



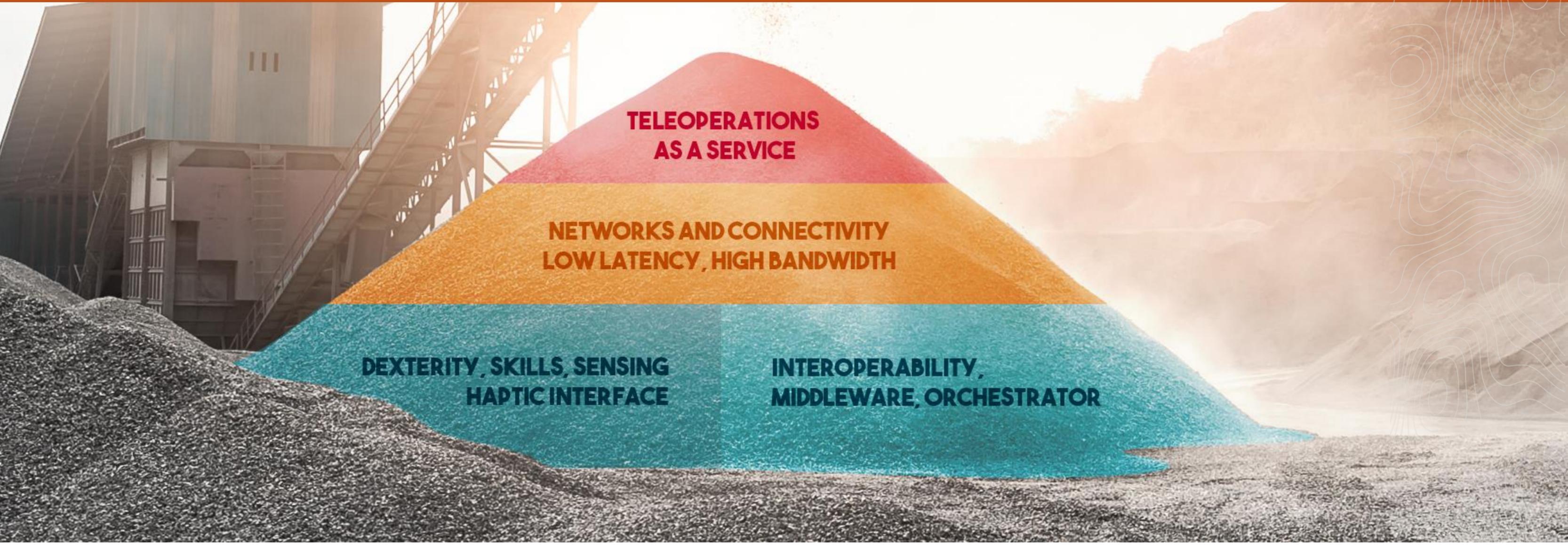
Workshop CNP Chile NORCAT Canada
Experiences & Challenges in Mining Technological Innovation

NORCAT and SK GODELIUS
Strategic perspective

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SK Godelius: an engineering company

specialized in all forms of teleoperation and remote interaction, conceiving, developing, and performing conceptual and advanced engineering for the mining industry since 2011



SK

SIGDO KOPPERS S.A.



 **godelius**
GRUPO SIGDO KOPPERS



 **Enaex**




INGENIERIA Y CONSTRUCCION
SIGDO KOPPERS



 **MAGOTTEAUX**



**PUERTO
VENTANAS S.A.**
CHILE



 **SKC**
Una Empresa Sigdo Koppers



 **FEPASA**
Soluciones en Transporte

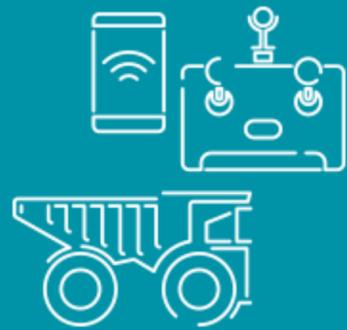


 **SKBERGÉ**
AUTOMOTRIZ

We are part of Sigdo Koppers Group, one of the most importante Chilean conglomerates with operations in the Americas, Europe, and Asia-Pacific. SK is a global player in blasting services, grinding media, industrial engineering & construction and logistics.

SK GODELIUS: Different challenges, different solutions

The quest for efficiency needs multiple services



Teleoperation Projects

The basic engineering sciences and the ability to solve logistics and operational issues demanded by mining and industrial environments



Robotics and Automation

Execute fundamental new operations in mining, construction, space, forestry, and many other areas through its functionalities



Connectivity and Networks

Communications networks design, configuration, and build is a fundamental layer within SK Godelius' projects and services



Solutions As a Service

Hardware and software development for customers under the "as a service" model for a wide variety of applications



ProntoForms Electronic Forms

A low-code platform that is the perfect solution for workers in the field, collecting data in a simple, quick, and secure way, sharing results instantly

Offices

Chile

Santiago de Chile
Calama

Canada

Toronto, Ontario
Sudbury, Ontario





Toronto, Ontario

OCI Ontario Centre of Innovation



Sudbury, Ontario

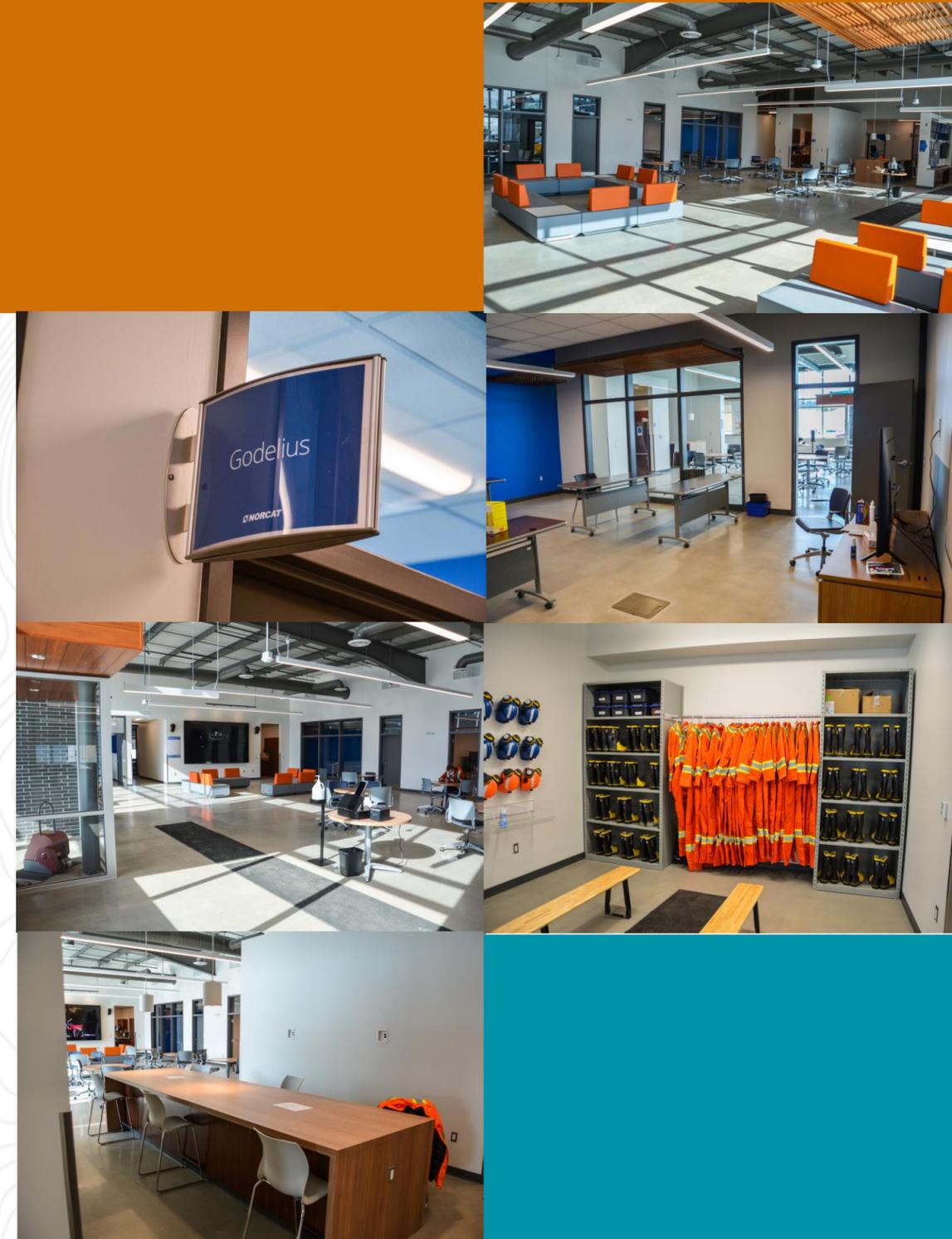
NORCAT Underground Centre

NORCAT Underground Centre: Pop-up Mining Technology Store

NORCAT is the only non-profit skilled labour training and development organization in the world with an operating mine, providing integrated, hands-on, and practical training programs for new and existing miners.

The Centre is a place where global mining companies can come to see, touch, and feel emerging technologies before they potentially buy them.

"With the emergence of teleoperated or autonomous vehicles, machines, robots, a new operating paradigm is being consolidated in global mining. To make it possible, multiple technological innovations of the fourth industrial revolution converge: SK Godelius works at the heart of these changes. Relying on an underground mine like NORCAT's is a remarkable contribution that will allow us to show in situ that these solutions are available, here, and now."



Mining Operations

\$109 billion

is the sector's contribution to the nominal GDP in 2019

5%

of Canada's total nominal GDP in 2019

11%

of increase year-over-year

19%

of mineral exports accounted for Canada's total domestic exports, valued at \$105 billion, approximately

626,000

people are direct and indirect employed



1,290 Canadian mining and exploration companies

Canadian companies were present in **96** foreign countries in 2019

The **global leader** in the production of potash

Ranks among **the top five global producers** for:

- | | |
|-----------|-----------------------|
| Cadmium | Nickel |
| Cobalt | Niobium |
| Diamonds | Platinum group metals |
| Gemstones | Salt |
| Gold | Titanium concentrate |
| Graphite | Uranium |
| Indium | |

The **world's fourth largest** primary aluminum producer from imported bauxite



Natural Resources Construction Market

Major Projects: Mining Industry

Under construction: 56
Planned*: 363

Major Projects: Pipeline and Transmission lines

Under construction: 17
Planned*: 25



*within the next 10 years



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SK Godelius is an engineering company with operations in Chile and Canada. It was born at the end of 2011 when advances in artificial intelligence, unstructured robotics, high-capacity networks, and low latency began to make viable entirely new operating ways. We work at the heart of the 4th industrial revolution. We conceive, develop, manufacture, integrate, implant, and operate engineering solutions related to automation, teleoperation, robotization and the connectivity of large machines, vehicles, robots and processes in open-pit and underground mining. No matter which environment and operational framework we are at, our priority is to work together with our customers to develop individual projects that bring value to their operations and business.

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