



BUSINESS AREA: STRATEGIC ADVISORY

Case Study

UAE's National Geodetic Reference Frame

An important step towards international alignment

The Challenge

The United Arab Emirates (UAE) wanted to align its geodetic systems with international standards set by the United Nations Committee of Experts on Global Geospatial Information Management (UN-GGIM) Global Geodetic Reference Frame (GGRF). They were using multiple legacy geodetic datums and coordinate systems across various organisations, which posed challenges for integration internationally. To address this, the UAE Federal Geographic Information Centre (FGIC) requested the establishment of a National Geodetic Reference Frame (NGRF) in line with UN-GGIM standards.

Our Approach

Led by Bayanat, the project involved collaboration with several key partners including Spatial Vision, FrontierSI, Positioning Insights, Curtin University, Collier Geodetic Solutions, Precision Hydrographic Services, and Position++. The primary objective was to design the UAE-integrated NGRF program and develop an implementation plan to streamline the country's geodetic networks into a cohesive system.

Spatial Vision's role for this project was to coordinate the contribution of each of the team's specialist members, undertake key stakeholder consultations, develop recommendations for education, training, capacity building, and communication/outreach, and organise the production of the project report.

Organisation

UAE Federal Geographic Information Centre (FGIC)

Customer Profile

The Federal Geographic Information Center was founded in 2019 and is considered the official reference in the United Arab Emirates with regards to organizing and governing the National Spatial Data Infrastructure (NSDI) sector.

www.fgic.gov.ae/

Location

United Arab Emirates

Sector

Government

Solution

Together with Bayanat, Spatial Vision assisted the UAE in streamlining its geodetic systems to align with UN-GGIM standards, enhancing international integration and adherence to global geospatial standards through a collaborative national project.

The delivery of this project equips the UAE with a clear pathway forward for achieving an integrated National Geodetic Reference Frame and associated systems in line with UN-GGIM standards, as well as clear recommendations regarding the actions required to build the required staff and other infrastructure to support this capability into the future.

The Solution

The project encompassed various aspects including governance, geodetic infrastructure, policies, standards, conventions, education, training, capacity building, and communication/outreach. Enabled by indigenous capacity and stakeholder buy-in, the program aimed to equip government staff with the necessary skills to manage, support, and update the UAE NGRF as required.



The Benefits

Spatial Vision assisted the UAE to streamline its geodetic systems to align with UN-GGIM standards, enhancing international integration and adherence to global geospatial standards through a collaborative national project. The benefits include:

- ✔ Alignment with UN-GGIM's Global Geodetic Reference Frame standards.
- ✔ A plan for the integration of multiple legacy geodetic datums and coordinate systems.
- ✔ Specification of the National Geodetic Reference Frame (NGRF).
- ✔ Design and development of an integrated NGRF implementation program.
- ✔ Focus on governance, infrastructure, policies, standards, and conventions.
- ✔ Emphasis on education, training, capacity building, and communication.
- ✔ Skills development for staff of the Federal Geographic Information Centre to manage the NGRF.
- ✔ Enhancement of UAE's readiness for international geospatial integration.

The completion of this project provides the UAE with a clear roadmap for establishing an integrated National Geodetic Reference Frame and related systems in accordance with UN-GGIM standards. It also offers specific recommendations on the necessary steps to develop the staff and infrastructure needed to sustain this capability in the future.

If you'd like to know more, [please get in touch.](#)