

**German report for the 50th meeting of the ISO/Technical Committee
20/Subcommittee 13 (formal)
hosted by Roscosmos, St. Peterburg, 14 June 2017, Wednesday
(10:00-12:00 h)**

ISO TC20 / SC13 status:

- published standards: 92 (84)
- standards under development: 1 (18)

Activities since the last ISO TC20/SC13 formal meeting 27.4.2016

ISO published documents (17, whereas 4 already published before the last informal meeting)

(new) **ISO 10537** 2016-11, Space data and information transfer systems -- Encapsulation service

(new) **ISO 18440** 2016-11, Space data and information transfer systems -- Space link extension -- Internet protocol for transfer services

(new) **ISO 18441** 2016-11, Space data and information transfer systems -- Space link extension -- Application program interface for transfer services -- Core specification

(new) **ISO 18442** 2016-11, Space data and information transfer systems -- Space link extension -- Application program interface for return all frames service

(new) **ISO 18443** 2016-11, Space data and information transfer systems -- Space link extension -- Application program interface for return channel frames service

(new) **ISO 18444** 2016-11, Space data and information transfer systems -- Space link extension -- Application program interface for return operational control fields service

(new) **ISO 18445** 2016-11, Space data and information transfer systems -- Space link extension -- Application program interface for the forward CLTU service

(new) **ISO 18446** 2016-11, Space data and information transfer systems -- Space link extension -- Application program interface for the forward space packet service

ISO 21076 2016-7, Space data and information transfer systems -- Space communications cross support -- Architecture requirements document

ISO 21077 2016-7, Space data and information transfer systems -- Digital motion imagery

ISO 21080 2016-7, Space data and information transfer systems -- Licklider transmission protocol (LTP) for CCSDS

ISO 21082 2016-7, Mission operations -- MAL space packet transport binding and binary encoding

(new) **ISO 21323** 2016-11, Space data and information transfer systems -- CCSDS Bundle protocol specification

(new) **ISO 21324** 2016-11, Space data and information transfer systems -- Space data link security protocol

(new) **ISO 22645** 2016-11, Space data and information transfer systems -- TM (telemetry) space data link protocol

(new) **ISO 22664** 2016-11, Space data and information transfer systems -- TC (telecommand) space data link protocol

(new) **ISO 22666** 2016-11, Space data and information transfer systems -- AOS (advanced orbiting systems) space data link protocol

Votings on revisions of already existing standards (18, whereas 13 already published before the last informal meeting)

Voting reports available:

ISO/DIS 10537, Space data and information transfer services – Encapsulation service (CCSDS 133.1-B-2: October 2009)

(new) **ISO 11104**:2011, Space data and information transfer systems — Time code formats (CCSDS 301.0-B-4: November 2010)

(new) **ISO 15888**, Space data and information transfer systems — Standard formatted data units — Referencing environment (1.9.2016) (CCSDS 622.0-B-1: May 1997)

(new) **ISO 15889**:2011, Space data and information transfer systems — The data description language EAST specification (CCSDS 644.0-B-3: June 2010)

(new) **ISO 17107**:2011, Space data and information transfer systems — XML specification for navigation data messages (CCSDS 505.0-B-1: December 2010)

ISO/DIS 18446, Space data and information systems - SLE - Application program interface for the forward space packet service (CCSDS 916.3-M-2: September 2015)

ISO/DIS 18445, Space data and information systems - SLE - Application program interface for the forward CLTU service (CCSDS 916.1-M-2: September 2015)

ISO/DIS 18444, Space data and information systems - SLE - Application program interface for return operational control fields service (CCSDS 915.5-M-2: September 2015)

ISO/DIS 18443, Space data and information systems - SLE - Application program interface for return channel frames service (CCSDS 915.2-M-2: September 2015)

ISO/DIS 18442, Space data and information systems - SLE - Application program interface for return all frames service (CCSDS 915.1-M-2: September 2015)

ISO/DIS 18441, Space data and information systems - SLE - Application program interface for transfer services - Core specification (CCSDS 914.0-M-2: September 2015)

ISO/DIS 18440, Space data and information systems - SLE - Internet protocol for transfer services (CCSDS 913.1-B-2: September 2015)

ISO/DIS 21323, Space data and information transfer systems - CCSDS Bundle protocol specification (CCSDS 734.2-B-1: September 2015)

ISO/DIS 21324, Space data and information transfer systems - Space data link security protocol (CCSDS 355.0-B-1: September 2015)

ISO/DIS 22645, Space data and information systems - TM (telemetry) space data link protocol (CCSDS 132.0-B-2: September 2015)

ISO/DIS 22664, Space data and information systems - TC (telecommand) space data link protocol (CCSDS 232.0-B-3: September 2015)

ISO/DIS 22666, Space data and information systems - AOS (advanced orbiting systems) space data link protocol (CCSDS 732.0-B-3: September 2015)

(new) **ISO 22672:2011**, Space data and information transfer systems — Space link extension (SLE) — Forward space packet service specification (CCSDS 912.3-B-3: August 2016)

DIN publication



DIN annual report on Space for 2016 (german) published.

New ISO standards are published automatically as DIN standards.

First Meeting of the NA 131-06-01 AA Space (Mirror of ISO/TC 20/SC 13 and ISO/TC 20/SC 14) and NA 131-06-02 AA) Interoperability of Information, Communication and Navigation Systems (Mirror of CEN/CLC/TC 5) 1.2.2017 in Cologne.

Use of standards within DLR projects

All DLR space projects are forced to make use of the standards defined by CCSDS and ECSS (CEN), especially those standards, which are relevant for ground systems as coding and frequency standards, packet TM/TC, SLE services and Navigation Standards.

The new MIA standard is already in place for use of video communication between Spacestation and ground systems. Also current setting of the upcoming Voice standard is used in this area by DLR.

The DLR/CNES mission Merlin is using the new SDLS standard for secure up/downlink.

CEN/CLC/TC 5 Space

CEN/CLC/TC 5 Space Group met in Brussels for their 11th meeting on 19.1.2017. Minutes are available. Next meeting is planned for the 22.6.2017 at DIN in Berlin.

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Oberpfaffenhofen, 15.5.2017