Developing and Growing University Based Startups

September 7, 2017
Rosemarie Truman, Founder and CEO
Contents

• Opportunity
• Introduction
• Track Record
• Keys to Creating Great University Based Startups
• Fund Financials and Expected Returns
• Key Team Members
WHY? Opportunity: $1.5 Trillion

250,000 Federally Funded Inventions—Barriers to Transfer

Commercializing Promising 1%

THE CENTER FOR ADVANCING INNOVATION, AKA
- “Tinder for Startups,” Nature
- “Shark tank on Steroids,” BIO
- ”Kickstarter for IP,” WIRED

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**Secret Sauce**

**Overview**

- Key Assets: Due diligence trade secrets
- Award-winning Startup Catalyst & Accelerator
- Established: 80+ partnerships; 170K+ inventions; First of a kind venture philanthropy
- RESULTS: Launched 80 companies; 2000+ jobs
- Unprecedented media attention/recognition;
- Numerous Prestigious Awards HHS, FLC, GAO Challenge.gov

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**Due Diligence – Corporate Partner Product-Market Fit**

**License & Lift Inventions**

**Commercialize with Corporate Partners:** Operators & Management Talent
HOW? Start with the Inventions

Identify High Value Inventions Globally
170,000 in Database across 80

Evaluate for Commercial Viability

Teams Compete & Receive Entrepreneurial Training

Great Startups Generated
Track Record

2014-2015
22 companies
Ex, Angio360

2015-2016
15 companies
Ex, Joele

2015-2016
15 companies
Ex, OneTest

11 companies
Ex, Oncolinx

2013-2014
11 companies
Ex, Oncolinx

2014-2015
22 companies
Ex, Angio360

2015-2016
15 companies
Ex, OneTest

Freedom from Cancer Startup Challenge

Space Race Startup Challenge

Nano Startup Challenge

Breast Cancer Startup Challenge

Neuro Startup Challenge

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Current: Launching 100 Cancer Startups

120,000 Patented Cancer Inventions → 100 Inventions – Product – Market Fit Assessment → 1,000 Teams Competition → 100 Breakthrough Cancer Startups – 72% Drugs - 28% Devices

KEY ADVISORS

David Berman
Head of Oncology, MedImmune

Elaine Jones
Executive Director, Pfizer Ventures

Henry Skinner
Managing Director, Novartis Ventures

Esther Dyson
Super Angel, StartUp Health

KEY PARTNERS
What’s Next?

- VA Beach Bio Innovation Challenge
- FEMPOWER Startup Challenge
- Space Race Startup Challenge
- Freedom from Cancer Startup Challenge
- Neuro Startup Challenge
- Nano Startup Challenge
- Breast Cancer Startup Challenge
80 Startups so Far

CHALLENGE.GOV
BEST in Business Plan and Entrepreneurship

WHITE HOUSE
#1 Accelerator Program
#6 out of 10 in Entrepreneurship
#36 out of 100 in IMPACT

HEALTH AND HUMAN SERVICES
“Secretary’s Pick” Innovation Award

FEDERAL LAB CONSORTIUM
Technology Transfer Excellence Award

GOVERNMENT ACCOUNTABILITY OFFICE
Best in Innovative Commercialization Models
Critical Success Factors?

- IDEA
- TEAM + CONNECTIONS + TRAINING
- MONEY

SUCCESS
IDEAS #1

• 250,000 INVENTIONS

• CHARACTERISTICS:
  • $50+ MILLION;
  • FDA APPROVED;
  • DEPLOYED AT SCALE

• RESULTS: $1.5 TRILLION + EXPONENTIAL SOCIAL IMPACT
IP - FIND & Select

...However, More is Required: Due Diligence, Capital Efficiency, Match to Region

Tops-Down and Bottoms-Up Analysis to Identify Key Opportunities

<table>
<thead>
<tr>
<th>Number of Opportunities</th>
<th>Total Opportunities</th>
<th>Leading Opportunities</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1000s</td>
<td>~5</td>
</tr>
</tbody>
</table>

Applying Filter to ABC Co Opportunities

<table>
<thead>
<tr>
<th>Ability to Attract Funding</th>
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</thead>
<tbody>
<tr>
<td>• Ability to Attract Collaborators</td>
</tr>
<tr>
<td>• Ability to Attract Adequate Funding</td>
</tr>
<tr>
<td>• Total Amount of Commercial Funding Ever Provided</td>
</tr>
<tr>
<td>• In-Licensing Opportunity (not included in analysis)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ability to Execute – Feasibility - Match to Region</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Current vs. Required Capabilities</td>
</tr>
<tr>
<td>• Strength of current position vs. competitors</td>
</tr>
<tr>
<td>• Access to patients / customers</td>
</tr>
<tr>
<td>• Barriers to Entry</td>
</tr>
<tr>
<td>• Risk</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Market Attractiveness</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Upfront Investment Required/Capital Efficiency</td>
</tr>
<tr>
<td>• Addressable Market Size/Growth Rate</td>
</tr>
<tr>
<td>• Total Potential Revenue</td>
</tr>
<tr>
<td>• Profitability</td>
</tr>
<tr>
<td>• Market Sustainability</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Scientific Attractiveness</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Novelty</td>
</tr>
<tr>
<td>• Efficacy and Efficiency</td>
</tr>
<tr>
<td>• Safety</td>
</tr>
<tr>
<td>• Standard of Care</td>
</tr>
<tr>
<td>• Medical / Scientific Competitive Advantage</td>
</tr>
</tbody>
</table>

Partial View of Parameters in 8 Categories
IP - Not that FAST!

Business Arrangements with NIH

Arrangement Characteristics

• 15 Partnership Intermediary Agreements available only to public-private partnerships

• 3 Collaboration agreements to run startup challenges

• Part of Technology Review Group to evaluate inventions not publically available

• Relationship strong due to Health and Human Services Secretary’s Pick Innovation Award, Federal Laboratory Consortium Technology Transfer Excellence Award, White House attention as well as media attention

• Exclusive licensing between NIH and Startup through NIH Startup Exclusive License Agreements
Team Composition - #2
Recruiting Multi-Disciplinary Teams

Team Design:
Mandatory Requirements

- Business
- Legal
- Invention Specific Technical
- Seasoned Entrepreneur

Challenge TEAM

Other Key Notes on Who May Participate

Students:
- Graduate and undergraduate students
- Post-docs as well as those in residency

Anyone else beyond the three mandatory students

Match skill sets of mentors to invention and team gaps; possible additional team members include:
- Business Development Leaders from Large Companies
- Key Opinion Leaders
- FDA/Regulatory
- Venture Capitalists
- Clinical Research Outsourcer (CRO)

- Over 18 years old
- At least three students on the team
Execution - Recruiting Teams

Recruiting Multi-Disciplinary Teams

- Multi-disciplinary teams will include: core technology skills (e.g., engineering and/or medical/scientific that matches to the technology R&D requirements), legal, business, serial entrepreneur

<table>
<thead>
<tr>
<th>Create Stakeholder Engagement Plan</th>
<th>Form Collaboration Agreements</th>
<th>Get Local Champions</th>
<th>Perform Roadshow at Universities and Hospitals</th>
<th>Actively Form Teams in Letter of Intent Phase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Universities</td>
<td>Appoint point persons within the collaboration agreements for Universities, Hospitals and VCs to assist in forming multi-disciplinary teams</td>
<td>Mentors, Advisors, &quot;Lead Coach&quot; / CEO across multiple teams</td>
<td>Actively form teams after roadshows</td>
<td>Teams populate a letter of intent form and provide resumes of their team</td>
</tr>
<tr>
<td>Hospitals</td>
<td></td>
<td></td>
<td>Coordinate with leads from Universities and Hospitals as well as economic development</td>
<td>Team is scored and either accepted or CAI will work with team to flesh out</td>
</tr>
<tr>
<td>Local Businesses</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Potential Investors/ Funders</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lead Coaches</td>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>
Advisors

**Desiree Younge**
- VP, Programs, Tory Burch Foundation
- Leader in Women Entrepreneurship

**Anne Hubert**
- Viacom Executive, Scratch Founder
- Venture for America Board

**Anna Mason**
- Revolution, Director of Investments
- Vinetta Project

**Jay Samit**
- Digital media disruptor - Disrupt You!
- Deloitte Digital

**Shannon Bell**
- Managing Director, The Orogen Group
- Directed Corporate Communications, Citi

**Joanne Wilson**
- Super Angel
- Co-Founder Womens Entrepreneur Festival
- Investment focus on women entrepreneurs

**Cassandra Kelly**
- Strategy consulting, disruptive innovation
- Fintech Investor
- Fund manager

**Esther Dyson**
- EDventure, Super Angel
- Investor in health care, government, and space
- CAI Technology Revie

**Lisa Caputo**
- EVP, CMO, Travelers
- EVP, CMO, Citi, Women & Co

**Karen Kerrigan**
- SBE Council
- World Entrepreneurship Forum
- Womens’ leadership
## Execution - Team Training

### 40 Entrepreneurship Training Classes and Q&A with Mentors

#### Training Sessions Listed Below

<table>
<thead>
<tr>
<th>Topic</th>
<th>Phase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Program Management and Team Work</td>
<td>Ph I</td>
</tr>
<tr>
<td>High Level business plan development</td>
<td>Ph I</td>
</tr>
<tr>
<td>How to Create an Elevator Speech</td>
<td>Ph I</td>
</tr>
<tr>
<td>How to Create an Executive Summary</td>
<td>Ph I</td>
</tr>
<tr>
<td>Developing an IP Strategy</td>
<td>Ph II</td>
</tr>
<tr>
<td>Licensing</td>
<td>Ph II</td>
</tr>
<tr>
<td>Product Description</td>
<td>Ph II</td>
</tr>
<tr>
<td>Risk Assessment</td>
<td>Ph II</td>
</tr>
<tr>
<td>Stakeholder Assessment</td>
<td>Ph II</td>
</tr>
<tr>
<td>Regulatory Strategy</td>
<td>Ph II</td>
</tr>
<tr>
<td>IP Strategy</td>
<td>Ph II</td>
</tr>
<tr>
<td>Commercialization Planning</td>
<td>Ph II</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Topic</th>
<th>Phase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Competitive Analysis</td>
<td>Ph II</td>
</tr>
<tr>
<td>Financing/Fund Raising/Investment</td>
<td>Ph II</td>
</tr>
<tr>
<td>Negotiation</td>
<td>Ph II</td>
</tr>
<tr>
<td>Financial Modeling:</td>
<td>Ph II</td>
</tr>
<tr>
<td>1. Valuation</td>
<td>Ph II</td>
</tr>
<tr>
<td>2 P&amp;L – cost</td>
<td>Ph II</td>
</tr>
<tr>
<td>3 P&amp;L - revenue</td>
<td>Ph II</td>
</tr>
<tr>
<td>4 Equity models</td>
<td>Ph II</td>
</tr>
<tr>
<td>R&amp;D Planning</td>
<td>Ph II</td>
</tr>
<tr>
<td>Live Pitch</td>
<td>Ph II</td>
</tr>
<tr>
<td>Voice of the Customer</td>
<td>Ph II</td>
</tr>
<tr>
<td>Structuring a company</td>
<td>Ph III</td>
</tr>
<tr>
<td>Employment issues</td>
<td>Ph III</td>
</tr>
<tr>
<td>Fundraising</td>
<td>Ph III</td>
</tr>
</tbody>
</table>

Prepared for Prepared for Medical Center of Americas Foundation - Confidential & Proprietary – Gazelle Innovation Ventures LLC - Do Not Distribute
Critical Success Factor #3 – Money!!

• **Financial:**
  • Buying Beta but Receiving Alpha - Lowest Cost/% Ownership
  • Highly Selective Basket of Assets with Multi-billion Payouts, e.g., 100 cancer startups

• **Social:**
  • Allowing Philanthropic Effort to Result in Furtherance of Legacy
  • Company Level Transparency - Opportunity for Targeted Impact Investments
Metrics from $20MM Fund
(90% Failure Rate)

**Financial Impact**

- **20 Companies**
- **$104M Investor Returns**
- **$76M Endowment**
- **56%+ Fund IRR**

Proven, award winning accelerator matches inventions to region’s strengths & significantly increases new startups

Limited Partners that invest $11.5MM are positioned to realize strong exit return multiples over the 10 yr life

MCA returns based on investment of $8.5MM based on 5X return

Securing the majority of equity at the early stage captures all value creation, resulting in strong for all investors

**Social Impact**

- **2500 Trained**
- **82% Employment**
- **18K Total Jobs**
- **$600M GDP Impact**

Over 500+ people per year x 5 years receive advanced STEM training during the 12 month accelerator process

Challenge graduates have attractive entrepreneurial skills that lead to high job placement success in market

Growing Life Science oriented startups creates a large multiplier effect, leading to job growth throughout the local ecosystem

Even with highly conservative assumption of 90% failure failure rate, startups jobs generate a large commerce impact in area
## Example Startup Successes

<table>
<thead>
<tr>
<th>Targeted Cancer Therapies</th>
<th>Batten’s Disease Therapy</th>
<th>Cancer Diagnostic</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ONCOLINX</strong></td>
<td><strong>Circumvent Pharma</strong></td>
<td><strong>ANGIO360</strong></td>
</tr>
<tr>
<td>Breast Cancer Startup Challenge Winner</td>
<td>Neuro Startup Challenge Winner</td>
<td>Neuro Startup Challenge Winner</td>
</tr>
<tr>
<td>$35MM Valuation In Boston, MA &amp; Buffalo, NY</td>
<td>$5MM Valuation In Los Angeles, CA</td>
<td>$20MM Valuation In Milwaukee, WI</td>
</tr>
<tr>
<td>• Co-founder raised $65M Series A round with Freenome</td>
<td>• Oxbridge/SR One OneStart Finalist</td>
<td>• “Best Pitch”, Healthcare Innovation</td>
</tr>
<tr>
<td>• Won MassBIO, MassChallenge &amp; Rice Business Plan Competition</td>
<td>• Received orphan drug indication</td>
<td>• Top 6 “Startups to Watch”</td>
</tr>
<tr>
<td>• Received $1 million in funding for winning 43North Competition</td>
<td>• Expertise in medicine, toxicology (INDS), regulatory affairs</td>
<td>• Finalist, Wisconsin Governor’s Competition; WI Innovation Award</td>
</tr>
<tr>
<td>• 18 agreements Pharma&amp;Academia</td>
<td>• Recruited VP, Merck Veteran</td>
<td>• Non-dilutive financing raised</td>
</tr>
<tr>
<td>• Top 30 under 30, TEDMED</td>
<td>• Top 5 percentile SBIR Grant</td>
<td>• PoC: Human (Completed)</td>
</tr>
<tr>
<td>• Products tested in space (ISS)</td>
<td></td>
<td>• First sale in 2017</td>
</tr>
</tbody>
</table>
**Investment Strategy**

Unlike typical minority interest angel funding, Gazelle’s early stage investments in companies formed from **exclusive low cost license of high impact, capital efficient de-risked IP portfolio** secures meaningful equity for outsized exit returns.

- Capital efficient investments selected that can deploy to market within 3-4 yrs
- Secures majority controlling equity position & maintains through future dilutive rounds
- Capital reserved for follow-on A Round for accelerating top breakout winners

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Select best IP from Large Database (currently 170,000)</td>
</tr>
<tr>
<td>2</td>
<td>Source Seasoned Management, Teams and Mentors</td>
</tr>
<tr>
<td>3</td>
<td>Orchestrate Award Winning Challenge &amp; Accelerator</td>
</tr>
<tr>
<td>4</td>
<td>Meaningfully Invest $1MM in Structured Seed; Receive Majority Equity</td>
</tr>
<tr>
<td>5</td>
<td>Mentor and Govern Startups – Pivot, Enhance Team, etc.</td>
</tr>
</tbody>
</table>

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Ingredients to Create BAD ASS Startups

- High-Value, De-Risked Inventions
- Unique Challenge-Accelerator Model
- World Class Mentor Reach
- Skilled Startup Teams
- Rigorous Training Ecosystem
- First of a Kind Venture Philanthropy

Social and Economic Impact

GDP Impact and Job Creation from CAI Accelerator Successes

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The CAI Team

Rosemarie Truman
Founder and CEO
Former: Global Head of Innovation Strategy, IBM

Reg Seeto
Board Member
COO at Ardelyx, Inc.

Nick Donofrio
Board Chairman
EVP IBM, 45 Years
His Brain Child is Watson

CORE TEAM

Jonathan Lui
CVO
Chief Ventures Officer

Cody Locke
CIO
Chief Innovation Officer

Jenna Baker
CBO
Chief Business Development Officer

Sam Bahreini
CXO
Chief Experience Officer

Sourav Sinha
Entrepreneur In Residence

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Contact
Gazelle Futures, LLC

Rosemarie H. Truman | Founder and CEO
Sourav Sinha | Entrepreneur-in-Residence

Bethesda, MD 20817

Rosemarie: (202) 438-2208
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twitter.com/caistartups
www.thecenterforadvancinginnovation.org
https://www.linkedin.com/company-beta/2827441/
Training for Next Generation of STEM

40+ Webinars on Business of STEM
- Given by industry experts
- Topics include: Incorporation, R&D Planning, Business Development, Financial Modeling etc.
- Eg. Venture Collaborations w/ Scott Weiner, Partner, Pappas Ventures

12+ Assignments
- Development training for business documents
- Guidance provided along with templates, training, and feedback
- Eg. Financial model, Pitch deck, Stakeholder engagement, VoC

Collaboration across the ecosystem
- Participants work together to form teams and gather experts
- Establish new connections
- Expand entrepreneurial network
- Create a Dream Team for the startups

CAI Mentors
- Mentors are seated in every team to provide close mentorship
- CAI augment expertise depending on startup needs
- Mentors provide one-on-one guidance on success measures

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