

13th Meeting of the CEOS Virtual Constellation for Land Surface Imaging (LSI-VC)

23-24 March 2023

ESA/ESRIN, Frascati, Italy

Main Objectives

1. A number of existing CEOS Agency CEOS-ARD self-assessments are underway. We will use the LSI-VC-13 meeting as an opportunity to obtain progress reports from each participating agency, work through any issues, and solicit feedback on the PFS. We will seek to accelerate any pending CEOS-ARD self-assessments towards peer review.
2. Getting CEOS-ARD into the cloud, and making it accessible and interoperable across all major cloud platforms needs to be a priority for CEOS agencies. We will aim to get a better understanding of agencies' relationships with the various cloud platforms, agency plans for EO data distribution and access, strategies for data discoverability, any proprietary data platforms and tools, etc. with the aim of identifying actions that CEOS Agencies might take (together and individually) to increase the availability, discoverability, accessibility and interoperability of their data – CEOS-ARD in particular.
3. Hear a briefing on the Copernicus Data Space Ecosystem (CDSE) and consider how CEOS-ARD can support this new platform.
4. CEOS Interoperability Framework: We anticipate having additional clarity by SIT-38 on the WGISS proposal regarding a 'CEOS Interoperability Roadmap'. Further discussion and refinement of LSI-VC inputs to that Roadmap is expected.
5. ARD Standards: We will reflect on the initial steps of the OGC ARD SWG.
6. New Space: This is a headline priority for the SIT Chair and CEOS in 2023, and a theme where CEOS-ARD and LSI-VC in general has an obvious role. We will reflect on the connection of CEOS-ARD to industry/commercial/New Space and discuss strategies for increased engagement.
7. Forests & Biomass: Progress on the CEOS AFOLU Roadmap and the expected response (i.e., 2035 observational scenario and LSI needs, agency response and planning). GFOI update and outlook. Input from Silvacarbon on recommendations regarding cal/val datasets based on tests in countries.
8. GEOGLAM: CEOS response to updated requirements; AFOLU Roadmap

Agenda

Thursday March 23

Bus

08:15: Piazza Marconi Frascati to ESRIN (All Hotels downtown Frascati Colonna, Flora, Cacciani) (30 seats)

17:30: ESRIN to Piazza Marconi Frascati (30 seats)

Location: Room ESRIN-VC 02223 Room E

<https://esait.webex.com/esait/j.php?MTID=m27c9c3698f997c25bcdf600f8b4133b0>

Meeting number: 2366 630 6784

Password: T8tB7Hppy8y

<p>Session 1: Welcome and Introductions <i>Session Lead / Moderator: Andreia Siqueira</i> <i>Specific Objectives:</i></p> <ul style="list-style-type: none"> Review and aim to close all past open actions 		
09:00	<p>1.1: Welcome [Slides]</p> <ul style="list-style-type: none"> Review of meeting objectives Day 1 overview 	LSI-VC Leads
09:15	<p>1.2: Action Review [Slides]</p>	Matt Steventon
<p>Session 2: CEOS-ARD <i>Session Lead / Moderator: Andreia Siqueira</i> <i>Specific Objectives:</i></p> <ul style="list-style-type: none"> Decide whether any further optimisations are needed / can be made to the peer review process Discuss harmonised SAR PFS proposal and consider broader application of this approach? Identify necessary actions / updates for the PFS to resolve the issues raised at LSI-VC-12 regarding PFS Geometric Uncertainty and Absolute/Relative Accuracy. 		
09:30	<p>2.1: CEOS-ARD Peer Reviews [Slides]</p> <ul style="list-style-type: none"> Status and outlook Discussion: assessment procedure, further support? 	Medhavy Thankappan, Peter Harrison
09:50	<p>2.2: SAR and LiDAR PFS Progress [Slides]</p> <ul style="list-style-type: none"> Harmonised SAR PFS + discussion <ul style="list-style-type: none"> Harmonised SAR PFS draft available here 	Ake Rosenqvist
10:20	<p>2.3: ALOS-3/4 Update [Slides]</p>	Takeo Tadono
10:30	<p>2.4: PFS Geometric Uncertainty and Absolute/Relative Accuracy [Slides]</p>	Medhavy Thankappan

	<ul style="list-style-type: none"> Ref: LSI-VC-12-08 Note parameters 1.8, 1.7, and 4.1 in the SR PFS 	
10:50	2.5: Open Geospatial Consortium (OGC) ARD Standards Working Group (SWG) Update	Peter Strobl
11:00 – Break (20 mins)		
<p>Session 3: CEOS-ARD Assessment Progress Reports and Workshop Session <i>Session Lead / Moderator: Steve Labahn</i> <i>Specific Objectives:</i></p> <ul style="list-style-type: none"> Hear CEOS-ARD self-assessment progress reports Identify and work through any blockers, feedback on PFS; provide recommendations, guidance, facilitate Q&A Understand agency plans for CEOS-ARD access and discoverability, interoperability, cloud access, etc. 		
11:20	3.1: CSIRO (NovaSAR-1 RTC, NRB) [Slides]	Zheng-Shu Zhou
11:45	3.2: ISRO (Resourcesat-2/2A, SR) [Slides]	Radhika
12:10	3.3: SANSa (SPOT 1 to 7, SR) [Slides]	Seffat Chowdhury, Stewart Bernard
12:35	3.4: ESA (Various) [Slides]	Ferran Gascon, Silvia Scifoni
13:00 – Lunch (60 mins)		
14:00	3.5: GISTDA [Slides]	Prayot Puangjaktha
14:25	3.6: CONAE [Slides]	Danilo Dadamia, Laura Frulla
14:50	3.7: ESA (RCM, RS1, RS2)	Yves Crevier
15:15	3.8: DLR (DESI L2A, SR) [Slides] <ul style="list-style-type: none"> Current status and future plans of ARD work (EnMAP, DESIS, Sentinel-1 NRB). Plans for data access, discovery and interoperability. 	Jonas Eberle
15:40 – Break (20 mins)		
<p>Session 4: Industry Engagement & New Space CEOS Priority <i>Session Lead / Moderator: Matt Steventon</i> <i>Specific Objectives:</i></p>		

<ul style="list-style-type: none"> • Understand where LSI-VC needs to input to the CEOS New Space Task Team process and confirm inputs • Consider an action to prepare an update of the CEOS Analysis Ready Data – Involving the Private Sector paper • Confirm CEOS-ARD session planned for ARD23; discuss format and content. • Agree whether or not to target an ARD & Industry Workshop alongside LSI-VC-14 on October 10 at ESRIN and discuss ideas for that workshop. 		
16:00	4.1: CEOS New Space Task Team [Slides] <ul style="list-style-type: none"> • Progress and plans • Think piece on the Role of CEOS in New Space and on the Role of New Space in CEOS • NSTT Activities - Working Document • IEEE paper recap (Steve) • Implications for LSI-VC • <u>Decision:</u> LSI-VC / CEOS-ARD inputs to NSTT working paper 	Ivan Petiteville, Steve Labahn
16:20	4.2: Industry Engagement Strategy Update [Slides] <ul style="list-style-type: none"> • Past paper: CEOS Analysis Ready Data – Involving the Private Sector (for information) 	Andreia Siqueira
16:40	4.3: ARD23 Planning Discussion [Slides]	Matt Steventon
17:00	4.4: Session close <ul style="list-style-type: none"> • <u>Decision:</u> ARD & Industry Workshop alongside LSI-VC-14? October 10 at ESRIN ? 	All
Session 5: Closing <i>Session Lead / Moderator: Matt Steventon</i> <i>Specific Objectives:</i> <ul style="list-style-type: none"> • Confirm Day 1 actions, summarise headline outcomes 		
17:10	5.1: Day 1 wrap-up <ul style="list-style-type: none"> • Review of actions 	LSI-VC Leads / Sec
17:15 – Adjourn		

Friday March 24

Bus

08:15: Piazza Marconi Frascati to ESRIN (All Hotels downtown Frascati Colonna, Flora, Cacciani) (30 seats)

17:30: ESRIN to Piazza Marconi Frascati (30 seats)

Location: Room ESRIN-VC 02223 Room E

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Session 6: CEOS-ARD in the Cloud & Interoperability <i>Session Lead / Moderator: Matt Steventon</i> <i>Specific Objectives:</i> <ul style="list-style-type: none"> ● Take stock of where we are in terms of CEOS-ARD availability in the cloud (and otherwise) ● Understand the new Copernicus Data Space Ecosystem (CDSE) and some of the interoperability work going on around that; consider how CEOS-ARD fits into this new paradigm; discuss any specific questions to be put to CDSE experts. ● Define a few recommendations to CEOS (for the Interoperability Framework, New Space Task Team, WGISS, others) regarding CEOS-ARD/data in the cloud and increasing interoperability. 		
09:00	6.1: CEOS Interoperability Framework update and plan for SIT-38 [Slides] <ul style="list-style-type: none"> ● Gathering further LSI-VC inputs before SIT-38 	Tom Sohre (Remote) / Steve Labahn
09:30	6.2: Copernicus Data Space Ecosystem (CDSE) [Slides] <ul style="list-style-type: none"> ● New paradigm for civil space agencies ● The role of CEOS-ARD ● Decision: technical / specific questions for follow up and subsequent discussion points 	Ferran Gascon
09:50	6.3: EU-US collaboration on CDSE [Slides] <ul style="list-style-type: none"> ● Interoperability activities ● Lessons learned for CEOS ● Decisions: Produce a paper of recommendations? Pilot/demonstration activities? 	Steve Covington / Steve Labahn / Ferran Gascon
10:10	6.4: Cross-cloud data access and discovery experiment? (SEO) [Slides] <ul style="list-style-type: none"> ● Lessons learned, enabling technologies, suggested actions for agencies 	Brian Killough
10:40 – Break (20 mins)		

<p>11:00</p>	<p>6.5: Discussion: Cross-cloud data access and discovery next steps [Slides]</p>	<p>Brian Killough</p>
<p>11:20</p>	<p>6.6: CEOS-ARD in the Cloud & Interoperability Discussions [Slides]</p> <ul style="list-style-type: none"> ● Discoverability and accessibility <ul style="list-style-type: none"> ○ CEOS-ARD branding ● USGS-GA Cloud Enabling Collaboration Activities <ul style="list-style-type: none"> ○ Collection management principles and guidelines ○ Metrics and reporting ○ Provenance, authoritative data, derived datasets and inherited CEOS-ARD compliance ● SpatioTemporal Asset Catalog (STAC) <ul style="list-style-type: none"> ○ CEOS-ARD extension update ○ Guidelines for data providers ○ WGISS best practices development ● <u>Decision:</u> Matters to raise for WGISS attention and eventual elevation to CEOS Principals (e.g., encourage STAC for all CEOS datasets, COG, etc.?) ● Recap of actions that agencies could be doing together to improve CEOS-ARD access and interoperability in the cloud 	<p>All</p>
<p>12:10</p>	<p>6.7: CEOS-ARD Capacity Development Activities [Slides]</p> <ul style="list-style-type: none"> ● Transform to Open Science (TOPS) Mission ● USGS-NASA TOPS CEOS Deliverable ● WGCapD-12 Annual Meeting Summary 	<p>Chris Barnes (Remote)</p>
<p>12:30 – Lunch (60 mins)</p>		
<p>Session 7: Agriculture, Forestry, and Other Land Use (AFOLU) <i>Session Lead / Moderator: Andreia Siqueira</i> <i>Specific Objectives:</i></p> <ul style="list-style-type: none"> ● <i>Reflect on the membership and agenda implications for LSI-VC to be confirmed as the vehicle for implementation of the CEOS AFOLU Roadmap</i> <ul style="list-style-type: none"> ○ <i>Confirming that LSI-VC is the home for this activity</i> ○ <i>Considering membership and champions needed for it to thrive</i> 		
<p>13:30</p>	<p>7.1: Global Forest Observations Initiative (GFOI) Update [Slides]</p> <ul style="list-style-type: none"> ● New Data Component Manager ● CEOS-GFOI linkage renewal 	<p>Osamu Ochiai</p>
<p>13:50</p>	<p>7.2: SilvaCarbon Country Engagement [Slides]</p> <ul style="list-style-type: none"> ● Overview of activities 	<p>Sylvia Wilson (Remote)</p>

	<ul style="list-style-type: none"> ● Work with Paraguay and GISTDA; details about the validation processes ● Recommendations on cal/val datasets based on tests in countries 	
14:10	7.3: Group on Earth Observations Global Agricultural Monitoring Initiative (GEOGLAM) Update [Slides] <ul style="list-style-type: none"> ● Report-out from ExCom as relevant to CEOS ● Update on the Essential Agriculture Variables (EAVs) (inc. Cal/Val) <ul style="list-style-type: none"> ○ Action LSI-VC-12-21 follow-up (EAV interdependency mapping) – mapping to existing CEOS ‘Level’ definitions? ● GEOGLAM in situ data WG update <ul style="list-style-type: none"> ○ Availability of good global reference and training data for AI/ML. ○ WGCV LPV connection? ● CEOS response to updated GEOGLAM requirements; ● AFOLU Roadmap Connection ● GEOGLAM and Subgroup leadership 	Alyssa Whitcraft
14:40	7.4: CEOS AFOLU Roadmap Update [Slides]	Stephen Ward
15:00	7.5: AFOLU Discussion <ul style="list-style-type: none"> ● CEOS AFOLU Roadmap and the expected response (i.e., 2035 observation scenario and LSI needs, agency response and planning ● Reflect on the membership and agenda implications for LSI-VC to be confirmed as the vehicle for implementation of the CEOS AFOLU Roadmap <ul style="list-style-type: none"> ○ Confirming that LSI-VC is the home for this activity. ○ Considering membership and champions needed for it to thrive. 	All
15:30	7.6: Wrap-up (inc. future actions) on GEOGLAM, GFOI and AFOLU	All
15:45 – Break (15 mins)		
Session 8: Other Agency/Mission Updates, AOB, Closing Business <i>Session Lead / Moderator: Andreia Siqueira</i> <i>Specific Objectives:</i>		
16:00	8.1: Landsat Next Briefing [Slides]	Tim Stryker / Steve Covington

<p>16:10</p>	<p>8.2: WGClimate-18 CEOS-ARD Report [Slides]</p> <ul style="list-style-type: none"> ● CEOS-ARD connection ● Land Surface Temperature (LST) measurement continuity for Climate Data Records (CDRs) - follow up the suggestion from the September 2019 joint session in Alaska (LSI-VC-8/WGClimate-11). 	<p>Matt Steventon</p>
<p>16:20</p>	<p>8.3: CEOS-ARD Comms Activities [Slides]</p> <ul style="list-style-type: none"> ● CEOS IGARSS Booth Content 	<p>Libby Rose / Chris Barnes (Remote)</p>
<p>16:40</p>	<p>8.4: Other Agency/Mission Updates TBA</p>	
<p>16:50</p>	<p>8.5: Other Agency/Mission Updates TBA</p>	
<p>17:00</p>	<p>8.6: Other Agency/Mission Updates TBA</p>	
<p>17:10</p>	<p>8.7: Wrap-up</p> <ul style="list-style-type: none"> ● Review of LSI-VC-13 actions ● Upcoming meetings <ul style="list-style-type: none"> ○ Co-chair for the proposed ARD session at IAC 2023? ○ ARD23 ○ 126th OGC Member Meeting (5-9, June, in Huntsville, Alabama) ○ ISO TC 211 in May (South Korea) ● LSI-VC-14 	<p>LSI-VC Leads / Sec</p>
<p>17:15 – Adjourn</p>		