Hatfield-2501: Characterization of surface/near-surface structural geological properties for infrastructure planning

Characterization of surface/near-surface structural geological properties for infrastructure planning

Challenge

Challenge ID:	HCP-2501		Originator:	Onshore: Hatfield			
Title:		Characterization of surface/near-surface structural geological properties for infrastructure planning.					
Theme:	ON 2.5: Sur	ON 2.5: Surface Geology Mapping - Engineering geological evaluation					
Consortium Lead:	Arup		Interviewed Company:	Arup			
Geography:	ON.REG.00	N.REG.00 - Generic onshore					
Challenge De	scription						
What is not po	ssible / not ad	equately add	dressed at prese	ent?			
(rock-soil) for design of infrastructure, foundation design, route planning and slope stability assessment, and rock excavability (e.g. for pipeline trenching). What effect does this challenge have on operations?							
Reduces uncertainty, improves decision making for field development. Early identification of constraints and opportunities.							
Thematic informatic requirements:	hematic information Identification of: soil / rock; soil type (sand / clay); soft / hard ground; equirements:						
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:	1	Impact area:	Environmental, Health and Safety, Cost reduction		
Decommissioning:	1	Technology urgency:	3 - Immediately (0-2 years)		
Challenge Information Requirements					
Update frequency:	Snapshot				
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