

CAT® MINESTAR™ SYSTEM

COMMAND



AUTONOMOUS SYSTEMS FOR
DRILLING, HAULING, DOZING AND UNDERGROUND





COMMAND

**DRAMATICALLY BOOST SAFETY, PRODUCTIVITY AND AVAILABILITY
WITH INTEGRATED AUTONOMOUS, SEMI-AUTONOMOUS AND REMOTE
CONTROL EQUIPMENT SYSTEMS.**

Combining the Fleet, Terrain, Detect and Health capabilities of Cat® MineStar™ System, Command enables you to implement remote control, semi-autonomous or fully autonomous mining equipment systems—offering unprecedented improvements in operator safety, equipment availability and site productivity.

Command makes next-generation mining a reality, with systems for drilling, hauling, dozing and underground operations.

Taking advantage of proven technologies, as well as significant advances in remote sensing and guidance, Command helps you work more safely and productively in a wide range of harsh or challenging environments. And Command systems are proven to work safely and seamlessly with other mine site activities, equipment and personnel.



FLEET



TERRAIN



DETECT



HEALTH



COMMAND



COMMAND FOR DRILLING

Command for drilling enables fully autonomous drilling to enhance safety, increase drill pattern accuracy and improve the overall efficiency of drilling operations. The system executes drill plans more safely, keeping operators out of the pit and away from areas where explosives are being used.

The technology is built on the proven Terrain for drilling platform and allows for automated tramming and drilling to target locations. Command for drilling also provides feedback on the material being drilled that can aid in ore sampling and more precise hole loading.

COMMAND FOR HAULING

A fully autonomous system, Command for hauling takes advantage of the most sophisticated perception and on-board intelligence technologies available, enabling Cat trucks to work safely and productively without human operators in the cab. Highly advanced safety systems enable autonomous haul trucks to work reliably around other mining equipment, light vehicles and mine site employees.



COMMAND FOR DOZING

A remote control system, Command for dozing is available for Cat D10T and D11T Track-Type Tractors. Mining applications include stockpile feeding, leach pad construction, high wall and edge operation. An over-the-shoulder line-of-sight operator console enables control of the machine from a safe distance away from the working area. When there's a need for more remote operation, the operator station integrates video and sensing technologies to control and monitor the machine from much greater distances.

COMMAND FOR UNDERGROUND

A semi-autonomous system, Command for underground automates the tramming function of Cat Load Haul Dump (LHD) machines. The operator has the ability to control the machine from an office or remote location away from the hazards of the underground mine. One or more machines can be controlled at once, enhancing operator safety and optimizing production between multiple machines.



INTEGRATING AUTONOMY INTO SITE OPERATIONS

Command gathers and processes data from all Cat MineStar System capability sets. This total integration of machine data, tracking and management information provides a “big picture” look at the entire mine site.

This broad view, with the ability to zoom in on single machines or specific groups of assets, is essential for making autonomous operations safe, efficient and productive within the context of other mine site activities.

Depending on the right level of autonomous mining for your operation, Command can provide you autonomous capabilities on just one machine or multiple types of machines. Command for dozing or drilling systems can be implemented individually or on a small group of machines. When your operation is ready for full-scale autonomy, the hauling and underground systems in Command can take you there.

Big or small, surface or underground, Command is the next generation of mining now.

CAT® MINESTAR™ SYSTEM

Command 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 Command capability set works seamlessly with other Cat MineStar System technologies as part of an integrated 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



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