

### Objectives



### W/hat?

What is Open Innovation?



Demonstrate the opportunities
Open Innovation with case studies.



Guidelines to implement Open Innovation.





# Problems faced by the R&D Department in Organisations

South Africa's Research, Development and Innovation expenditure declined for the first time since 2009/2010.





The gross domestic expenditure on research & development decreased by 5% from R38 725 billion recorded in 2017/18 to R36 784 billion for 2018/19.

The reason for this is that company executives are experiencing difficulty aligning their innovation strategy with their business strategy making it difficult to reap the full rewards of their innovation efforts.





This leads to high innovation costs as businesses work in silos and find it hard to come up with radical and disruptive innovations and thus harvesting the fruits of their innovation investment.







### CLOSED INNOVATION

A business management model for innovation that promotes collaboration with people and organisations inside the company.

### OPEN INNOVATION

A distributed innovation process based on the purposively managed knowledge flow across organisational boundaries to accelerate internal innovation, and expand the markets for external use of innovation, respectively.







## There may be a few Opportunities...



#### Time

Shortened implementation time as the solution from 3<sup>rd</sup> party has already been built and tested.



#### Cost

As the solution is not built from scratch, the implementing organisation does not have to resource for research component of the R&D process.



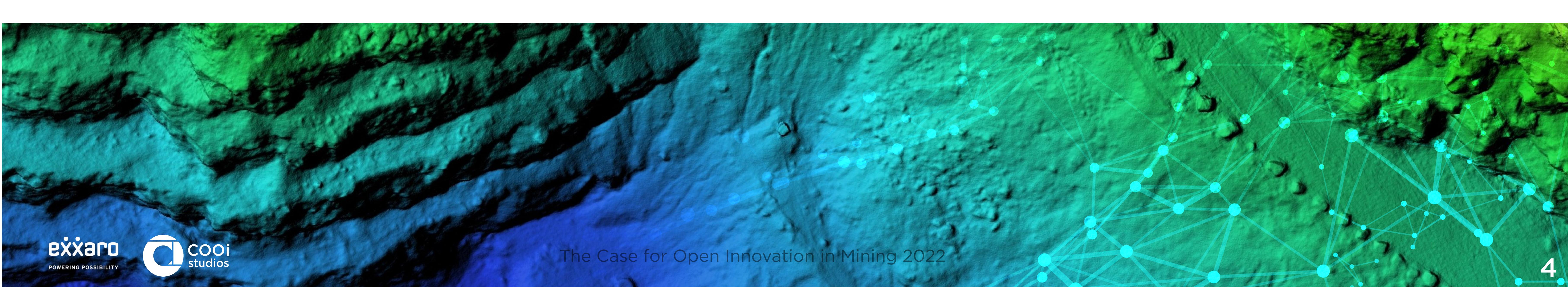
#### Culture

As the organisation collaborates, there is a cross pollination of ideas and new ways of working with the 3<sup>rd</sup> party, imposing a cultural shift for both parties.



#### Business Improvement

Open Innovation implementation insists on a revision of archaic processes, which forces the organisation to adapt to new ways of working.



# Using food additives to clean up oil spills in the ocean



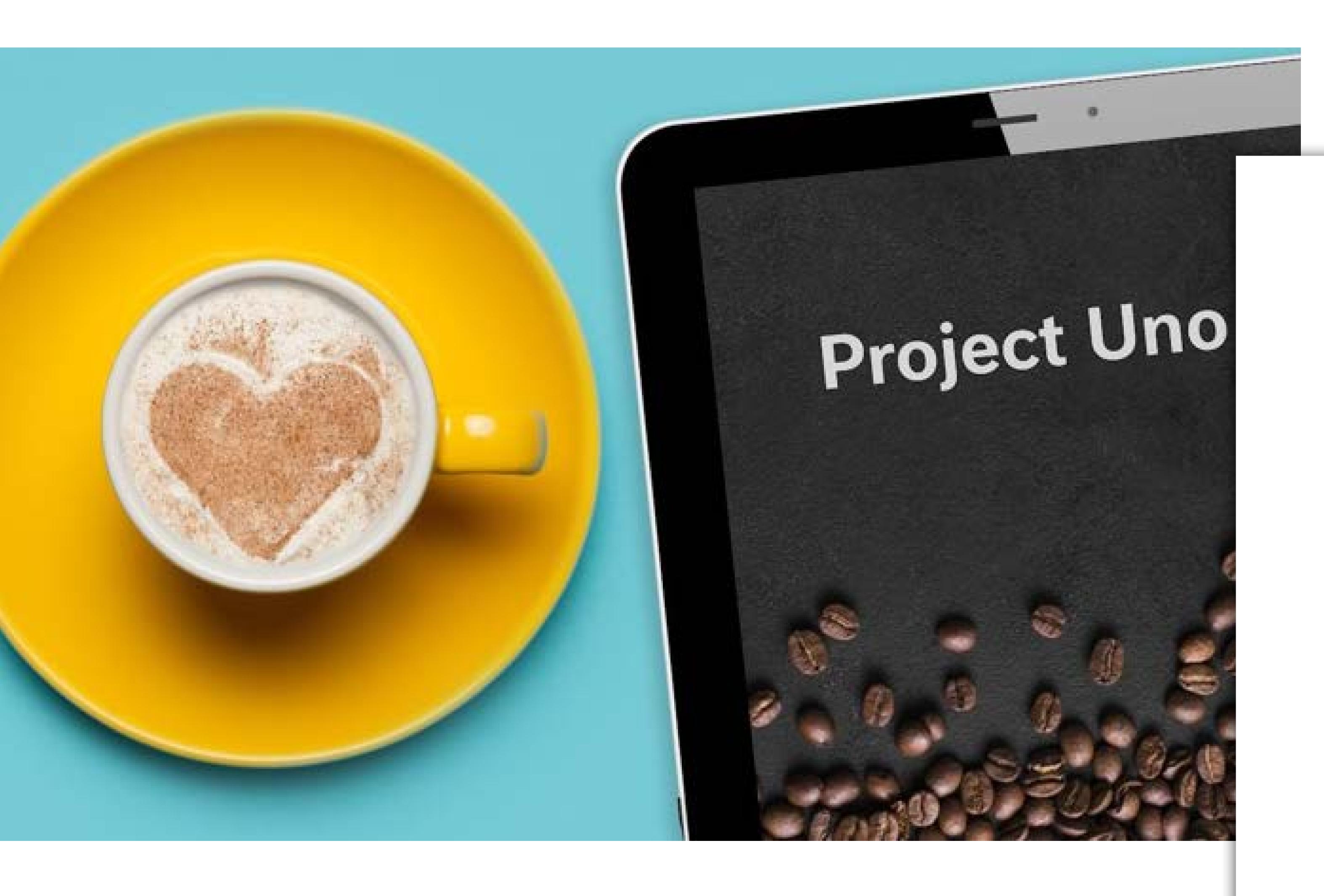
#### Case Study

Researcher has found that food technologists may have the solution to cleaning up oil spills in the ocean in a more environmentally friendly way. Soy lecithin, commonly found in many food products is a less harmful and more effective way to disperse oil spills.





### Using rum platform for coffee



#### Case Study

Nestlé East and Southern Africa region (ESAR) were looking for a way to further engage their audience by building a community. Through Open Innovation they identified an online community platform for rum developed in South America. They implemented the same platform with a few tweaks for coffee lovers in only 3 months with soaring audience numbers.







HAT WHY

### Background

#### Disruptor

Exxaro has established itself as an organisation that is respected by its peers for its innovation, ethics and integrity.

HOW

#### Exxaro has a long history of innovation

Exxaro has deep routed knowledge and subject matter expertise in minerals, mining and processing, successfully leveraged through their R&D facility.

#### Transforming mining through digitalisation

Advancements in data visualisation and analytics, the Internet of Things (IoT) and automation technology have unlocked major productivity and cost-saving benefits in our sector.

#### Changing world of innovation

In a world of distributed and decentralised knowledge where collaboration and co-creation approaches are leading the way in providing innovative solutions, we can no longer rely solely on internal knowledge.

#### Continuous improvement

At Exxaro we are continuously evaluating how we can support our strategic drives through a variety of innovative approaches, including collaboration with the wider industry.







## Technology and Innovation was identified as key enabler to Exxaro's strategy

Innovation is essential to Exxaro, and it's at the core of the company's success.

## Innovation Supporting Exxaro's Decarbonisation aspirations

Across the organisation Exxaro is investigating innovative technologies aimed at decarbonisation of Exxaro's operations.

#### Accessing an ecosystem of digital disruptors

In order to access truly disruptive and innovative solutions in support of Exxaro's decarbonisation journey, Exxaro is collaborating with a wide range of stakeholders through partnerships within the global innovation ecosystem.





### Learnings

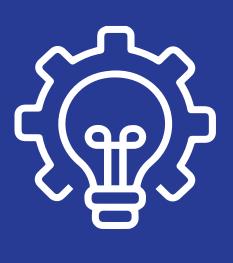


Cross-industry
Collaboration:
Other industries
have value to add
within mining



Purpose Driven
Innovation:
Innovation needs
to be purpose
driven and
value-adding

HOW



Embed Innovation:
Innovation needs
to be embedded
into the
organisation

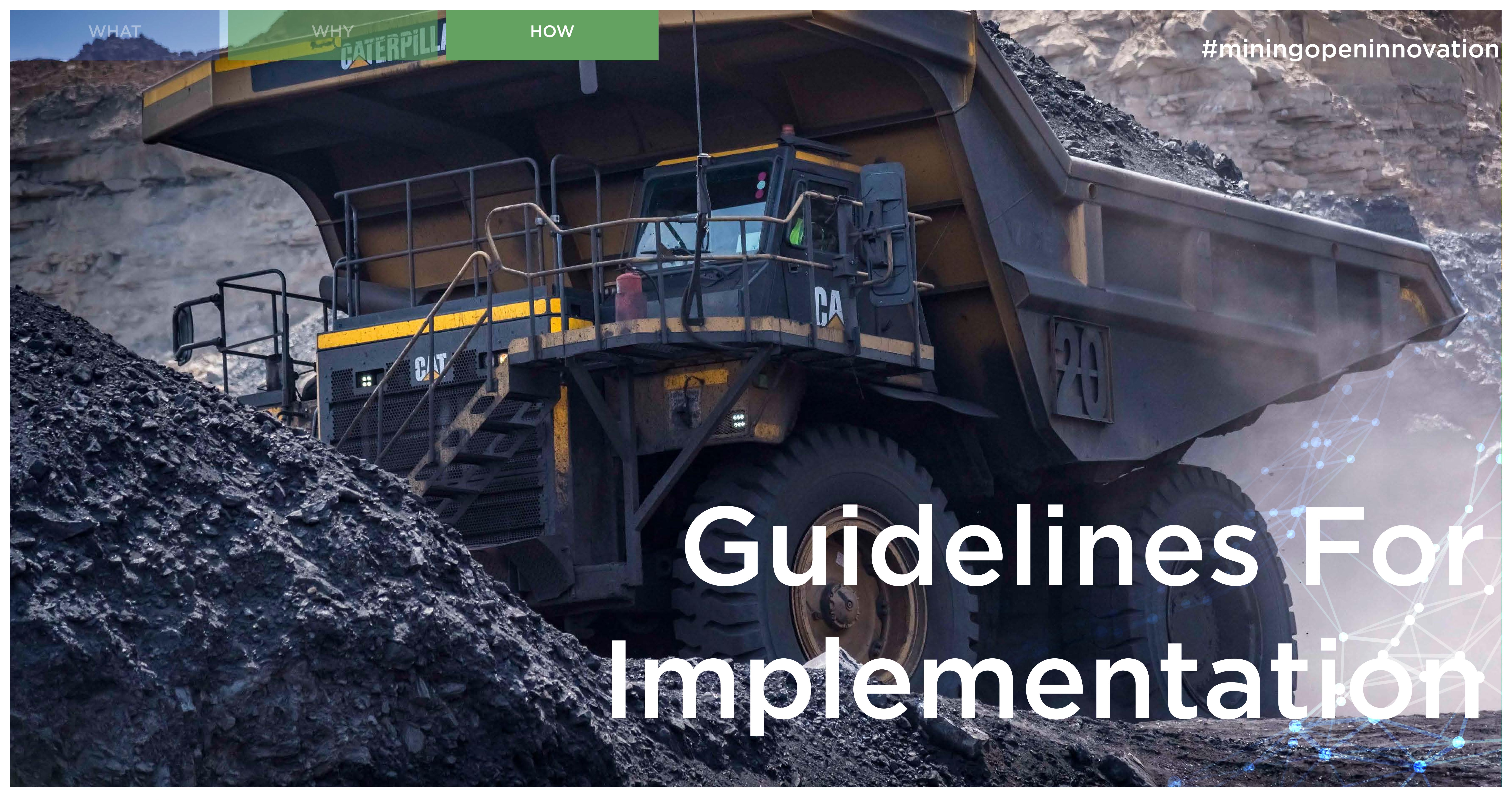


Stakeholder Buy in:
Stakeholder buy in
is key to successful
implementation













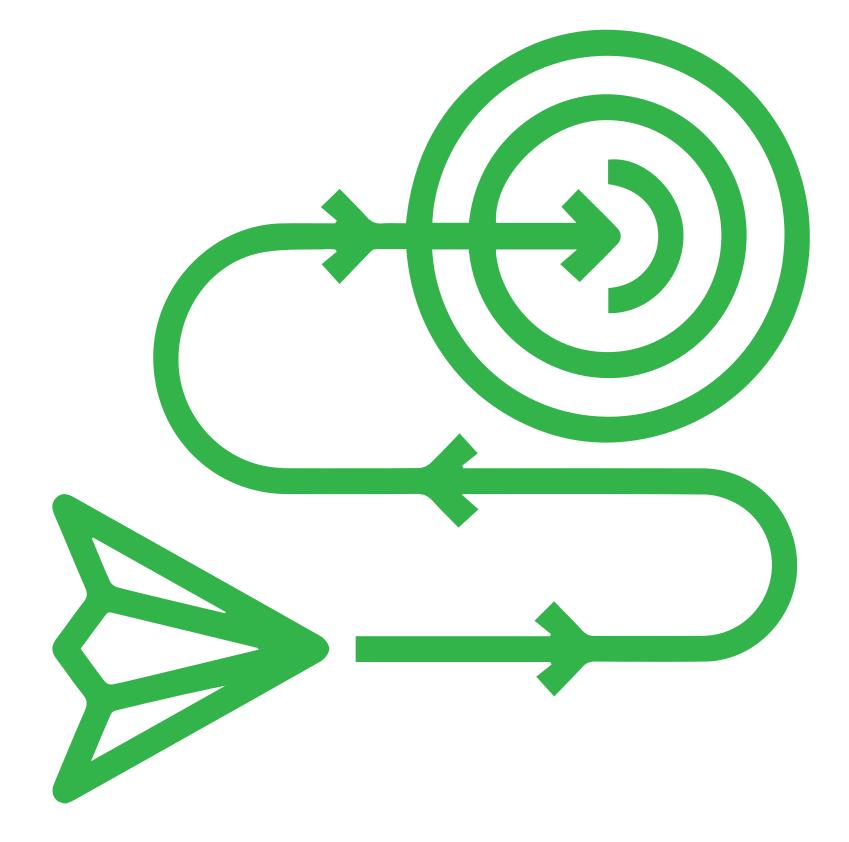
# Guidelines to delivering Open Innovation in Mining



Research the approach



Establish a Team



Innovation is a Strategic Objective



Educate the Organisation



Process Revision





