B

: Users can schedule the robot to scan the jobsite daily, weekly, monthly, or at any interval or time, so they know the job is being completed regularly. Even while using a remote-control reality-capture robot, users can still complete scans because they're faster to complete this way and ia2EMcn3his waye-contronrang (4ast)1EMC

A : Construction sites are dynamic with people, equipment, and materials changing locations daily. A robot with basic obstacle avoidance can work around these impediments, even if they're blocking its desired path.

A : Another way to avoid obstacles is to schedule an autonomous robot to run after hours or in the early morning. Having an off-hour schedule also reduces privacy concerns from workers on the jobsite.

: A common gripe from people scanning jobsites is that they get in the photos or they have to hide under the tripod or around a corner, which may not even be possible on certain jobsites. With a remotely controlled robot, it is easier to stay out of sight, and since an autonomous robot does not need an operator, no one needs to hide to stay out of the pictures. Additionally, running the robot after hours allows for cleaner images and fewer privacy concerns since no one is around.

A : Reality capture was cool when it came out and then it became a chore. Robots break the monotony of data collection and are great to show off to clients, trade partners, and potential new team members.

-

Depending on the reality-capture robot, there are various options for reality-capture cameras and software. Some robots use a standard one-quarter-inch to 20-inch tripod mount for a standard 360-degree camera or laser scanner while other robots use a specifc camera.

Most reality-capture software providers let you import any 360-degree data to utilize their software so using a robot will probably not require you to change your preferred reality-capture software provider.

-

Your ROI varies based on the cost of your robot, how much you use it and whose hours you're saving. If your $120,000-a-year superintendent saves three hours a week, that's a savings of $9,000 of direct job labor, so a $100,000 robot is probably out of the question. However, freeing up your superintendent and getting consistent periodic progress updates from your reality-capture scans helps keep the project on track so you'll have less rework and earn more profit on a job. As stated before, robots are cool, and that wow factor is an instant conversation starter with clients and a magnet for potential employees.

Luckily, autonomous 360-degree reality-capture robots are now on the market for under $20,000 — you can even start out with a remote-controlled robot with a 360-degree camera for about $5,000 — making them much more attainable for many more companies.

A A

Steven Uecke, PE, is a structural engineer and CEO of SuperDroid Robots, REX Construction Services, and REX Engineering Group in Chicago, Orlando, Los Angeles, and Raleigh.

A A