

Opening Address and Setting the Scene, 2nd SAGWG Workshop.

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Programme Director, colleagues from DSTI and DLRRD, representatives of our national facilities, government departments, academia, industry, the local and international geodetic and space-science communities, ladies and gentlemen, good morning.

It is a pleasure to welcome you to the second workshop of the South African Geodesy Working Group.

Before we proceed, it may be useful to remind ourselves what we mean by **geodesy** and why this work matters. Geodesy is the science of measuring and understanding the **size, shape, orientation and gravity field of the Earth, and how these change over time**.

In practical terms, geodesy provides the essential reference framework that enables us to determine precisely **where we are, where things are, and how positions and heights change over time**. It supports surveying and mapping, GNSS positioning, engineering and construction, navigation, Earth observation, disaster management, sea-level monitoring, and many other services on which modern society increasingly relies. Strengthening geodesy in South Africa is therefore not solely about advancing a specialised scientific discipline; it is about safeguarding a critical component of the **national geospatial infrastructure** that enables accurate positioning, reliable measurement, and informed decision-making.

When we met for the first South African Geodesy Workshop in October 2025, our purpose was deliberately foundational. We were not attempting to solve every issue facing geodesy in South Africa in two days. We were asking a more fundamental question: **how do we organise ourselves nationally so that South Africa can manage geodesy as a strategic national capability, while contributing effectively to the regional and global geodetic system?**

The report of that first workshop records that it was our first national step towards establishing a formal South African Geodesy Working Group, bringing together government, national facilities, research institutions, academia and industry within a structured national coordination mechanism.

Today, therefore, I want to briefly remind us where this process came from, what we agreed at the first workshop, what progress has been made, and importantly, how developments internationally since then have made this work even more relevant.

The starting point: Resolution 69/266

Our starting point remains the United Nations General Assembly Resolution **69/266**, **"A global geodetic reference frame for sustainable development,"** adopted in **February 2015**.

The significance of that Resolution should not be underestimated. It recognised that an accurate and stable Global Geodetic Reference Frame is fundamental to positioning, Earth observation, sea-level and climate monitoring, disaster management, agriculture, mining, transport, navigation, construction and many other applications. It also recognised something fundamental to the way we should think about SAGWG: **no single country can maintain the global geodetic reference frame on its own**. Annexure A UN General Assembly ...

The Resolution consequently called upon Member States to strengthen international cooperation and capacity development; promote the voluntary open sharing of geodetic data, standards and conventions; improve and maintain national geodetic infrastructure; cooperate in addressing infrastructure gaps and unnecessary duplication; and improve public understanding of the importance of the Global Geodetic Reference Frame. Annexure A UN General Assembly ...

Those principles are remarkably close to the issues that emerged from our own workshop: governance, infrastructure, data sharing, standards, capacity, awareness, cooperation and sustainability.

Within the United Nations system, this mandate is advanced through two closely connected mechanisms. The **UN-GGIM Subcommittee on Geodesy** provides the intergovernmental forum through which Member States coordinate implementation of Resolution 69/266 and develop strategies, policies and guidance for the long-term sustainability, accessibility and quality of the Global Geodetic Reference Frame.

From a UN resolution to an implementation programme

A resolution, however, establishes the political mandate. The question that followed was: **how do Member States actually implement it?**

This is where the establishment of the **United Nations Global Geodetic Centre of Excellence — the UN-GGCE** complements this role by working with Member States and geodetic organisations to translate that policy direction into practical action: strengthening investment, coordination, data sharing, standards, technical assistance and capacity development across the global geodesy supply chain.

Together, they connect global policy with national implementation and provide an important framework within which South Africa can align SAGWG, its national geodesy strategy and its contribution to African and global geodesy.

Subsequently the First Joint Development Plan for Global Geodesy became particularly important.

The Joint Development Plan translates Member State and partner needs into strategic objectives and practical activities intended to strengthen what the UN-GGCE describes as the **global geodesy supply chain**.

That terminology is useful because it reminds us that geodesy is not simply a collection of benchmarks or GNSS stations. It is an interconnected system of observing infrastructure, communications, data centres, analysis capability, reference-frame products, standards and, critically, skilled people.

And the Joint Development Plan gives Member States a very specific starting point.

Under Objective 1.1— Member States are engaged in geodesy governance — , countries are encouraged firstly to establish or strengthen a **country-level geodesy working group**, involving government, science, policy, defence, industry and academia; and secondly, to develop and implement a **country-level geodesy strategy and action plan**.

That strategy should identify risks arising from weaknesses in the geodesy supply chain, increase awareness within government, industry and society, and address risks that could have significant economic, social or environmental consequences.

The same section calls upon the UN-GGCE to implement the **Multilateral Memorandum of Understanding (MMoU) on Strengthening the Global Geodesy Supply Chain**.

So when we established the SAGWG process, in developing its Terms of Reference and began engagement on the MMoU, we were directly responding to the international implementation framework.

What we achieved at the first workshop

The first workshop demonstrated that South Africa is not starting from zero.

We already have substantial capability distributed across the country — within DLRRD (NGI), SARAO, SANSA, universities and other institutions. We have the passive control survey network, TrigNet, space-geodetic observing infrastructure, VLBI capability, GNSS networks, reference-frame expertise, research capability and important international linkages.

But the workshop also identified the central weakness: **these capabilities do not yet operate within a sufficiently coordinated national geodesy framework.**

The workshop therefore reached national consensus on establishing SAGWG and endorsed the (initially eight) and now grouped into a **Pillar based Framework** as the basis for developing our coordinated national approach. Those pillars cover Governance, Infrastructure, Data Sharing, Standards, and Capacity Development.

Importantly, the workshop did not end with a general statement of intent. It produced concrete actions.

Among them were

- the drafting of the SAGWG Terms of Reference;
- formalisation of cooperation between DSTI and DLRRD;
- engagement with the UN-GGCE MMoU;
- development of a National Strategy for Geodesy;
- refinement of the Eight-Pillar Framework and its subcommittee structure;
- a national audit of geodetic infrastructure;
- stronger mechanisms for GNSS data sharing;
- work on regional reference frames and gravity;
- development of human capacity;
- and stronger alignment between SAGWG, GGOS-Africa, UN-GGCE and UN-GGIM: Africa.

So the first workshop gave us both **a structure and a work programme.**

Progress since the first workshop

Since that first meeting, an important part of our work has therefore been moving SAGWG from concept towards an operational national coordination mechanism.

The **Terms of Reference** are central to that process.

The ToR is about to be finalised. The ToR must ultimately answer some very practical questions: Who participates? Who leads? How are decisions made? How do the pillars operate? How do we report? How does SAGWG interface with existing statutory and institutional structures? And how do we ensure that it complements rather than duplicates the mandates of existing organisations?

This last point is important.

SAGWG is not intended to take over the statutory responsibilities of DLRRD\INGI, DSTI, SANSA, SARAO, the universities or any other institution.

Its purpose is to provide the **coordination layer between those responsibilities**.

The same principle applies to the proposed cooperation between DSTI and DLRRD. The bilateral MoU provides the institutional foundation for cooperation between the two departments, while the UN-GGCE MMoU will connect South African institutions to the wider international cooperative framework.

These are therefore related but distinct instruments.

The international discussion has moved further

Since our first workshop, the global discussion has also moved beyond simply recognising that geodesy is important.

The focus is increasingly on **governance of the global geodesy supply chain**.

The UN-GGCE's 2026 work programme identifies the implementation of General Assembly Resolution 69/266 through several interconnected streams of governance, capacity, awareness and evidence, coordination and resources.

These include the MMoU, increased national geodesy committees, country reference-system modernisation guidance, capacity-development activities and the Joint Development Plan itself.

Even more significantly, the **State of Geodesy 2026** work identified governance as a cross-cutting weakness. The assessment highlighted the absence of formal international authority for implementation, limited mechanisms for coordinated investment and risk management, and the distinction between the very important scientific coordination provided by the IAG and the intergovernmental responsibilities of Member States.

During 2026, the UN-GGIM Subcommittee on Geodesy and UN-GGCE therefore progressed work on possible **international governance arrangements for geodesy**, including consultation on governance options.

That development is directly relevant to us.

Because stronger international governance ultimately depends upon stronger **national governance**.

We cannot meaningfully participate in an international governance system if we do not know nationally who is responsible for what, what infrastructure we possess, what condition it is in, what data we contribute, what capabilities we lack, and what our national priorities are.

What this means for SAGWG

This brings us to today's meeting.

At our first workshop, we were largely asking:

Should South Africa establish a coordinated national mechanism for geodesy, and what should it look like?

I believe that question has effectively been answered.

The question before the second SAGWG is now:

How do we make it work?

The Joint Development Plan gives us a useful progression.

Phase 1 is about **preventing further degradation** — retaining capability, strengthening awareness and putting governance and national workplans in place.

Phase 2 moves towards a robust supply chain through better coordination, capacity, observing networks, data centres and analysis capability.

Phase 3 looks towards the next generation, where improved geodetic capability supports emerging scientific and societal requirements.

South Africa therefore needs to translate those global phases into our own national priorities.

For me, that means the work before us must become increasingly practical.

We will be finalising the **Terms of Reference** and governance arrangements.

This will be accompanied by a **DSTI-DLRRD MoU**

We need to determine our approach to the **UN-GGCE MMoU**.

We need to operationalise the **Pillars**, with clear leadership, responsibilities and deliverables.

We need a comprehensive picture of South Africa's geodetic infrastructure and capabilities — not simply what exists, but its condition, ownership, sustainability, data availability and contribution to national, African and global systems.

And ultimately, these pieces must come together in a **National Geodesy Strategy and Action Plan for South Africa**.

Closing

Colleagues, there is a simple thread connecting all of this.

In **2015**, the United Nations General Assembly said that the Global Geodetic Reference Frame requires international cooperation and national commitment.

In **2025**, the UN-GGCE Joint Development Plan translated that principle into practical actions and asked Member States to establish national coordination mechanisms and national strategies.

At our **first South African workshop**, we responded by agreeing to establish SAGWG and by identifying the pillars around which our national effort should be organised.

And now, in **2026**, the international discussion is moving towards stronger governance, clearer responsibilities, risk management and more sustainable investment in the global geodesy supply chain.

Our task today is therefore to move South Africa along exactly the same path — from recognition, to coordination, to implementation.

We already have many of the technical capabilities. We have institutions with long histories and international standing. We have important infrastructure. And we have highly capable people.

What SAGWG must provide is the mechanism that connects those capabilities into a coherent national system.

If we achieve that, we will not only strengthen South Africa's national geodetic capability. We will strengthen our contribution to Africa through initiatives such as GGOS-Africa and AFREF, and strengthen South Africa's contribution to the global geodesy supply chain.

I therefore welcome you all, thank you for your continued commitment, and look forward to us moving from the foundations established at our first workshop towards a functioning, coordinated and sustainable South African geodesy programme.

Thank you.