Richcore Lifesciences

2nd EU-India Conference on Advanced Biofuels
Delhi - March 11 2019
The Company...

Integrated biotech
- Research Driven
- Bio-Manufacturing Organization

Products
- Enzymes & Recombinant proteins

130+ team based in Bangalore
- Over 40% of personnel in R&D
Solving the right problem

- Biomass Aggregation
- Pretreatment
- Enzyme Hydrolysis
- fermentation
- Distillation
- Effluent management
**Typical enzyme manufacturing process**

1. Slant
2. Shake flask
3. Seed culture
4. Production fermentation
5. Microfiltration
6. Ultrafiltration
7. Chrome/Purification
8. Packaging/shelf life

**Key Cost Drivers**

- Upstream productivity
- Downstream losses
- Packaging and transport
Parallels: 2G Enzymes & 2G Ethanol

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<thead>
<tr>
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<th>2G Ethanol</th>
<th>2G Enzymes</th>
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<tbody>
<tr>
<td>Method of production</td>
<td>Fermentation</td>
<td>Fermentation</td>
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<tr>
<td>Fermentation raw material</td>
<td>Sugars</td>
<td>Sugars</td>
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A 2G Ethanol Plant is best positioned to produce the lowest cost enzymes.
Enzyme Industry

Traditional Business Model

- Hub and Spoke Model
  - Higher down-streaming costs
  - Additional transportation cost

Optimized Business Model

- Integrated Model
  - NO down-streaming costs
  - NO transportation cost
Harnessing the power of Integrated Enzyme Fermentation

Thank you

subramani.rich@richcoreindia.com
krishna.kalyan@richcoreindia.com