Why do we need one?

- 14% increase in US snack bar sales in 2010

- More control over ingredients for health and allergies

- 250,970 tons of snack bars consumed in the US in 2010 (Euromonitor International)
What does it do?

- Takes in solid ingredients and a binder
- Assembles them into a cereal bar

Requirements:
- Fast
- Simple to operate
- Easy to clean
What else is like it?

<table>
<thead>
<tr>
<th></th>
<th>Coffee maker</th>
<th>Bread machine</th>
<th>Slow cooker</th>
<th>Bar maker</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Counter space</strong></td>
<td>90-120 in.²</td>
<td>100-250 in.²</td>
<td>170-230 in.²</td>
<td>&lt;~200 in.²</td>
</tr>
<tr>
<td><strong>Volume</strong></td>
<td>1200-2000 in.³</td>
<td>1500-3000 in.³</td>
<td>1800-3700 in.³</td>
<td>&lt;~2500 in.³</td>
</tr>
<tr>
<td><strong>Price</strong></td>
<td>$25-200</td>
<td>$50-250</td>
<td>$30-130</td>
<td>&lt;~$150</td>
</tr>
</tbody>
</table>
Making Snack Bars Fast

Chilling method:
1. Heat binder (honey)
2. Mix solid ingredients with binder
3. Form into bar
4. Chill in freezer
Liquid Heater

- Heats liquid ingredients to make less viscous
- Tested thermal strip to heat honey
Mixer

- Wet and binding ingredients combined
- Experimented with horizontal and vertical mixing
- Moving parts require cleaning
Shaper

- Compress bar before chilling
- Extrusion is simpler than compacting
Chiller

- Chill mixture until solid
- Chill quickly in small volume
- Use existing freezer technology
The Future of Go-Bar

- Different recipes: ability to handle difficult ingredients
- Self cleaning: reduce the amount of work of the user