



ISO/TC 20 Mission

<https://committee.iso.org/home/tc20>

ISO/TC 20 is a technical committee of the International Organization for Standardization (ISO) responsible for developing internationally accepted standards for aircraft and space vehicles. This covers standards for the materials, components and equipment used to both develop and maintain them, including:

- Design
- Construction
- Test and evaluation
- Operation
- Air traffic management
- Maintenance
- Disposal/end of life
- Safety, reliability and environmental considerations

TC20 Subcommittees

- ISO/TC 20/SC 1 Aerospace electrical requirements
- ISO/TC 20/SC 4 Aerospace fastener systems
- ISO/TC 20/SC 6 Standard atmosphere
- ISO/TC 20/SC 8 Aerospace terminology
- ISO/TC 20/SC 9 Air cargo and ground equipment
- ISO/TC 20/SC 10 Aerospace fluid systems and components
- ISO/TC 20/SC 13 Space data and information transfer systems
- ISO/TC 20/SC 14 Space systems and operations
- ISO/TC 20/SC 16 Unmanned aircraft systems
- ISO/TC 20/SC 17 Airport infrastructure
- ISO/TC 20/SC 18 Materials

TC20 US TECHNICAL ADVISORY GROUP (US TAG)

What will I gain by joining?

- Influence ISO Standards and represent the US on an international stage
- Connect with US Industry & Government
- Grow your network of international contacts

What are the detail of participating?

- No cost to join
- TC 20 US TAG generally meets once each year virtually
- Ballots emailed sporadically throughout the year
- Members are encouraged to attend the TC20 Plenary as part of the US delegation

- Main field of work: Oversee subcommittee work, approval of SC Chairs, 28 standards
- US TAG Leadership: Judith Ritchie (SAE, TAG Admin), Joy Fitzpatrick (Boeing, Chair)
- Current Members: AIA, AIAA, Boeing, DoD(ret), Lockheed, GAMA, SAE, TriMas
- Relevant Projects: TC20 Business plan including objectives and strategies
- US Representation needed from: Gov't, Suppliers, OEMs, NGOs, Academia
- To Join: <https://www.sae.org/standards/development/participation-request>
- US Contact: judith.ritchie@sae.org

The background features a dark blue gradient with technical diagrams. On the left, there are several circular gauges with scales and tick marks. One large gauge has a scale from 140 to 260. Other smaller gauges and dashed lines with arrows are scattered across the scene, suggesting a complex technical or engineering environment.

ISO TC20 SUB-COMMITTEES WITH US TECHNICAL ADVISORY GROUPS

SC 09 - AIR CARGO AND GROUND EQUIPMENT

- **Relevant Standards**

- *ISO 12604-2: Aircraft ground handling – Checked-in baggage – Part 2: Handling guidelines.*
- *ISO 32312-11: Aircraft ground support equipment – Specific requirements – Part 11: Container/Pallet dollies and loose load trailers.*
- *ISO 19281: Air cargo – Fire resistant containers – Design, performance and testing requirements*
- *ISO 10254: Air cargo and ground equipment – Vocabulary*
- *ISO 11241: Aircraft – Aircraft engine transport devices*
- *ISO 8267-2: Aircraft – Tow bar attachment fittings interface requirements – Part 2:*

- **Future Work**

- *Hydrogen and applications in airports*
- *Automation of GSE*
- *Lithium-Ion Cell Fire Testing Requirements for FRC/FCC*
- *Active containers*
- **US Representation needed from: Government (FAA), Air Cargo and Airport Equipment industry.**
- **Liases closely with IATA, SAE AGE-2 Air Cargo Committee, and SAE AGE-3 Aircraft Ground Support Equipment Committee.**

SC 09 - AIR CARGO AND GROUND EQUIPMENT

- **Main field of work**
 - Air cargo Unit Load Devices (ULD),
 - Cargo fire protection (e.g. fire resistant containers, covers),
 - Methods and equipment for securing cargo in aircraft,
 - Methods, training content and quality assurance regarding aircraft loading,
 - Cargo (and baggage) handling requirements and workstation ergonomics
 - Aircraft ground de-icing methods and equipment,
 - Airport ground support equipment safety provisions
 - Airport to ground support equipment interfaces (couplings, doors and service panel position...)
 - Product (defined in terms of guaranteed performance) standards are not covered.
- **Current SC Leadership**
 - Chair: Diego Alonso Tabares, Airbus.
 - Committee Manager: Karim Benmeziane, BNAE
- **US TAG Leadership**
 - Chair: Recruiting for new Chair
 - Administrator: Judith Ritchie (SAE) Judith.Ritchie@sae.org
- **Current Member Countries**
 - P-members (14): China, Denmark, Egypt, Finland, France, Germany, India, Netherlands, Russian Federation, Slovenia, Spain, Sweden, United Kingdom, United States.

SC 10 - AEROSPACE FLUID SYSTEMS AND COMPONENTS

- **Relevant Standards**
 - 82 published standards, 11 under development
- **Six Working Groups:**
 - WG 1: Seals and seal retainers
 - WG 3: Tubing and tube retaining devices
 - WG 6: Couplings for rigid pipe
 - WG 8: Hydraulic fluids and fluid contamination control
 - WG 9: Hydraulic power and actuation equipment
 - WG 14: Hose assemblies
- **Current SC Leadership**
 - Chair - Mr. Ulrich Müller, Airbus. Secretary - Dorothee Kretschmar, DIN
- **US TAG Leadership**
 - Chair: Recruiting for new Chair; tag administrator: Judith Ritchie (SAE) Judith.Ritchie@sae.org
- **US Representation needed from:** Government (FAA), OEMs, Component Manufacturers
- **Current Member Countries**
 - P-members (13): Canada, China, Egypt, France, Germany, India, Japan, Kazakhstan, Russian Federation, Turkey, Ukraine, United Kingdom, United States

SC 13- SPACE DATA AND INFORMATION TRANSFER SYSTEMS

Main field of work

- Standardization of space data systems.

Current SC Leadership

- Chair: Mrs. Yuxia zhou (china); SC manager: mr. sami asmar (NASA - us)

US TAG Leadership

- Chair: mr. sami asmar (Nasa); tag administrator: Ms. Amber massaquoi (nasa/asrc federal)

Current Member Countries

- P-members (13): brazil, china, finland, France, Germany, india, Italy, Japan, Kazakhstan, Russia, Ukraine, uk, us
- O-members (11): Argentina, Belgium, Czech republic, iran, south korea, Luxembourg, netherlands, philippines, Poland, romania, sweden

SC 13- SPACE DATA AND INFORMATION TRANSFER SYSTEMS

Relevant Standards

- ISO 13537 (Reference architecture for space data systems), ISO 14721 (Open archival information system (OAIS) — Reference model), iso 17355 (CCSDS file delivery protocol), iso 19389 (Conjunction data message), iso 20214 (Security architecture for space data systems), iso 22646 (Space packet protocol), iso 26868 (Image data compression)

Relevant Projects

- ISO/DIS 24122 (Spacecraft onboard interface services— RFID tag encoding specification), iso/dis 24124 (Voice and audio communications), iso/dis 24127 (Pointing request message), iso/dis 24129 (Network layer security adaptation profile)

US Representation needed from: (gov't, suppliers, OEMs, NGOs, etc.)

US Contact: AMassaquoi@asrcfederal.com

SC 14 - SPACE SYSTEMS AND OPERATIONS

Main field of work

- Standardization of manned and unmanned space vehicles that include management of space programs, design, test, production, launch, maintenance, operation, and disposal of space vehicles, and for the environment in which the space programs operate.

Current SC Leadership

- Chair: frederick slane (Space infrastructure foundation - US); SC manager: nick Tongson (aiaa - us)

US TAG Leadership

- Chair: marlon sorge (the aerospace corporation); tag administrator: nick Tongson (aiaa)

Current Member Countries

- P-members (16): Australia, brazil, china, finland, France, Germany, india, Italy, Japan, Kazakhstan, Romania, Russia, spain, Ukraine, uk, us
- O-members (14): Argentina, Cyprus, iran, Ireland, israel, South Korea, Luxembourg, Netherlands, new Zealand, Philippines, Poland, Slovakia, Sweden, switzerland

SC 14 - SPACE SYSTEMS AND OPERATIONS

Relevant Standards

- ISO 17770 (cubesats), ISO 24917 (general test reqs for launch vehicles), ISO 24330 (Rendezvous and Proximity Operations (RPO) and On Orbit Servicing (OOS) – Programmatic Principles and Practices), iso 21348 (Solar irradiance determinations), ISO 17666 (risk management), ISO 14624 series (Safety and compatibility of materials), Iso 24113 (space debris mitigation reqs), ISO 24246 (Reqs for Global Navigation Satellite System (GNSS) positioning augmentation centers)

Relevant Projects

- Iso/CD 9490 (space traffic coordination), ISO/CD 17981 (cubesat interface), ISO/AWI 18820 (Specifications for interchangeable mid-sized (60-80 kg) small satellites), ISO/DTS 20517 (Cybersecurity management guidelines), ISO/FDIS 24245 (Global Navigation Satellite System (GNSS) receiver class codes)

US Representation needed from: (gov't, suppliers, OEMs, NGOs, etc.)

- Commercial space (spacex, blue origin, etc.)

US Contact: nickt@aiaa.org

SC 16 - UNMANNED AIRCRAFT SYSTEMS

- **Main field of work**
 - Standardization in the field of unmanned aircraft systems (UAS) including, but not limited to, classification, design, manufacture, operation (including maintenance) and safety management of UAS operations.
- **Current SC Leadership**
 - Chair: John Walker (The Padina Group - US); SC manager: Chris Carnahan (AIA - US)
- **US TAG Leadership**
 - Chair: Lance King (Northrop Grumman); Tag Administrator: Nick Tongson (aiaa)
- **Current Member Countries**
 - P-members (27): Australia, Austria, Belgium, Brazil, Canada, China, Denmark, Finland, France, Germany, India, Iran, Italy, Japan, South Korea, Netherlands, Romania, Russia, Spain, Sweden, Switzerland, Thailand, Turkey, Ukraine, United Arab Emirates, UK, US
 - O-Members (9): Czech Republic, Hungary, Ireland, Luxembourg, New Zealand, Poland, Saudi Arabia, Singapore, Slovakia

SC 16 - UNMANNED AIRCRAFT SYSTEMS

- **Relevant Standards**
 - ISO 5015-2 (Operation of vertiports for vertical take-off and landing (VTOL) unmanned aircraft (UA)),
 - ISO 21384 series (Part 2: UAS components; part 3: operational procedures, part 4: vocabulary),
 - ISO 21895 (Categorization and classification of civil unmanned aircraft systems),
 - ISO 23629 series (UAS traffic management), iso 23665 (Training for personnel involved in UAS operations),
 - ISO 24356 (General requirements for tethered unmanned aircraft systems)
- **Relevant Projects**
 - ISO/DIS 5286 (Test methods for flight performance of civil light weight and small fixed-wing UAS),
 - ISO/DIS 5305 (Noise measurements for UAS (Unmanned aircraft systems),
 - ISO/DIS 5309 (Vibration test methods for lightweight and small civil UAS),
 - ISO/CD 15964 (Detection and Avoidance System for Unmanned Aircraft Systems),
 - ISO/AWI 16746 (Counter UAS – User quality and safety),
 - ISO/AWI 16747 (Counter UAS – Manufacturing quality and safety)
- **US Representation needed from:** Government, Suppliers, OEMs
- **US Contact:** nickt@aiaa.org

SC 17 - AIRPORT INFRASTRUCTURE

- **Main field of work**

- Standardization in the field of airside airport infrastructure, to include grooving of landing and take-off lanes; asphaltic-ecologic-paving; vertical-signaling with painting and electric-electronic boards (painted and lighted signage). Scope excludes spaceports, which will be handled under ISO/TC 20/SC 14 and ground handling equipment (including fixed equipment such as passenger boarding bridges, docking guidance systems, etc.) which is under ISO/TC 20/SC 9. The scope also excludes air traffic facilities infrastructure and work under IEC/TC 97 (Electrical Installations for Lighting and Beaconing of Aerodromes).
- The scope of SC 17 is intended to cover all infrastructure unique to the airport environment, but to exclude infrastructure covered by other ISO and IEC committees, and also to exclude any infrastructure not unique to the airport environment.

- **Current SC Leadership**

- Chair: Evanicio Costa (Boeing - US); SC manager: Nick Tongson (AIAA – US)

- **US TAG Leadership**

- Chair: Evanicio Costa (Boeing); TAG administrator: Nick Tongson (AIAA)

- **Current Member Countries**

- P-members (10): Brazil, China, France, Germany, Italy, Japan, South Korea, Russia, UK, US
- O-members (8): Czech Republic, Finland, Iran, Netherlands, New Zealand, Romania, Slovakia, Sweden

SC 17 - AIRPORT INFRASTRUCTURE

- **Relevant Standards**
 - No currently published standard
- **Relevant Projects**
 - ISO/FDIS 5491 (Vertiports — Infrastructure and equipment for Vertical Take-Off and Landing (VTOL) of electrically powered cargo Unmanned Aircraft System (UAS)) [note: developed under close coordination with iso/tc 20/sc 16 – uas]
 - Potential projects: Aircraft converter supply — Safety requirements for supplies to aircraft power units; Surface friction characteristics of runways
- **US Representation needed from:** Government (FAA), Airport stakeholders/associations, Airport Suppliers
- **US Contact:** nickt@aiaa.org

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ISO TC20 SUB-COMMITTEES WITH NO US REPRESENTATION

SC 1 - AEROSPACE ELECTRICAL REQUIREMENTS

- Main field of work: Cables, Connectors, Switches, Lighting Instruments
- Current SC Leadership: SAC (China)
- Current Members: China, France, Romania, India, Germany, Denmark, Russia, Iran, Serbia, Japan, S. Korea, Kazakhstan, New Zealand, Ukraine, Sweden, Italy, Slovakia
 - Liaisons: ASD-Stan, CE, EUROCAE, IEC/TC21, ISO/TC20/SC16, IEC/SC21A, IEC/SC48B, IEC/TC20, IEC/TC34, IEC/TC94
- Relevant Standards:
 - ISO 20894:2018- Aircraft – LED based taxiing lightsystem – General requirement
 - ISO 2042:1973- Aircraft electrical circuit diagrams
 - ISO 1949:1987-Aircraft – Electrical connectors – Design requirements
- Relevant Projects:
 - ISO/DIS 24065- High power solid state power controller – General performance requirements
 - ISO/DIS 8815- Aircraft – Electrical cables and cable harnesses – Vocabulary
- US Representation needed from: OEMS, Suppliers
- US Contact: chris.Carnahan@aia-aerospace.org

SC 4 - AEROSPACE FASTENER SYSTEMS

- Main field of work: Nuts, bolts, Screws, Drives, Rivets
(Dimensions, Procurement Specifications, Test methods)
- Current SC Leadership: DIN (Germany)
- Current Members: Germany, France, Romania, U.K., Germany, Egypt, Russia, Iran, Kazakhstan, Italy, Slovakia
 - Liaisons: ISO TC1, TC 2, TC 29
- Relevant Standards:
 - ISO 3161:1999-Aerospace – UNJ threads – General requirements and limit dimensions
 - ISO 7913:1994-Aerospace – Bolts and screws, metric – Tolerances of form and position
- Relevant Projects:
 - ISO/DIS 7481-Aerospace – Nuts, self-locking, with maximum operating temperature less than or equal to 425 °C – Test methods
- US Representation needed from: Part Manufacturers, OEMs.
- US Contact: chris.Carnahan@aia-aerospace.org

SC 6 - STANDARD ATMOSPHERE

- Main field of work: Measuring and testing meteorological and atmospheric factors that impact aerospace vehicles
- Current SC Leadership: Gost R (Russia)
- Current Members: Russia, France, India, U.K., Germany, Iran, S. Korea, Kazhakstan, Mongolia, China, Ukraine
 - Liaisons: COSPAR, WMO, (previous liaisons: ICAO)
- Relevant Standards
 - ISO 2533:1975-Standard Atmosphere
 - ISO 9662:1994-Aircraft equipment — Environmental and operating conditions for airborne equipment — Humidity, temperature and pressure tests
- Relevant Projects
 - No current projects
- US Representation needed from: Gov't, NGOs, Academia?
- US Contact: chris.Carnahan@aia-aerospace.org

SC 8 - AEROSPACE TERMINOLOGY

- Main field of work: Terminology, symbols, and vocabulary for aerospace
- Current SC Leadership: GOST R (Russia)
- Current Members: Russia, France, India, U.k., Germany, Egypt, Iran, S. Korea, Kazakhstan, Poland, Mongolia, Ukraine
 - Liaisons: COSPAR, WMO, ISO/TC 37
- Relevant Standards
 - ISO 1151-1:1988-Flight dynamics – Concepts, quantities and symbols – Part 1: Aircraft motion relative to the air
 - ISO 5843-1:1985-Aerospace construction – List of equivalent terms – Part 1: Aerospace electrical equipment
- Relevant Projects
 - ISO/DIS 1151-7-Flight dynamics – Vocabulary – Part 7: Flight points and flight envelopes
- US Representation needed from:
- US Contact: chris.Carnahan@aia-aerospace.org

SC 18 - MATERIALS

- Main field of work: materials and related processes used by aircraft and engine manufacturers
- Current SC Leadership: AFNOR (France)
- Current Members: France, Romania, U.K., Germany, Russia, Japan, China, Ukraine
 - Liaisons: ASD-STAN, ISO Tc/20/SC 14
- Relevant Standards
 - ISO 8081:2021-Aerospace process – Chemical conversion coating for aluminium alloys – General purpose
- Relevant Projects
 - ISO/AWI 8075-Aerospace – Surface treatment of hardenable stainless steel parts
 - ISO/AWI 8078-Aerospace process – Anodic treatment of aluminium alloys - Sulfuric acid process, undyed coating
- US Representation needed from: OEMs
- US Contact: chris.Carnahan@aia-aerospace.org