



GOLD FIELDS

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**Unleashing the Potential of our People:
The Key to Unlocking a Culture of Continuous Improvement**

OIM CONFERENCE

Martin Preece

Why is continuous improvement important?



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The world has changed...

COVID-19	Russian-Ukraine War	BREXIT
Rise of the GIG and Shared Economy	Climate Change - Several natural disasters	Mass Adoption of e-Commerce
Cloud Computing and New Digital Solutions	Rise of AI and Data	Arab Spring
European Sovereign Debt Crisis	Rise of Nationalism (Trump, Putin)	China Emerges as the World's Largest Economy
The Consumer Landscape is Changing	#MeToo	Crypto Currency



Workplace risks are increasing...

Business Interruption (incl supply chain disruptions)	Hyper Inflation	Natural Catastrophes
Pandemic Outbreaks	ESG Evolution	Changes in Legislation and Regulation
Critical Infrastructure Blackouts	Political Risks and Violence	Tools and Technology becoming Smarter
Shortage of Skilled Workforce		

Adopting a mindset of continuous improvement is essential to navigate the complex challenges of the 21st century



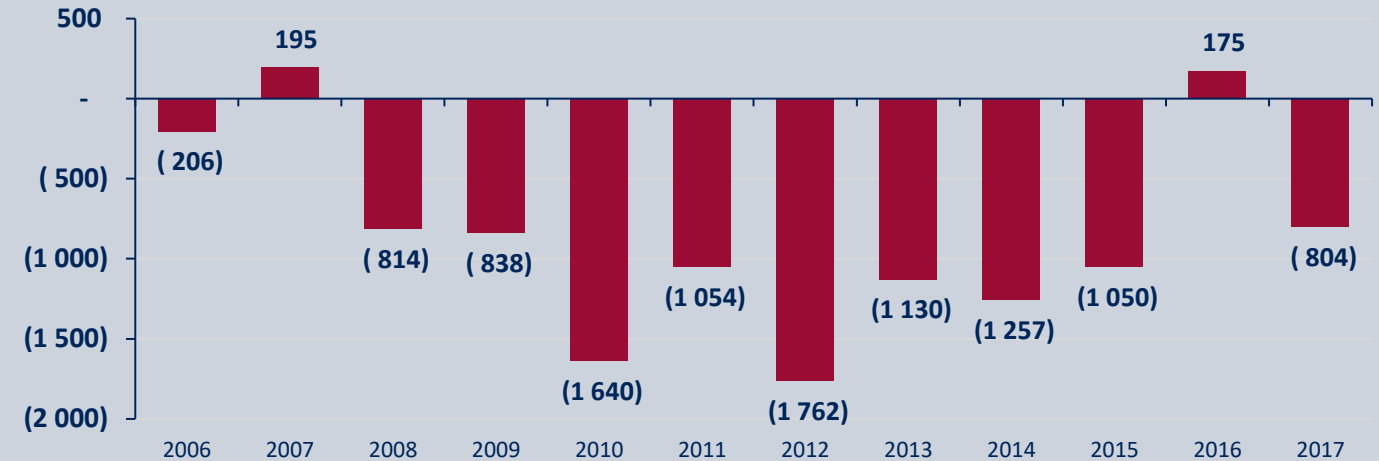
Gold Fields

South Deep Mine

(World's 3rd largest gold resource)

**fails to deliver
for 12 years...**

Annual Net Cash Flow



This was our challenge



Context



South Deep is a critical mine in Gold Field's portfolio with strategic and commercial imperative to find the most optimal path to value

LOM in **excess of 70 years**, if operated as highly effective, capital intensive, high volume mine at depth

South Deep has the potential to unlock sustainable long-term value for Gold Fields

Challenges

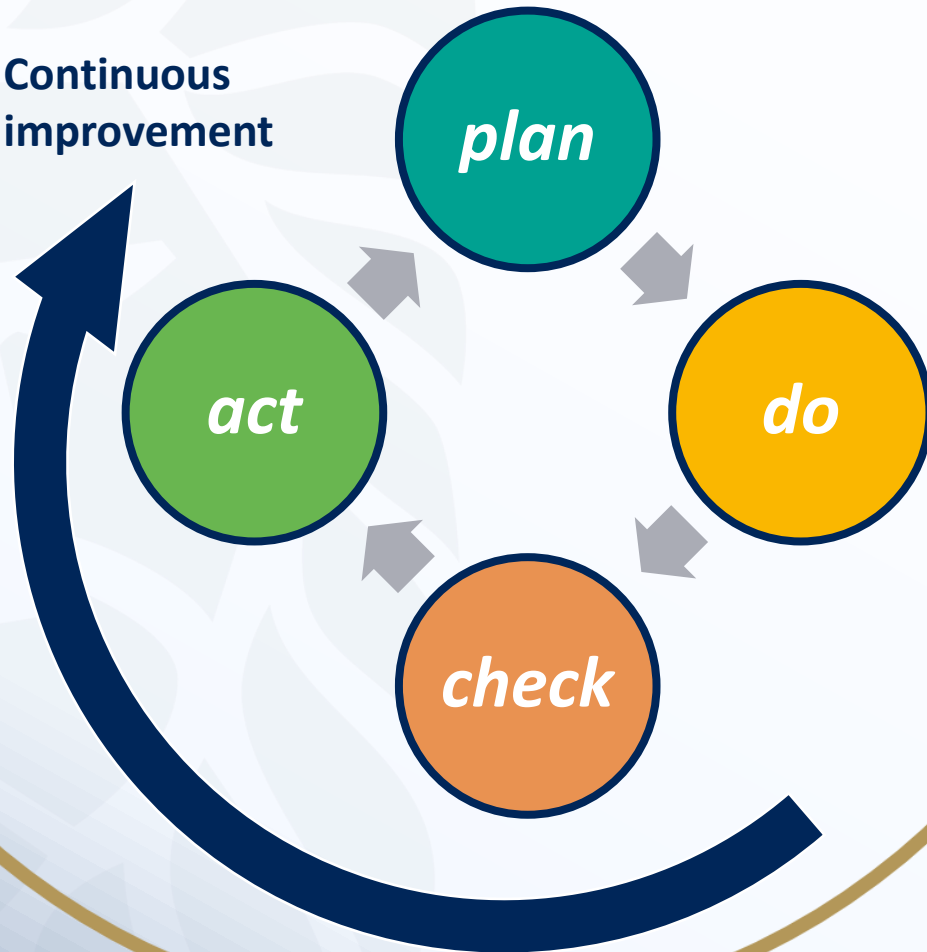
- South Deep touted as highly mechanized and efficient but delivered low productivities at high cost
- Low capability levels in key technical and supervisory roles
- Overall labour productivity was below median performance
- High workforce numbers
- Low levels of operating discipline due to poor management practices (range from geo-tech, blasting techniques, sequencing, maintenance etc.)
- Unclear, complex and unproductive work systems
- Management routines not streamlined and plethora of meetings – planned and unplanned
- Contracting out of key activities to avoid risk compounded with poor contract management practices
- Increasingly complex socio-political landscape

“You never change things by fighting the existing reality, build a new model that makes the existing model obsolete.”

Buckminster Fuller



Continuous
improvement



Not a New Concept...

It's not finding a method that works and sticking with it. It's looking at where you are today, setting a goal and doing what needs to be done to reach that goal.

Once that goal is met, you start again, finding ways to improve further. It doesn't matter what kind of industry or business you're in — a continuous improvement approach is necessary to keep ahead of the game.

South Deep Frontline Leadership Programme Results



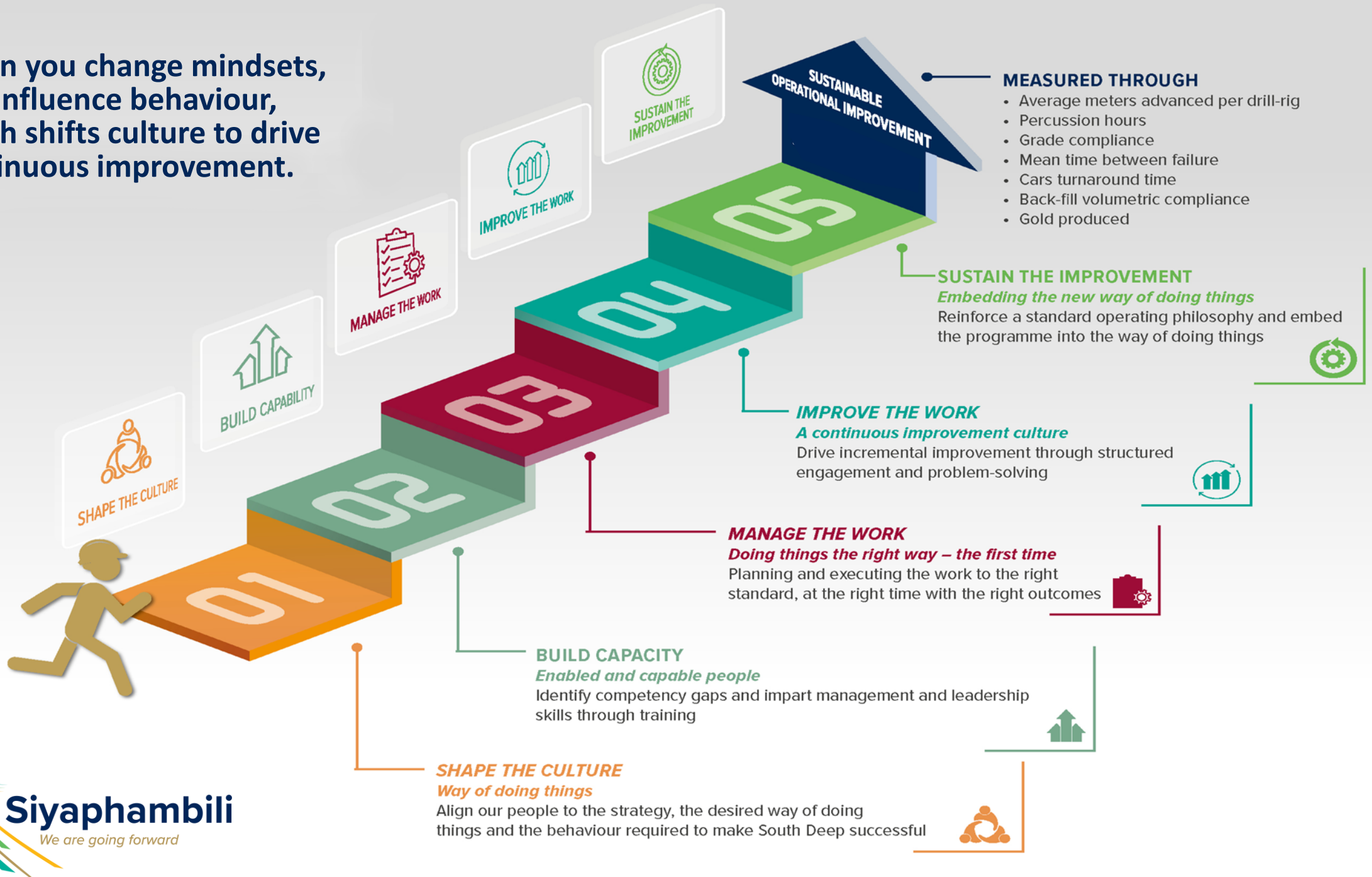
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Daily Benefits Realisation Measures (BRM)

BRM Measures				Monitoring									
No	Performance Metric		Area	Control Chart	Change	2018	2019	2020	2021	2022 YTD Avg Act	2022 YTD Avg BP		
Finance	1	Average Gold Recovered (Gold recovered in kilograms, Month)		Minewide		▲ 99%	407	576	588	758	808	796	
	2	Safety Engagement Index		Minewide		▲ 124%	0,49	0,81	0,68	1,10	1,10	0,85	
Internal Business Processes	3	Average metres advanced per drill-rig (Metres per drill category, Monthly)		1. Development	Mining		▲ 124%	40,4	78,2	72,1	85,2	90,5	98,5
		2. Destress		Mining		▲ 268%	22,8	40,4	71,9	84,9	84,0	73,9	
	4	Longhole stoping tonnes per Rig (Monthly)		Mining		▲ 76%	6 708	11 966	12 968	14 345	11 778	14 098	
	5	Stoping Compliance (Monthly)		Mining		▲ 10%		79%	90%	89%	87%	85%	
	6	Mine To Standard (Mining Error Factor, Monthly)		Mining		▼ -48%	52%	37%	29%	29%	27%	35%	
	7	Ounces per Employee (Monthly)		Mining		▲ 112%	2,60	4,07	4,03	5,06	5,5	5,5	
	8	Mean Time Between Failure (Hours by equipment, Weekly)	1. Drill Rigs	Engineering		▲ 509%	2,2	8,7	11,3	16,1	13,4	7,0	
	9		2. LHS	Engineering		▲ 121%	3,3	7,0	8,1	4,5	7,3	7,0	
	10		3. LHD's	Engineering		▲ 130%	6,6	6,9	9,5	16,0	15,2	10,0	
11	4. Trucks		Engineering		▲ 73%	6,6	8,6	11,0	13,5	11,4	10,0		

From the outset, we had to distil the key issues that would drive the turnaround in both quantity and quality

When you change mindsets,
you influence behaviour,
which shifts culture to drive
continuous improvement.





Shaping the Culture

Develop a capable, accountable and engaged workforce as a key enabler for the creation of sustainable improvement



Strategic Intent Clarity:

- Defined and communicated a clear Purpose and Strategic intent
- Maintained consistent messaging for focus and alignment



Sustainability Focus:

- Cultivated synergies across improvement themes
- Value-driven business plan
- Waste elimination



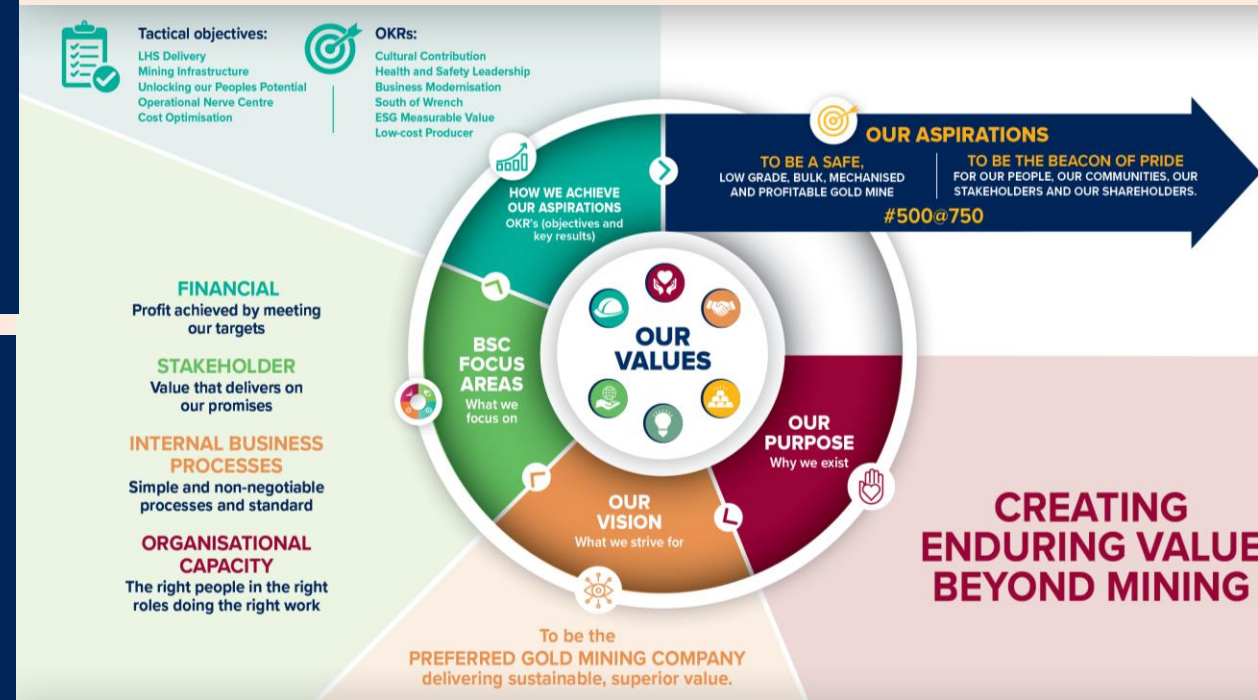
Culture & Change Management:

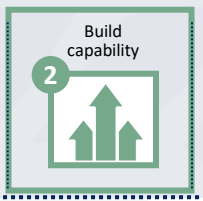
- Siyaphambili program for balanced accountability
- Foster a resilient culture through symbols, rituals, and habits
- Culture creation workshops



Humanising Leadership:

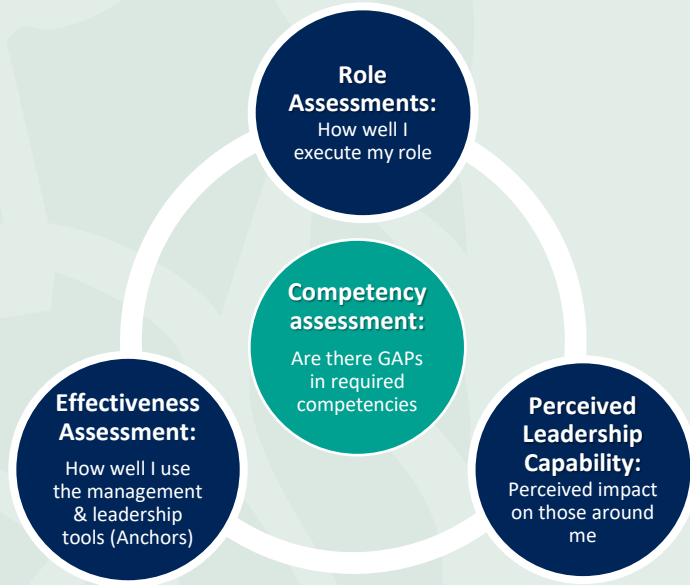
- Restored dignity and respect in leadership
- Targeted hiring to strengthen leadership
- Exit leaders misaligned with our goals
- Clear Expectations & Accountability





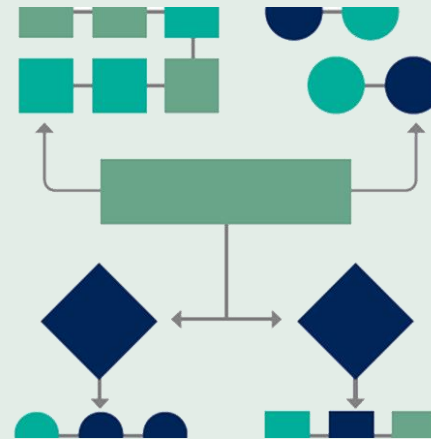
Building Capability

Empowering Excellence: Frontline Capability and Development as Catalysts for Continuous Improvement



INTERGRATED MEASUREMENT

Frontline managers and leaders assessed on four dimensions, which determines the development requirements



PROCESS CRITIQUES AND DAY PLANNERS FORMULATION

- Teams critique their daily process to highlight key areas of challenge (emerging themes)
- A day planner was formulated, detailing key activities, outputs and requirements of a typical day



DEVELOP

Frontline leaders training teaches how to Manage Self, Manage Others, Manage a Team and Manage the Systems for success



Manage the Work

On-the-Job Coaching and Continuous Assessment for Toolsets, Skillset, and Mindsets against a maturity framework

5 Stages of Management Maturity

Stage 5 Innovation

Stage 4 + Leverages tools & skillsets through ongoing cinnovation. *Advise others on continuous performance improvement.*

Stage 4 Ownership

Stage 3 + Recognises inter-relationships within the internal value chain: *Interprets performance trends, and makes suggestions on & drives improvement*

Stage 3 Conceptual

Shift Plan, execution & review part of daily routine
Can access & interpret shift performance information.
*Can articulate reasons behind shift performance.
Engages team effectively through the team meeting*

Stage 2 Compliance

Sees benefit & starts to take a more structured approach to shift planning & control. *Feedback*
Becoming more structured & consistent

Stage 1 Informal

Reactive work style, unstructured approach to shift planning and control. *Change Resistant*

18-60 months

Movement up levels slows as complexity increases

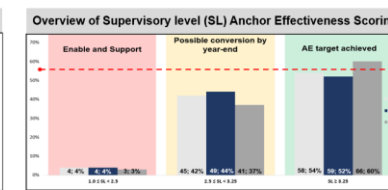
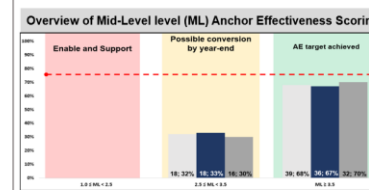
0-06 months

Coaching Feedback - Engineering



Anchor effectiveness ratings monthly progress – Jun 2023

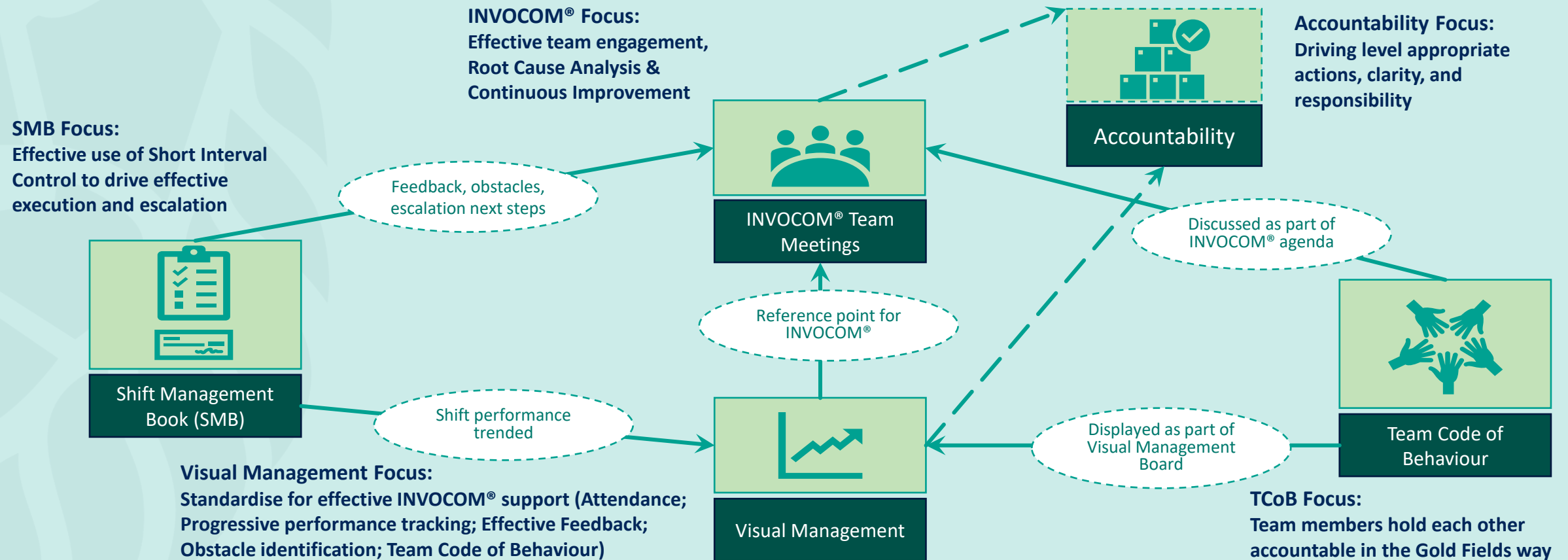
Rank	Operations					Support Services						
	1	2	3	4	5	1	2	3	4	5	6	7
Dept	B.Fill	Eng	Met	WH	Mining	HR	Tech S	Safety	Com.Ser	Env. Eng	BAR	T. Train
Apr	3.7	3.5	3.5	3.4	3.2	4.0	3.9	3.9	3.6	3.5	3.4	3.2
May	3.7	3.5	3.4	3.4	3.2	4.0	3.9	3.8	3.6	3.5	3.4	3.2
Jun	3.7	3.6	3.4	3.3	3.2	4.0	4.0	3.8	3.7	3.7	3.4	3.2





Improve the Work

Anchoring Excellence: Key Management Routines and Consistent Monthly Assessments



INVOCOM® and Visual management



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INVOCOM® Team Meetings

INVOCOM® Focus:

- Effective team engagement
- Root Cause Analysis
- Continuous Improvement

SECT 6 INJURY FREE DAYS: 976

02/10/23

Date: Shift: N/O CYS: A B C D

Invocoms Planner

% Task Adherence: Actual Achievement/Planned Achievement: 6 17 90%

Values: RESPONSIBILITY Recognition:

Safety Moment: ROCK ENGINEERING CRITICAL CONTROLS

Equipment ID: DS 6869, DS 6283, Cut 2 - UP, Cut 4 - UP

Equipment Status: LMS 5130 - 11/10/2023, LMS 5482 - 11/10/2023, NEANDER DOWN, CUTS OK

AL 1260, AL 1373, Both up Cuts, CUTS OK

Tim 1818, EL 1256, CUTS OK

UL 2230, CUTS OK

Day Shift Planning

Priority	Drill/Support		Bolter		Loading		Charging		Preparation		Construction	
	Plan	Remark	Plan	Plan	Plan	Remark	Plan	Remark	Plan	Remark	Plan	Plan
6669	CLM 01N	COMP DRILL+C	VCB 01N	SUP	CUT 4 ACC 01N	LOAD	CLM 01N	CHARGE UP	VCB 01N	PREP	a worker Control at East Side	
6283	ACC 063	COMP SUP D+B	VCB 02M	SUP	VCB 02M	LOAD	VCB 01B	CHARGE UP	CUTS Tcut 03N	PREP		
Priority 3					CUTS Tcut 03N	LOAD	VCB 01M	CHARGE UP	CUTS ACC 01N	PREP		

NO FLY ART ON SIDEWALL DRILL BE TOLERATED !!

Night Shift Planning

Priority	Drill/Support		Bolter		Loading		Charging		Preparation		Construction	
	Plan	Remark	Plan	Plan	Plan	Remark	Plan	Remark	Plan	Remark	Plan	Plan
6669	CLM 01N	D+B	VCB 01M	Support	VCB 01M	Load	CLM 01N	Actual	VCB 01M	Prep	1) WATER CONTROL 2) RANWAY MOUNT 3) P/BAY CHECK - PERM 4) POSITIVE VENTILATION 5) CUTS VENTILATION	
Priority 2	ACC 01M	D+B			Acc In	Load	ACC 01M	Actual	ACC 01M	Prep		
6283	ACC 63	COMP SUP D+B					ACC 01M	Actual				

Face ID	Day Shift Obstacles			Action	Who	When	Status	Face ID	Night Shift Obstacles			Action	Who	When	Status
	Obstacle	Obstacle	Obstacle						Obstacle	Obstacle	Obstacle				
5469	TR down with eye	ENG to fix			Tebano	01/10/23	down								
2230	TR down - needs better	ENG to fix			Tebano	01/10/23	down								
10 577	down with Attenuation	ENG to fix			Tebano										

Rock Engineering Critical Controls



Visual Management

Visual Management Focus:

Standardise for effective INVOCOM® support

- Attendance
- Progressive performance tracking
- Effective Feedback
- Obstacle identification
- Team Code of Behaviour



PREPARATION

Ends Status																	DESTRESS
Ends	Blasting Cycle						Infrastructure										
	Planned	Actual	Prepared	Checked	Released	Final	Planned	Actual	Prepared	Checked	Released	Final	Planned	Actual	Prepared	Checked	
SABW	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
SABW	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
SABW	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
SABW	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
YADUE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
SABSE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
SABSE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
SABSE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
SABSE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
SABSE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	

Material Laydown Area 1

Material	Quantity

Material Laydown Area 2

Material	Quantity



Shift Management Book and Team Code of Behavior



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Shift Management Book (SMB)

SMB Focus:

Effective use of Short Interval Control to drive effective execution and escalation

Invocom Shift Handover

Task	Start	End	Status	Remarks
Plan	06:00	06:30	Done	
Check	06:30	07:00	Done	
Execute	07:00	07:30	Done	
Review	07:30	08:00	Done	

Invocom Shift Handover

Task	Start	End	Status	Remarks
Plan	06:00	06:30	Done	
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Team Code of Behaviour

TCoB Focus:

Team members hold each other accountable in the Gold Fields way

THE GOLD FIELDS WAY ambition

OUR 4 PRIORITY THEMES

THE attributes of the GOLD FIELDS WAY

UNLOCKING POTENTIAL

Improve the Work



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Training Alignment: In collaboration with OIM Safety, Supervisory and Management training follows the same improvement philosophy and approach

Change Leadership: Managers trained as change leaders in Lean Six Sigma methodologies

Practical Application: All training includes execution requirements where individuals are expected to demonstrate knowledge application through improvement projects.

DIAMAC Projects: Running five significant improvement projects following the DIAMAC philosophy, every 6 months.

Statistical Tools: Introduction of control charts and capability histograms for data-driven decision-making

Asset Optimisation: Driving AO under three banners: Incremental, Breakthrough, and Transformational improvements.



Sustain the improvement – Gold Fields AO approach

Incremental

“Delivering the current BP cycle: BP24 ”

Productivity Initiatives

- LHS productivity improvement
- Optimise cut 5 design at central mine

Waste reduction initiatives

- IT and OT applications systems rationalisation
- Reduction of chilled water supply in 901WN1
- Stores cost optimisation

Metric	2024
% AIC impact	tbc

Breakthrough

“Unlocks potential from future business plans:>12kt”

Productivity Initiatives

- Increasing FRD1 & 2 treatment Rates
- Inhouse extraction of gold from carbon waste fines
- Improving Stopping Compliance
- Increasing treatment of FRD 3 & 4

Waste reduction initiatives

- Improve hydrocarbon management system
- 2% YoY Contractor Rationalisation
- Low density accommodation
- Sealing of Abandoned areas
- Reduce High Density Accommodation
- 3% YoY waste elimination per dept

Metric	2024	2025	2026
% AIC impact	tbc	tbc	tbc

Transformational

“Questions conventional wisdom”

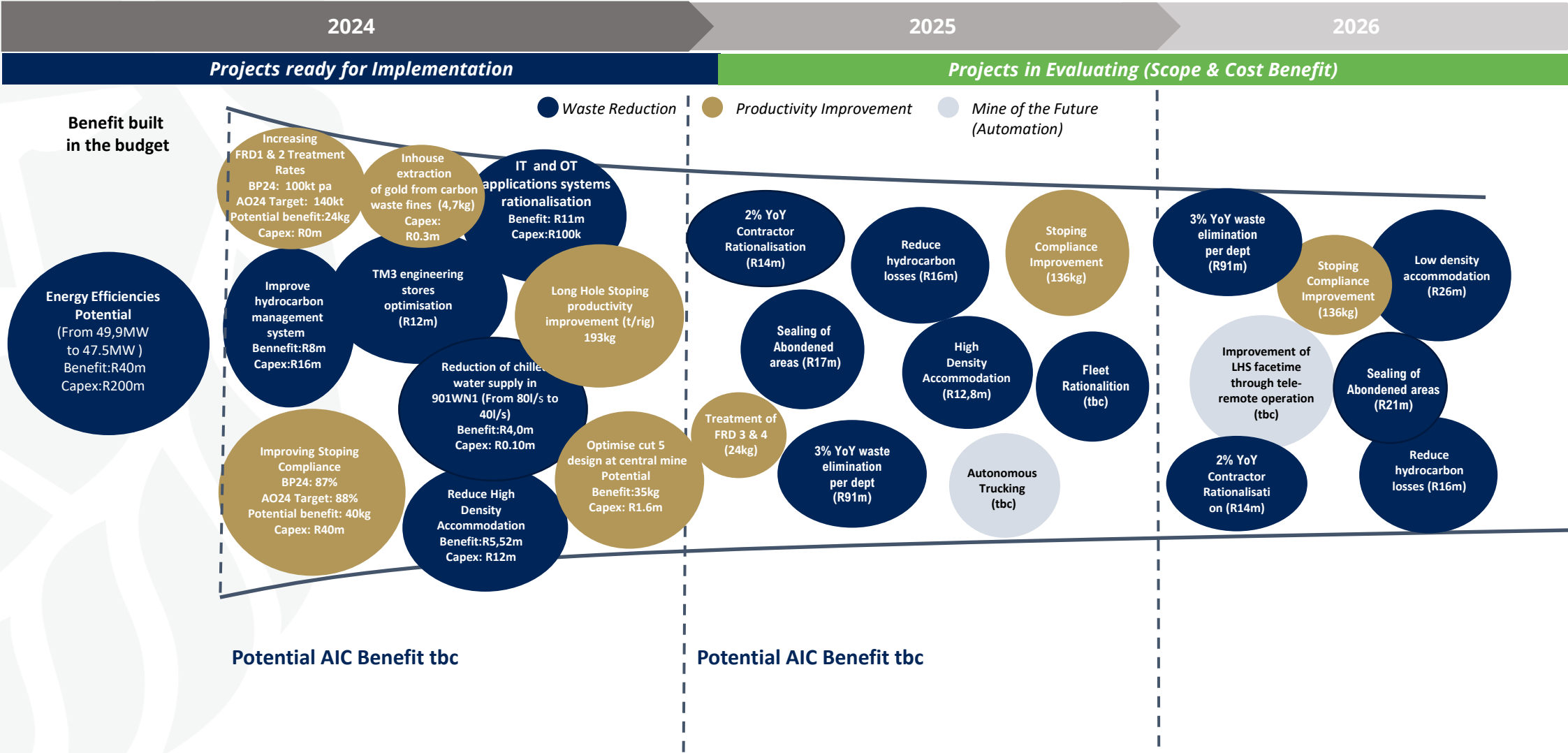
Mine of the future

- Autonomous Trucking
- Energy Efficiencies
- Improvement of LHS facetime through tele-remote operation

Metric	2024	2025	2026
% AIC impact	Value to be defined, scoping underway		

Siyaphambili 2.0	Engineered water handling solution	Roadway construction	Backfill	Ventilation
Network Infrastructure	Network Infrastructure	Material Handling Logistics		People Logistics

Gold Fields: AO approach



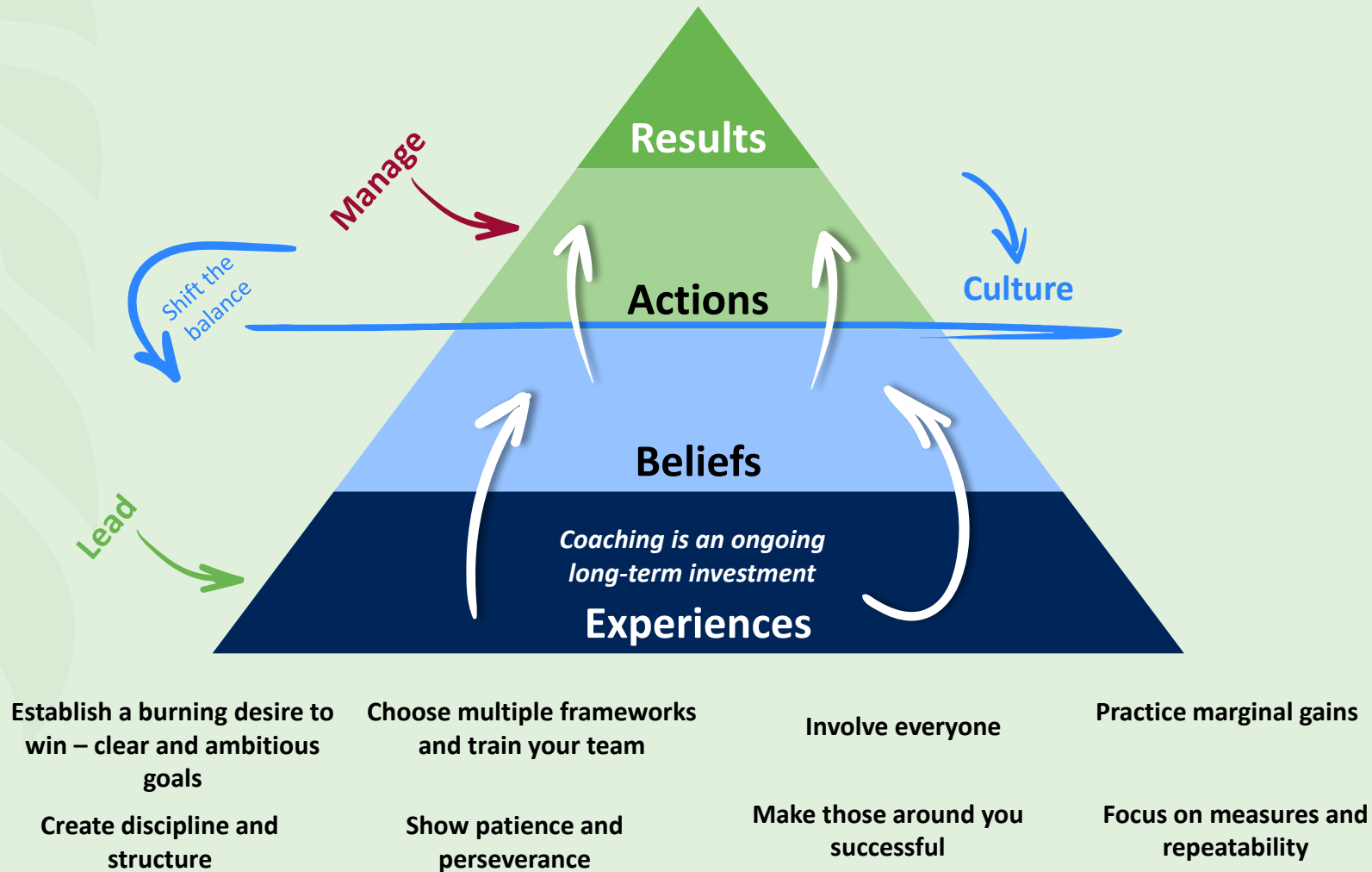
Continue Generating & Evaluating Initiatives

*** High Confidence
** Medium Confidence
* Low Confidence

Sustaining improvement



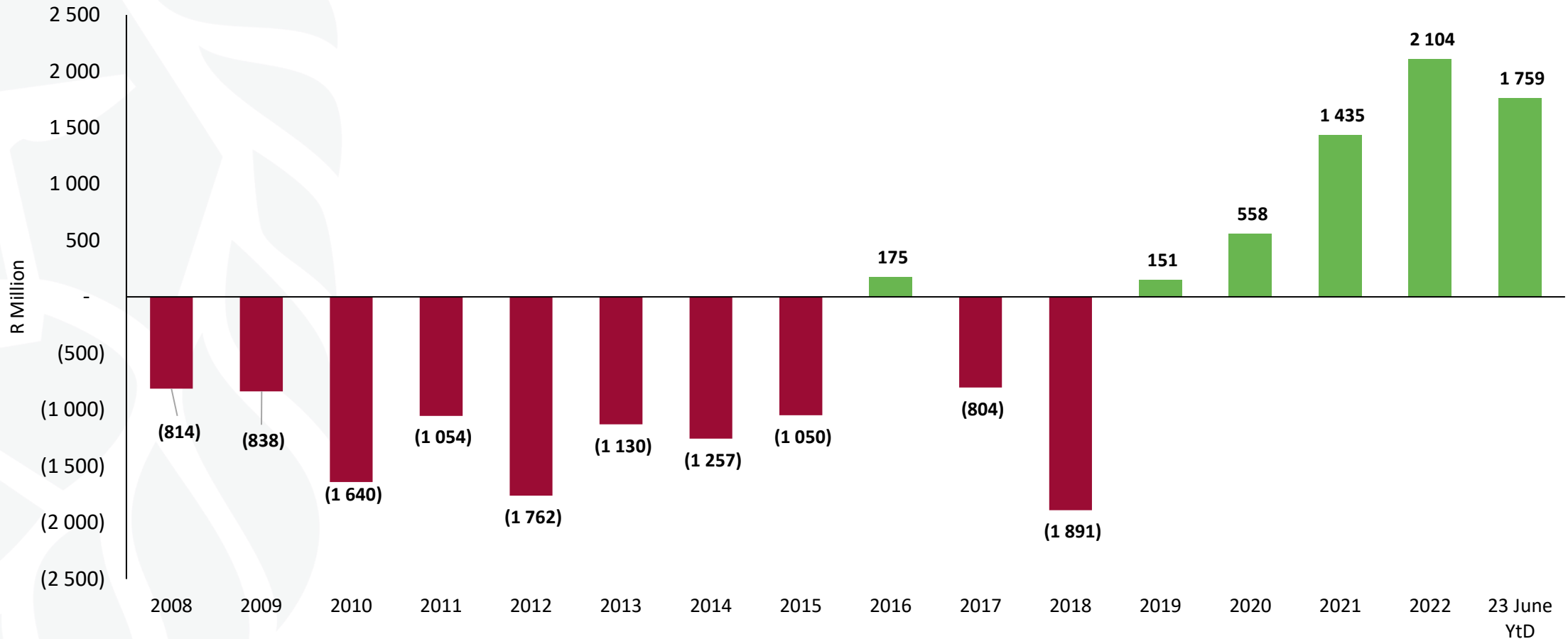
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Annual net cash flow



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It's critical to remember this is not the destination but merely the start of our journey

THANK YOU