

# 2023 IPLOCA HEALTH AND SAFETY AWARD

LEDCOR & SICIM PARTNERSHIP –  
INTEGRATED EMERGENCY  
RESPONSE PLAN



# WHO WE ARE: FORWARD. TOGETHER.



- Established in 1947 (75 years)
- Exceeding > \$3 billion in annual revenue
- 6,000 - 8,000 employees
- 100% employee owned
- 75% of our revenues are from **repeat clients**

# OUR VISION: FORWARD. TOGETHER.

Our unique perspective comes from expertise in many areas.  
Our vision, mission, and values guide everything we do.

## OUR VALUES



**Safety:** Zero incidents through best practices



**Quality:** Continuous measurements & improvement



**Integrity:** Ethical, honest, consistent & highly regarded



**Sustainability:** Balancing People, Planet & Profit



**Success:** Client and employee satisfaction, shareholder

## OUR MISSION

“Committed to building Ledcor Lifetime Clients through accountability, innovation, quality and sustainability.”

## OUR BUSINESS PRINCIPLES

- Always commit to our capacity — and not over
- Senior leadership engagement on the job
- Fiscal accountability
- Disciplined approach to delivering all services

# ONE LEDCOR



Buildings



Pipeline



Oil & Gas



Mining



Petro Chemical



Power



Communications



Infrastructure



Aviation



Forestry



Marine



Properties



# PIPELINE

Ledcor is experienced in the **construction of 2" to 60"** pipelines, including mainline cross-country construction utilizing mechanized or manual welding methods. We operate in a variety of geographic terrains encompassing prairie, muskeg, heavily forested and mountainous regions.

Ledcor's current capacity includes 2 mainline spreads of modern pipeline construction equipment.

We can also provide qualified inside plant construction, handling above and underground piping in and around oil sands-related mines, SAGD and upgrader facilities.

## **LEDCOR PIPELINE SERVICES INCLUDE:**

- ✓ Mainline Construction
- ✓ Pipeline Integrity Services & Maintenance
- ✓ Investigative Digs
- ✓ Hydrostatic Testing
- ✓ Labour Resource Management

60<sup>th</sup>  
ANNIVERSARY  
1962 - 2022

# ستيم

WORLDWIDE EPC SOLUTIONS FOR OIL & GAS SINCE 1962

COMPANY PRESENTATION

*«Our history, a guarantee of success»*

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## Business Profile - Who is Sicim ?



## Mission

OUR EPC MODEL FOR  
SUSTAINABLE GROWTH

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**SICIM is a Global EPC operator** with a clear, innovative objective: **to provide our clients with the best possible service in the engineering, supply and construction of Pipelines and Plants in the Energy sector.**

We are always researching **technological solutions to promote health, safety and personal growth, along with the accessing and sharing of new innovations and knowledge.**

We **respect the environment and facilitate the economic development in the places we work in.**

We possess a **DNA** capable of preserving our company specificity in industrial evolution, together with our People and our Customers.



Business Profile - Who is Sicim ?

## Busseto Headquarter

108.000 m<sup>2</sup> in the land of Giuseppe Verdi



**sicim**

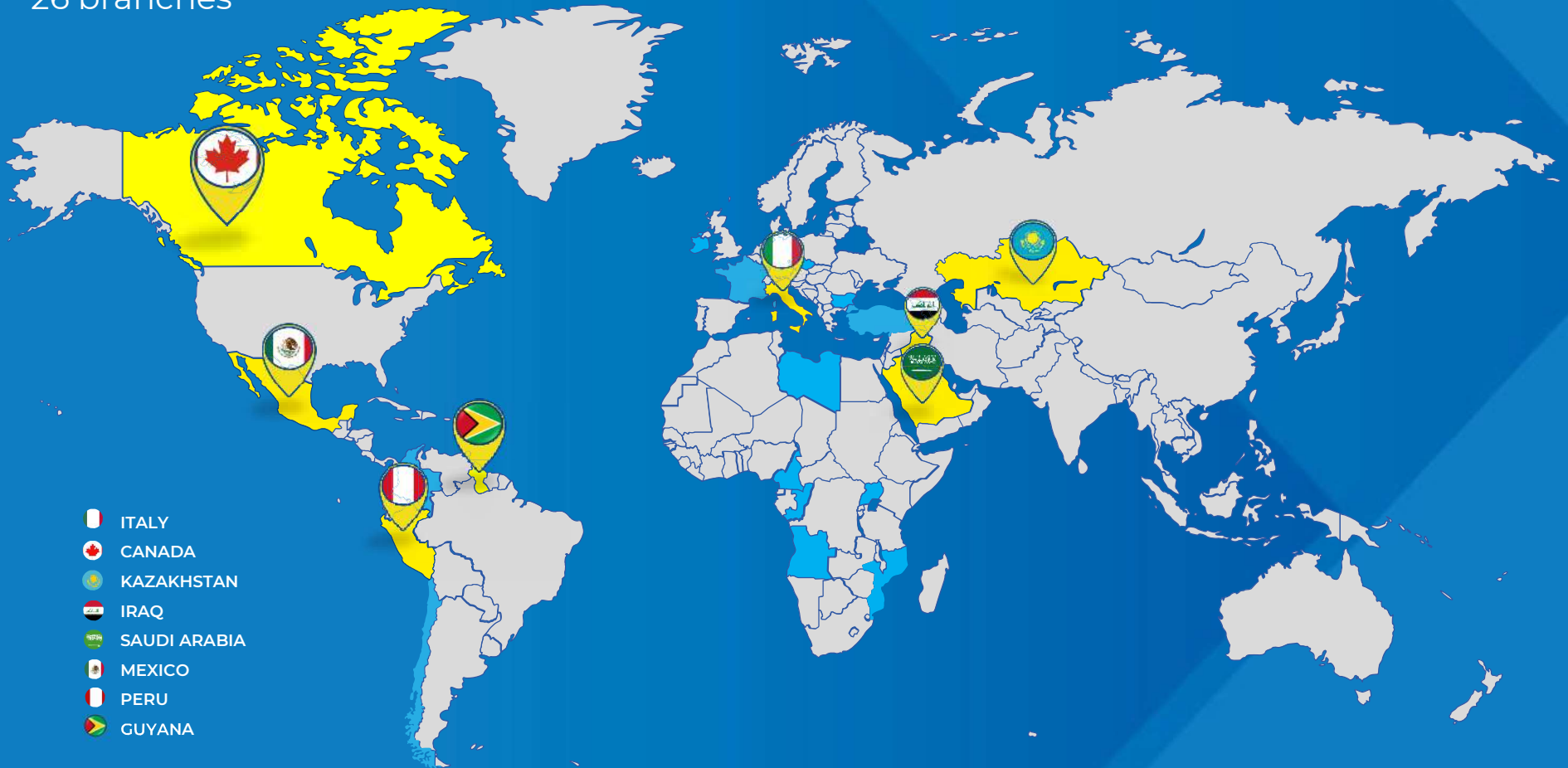


# International footprint

26 branches

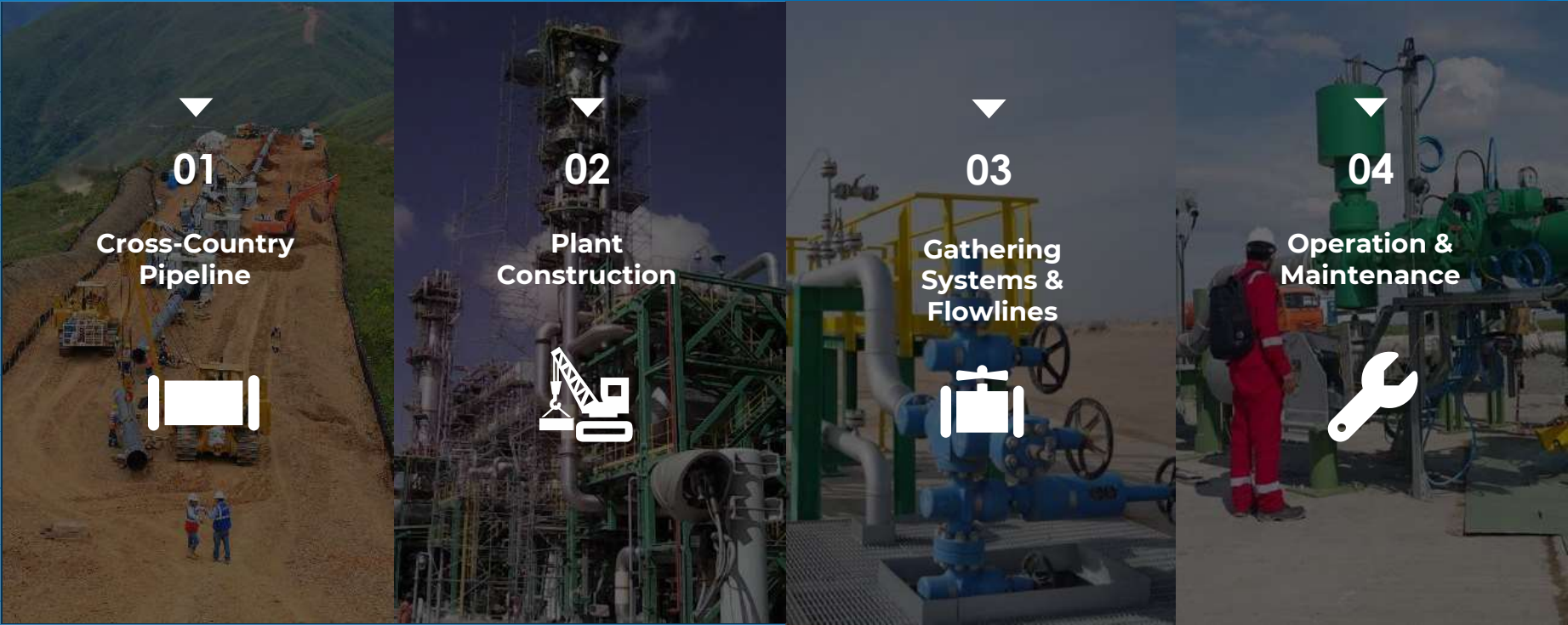
Branches

Branches/Ongoing projects

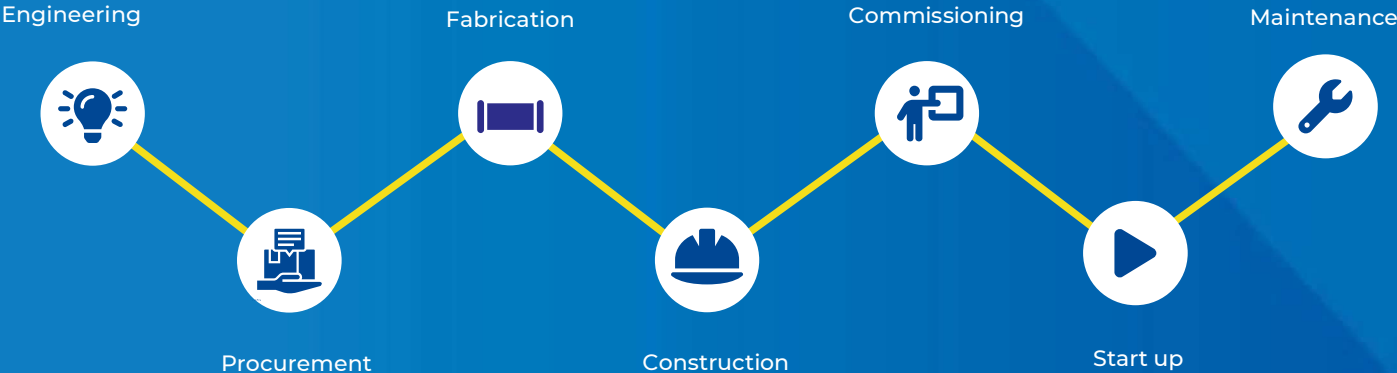


# Our Business Lines

EPC solutions for energy sector



# Business Profile - Who is Sicim ?



Efficiency, punctuality and competitiveness to tackle **extreme challenges**



# INTRODUCTION

- Ledcor & SICIM Partnership (Ledcor & SICIM) is pleased to submit a nomination for the development and implementation of an integrated Emergency Response Plan (ERP) for the Coastal GasLink Section 8 West project in partnership with the Haisla First Nation.
- This integrated ERP – which required support from over eight specialized subcontractors – greatly contributed to health and safety not only for our employees, but also the community and, as such, is deserving of recognition.

# PROJECT PROFILE

- Ledcor & SICIM, in partnership with Haisla first nation, was contracted to construct the Coastal GasLink Section 8 West. The Coastal GasLink Pipeline is a 670 km, NPS 48 natural gas pipeline located in Northern British Columbia.
- Section 8 West consists of the last 54km of the western section of the pipeline.
- This section is the most technically challenging due to its coastal mountainous terrain with many steep slopes. The region also gets the most precipitation, with heavy rain in the summer and snow in the winter.



# PROJECT PROFILE

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- This project includes many steep slopes, a cable crane installation system, a mountain tunnel, numerous water crossings, and a marine clay zone.
- Due to this particular project profile, the above conditions give rise to various emergency management risks which include:
  - Avalanche areas
  - Swift water
  - Tunnel risks
  - Steep slopes
  - Wildlife encounters
  - Forest fires



# AVALANCHE AREAS

HS 2021-12-12



# SWIFT WATER





# TUNNEL RESCUE



# STEEP SLOPES



# WILDLIFE ENCOUNTERS



# FOREST FIRES



# PROJECT PROFILE

To effectively manage the scope of work, Ledcor & SICIM developed an **Integrated Emergency Response Plan Framework**

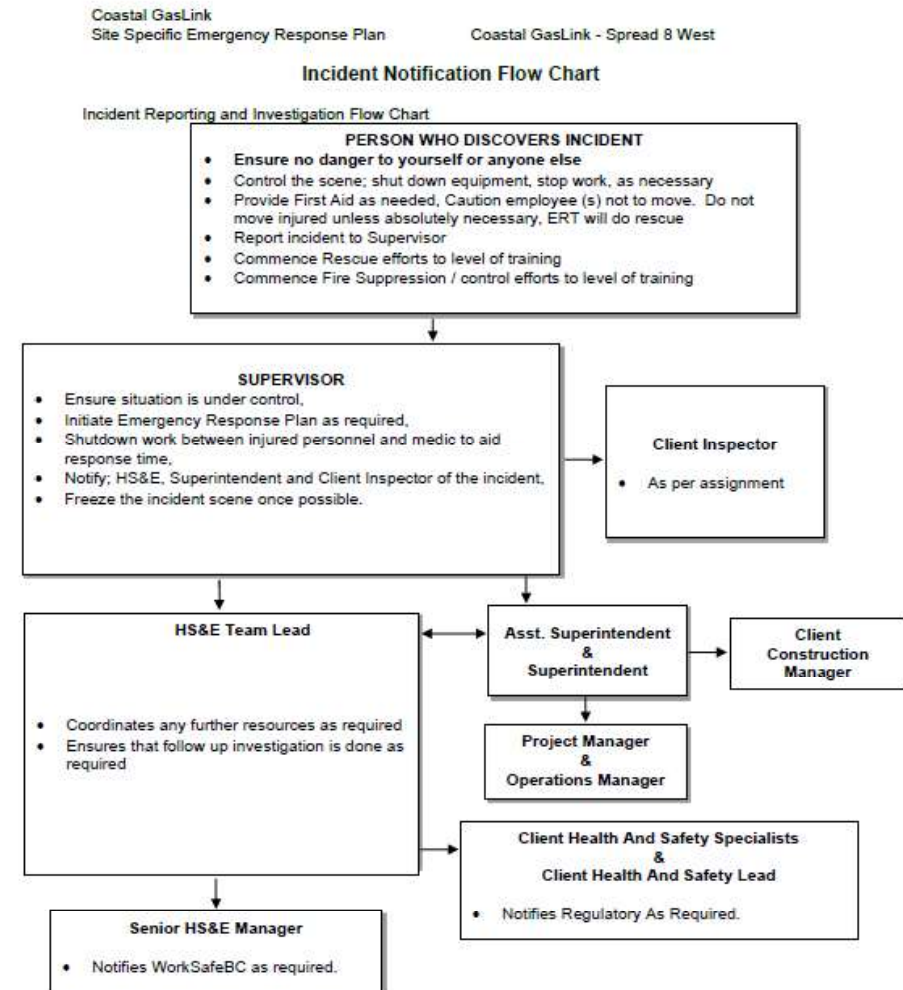


# INTEGRATED EMERGENCY RESPONSE PLAN

- The integrated ERP is a comprehensive response plan that was developed with the help of subject matter experts, and was tailored specifically to our unique needs and geographic location.
- We recognized the need to be prepared for a range of potential emergency situations that could occur in our area, and wanted to ensure we had the necessary resources and training in place to respond quickly and effectively.
- Notable features of our integrated ERP include:
  - Emergency response team structure.
  - Key ERP components; including rope rescue, cable crane rescue, and tunnel rescue.
  - Leveraging both traditional and new communication technologies
  - Training and exercises plan.
  - Continuous improvement plan.

# EMERGENCY RESPONSE TEAM

- The complexity of this emergency response plan required a robust team. Led by the Ledcor & SICIM health and safety manager, the team included health and safety coordinators, subject matter experts, rescue technicians, and medical personnel.
- A compact incident notification flowchart (shown at right) is required to ensure quick and effective information dissipation.
- A key role within the response plan is the emergency incident commander, who is the health and safety manager or delegate.
  - Receives all incident notification.
  - Delegates appropriate resource, based on the emergency.
  - Provides further notification to the project management team.



# KEY EMERGENCY RESPONSE PLAN COMPONENTS

- **Cable Crane & High Angle Slopes**
  - Contracted with an external partner specializing in high angle rescue.
  - Rescue technicians must have specialized Rope Access certification and training.
  - Additional training was provided to all Ledcor & SICIM workers working on or around steep slopes and in avalanche areas.
    - To date 831 employees have attended an Advanced Steep Slope training session.





# KEY EMERGENCY RESPONSE PLAN COMPONENTS

## ■ Tunnel

- Contracted with an external partner specializing in tunnel rescue.
- Rescue technicians must have Underground Mine Rescue certification and training.



## ■ Swift Water

- Contracted with an external partner specializing in water rescue.
- Rescue technicians are strategically placed at the water's edge, whenever the work scope requires workers to be near swift water.
- Rescue technicians must have Swift Water Rescue Technician certification and training.



# ADDITIONAL EMERGENCY TRAINING INITIATIVES

## ■ Forest Fires

- 48 employees have taken an on-site S-100 Fire Suppression training course.
- 3 wildfires occurred since the project began.
  - One fire was extinguished solely by S-100 trained employees.
  - Two fires were escalated to the Wildfire Service, who our ground crews communicated with until their additional ground and air support arrived.

## ■ Wildlife

- 890 employees have taken an on-site bear spray training course.

## ■ Avalanche

- 1,093 employees have taken an on-site avalanche safety training course.
- Over 200 emergency avalanche kits (including beacons, probes, and shovels) distributed on site.



# COMMUNICATION INNOVATION

- Due to the remote project location, Ledcor & SICIM utilized traditional technology in the form of analog and digital radios, with both multi-use and dedicated channels.
- In 2021, the project began leveraging new technology for communication with the emergence of Starlinks.
  - 14 Starlink systems were placed in accessible locations across the project.
  - The use of Starlink allowed the front line to effectively communicate with the incident commander and project management team.



# TRAINING AND EXERCISE PLAN

- Completed 10 mock drills to-date, focusing on high-risk activities with medics arriving on scene in under 10 minutes in all scenarios.



- Drill scenarios included but were not limited to...
  - Worker simulated fall on cable crane tower.
  - Drill operator on steep slope fell off equipment and broke hip.
  - Fire on edge of the right-of-way.
  - Injured worker inside the raise bore tunnel.



# CONTINUOUS IMPROVEMENT PLAN

- In addition to mock drills, Ledcor & SICIM completed bi-yearly audits to review the effectiveness of the integrated emergency response plan.
- Corrective actions are developed and tracked for completion.
- Ledcor & SICIM communicate the improvement opportunities to all project personnel as part of safety meetings & JOHSC minutes.



# CONCLUSION

- Overall, this integrated ERP has been an essential component of the successful health and safety program implementation on this very technical project.
- The use of various subject matter experts in an integrated and consolidated plan has helped respond to various emergency situations in the most effective manner.
- The response times have been effectively reduced in all situations to under 10 minutes – which is a feat considering the geographical and technical challenges of this project.
- We are proud of the work that has been done by Ledcor & SICIM and all its supporting teams, to develop and implement this integrated emergency response plan, and we believe that it is deserving of recognition.

**FORWARD.  
TOGETHER.**

