**PROJECT TITLE** - Energy Efficient Grinding Technology Identification and Evaluation

**PROJECT OVERVIEW**
Identify and advance new-to-industry grinding technologies aimed at significantly reducing the energy required to functionally liberate minerals for selective recovery.

**PROJECT DESCRIPTION**
Identifying new technologies. Develop a standard protocols for testing, evaluating and comparing technologies depending on TRL. Evaluate based on technology and economics to create a pro forma business case. Select technologies to support/fund for further development.

**PROJECT STATUS**

<table>
<thead>
<tr>
<th>Phase</th>
<th>Project Tasks</th>
<th>Timing (Q/Y)</th>
<th>Budget ($$)</th>
<th>Resources Required</th>
<th>Outputs</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Technology Identification</td>
<td>Create submission portal, call for ideas</td>
<td>Random inquiries</td>
<td>Industry screening</td>
<td>Literature review</td>
</tr>
<tr>
<td>2</td>
<td>Initial Funneling (based on TRL)</td>
<td>Initial techno-economic screening</td>
<td>DEM modelling</td>
<td>Die Press</td>
<td>Bench Scale</td>
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<tr>
<td>3</td>
<td>Testing and Evaluation</td>
<td>Create standard sample for testing</td>
<td>Supply standard sample(s) if applicable</td>
<td>Comminution</td>
<td>Downstream (mineral extraction)</td>
</tr>
<tr>
<td>4</td>
<td>[If Successful] Create Project to Advance TRL</td>
<td>Project Plan</td>
<td>Partners</td>
<td>Funding</td>
<td></td>
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</tbody>
</table>

**ENVIRONMENTAL IMPACTS**
Significant energy reduction. May have impacts on dust creation, noise, dewatering/tailings behaviour, water demand, carbon footprint/GHG.

**DOWNSTREAM IMPACTS**
Particle size distribution impacts: mineral extraction/separation, recovery, tailings management, reagent consumption.

**UPTAKE POTENTIAL AND SCALABILITY**
All mines conducting comminution activity. Scalability may be dependent on technology. Can it be used U/G and surface? May have health and safety impacts depending on the process.

**THE INNOVATION CASE**
Current comminution is extremely energy inefficient, much potential for improvement.

**ECONOMIC AND/OR SOCIAL IMPACTS**
Dramatic cost reductions in energy use. Greenfield vs retrofit depending on economic business case. Can it reduce costs enough to keep operations open?

**HUMAN IMPACTS**
May have impacts on necessary human capital/level of training and education depending on technology.