

PROJECT TITLE - Optimization Techniques & Sensor/Control Systems for Existing Mills

PROJECT OVERVIEW

Project looks at optimization of steady state conditions of exiting mills. Project evaluates different tools (sensor systems & controls) to monitor deviations from optimal conditions in existing mills. Existing mills operate at less than optimal performance under dynamic conditions due to change in feed conditions.

PROJECT DESCRIPTION

The project will survey and complete a comprehensive list of existing practices, tools being used within the industry, emerging tools/technology and their impacts for optimization of existing mills performance. The project will
 1) complete an evaluation of tools, practices and results, 2) publish a set of Best Practices and
 3) audit implementation of Best Practices in existing mills.

PROJECT STATUS

Concept Infancy

PARTICIPANTS

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METHODOLOGY

Phase	Survey & Gather Data	Timing (Q/Y)	Budget (\$\$)	Resources Required	Outputs
1	Collect Best Practices, Tools, processes, sensors within existing mills by literature review, presentations and personal network interviews				
1.1	Access existing reports				
1.2	Task title				
1.3	Task title				
2	Phase 2: Evaluate				
2.1	Summarize & Categorize Best Practices				
2.2	Validate results of each Best Practice				
2.3	Prioritize Best Practices by commodity and operation				
3	Phase 3: Communicate Best Practices				
3.1	Determine best communication process to ensure adoption				
3.2	Task title				
3.3	Task title				

ENVIRONMENTAL IMPACTS

1) Lower energy usage
 2) Potential fewer tailings & mineral losses

DOWNSTREAM IMPACTS

1) Better mineral liberation
 2) Short term economic optimization of plant
 3) Higher consistency
 4) Less stress in operations

UPTAKE POTENTIAL AND SCALABILITY

1) Every mill and operaton
 2) Standardized Best Practices for mill personnel to follow

THE INNOVATION CASE

1) Upgrading people knowledge
 2) Best practice adoption into industry
 3) Ability to integrate Best Practices into Expert Operator Control Systems

ECONOMIC AND/OR SOCIAL IMPACTS

1) 2 to 5% higher performance in 80% of mills in operation
 2) Longer employee and knowledge retention
 3) Consistent knowledge transfer and succession planning

HUMAN IMPACTS

1) Technical knowledge development
 2) Higher employee retention