

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			PARTICIPANTS		
METHODOLOGY					
<i>Phase</i>	<i>Project Tasks</i>	<i>Timing (Q/Y)</i>	<i>Budget (\$\$)</i>	<i>Resources Required</i>	<i>Outputs</i>
1	Technology Identification				
	Create submission portal, call for ideas				
	Random inquiries				
	Industry screening				
	Literature review				
	Conferences				
2	Initial Funneling (based on TRL)				
2.1	Initial techno-economic screening				
2.1	DEM modelling				
2.2	Die Press				
2.3	Bench Scale				
	Pilot Scale				
3	Testing and Evaluation				
3.1	Create standard sample for testing				
3.1	Supply standard sample(s) if applicable				
3.1	Comminution				
3.2	Downstream (mineral extraction)				
3.3	Wear				
3	Gate Review to Develop Business Case				
3.1	Industry applicability				
3.2	Technical				
3.3	Economic				
4	[If Successful] Create Project to Advance TRL				
3.1	Project Plan				
	Partners				
	Funding				
ENVIRONMENTAL IMPACTS			DOWNSTREAM IMPACTS		
Significant energy reduction. May have impacts on dust creation, noise, dewatering/tailings behaviour, water demand, carbon footprint/GHG.			Particle size distribution impacts: mineral extraction/separation, recovery, tailings management, reagent consumption.		
UPTAKE POTENTIAL AND SCALABILITY			THE INNOVATION CASE		
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.			Current comminution is extremely energy inefficient, much potential for improvement.		
ECONOMIC AND/OR SOCIAL IMPACTS			HUMAN IMPACTS		
Dramatic cost reductions in energy use. Greenfield vs retrofit depending on economic business case. Can it reduce costs enough to keep operations open?			May have impacts on necessary human capital/level of training and education depending on technology.		