



Expert Consultation on Strengthening the Global Geodesy Supply Chain

22-23 April 2024

**UN Campus, Platz der Vereinten Nationen 1,
53113, Bonn, Germany**

Concept Note and Provisional Agenda

Purpose of the workshop

This workshop will bring representatives from Member State civilian science, defence and policy agencies together to:

1. Introduce the global geodesy supply chain and explain why it is vital for national economies and the operation of critical infrastructure.
2. Discuss the weaknesses in the global geodesy supply chain and the threat to our use of space from a civilian and defence perspective.
3. Discuss pathways and actions to address weaknesses in the global geodesy supply chain in the short, medium and long-term.

Introduction

Our reliance on satellites

Satellites are integral to our modern lives. The U.S. Department of Homeland Security found that 15 of 18 critical infrastructure and key resources sectors relied on the Global Positioning System (GPS). Furthermore, Member States depend on satellite services for economic benefits. Over the next decade, revenue from Global Navigation Satellite Systems (GNSS), Earth Observation (EO) and satellite telecommunications is expected to grow at a mean annual growth rate of approximately 9%, reaching a total of almost €800 billion.

GNSS provides accurate timing and positioning information crucial for various sectors including telecommunications, energy, financial systems, and emergency services. Key sectors such as stock exchanges, energy distribution, and telecommunications heavily rely on GNSS for time synchronization and data transmission. A loss of access to GNSS satellites would be catastrophic. Chaos would ensue if GNSS services were to suddenly cease. From transportation and communication disruptions to economic collapse and national security threats, the impact would be far-reaching and severe. Reliance of this magnitude requires the support from a robust supply chain to ensure accurate and reliable services and products.

The global geodesy supply chain

The global geodesy supply chain refers to the collection of ground station observatories, data centres, analysis centre and highly qualified people who create satellite intelligence products everyday necessary

for people and machines on Earth to accurately and reliably transmit and receive information between Earth and space.

Recognizing the importance of the global geodesy supply chain, the United Nations General Assembly adopted resolution 69/266¹ in February 2015, entitled ‘A Global Geodetic Reference Frame for Sustainable Development’ which encourages Member States to work together to sustain and enhance the global geodesy supply chain. Nevertheless, even with the United Nations General Assembly resolution, the risks related to a lack of resilience in the global geodesy supply chain remain hidden to many people.

Lack of resilience

There are several reasons for the lack of resilience in the global geodesy supply chain including:

- Evidence Member States need to explain the importance of the global geodesy supply chain and the value it provides to decision makers.
- Resources for both dedicated people and funding to strengthen all the elements of the global geodesy supply chain.
- Governance to address the risks and oversee enhanced investment in global geodesy supply chain.
- Capacity, in terms of formal education and training in all countries.
- Awareness of the importance of the global geodesy supply chain to industries who need it and for people’s daily lives.

Provisional Agenda

Date	Morning
Monday, 22 April	<p>9:00 – 9:30 am Access to the building </p> <p>9:30 – 10:30 am Welcome and introductions - Mr Nicholas Brown (Head of Office, UN-GGCE)</p> <p>Introduction to the problem</p> <ul style="list-style-type: none"> • What is the global geodesy supply chain and why is it critical to the accuracy and reliability of satellites <ul style="list-style-type: none"> ○ Mr Nicholas Brown, Head of Office, UN-GGCE • The importance of the global geodesy supply chain for the U.S. <ul style="list-style-type: none"> ○ Ms Nikki Markiel, US National Geospatial-Intelligence Agency ○ Ms Rachel Dudik, United States Naval Observatory <p>10:30 – 11:00 am Morning Tea and Group Photo </p> <p>11:00 am – 12:30 pm</p> <ul style="list-style-type: none"> • The importance of the global geodesy supply chain for science and society. <ul style="list-style-type: none"> ○ Mr Richard Gross, President of the International Association of Geodesy ○ Mr Werner Enderle, European Space Agency • Discussion on presented material

¹ [GA resolution 69/266](#)

	<p>12:30 – 1:30 pm Lunch </p> <p>1:30 – 3:00 pm</p> <ul style="list-style-type: none"> • Current State of global geodesy supply chain <ul style="list-style-type: none"> ○ Mr Stephen Merkowitz, NASA ○ Mr Zuheir Altamimi, Past President of the International Association of Geodesy ○ Member State presentations <p>3:00 – 3:30 pm Afternoon tea </p> <p>3:30 – 5:00 pm</p> <ul style="list-style-type: none"> • Current State of global geodesy supply chain <ul style="list-style-type: none"> ○ Member State presentations continued ○ Discussion on presented material <p>Group Dinner – (Venue to be determined)</p>
<p>Tuesday, 23 April</p>	<p>9:00 – 9:30 am Access to the building </p> <p>9:30 am – 12:30 pm</p> <ul style="list-style-type: none"> • Presentation of a draft agreement between Member States to strengthen the resilience of the global geodesy supply chain <ul style="list-style-type: none"> ○ Ms Nikki Markiel, US National Geospatial-Intelligence Agency • Discussion on draft agreement <p>12:30 – 1:30 pm Lunch </p> <p>1:30 – 4:00 pm</p> <ul style="list-style-type: none"> • Group A - Technical / Scientific discussion on plan of action to address action weaknesses in the global geodesy supply chain. • Group B – Policy discussion on plan of action to address action weaknesses in the global geodesy supply chain. • Summary and close.

Participation

The Expert Consultation is an in-person meeting only.

All participants and observers are responsible for their travel, local logistics, subsistence and accommodation arrangements, and related expenditures. All participants and observers are responsible for their respective entries into Germany and the European Union including necessary visa and travel insurance as applicable.

Registration

All invited members, participants and observers must confirm and register their attendance by email to Vilma Frani (Email: frani@un.org) as soon as possible, latest by **Friday 15 March 2024**. This is necessary to facilitate any requirements of security and grounds pass into UN Campus, Bonn.

Organizers

The meetings are organized by the United Nations Global Geodetic Centre of Excellence (UN-GGCE) at the UN Campus in Bonn, Germany.

Language

The meetings will be conducted in English only.

Meeting Venue

The meetings will be held at the **UN Campus, Bonn**, Germany

Logistical Information

A separate logistical information note will be made available after the issuance of this Concept Note.

Health and Safety

For a safe meeting environment, prevailing local government measures related to the coronavirus disease (COVID-19) pandemic at the time of the meeting shall apply.

Points of Contact

For local arrangements, logistics and information:

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Geodesy (BKG), Germany
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For administrative matters and meeting arrangements:

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For substantive matters:

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(22 February 2024)

Background on the UN-GGCE

An agreement “On the Operationalization of the United Nations Global Geodetic Centre of Excellence” between the United Nations and the Federal Republic of Germany was formalized in November 2022. The agreement formalizes the offer from Germany to host the United Nations Global Geodetic Centre of Excellence (UN-GGCE) at the UN Campus in Bonn. The UN-GGCE’s vision for the future is one where all countries have strong political support for geodesy which enables them to – together – accelerate the achievements of the Sustainable Development Goals and derive social, environmental and economic benefits.

The UN-GGIM Subcommittee on Geodesy played a considerable role in the establishment of the UN-GGCE. Following efforts to recognize the importance of the geodesy in the General Assembly resolution 69/266¹ the Subcommittee advocated for dedicated resources to strengthen and advance: global geodetic cooperation and coordination; worldwide geodetic infrastructure; standards, policies and conventions; education, training and capacity building; and communication and awareness, while also coordinating measures and overseeing their implementation.

The objective of the UN-GGCE is to work with Member States and geodetic organizations to strengthen our collective impact to:

- Enhance investment in the global geodesy supply chain.
- Improve coordination and collaboration amongst Member States and geodetic organizations.
- Share geodetic data and improve standards, on a voluntary basis, to contribute to the global reference frame and regional densifications.
- Provide greater technical assistance, especially for capacity development in geodesy for developing countries.
- Make geodesy and its benefit more visible and understandable to society.