

Fast Facts

25 autonomy stats within the construction industry that might surprise you.

With various machine control technologies becoming more common on today's worksites, it's clear that the move to autonomy-enabled construction is here to stay. As workflows are transformed through technology powered by AI, yesterday's procedures are quickly becoming a thing of the past.

To keep you in the know, Trimble Autonomy has researched and collected some of the latest data and statistics related to the current autonomous construction market, sustainability opportunities, and drivers behind the call for the technologies themselves.

State of the autonomous construction market:

\$4.51 B

Artificial intelligence in the construction market is expected to reach \$4.51 billion by 2026.¹

\$20.33 B

The global autonomous construction equipment market size is expected to grow to \$20.33 billion in 2027 at a CAGR of 9.7%.²

2025

The top opportunities in autonomous construction equipment will lie within the partial/semi-autonomous segment, set to gain \$6,833.8 million of global annual sales by 2025.³

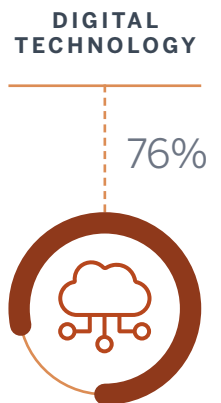
\$11 T

A value chain delivering some \$11 trillion of global value added and \$1.5 trillion in profit pools looks set for overhaul in construction. If captured by industry players, total profit pools could nearly double.⁴

30%

Mine productivity is seeing an average increase of 30% with autonomous vehicles via longer production hours and improved tire life.⁵

A 2021 Deloitte poll conducted after the 2020 US election showed 76% of engineering and construction executives planned to invest in at least one digital technology in 2021.⁶



Smart off-road equipment sales are slated to grow 35% in 2022 and then more than double by 2026, accounting for nearly 5% of all off-road equipment demand.⁷



Sustainability opportunities:

50-60% Lower

To get on track to net-zero carbon building stock by 2050, the International Energy Agency estimates that direct building CO2 emissions need, by 2030, to fall by 50% and indirect building sector emissions by 60%.⁸

60%

Some 60% of organizations are leaning on digital twinning/3D modeling to boost operational performance and meet sustainability goals.¹⁰

67K LEED Certs

In the US, the number of LEED-certified projects jumped from 296 in 2006 to more than 67,000 certifications in 2018, according to the U.S. Green Building Council.⁹

74% of GGE

Embodied carbon will account for 74% of emissions from new construction over the next decade. Greenhouse gas emissions will continue to rise unless concerted effort is made to reduce the carbon footprint of building construction.¹¹



Primary drivers to adoption:

83%



As of Q3 2020, 83% of US contractors reported having difficulty finding skilled workers, so artificially expanding the workforce would be a significant help.¹²

90%



More than 90% of coal mine accidents utilizing traditional operator-controlled machinery are caused by human factors as a result of various unsafe behaviors of people.¹³

32%

Only 32% of construction workers feel they have access to the digital tools they need. This digital connection stands to benefit companies through a renewed sense of engagement across teams. ¹⁴

68%

68% of US contractors say they are asking skilled workers to do more work in response to the skilled labor shortages plaguing their industry. ¹⁵

56%

56% of US contractors report a challenge in meeting project schedule requirements, among other real-world setbacks as a result of skilled labor shortages. ¹⁶

25% of Deaths

Construction accounts for up to 25% of all occupational fatalities. About half are being struck by or caught between objects or vehicles due to undetected pedestrian workers. ¹⁷

Accuracy, Rework

In a recent study on the autonomous benefits in construction, accuracy was shown to improve by 55%, and rework was reduced by over 50%. ¹⁸

\$1.6 T

\$1.6 trillion of additional value could be created in construction through higher productivity, and autonomy would help the industry achieve that. ¹⁹

40%

In trials, autonomous vehicles mixed with human-operated excavators have delivered a 40% improvement in efficiency compared to conventional means. ²⁰

20min



Aerial robots can capture more data in 20 minutes than a week of traditional measuring. ²¹



Of all the machinery and equipment used on construction sites, excavators are responsible for the greatest number of fatal accidents.²²

100% Accuracy

Equipment with machine control enabled allows experienced operators to run 41% faster and 75% more accurately, and new operators to run 28% faster and 100% more accurately.²³

13%

Despite representing 13% of global GDP, the construction ecosystem has seen a meager productivity growth of 1% annually for the past two decades.²⁴

Autonomous technology is picking up momentum. With a 40+ year track record in innovation, Trimble Autonomy has what it takes to lead the way in empowering automotive innovators like you to think bigger and realize your autonomous potential—on your terms. We'll walk with you every step—to take you from where you are to where you want to be—with unparalleled accuracy, precision, positioning and timing.

Learn more at:
<https://autonomy.trimble.com/en/>

2031

About 41% of the current US construction workforce is expected to retire by 2031.²⁵



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