3D-SAM

SPATIALLY AWARE MACHINES

APPLICATION: BACKUP ANTI-COLLISION SYSTEM

OPERATIONAL FEATURES

- High accuracy GPS & GLONASS Real Time Kinematic (2cm) 20Hz 3D position, attitude and physical volume modelling.
- On-machine 3D spatial awareness of self and adjacent machines plus yard static object locations.
- Continuous high accuracy machine Long Travel, Slew, Luff data (Modbus TCP/IP) for remote monitoring.
- High Integrity GNSS performance monitor
- Fully independent networked inter machine comms via UHF data radios.
- Integrated UPS for 72 hours (min) ops after machine electrically isolated by crews during breakdown maintenance.
- Electronic relay direct connections to machine PLC EStop circuitry.
- Easily installed to existing stockpile Stacking and/or Reclaiming machinery.
- Yard & machines WinXP 3D visualisation for remote supervisor monitoring.

HARDWARE FEATURES

GPS+GLONASS 2cm Technology

900MHz Radios for inter machine comms

500Mhz ARM9 embed Linux Computer

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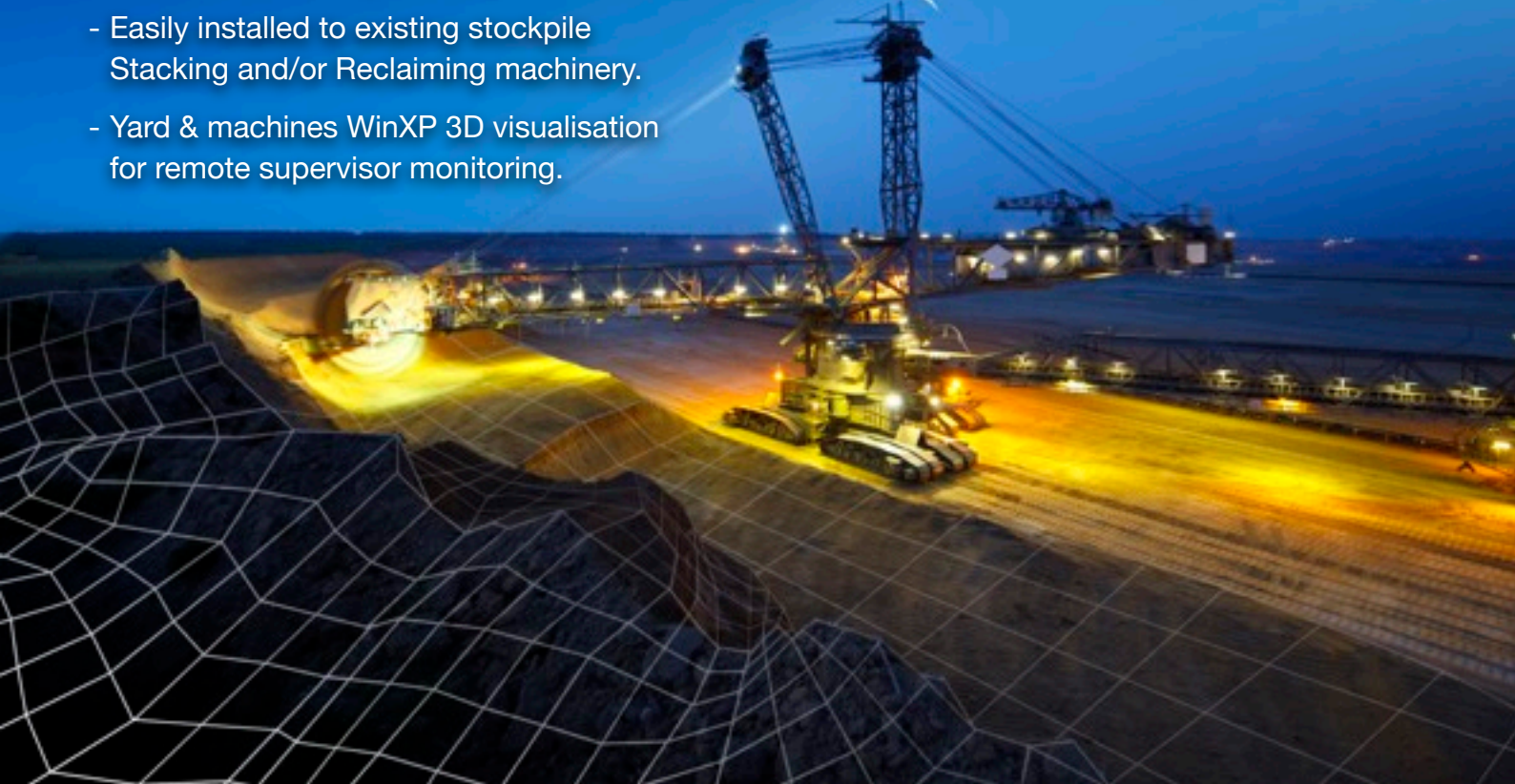

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EXISTING MACHINE COLLISION AVOIDANCE

For many bulk materials stockpile machines operating today, the collision avoidance functions are tightly intertwined with the existing central PLC networks, which are then totally reliant on single electro-mechanical encoders without any independent backup functionality.

QUESTION:

With routine plant modifications, upgrades and/or maintenance activities to both the PLC control and communications networks, have your inter-machine collision avoidance functions then been compromised..??

BACS INDEPENDENT BACKUP COLLISION AVOIDANCE STRATEGY

In modern mission critical safety systems, it's common practice to deploy dissimilar secondary/ "backup strategies" to prevent catastrophic events if the primary protection fails to function correctly. The 3D-SAM BACS solution performs precisely this role for both in-situ and/or new installations. Using modern high accuracy satellite navigation equipment, on-machine computers, networked communications and precise machine 3D models, the BACS solution independently monitors inter-machine positions and separations to detect and prevent stockpile machinery collisions.

In addition, BACS can also supply independently high accuracy machine Long-Travel, Slew and Luff and other dynamic information for use by the primary PLC process control for optimised, precision stockpile navigation. Substantial operational productivity and safety enhancements can be realised for both stacking and reclaiming machinery through the improved navigation knowledge.

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