CleanTech Entrepreneurship
Final Project:
NOHMS Technologies

Yue Jian, Ye Yue
NOHMs Technologies: developer and supplier of Li–S battery components

- Electrode, electrolyte, and separator products
- A 3-part solution for high-energy, low-cost, long-life, and safe Li–S batteries
Industry Value Chain

- 5-Segment Value Chain with EBITDA Margins

<table>
<thead>
<tr>
<th>Segment</th>
<th>EBITDA Margin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Material Extraction</td>
<td>16.49%</td>
</tr>
<tr>
<td>Component Production</td>
<td>13.65%</td>
</tr>
<tr>
<td>Battery Production</td>
<td>11.08%</td>
</tr>
<tr>
<td>Power Electronic</td>
<td>10.63%</td>
</tr>
<tr>
<td>End-product Production</td>
<td>8.28%</td>
</tr>
</tbody>
</table>

- Updated Value Chain & Expanded “Component Production” Segment
Current Capabilities
- Assets: 4 pending patents, R&D center, Cornell researchers
- Networks: Cornell, the Tech Garden, iClean, NYSERDA, GCCA
- Passions: Revolutionize vehicle market with Li–S battery
- Skills: R&D skills, entrepreneurial skills, grants application

Complementary Assets Needed
- Partnership with battery OEMs and product OEMs to design, qualify, and manufacture batteries

Complementary Assets
(Everything you need beyond your current capabilities to create and deliver your product to your customer)

Increasingly easy to acquire

<table>
<thead>
<tr>
<th>Specialized</th>
<th>Generic</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>License to Partner with CA holder</strong></td>
<td>Strong New Business Potential</td>
</tr>
<tr>
<td>Capabilities have no capturable value</td>
<td>Niche Business Potential Or Development Co.</td>
</tr>
</tbody>
</table>
Investability Diagram

- **Time needed for liquidity event**
  - 6 more yrs from now or 8 yrs from incorporation (10/2010)

- **Investment required**
  - $1.5M in open seed financing round (2012)
  - $6M in series A round (2013–14)
  - $50M as additional financing (2015–16)

- **IRR Estimation**
  - IRR range: 42% to 60%
  - Based on EV range ($87M – $197M), and investment range ($28.75M–$57.5M)
Recommendations

- Possible integration inside the value chain segment “component production” based on value capture.
Thank you!

Any Questions?