

Veidekke: The Construction Tech Leaving The Lab

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Part of Where Are The Savings?



Eirik Kristensen

Head of Digital Business Development, Veidekke

3D-printed concrete cut material use and emissions in full-scale tests

Eirik Kristensen, Head of Digital Business Development at Veidekke, presented a concrete 3D printing project. Its objectives were to build knowledge of concrete 3D printing, develop services around it, test the technology in close collaboration with industry partners, and measure its value for the industry. Hyperion, the technology provider, ran full-scale 1:1 tests of streetlight foundations printed by a robot using conventional Portland cement, with a 75% reduction in material consumption, a 90% reduction in CO2 emissions and a production time of 40 minutes. A printed staircase used more than 30% less material on the first attempt, with 100% elimination of formwork and rebars only for transport. The deck pointed to design, sustainability and industrialisation as next steps, and closed with an AI project assistant that routes questions to agents for tenders, HSE and contracts.

KEY TAKEAWAYS

- Printed streetlight foundations used 75% less material and cut CO2 emissions by 90% in 1:1 tests.
- A foundation printed in a geopolymers mix showed 15 kg CO2, against 400kg for a traditional one.
- The first printed staircase used more than 30% less material and needed no formwork.
- Further optimisation could bring even greater savings, the deck said.
- Veidekke's AI project assistant has tender and HSE agents in operation and a contract agent in test.

90%

Lower CO2 emissions for
3D-printed streetlight
foundations