Technology used in site surveys

Electronic distance measurement

- Most commonly deployed
- Requires on-site personnel
- Best used for on-site rechecks prior to work

Global positioning system (GPS)

- Uses GPS coordinates
- Ineffective when blocked (eg, by tall buildings or clouds)
- Best used when there is a need for high accuracy in small open sites

Photo-grammetry

- Uses high-resolution images
- Requires post-processing time to convert to usable data
- Best used when there is a need for high accuracy in large sites

Light detection and ranging (Lidar)

- Uses optical lasers to detect thousands of points per second, with native 3D output
- May have issues with some terrain, such as steep slopes

While Lidar has existed for some time, there has been a breakthrough in its use via drones/unmanned aerial vehicles (UAVs) and handheld platforms

- Handheld 3D laser scanners
- Mounted on mobile platforms
- Some Lidar systems are now under 10kg and can be deployed with drones/UAVs

Source: McKinsey analysis