

Technology Adoption in the Mining Sector: A Systematic Review

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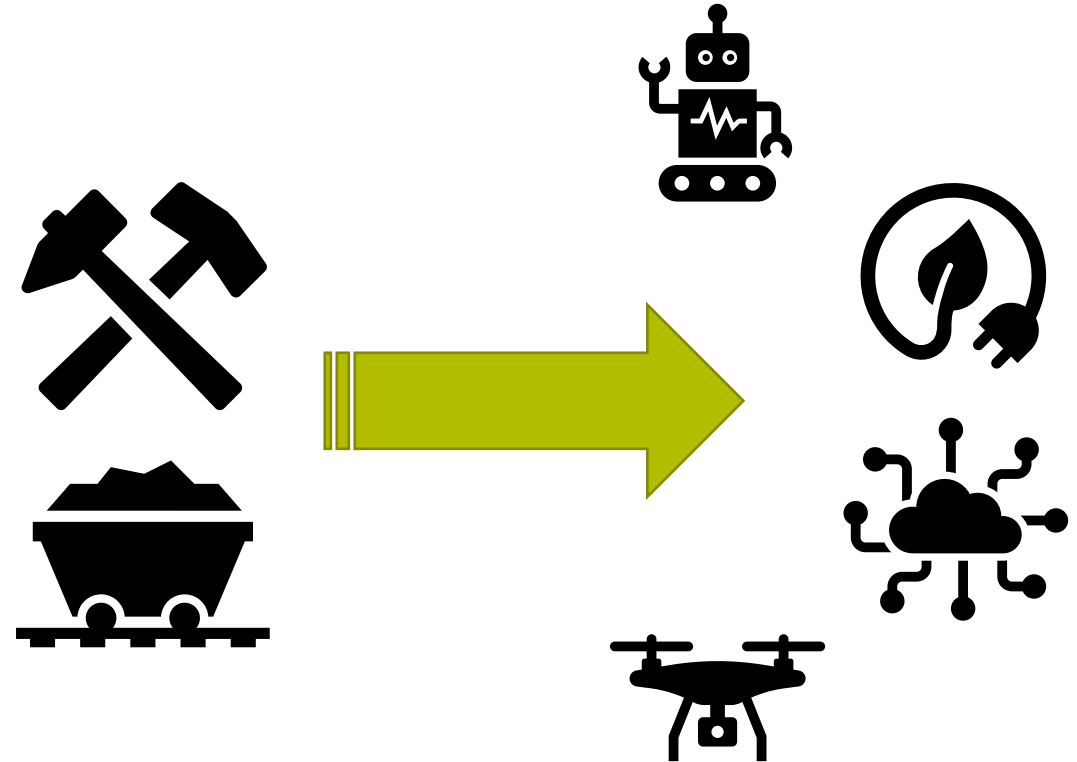
Mining the Connections Conference
April 26th, Quebec City



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Introduction

- Mining sector is currently in an “age of disruption” (Deloitte 2015)
- Potential to fundamentally reshape the future of work and the development of mining communities and regions
- Gap in the literature on current trends, drivers, and barriers



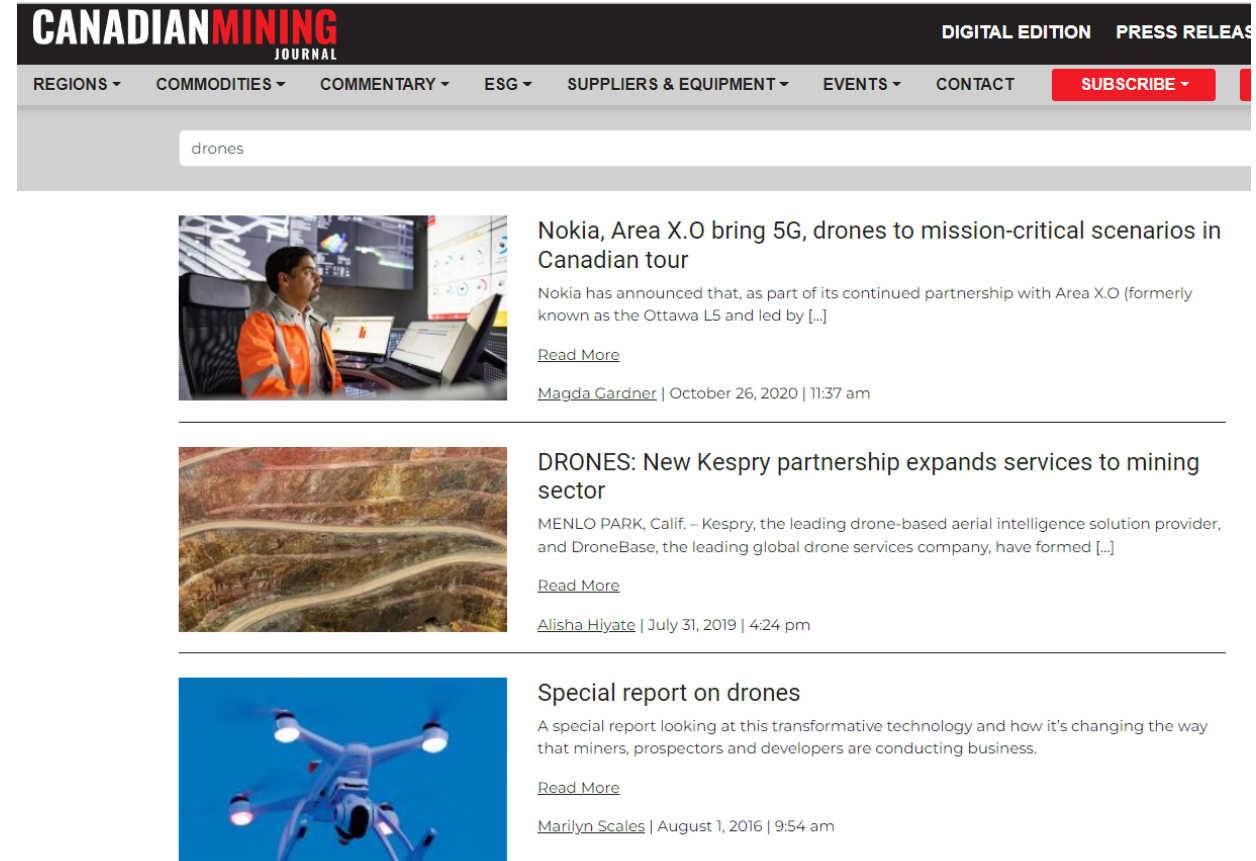
Objectives & Background

- **Objective:** conduct a systematic review of articles in the *Canadian Mining Journal* to assess the main drivers, barriers, and opportunities for technology adoption in the Canadian mining sector over the last 5 years
- Remote Controlled Mining Project
 - National SSHRC-funded project
 - Led by Heather Hall (University of Waterloo); Sarah Breen (Selkirk College); Ken Coates (University of Saskatchewan); and Kelly Vodden (Memorial University)

METHODOLOGY

Methodology

- Systematic Review
 - Synthesis of relevant articles on technologies being implemented, adopted, and discussed in the Canadian context
- Extracted article details, coded by categories, and grouped into themes
- Member checks for reliability





The screenshot displays the Canadian Mining Journal website with a search bar containing the word "drones". Below the search bar, three search results are visible, each featuring a thumbnail image, a title, a brief description, a "Read More" link, and the author and date.


CANADIAN MINING JOURNAL DIGITAL EDITION PRESS RELEASES

REGIONS ▾ COMMODITIES ▾ COMMENTARY ▾ ESG ▾ SUPPLIERS & EQUIPMENT ▾ EVENTS ▾ CONTACT **SUBSCRIBE ▾**

drones

 **Nokia, Area X.O bring 5G, drones to mission-critical scenarios in Canadian tour**
Nokia has announced that, as part of its continued partnership with Area X.O (formerly known as the Ottawa L5 and led by [...])
[Read More](#)
Magda Gardner | October 26, 2020 | 11:37 am

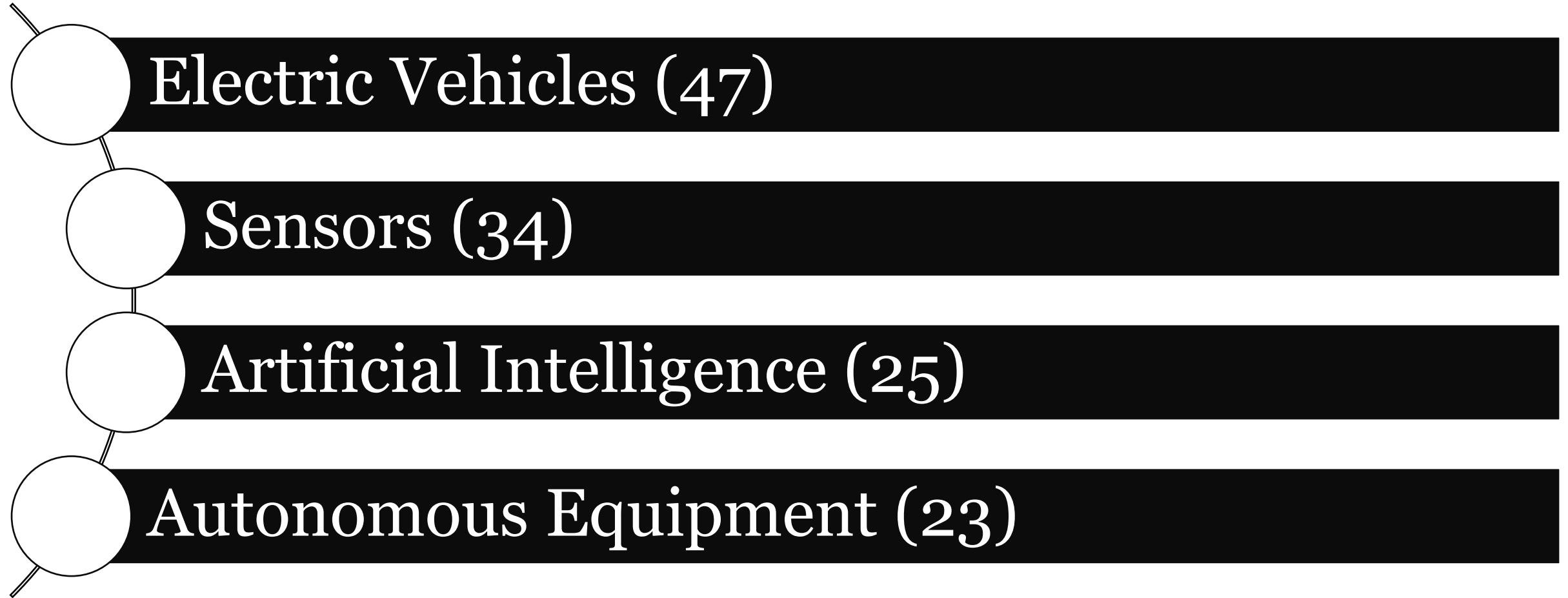
 **DRONES: New Kespry partnership expands services to mining sector**
MENLO PARK, Calif. – Kespry, the leading drone-based aerial intelligence solution provider, and DroneBase, the leading global drone services company, have formed [...]
[Read More](#)
Alisha Hiyate | July 31, 2019 | 4:24 pm

 **Special report on drones**
A special report looking at this transformative technology and how it's changing the way that miners, prospectors and developers are conducting business.
[Read More](#)
Marilyn Scales | August 1, 2016 | 9:54 am

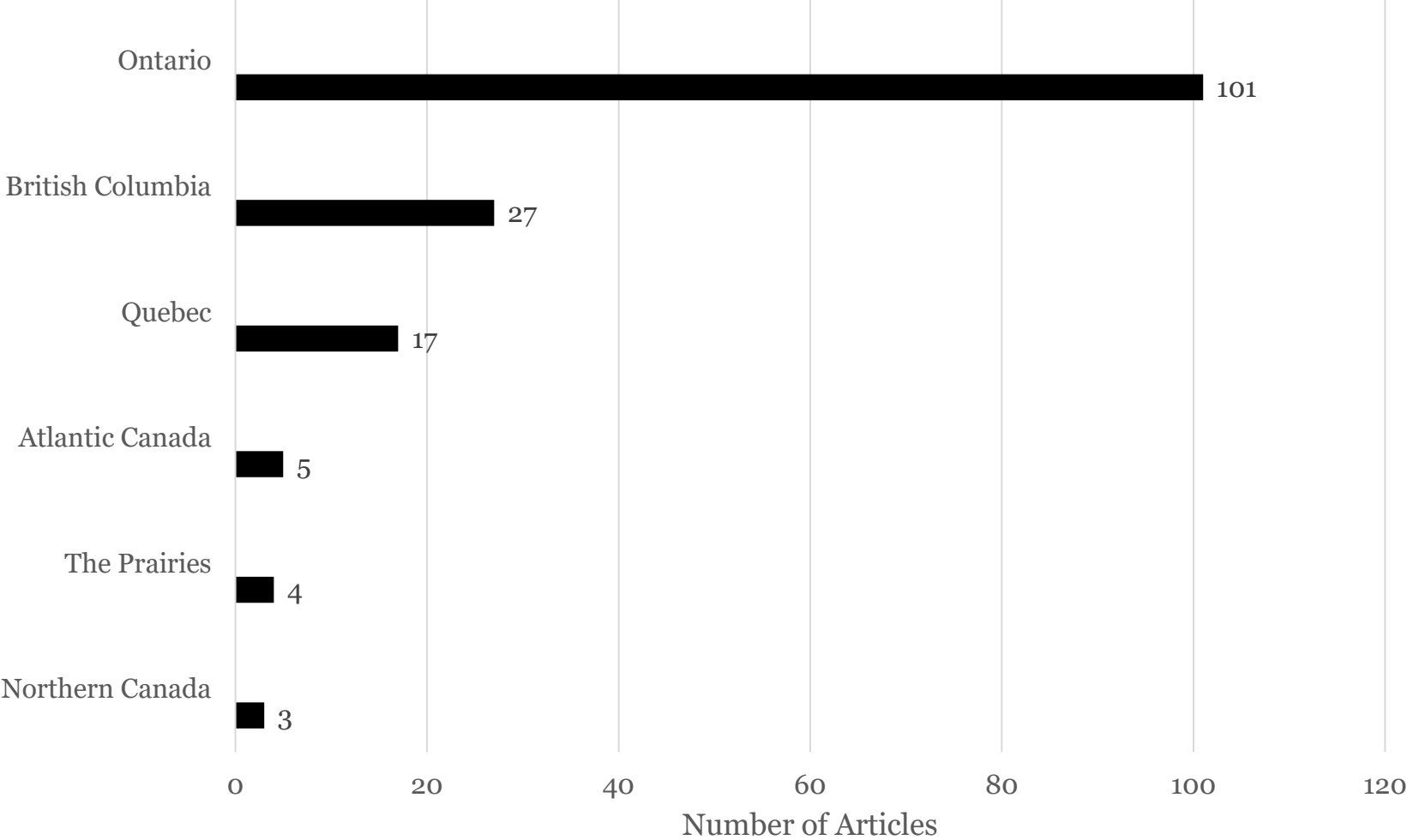
PRELIMINARY RESULTS

Technologies, Geography, Drivers, Barriers

Technologies



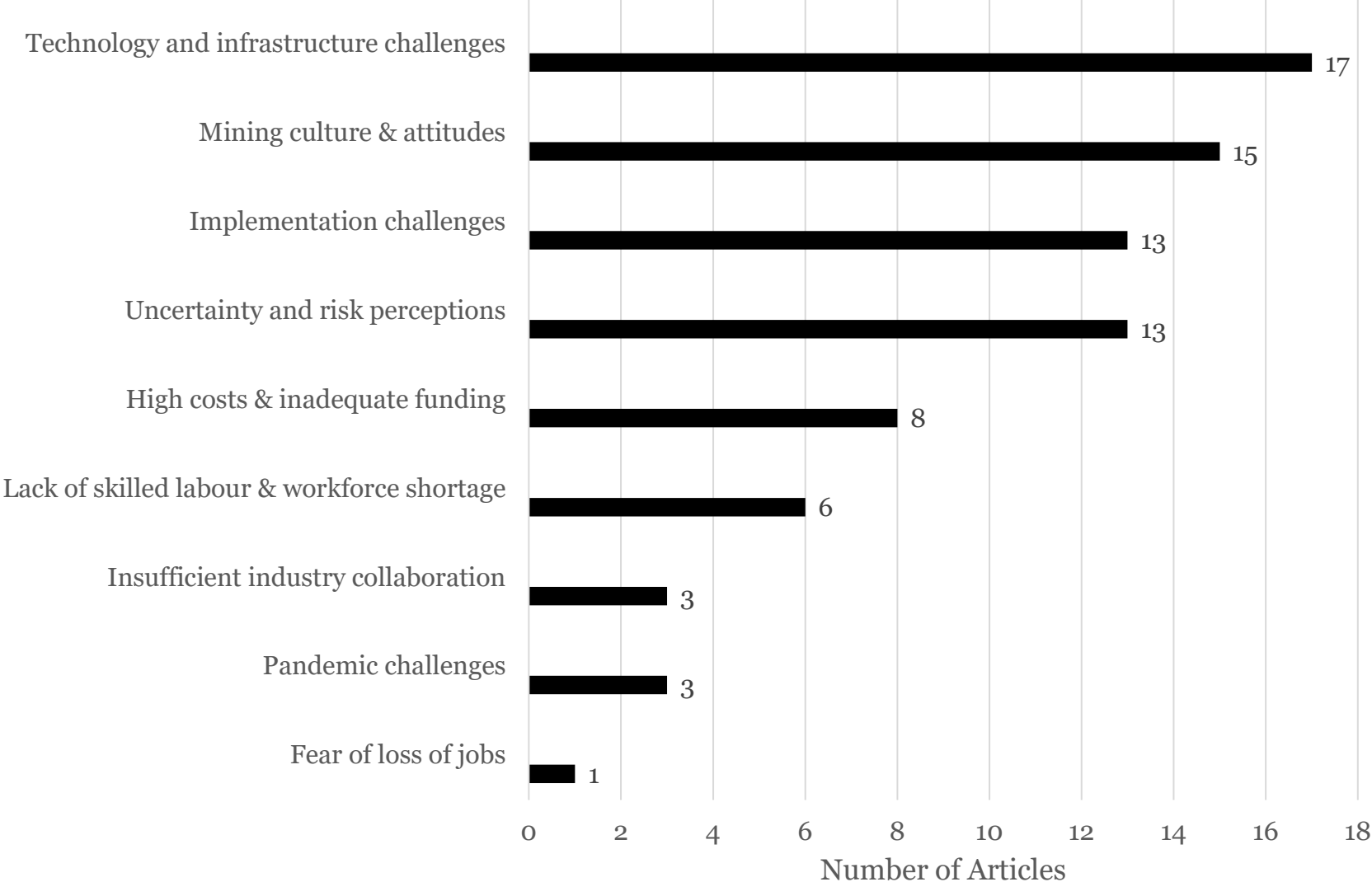
Geography



Drivers of Technology Adoption



Barriers to Technology Adoption



DISCUSSION & CONCLUSIONS

Discussion & Conclusions



Each technology has its own set of unique drivers and barriers

Technology adoption is context specific

Worker safety, productivity & efficiency, and sustainability are key drivers

Limited discussion on barriers is a missed opportunity

Thank You & Questions

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Project Website: <https://uwaterloo.ca/disruptive-technologies-economic-development/>



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