

HS2 Innovation Accelerator company pioneers technology to cut carbon and concrete waste

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A company developing technology to reduce the amount of concrete used on HS2 has received a major funding boost that will accelerate and broaden the benefits of its involvement with the project.

Cloud Cycle, a small tech start-up, is working inside HS2 Ltd's Innovation Accelerator programme to harness the power of the Internet of Things to digitise and streamline how concrete is deployed during construction of Britain's new high speed rail network.

The £835,000 grant jointly funded by HS2 Ltd and **Innovate UK** enables Cloud Cycle to accelerate introduction of its technology across the HS2 construction programme. The move is expected to reduce the amount of concrete used on the Phase One route between London and the West Midlands by 420,000 tonnes, cutting carbon dioxide production by 50,000 tonnes.

Wet concrete exists in a dynamic state. Prompt and timely delivery from production site to building site is important to maintain its quality as delay can reduce its suitability and lead to waste. Cloud Cycle's Innovation Accelerator technology assists this with a quality assessing sensor fitted outside a cement truck's drum that is linked with monitoring technology to reduce the time from batching to delivery.

Explaining how he developed the idea the idea, Cloud Cycle co-founder, Phil White said: “I spent 15 years in construction and was always aware of over-ordering of concrete or trucks arriving with it set beyond specification, which causes operational problems that drive more waste to occur. Nobody was really solving this at scale so that’s when my co-founder, Russ, and I decided to dive into the problem – and Cloud Cycle was born.”

Funding of £585,000 from Innovate UK’s Transforming Foundation Industries Challenge is complemented by £250,000 from HS2’s innovation programme, will accelerate Cloud Cycle’s plans to take its technology to a higher level of sophistication by integrating it with digital engineering (BIM) to avoid over-production.

Phil explained how being part of HS2’s Innovation Accelerator programme has enabled Cloud Cycle’s technological development and at a stroke has opened access to a huge swathe of the construction industry.

He said: “The Accelerator has catapulted us into the future. We’ve moved from only working with ready mix providers to securing pilots with major JVs on HS2. We always knew that our technology would provide huge value through the whole supply chain and thanks to HS2 and Innovate UK we can now prove its worth faster than we could ever have thought possible.”

HS2’s head of innovation, Howard Mitchell said: “This new funding for Cloud Cycle creates the potential to really benefit the HS2 Phase One programme by significantly reducing concrete waste. They are a small company and this funding will be pretty transformative to them as it secures their business for the next year and beyond. I’m delighted that HS2, working with Innovate UK, will continue to support Cloud Cycle’s growth following their time on the accelerator.”

Bruce Adderley, challenge director, Transforming Foundation Industries said: “The Transforming Foundation Industries Challenge is to support innovations that enhance productivity and sustainability within the UK’s foundation industries. Improving resource and energy efficiency is a central part of these objectives, and Cloud Cycle certainly ticks this box with their approach to reducing concrete waste. We look forward to working alongside them as they develop this innovative solution to such a widespread issue in construction.”

Photo credit: HS2 Ltd