Conjugate Anvil-Hammer Mill (CAHM)
A professional services firm combining engineering & technical acumen

- Employee-owned; partners who think like owners
- In business for 6 decades
- Projects in more than 150 countries
- More than 9,000 professionals worldwide
- More than US$50 billion of projects and assignments under management
Our Business

Serve 5 sectors
- Metals
- Infrastructure
- Energy
- Digital
- Investments

- Advisory & technology
- Major project implementation
- Operational performance
The Challenge

– Mining consumes 6% of electricity globally
– 50% of that is consumed by conventional comminution circuits
– As much as 90% is lost to the production of heat and noise
The Solution

- Hatch performed an appraisal study of 26 comminution technologies
- Ranked based on energy savings, maturity, risk, cost and downstream benefits
- CAHM emerged as a front runner for further development
CAHM Development

- Developed from study of the sweet spot in SAG mills
- DEM modelling validated concept of hammer and anvil rings
- Piston/die testing validated concept of semi-constrained crushing in a pocket with exit slots
CAHM Potential

- DEM modelling has demonstrated similar PSD reduction performance to HPGR, with approx. 50% energy savings
- Potential to reduce complexity of screening
- Preliminary indications of >10:1 reduction possible
Monoroll
SAG Mill Circuit

ROM
Primary Crushing
SAG Mill
Screening
Pebble Mill
Ball Mill
CAHM Circuit

ROM
Primary Crushing
CAHM
Screening
Ball Mill
CAHM + Monoroll Circuit

ROM
Primary Crushing
CAHM
Monoroll
Next Steps

Further DEM modelling to validate assumptions and refine concept.

Design and build a prototype at suitable scale to validate DEM modelling and run performance tests at COREM.
For more information, please contact:
mick.bunyard@hatch.com