

Earthmoving technologies move toward automation

By Dani Grigg

IDAHO BUSINESS REVIEW

With technology that is getting better every day, excavators can leave more and more of grading work up to computers.

Contractors can input design specifications to earthmoving machines, and using either global positioning systems or lasers, control the grade to accuracies within a quarter inch.

The newer laser technology has improved on the accuracy GPS systems have brought to projects.

Mike Hasslebauer, the technology solutions manager for Boise-based Western States Equipment, said humans can replicate the accuracy, but it's not easy.

"You can always spend enough time to be perfect, but [laser technology] is 50- to 75-percent faster," he said. "Anybody can do something accurate – it's just how long it takes them to get there. This will do it with one pass."

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Even the technology that has been around for a decade or so has made strides recently.

Russian GLONASS satellites have been added to the GPS network, making more satellites visible from a job site at any given time of the day.

And existing technology has become more user-friendly. Machines have been reading Computer-Aided Design plans for years, but it was always a complicated process to turn the design into a file format that the machine could recognize.

Now, users just have to verify that there's nothing wrong with the CAD file, then transfer the file to a memory card that fits in the equipment. Alternatively, the files can be transferred wirelessly, using a radio modem.

Remote monitoring and commanding is becoming an integral aspect of managing a job site.

"In the last year, the Internet has become a lot more important in our business – it's becoming all about utilizing that communication, and the speed of transferring data, and correcting and changing that data. It's getting done quickly over the Internet, without having to go out and put your hands on things," he said.

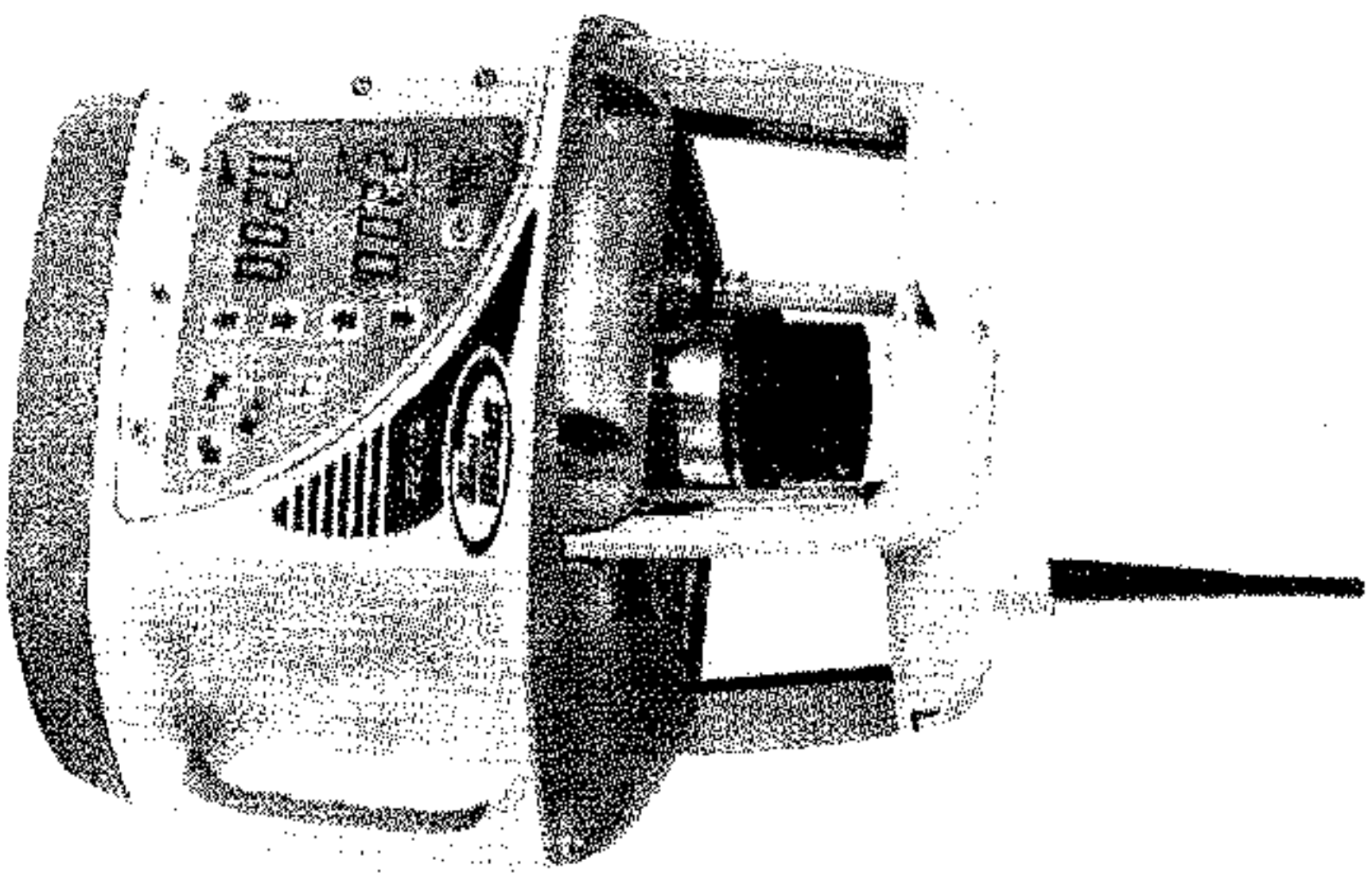
"This is all on the march down the road toward robotics at some point."

Scott Gotiandia, owner of B&G Dirtworks in Hailey, first started using laser technology in 2004. B&G employs between three and seven people, depending on the amount of work it has. It focuses mainly on home foundations in the Sun Valley area.

Because his company and the projects it does are not large, it hasn't made

sense to make the full investment in the latest technology which would include upgrades to simple, remote programming.

For that reason, Gotiandia is considering leaving his company to find work with a large firm.

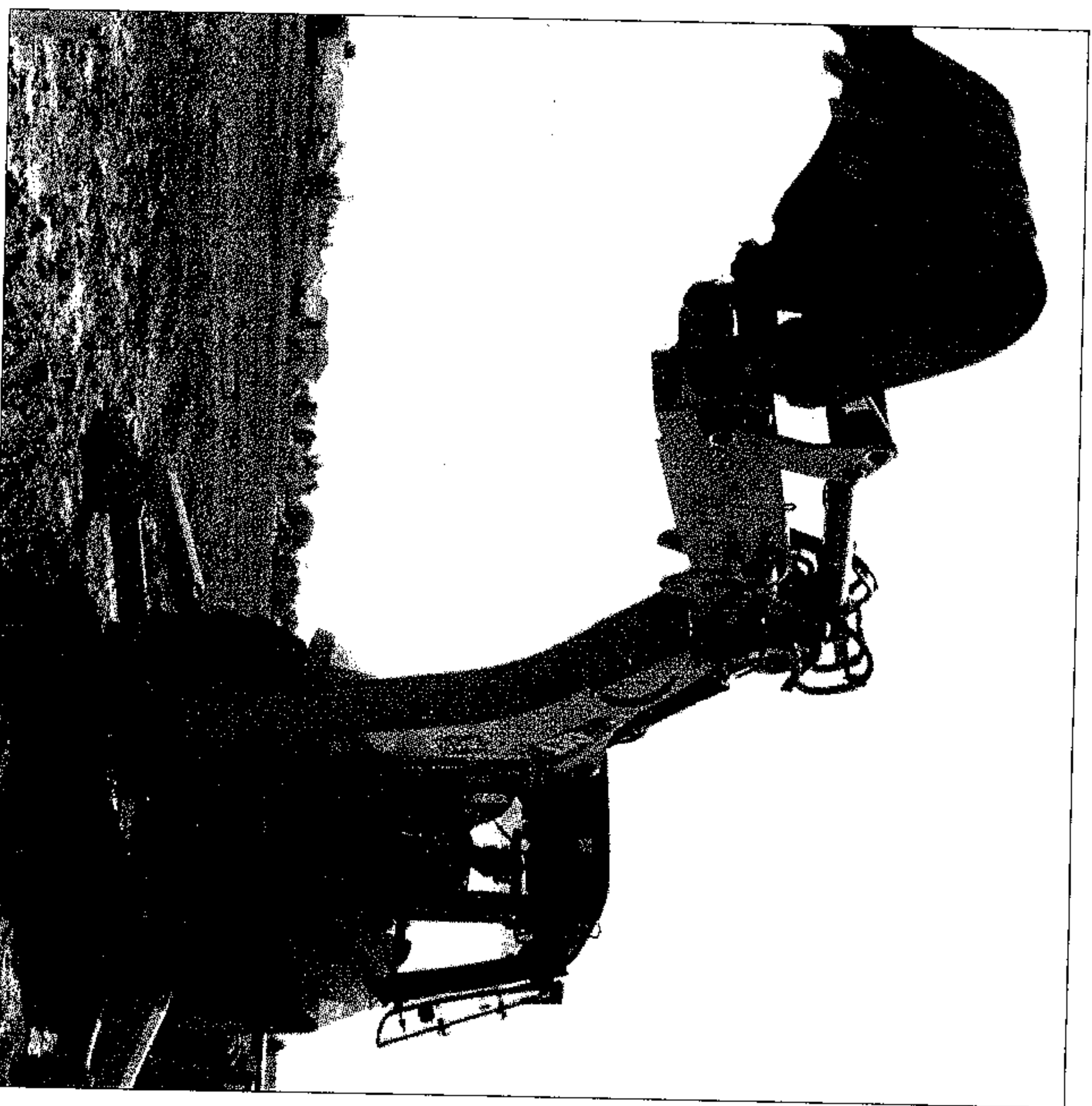


"I learned from the bottom up," he said. "I've worked from the old school of starting with nothing, doing everything by hand. But I am a firm believer in quality, and technology gives you a quality level you can't get any other way."

Hasslebauer said big companies are often interested in exploring new technology because they have the need and the capital for it, but smaller companies are the ones willing to take the plunge.

For smaller companies, making a technology shift is a smaller pill to swallow – there are fewer people to train.

He said the switch to automated



PHOTOS COURTESY OF WESTERN STATES EQUIPMENT

Above: John Johnson and Aaron Raap of Meridian-based Western States Equipment operate a 420E Cat Backhoe loader outfitted with an AccuGrade laser at a recent showcase event in Boise. The laser equipment allows them to dig a trench without measuring it outside the cab. **At left** is a Trimble/Spectra Laser. Laser and advancing GPS technology help crews achieve an accurate grade in a short period of time.

processes doesn't necessarily mean the loss of jobs for human hands, but it does mean a transfer to more technical jobs.

But he said companies shouldn't necessarily be jumping straight from all-manual work to all-computerized work.

"The great thing about it is that at

whatever level you jump in, it's going to increase your productivity. No matter what, a jalopy car is better than walking," he said. "No matter what level you get in at, it's so much more efficient and it makes life so much easier. ... I tell people you have to walk before you run."