

CAT® MINESTAR™ SYSTEM

DETECT



IMPROVING AWARENESS FOR BETTER MINE SAFETY



DETECT

DETECT PROVIDES EQUIPMENT OPERATORS WITH ENHANCED AWARENESS OF THE ENVIRONMENT AROUND THEIR EQUIPMENT, RESULTING IN INCREASED SAFETY AND GREATER OPERATOR CONFIDENCE

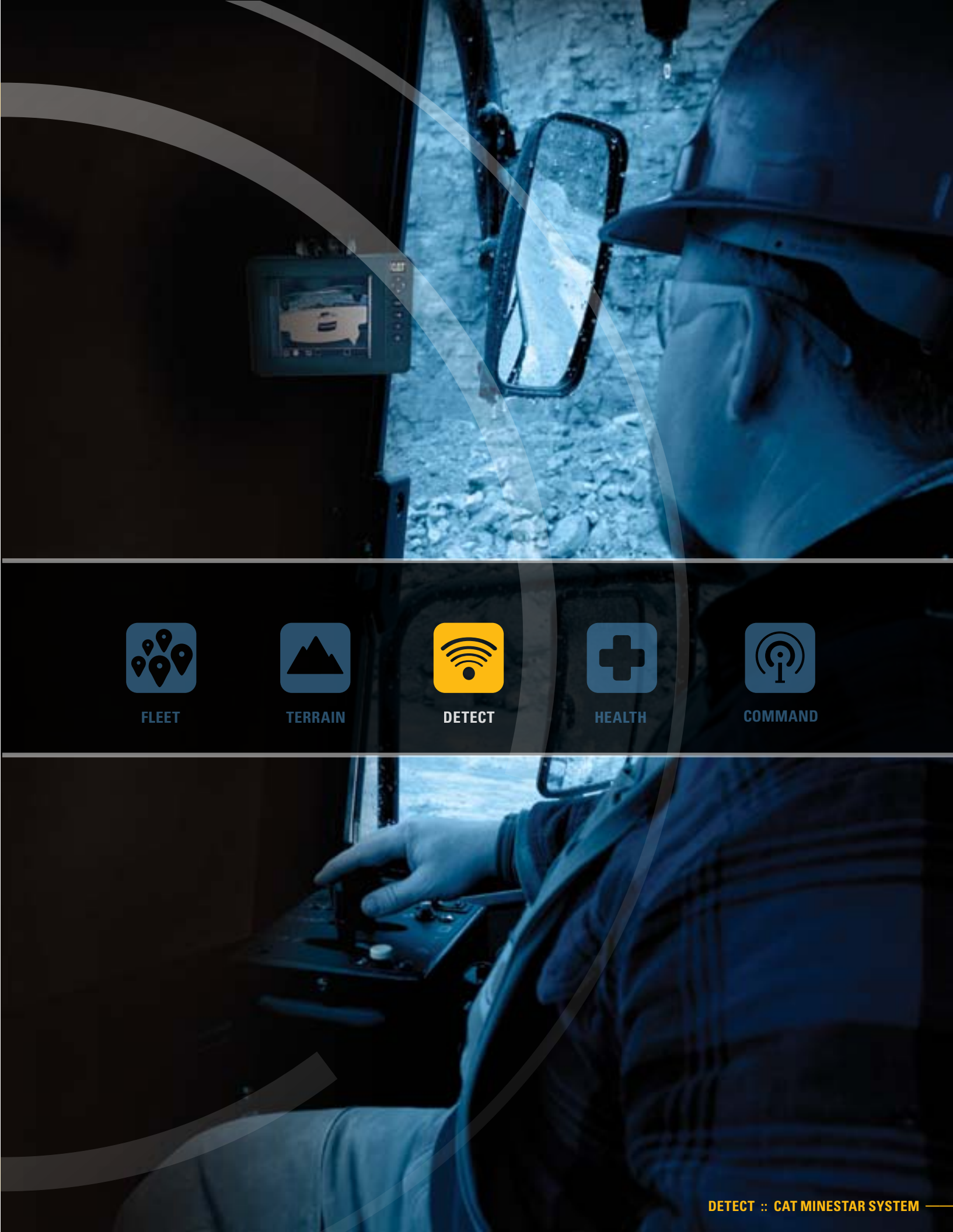
Whenever people need to work around big mining equipment, keeping them safe is your top priority. Detect helps keep operators informed about nearby people and objects and can also be configured to provide valuable information about site conditions and other equipment or assets working in the area.

Detect enhances operators' awareness of the immediate environment around their manned or remotely controlled equipment, whether it is a mobile machine or fixed equipment such as an underground longwall system.

Touch screen displays on mobile equipment alert operators when on-board cameras or radars indicate that objects have entered critical areas near their machines. Additional capability packages enable Detect to alert operators to preprogrammed avoidance zones, known site hazards, assets equipped with locator tags and more.

On a longwall system, Detect offers multiple camera views and provides for automatic shut down when safety zones are breached by unauthorized personnel wearing locator tags. It can also provide valuable personnel location information to central office systems and mine managers.

Note: Using Detect does not replace basic safety precautions and procedures. For limitations, please consult your operations and maintenance manual. In underground coal applications, the Detect capabilities comply with local regulatory agency safety requirements.



FLEET



TERRAIN



DETECT



HEALTH



COMMAND





ENHANCING SITE SAFETY

The idea behind Detect is simple: The more equipment operators know about the working environment around them, the more safely they will be able to operate their equipment. Detect works to reduce the chances for operator errors and can help to improve overall mine safety wherever it is implemented.

IMPROVING OPERATIONAL EFFICIENCY

With better site awareness, operators are able to run their equipment with more confidence. Detect can boost haul truck cycle times by assuring operators that loading and dump areas are clear as they get ready to pull away, allowing them to work more smoothly and efficiently. In underground applications, Detect helps protect the people who work near heavy equipment and aids in compliance with safety guidelines and regulations.

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WITHIN DETECT, YOU CAN CHOOSE FROM A NUMBER OF CAPABILITY PACKAGES TO CONFIGURE A SYSTEM FOR THE UNIQUE NEEDS OF YOUR SITE. COMPLETELY SCALABLE AND FULLY INTEGRATED WITH OTHER CAT MINESTAR SYSTEM CAPABILITY SETS, DETECT CAN GROW WITH YOUR BUSINESS AS IT HELPS YOU ENHANCE THE SAFETY OF YOUR OPERATIONS.

VISION

Vision for surface equipment offers multiple camera capabilities, allowing operators to manually select the view or views they need on the in-cab display to see what is happening close to their machines.

In underground applications, cameras are able to identify people and can follow them as they move along the working face. Built-in intelligence capabilities enable the system to span multiple cameras and combine images to create a continuous, real-time view of tracked personnel.



OBJECT DETECTION

Object Detection adds radar capabilities to mobile surface equipment. It automatically detects hazards such as other equipment or vehicles within critical zones around the machine—in front, at the rear and within the turning radius on each side. The system will also highlight specific views to show the operator where potential hazards are detected. A proximity bar on the in-cab display will flash yellow or red, depending on the distance of the detected object.

PROXIMITY AWARENESS

Proximity Awareness adds GNSS capabilities for surface operations. It allows Detect to display the locations of other equipment and assets beyond the reach of its radars and allows preprogrammed information—such as avoidance zones, haul road maps and more—to be displayed in the cab.

The system can then be set to provide operators with visual and audible alerts when they are approaching an avoidance zone or moving too close to an oncoming machine. Plus, if a site hazard is identified, such as large rocks or a troublesome soft spot in a haul road, the system can instantly share that information with other equipment via the office application.

PERSONNEL

In underground applications, Personnel utilizes individual locator tags to identify people working at the face. This valuable information about the location and job role of tagged personnel is communicated via a high speed network so you always know where your people are working in proximity to moving equipment. It can automatically halt operations when unauthorized people enter restricted areas, while allowing service and maintenance personnel to work as required around operating equipment.

CAT® MINESTAR™ SYSTEM

Detect is one of a range of capability sets within Cat® MineStar™ System, the industry's broadest, most thoroughly integrated mine operations and mobile equipment management system.

The Detect capability set shares data seamlessly with other Cat MineStar System technologies as part of a comprehensive, next-generation mining management system. Cat MineStar System capability sets can be used individually or in combination to create a comprehensive technology system, scalable and configurable to the needs of mining operations of any size, type or complexity. With the ability to track, monitor and manage all types of assets, from fleet-level overviews down to individual machine details, Cat MineStar System gives you the in-depth information you need to manage all mining operations more safely, efficiently and productively.

For more information, visit cat.com/miningtechnology

WHEREVER THERE'S MINING, WE'RE THERE.



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