

Robot Drilling

Liechtenstein-based Hilti has been working on using semi-autonomous robots for a while now, with the “JAIBOT” already in operation on multiple sites, drilling holes in advance of mechanical & electrical (M&E) installation. The principle is simple enough: if you can get robots to perform tasks at height instead of humans, you immediately remove the danger of working at height.



Key Points

1. Get robots to perform tasks at height instead of humans.
2. It's predominantly for overhead applications, although it can now work into the walls as well
3. The drilling range is 16 millimetres in diameter to a depth of 100 millimetres
4. It works from the BIM [building information modelling] model.
5. The coordinates are put in on site and the robot will then go within a radius 10 metres
6. No steering, it will automatically find its way around and drill with a high degree of accuracy
7. All the drilling of the holes is actually done by the robot itself.
8. You cannot misread the drawings; drilling is automatic from the BIM data.
9. Operatives do not have to worry about inhaling potentially damaging dust created from the drilling.
10. It prevents damage caused to people by vibration, (HAVS).
11. For now, the application of the JAIBOT is limited, but Hilti is working on next-generation applications.
12. Future applications to include working in a tunnel environment.”

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