Hatfield-5401: Monitor pipeline corridor hazards

Monitor pipeline corridor hazards

Challenge

Challenge ID:	HCP-5401	Originator:	Onshore: Hatfield
Title:	**Monitor pipeline corridor hazards**		
Theme:	ON 5.4: Logistics planning and operations - Monitoring of assets		
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?

Regulatory requirements need to be fulfilled around compliance monitoring of pipeline rights of way. Ground-based surveys may incur some health and safety risks related to geohazards (e.g. vegetation succession, water courses, erosion, etc.) and security in remote locations. There are operating costs and risks associated to monitoring that need to be identified, managed and mitigated.

What effect does this challenge have on operations?

Reduction of costs related to health and safety with systematic monitoring. Damage to infrastructure can lead to environmental and social issues, as well as economic impacts to operations.

Thematic information requirements:	Land cover Land use Water quantity Distribution and status of infrastructure Lithology, structural geology, surficial geology

What do you currently do to address this challenge?
How is this challenge conventionally addressed?

Aerial surveys and geotechnical ground surveys.

What kind of solutions do you envisage could address this challenge?

High-resolution optical or radar imagery for surface change detection along linear corridors. LiDAR could play a role.

What is your view on the capability of technology to meet this need?
Are you currently using EO tech? If not, why not?

Difficulty is with temporal nature of issue - geohazards are often triggered by sudden events that are difficult to predict and monitor due to suddenness of event. Imagery cost for full monitoring and number of indicators successfully addressed does not eliminate the need for manual or aerial surveys.

Challenge Classification

Impact on Lifecycle (0=none, 4=high):		Climate / Topography / Urgency:	
Pre-license:	0	Climate class:	Generic climate
Exploration:	0	Topographic class:	Not specific
Development:	4	Seasonal variations:	Any season
Production:	4	Impact area:	Environmental, HSE, Disruption to production
Decommissioning:	2	Technology urgency:	3 - Immediately (0-2 years)

Challenge Information Requirements

Update frequency:	Snapshot to monthly
Data currently used:	Aerial imagery, LiDAR, field assessments, UAVs
Spatial resolution:	License

Thematic accuracy:	Not specific
Required formats:	Not specific
Timeliness (Vintage):	Within a month
Geographic extents:	License
Existing standards:	None

Relevant products

Content by label

There is no content with the specified labels