

# The Evolution of the South African Mining Innovation Ecosystem

A review of the South African mining innovation ecosystem's performance between 2017 and 2022



**MINERALS COUNCIL**  
SOUTH AFRICA

MEMSA Mind Shift Conference  
25 May 2023

# Introduction

A comparative analysis of the South African mining innovation ecosystem since the start of the Modernisation Partnership with RIIS in 2017

## Context

Since 2017, the collaborative and inclusive initiatives of the Mineral Council's Modernisation Department have strengthened the South African mining innovation ecosystem through people-centric modernization.

## Objective

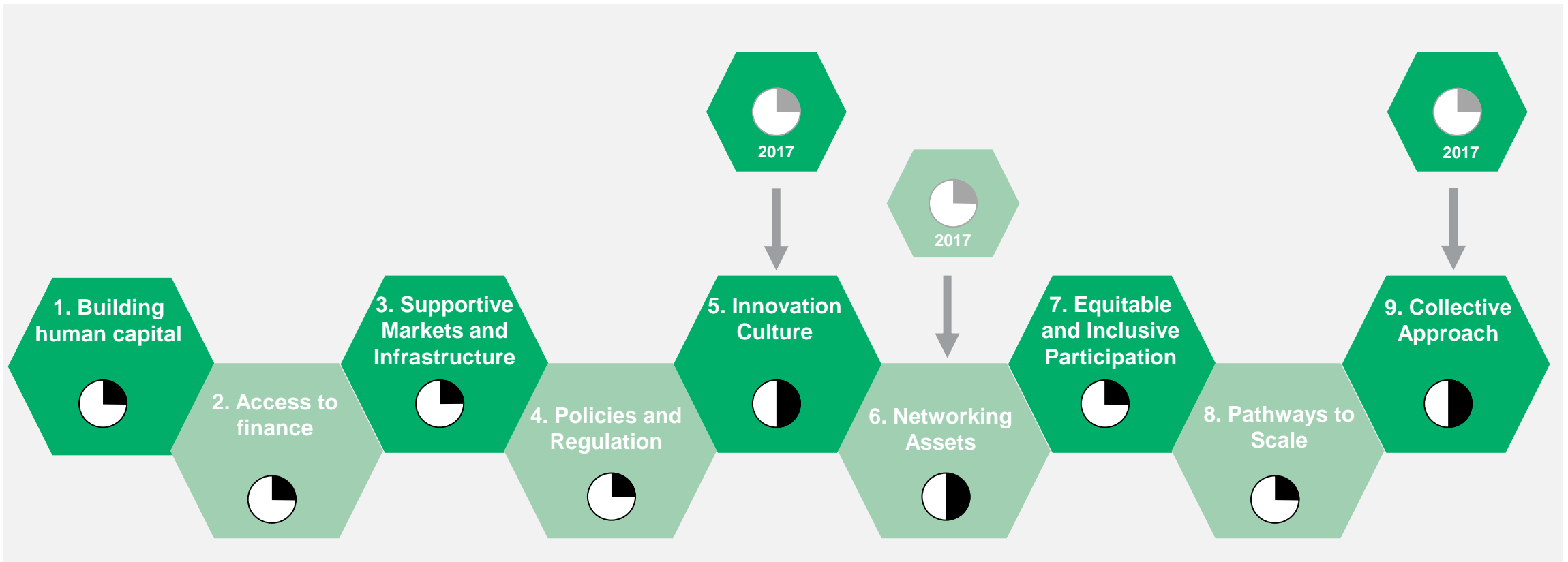
- Evaluate the ecosystem's overall health
- Ensure the longevity of the local mining industry
- Enable the industry to drive economic development
- Facilitate the industry's competitiveness

## Approach

- Ecosystem stakeholder analysis
- Qualitative analysis and strength ranking
- International benchmarking

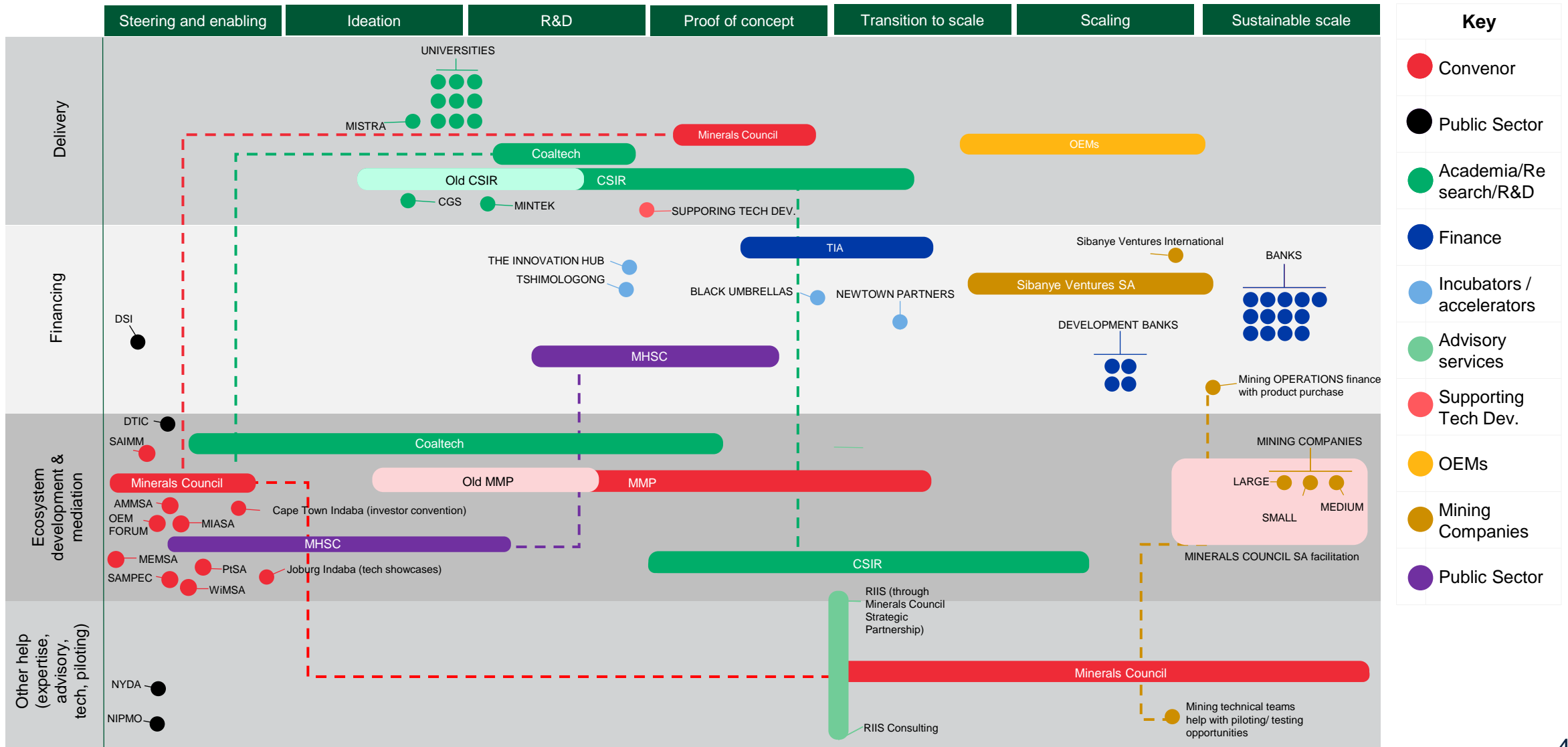
# Since 2017, the performance rating has only improved in three areas, whilst the ecosystem remains underdeveloped.

An analysis of nine areas that are used to demonstrate the effectiveness and efficiency with which an innovation ecosystem transforms innovative inputs into outputs and outcomes shows that the overall mining ecosystem remains underdeveloped



**LEGEND** Level of development of the goal as of 2022 ○ Non-existent ◐ Under-developed ◑ Developing ◒ Developed ● Fully-Developed

# A range of stakeholders interact with and impact the innovation ecosystem in different ways along the technology scaling pathway



# The ecosystem's performance rating has improved in three significant areas



The South African mining ecosystem has developed a very strong innovation culture, networks and a collective approach to addressing collective developmental challenge



## INNOVATION CULTURE

Growing understanding and increased positive perception of innovation within the ecosystem.



## NETWORKING ASSETS

Increasing collaboration and networking of assets. MMP establishment and strategic shift to better support industry.



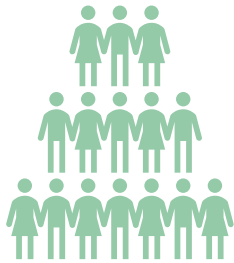
## COLLECTIVE APPROACH

Consensus has grown in the industry on the need for people-centred technology-enabled innovation.

## Challenges still remain in many areas of the ecosystem

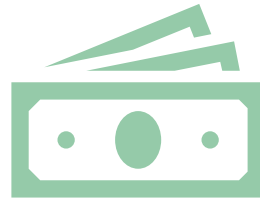


Innovation is delayed by inefficient policy processes, limited financing options for SMMEs, poorly managed infrastructure, and limited innovation scaling capacity and capabilities



### BUILDING HUMAN CAPITAL

A gap exists between the level of skills required by industry versus the quality of skills graduates possess when entering the market.



### ACCESS TO FINANCE

Access to finance for SMMEs and new exploration ventures is still insufficient.



### POORLY MANAGED INFRASTRUCTURE

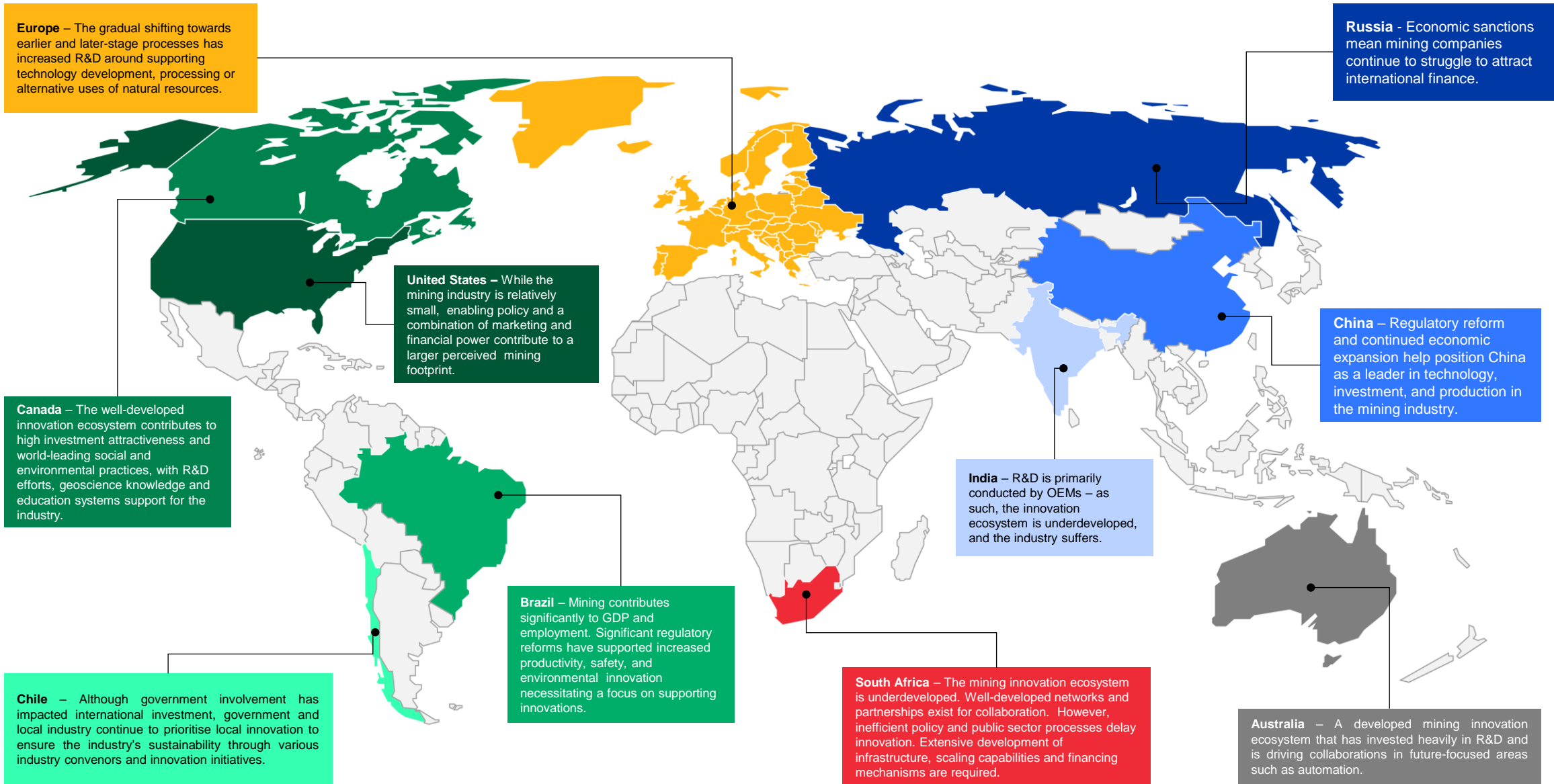
Increasingly dilapidated infrastructure is a significant threat to mining houses and OEMs' ability to access global markets.



### POLICIES AND REGULATION

Constant regulatory shifts and poor innovation incentives limit innovation.

# Lessons for South Africa's mining ecosystem from developed and developing nations



## Opportunities to strengthen the ecosystem and improve global competitiveness



Educate the entire ecosystem on the complexities of the innovation process



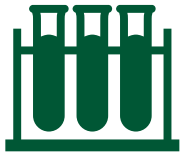
Prioritise alternative financing mechanisms for junior and emerging miners.



Create a climate of exploration investment with technology in South Africa.



Provide technical support and advisory services to policy and regulation developers.



Improve IP understanding and process as the co-development of solutions increases.



South Africa can lead global discourse and practices around people-centricity.



Likely be overtaken by international players if unsuccessful in collaboration to develop the mining innovation ecosystem.



Slow progress has a negative impact on local and international competitiveness.





# Thank you

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