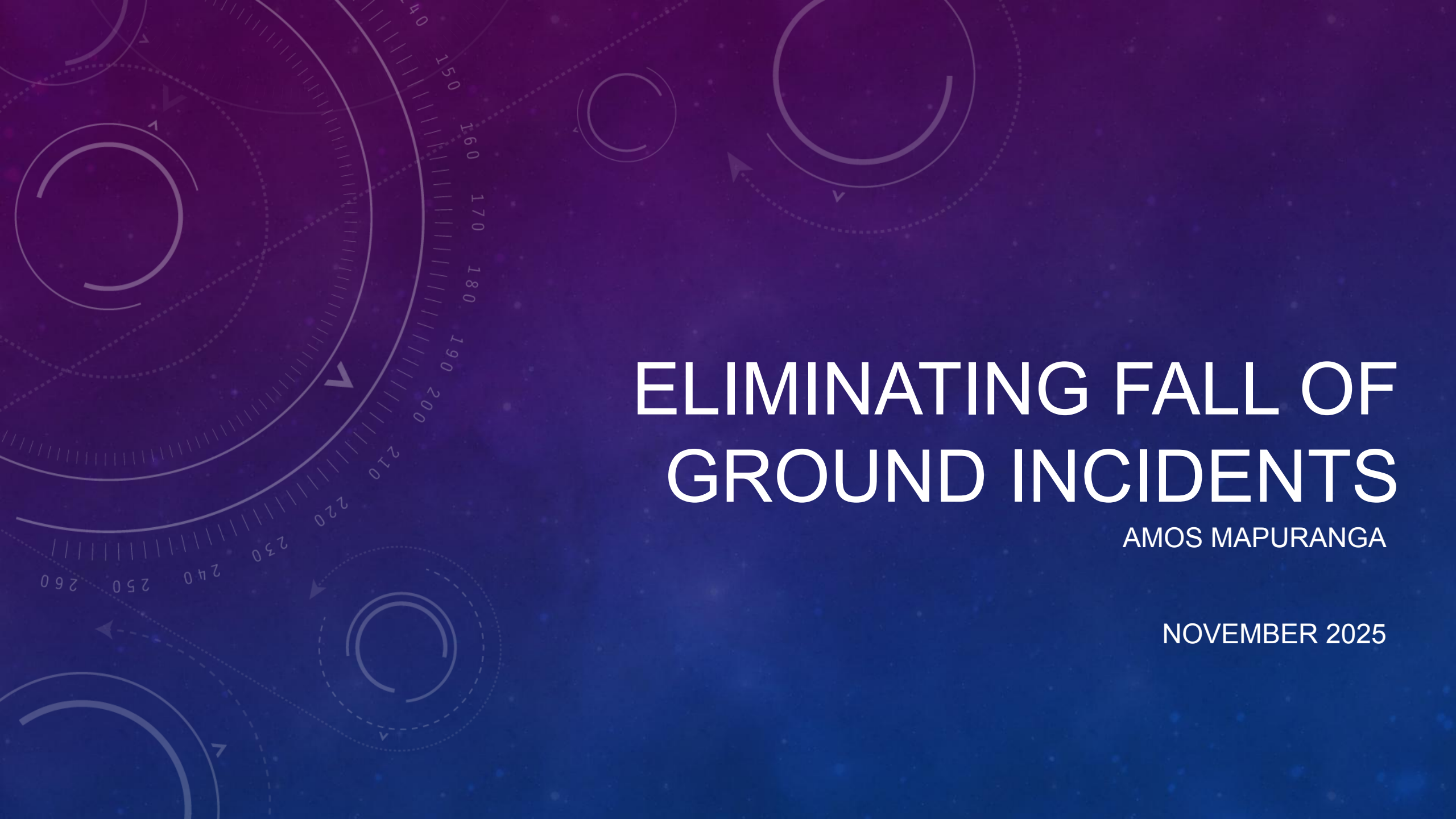


The background is a dark blue gradient with a subtle pattern of white dots. Overlaid on the left side are several concentric circles and a large circular scale with degree markings from 140 to 260. Some circles have arrows indicating a clockwise direction.

# ELIMINATING FALL OF GROUND INCIDENTS

AMOS MAPURANGA

NOVEMBER 2025

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# Introduction

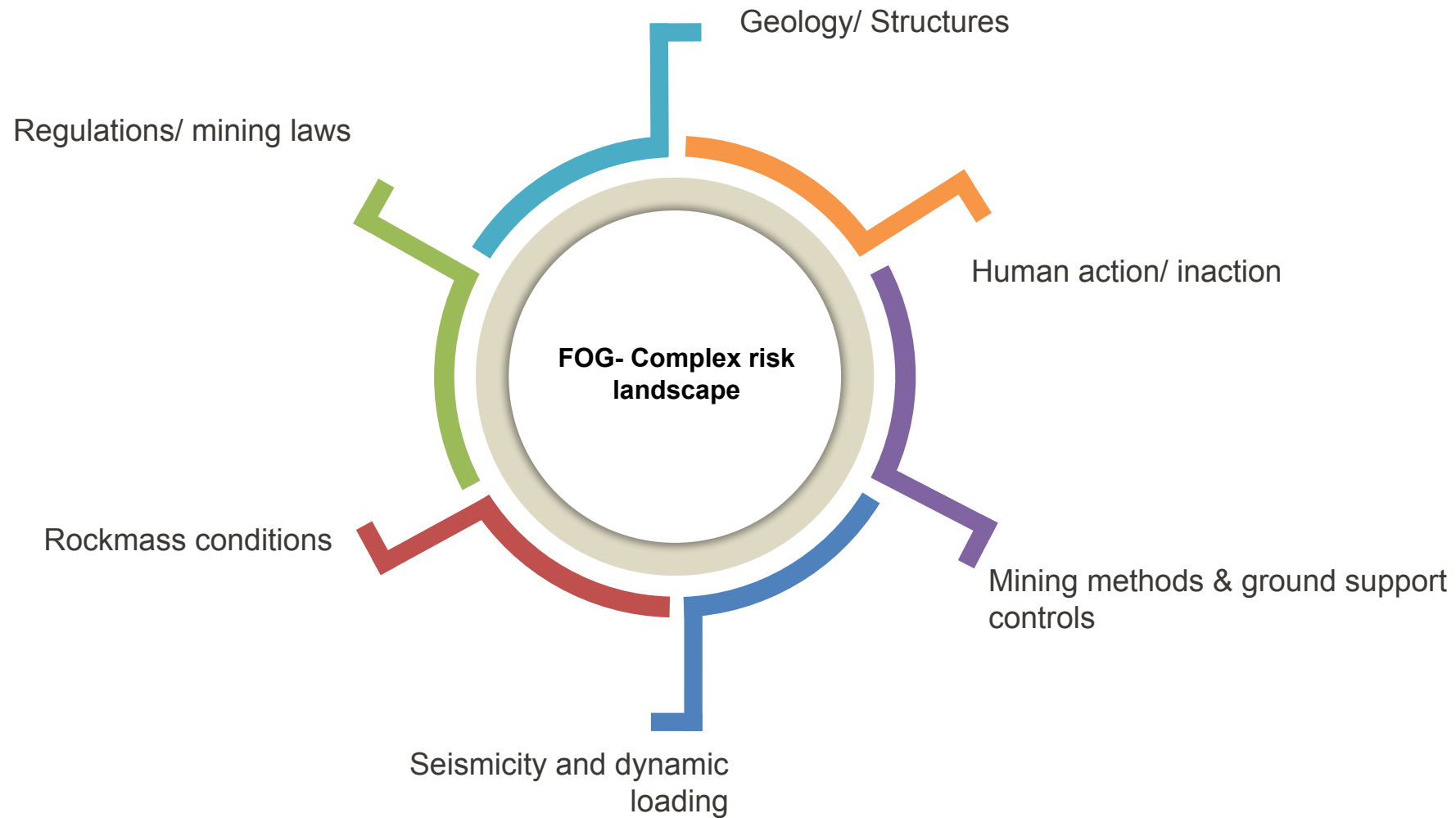


- FoG- unplanned and unintentional dislodging of rock
- One of the highest fatality causes in the mining industry
- Need for global cross-regional FoG controls

**~30%** mining fatalities in South Africa (2024)

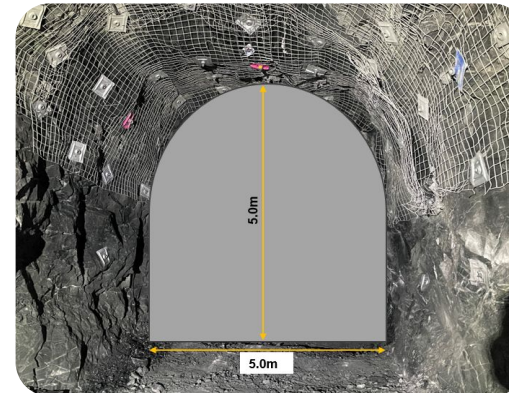
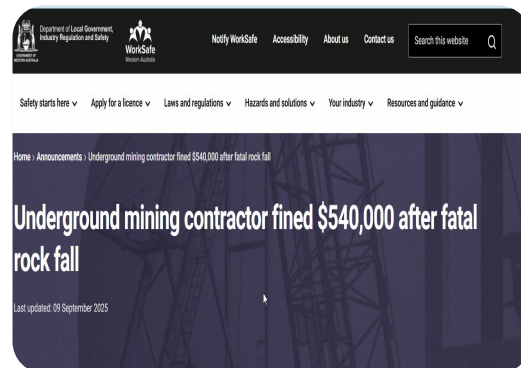
**~37%** mining deaths in Zimbabwe (Q2 2025)

# Causes



# Australian FoG Controls

## Universal mesh installation in development



# South Africa



## FOGAP

Fall of Ground Action Plan



**Focused on behaviour, leadership, seismicity**



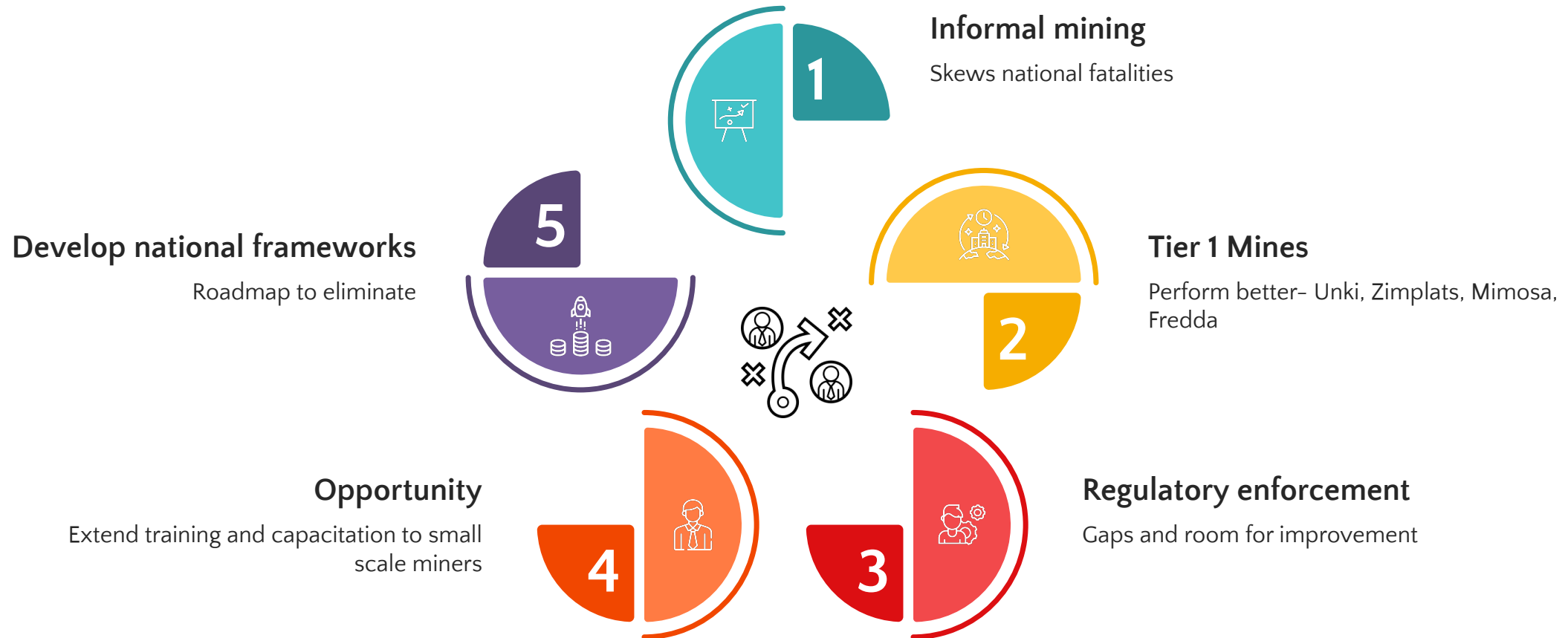
## Improvement

73% reduction in FoG (2021–2022)

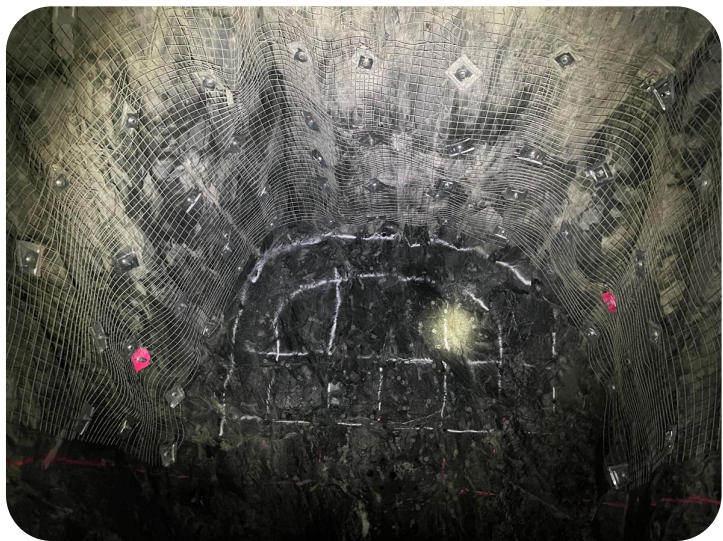


## Training

Strata control/ rock engineering certification & inclusion of rock engineering in curriculum



# Different standards

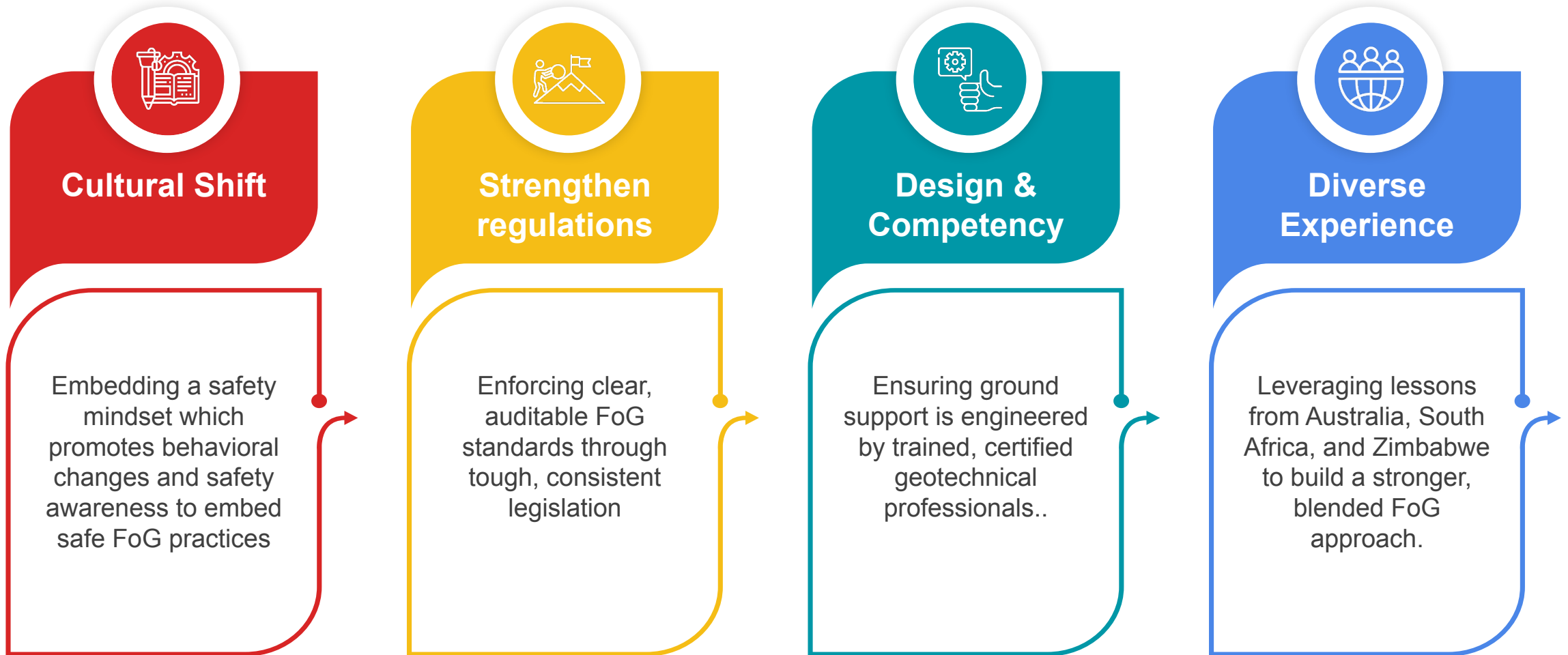


Supported in  
Western  
Australia



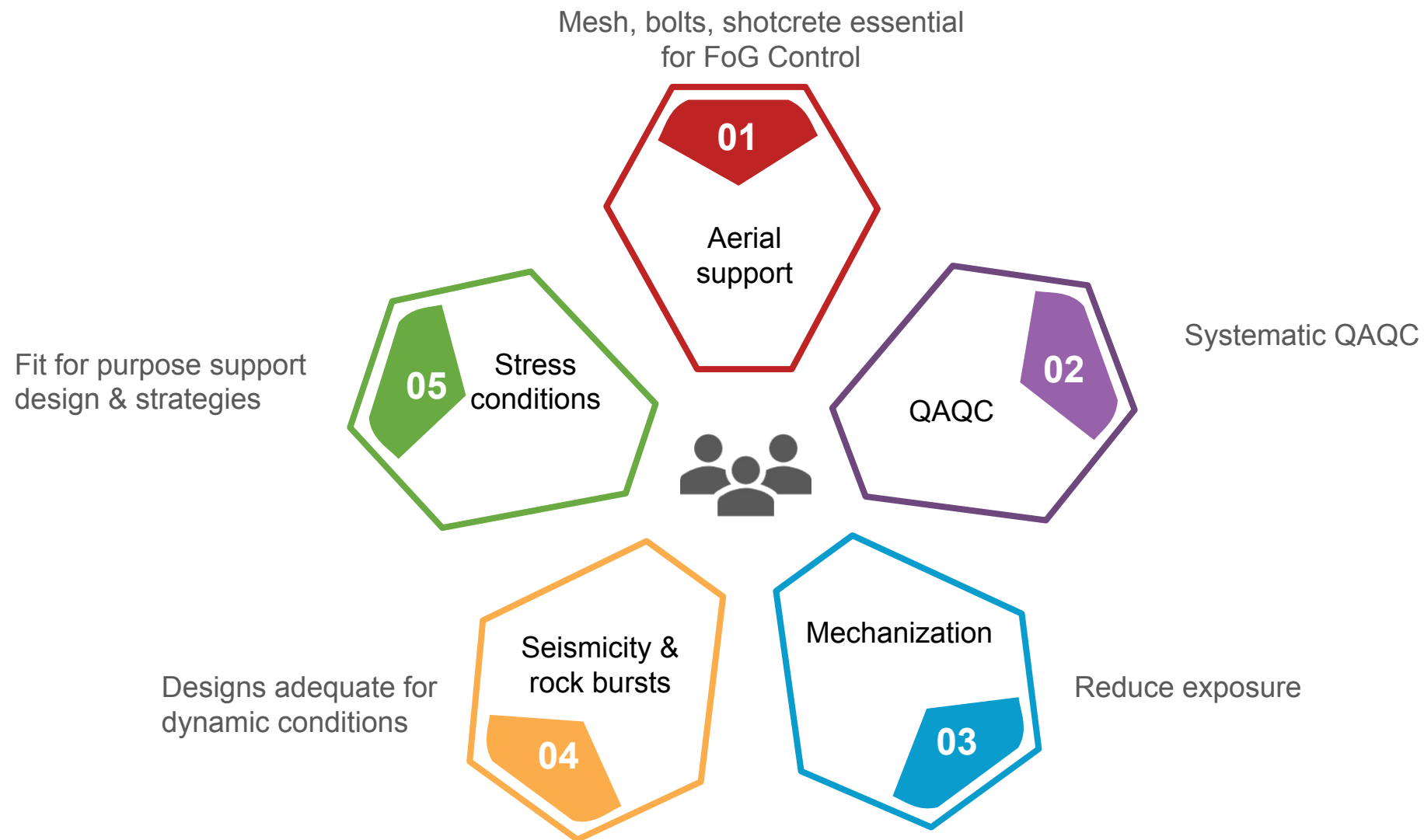
Supported in  
Southern Africa

# Blending Approaches- Cross Pollination

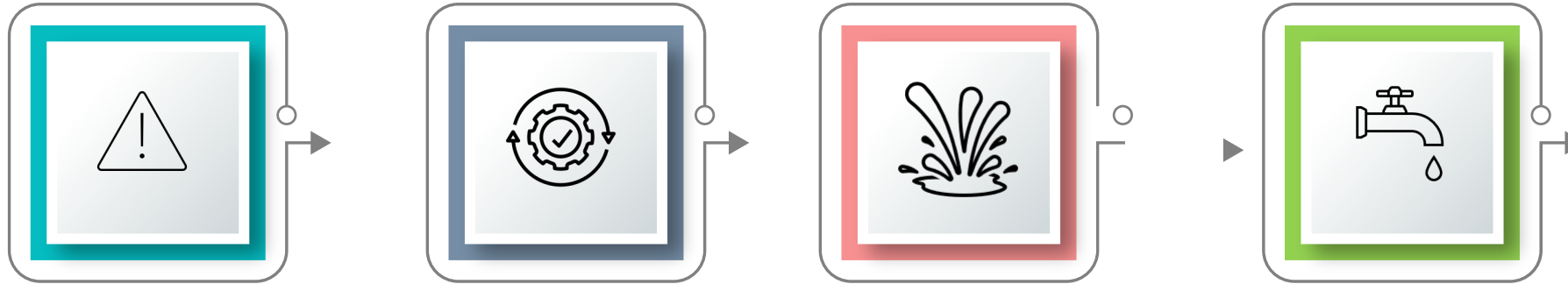


Link artisanal and small-scale miners with major operators for training, technical guidance, and improved access to support systems.

# Engineering and design lessons



# Lessons



## Leadership

- ✓ Elimination frameworks- walk the talk
- ✓ Accountability
- ✓ Review unwanted events and critical controls

## Human & Behavioural

- ✓ Work execution discipline
- ✓ Training & refreshers
- ✓ Incident investigation for learning and sharing

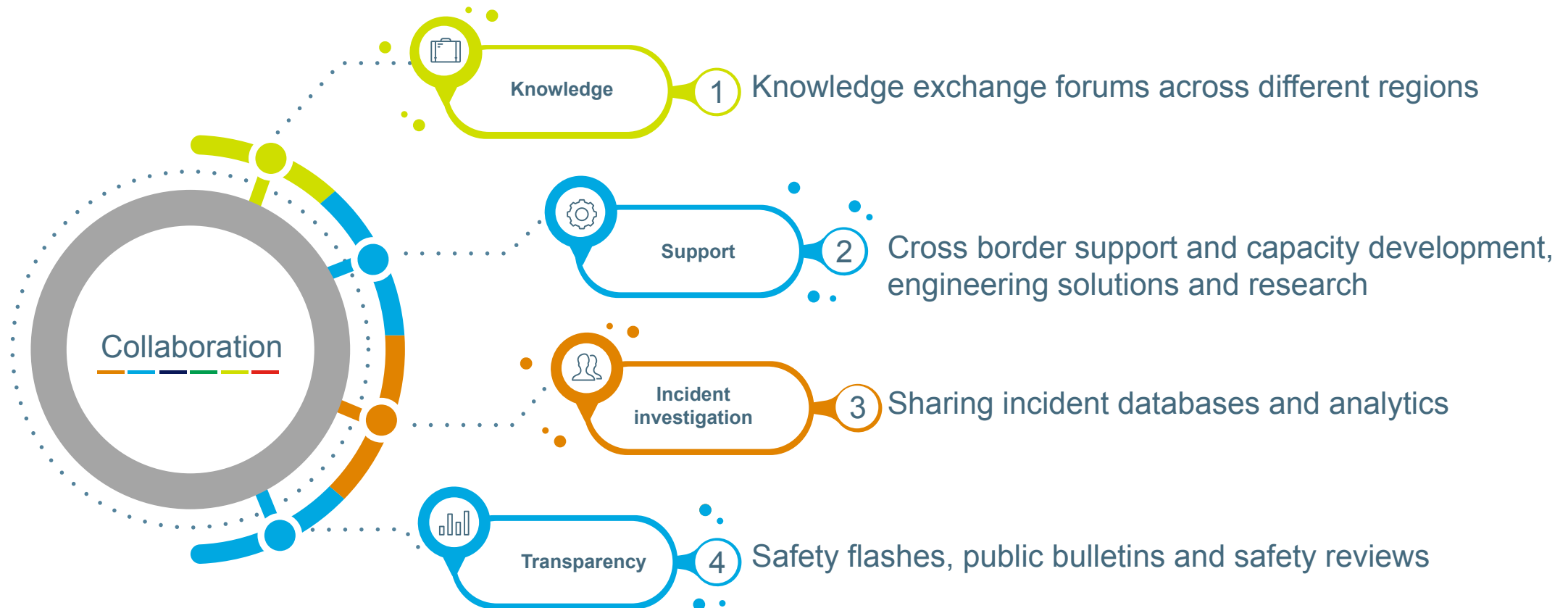
## Technology & Monitoring

- ✓ From reactive to predictive FoG management
- ✓ Alerts and surveillance system integration
- ✓ Real-time monitoring (geotechnical sensors)

## Supporting informal sector

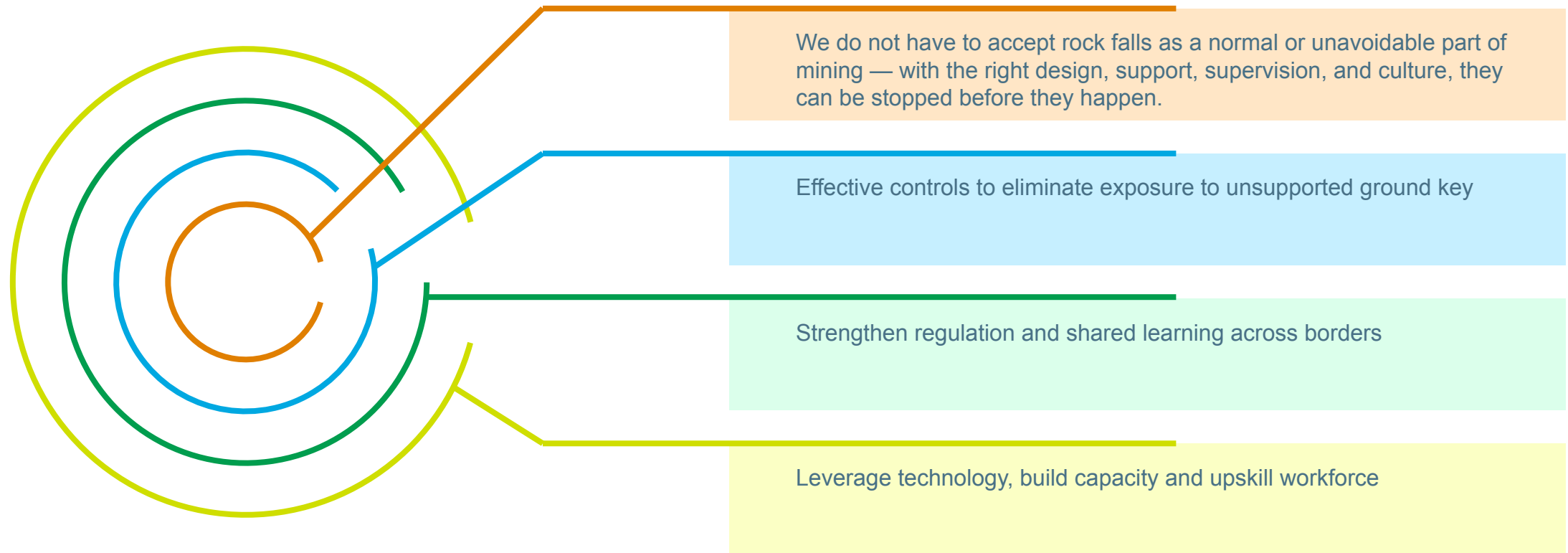
- ✓ Community-based safety training
- ✓ Tiered technical extension support
- ✓ Government role: inspections, audits, info-sharing

# Regional collaboration model





# Conclusions





# Thank you



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