S.BIC

標準124-4

Space for QOL

会議資料
IEC 及び NMEA 等の標準化
-NMEA 0183 インテグリティ・センテンス他-

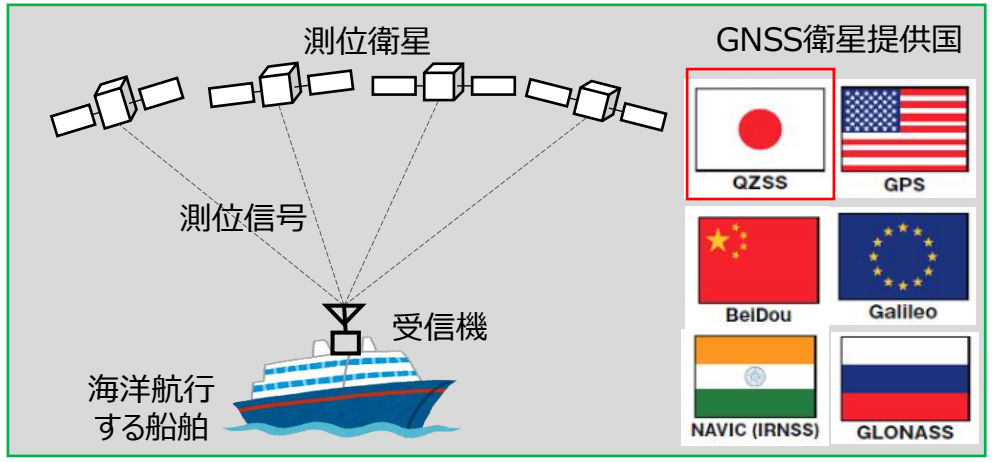
2025年11月20日

SBIC標準化WG

■IEC/TC 80 長崎10月開催 PT 61108-8 国際会議 ― 舶用GNSS受信機試験規格

- IEC 61108シリーズは、**海洋航行の衛星航法（GNSS[注1]）受信機**について**性能と品質**を規定する国際規格であり、既に米国（GPS），欧州（Galileo），中国（北斗），ロシア（Glonass），インド（NavIC[注2]）に関する規格が存在する。
- このシリーズにおいて、現在、日本の**準天頂衛星「みちびき」**（QZSS[注3]）に関する国際規格だけが欠けており、この状況を解消するため、国際標準化を実施する。
- 「みちびき」は、他国の衛星システムと比較して、高精度・信号認証など優れた機能・性能をもっており、海洋航行に係る国際決議や他国の技術規程と調和を図る形で、国際規格を開発する。
- この国際規格は、GNSS受信機の開発、製造、および運用に関する多くの分野で使用されると見込まれる。

説明図



開発する基準・規格のポイント

開発する規格では、次に掲げる要件を規定する。

1. 測位性能：位置、速度、時間の正確な測定を提供する必要があり、測位精度、信頼性、測位時間の精度に関する要件を定める。

2. 相互運用性：他国の衛星システムの受信機が互いに運用できるようにするための要件を定める。

3. データ通信：　データ通信プロトコル、データ形式、　伝送速度の要件を定める。

4. 品質管理：製品認証、試験、品質管理に関する要件を定め、規格遵守を保証する。

国際標準化活動の方向性

◆米・欧・中・露・印が作成した各国の測位衛星利用の規格に対して、「みちびき」の優位性を活かし、他国より改善した規格を開発する。

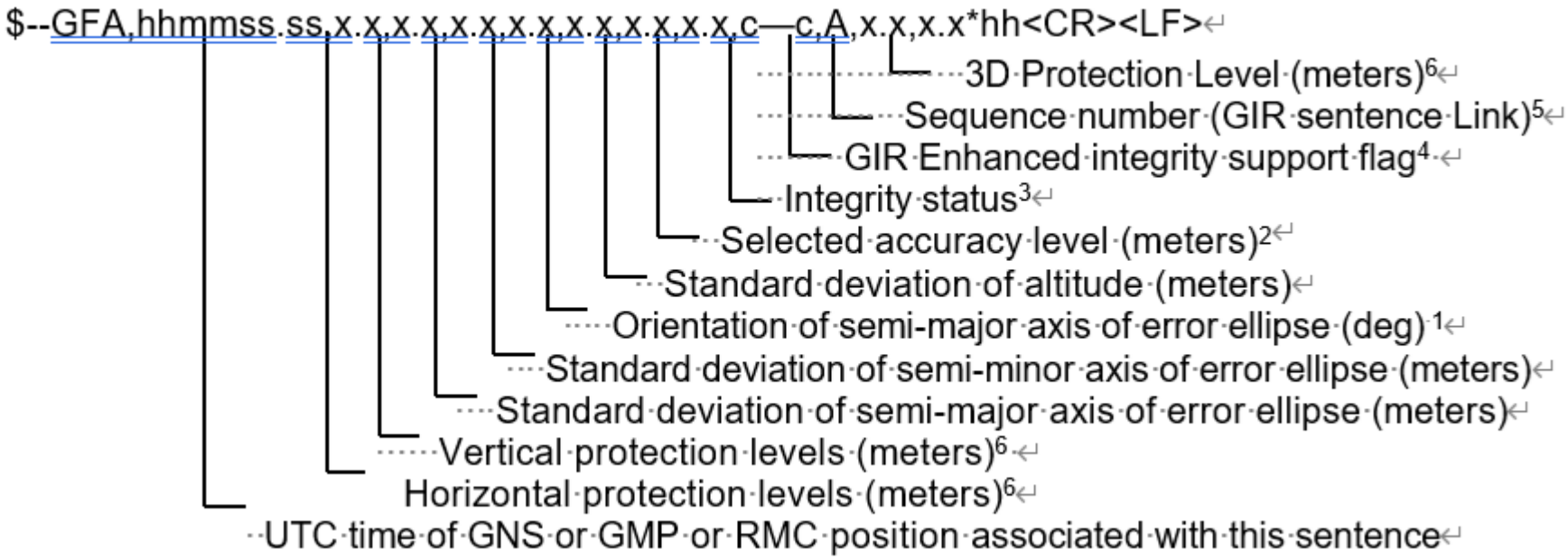
◆国内有識者の意見を集め、「みちびき」の利点を反映しつつも、IMO[注4]決議を整合した規格内容に仕上げることにする。

注1　GNSS: Global Navigation Satellite System
注2　NavIC: Navigation with Indian Constellation
注3　QZSS: Quasi-Zenith Satellite System (準天頂衛星システム)
注4　IMO: International Marine Organization (国際海事機関)

NMEA 0183 新しいセンテンス(1/2)

NMEA 0183 (2024更新) & IEC 61162 シリーズ（作業中）/ IEC 61108 シリーズ(作業中)

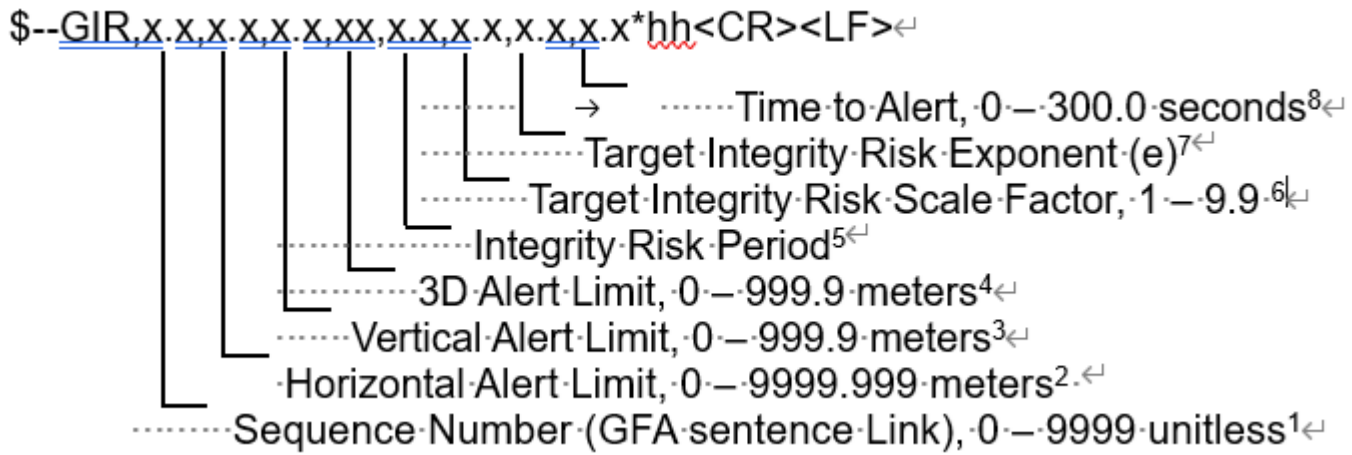
GFA -- GNSS Fix Accuracy and Integrity



If only a single constellation (GPS, GLONASS, GALILEO, BDS, QZSS, and NavIC (IRNSS) is used for the reported position solution, the talker ID is GP, GL, GA, GB, GQ, and GI respectively

NMEA 0183 新しいセンテンス(2/2)

GIR -- GNSS target Integrity Risk



その他の New or updated sentences

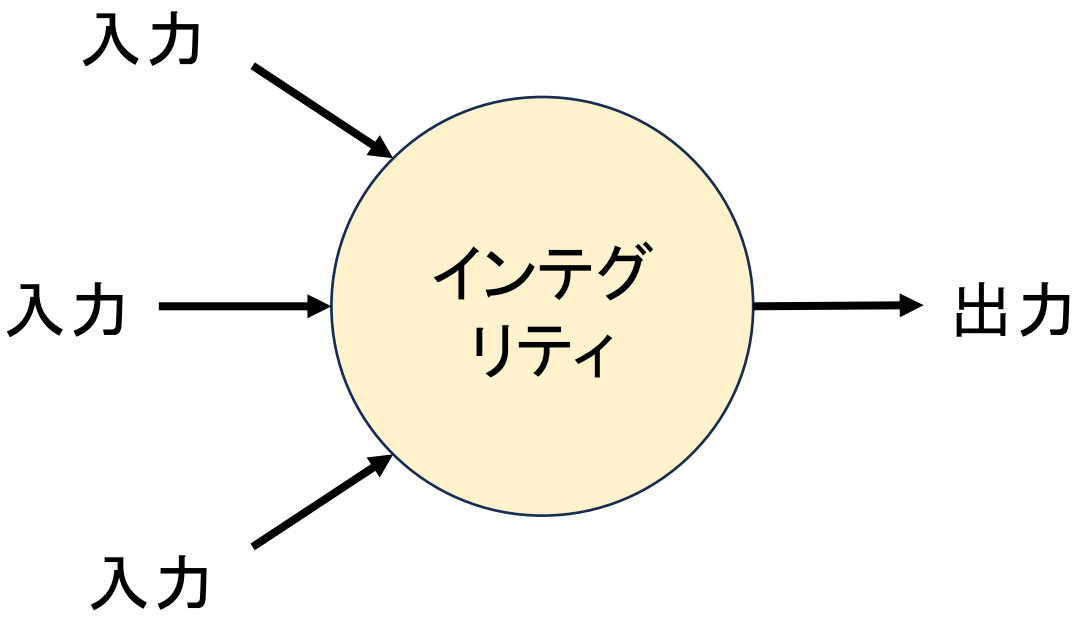
GRS – GNSS Range Residuals
GSV – GNSS Satellites In View
GSA – GNSS DOP and Active Satellites
GNS – GNSS Fix Data
RMC – Recommended Minimum Specific GNSS Data

インテグリティとは何か– 信頼性とは何が違うのか

（説明の試論：コミュニティ内で議論が必要）

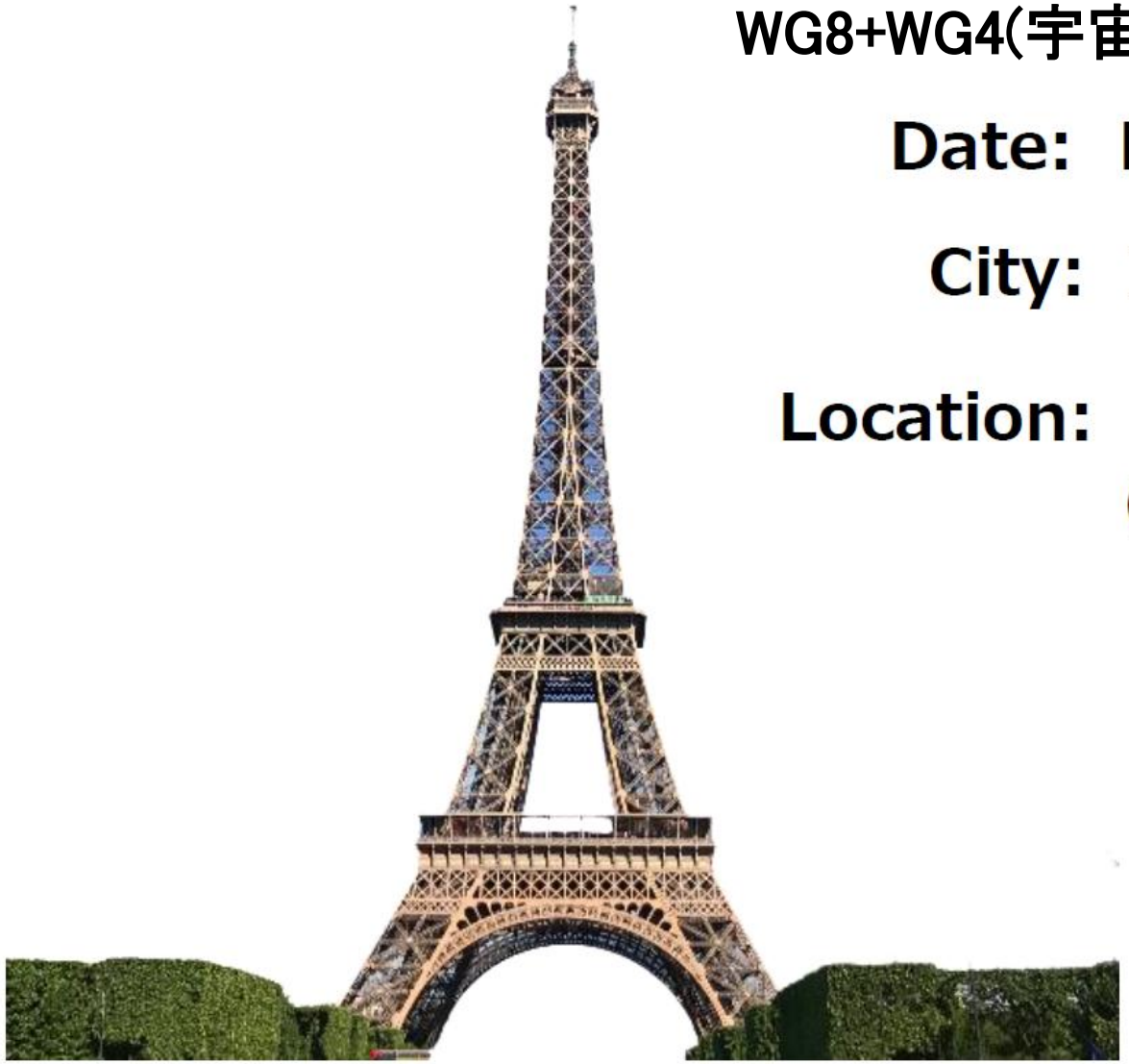
従　来
（製品単品）

今　日
（ネットワークの中にある）



出力の完全性は如何？

■ ISO/TC 20/SC 14/WG8「宇宙利用サービス」フランス11月開催



ISO/TC 20/SC 14 (宇宙システムと運用) 国際委員会
WG8+WG4(宇宙環境)+WG1(宇宙機設計・製造)

Date: November 4 – 7, 2025

City: Issy-les-Moulineaux, France

Location: BNAE
(Bureau Normalisation Aeronautique Espace)

WG 1 Convenor Shoji Yoshioka

WG 8 Convenor Miguel Ortiz
WG 8 Deputy Convenor Koki Asari

国内審議機関 SJAC

STANDARDIZATION

Test methods – Priority Implementation

METHODS	ABORDABLE	REALISM	REPEATABLE	ASSISTANCE	HYBRIDIZATION
	Costs	*Representativeness*	*Same Measures*	*RTK, PPP*	*Sensors, Map*
LIVE	- -	+ +	- -	+ +	+ +
SIMULATION	+	- -	+ +	+	-
RECORD & REPLAY	+	+ +	+ +	+ +	+

France: Preliminary Work Items
(based on EN 16803-2)
Assessment of GNSS-based positioning system - Part 2:Nominal performances"
(based on EN 16803-3)
***Assessment of GNSS-based* positioning system - Part 3:**Robustness and Security Performance under Radio Frequency interferences"

■ ロイズによる宇宙天気の最新リスク評価

Lloyd's highlights risk of extreme space weather as latest scenario reveals potential global economic loss of $2.4trn

04 Mar 2025

- Lloyd's publishes latest systemic risk scenario highlighting the potential global economic loss from the threat of a hypothetical solar storm.
- Photography exhibition 'Life in the Sun's Atmosphere: From Disruption to Resilience' by acclaimed photographer Max Alexander showcases the potential risks from solar activity and the progress underway to build greater resilience across critical infrastructure.
- Attendees include Lloyd's Chair **Bruce Carnegie-Brown**, Parliamentary Secretary for the Cabinet Office **Abena Oppong-Asare MP** and The BBC's Sky at Night presenter **Professor Lucie Green**.

Lloyd's, the world's leading marketplace for insurance and reinsurance, has published its latest systemic risk scenario highlighting that the global economy could be exposed to losses of $2.4 trillion over a five-year period, with the expected loss of $17 billion from the threat of a hypothetical solar storm.

The global economic losses are modelled across three severity levels, ranging from $1.2 trillion in the least severe scenario to $9.1 trillion in the most extreme, equivalent to a reduction in global GDP of between 0.2% and 1.4%.

North America is identified as the region likely to be most financially impacted by the scenario, suffering a potential economic loss of $755 billion over the modelled five year period. However, the gap between the impact on North America and Europe is relatively small, with Europe calculated to take a $697 billion hit to GDP. Greater China and Asia Pacific have modelled impacts of $428 billion and $375 billion respectively.

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If this event happened today, it could cause damage to critical infrastructure such as energy grids and satellite networks, and disrupt power, navigation, communications and financial systems which are relied upon daily by businesses, governments and populations globally.

Renowned space photographer and commentator Max Alexander's exhibition 'Life in the Sun's Atmosphere: From Disruption to Resilience' will be unveiled as part of a flagship event held in the iconic Lloyd's Underwriting Room in the heart of The City, with space weather experts, leading insurance industry figures, and UK Government representatives in attendance.

The insurance industry has developed a range of specialist solutions to help manage the risks associated with solar storms. At the time of publication, Lloyd's covers nearly a third of all global space risks, including comprehensive protection for satellites. To ensure business continuity across impacted sectors, other insurance policies available for financial safeguard include energy insurance, business interruption insurance, aviation insurance, marine insurance and agriculture insurance.

The scenario is the seventh and final scenario produced by Lloyd's Futureset and the Cambridge Centre for Risk Studies, which aims to encourage proactive conversations and solutions to mitigating risks against the most significant risks facing society today.

■ ISO PNTオープンコンサルテーション(公開協議)

Discovering and tapping into stakeholder expectations of standardization at a global level.

Under Council Resolution 53/2024, Council has **approved a proposal to ISO Open Consultation Positioning, navigation and timing services**, led by KATS (Republic of Korea)

Event	Date	Aim
Members briefing	21st January 2025 9:00-11:00 CET	Introduction to ISO Open Consultation and the topic
Call for participation	21 January – 4th March 2025	Call for NSBs to join and to reach out to their stakeholders
Initial Discussion Document (IDD)	By 4th March 2025	Circulation of IDD, which will form the basis of the discussions on the topic
National inputs	4th March – 5th June 2025	NSBs collect national inputs through national public commenting and consolidation
Consolidated Discussion Document (CDD)	By 27th June 2025	Circulation of CDD, which will incorporate national inputs
Comments on the CDD	27rd June – 28th August 2025	Receive NSB inputs on CDD in advance of workshop
Workshop(s)*	September 2025	Exchange ideas and prioritize recommendations for ISO (exact format and agenda to be determined)
Report of the outcomes	by 8th November 2025	Final report to be prepared for Council submission