

CLEAN RESOURCES

ADVANCED HYDROCARBONS

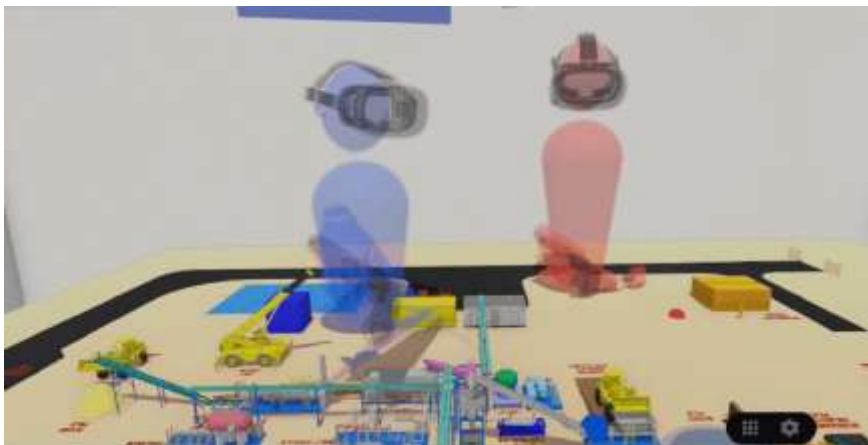
CLEANER HYDROCARBON PRODUCTION – DIGITAL OILFIELD

FUNDING DETAILS

Dynamic Virtual Reality (D-VR) Training Model

A Dynamic Virtual Reality prototype model will be created by combining a Virtual Reality environment with a dynamic process simulation, which allows for the pilot operator to interact with the model. The model will respond in real-time to operator decisions, as it will be backed up by the dynamic process simulation engine's thermodynamic calculations.

The field pilot operators will quickly become familiar with the operations of the facility, greatly accelerating the start-up and commissioning. The test prototype mode will be "plug & play", so that it can be easily adapted to different processes in the future.



RECIPIENT:
Exergy Solutions



PARTNERS:
Suncor



TOTAL BUDGET:
\$500,000



AI FUNDING:
\$200,000



PROJECT DATES:
Mar 2020 – Jan
2021



PROJECT TRL:
Start: 5
End: 8

APPLICATION

Once developed as a prototype, the plug & play D-VR will initially be expanded to a Suncor technology field pilot and then ultimately a wider market including operating facilities, plants, and large-scale capital projects, thereby expanding Alberta's digital economy. The knowledge generated will then be able to be applied to multiple training use cases in the future using a D-VR approach.

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PROJECT GOALS

- Development of a working and tested real-time data bridge between the Virtual Reality environment and the dynamic process model (simulation), utilizing both platform APIs
- Streamlining of the VR training creation workflow
- Input training content
- Accelerate commissioning and start-up activities
- Reduce the time to operator proficiency
- Improve operator's ability to respond quickly and correctly to emergency situations
- Provide a realistic environment to practice operating procedures
- Improve skills for rarely performed but safety-critical tasks
- Reduce unnecessary shutdowns and reduce plant performance due to operator error
- Capture operator knowledge and best practice

BENEFITS TO ALBERTA

- Increase operations and plant safety
- Reduce Greenhouse Gases by decreasing travel requirements
- Accelerate the start-up and commissioning of technology pilots, which have their own economic and environmental benefits
- Repurposing and training of unemployed oil and gas professionals while creating jobs in the new digital economy
- Mitigating public health and safety concerns via remote training and collaboration during government mandated social distancing



1 New
Products/Services



10 Project Jobs



120 Future Jobs

**CURRENT
STATUS**

March 2020

Project kickoff underway