Collision Prevention Systems (CPS)

Mining operations are inherently risky, often taking place in harsh and unpredictable environments. The safety of workers and the integrity of equipment are essential to ensure the long-term success and sustainability of mining operations. Probe IMT's Collision Avoidance Systems (CAS) are thus integral to the safety and productivity of mining operations.

Our CAS Level 9 systems are designed to mitigate the risk of accidents resulting from collisions between vehicle to vehicle, vehicle to person and vehicle to infrastructure, by Intervention Controls (e.g., take-off inhibit, controlled slow down, speed governing, stop) automatically slowing down the machine, apply controlled stop. The system is self-testing, automatically reporting in real time any failure within the system; it is equipment agnostic, and it provides sophisticated monitoring and back-to-base reporting which, in addition to facilitating safer mining operations, may be analysed for productivity gains by improving equipment utilization and improved maintenance where downtime can be incredibly costly, resulting in lost production and revenue.

The system uses a combination of sensors, cameras, and Ultra GNSS technology to alert operators of potential hazards and prevent accidents. The CAS system utilizes GNSS (satellite) based proximity detection, to detect and alert vehicle operators of potential high-risk interactions. Each vehicle broadcasts its relative information to other vehicles via a peer-to-peer radio communications link, it is then processed and is displayed on the CAS screen.

Probe IMT provides Level 9 readiness facilitation to facilitate a successful implementation of CAS Level 9, this solution is tailored on the industry goal, best practices locally (Minerals Council) and internationally (ICMM and EMESRT), ensuring that the CAS level 9 rollout has the fidelity to ensure a high level of safety while ensuring the lowest possible impact on productivity, and ensures compliance with the mine safety legislation.

Since the implementation of Collision Avoidance Systems, Probe IMT has been shown to significantly reduce the number of accidents and fatalities at mines in which we operate in. Furthermore, preventing accidents can save time and money that would otherwise be spent on repairs or equipment replacement, as well as help to avoid regulatory fines and reputation damage.