Trimble

Marine construction technology buyer's guide

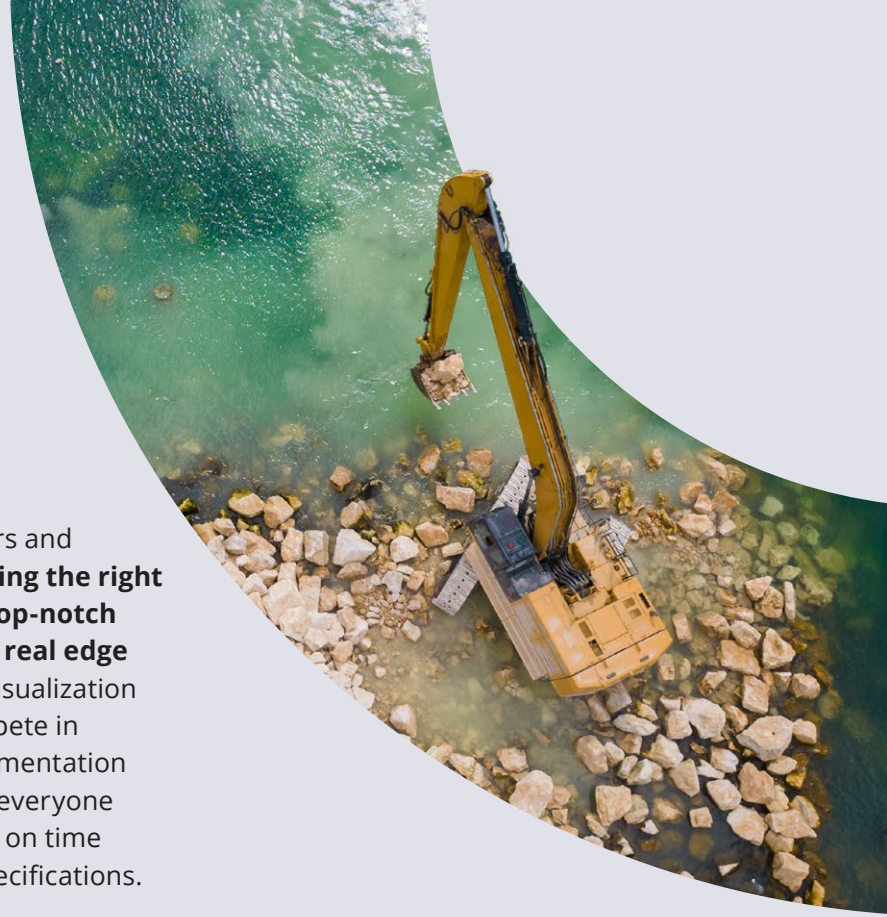
7 tips that position you to adopt the right tech to unlock bigger profits

It's no longer a point of debate that 3D marine guidance and visualization technology provide today's marine dredging professionals with better ways to achieve greater predictability, precision and profit. The question is how to get the best results from this profit-optimizing tech.

But where is the best place to start?

Fast fact:

The demand for commercial dredging services is booming! The global dredging market was valued at $10.66 billion USD in 2024 and is expected to hit $13.14 billion USD by 2032.[1]

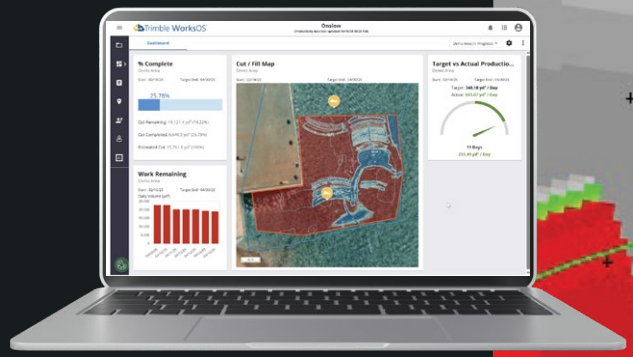


Having a skilled team of operators and project managers is key, but **adding the right marine construction tech for top-notch performance is what creates a real edge over the competition**. Marine visualization systems don't just help you compete in tight-margin projects; their documentation and reporting features also give everyone confidence that you're delivering on time and meeting all the promised specifications.

It's easier than ever for marine contractors to get paid accurately for the exact amount of material moved, thanks to data-driven reports and visual documentation. This provides transparency for the client and peace of mind for the contractor! These tools also let operators see the design and the dredge tool in real-time, right there on a display within the cab.

1. Global Dredging Market Size, Share, and Trends Analysis Report - https://www.databridgemarketresearch.com/reports/global-dredging-market

1 Make software a priority, not an afterthought



When selecting software, think about the variety of dredge tools you use — from standard buckets to clamshells, cutterheads, dredge pumps and more. You'll want software that works well with all of them — not just for a current project, but to have on hand for those that call for seamless solutions in the future. Today's advanced 3D visualization apps can seriously boost productivity and efficiency. Look for easy-to-use systems, like one with a color-coded digital terrain model (DTM) that shows high and low spots, so you can track progress against the design, and be sure all work is complete before relocating.

Also, keep in mind the importance of covering all your data and reporting needs.

Think data to track project progress and support future bids, and reports and documentation that give clients peace-of-mind and assurance of the quality of the work completed.

Make sure your hardware and positioning is top-notch

Accuracy starts with the GNSS receiver, which can use corrections from multiple sources for the best precision — whether it be local UHF, internet or satellite delivered. Look for systems with a proven track record. This is super important for keeping your position precise, whether you're using a dredge, barge, crane or excavator.

Also, check out things like in-cab displays, surface viewing screens, GNSS receivers and sensors. Are they easy to use? Is there good support after you buy? Are the components rugged enough to withstand salt water, strong winds and other harsh elements? Do they play well with third-party sensors and systems? (Spoiler: They should be. Integrations that are built to work with existing hardware and workflows enable data to be reused across multiple applications more efficiently.)

According to James Dunkley, senior manager of hydrographic surveys at Michels, previous hardware required technicians and/or software specialists working on the machine to address complications or maintenance issues daily — but not so with Trimble tech.

> ***The Trimble® Marine Construction system performed continuously throughout the entire project duration without any downtime caused by issues with the electronics, components or software," he said.***

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Cover all your bases when it comes to features

Do your homework to find out if a tech provider has complementary components and features you can add to fit your specific needs and cover more bases. For instance, when a barge is used, it can also be fitted with a GNSS heading bundle and a commercial-grade Wi-Fi® connection.

To optimize your operations, select systems that not only solve your current challenges, but future-proof the ones on the horizon as your expertise grows.

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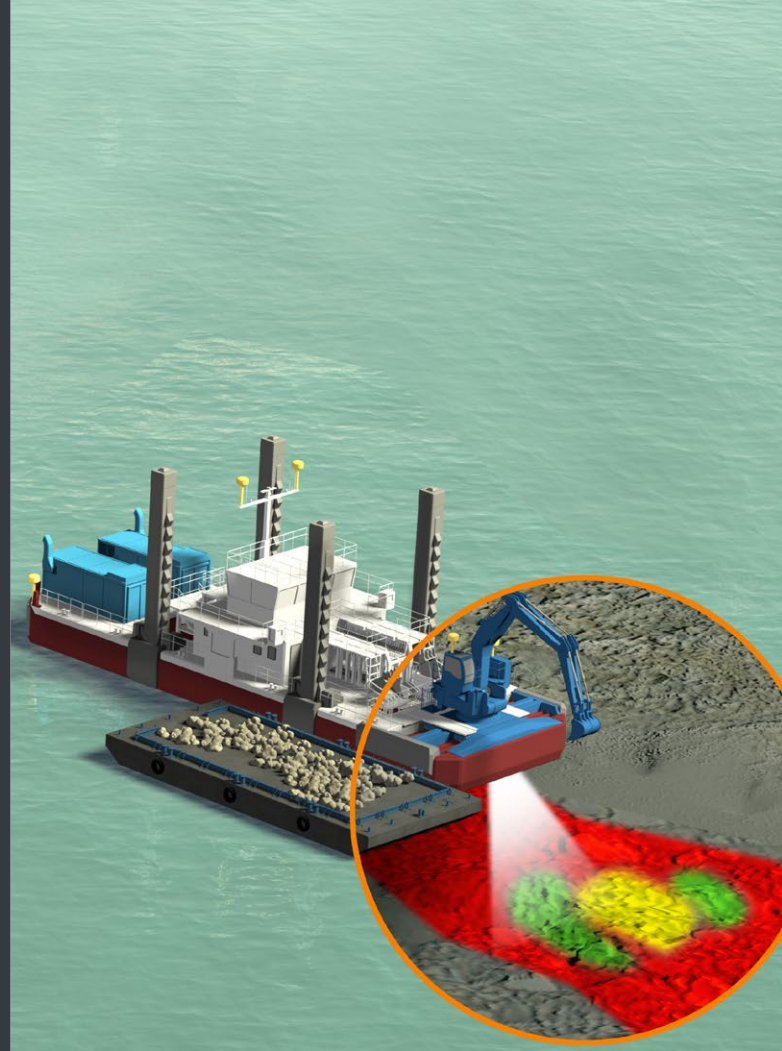
Zero-in on the sonar option...

For projects where you need extra confidence and data checks, find systems that support real-time sonar inputs for as-building capabilities. Sonar tech, combined with these systems, gives you a clear underwater view, even in tough conditions, makes things safer and creates a 3D point cloud. Additionally, the added visualization capability provides verification that work was done to spec before moving the machine to the next location.

This also cuts down on the need for extraneous inspections with remotely operated vehicles (ROVs) or divers. Sonar and 3D visualization systems let you inspect, maintain, repair and survey in real-time, giving you a much better picture of what's happening far beneath the surface.



Training and support aren’t nice-to-haves, they’re critical...

Older marine technology may have had its share of issues and glitches, but today’s systems go much deeper to solve for tough challenges. The fact is, reliability is not standard, and not all systems are created equal. You need things to run smoothly with accurate data, to keep production running and negate costly downtime. In the past, people might have bought hardware from different companies, each with its own software. That meant operators had to learn a bunch of different systems, and there were often compatibility problems.

Today, there are cost benefits to bringing it all together, and making sure you’re in the right hands to keep you productive on the off-chance that anything goes awry. Don’t wait until you’re paying for delays or accidental damage to find out you went with an absentee provider.

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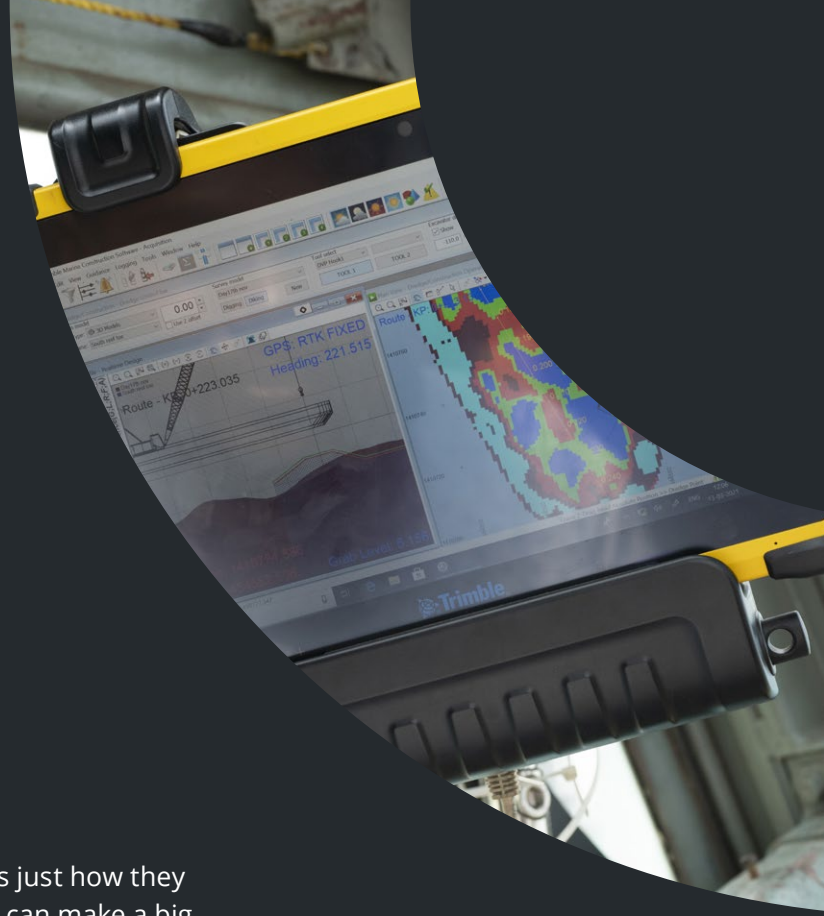
Customization is key

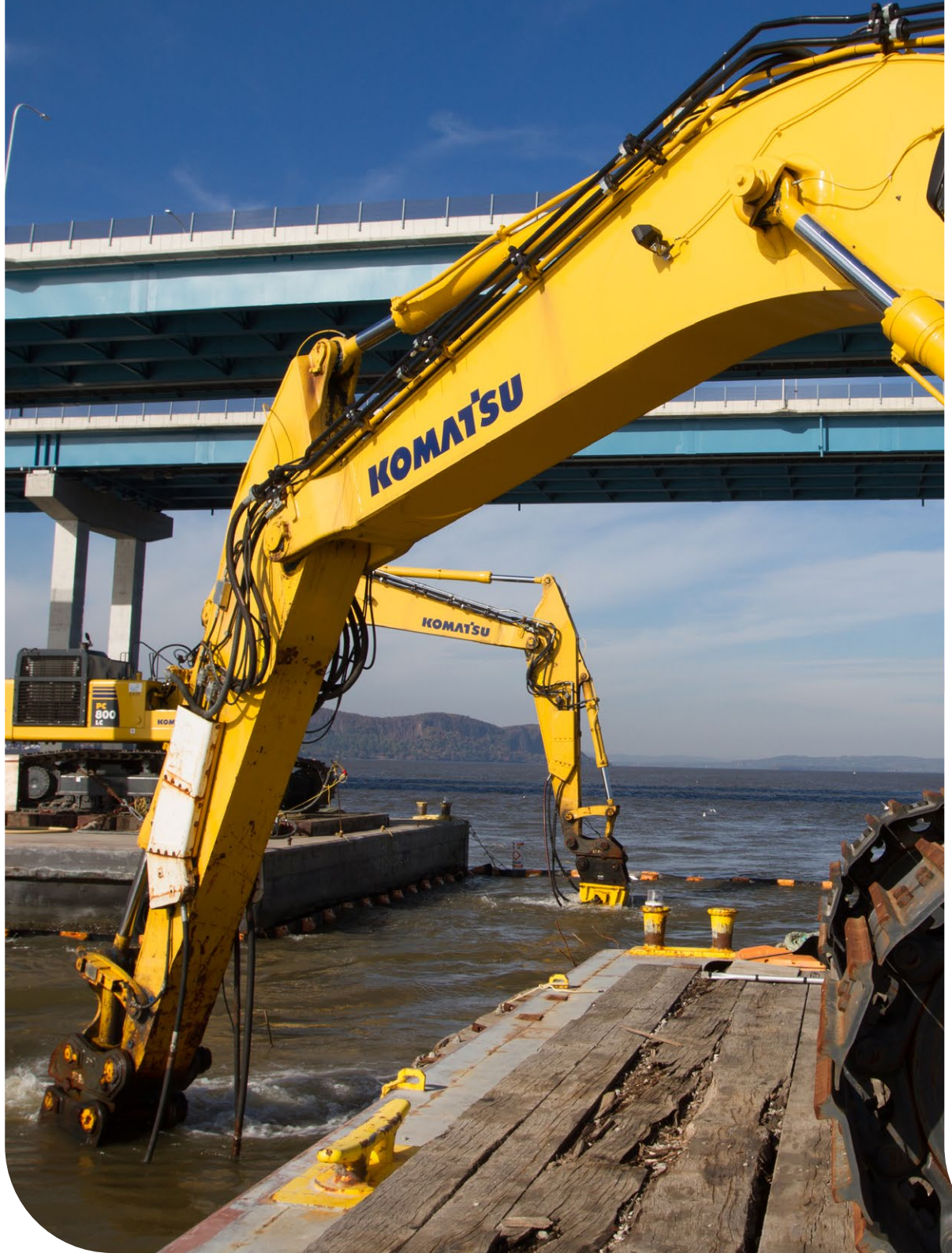


Letting operators set up their screens just how they like them and fit into their workflows can make a big difference. Look for displays with good resolution and clear screens that show 2D and 3D info, grade guidance and warnings. You may want displays that are simple for the operator, so they can focus on the job but still see important alerts. And don’t forget about capabilities such as environmental auditing.

You might need to provide additional or expanded reports for stakeholders on some projects, so make sure your system provides the support and backup you need.

7 Rethink ROI for deeper value across the board

When you think about these marine construction systems, look at the payback in terms of accuracy, uptime and preventing problems. For dredging and marine construction projects, you want vertical accuracy to be exceptional. That kind of accuracy can save you big money, enhancing your profits. Cutting down on rework is one area where you'll see a hefty payoff. By tracking progress, you can avoid having to redo things later. And real-time reports help you see if you're on track to finish on time. Overall, with the right steps, you can expect better speed, accuracy, less risk and safer jobsites.



Much like dredging, there's way more under the surface to know than you might think.

Find out more about tech solutions that take the mystery and guesswork out of your dredging projects and how to make it happen for you at **https://civilconstruction.trimble.com/en/industries/marine.**

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