Mining corporates and mine-sites have well-established operational systems and processes. These systems and processes are complex – even short periods of interruptions to operations are associated with high risks. Large and well-established firms, such as in the mining sector, are often reluctant to implement changes. Like in other industries, managers and employees create and follow routines that are difficult to modify – because “that’s the way we do things”. These factors can create barriers to innovation and make the application of new technologies or other innovations more challenging. Creativity and the facilitation of innovation, however, are at the cornerstone of success in the new knowledge economy. The Innovation Diagnostic Tool for METS and Mining Firms assists organisations by diagnosing barriers to innovation and developing change management strategies to help them adopt and utilise new technologies and other innovations. The Innovation Diagnostic Tool forms the basis of an exhaustive diagnosis of METS and mining organisations and has been developed following extensive literature searches, interviews with METS/mining employees, and consultation with peak bodies and other experts that operate in the METS/mining sector. The resulting refined IDT was surveyed among 321 employees from over 191 METS/mining firms to initially test the validity of the IDT, and to quantify and model issues related to the culture and climate. This provides a detailed map of the drivers and areas that need to be changed to optimise an organisation’s ability to innovate and integrate innovations such as technology.

Testing the IDT
A series of analyses were conducted on the data to explore the appropriateness of the items developed for the IDT, the levels of each innovation indicator that exist across the broad sample, and the extent that different innovation indicators drive different types of innovation performance.

Indicators tested in the IDT
Exploratory factor analyses confirmed that the items of the IDT informed proposed indicators.

**Values**
Explores the extent that organisations value elements such as being receptive to new ideas, flexibility of employees to solve problems in different ways, and exercise creative problem solving. All values loaded onto a single indicator of innovative values.

**Resources**
explores the levels of resources related to having experts in the organisation to guide innovation, having systems that support recruitment and interaction, and having time, finances, and physical or virtual spaces for innovation. All items loaded onto a single factor assessing resources supporting innovation.

**Climate**
explores perceptions of employees related to organisational contexts that support innovation. The analysis revealed two key indicators: 1) a climate of collaboration and communication, and 2) a climate of entrepreneurship and creativity.

**Leaders**
explores leader visioning, support, and enabling of innovation. All items loaded onto one indicator assessing leadership that supports innovation.

**Processes**
explores the extent processes within the organisation are related to an innovative culture. All items loaded onto one indicator assessing processes that support innovation.

**Performance**
explores innovation-related performance relative to other external players and internally for the enterprise as a whole and for the individual within the organisation. Key performance indicators assess external engagement, being enterprising, client focus, technology focus, and innovative employee behaviours.
Levels of Innovative Culture and Performance
As can be seen in the graphic below, level of innovative culture and performance were generally high across the sample.

Drivers of Innovative Outcomes
Multiple regression analyses were conducted to investigate the extent that values, climate, resources, processes, and leadership to support innovation predicted that various innovation outcomes related to being enterprising external engagement, client focus, technology focus, and innovative employee behaviours.

Overall, all innovative indicators were important drivers of external engagement. For the other outcomes, processes, resources and leadership to support innovation were generally the most important drivers. All significant drivers are displayed in the table below.