

CEOS Land Surface Imaging Constellation

TERMS of REFERENCE for the **Working Group on Radar**

1. Introduction

The CEOS Land Surface Imaging (LSI) Constellation seeks to promote the efficient, effective, and comprehensive collection, distribution, and application of space-acquired image data of the global land surface, especially to meet societal needs of the global population. This includes proposing standards for future LSI satellite systems, as well as encouraging and facilitating cooperation among the CEOS member space agencies in the operation of their current land remote sensing satellite systems.

One of three major goals defined in the 2008 LSI Constellation Work Plan is to initiate a new LSI Constellation focus area on radar. Last year, LSI Constellation activities focused strictly on topics related to mid-resolution optical LSI systems. However, it is widely recognized and accepted that the scope of LSI Constellation activities ultimately must be broader than mid-resolution optical systems. At its meeting in February, the LSI Constellation Study Team explored various other options for initiating a new focus area, including thermal infrared, lidar, coarse-resolution optical systems, high-resolution optical systems, and spaceborne imaging spectroscopy. It was agreed that all of these have merit, and that eventually all the categories just noted should be appropriately addressed as part of LSI Constellation studies. In the end, however, there was strong consensus that the new 2008 focus should be on radar systems.

Since the selection of radar as the new LSI Constellation focus area, expressions of concern have been received from some members of the CEOS community about that selection. It has been appropriately pointed out that radar land surface imaging is substantially different, and generally more complex, than optical land surface imaging. In addition, radar has a more applications dependent aspect in terms of the characteristics of the data acquired than does optical land surface imaging. The expressions of concern are well received by the LSI Constellation Study Team, and they will be considered fully in the development of the new radar focus area, which will be the overall responsibility of a new working group of the LSI Constellation.

2. Name

The name of the working group shall be The CEOS LSI Constellation **Working Group on Radar (WGR)**.

3. Summary

The CEOS LSI Constellation seeks to initiate a new focus area in radar land surface imaging, which will include interferometric radar systems and applications, for the purpose of expanding and enhancing the beneficial use of land surface imaging radar data. Topics and issues will be identified and addressed leading to such results as easier user access to data, access to more data by more users, availability of future data with optimal characteristics for various applications, complimentary data acquisition strategies, coordinated ground systems operations, and others.

4. Role of the Working Group

The WGR will be responsible for the overall definition and implementation of the work required to establish meaningful LSI Constellation activities in the area of radar land surface imaging. That role includes addressing the following objectives.

- A. Develop an LSI Constellation Strategy for radar land surface imaging.
 - 1) identify technical and practical topics and issues that appropriately can be addressed by the CEOS LSI WGR such that positive and meaningful outcomes (for the user community and through them society, in general) reasonably can be expected.
 - 2) identify problems and issues common to providers of LSI radar data that can be addressed by the CEOS LSI WGR such that positive and meaningful outcomes are realized by the agencies providing those data.
 - 3) consider both **future systems** in the context of proposing standards for the development of such systems and **current systems** in the context of how increased cooperation among the agencies operating those systems can enhance the value of those data to society.
 - 4) capture that strategy in an LSI Constellation *Strategy Paper for Land Surface Imaging Radar*, which includes an initial Work Plan.
- B. Carry out the initial Work Plan.
- C. Other tasks as necessary and appropriate.

5. Governance

The WGR will be led by two or more Co-Chairs, who will be responsible for ensuring that activities undertaken by the working group progress in a timely way. The WGR will function generally as an independent working group of the CEOS LSI Constellation Study Team. It will exercise significant autonomy in its activities, deferring to the full LSI Constellation Study Team only in certain matters of a political or policy-related nature. WGR Co-Chairs will be responsible for keeping the LSI Constellation Study Team Co-Chairs informed of general activities and progress.

6. Working Group Structure

6.1 Membership

The WGR will be comprised of an unspecified number of members sufficient to define and accomplish the work needed to successfully achieve this goal. Members will be appointed by the Co-Chairs of the WGR, who particularly will encourage LSI Constellation Study Team members who represent agencies currently operating, or planning soon to launch, radar satellite systems to serve on the working group or appoint a colleague from their agency to do so. Any member of the LSI Constellation Study Team may elect to serve on the working group, but other members appointed by the Co-Chairs are not required to be affiliated with a CEOS Member or Associate Member. Term of membership shall be for the duration of time required to complete the tasks associated with this goal. New members may be appointed by the Co-Chairs as necessary to meet emerging requirements or fill vacancies resulting from departure of former members.

