To incubate unique, proprietary, and impactful medical device innovation in a cost and time efficient manner.

Collaboration partners:
UCI, J&J +1 Strategic Partner
The Way the Medical Devices Industry Assesses Innovation and New Technology Has Changed

C-suite, Purchasing Managers, and MDs are all predicting similar shifts in influence and factors that represent a dramatically different world for device companies.

Source: McKinsey and Company
In 10 Years, Device CEOs Think the Key Characteristic of Winners in the Industry Will Be:

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Number of responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Innovation focused on cost reduction and economic benefit</td>
<td>24</td>
</tr>
<tr>
<td>Focus on solutions not just products</td>
<td>16</td>
</tr>
<tr>
<td>Willingness to take on more risk</td>
<td>3</td>
</tr>
<tr>
<td>Same as today - price premiums for innovation, deep clinician relationships,</td>
<td>2</td>
</tr>
<tr>
<td>capitalizing on high growth spaces</td>
<td></td>
</tr>
<tr>
<td>Better key account management and sales to larger customers</td>
<td>1</td>
</tr>
<tr>
<td>Navigating regulatory and quality challenges</td>
<td>1</td>
</tr>
<tr>
<td>Ability to market directly to consumers</td>
<td>0</td>
</tr>
</tbody>
</table>

Source: AdvaMed CEO Summit breakout sessions / McKinsey and Company
BIG COMPANIES SHOULD BE BEST AT INNOVATION

- R&D infrastructure
- Rich in tools and capabilities
- Great talent in biomedical engineering and scientific/medical expertise
- Know technology and the customer
- Financial strength
Where the Cash is Spent

Penny wise? How medtechs have spent their cash, 2009-14

Cash acquisitions | Cash returned to shareholders | R&D expenses

Source: EY, Capital IQ and Thomson ONE.
Data shown for US and European public pure-play companies for which data were publicly disclosed. Cash returned to shareholders includes total dividends paid and stock repurchased.
BIG M&A DEALS ADD VALUE, BUT ARE RISKY

Large acquirers by positive or negative change in excess Total Shareholder Return
Number of companies, n=25¹

1 Includes companies in Global 1000 from 1999-2010 that did a deal worth over 30% of their market capitalization and had TRS for 5 years; excludes financials, energy and raw materials firms

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It’s not whether M&A is good or bad – it’s whether companies are good or bad at M&A and integrations
INTEGRATIONS FAIL/UNDER-DELIVER DUE TO INSUFFICIENT VALUE CAPTURE

Source: McKinsey and Company

- **Good deal, well executed**
  - Exceeded value capture expectations
  - Aligned cultures/management practices to deliver value creation expectations
  - Minimal (if any) key staff & key account losses
  - Accelerated decision-making

- **Good deal, poorly implemented**
  - Insufficient value capture
  - Customer losses
  - Cultural differences undermining value creation/capture
  - Key staff losses
  - Insufficient integration management

- **Bad deal**
  - Erroneous synergy assumptions
  - Limited to no value capture
  - Weak strategic fit
  - Price too high

Successful M&A

- N=129
- 30%-40%

Failed/neutral M&A

- 45%-50%

- 15%-20%
RISK-TAKING IN LARGER COMPANIES

- Choice of investment into incremental, innovative or disruptive technology
- Timelines and funding
- Predictability, expectations and persistence
CULTURE OF INNOVATION

- Risk-taking and killing projects
- Setting expectations for both management and project teams
- Incubation
- Early stage marketing
- Learning and adapting
- Speed to FIH
THE PROBLEM

Medical Device Innovation is highly inefficient

Start-up companies speak with 20-40 investors before finding a lead investor

Venture Capitalists speak with 40-50 start-ups before deciding to invest in one
THE PROBLEM

Medical Device Innovation is highly inefficient

Start-up companies are distracted by fund raising, their development efforts are interrupted

Venture Capital, to be efficient, must put larger sums to work to make return goals

How can this process be improved?
<table>
<thead>
<tr>
<th>Number of Employees</th>
<th>Regulatory Changes</th>
<th>Product Development</th>
<th>Funding &amp; Capital</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-9</td>
<td>45%</td>
<td>36%</td>
<td>56%</td>
</tr>
<tr>
<td>10-49</td>
<td>61%</td>
<td>42%</td>
<td>39%</td>
</tr>
<tr>
<td>50-249</td>
<td>64%</td>
<td>57%</td>
<td>24%</td>
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<tr>
<td>250-999</td>
<td>77%</td>
<td>54%</td>
<td>6%</td>
</tr>
<tr>
<td>1000+</td>
<td>74%</td>
<td>49%</td>
<td>13%</td>
</tr>
</tbody>
</table>

*Emergo Global Medical Device Industry Outlook 2017*
**Healthcare sector trends**

Biotechnology related industries raised more than $4 billion for the fourth consecutive quarter

- A total of $4.0B invested into Biotechnology related industries in Q3'18, which represents an 1% decrease from Q2'18, while deals remained constant quarter on quarter of 120 deals in Q3'18 and Q2'18.

- The Medical Devices & Equipment related industries decreased quarter over quarter to $773M in funding and a 11% decrease in deals from Q2'18.
How many startups fail?

Nine out of ten startups will fail. This is a hard and bleak truth, but one that you’d do well to meditate on. Entrepreneurs may even want to write their failure post-mortem before they launch their business.

The Venture Capital Secret: 3 Out of 4 Start-Ups Fail

Re: Shikhar Ghosh

It looks so easy from the outside. An entrepreneur with a hot technology and venture-capital funding becomes a billionaire in his 20s. But now there is evidence that venture-backed start-ups fail at far higher numbers than the rate the industry usually cites. About three-quarters of venture-backed firms in the U.S. don't return investors' capital, according to recent research by Shikhar Ghosh, a senior lecturer at Harvard Business School.
BIG IDEAS FROM SMALL COMPANIES

- Despite differences in definitions, researchers understand that radical innovation within an organization is very different from incremental innovation [13,17,21] and that it is critical to the long-term success of firms.

- Unfortunately, research has also shown that it is often difficult to get support for radical projects in large firms [14], where internal cultures and pressures often push efforts toward more low risk, immediate reward, incremental projects.

- BIG companies must acquire radical innovation from startups.
Medtech pioneer Rowe, Deerfield launch $275m medical device incubator

SEPTMBER 20, 2018 BY BRAD PERRIELLO

A medtech pioneer, Stanton Rowe, and investment firm Deerfield Management said today that they’re going in on a medical device incubator backed by $275 million from the investment firm, with Rowe as CEO.

The Irvine, Calif.-based NXT Biomedical incubator plans to spend $25 million over the next five years on “cutting-edge technologies” designed to address unmet needs, with another $250 million pledged for creation of five to eight startups to be spun out of the incubator. And it’s “exploring potential collaborations with unnamed strategic partners,” according to Deerfield partner Steve Hochberg.
J&J Innovation gets in on NXT Biomedical incubator

JANUARY 8, 2019 BY FINK DENSFORD — LEAVE A COMMENT

Johnson & Johnson (NYSE:JNJ) said today that it inked a deal to join the NXT Biomedical therapeutic device incubator, gaining the right to migrate select projects from the incubator to its J&J medical devices companies.

The Irvine, Calif.-based incubator was founded by medtech pioneer Stanton Rowe and investment firm Deerfield Management last September, and aimed to invest in “cutting-edge technologies” designed to address unmet needs.

As a key member of the incubator, J&J’s Innovation arm will have the ability to move strategically aligned projects within the accelerator to J&J medical device companies for continued development at the Center for Device Innovation at the Texas Medical Center.

“The CDI @ TMC model was created to enhance early-stage internal and external medical device innovation. Our collaboration with NXT Biomedical has the potential to further strengthen the CDI @ TMC pipeline with validated science coming through the NXT incubator, and to ensure that jointly we deliver best-in-class medical device innovation to patients around the world,” J&J Innovation global head Dr. William Hait said in a press release.
SOLVE IMPORTANT PROBLEMS #1

- Project 1- Medical Need/Market/Device
- Project 2- Medical Need/Market/Device
- Project 3- Medical Need/Market/Device
- Project 4- Medical Need/Market/Device
- Project 5- Medical Need/Market/Device
- Project 6- Medical Need/Market/Device
- Project 7- Medical Need/Market/Device
- Other Potential Projects
Key Trouble Shooting Process Steps

- Situation Analysis:
  - Determine responsibilities
  - Define the next steps
  - List Concerns
  - Determine priorities
  - Separate and clarify situation

- Problem Analysis:
  - Define problem
  - Specify problem
  - Identify differences and changes
  - Formulate causes
  - Test causes against the facts
  - Prove true cause

- Decision Analysis:
  - State decision
  - Define and classify objectives
  - Weigh objectives
  - Generate alternatives
  - Evaluate alternatives
  - Assess risks
  - Make decision

- Potential Problem Analysis:
  - Identify potential problems
  - Identify causes
  - Take preventive action
  - Plan contingent action
  - Set triggers
(A) Decision to Evaluate

<table>
<thead>
<tr>
<th>Score</th>
<th>Where should we travel for our mid-Winter get-away?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Florida</td>
</tr>
<tr>
<td>21</td>
<td>16</td>
</tr>
</tbody>
</table>

(B) Qualities of this Decision

<table>
<thead>
<tr>
<th>Quality</th>
<th>(C) Rank</th>
<th>(E) Meets Need?</th>
</tr>
</thead>
<tbody>
<tr>
<td>a relaxing time</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>warm weather</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>not too expensive</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>not too far away</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>&lt;important quality / value&gt;</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

[Rank: 3 = very important | 2 = pretty important | 1 = important]

[Meets Need?: 3 = very true | 2 = true | 1 = fairly true]
HOW INNOVATION TEAMS BEHAVE

1. Innovation Emerges over Time
No single actor comes up with the big picture, the whole plot. The play emerges bit by bit. Each actor, in each line of dialogue, contributes a small idea.

2. Successful Collaborative Teams Practice Deep Listening.
Most people spend too much time planning their own actions and not enough time listening and observing others.

3. Team Members Build on Their Collaborators’ Ideas
When teams practice deep listening, each new idea is an extension of the ideas that have come before.

4. Only Afterwards Does the Meaning of Each Idea Become Clear
Even a single idea can’t be attributed to one person because ideas don’t take on their full importance until they’re taken up, reinterpreted, and applied by others. In a creative collaboration, each person acts without knowing what his or her action means.

5. Surprising Questions Emerge
Creativity researchers have discovered that the most creative groups are good at finding new problems rather than simply solving old ones.

6. Innovation Is Inefficient
Improvised innovation makes more mistakes, and has as many misses as hits. But the hits can be phenomenal; they’ll make up for the inefficiency and the failures.

7. Innovation Emerges from the Bottom Up
The most innovative teams are those that can restructure themselves in response to unexpected shifts in the environment; they don’t need a strong leader to tell them what to do.
NXT EARLY FEASIBILITY PROCESS

Testing through chronic animals or FIH

UNDERSTAND → OBSERVE → POINT OF VIEW → GENERATE IDEAS → PROTOTYPE → TEST
Output of NXT is New Companies
Deerfield and Strategics have reviewed concept, development and testing for alignment

- Concept 1
- Concept 2

- Validation and Verification
- FIH Testing

- Add management
- Add funding

Funding Gate 1
Funding Gate 2

Feasibility
FIH
NewCo Spinout
TIMELINE: TOP ACQUIRERS OF MEDICAL DEVICE STARTUPS
2012-2017 YTD (as of 4/25/17)
Summary

- Large Companies need startups to fuel their very modest innovation efforts; these fuel their growth
- Startups need large companies for funding, acquisition, pivotal trials and approvals, scale up, and distribution
- Venture capital funding remains robust, but growth in medical device investments has been meager
- Series A financings remain extremely challenging
- Startups spend inordinate time and effort in seeking funding
- New models are needed to improve funding and startup efficiency
- This innovation ecosystem provides meaningful benefits to patients
Steve Jobs, former CEO, Apple

"Innovation has nothing to do with how many R&D dollars you have. When Apple came up with the Mac, IBM was spending at least 100 times more on R&D. It's not about money. It's about the people you have, how you're led, and how much you get it."

*From a 1998 interview with Fortune*