1. **Call to Order**  
Mike Kearney, CMC Chair, opened the meeting at 0850h on Monday, 7 April 2014 and welcomed everyone to Noordwijk, Netherlands at the ESA/ESTEC facilities. Nestor Peccia and Juan Miro, on behalf of the host (ESA/ESTEC), welcomed everyone to Noordwijk and provided logistical information.

2. **Introduction of Delegates**  
Introductions followed. Attendees were:

- James Afarin (NASA)
- Peter Allan (UK Space Agency)
- Erik Barkley (NASA)
- Eduardo Bergamini (INPE)
- Gian Paolo Calzolari (ESA)
- Tom Gannett (Secretariat)
- Yonghui Huang (CNSA)
- Mike Kearney (NASA)
- Juan Miro (ESA)
- Gilles Moury (ESA)
- Brian Oliver (Secretariat) via WebEx (Tuesday only)
- Nestor Peccia (ESA)
- Osvaldo Peinado (DLR)
- Martin Pilgram (DLR)
- Keith Scott (NASA)
- Peter Shames (NASA)
- Tsutomu Shigeta (JAXA) via WebEx
- Jean-Marc Soula (CNES)
- Dai Stanton (UK Space Agency)
- Wallace Tai (NASA)
- Chris Taylor (ESA)
- Nick Tongson (Secretariat)
- Rusheng Zhang (CNSA)

3. **Agenda Review and Approval** *(CMC Agenda Netherlands Spring 2014 v4)*  
The draft agenda was approved, as presented by M. Kearney.

4. **Discussion of CMC Minutes from Prior Meetings**  
N. Tongson informed the group that the first set of draft minutes from past meetings were approved. The second set that included the draft minutes from Montreal had some comments from J.-M. Soula. It was agreed to have the text in the Montreal draft minutes reflect a general statement that the procedures document was discussed without providing specific details.

5. **CESG Area Reports, Summary from Noordwijkerhout** *(CESG-Report-to-CMC-Spring14-Issue1.1)*  

5.1 **CESG Chair Introduction**  
N. Peccia provided an overview of the CESG activities. He encouraged better participation in the CESG meetings from Deputy Area Directors from the UK Space Agency.

5.2 **SOIS Area**  
C. Taylor provided an overview. He noted that there are two competing electronic data sheet (EDS) schemas in the Application Support Services WG. There is also a project on dictionary of terms associated with the schema.
C. Taylor provided an explanation of the book planning for his area. There was an update on the Space Universal Modular Architecture (SUMO) meeting with the RapidIO (high speed interconnection protocol group) representatives. There will be an acknowledgement of RapidIO in SOIS documents as one of the supported protocols under SOIS in return for RapidIO aligning their specifications with CCSDS/SOIS (providing a mapping of the SOIS subnetwork to that of RapidIO).

SUMO also met with ESA representatives. SOIS, SAVOIR, and SUMO have similar reference architectures. However, C. Taylor emphasized to the SUMO group that any project that is developed should be open and devoid of ITAR issues. The group also noted that there might be hardware standards already in ISO/TC 20/SC 14 (Space systems and operations) that are relevant to the work of SOIS.

High rate wireless data links for space suits is something that the Wireless WG will be reviewing in the near future.

5.3 SE Area
P. Shames provided an overview. Security WG members participate mostly in the Space Data Link Layer Security (SDLS) WG. There is work on improving the accuracy of D-DOR and signal structures.

Timeline Data Exchange (TDE) BoF had all the key participants at this meeting. M. Pilgram asked about the development of the charter for TDE and how to mitigate overlap with other groups like SM&C (MO/MAL) and Service Management.

XML SIG participants are drawn from various WGs (SM&C, Navigation, SOIS, DAI, RAC) that are developing XML standards. P. Shames suggested convening meetings outside of the regular Spring and Fall technical meetings for the XML project development using the telecon approach because only 0.5 days of meetings can be allotted during Spring and Fall due to other WG commitments (which also makes it difficult for other participants who attend the XML group exclusively to justify travel to a meeting for only half a day).

P. Shames suggested that there may be an issue with open access to CCSDS mailing list archives, which may need more privacy. P. Shames will recommend a resolution to the CESG for forwarding to the CMC and Secretariat.

5.4 MOIMS Area
N. Peccia provided an overview. He noted that the Attitude Data Message (ADM) will be revised. M. Pilgram noted the success of the Conjunction Data Message (CDM) and suggested that this project should be used as a good example. However, N. Peccia clarified that it might not be possible for other projects because of competing resources and priorities. CDM was successful because the author was the U.S. Air Force and other resources came from outside the historic CCSDS community.

There was a discussion on the interest in SM&C WG for addressing Emergency Support Services. N. Peccia will inform Mario Merri of the CMC discussion.

The CMC also discussed access to development process documents through Google Docs, cloud services, etc. Some CMC agencies thought that there may be policy issues with the usage of Google Docs. No resolution to either allow or exclude this approach was decided.

The Russian Orange Book on “Data Correction Via Diverse Channels” will be hosted by the SM&C WG but the project still needs to be supported primarily by FSA and reviewed by T. Gannett. It was noted that somebody needs to create the project in the existing working group instead of creating a new WG just for this proposed project (a new WG is not possible because two agencies are needed). It was noted that there are both MOIMS and SLS type topics in the Orange Book.

5.5 CSS Area
E. Barkley provided an overview. The team plans to move forward with the Cross Support Architecture work using the existing formatting in singleton style, because there is no CCSDS requirement between singleton and compound statements in documents.

There are some questions about the priorities of IOAG services, and the CMC agreed to take the Cross Support Transfer Services questions to the IOAG via the CCSDS liaison.
5.6 SLS Area
G. P. Calzolari provided an overview. He and G. Moury provided detailed updates on the WGs.

AI: Secretariat – The Secretariat was requested to contact ISO Central Secretariat, on behalf of the MHDC WG, to obtain a contact for JPEG2000 in order to identify potential patents already submitted on JPEG2000. [CMC-A-2014-04-01]

5.7 SIS Area
K. Scott provided an overview. LTP book in progress with registries established in IANA for future SANA management (once the Blue Book is published). Motion Imagery Application (MIA) WG has an issue on proposals to standardize on Motion JPEG 2000. K. Scott noted the addition and participation of a JAXA expert on the Voice WG.

5.8 Summary/Meeting Statistics
N. Peccia provided a summary and the statistics from the Noordwijk meeting (slides 110-114 of the CESG Report).

5.9 Items Brought to the Attention of the CMC (slides 115-121 of the CESG Report)
N. Peccia provided his report. The CMC discussed the delays in publishing Green Books due to the priority given to Blue and Magenta Books. It was agreed that a general guideline should be to publish Green Books within a year of their approval.

The group agreed to require concept papers only for creating a new WG and not for new projects.

AI: Secretariat – The Secretariat was requested to investigate the possibility of inserting an Area Director approval process in the system prior to the CMC poll for all new projects. Also, set up alerts to the CESG mail list. [CMC-A-2014-04-02]

The CMC discussed the value of creating a CCSDS Wiki. The recommendation from the CESG was to first start the Wiki for only two WGs (SM&C and DTN), and for the CESG Chair level. The objective is to keep it simple and make it public for 6 months. The recommendation was to shut down if there is not enough interest in the Wiki. The primary area of concern was that it would add greater workload on the WG chairs and the WG members, in an environment where resources are scarce.

It was agreed to send a reminder to CESG-All to use the CCSDS implementation software site to provide links to open source software or any other publicly available software. However, it should be made clear on the website that CCSDS cannot certify the software.

The SEA Area Director (P. Shames), via the Security WG, will draft a resolution on privacy requirements for the CCSDS mailing lists, archives, etc.

There was a discussion on Technology Readiness Levels (TRLs) for each book based on the implementation of the standard. SM&C will be the test WG and use their books as examples.

5.10 Logistics and lessons learned from Noordwijk Meetings
N Peccia presented an overview of the Noordwijk meeting (slide 116 of the CESG Report).

6.1 Poll provisions review
T. Gannett presented the comments from the poll. Highlights of the discussion follows (please see the resolution of the comments for complete details):

- In general, appeals for deviations to the procedures are possible but just not formalized. In terms of voting processes, M. Kearney advocated that CCSDS should continue the historical practice of the consensus process and should not consider going to majority voting. The CMC agreed. It was decided to delete the new 5.2.9 clause and item c) of subclause 5.3.5.4.1.4.1.
The CMC discussed the topic of having contractors representing an agency in a leadership role (Area Director, Deputy Area Director, Working Group Chair). The group agreed that it should not be discouraged by the procedures, therefore they agreed to delete the second blue sentence in the proposed text.

The group discussed the role and responsibilities of the DADs. The CMC agreed to modify the last clause to "DADs are expected to participate in the CESG consensus process."

There was a discussion on how long to retain a SIG. The CMC agreed to time limits on the existence of a SIG unless the CMC resolves for it to continue. P. Shames noted that SIGs already have CESG oversight.

There was a question on the definition for "work units". The group agreed to change "work units" to "projects".

CMC agreed to not conduct concurrent CESG-CMC polls unless explicitly requested by the CMC. The group also agreed to publish the Procedures Manual based on the changes agreed to at this meeting.

The CMC also agreed to follow the new ISO procedures of conducting Systematic Reviews 5 years after initial publication and every 5 years after that.

7. IOAG and ICPA Update
N. Peccia noted that the ICPA has been reviewed by the CESG.

8. CCSDS Strategic Plan (slides 122-125 of the CESG Report)
N. Peccia provided an overview and discussed the comments received from CNES and DLR.

8.1 CESG Effort on the Strategic Plan Document
M. Kearney advocated that the Strategic Plan should not specifically address lack of resources as a driver of strategy.

The group agreed that the CESG needs to update the SANA section to include it under the responsibility of the CMC.

Based on the DLR comments on the Strategic Plan regarding the change in Initial Systematic Reviews in ISO, the CMC agreed to change policy on the Initial Systematic Reviews from 3 years to 5 years after initial publication, as with ISO.

AI: Secretariat – The Secretariat was instructed to inform the CESG, through the CESG-ALL e-mail list, that initial systematic reviews of CCSDS documents will be conducted after 5 years instead of 3 years to follow the recent change in ISO Systematic Reviews. [CMC-A-2014-04-03]

The CMC agreed with the DLR recommendation to number documents when the project is formed. The Secretariat will investigate the feasibility of doing this.

The CMC discussed how the Strategic Plan could be hosted on the CCSDS website.

AI: Secretariat – The Secretariat was instructed to host the CCSDS Strategic Plan on the website with appropriate hyperlinks. The Secretariat was also instructed to retain the blue text in the PDF version of the CCSDS Strategic Plan. Secretariat should post online only the black text. Secretariat should determine the process for connecting (by hyperlink) area goals to projects in the framework. Incorporate the contents of the spreadsheet of the area goals as provided by ESA. [CMC-A-2014-04-04]

The CMC discussed the maintenance of the Strategic Plan and how it can be managed but there was no decision on how this should be done.

8.2 Discussion – "Big Picture" Integration of Projects/WGs/Interdependencies
J. Miro provided an overview (CCSDS_Strategic_Roadmap_140407 final). There was a discussion on project start and end dates. In addition, the group discussed how the agency strategic goals could be aligned with the CCSDS strategic goals, including whether the approach is top-down or bottoms-up. It was also noted that missions and innovative technology are drivers of projects.
AI: CMC – The CMC delegates were asked to provide comments regarding CCSDS strategic priorities, area goals implementation proposal by 2020, resources, CCSDS area structure, etc. using, among other references (e.g., CWE framework), the presentation of J. Miro. Submit comments (structured by area) to the Secretariat by 30 June 2014. For discussion by the next CMC mid-term telecon (July 9, 2014). [CMC-A-2014-04-05]

9. **Resources Topics**
The CMC discussed the input on the resources table (Action Item 2013-12-07). Each agency without a response provided a tentative feedback but requested a little bit more time to consult with others within their agency.

**AI: Secretariat** – The Secretariat was instructed to re-send Action Item CMC-A-2013-12-07 (resource template) to the CMC members with the definitions of tasks for Book Editor and Prototypes. [CMC-A-2014-04-06]

10. **SANA and Registries Report** (SANA report to CMC 7Apr14)
P. Shames presented the SANA report on behalf of M. Blanchet. M. Pilgram requested a private area for military or other applications that need spacecraft IDs (SCIDs) but this needs to be discussed in the SANA Steering Group (SSG).

E. Barkley asked about a call-back mechanism to the notification system and will submit a comment to the SSG on this topic.

11. **Secretariat IT Project Status** (CCSDS Secretariat IT development project priorities v2)
(ITT Action Since Spring 2013)
M. Kearney provided an overview. The CMC discussed the progress of the new RIDs system with some input from B. Oliver (prototype targeted for end of 2014). The group discussed the Verification Test Suite (for software) and decided to move it down the priority list.

The CMC also reviewed the progress of the Wiki and the instructions on how to implement it. There was also a question on maintaining software from retired standards. The discussion topic on whether to require a Wiki page for every WG was deferred to future CMC meetings.

M. Kearney noted that the CESG recommended that the new RIDs system should have a higher priority than the development of a new polling system. The informal polling capability for WGs was also discussed.

The CMC reviewed the Resources Matrix of the Management Framework, including start dates and projects that were grandfathered without resources.

**AI: Secretariat** – The Secretariat was instructed to send a message to the CESG, through CESG-ALL, informing them that the Start Date in the Resources Matrix of the Management Framework has been implemented and that there is a need to update or populate this Start Date field. [CMC-A-2014-04-07]

**AI: Secretariat** – In the Projects – Resources View of the Resources Matrix of the Management Framework, the Secretariat was instructed to add views of projects that (1) have or have not already started, and (2) have not started and do not have resources (grandfathers). Include appropriate links on the Framework homepage. [CMC-A-2014-04-08]

In discussing the open action items for the IT support team, the group agreed that it was a good idea to have the list of rapporteurs for all agencies. NASA and ESA are already on the list and other agencies were encouraged to provide their list on the database (each agency can do it online or send the list to the Secretariat but this is voluntary).

**AI: CMC** – The CMC members were asked to provide their respective list of rapporteurs, for each Working Group, to the CCSDS IT Support Team for inclusion in the online roster of agency rapporteurs. In support of this, the Secretariat will send an e-mail to the CMC members with a link to the rapporteurs list. [CMC-A-2014-04-09]

12. **Secretariat Report**
12.1 **Action Items Status** (Open Action Items - CMC - Apr2014v1)
The CMC reviewed the open action items and reaffirmed those that were closed at the last meeting in Montreal. Highlights include:

- Secretariat will re-send the draft letter to agencies by 30 April 2014 and re-set the due date for the Fall 2014 CMC meeting.
- The CMC discussed the request for a comments field in the resources area when creating a new project and agreed that the current instructions are appropriate.
- Due dates for Action Items 2013-04-02 and 03 were deferred to the Fall 2014 CMC meeting.
- Secretariat will follow-up with N. Peccia on Action Item 2013-04-04 and deferred to the midterm telecon.
- Action Items 2013-04-05 and 2013-04-19 were closed.
- Secretariat will confirm with M. Blanchet/SANA if Action Item 2013-12-02 has been completed.
- Action Item 2013-12-04 was deferred to the midterm telecon.
- Due date for Action Item 2013-12-07 was deferred to the midterm telecon (M. Pilgram wanted to get more CCSDS Associates, especially European, and promote CCSDS).
- Action item 2013-12-13 was deferred to the Fall 2014 CMC meeting.

AI: Secretariat – The Secretariat was requested to revise the Commercial Associates Application Form by adding another field so that the person submitting the form can propose a sponsoring agency that s/he expects will approve it. [CMC-A-2014-04-10]

AI: CMC – CMC members were requested to review the CCSDS Associates list sorted by agency and ensure that the list is current and that they have valid contacts (the Secretariat will re-send the associates list in support of this action item). [CMC-A-2014-04-11]

12.2 Document Status Report (CCSDS Document Status Report as of April 1, 2014)
N. Tongson provided a report, as submitted by T. Gannett.

12.3 Resolution Report
No report was provided.

12.4 WG and Project Overview (Project Report 2014-04-07 - Last 2.5 Years - Sorted by Largest Change)
N. Tongson provided a report, as submitted by B. Oliver of IT support.

AI: Secretariat – The Secretariat was instructed to modify the Project Reports to account for the start date and include the change in months for the duration of the task. Also indicate which projects have started and which have not. [CMC-A-2014-04-13]

For future meetings, the CMC requested that the Secretariat should schedule the Secretariat/Project Report when the CESG is in attendance so that the Area Directors can respond to questions concerning the Project Reports. The Secretariat will also send a note to the CESG Chair to request that the WG chairs update their project schedules.

There was also a discussion on the projects behind schedule. J. Miro suggested that the grandfathered projects should be removed from the list of projects that are behind schedule.

AI: CESG – The CMC requested the CESG to explain the discrepancy between the Green status shown in the CESG Working Group reports and the framework status that shows numerous projects behind schedule. [CMC-A-2014-04-14]

13. Agency Reports
13.1 ASI
No report was provided.

13.2 CNES
J.-M. Soula provided his report. ([CNES report to the CMC _ ESTEC April 2014](#))

13.3 CNSA
R. Zhang provided his report. ([CNSA CMC report 2014 spring](#))

13.4 CSA
No report was provided.

13.5 DLR
M. Pilgram provided his report. ([CMC DLR Report April 2014](#))

13.6 ESA
J. Miro provided his report. ([ESA Agency Report CMC Spring 2014 ESTEC](#)) There was a discussion on the use of DTN for the METERON experiment. He also suggested adding a topic on CCSDS future plans for the Fall 2014 CMC meeting.

13.7 FSA
No report was provided.

13.8 INPE
E. Bergamini provided his report. ([INPE-Report.to.CCSDS-CMC.Meeting.7-9.Apr.2014.V.31.03.2014](#))

13.9 JAXA
T. Shigeta provided his report via WebEx. ([JAXA input to ESTEC CMC in April 2014](#))

13.10 NASA
M. Kearney provided his report. ([NASA CMC Agency Report Apr 2014 v3](#))

13.11 UK Space Agency
P. Allan provided his report. ([UKSA CMC Agency Report Spring 2014](#))

14. Meeting Planning ([Meeting Planning April 2014 v3](#))
M. Kearney presented the overall plan. The group discussed the gaps in-between meetings and noted that it is not an issue because there have been precedence in the past and some groups already do telecons in-between meetings. The CMC agreed to leave it up to the agency host to do either a 4-day or 5-day technical meeting. It was also noted that Chinese delegates only have a maximum of 5 days (including travel) to attend international meetings.

14.1 Fall 2014 Technical Plenary (UK)
14.2 Fall 2014 CMC (UK)
The planned venue is the British Standards Institute (BSI) in Chiswick, London, UK. For this 5-day technical meeting, CMC agreed to start the SC 13 meeting on Monday PM (1330) and discuss CMC meeting planning if there is enough time. CMC only day on Thursday (AM only to adjourn at noon) will be agency reports.

14.3 Spring 2015 Technical Plenary (US)
The group was informed that the Spring 2015 meeting is scheduled for 23-27 March 2015. The planned venue is the California Institute of Technology (CalTech) in Pasadena, CA.

14.4 Spring 2015 CMC (Japan)
The planned venue is Tsukuba Space Center (TKSC), Tsukuba, Japan. T. Shigeta provided a brief report. Preferred date range: mid-May to mid-June 2015. Assuming that IOAG will be held in South Korea the week of 11 May, CMC meeting dates in Tsukuba was tentatively set at 19-21 May (Tue-Thur).

14.5 Fall 2015 Technical Plenary (ESA)
14.6 Fall 2015 CMC (ESA)
The Fall 2015 meeting is tentatively scheduled for 9-18 November 2015 in Darmstadt, Germany.

14.7 Other, Later Meetings
The midterm telecon was tentatively scheduled for 9 July 2014 (Wed).
15. **CMC Review of Resolutions and Action Items** *(Action Items - Noordwijkerhout CMC - Apr2014)*

The CMC reviewed the CMC-SANA material in the Strategic Plan and concluded that section 1.7 will be deleted. Further, the CMC concluded that Yellow Books (Procedures) do not need to be guided by the Strategic Plan. This effectively approves the draft Strategic Plan by the CMC.

**Resolution:** The CMC thanks ESA and ESTEC, in particular Roger Jegou and his staff, for hosting the Spring 2014 technical and management meetings. [CMC-R-2014-04-01]

**AI: Secretariat** – The Secretariat was instructed to provide letters of thanks to the European Space Agency (ESA) and the European Space Research and Technology Centre (ESTEC), in particular Mr. Roger Jegou and his staff, for hosting the technical and CMC meetings in the Netherlands. [CMC-A-2014-04-15]

16. **Adjourn**

There being no other business, the meeting was adjourned at 1630h on 9 April 2014.