



Harmony – Tshepong

# #MakingMiningMatter through People-Centred Modernisation

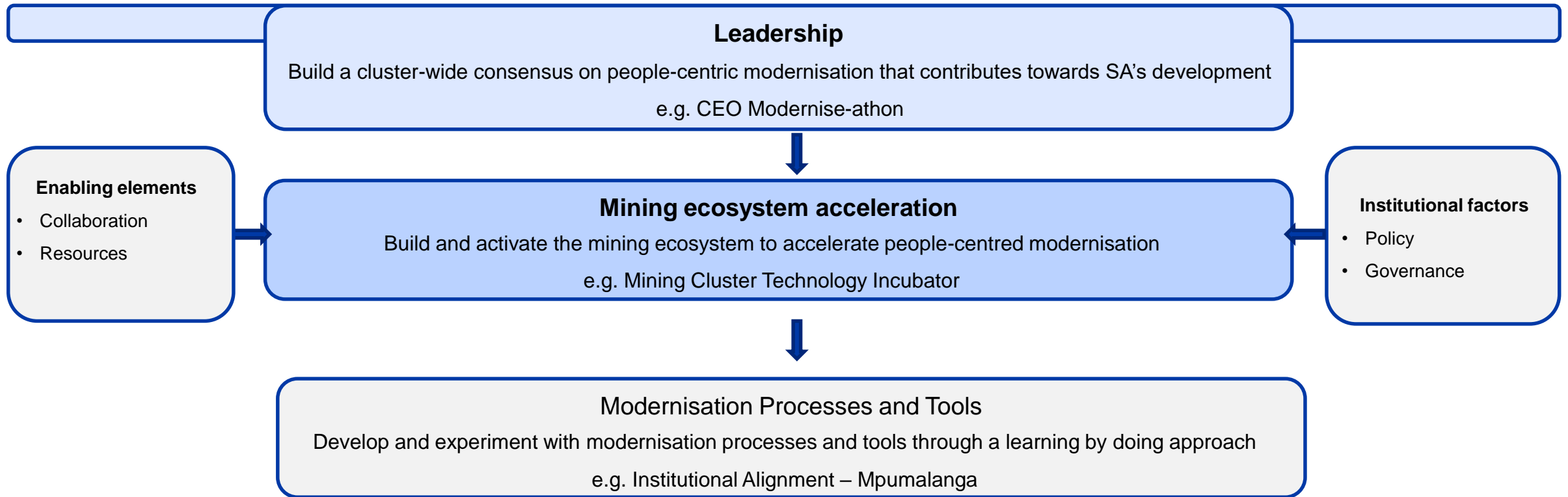
What is it, and what does it mean for Minerals Council South Africa's strategy?



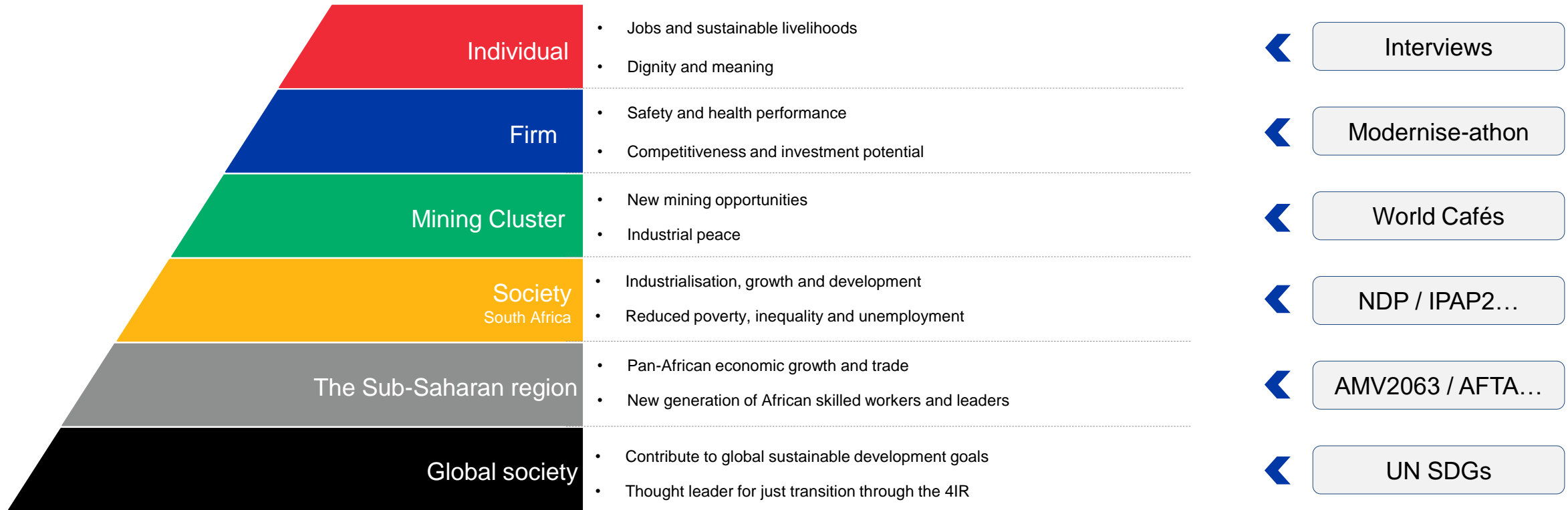
## Background and context

*‘Mining should be a leader of the 4IR, not a victim’* Minister Mantashe

# Modernisation Strategic Framework



# Needs of people at every level of society





# What does modernisation mean for | **the mining cluster?**

## **What does modernisation mean for me?**

- New technical needs as mining evolves to remain relevant
- Ability to meet the needs of its people

## **What new opportunities does modernisation open up for me?**

- Increased competitiveness leading to increased investment
- Preferred employer for prospective employees
- Opening up new parts of the value chain for the cluster, e.g. coal for chemistry

## **What worries me about modernisation?**

- Not achieving modernisation in time to ensure the sustainability of key commodities such as gold
- Facing resistance and lack of buy in from other stakeholders

## **How can Minerals Council enhance the opportunities, and mitigate the worries?**

Working through the Mandela Mining Precinct focusing on the people factor, aiming to ensure a sustainable and smooth transition to a modernised with a retention of social license to operate.

# There is a common vision of what is possible for the SA mining cluster – if we make the right choices

	Statements of intent for the modernisation of the SA mining cluster	I veto this	Don't involve me	Disagree but ok	Don't want to hold up	No opinion	Can live with it	Like it	Fully agree
Vision	Every person and community will be better off because of modernisation	-	-	-	-	-	-	42%	58%
	The mining industry is an accelerator for talent inside and outside of mining	-	-	-	-	-	5%	16%	79%
Beliefs	Every person is trainable	-	-	-	5%	11%	26%	16%	37%
Behaviours	We create an environment that people enjoy, where people work by choice	-	-	-	-	-	5%	16%	79%
Actions	We build trust by action, taking the first step	-	-	-	5%	5%	5%	26%	58%

# Stakeholder engagements showed an surprising unity of purpose on modernised mining

	General industry	Organised labour*	CEO Perspectives
Technology	Automation with digital technologies embedded in all systems	Mechanised or automated, with technology adoption by all	A range of technologies suited to the geology, the needs of the operation and society
Productivity and efficiency	New 4 <sup>th</sup> IR skillsets with digital systems, will radically improve productivities and ore-yields	Improved technology and management will increase face time, decrease wastage and improve productivity	Dramatically more efficient and productive or they will not receive investment
Socio-economics	Benefits to SA society, more engaged employees, and social sustainability	New (digital) skills removal of people from danger	Radically improved relations with communities, ensuring peaceful and productive co-existence
Health and safety	The modern mine does not harm people or the environment through its operations	New technologies will remove people from danger, and give more protection where this is not possible	Zero harm can be achieved with the right design, technology, training and workforce
Operations	Uses resources efficiently (including time), with remote operations a key element	Technology will enable greater depths, remote mining	Remotely operated and optimal use of technological and human capabilities in new roles
Politics and economics	A stable political environment with effective tri-partite relationships	Foundation for South African industry	Mining will continue to play a critical roles, and act as the foundation for modern economies
Community and employees	Heightens the quality of life for its employees and the community, even beyond its life	Work with local communities; who will have a greater sense of ownership	Catalysts for socio-economic development that last beyond the life of mine and the mine-gate

Note: The voice and position of various mining communities will be included once structured engagements are finished

\*Although only a single union was interviewed in-depth, this has been subsequently validated with additional representatives of other unions





# What does modernisation mean for | Minerals Council South Africa?

## What does modernisation mean for me?

- Technological and management advances
- People-centred initiatives
- Health and safety
- Competitiveness for increased investment
- Awareness of political and socio-economic realities

## What new opportunities does modernisation open up for me?

- Re-imagination of mining through social innovation and creating shared benefits for all
- Driver of improved processes facilitating growth and learning
- Improvement to quality of life, work environment and resource use
- Allows for personal self-fulfilment while facilitating a win-win difference for the most vulnerable
- Opens the door for data(evidence)-based decision making

## What worries me about modernisation?

- Lack of understanding of the process and impact across leadership and societal levels
- Inevitability of modernisation vs resistance to change resulting in the process moving too slowly
- Potential for increased inequality leading to a loss of hope by people being left behind
- Uncertainty around what new skills are required
- Lack of capacity and the employment of fewer people

## How can Minerals Council enhance the opportunities, and mitigate the worries?

- Comprehensive, robust stakeholder engagement is crucial to ensure alignment, trust and buy in
- Creation of just, smart and inclusive transition programs
- Understanding of the worries and opportunities so the process can be led effectively
- Demonstration of the people-centred modernisation benefits

# Human and social change: Increasing inequality will be exacerbated by a range of factors...

<p><b>Increasing lifespan</b></p>	<p><b>Youth demographic</b></p>	<p><b>Increasing health span</b></p>
<p>People are living generally longer lives as a result of improved healthcare</p>	<p>There will be a fundamental change in the demographics of the working population over time, towards young people</p>	<p>People are living healthier lives and maintaining more active lifestyles beyond current 'retirement' expectations</p>
<p><b>Work attitudes</b></p>	<p><b>Learning modalities</b></p>	<p><b>Inequality</b></p>
<p>Younger generations have fundamentally different approaches to, and expectations of, their careers</p>	<p>Lifelong learning is increasingly necessary, through novel means, to continuously ensure human capital remains relevant</p>	<p>Income and wealth inequality is increasing over time, while gender inequality is decreasing</p>
<p><b>Technology adoption</b></p>	<p><b>Technological progress</b></p>	<p><b>Collectivism</b></p>
<p>The ability to adopt new technologies is becoming significantly easier as technology foundations are established</p>	<p>The rate of knowledge production is increasing, resulting in more rapid innovation and change</p>	<p>Collective decision making is declining, though with very specific exceptions</p>

**Key trend implications**

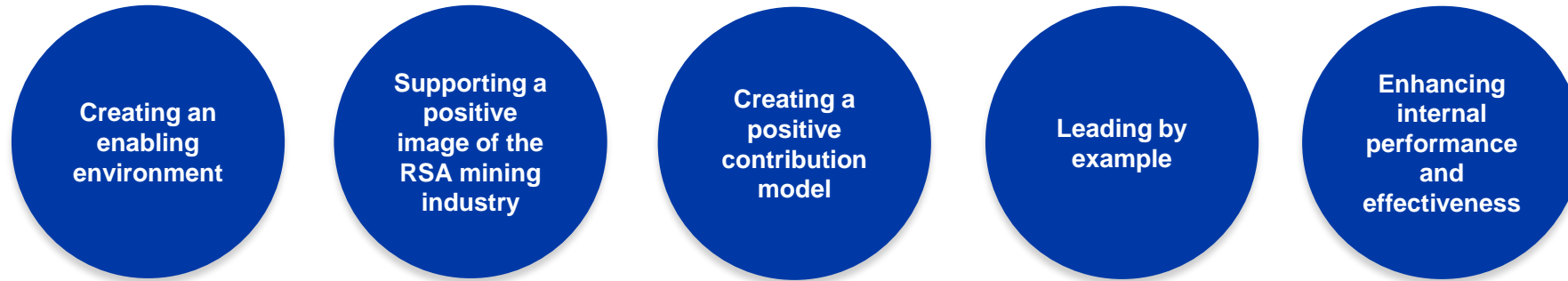
Employment opportunities will become pressured both by older workers being incentivised to stay (given that they are healthier and require more for their pensions), as well as increasing entrants as the youth demographic enters the job market.

Income and wealth inequality in particular will continue to increase, and will be accelerated as a result of new digital, educational, and structural divides.

The rate of knowledge production and adoption itself will continue to increase, leading to the need for increasingly agile business models; in addition to creating further structural employment challenges as capital investment yields greater returns than labour.

# ...which should be addressed through *people-centred modernisation*

## Strategic Drivers



## Minerals Council Perspectives

- |   |  |  |   |   |
|---|--|--|---|---|
| <ul style="list-style-type: none"> <li>• Collaborate with organised labour and social science institutions</li> </ul>                     | <ul style="list-style-type: none"> <li>• Drive a people-centric transition to improve livelihoods</li> </ul>   | <ul style="list-style-type: none"> <li>• Ensure that mining makes a net positive contribution to society</li> </ul>  | <ul style="list-style-type: none"> <li>• Create meaningful transformation through innovative social programmes such as regional presence</li> </ul> | <div style="border: 2px solid red; padding: 5px;"> <p>Constantly learn by doing for incremental change</p> </div> |
| <div style="border: 2px solid red; padding: 5px;"> <p>Eliminate barriers (e.g. literacy and language) for participation by all</p> </div> | <div style="border: 2px solid red; padding: 5px;"> <p>Create awareness with the youth about future mining, winning young hearts and minds</p> </div> | <div style="border: 2px solid red; padding: 5px;"> <p>Establish knowledge hubs and digital access in mining communities to cross digital divide</p> </div> | <ul style="list-style-type: none"> <li>• Drive alternative economic opportunities, co-existing with mining</li> </ul>                               | <ul style="list-style-type: none"> <li>• Build trust through working across boundaries / silos</li> </ul>         |
| <ul style="list-style-type: none"> <li>• Modernise policy frameworks for new challenges under 4IR</li> </ul>                              | <ul style="list-style-type: none"> <li>• Pursue technological and other innovations to reduce harm</li> </ul>  | <ul style="list-style-type: none"> <li>• Create meaning for employees beyond self (e.g. scholarships for employee children)</li> </ul>                     | <div style="border: 2px solid red; padding: 5px;"> <p>Create new young leadership cadre</p> </div>  | <ul style="list-style-type: none"> <li>• Apply effective risk management that protects all</li> </ul>             |
|   |  |  | <ul style="list-style-type: none"> <li>• Extend a first-mover hand of trust</li> </ul>  | <ul style="list-style-type: none"> <li>• Test new approaches to engage with people</li> </ul>                     |

# Next steps

What opportunities and actions are possible

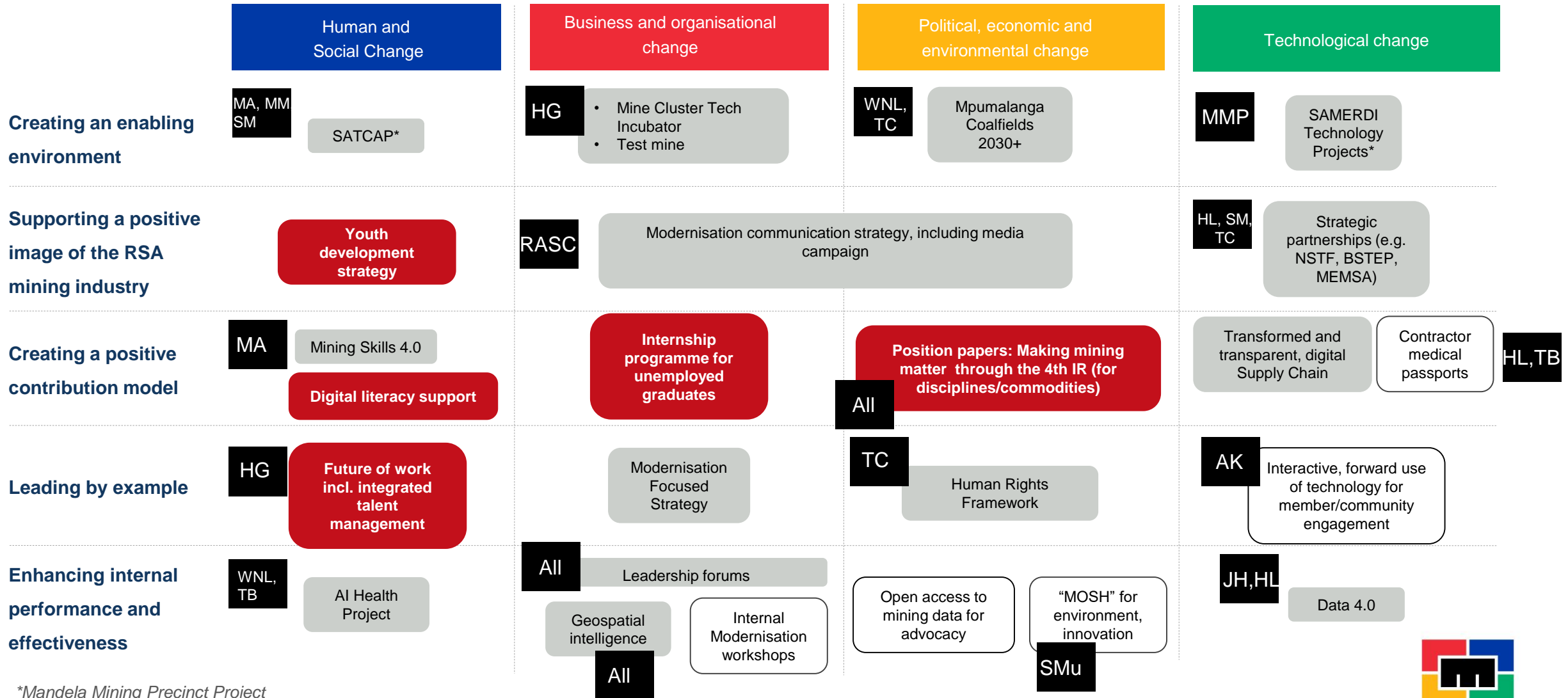
# A practical example – how a modernisation-focused strategy informs actions, operation and the creation of value for members

## TOPIC: Digitalisation

Source	Perspective	Insight	Possible Projects	Possible Cluster changes
Trend analysis	<ul style="list-style-type: none"> <li>Autonomy and automation</li> <li>Data driven decision making</li> <li>Human augmentation</li> <li>Cyber security risks</li> </ul>	<ol style="list-style-type: none"> <li>Autonomous mine operation will have fundamental changes in processing systems, leading to secondary effects throughout the mining supply chain</li> <li>New types of partners will become important for the mining cluster to ensure infrastructure availability, e.g. Dept of Telecommunications and Postal Services (for 5G)</li> <li>New skills will become critical, both at basic (digital literacy) and technical (e.g. big data) levels</li> </ol>	Digital Technology Consequence Mapping	New partnerships created
Stakeholder engagement	<ul style="list-style-type: none"> <li>Automation and mechanisation dependent on digitalisation</li> <li>New 4IR skillsets</li> <li>Radical improvement in productivity</li> </ul>		Establishment of new relationships with technology partners (Dept. of T & PA, Microsoft, Amazon)	Creation of new assets and sources for value – create new data analytics employment opportunities
Leadership conversation	<ul style="list-style-type: none"> <li>Mines will be remotely operated</li> <li>Big data will yield new ways to improve productivity</li> <li>Radical change in health and safety</li> </ul>		Establishment of Digital Literacy programmes as part of Skills Development efforts	Creation of Digital Leadership structures
Minerals Council perspective	<ul style="list-style-type: none"> <li>Significant opportunity to improve decision making</li> <li>Generation of new value</li> <li>Automated collection of data</li> </ul>		Establishment of common data governance guidelines for SA mining cluster	



# ...which are broadly addressing current and possible future projects related to the future mining cluster through multi-disciplinary collaboration



\*Mandela Mining Precinct Project

## In summary

- The mining cluster can choose to **lead the industrial revolution**, not be a victim
- There is a **broad consensus amongst many stakeholders** about what can be achieved – all positive
- Digitalisation is about **augmenting and adding to human capability**, not about replacing it
- The Minerals Council intends to play an **active, positive role to support member companies to transition their workforce** from today to tomorrow, to the future

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