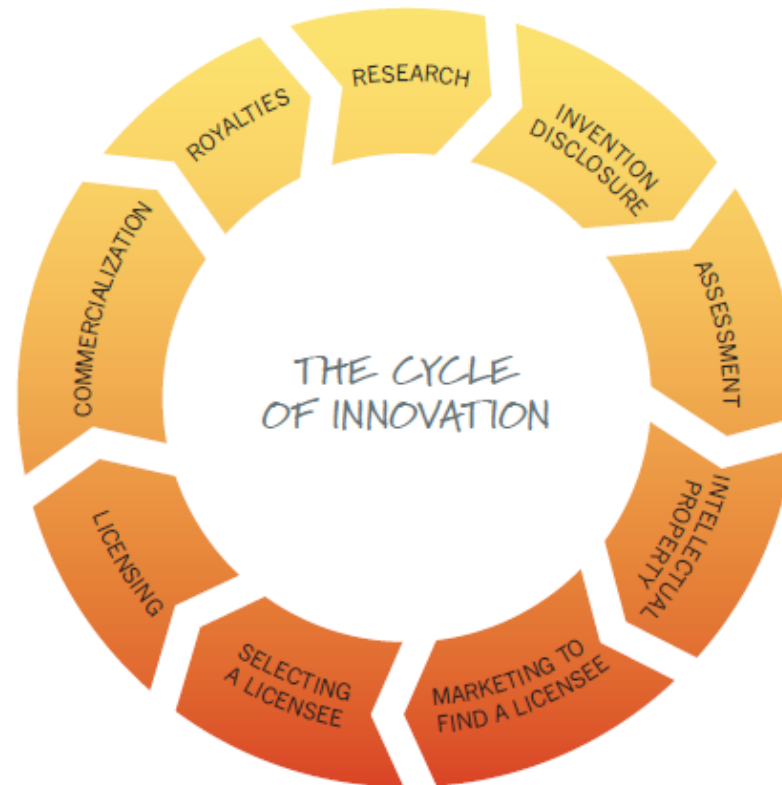
Clark A.D. Wilson

[cwilson@merchantgould.com](mailto:cwilson@merchantgould.com)

404-954-5100

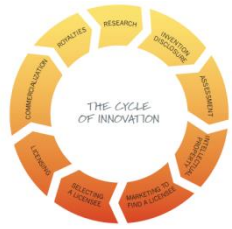


# Technology Transfer



\*Stanford University Office of Technology Licensing Start-Up Guide

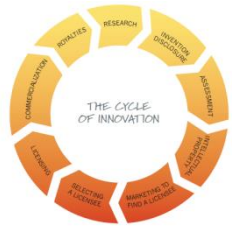




# Technology Transfer

**Research** – Your research has developed/identified something new and useful:

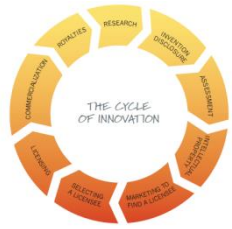
- Machine
- Composition of Matter
- Article of Manufacture
- Process
- Improvement on existing technology (most common)



# Technology Transfer

## **Invention Disclosure** – Informing the University/Research Institution

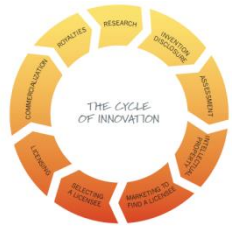
- Locate an invention disclosure form at Technology Transfer Office
- List all inventors involved
- Describe the problem which initiated your research
- Describe the current technology used for this problem
- Describe the invention and the improvements it offers
- Do this BEFORE publication
- Update TTO with add-on developments



# Technology Transfer

**Assessment/Review** – TTO considers potential for commercialization

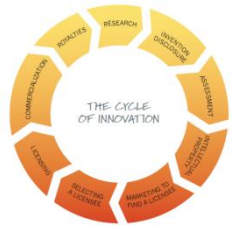
- Search for patentability
- Market consideration
- Analysis of competition
- Do the inventors want to start their own company?
  - If so, does the TTO restrict them from continued employment at the research institution, or allow concurrent work?
  - Put together a proposal
- Inventors can assist with this analysis if helpful



# Technology Transfer

## **Intellectual Property** – TTO Prepares Patent Application(s)

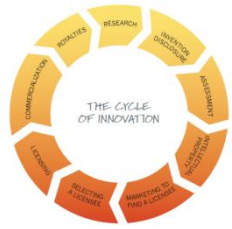
- Detailed description of the preferred embodiment
- Often includes examples and data from research
- Significant involvement of inventors & outside attorneys
- Provisional Application is likely first step
- Patent examination can take years
- Continuation or Continuation-in-Part Applications?
  - Stay in contact with TTO



# Technology Transfer

**Marketing** – TTO presents the technology to companies

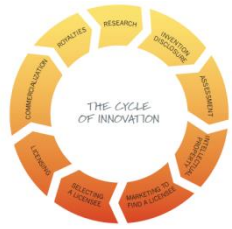
- Inventors often involved in creating presentation
- Create list of potential interested companies based on experience
- Find ways to introduce the technology to those companies
- Evaluate their interest level and commercialization plans



# Technology Transfer

## Selecting the Licensee

- Which partner is in best position to commercialize
- Large company – resources and network, but less commitment
- Small company – high interest and drive, but less resources
- Evaluate specific plans for development
- Evaluate the leadership of the companies
- Possible to have 2 or more companies based on different industries
- Want to start a company? Prepare a proposal.

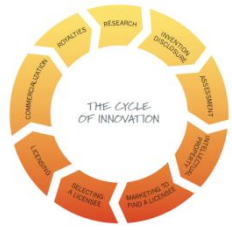


# Technology Transfer

## License Terms

- Between the research institution and the company or companies
- Exclusive or non-exclusive
  - Most startups request exclusive due to funding benefits
  - Can be restricted to particular form of use, region etc.
- Compensation - however it is negotiated
  - Ongoing royalties – per term, per unit sold
  - Required minimums
  - Lump payments
  - Required diligence

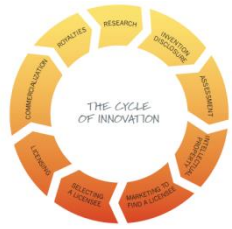




# Technology Transfer

## Commercialization

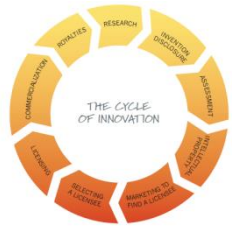
- Can take years after the initial invention is realized
- Often requires further R&D by the licensee company
  - Often to determine how best to “sell” the technology
- Regulatory approvals, sales, etc.
- Want to form a Startup?
  - Network Network Network
  - Develop a Business Case
  - Use both to Seek Funding (Angels, VC’s, Crowdfunding)



# Technology Transfer

## Royalties

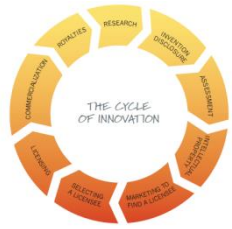
- Assuming the licensing company is commercially successful
- Inventors often share royalties with the institution (%)
  - Review the handbook



# Technology Transfer

## Where Researchers Take Wrong Turns

- Publish before Patent
  - Can prevent patent rights
- Incomplete lab notebooks (Date and witness everything)
- Not involving TTO early
- Not updating TTO with follow-on research after first Disclosure



# Technology Transfer

## Why Good Technology Fails To Become Good Business

- Management is inappropriate
- Bad/Incomplete IP protection
- No money
- No commercial need for the technology
- A very niche market
- Bad Luck/Timing

**Thank you.**

Clark A.D. Wilson

[cwilson@merchantgould.com](mailto:cwilson@merchantgould.com)

404-954-5100

# Speaker

- ▶ **David Kuraguntla, D.O.**



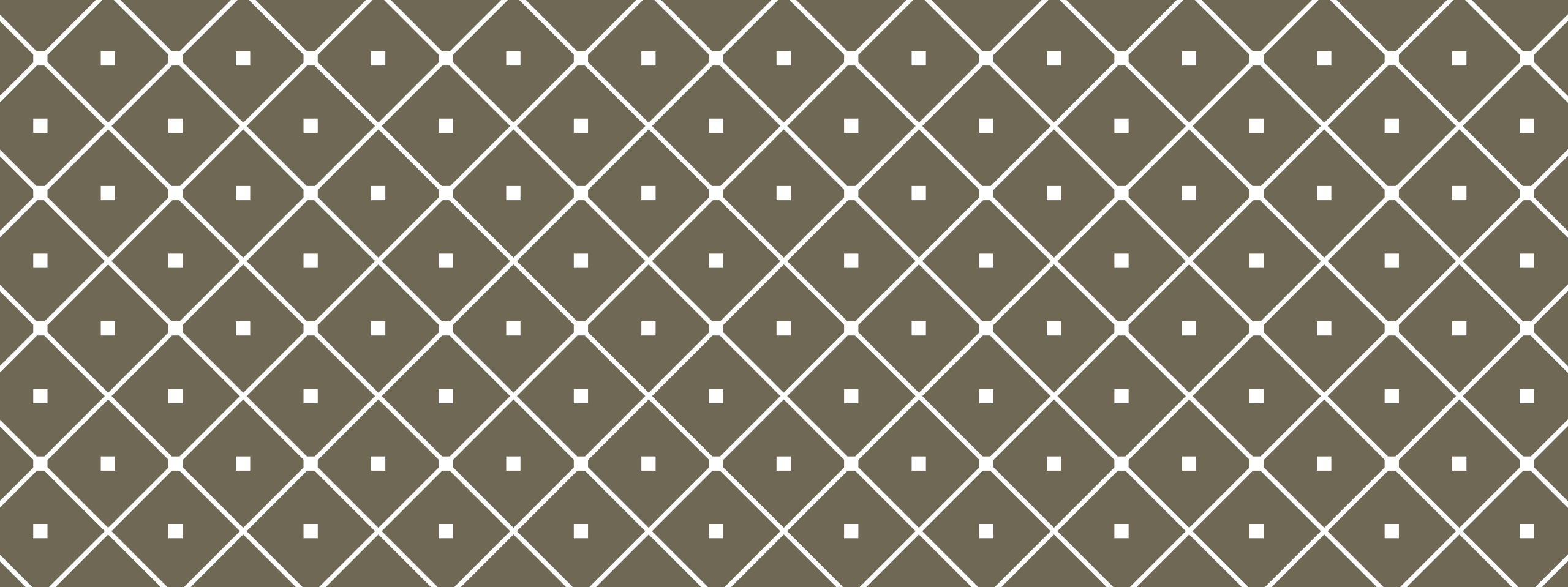
Founder and CEO, Graftworx, and Founder, Spiral Arm Ventures



**BMES**  
**TRANSLATION, INTELLECTUAL PROPERTY**  
**AND VENTURE CAPITAL**

David J Kuraguntla  
Founder & CEO, GraftWorx  
[david@spiralarmventures.com](mailto:david@spiralarmventures.com)

July 29, 2015



# AM I A PRODUCT OR A COMPANY?

Answering this question is the most important step you can take



# COMPANIES GET BOUGHT, PRODUCTS GET SOLD

## Product

Niche market

Single customer base

Narrow, but well-defined IP

Outsourced Team

Alternative Funding Model

- SBIR
- Partnerships
- Early acquisition

## Company

Platform Technology

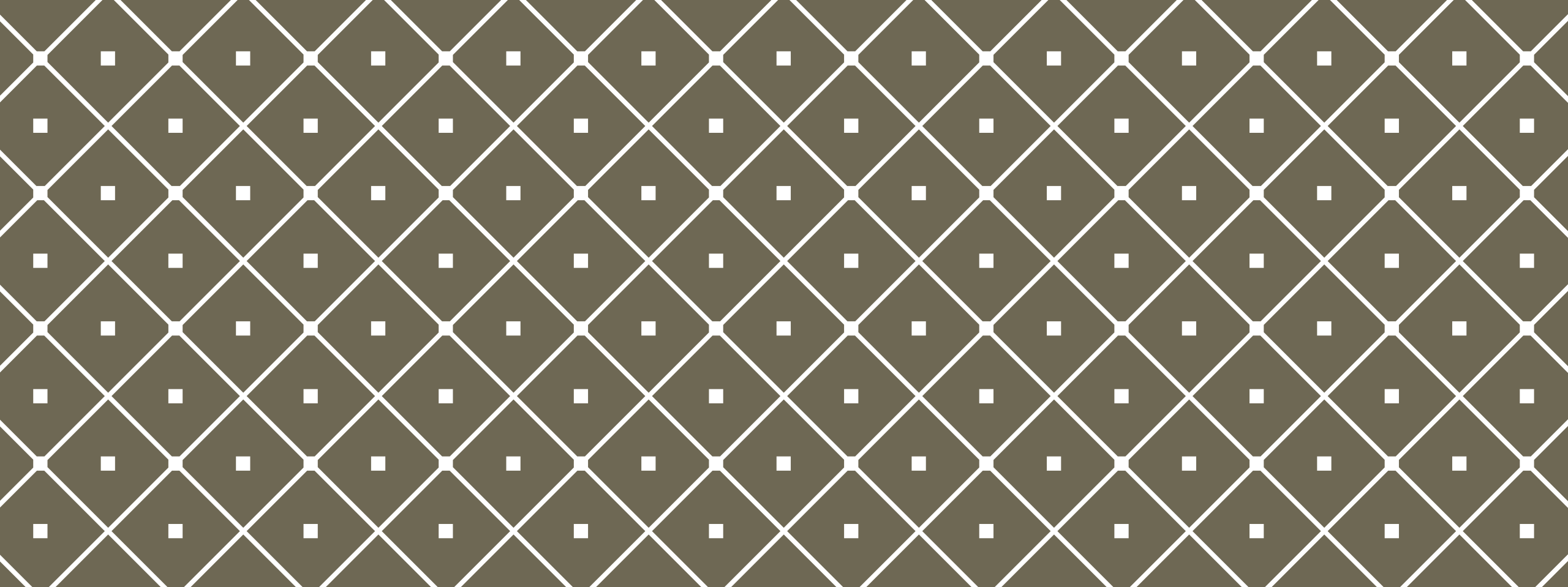
Several potential customers

Broad IP base

Building a Large Team

Traditional Funding Model

- Angel
- Venture Capital
- IPO



# **BUILD A STORY — DON'T WRITE A BUSINESS PLAN**

Investing is emotional — well-crafted stories are engaging

# HOW SHOULD A STARTUP TELL ITS STORY?

We believe that  $x$  potential customers  
face  $y$  problem.

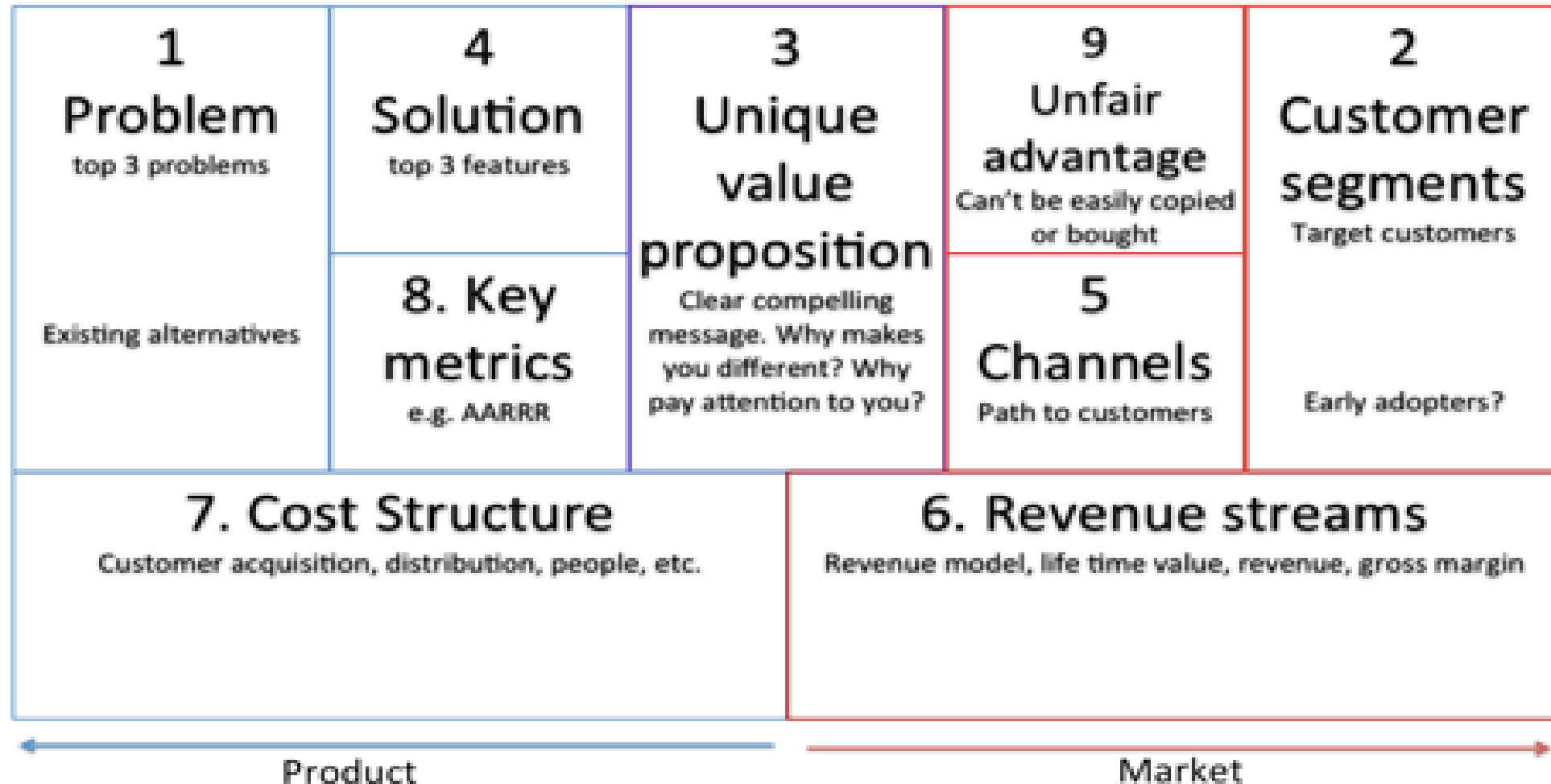
Our proposed solution to  $y$  problem is solution  $z$   
at a cost of  $q$  dollars

but we're also going to test the effectiveness of solutions  $a,b,c$ .

Here is our plan for testing that hypothesis.

*Traditional business plans assume their assumptions are correct, and startup business plans assume their assumptions are probably wrong.*

# LEAN CANVAS





# BOOKS TO READ

The Hard Thing about Hard Things – Ben Horowitz

Startup CEO – Matt Blumberg

Running Lean – Ash Maurya

The Lean Startup – Eric Ries



# THANK YOU

Please feel free to reach out if you have any additional questions

[david@spiralarmventures.com](mailto:david@spiralarmventures.com)



# BMES

BIOMEDICAL ENGINEERING SOCIETY™

# QUESTIONS?

# BMES Activities and Events

## ▶ 2015 Professional Development Webinars

<http://bmes.org/elearning>

- Local Industry Networking Group: **August 18 @ 2pm ET**
- Tenure Promotion Process: **September 15 @ 3pm ET**

## ▶ 2015 BMES Annual Meeting in Tampa

<http://bmes.org/annualmeeting>

**Oct 7–10, 2015**

## ▶ 2015 BMES Regional Events

- Southeast BME Regional Conference  
**Oct 23, 2015 (Raleigh, NC)**
- Midwest BME Regional Conference:  
**Nov 6, 2015 (Akron, OH)**