



December 2019

# Ground Breaking News



## THE PROGRESSIVE MINING AGENDA

### METAL MINING INNOVATION AND PRODUCTIVE CAPACITY

#### Position Piece # 2

The metal mines of today are confronted by three challenges; economic and environmental performance, and demographics. Over the last 30 years, underground metal mines have adopted innovations that have dramatically improved mine safety, but they have also eroded operational productivity. The current production platform was established by 1985 and it has evolved to be safer and more efficient, using economies of scale, but it has not made mines more productive or profitable.

The last technology transition in underground metal mines adopted the type of equipment used in mines and construction on surface. The huge increase in productivity camouflaged the decrease in effectiveness; equipment that has to make a three-point turn to travel in the opposite direction is cost-effective on surface. Underground mines have to create the extra space the equipment needs to turn around, and creating accesses is one of the most expensive things mines do. Larger equipment needs larger tunnels that are slower and more expensive to create and produce more waste-rock. Mines have focused on improving the efficiency of individual activities required to produce ore, rather than on the effectiveness of the production system as a whole. Ultimately, mining is all about material logistics.

➡ [Continue reading:](#)

➡ Also available: [Introductory Piece](#) and [Position Piece #1](#)

## OUTREACH

**Smart Mining Conference (SMC) — Aachen Germany:** CEMI and the **International Naturalia Forum** hosted the Canada Day Presentation that preceded the SMC Conference. On the morning before the Conference began, CEMI hosted 12 Canadian SME technology companies and organizations who presented their technologies to the Conference attendees and other European mining service companies. Six of the SME delegates went on to visit Lulea in Sweden where they met the iron ore company LKAB, an underground communications company Mobilaris, and heard 3 presentations from professors about their 'Future Mining' program.

**Peru Agreement:** Along with the CORE Foundation, CEMI has established an MOU with the Institute Jose Carlos Mariategui in Moquegua to help them establish a Centre for Excellence in Mining. The initial projects will likely focus on tailings and waste-water quality since the regional government of Moquegua just announced a State of Emergency in the region of General Sánchez Cerro because of the human health impacts from pollution in 5 local rivers.

**Crush It! connected to PROMETIA:** The European Commission held its annual [Raw Materials Week](#) (November 18-22 2019) in Brussels Belgium. While in Belgium, CEMI met with represent-

atives from the European Unions Mineral Processing and Extractive Metallurgy for Mining and Recycling Innovation Association which is also known as PROMETIA. PROMETIA is an international non-profit association promoting innovation in mineral processing and extractive metallurgy for mining and recycling of raw materials. PROMETIA aims to strengthen European technical skills and industrial know-how in raw materials processing and support industrial and economic development. CEMI made the connection between Natural Resources Canada's Crush It! Challenge with the work being done through PROMETIA ([www.prometia.eu](http://www.prometia.eu)).

**British Columbia Mining Innovation Ecosystem Road Map:** (December 9-10, 2019) CEMI attended an ecosystem-wide consultation hosted in Vancouver and provided insights on Fostering an Innovation Ecosystem in British Columbia and on setting up a more Agile and Efficient Regulatory Framework to facilitate the introduction of new mining innovations. These consultations are being facilitated through the [Mining Association of BC \(MABC\)](#), in association with [EELO Solutions](#).

### CANADIAN MINERAL PROCESSING ECOSYSTEM MAP

CEMI has created the first version of the Canadian Mineral Processing Ecosystem Map. Hard copies of the 3ft x 6ft map can be purchased at <https://globaladvantageconsulting.com/product/canadas-mineral-processing-ecosystem-2019/>

## IN THE NEWS

### Northern Ontario Business

[CEMI sets its sights on commercialization, international partnerships, and digital transformation.](#)  
October 31-2019

### Sudbury Mining Solutions Journal

[FDMC 2019 held to study deep mining innovations](#)  
December 3, 2019

### Global Business Reports

[Interview with Douglas Morrison, President and CEO of CEMI](#) December 10, 2019



### QUICK UPDATE!

A statement of interest has been submitted to the Canadian Government's Strategic Innovation Fund for MICA. We are currently awaiting approval to move forward with a full application. The interest in this program has been overwhelming and the Network continues to grow.



CEMI is pleased to continue to work with NRCan on enhancing Canada's mineral processing ecosystem and supporting its emerging clean tech innovations.



Natural Resources Canada / Ressources naturelles Canada

### Crush It!

<https://impact.canada.ca/en/challenges/crush-it>

## UPCOMING EVENTS

### CanmetMINING

#### Green Mining Innovation Forum

Ottawa

December 17-2019

CEMI will attend this years forum and provide input into the direction of CanmetMINING's R&D progress, new integrated business plan, upcoming representative model for the future of mining and future research priorities.

Come visit us at our booth at

#### Northern Ontario Mining Showcase at PDAC

Metro Toronto Convention Centre  
March 1—4, 2020

<https://northernontariominning.com/pdac/>

### CIMBC20

Vancouver Convention Centre  
May 3—6, 2020

<https://convention.cim.org/>



# CENTRE FOR EXCELLENCE IN MINING INNOVATION

## WHY ENGAGE CEMI?

CEMI helps solve mining industry challenges. We accelerate the delivery of commercially viable innovations to improve operational performance. Simply said, our services are designed to bridge the gap between a challenge and a solution.

## OUR SERVICES

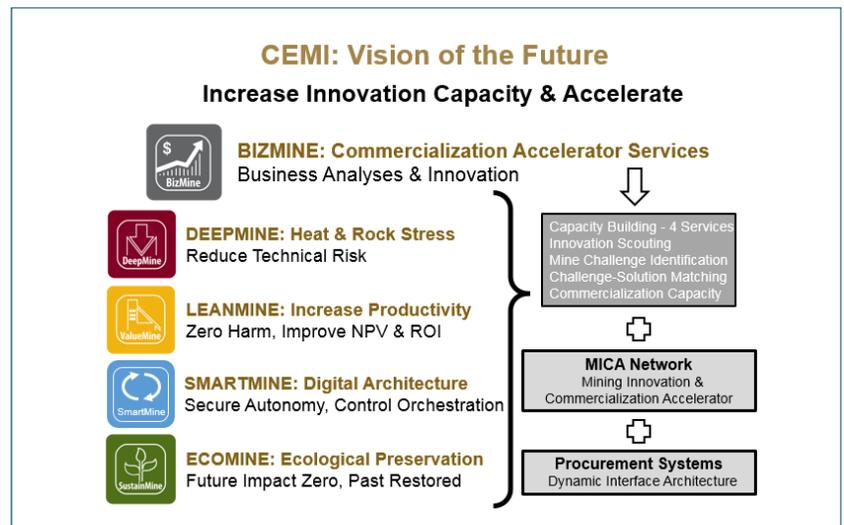
- Innovation Scouting**  
 Global search for current and emerging pre-commercial solutions
- Challenge Identification**  
 Review of existing challenges from technology road maps and uncovers hidden challenges using a systems analysis process
- Challenge Solution Matching**  
 Matches current and emerging pre-commercial solutions with validated industry challenges
- Commercialization Services**  
 CEMI conducts innovation and commercialization gap analysis assessments and offers services to bridge identified gaps

CEMI's objective is to help the mining sector achieve step-change improvement in performance by accelerating the adoption of innovations in mines and by increasing the innovation capacity of the mining service companies that deliver techniques and technologies to the industry. There is no shortage of good ideas, or partially developed solutions to the very real problems that confront mining operations, but the process of converting these into commercially viable products and services that mining companies can adopt, is slow and difficult. The need for mines to achieve step-change improvement in operational performance is urgent and we are finding ways to make this happen more quickly and efficiently.

We focus on:

- Accelerating the commercialization of technical solutions to be market ready — **Viable Products & Services**
- Managing networks of technical solution providers and innovative SMEs — **Sector Collaboration**
- Systematically target issues relevant to the global mining industry as well as regional and national ones — **SME Export Market**
- Searching globally for solutions to locally critical operational bottleneck — **Industry-Identified Priorities**

## CEMI CONNECTS BUILDERS AND BUYERS OF INNOVATION



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IF YOU ARE INTERESTED IN DOING BUSINESS WITH CEMI, PLEASE CONTACT US AT [INFO@CEMI.CA](mailto:INFO@CEMI.CA) TO BE ENROLLED IN THE CLIENT INTAKE PROCESS.

[www.cemi.ca](http://www.cemi.ca)

