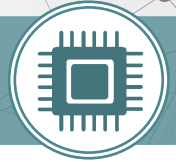


WORKING IN DIGITAL OIL & GAS

INNOVATION ACTIVITIES AND SKILLS FOR REDUCING ENVIRONMENTAL IMPACTS WITH TECHNOLOGY



KEY ACTIVITIES	<p style="text-align: center;">DESIGN & BUILD <i>Acquiring data</i></p> <ul style="list-style-type: none"> • Project management • Planning for digitization by replicating physical assets, processes and systems • Install and maintain the mechanical equipment used to help automate workflows (pumps, motors and valves) • Install and maintain sensors and control panels to gather information to help detect changes in mechanical equipment and/or workflow processes • Install and maintain computer networks, hubs, routers, communication systems, etc. to support communication of information over networks, systems, devices, etc. • Integrate systems to bring together the component sub-systems into one, ensuring they function together 	<p style="text-align: center;">DIGITIZE & VISUALIZE <i>Learning from data</i></p> <ul style="list-style-type: none"> • Project management • Manage change • Develop protocols and standards to assist with aggregation and integration of technology and data • Establish data protection and compliance • Descriptive, diagnostic and predictive analysis of data to draw insights and conclusions about operations <ul style="list-style-type: none"> • Describe what happened in a company, operation or situation to provide insight into historical performance and identify opportunities for improvement • Understand why situations occurred as they did and diagnose problems • Make predictions about situations or performance based on historical data • Develop end-to-end user features across cloud, mobile, and web • Visualization: display information for better interpretation and usability 	<p style="text-align: center;">AUTOMATE, OPERATE & MAINTAIN <i>Enhanced decision-making and optimizing operations</i></p> <ul style="list-style-type: none"> • Enhance hardware and equipment for cost savings and productivity benefits • Develop, enhance and maintain existing application software components • Automate decision-making using insights to predict operational strategies including maintenance • Use data to prescribe decisions and actions and to proactively enhance performance and decrease unintentional operations disruptions • Operate and maintain smart equipment and advanced robotics such as control rooms, drones, autonomous vehicles and rigs used for autonomous interaction with the physical world • Use 3D data models for 3D printing, equipment manufacturing to drive rapid prototyping, and advanced custom manufacturing • Use VR/AR in the design, inspection and maintenance of equipment and facilities to enhance efficiency and safety, and to reduce cost and GHG emissions associated with trips to the field
----------------	---	--	---

The Cleantech and Transitioning Careers in Oil and Gas Series is the result of a 2021 project funded by the Province of Alberta working in partnership with the Government of Canada, and research conducted by consultants Cheryl Knight and Pat Hufnagel-Smith.

For more information please contact: info@cleanresourceinnovation.com and to view or download documents in the series, visit www.cleanresourceinnovation.com

FUNDED BY:

