Powering up Simulation Training in Environmental Consulting

Dean MacKenzie, Vertex Resource Group Ltd.

As dedicated professionals, we embrace our role as mentors who can pass on the knowledge and skills required in the environmental consulting industry through training. But embarking on a training program requires significant logistical preparation, especially if it needs to be conducted in a boreal forest, in an oil sands facility, or an endangered species' habitat. Or if it must occur among a large group of trainees, or during a specific slice of the growing season. Training is a big investment and a logistical undertaking – when done the traditional way.

Vertex has found a solution to some of these challenges by developing digital worlds to work and train in. Simulating real world scenarios in a fun, safe and collaborative environment has allowed Vertex to train and mentor new and existing staff within various environmental scopes of work. Our trainees come together virtually to drive, identify wildlife, dig soil pits, and even pull out bear spray under the right set of conditions. In a controlled setting with minimal logistical planning, we are achieving learning outcomes through immersive experiences that prepare assessors for on-the-job success.

The pandemic has, of course, added a layer of complexity to training operations and work in the environmental consulting industry overall. Responding with versatility, Vertex keyed in on the importance of technology in overcoming these challenges. With an increasing number of employees working remotely, we have been able to consistently train staff throughout North America digitally using our game simulator. The ability to hire and train on our own schedule allows us to make the best staffing choices and not be constrained by short field seasons. This innovative approach to training staff and clients on key technical and safety aspects of the job digitally has reduced our field training costs substantially.

Using the digital platform is also helping our organization achieve our social impact ESG goal by enhancing our commitment to creating equal opportunities for our diverse workforce in local and Indigenous communities. Our Indigenous partners have shown an increased interest in the environmental monitoring program and using our simulator during the pandemic has allowed us to safely demonstrate they types of work we do, while also allowing our business partners to incorporate their traditional knowledge into our process and solutions. Meeting within our platform is an augmented way to connect virtually, and erases challenges like mobility or travel limitations.

This presentation will take an in depth look into the development of the digital platform and its current and future applications. The platform is conducive to many environmental consulting scenarios, such as reclamation assessments, wildlife awareness, bird nest sweeps and Phase I ESAs. Simulation training has been adopted in many professions as an effective technique to train on real-world situations with practical exercises. The business case is self-evident when compared to traditional approaches to training. And, there's a fun factor. It's time environmental consulting join the ranks of aviation and medical professionals in embracing the benefits of simulation training.

Dean MacKenzie

Dr. Dean MacKenzie has been developing best practices, building training programs and practicing in the remediation and reclamation profession for over 20 years. He is the Vice President of the environmental division at Vertex Resource Group Ltd. Dr, MacKenzie also leads the environmental operation at Acden Vertex, a partnership with Acden an Athabasca Chipewyan First Nation owned company. He oversees a large, diverse team with expertise in biophysical assessment, construction monitoring, reclamation and remediation, providing consulting services for a wide range of industries including: oil sands mining, coal mining, in-situ oil sands, peat harvesting, wind and solar farms, sand and gravel, pipelines and conventional oil and gas. Dr. MacKenzie continues to be active in research and development with a focus on revegetation and reclamation of highly disturbed landscapes. He has authored several peer reviewed journals and best management practice documents related to land reclamation for government and industry within Alberta.