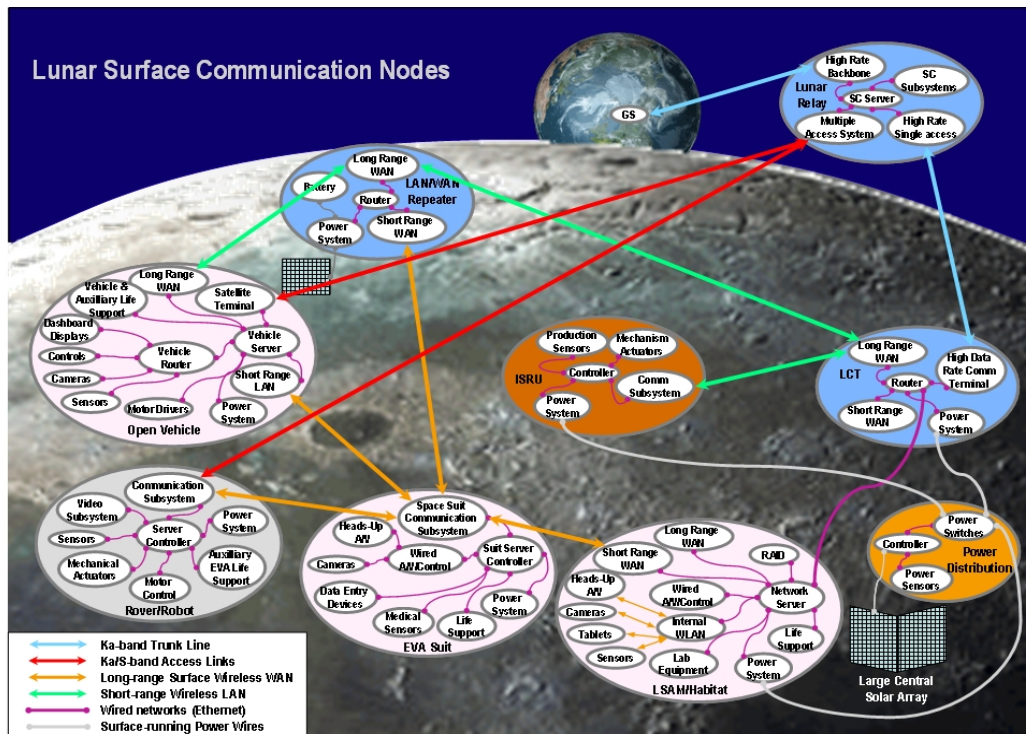


**International Workshop  
On  
Lunar Surface Wireless Communications and Navigation**

**Preliminary Announcement and Call for Participation  
Oct. 13th, 2008, 1000 – 1800, Opening Plenary Room  
CCSDS 2008 Fall Meetings  
Berlin, Germany**

**Call for Presentations and Technical Discussion Material**

**Sponsors**



Wireless surface communications for Lunar and Martian exploration activities will be necessary for future manned missions, robotic missions and surface operations. Multiple international partners are anticipated to independently develop surface communications infrastructure which will need to interoperate to increase system robustness and maximize return on investment.

The Consultative Committee for Space Data Systems, CCSDS, is investigating standards and technologies (e.g., IEEE 802.11 Wi-Fi, IEEE 802.16 Wi-Max, etc.) to support planetary surface communications and navigation. This international workshop is dedicated specifically to address planetary surface communication domains as inherently networked segments that will potentially make use of commercially-derived wireless technologies.

The goal of the workshop is to initiate an exploratory dialog among the various stake-holders of the CCSDS member agencies, in the space mission community, interested commercial communications companies, and CCSDS technical standardization working groups. Topics include the advantages, disadvantages and potential application of COTS-derived wireless standards in support of planetary surface communications.

Key questions to be answered include:

- (1) What are the documented and speculative mission requirements – both manned and robotic?
- (2) To what extent can the communications requirements be satisfied by adopting or adapting commercially-derived wireless protocols?
  - a. What is currently missing?
  - b. Where can IEEE-derived (or other commercial wireless) standards be applied?
- (3) When will the standards need to be in-place?
- (4) What are the challenges of qualifying these technologies for spaceflight use?
- (5) What are the implications for a true space network architecture (not just a collection of point-to-point space links)?

This one-day informal workshop is to be sponsored jointly by CCSDS and the DLR, and will be hosted by the CCSDS on the opening Monday of the October 2008 CCSDS Fall Meeting in Berlin, Germany. Participation will be limited to 50-60 technical experts with significant national space agency participation expected.

Contributions (presentations containing views, position, experience, rationale) are invited on the potential application of wireless technologies to problems such as:

- In-situ surface exploration, including surface-surface communications and surface infrastructure such as habitats
- Planetary surface sensor webs and robots
- Manned vehicles, habitats, EVA activities
- RF path loss and fading models for planetary surfaces
- Satellite and communication relay constellations
- Autonomous inspection devices
- Space suit, body-area-networks
- Crew health monitoring, structural monitoring, environmental monitoring
- Inventory management and real-time asset tracking
- Component miniaturisation and space/flight qualification
- Use of commercially-derived wireless links for radio-metric tracking
- Wireless protocols supporting navigation and localization activities

Abstracts should be received by 15 August 2008 and final presentation materials must be received by 10 October 2008. The abstracts can range from ½ page overview descriptions of the presentations to the full presentation. All contributors are responsible for obtaining clearance to present their work in an international forum.

Presentation slots will be 30 minutes. Typically presentations should be 20 minutes in length with 10 minutes for questions.

**Those interested in participating should contact the following technical chairmen as soon as possible and submit abstracts no later than August 15, 2008:**

Kevin Gifford,  
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**Please send all presentation abstracts to Kevin Gifford at [gifford@rintintin.colorado.edu](mailto:gifford@rintintin.colorado.edu)**  
**The workshop information and registration page will be found under the “Meetings” tab at:**  
**<http://public.ccsds.org/>**