INTERAGENCY OPERATIONS ADVISORY GROUP

IOAG-22c Meeting Minutes

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IOAG-22c Meeting Minutes
Teleconference
08 November 2018

Attendance:
Chair: Michael Schmidt
Secretariat: Barbara Adde, Madeleine Bronstein, AJ Oria

Members:
ASI: Fabio D'Amico
CNES: Jean-Marc Soula
CSA: François Alain
DLR: Martin Pilgram
ESA: Thomas Beck
JAXA: Tsutomu Shigeta
NASA: Dan Smith, Dave Israel, Jim Schier, Nikki Desch, Phil Liebrecht

Observers:
KARI: Park Durk-Jong
UKSA: Matthew Cosby

Presentations are available at: www.IOAG.org.

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Introduction: Michael Schmidt

The Chairman provided an overview of the IOAG-22c agenda and noted that the main purpose of the meeting would be to finalize preparations for the IOP-4.

IOP-4 Delegations

CNES, NASA, ESA, JAXA, ASI, KARI, and UKSA provided their preliminary delegation lists and noted that the participants may change. CSA noted that they would not have an in-person delegate due to the launch of a Canadian astronaut to the space station, but would attend virtually.

IOP-4 Agenda

Pertaining to the Leadership Forum, the Chairman suggested that Phil Liebrecht moderate the Future Role of Agencies topic, Klaus-Juergen Schulz moderate the Future Trends topic, and Jean Marc Soula moderate the Space Traffic Management topic. Mr. Liebrecht asked whether all IOAG participants should attend the Leadership Forum. The Chairman responded that space is limited, therefore participants should be limited to the IOP-4 delegate and an IOAG representative or other support if needed. Ms. Adde asked whether Secretariat support should be present at the Leadership Forum. The Chairman responded that there should be Secretariat support and the meeting would be on the record.

The Chairman reviewed the remainder of the IOP-4 agenda and delegates confirmed in-person and virtual presenters. There were no comments or changes to the agenda.

IOP-4 Registration

The Chairman reminded the IOAG delegates to register both themselves and their agency's IOP delegate on the webpage as well as submit a bio for their IOP-4 delegate. The Secretariat was asked to create a section on the webpage for delegate bios. The Chairman also reminded the delegates that each agency is welcome to submit a report on the webpage for informational purposes, but the reports would not be individually presented during the IOP.

IOP-4 Working Group & Liaison Presentations

The participating working groups and liaisons provided the status of their presentations. The Chairman asked the delegates to finalize their presentations two weeks before the IOP and upload them to the IOP webpage.

The Chairman noted that the IOAG was invited by the ISECG to give a presentation in the technology working group at the end of November in Rome. Mr. Cosby was recommended to present the main presentation on lunar communications if any others from the LCAWG would like to virtually attend. Mr. Cosby added that the presentation would focus largely on missions and be relatively short. Mr. Schier noted that there was a request from NASA Associate Administrator Bill Gerstenmaier to examine the widening applicability of international standards being developed for the Lunar Orbital Platform-Gateway. Currently, there is a set of 7 that covers communication, but also robotics, power, and a variety of other international standards. Mr. Gerstenmaier is giving an action to determine if the wording in the standards can be changed from Gateway specific to a broader applicability. However, part of the discussion on this is that it's not clear how the term may be broadened to include other human exploration systems without overbroadening it to overlap with the IOAG lunar communications architecture. Mr. Cosby noted that the lunar communications architecture includes the Gateway, but does not limit itself to the Gateway. Mr. Schier responded that the concern with this is that the wording could be misinterpreted to apply to a broader scope. Mr. Cosby recommended continuing the discussion after the meeting.

IOP-4 Leadership Forum

Future Role of Agencies
Mr. Liebrecht commented that the Future Role of Agencies topic would cover how roles of agencies and the focus of them is changing globally because of an increasing number of commercial space enterprise activities, what is normally called "new space." As the community evolves, it should be discussed how the IOAG and agencies can in a more general sense take advantage of commercial space activities, but also influence the increasing community of suppliers in the commercial sector so that there is a responsive and competitive marketplace developed. This discussion will focus on improving relationships and enabling the commercial space community.

Mr. Liebrecht added that some operators use CCSDS standards and some do not. A limited or lack of interoperability from an agency perspective is viewed as less than optimal, especially for agencies that want to procure services. Mr. Schier added that in the commercial SATCOM community, many operators are putting up proprietary architecture with no interoperability. This limits what the user community can do with those providers and it may be a trend that agencies want to actively counteract. Mr. Liebrecht agreed that it is viewed as a strength in industry to be proprietary and agencies should work together to influence the commercial community.

Additionally, the delegates may address that agencies have had a role in developing new technology and standards. It would be useful to address the optimal time for agencies to make work available to industry. Because this is a discussion bigger than the IOAG, there may be multiple ways that agencies would like to pursue this. Mr. Liebrecht noted that he would update the presentation to avoid driving the outcome of the discussion to enable a free-form discussion between IOP delegates.

Future Trends

Mr. Liebrecht noted that the purpose of the Future Trends chart was to set the stage for the IOP and enable information exchange about science and exploration trends of technologies to drive missions and infrastructure evolution. Mr. Schier recommended including PNT-related technologies in the list of items driving future missions. Mr. Liebrecht noted that he would add PNT to the Future Trends chart.

Space Traffic Management

Mr. Soula noted that there is a lot of discussion on traffic management in various countries, but not everyone has the same understanding of it. It is important to ask which organizations have taken these issues into account and what the needs are individually and globally. He added that he will be editing the background slide to be in the same format as the previous two topics. Regarding the IOAG's potential role in traffic management, Mr. Soula commented that he believes it should be a concern for the IOAG, because this is operations and the IOAG is not only focused on communications and navigation. This would introduce a new potential role for the IOAG. Some of the activities also may be addressed by other organizations (e.g. spectrum coordination and commercial activities).

Mr. Liebrecht added that there is a huge interest in this area created by a rapid increase in spacecraft and potential debris. This includes constellations with thousands of spacecraft as well as low-cost launch increasing smallsats and cubesats. An example of interest in STM is reflected in U.S. SPD-3.

Mr. Soula noted that this is a global challenge which involves industry, academia, and all parts of government. It should be understood what needs to be managed, identify organizations currently addressing it, and identify the role for the community represented at IOAG. He asked the delegates if the charts should be more specific on the role of the IOAG. The Chairman recommended it be left open to discussion by the IOP delegates and the IOAG can prepare a resolution for the Communique on potential tasks of the IOAG for addressing STM. He also recommended not overloading the presentations and leave the discussion more open. The Chairman asked Mr. Soula to incorporate the comments discussed into the new presentation.

IOAG Presentation

The Chairman presented an overview of the IOAG to be given ahead of discussion during the Leadership Forum to provide context. He noted that he would cover the top level of the IOAG

since the details would be discussed later in the IOP. He asked the delegates to send any comments to him in the next few days, so that the data package may be distributed in the beginning of December.

Mr. Soula asked when the IOP delegate bios should be submitted. The Chairman asked the delegates to submit bios in early December, preferably 2 weeks prior to the IOP.

Concluding Remarks

The Chairman asked for any further questions or comments. Mr. Shigeta inquired about a NASA statement concerning standards being applied to future missions. Mr. Schier responded that the topic was brought up recently at the Deep Space Control Board. There is no position yet, but the Board wants to see if partner agencies can get broader value across other missions by broadening the definition of standards. ESA, JAXA, and CSA were present and participated. In terms of timelines, the current schedule for standards is to baseline them at the Deep Space Control Board this month. 5 out of 7 standards were baselined last Thursday. They go to the HEO Directorate Control Board chaired by Mr. Gerstenmaier within the next few weeks and then to the ISS for formal approval by the partners. Mr. Liebrecht suggested creating a list of DSCB agency representatives so that IOAG reps may contact their members.

The Chairman asked DLR for any updates on logistics. Mr. Pilgram noted that there was no update on logistics. The Chairman reminded delegates to register on the webpage.

Ms. Adde announced that Ms. Bronstein would be the new lead for the role of IOAG Secretariat.

The Chairman thanked the Secretariats for their work and thanked DLR for hosting the IOP. He concluded the meeting.

Appendix A: Actions

AI 22c-01: DLR and Secretariat to collect clearance information from IOP-4 attendees for entrance to GSOC. [Assigned to: DLR and Secretariat. Due date: 7 December 2018]

AI 22c-02: Provide bios for IOP-4 delegates. [Assigned to: All Agencies. Due date: 7 December 2018]

Appendix B: Acronyms

ASI	Italian Space Agency
CCSDS	Consultative Committee for Space Data Systems
CNES	Centre National d'Etudes Spatiales

CSA	Canadian Space Agency
DLR	German Space Agency
DSCB	Deep Space Control Board
ESA	European Space Agency
HEO	NASA Human Exploration and Operations Mission Directorate
IOAG	Interagency Operations Advisory Group
IOP	Interoperability Plenary
ISECG	International Space Exploration Coordination Group
JAXA	Japan Aerospace Exploration Agency
KARI	Korean Aerospace Research Institute
LCAWG	Lunar Communication Architecture Working Group
NASA	National Aeronautics and Space Administration
PNT	Positioning, Navigation, and Timing
SATCOM	Satellite Communications
SPD	Space Policy Directive
STM	Space Traffic Management
UKSA	United Kingdom Space Agency