

# Bridging Physical and Digital Worlds

## HOW VEERUM USES GAMIFICATION TO IMPROVE THE ENERGY INDUSTRY

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When it comes to addressing a common challenge in the global energy sector, a Calgary technology firm is turning to digital reality for a solution. VEERUM is on a mission to increase efficiencies and reduce project costs from the world's most complex and remote projects by using gamification to eliminate rework.

Rework is the unnecessary process of redoing work that was incorrectly carried out the first time and needs to be corrected to meet requirements.

"It's a persistent problem affecting productivity, cost and schedule," says Ben Reed, principal hardware hacker at VEERUM. "It's caused by mismatches between the physical site and the manufactured components, missing tools and misplaced assets. This can lead to a 10 to 30 per cent increase in cost and schedule. But rework is also the most hazardous part of any work. That's why we want to eradicate it."

The solution is a precise awareness of the capital project – in 3D. VEERUM's Digital Twin technology replicates a site using a variety of sensors on unmanned vehicles such as robots and drones.

"We got a robot – courtesy of TECTERRA – to build the autonomous data capture capability," says Reed. "The robot, named Franchesca, lives at a remote site in her own trailer, which we call a doghouse. Franchesca wakes up at night when no one is around and digitizes everything around her."

The robot sends data to the Industrial Internet, which results in up-to-date replicas of the components that go into the making of a capital project. People can then virtually visit the site to compare the digital and physical worlds, monitor progress, and track assets and the use of materials.

"We teleport people to a remote construction site using virtual reality and immerse them in the near-real-time data from our Digital Twin," says Reed. "VEERUM's virtual reality product brings the site to the office, limiting travel to remote and hazardous places.

"Capital projects have many moving parts that all need to come together at the right place and time," says Reed. "The complex nature of all the variables that go into this makes it difficult for humans to identify and mitigate risk. Our technology is intelligent. It's able to provide insights not possible through current manual methods, as well as scale to a global geographical reach."

Digital solutions in industrial construction have the potential to reduce cost and schedule overruns, improving the efficiency of the global energy industry.

"VEERUM brought resources together and diligently made the most of every opportunity available within the ecosystem to be successful. Their understanding of the customer's pain helped them create a product-market fit that resonated with customers, funders and strategic partners," says Bilal Rasool, commercialization manager, Kinetica Ventures.

"It takes more than technology to create a successful venture. VEERUM is that special blend of technology and business-model innovation that has the potential to truly disrupt the status quo," says Rasool.

To learn more about VEERUM, visit [veerum.com](http://veerum.com). To learn more about Kinetica Ventures and how it is helping to accelerate world-class energy technologies, visit [kineticaventures.com](http://kineticaventures.com). **B**