

High Efficiency Mining Program

Maintaining competitiveness for the Canadian mining industry in the global arena through innovation.

The global Mining industry faces significant challenges due to market volatility, the decline of ore grades, the surge of deleterious constituents in ore bodies, environmental concerns, and the earning of a social license to operate. The extent of these challenges has forced the mining industry to embrace step change solutions through innovation over incremental improvements. Moreover, mining companies are embracing the benefits of seeking R&D solutions within a collaborative innovation ecosystem including stakeholders from along the value chain that can share the risks and enhance the chance of success.

The National Research Council of Canada (NRC) High Efficiency Mining (HEM) program brings a unique value to the mining innovation ecosystem. We combine a breadth of fundamental science and industrial research targeted for mining applications.

The program is supported by core multidisciplinary teams of scientists, engineers and business specialists. This represents an exceptional combination of skills and the recipe for step change solutions.

By harnessing a century of technology development experience from aerospace, advanced manufacturing, defense and other strategic initiatives, the HEM program has built a strong platform to tackle the

most complex mining challenges. This uniqueness has given HEM the capability to collaborate with industrial and other partners to accelerate the market readiness of sophisticated technologies from concept to commercialization.

Our strategic research and development focus includes smart resource extraction, unique separation technologies, increasing productivity, cost reduction through systems integration, sustainability through advanced sensor development, advanced analytics and computing, environmental impact reduction, stream-lining equipment maintenance, increasing equipment durability and enhancing safety in mining.



“Our focus is on being the mining industry’s partner of choice for step change solutions and technology commercialization.”

– Sevan Bedrossian, Program Leader, High Efficiency Mining

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