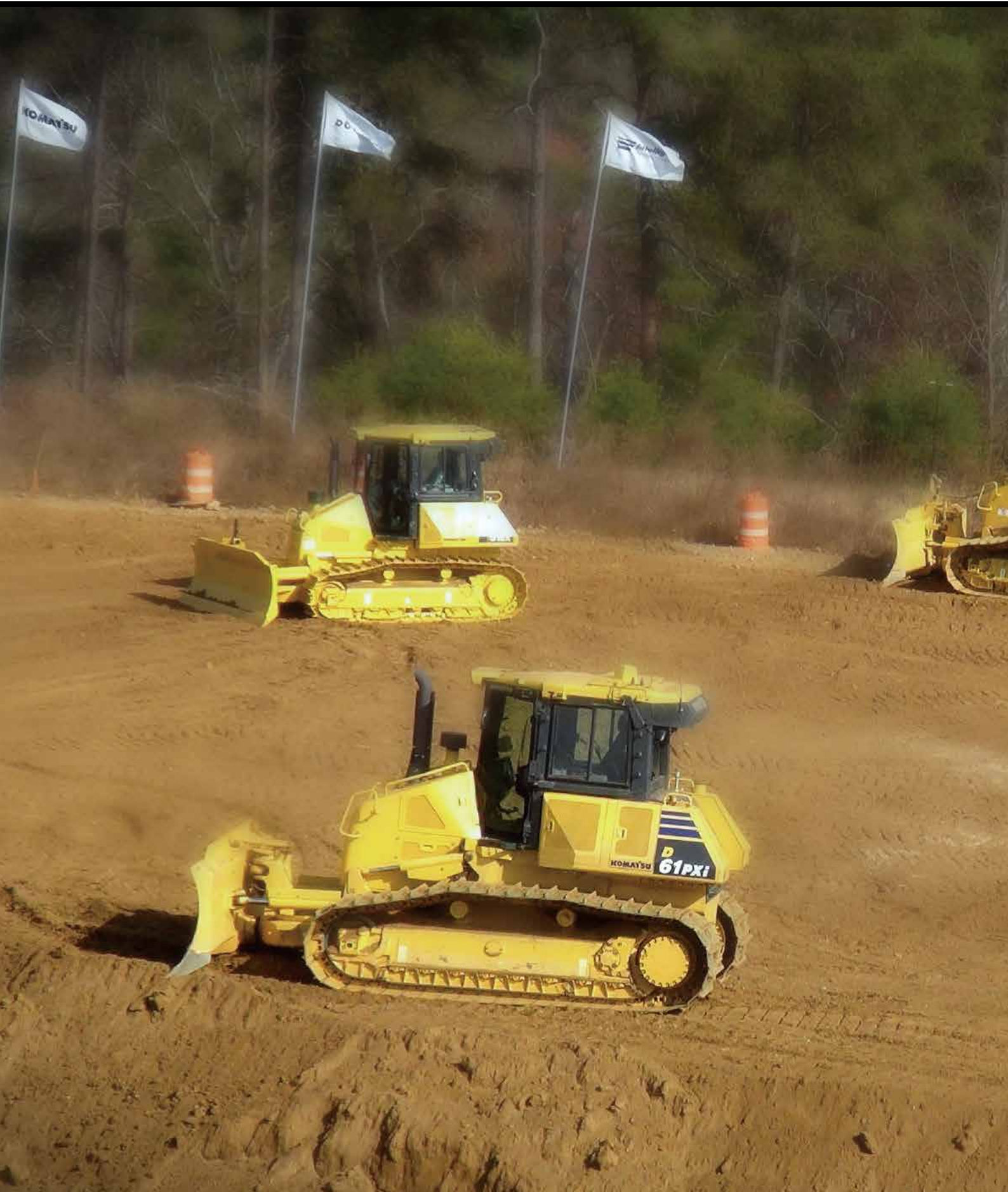




intelligent Machine Control





Innovative, Integrated, Intelligent— Introducing Komatsu's Revolutionary “Intelligent Machine Control”

In April 2013, Komatsu announced the sales launch of the D61EXi/PXi-23 intelligent Machine Control dozer at bauma 2013 in Munich, Germany. This bulldozer dramatically changes traditional concepts in construction and significantly improves efficiency across the entire construction site.



Demonstration at bauma 2013 elicited tremendous visitor interest.



The D61EXi/PXi-23 intelligent Machine Control dozer was unveiled at bauma 2013.

Fully Automated Blade Control

Since conventional machine control was able to control the blade only toward the height of the target, it could not handle increased blade loads or prevent track slip resulting from these increased loads. Therefore, the only actual auto blade control achieved through machine control was during the light load finish grading process.

Komatsu's revolutionary intelligent Machine Control combines load control with slip control to realize bulldozers that can respond to both frequent increases in blade loads and track slip during rough

dozing, thus enabling automated construction with continually high efficiency. As a result, auto blade control in all construction processes can be realized through seamless switching to the finish grading process, making it possible to undertake construction work in accordance with blueprint drawings without depending on the skills of the operator.

Moreover, the significant reduction in track slip reduces not only the possibility of damage to the design surface but also track wear, realizing lower maintenance costs.

Rough dozing

1. As the blade load reaches a preset level...
2. The blade automatically raises to minimize track slip.
3. The blade can also be lowered to push as much as possible.



Finish grading

Continue from rough dozing to finish grading automatically once target grade is approached.



Measuring Operating Conditions with an Antenna on Top of the Cab

The intelligent Machine Control system helps improve more than just construction efficiency. The Global Navigation Satellite System (GNSS) antenna used to be mounted on the blade, but by installing it on top of the cab, operating conditions can be continuously and accurately measured regardless of whether the blade is being raised or lowered. The cab-top GNSS antenna captures the height of the roof. With that, the height of the ground surface where the crawler track is currently contacting is computed immediately by the on-vehicle controller and the result is displayed on the in-cab monitor. This allows the operator to easily understand where to perform grading operations, which in turn helps to significantly reduce man-hours of operators.

Moreover, by transferring the work amount and work surfaces from the machine to the site management software via the Internet, site managers can ascertain the progress of construction without visiting the site. This helps reduce man-hours of site managers, such as for visiting construction sites.



The GNSS antenna is installed on top of the cab for more durability and data accessibility.



With the data collected by the cab-top GNSS antenna, the height of the ground surface where the crawler track is in contact is computed and displayed on the monitor.

Standard Factory Installed Components

Previously, all components were mounted at the site. With the D61EXi/PXi-23 intelligent Machine Control dozer, all components are factory installed as standard equipment and undergo Komatsu's stringent pre-shipment quality control management, thus assuring high quality. Mounting components at the site is troublesome for customers as well, and there have been accidents such as cutting exposed cables. The intelligent Machine Control

system is pre-mounted with all components, resolving these problems simultaneously.

Komatsu will expand the lineup of bulldozers integrating innovative intelligent Machine Control technology, with plans to apply this technology to hydraulic excavators as well. Komatsu will continue to be an indispensable presence at our customers' GEMBA (worksites) through innovative products, services and solutions.

Key Components of intelligent Machine Control Dozer



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