
# Hooray for Construction Robotics: On the Rise for 2022

Construction site cacophony. We've all suffered through the annoying din.

Construction is not only noisy and a traffic nightmare, but it's also inefficient, woefully expensive and dangerous. Thankfully, construction is now getting serious attention from automation and robotics, and 2022 might be a breakout year.

According to a McKinsey infrastructure report and ABI Research, annually, $10 trillion in construction-related spending goes on globally, which is equivalent to 13 percent of GDP. The sector employs 7 percent of the world's working population, where 20,000 annually are injured. Safety, or lack thereof, puts construction right up there with mining, fishing and logging for most dangerous profession.

Since 1945 productivity in the manufacturing, retail, and agriculture sectors has grown by 1,500%, while construction growth has remained stagnant.

Global labor-productivity growth in construction has averaged only 1 percent a year over the past two decades. Contrasted with growth of 2.8 percent in the world economy and 3.6 percent in manufacturing, this clearly indicates that the construction sector is underperforming.

Agriculture and manufacturing have increased productivity ten to 15 times since the 1950s, the productivity of construction remains stuck at the same level as 80 years ago. Current measurements find that there has been a consistent decline in the industry's productivity since the late 1960s.

Disruption of the construction industry via robotics and automation could increase the construction industry's value added by $1.6 trillion a year, which is like boosting global GDP by 2 percent a year.

As ABI Research's headline blares out: Construction…the Next Frontier of Robotics Adoption Thanks to Automation Technology Advances.

For 2022, construction is now getting serious attention from automation and robotics.

Aarni Heiskanen, the Finnish construction innovation agent, is out with his world's best in construction robotics list for 2022

He lists 53 together with the URLs for the individual websites.

Here are the Top 10 in Construction Robotics for 2022:

## Advanced Construction Robotics

ACR is a world-leading innovator of autonomous robotic equipment: **Tybot**, the autonomous rebar-tying robot; and **IronBot** works independently of, or complementary to TyBot, and will autonomously carry and place rebar for horizontal concrete applications.

## Built Robotics

Built Robotics' mission is to build the robots that build the world. By upgrading off-the-shelf heavy equipment with AI guidance systems, Built's technology enables machines to operate fully autonomously.

## Construction Automation

Construction Automation aims to modernize and advance traditional processes and systems within the housebuilding industry, through designing and building construction robots. **The Automated Brick Laying Robot (ABLR):** The ABLR builds with standard bricks, blocks, and mortar and will revolutionize the traditional house building process.

## Construction Robotics

Construction Robotics for robotics and automation equipment. **SAM100: SAM**, short for Semi-Automated Mason, is a bricklaying system designed and engineered to make the process safer and less physically demanding.

**ML150: MULE** (Material Unit Lift Enhancer) is lift-assist equipment designed and built to handle and place heavy material on construction sites.

## Fastbricks Robotics

FBR designs, develops, builds and operates dynamically stabilized robots to address global needs. **Hadrian X**, a unique construction robot mounted into a classic cab over engine truck to easily transport it to and from a location for on-site building.

## Hyperion Robotics

Hyperion Robotics develops robotic 3D printing technologies to make construction processes safer, faster and more cost-effective: **Hyperion 3D Printing System**

## NeXtera Robotics

**NeXtera's Oliver** is an autonomous mobile robot for construction sites. Oliver draws a complete floor layout based on 3D models. It also scans the construction site with a laser scanner, compiles "as-built" model for construction quality and progress monitoring. **NeXtera Cube**: prefab mini-factories that produce wall and floor panels for a project, built 24/7.

## Printstones GmbH

Printstones develops **Baubot**, a compact mobile robot that can drive through doors, climb stairs, use elevators. The company has developed several applications for the Baubot ecosystem, including concrete 3d printing, formwork milling, micro-trenching, plasma cutting, and sanding.

## Q-bot

Q-Bot's robots spray insulation under building floors. The insulation immediately reduces the heat lost through the floor and stops drafts.

## Sarcos

For more than 25 years, Sarcos has created dexterous robotic systems designed to master the world's most dangerous and unpredictable environments, like Guardian XO, an exoskeleton; and Guardian XT, a tele-operated dexterous robot.

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