Hatfield-5302: Terrain stability for route planning

Terrain stability for route planning

Challenge

Challenge ID:	HCP-5302	Originator:	Onshore: Hatfield
Title:	**Terrain stability for route planning.**		
Theme:	ON 5.3: Logistics planning and operations - Facility siting, pipeline routing and roads development		
Consortium Lead:	C-CORE	Interviewed Company:	C-CORE
Geography:	ON.REG.00 - Generic onshore		

Challenge Description	
What is not possible / not adequately addressed at present?	
Need for improved geotechnical maps (more detail, better accuracy) to identify and assess geohazards and terrain stability issues within pipeline corridors to support route planning and monitoring.	
What effect does this challenge have on operations?	
There are major liability issues to the general public and/or surrounding infrastructure, a major disruption to operations and resulting loss of revenue.	
Thematic information requirements:	Terrain information Topographic information Water quantity
What do you currently do to address this challenge? How is this challenge conventionally addressed?	
LiDAR and aerial surveys supplemented with ground survey work. Improvements in technology allow for desktop studies to identify terrain / geohazards thereby reducing planning costs and mitigates social and environmental costs.	
What kind of solutions do you envisage could address this challenge?	
UAV flights along linear corridors to monitor or InSAR to identify changes to the surface or slope. Spectral analysis showing surface water saturation could support efforts.	
What is your view on the capability of technology to meet this need? Are you currently using EO tech? If not, why not?	
Improvements in optical imagery to capture linear corridors and surface water saturation.	

Challenge Classification			
Impact on Lifecycle (0=none, 4=high):		Climate / Topography / Urgency:	
Pre-license:	3	Climate class:	Generic climate
Exploration:	2	Topographic class:	Not specific
Development:	3	Seasonal variations:	Freeze-heave is most critical
Production:	4	Impact area:	Health and Safety, Cost reduction
Decommissioning:	2	Technology urgency:	3 - Immediately (0-2 years)

Challenge Information Requirements	
Update frequency:	Snapshot
Data currently used:	LiDAR and elevation models Air photos High resolution imagery
Spatial resolution:	License
Thematic accuracy:	Not specific
Required formats:	Not specific

Timeliness (Vintage):	Reference data
Geographic extents:	Corridor
Existing standards:	None

Relevant products

Content by label

There is no content with the specified labels