

# Hatfield-2504: Identification of slope instability

## Identification of slope instability

### Challenge

Challenge ID:	HCP-2504	Originator:	Onshore: Hatfield
Title:	Identification of slope instability.		
Theme:	ON 2.5: Surface Geology Mapping - Engineering geological evaluation		
Consortium Lead:	Arup	Interviewed Company:	Arup
Geography:	ON.REG.00 - Generic onshore		
Challenge Description			
What is not possible / not adequately addressed at present?			
There is a need for higher resolution accurate DEM data for engineering-geological modelling (e.g. identification of landslide morphology - runout modelling - rockfall) analysis. Analysis below tree canopy.			
What effect does this challenge have on operations?			
Reduces uncertainty, improves decision making for field development. Early identification of constraints and opportunities.			
Thematic information requirements:	Ortho base images Lithology, structural geology, surficial geology Terrain information Topographic information		
What do you currently do to address this challenge?			
How is this challenge conventionally addressed?			
Geotechnical Desk Study Ground investigations and boreholes Geological maps Field geological mapping Geophysics Remote Sensing (multispectral) analysis			
What kind of solutions do you envisage could address this challenge?			
DEM analysis High Resolution stereo DEM Multispectral and hyperspectral Automated classification processing Geophysics			
What is your view on the capability of technology to meet this need?			
Are you currently using EO tech? If not, why not?			
Best suited to use of high resolution optical imagery and high resolution DEM. Currently only rarely used because of perceived high cost. There is a need to educate industry to the cost-benefit value of using this data early on in project lifecycle - data			
Challenge Classification			
Impact on Lifecycle (0=none, 4=high):		Climate / Topography / Urgency:	
Pre-license:	1	Climate class:	Generic climate
Exploration:	2	Topographic class:	Not specific
Development:	3	Seasonal variations:	Any season
Production:	2	Impact area:	Environmental, Health and Safety, Cost reduction
Decommissioning:	1	Technology urgency:	3 - Immediately (0-2 years)

Challenge Information Requirements	
Update frequency:	Snapshot to monthly
Data currently used:	Air photo interpretation DEM analysis (ASTER, SRTM, High res optical DEM) Google Earth
Spatial resolution:	Regional to License
Thematic accuracy:	Not specific
Required formats:	Not Specific
Timeliness (Vintage):	Reference data
Geographic extents:	License
Existing standards:	None

## Relevant products

### Content by label

There is no content with the specified labels