

## Formstack Submission For: [CRIN Matchmaking support](#)

Submitted at 07/12/21 3:27 PM

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**Are you a member of CRIN?:** Yes

**1. What type of organization are you looking to be matched with?:** Oil and gas producer

**2. Please provide a brief description of your organization:**

Wave9 is developing an environmental and operational monitoring platform that helps producers reduce their environmental impact while making their production process more efficient. We do this by collecting instrumentation data and photos from well sites and then running the data through analytics software and artificial intelligence models, generating a dashboard that directs field staff workflows. The dashboard was designed for operator ease of use while at the same time contributing relevant data into centralized historians.

**3. Please provide a brief description of your proposed project:**

Wave9 has proven the use of artificial intelligence and wireless sensors for the detection of fluid contamination at remote well sites and monitoring of operational performance using off the shelf cameras along with pressure and power sensors that feed data to an image and data analytics engine. However, our solution has been tailored to photos showing a specific wellhead configuration, equipment, and surrounding environment. We wish to

apply the same general approach to a wider range of production sites. Part of the project would also involve integrating our platform with other control systems and centralized historians to process existing data sources. As a result, partner producers would benefit from the deployment of a cost-effective solution to reduce operational costs and risks due to hazardous area exposure or environmental concerns while helping us to augment our platform's artificial intelligence and system integration capabilities.

**5. Which focus area(s) are you looking to address or collaborate on?:**

Environmental monitoring  
Operational excellence and efficiency

**6. Briefly describe what type of support you need from a producer partner (e.g. field test site, technical expertise, resources etc.):**

Wave9's artificial intelligence models require real world data collected from a large number of production sites with varied environments and operational situations in order to generate a high quality prediction model which can be applied widely within the industry. We need a producer partner who can provide us with a group of well sites that are highly variable in terms of equipment in use, wellhead appearance, environmental surroundings, and other contexts. Additionally, an ideal partner will share other data sources to help us test the accuracy of some of our sensor and diagnostics systems and open up possibilities for deeper insights such as well performance & diagnostics.

**7. Briefly describe the skills and services you are able to offer as a partner/collaborator :**

The Wave9 team has field-proven capabilities to rapidly deploy wireless data collection platforms that utilize artificial intelligence and data analytics

to greatly improve asset maintenance efficiency and risk management. We have specialized skills in business process mapping, process improvement, cloud data processing, Industrial IoT, wireless communication, artificial intelligence, data science, and user application development.

**8. What test or research is required to most cost effectively reduce technical or economic uncertainty and/or prove important features/benefits of your technology?:**

The quality of artificial intelligent models is directly related to the quality and quantity of data in the training datasets. In order to improve the fidelity of our solution we need to collect data from a wider base of field installations. Wave9 is looking for opportunities to increase the number of data collection sites without incurring a high infrastructure cost to producer partners and has taken many steps to reduce the cost of the platform. The next step is to scale up the collection and training processes as we refine the quality of our prediction models.

**9. Have you already connected with, pitched to, or been introduced to any oil land gas producer partners regarding this project?:**

We have an existing demonstration field of 140 sites and we've pitched a number of prospective partners on larger project implementations. Through the process of pitching and reviewing feedback from producer partners we've learned that our solution will require either a more generalized single model or multiple custom models to handle the variability in site environment and operational factors. We have made contact with Tundra Oil and Gas (pilot 2018), Vermilion Energy (pilot pending 2021), Whitecap Resources, Teine Energy (pilot 2019), Hess, and Aldon Oils (pilot 2018) and others and have secured 4 pilots through that process, one of which has

progressed to cover 140 sites with Tundra. However, we require pilots and demonstrations of larger scale to accelerate the enhancement and broadening of artificial intelligence capabilities.

**10. Is there any additional information you would like to share to assist us in matchmaking?:**

Wave9's existing platform was recently deployed to reduce the labour cost of a field brought back online after 2020. The net result was labour savings of more than \$200,000/yr for an initial install cost of \$93,375 and an annual cost of \$44,100. This represents a payoff within 12 months and a first year ROI of 45%, with subsequent years achieving an ROI of 353% annually. The improvements we're seeking to develop through this project will make it possible for us to bring that value to more field sites, more asset types, and will be combined with other projects that are seeking to reduce power

**By registering my interest, I accept that the information submitted in this form will be used by the Clean Resource Innovation Network, and MaRS for the purpose of the CRIN Digital Oil and Gas Technology Competition, including the posting a project summary on the CRIN website for producers to view.:**

Yes, I am interested in matchmaking support