

Giatec® Reduces Cement Usage and CO2 Pollution with Backing from Sustainable Development Technology Canada

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Giatec's SmartRock™ AI Assistant, Roxi™, and SDTC Team-Up to Reduce Cement Use and Make Construction Sites Greener

Giatec®, world leader in concrete testing technologies, has announced that they are working to reduce cement usage on construction jobsites with their artificial intelligence program (AI), Roxi™, with funding and support from Sustainable Development Technology Canada (SDTC). SDTC helps Canadian entrepreneurs accelerate the development and deployment of globally competitive clean technology solutions.

Cement is not only the most expensive ingredient in a concrete mix, but its production is also responsible for 8% of global CO₂ emissions. In a construction project, ready-mix concrete producers design concrete mixes to meet specific performance criteria to reach strength targets quickly.

However, the performance of concrete can be affected by various external factors including the quality variations in raw materials, ambient conditions, delivery time, pouring processes, jobsite curing conditions, etc. Currently, concrete producers have limited data and visibility into these factors, thus lacking accurate testing and monitoring capabilities. This leads to overdesigning concrete mixture by adding more cement than necessary to prevent potential performance issues.

Giatec's proprietary sensing technology combined with their real-time, predictive AI-based model, Roxi, allows ready-mix producers to adjust the amount of cement needed and meet concrete strength targets more accurately. As a result, this will cut at least 400 million tons of greenhouse gas (GHG) emissions annually, the equivalent of taking 110 million cars off the road.

"At SDTC, we are committed to advance Canada's 2050 Net-Zero targets by strengthening support for climate tech entrepreneurs who are driving the green economy forward," said Leah Lawrence, President & CEO, SDTC. "We are proud to support firms, like Giatec that are on the cusp of climate tech innovation and delivering substantial solutions to help fight climate change."

"Based on two case studies, we estimate that up to 20% reduction in cement usage can be achieved using our technology. With this funding, Giatec will provide a solution that will bring not only economic, but also

environmental benefits, by reducing CO₂ emission, air pollution, and water use in the construction industry”, says Pouria Ghods, Giatec Co-Founder and CEO.

Roxi was the first AI program created for concrete testing, built for Giatec’s award-winning SmartRock™ wireless concrete sensors. SmartRock has been used in over 8,000 construction projects across 80 countries, giving Roxi access to millions of data points.

Source: GIATEC