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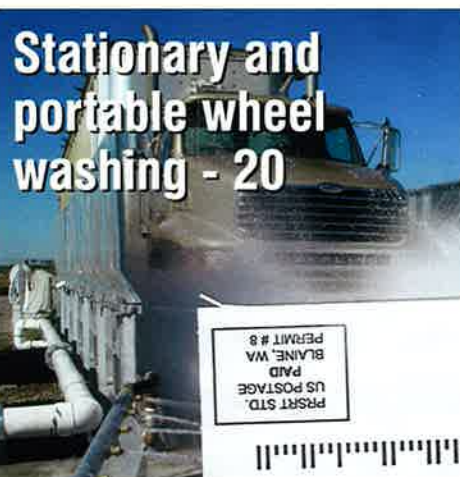


Dozing at twice normal grading speed

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TECHNOLOGY DRIVING PRODUCTIVITY

The seeking out, testing and acceptance of new technology drives “aggressive business models for companies that don’t want to just survive in tough times, but actually plan to grow their market share.”

- Ray O'Connor



The current economic recession provides an incredible window of opportunity for forward-thinking companies in the construction, survey, civil engineering and agriculture markets,” said Ray O’Connor, president and CEO of Topcon Positioning Systems (TPS).

“Companies embracing increased productivity through technology will drive the world’s economic recovery.” This is what drives top-ranked technology companies to continue to support strong research and product development (R&D) efforts, he said.

“In tough times, increasing productivity through the acceptance of technological breakthroughs will be the difference in success and failure, the difference in being competitive and trailing the competition.

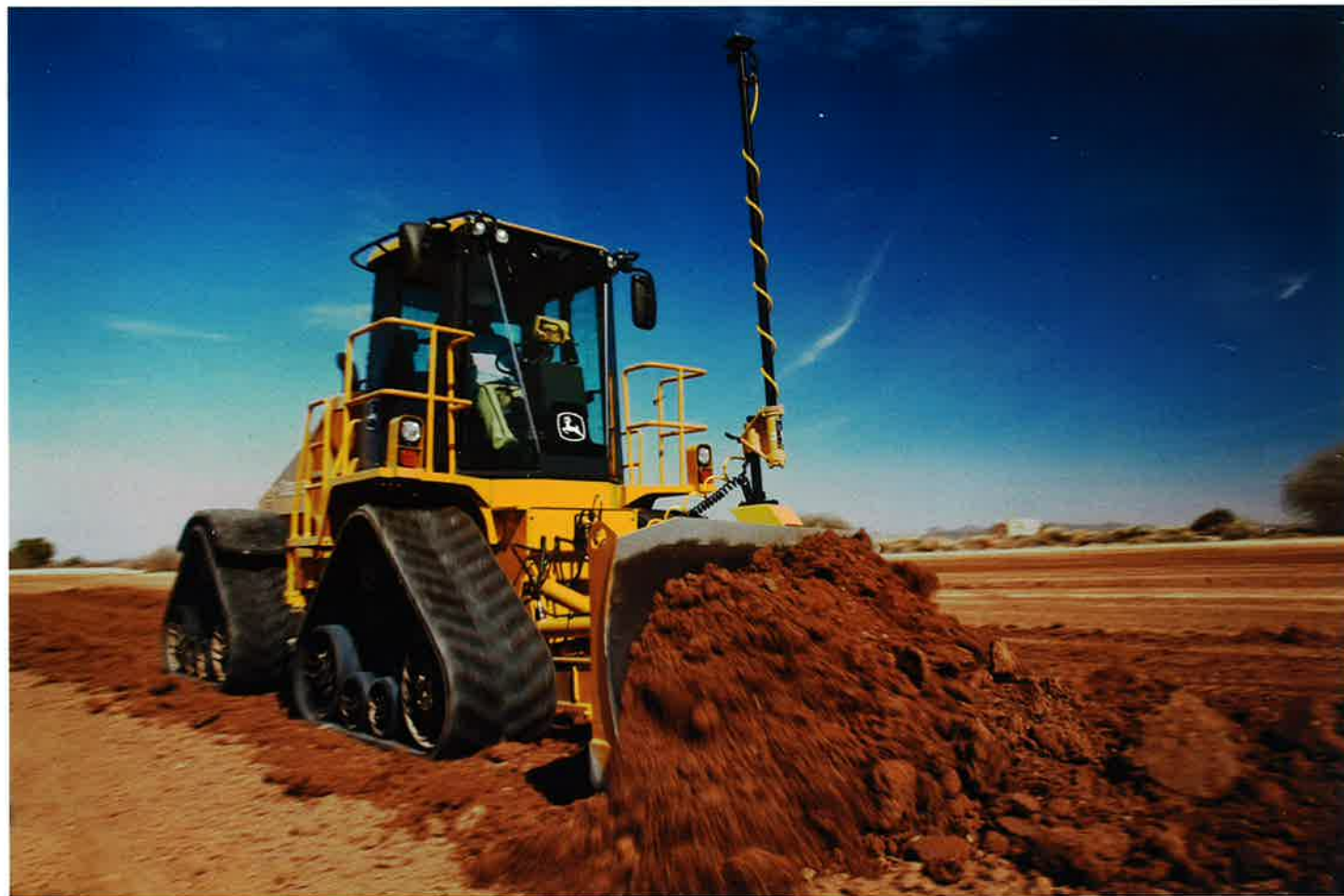
“The economic turnaround will be technology-fueled, driven by the products of forward-thinking companies and the forward-thinking businesses that buy the products that increase productivity,” he said.

An example of what he means is their newest dozer control system.

Topcon’s 3D-MC2: One dozer does the work of two

“You’re not going to believe it!” said Murray Lodge, vice president of construction for Topcon Positioning Systems (TPS). He is talking about the job site results of Topcon’s 3D-MC2, their one-of-a-kind dozer machine control technology. (In the photo above, it is mounted on a John Deere High Speed Dozer but it is also applicable to regular dozers.)

Some of the top construction companies are using Topcon Positioning Systems’ 3D-MC2 system and reporting productivity gains more than twice that of regular 3D



machine control systems.

Comparisons of machine operation at construction job sites pinpoint increases in productivity of up to four times that of dozers not using 3D machine control technology.

Additionally, those firms operating dozers at twice normal grading speed are reporting “incredible accuracy and smoothness” in a variety of applications.

The technology driving 3D-MC2 combines cutting-edge hydraulic control software, the latest in inertial sensor technology and the industry’s leading GNSS receivers to provide more than 100 blade position checks per second (about five times higher than the industry machine control average).

Lodge said, “This is not a technology that just any company can do. Any company can use sensors and think of the concept of getting a dozer to go faster with increased accuracy. What’s different here is that Topcon used the combination of proper algorithms, satellite signal filters, revised arithmetic formulas and the scientists and engineers at Topcon’s global technology centres, working together, to accomplish yet another world’s first construction development.”

“Topcon was the first company offering contractors the option of going stakeless at every phase of the job with 3D GPS machine control systems,” Lodge added. “It now is the first company to combine the best science and engineering has to offer to break through the last barrier of construction productivity – speed.”

“With Topcon’s GPS + GLONASS technology, productivity was dramatically



increased due to precise positioning and accuracy. Now, with 3D-MC2, increasing the dozer speed and improving the accuracy and grade smoothness adds additional savings in time and money on every job,” he explained.

“Just think about it: A single 3D dozer doing the heavy work of two 3D dozers; a dozer making a cut that compares favourably to the speed and smoothness of a grader. Think about the savings in time and equipment alone on every job. 3D-MC2 guarantees that a contractor saves time and money on every job, on every pass.”

The technology “literally changes the way contractors will look at the finish grading process,” Lodge said.

“3D-MC2 is what it says: Three-dimensional positioning at twice the speed and twice the accuracy over any machine control system today.”

More work in less time is what 3D-MC2 delivers, he said. “That means less wear and tear on the machine, less operating time on individual jobs, less fuel usage, and most importantly, more time to spend working in other areas to complete jobs ahead of schedule.”

The primary benefit of having the option to grade twice as fast as normal gives contractors an “incredible competitive edge,” Lodge said. “If a contractor can use a single dozer on a job instead of two and do the same amount or more in less time...that is true savings that’s easy to measure.”

Remote asset management

Another area where technology can make a difference is asset management, an often-overlooked segment of company operations according to O’Connor. Topcon’s solution is a web-based telematics service (photo to left), Topcon Tierra, that provides real-time information on rolling stock on any job site in the world. It is a unique on-site job management system that provides data to maximize productivity and drastically reduce unexpected and unnecessary equipment maintenance. It can monitor every piece of equipment, regardless of location, regardless of make or model.

The key to any successful business “is managing time to optimize results,” said O’Connor. “If you can save time on every phase of every job, you put more money in your pocket. If you find a technology that will make your machines and people more productive, you become more competitive. And, if you look at what technological breakthroughs can do to not only help you make it during the tough times, but exceed, or even double, the industry averages, you will be in the driver’s seat when business turns around.”

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