



Defence Geospatial Information Working Group (DGIWG)

Annual Report 2025 and Business Plan 2026

“Delivering Military Advantage through multi-national geospatial interoperability.”

1. Introduction

This report captures the activities, achievements, and outcomes of the Defence Geospatial Information Working Group (DGIWG)¹ during the 2025 calendar year and outlines the planned programme of work for 2026.

Throughout 2025, DGIWG continued to deliver tangible progress in defence geospatial standardisation, strengthening multinational interoperability and supporting North Atlantic Treaty Organisation (NATO) and allied programmes. The organisation remains focused on enabling operational advantage through robust, modern, and implementable geospatial standards.

2. Engagement and Collaboration in 2025

During 2025, DGIWG collectively conducted three in-person meetings, two Technical Group (TG) Meetings and a Plenary Group (PG) Meeting.

- The Spring TG Meeting and the PG Meeting were both hosted in Euskirchen, Germany.
- The Fall TG Meeting was hosted in Oslo, Norway.

Also, the five individual Panels [Vector Data, Imagery, Metadata, Portrayal, Web Services] conducted in-person, standalone meetings throughout the year to progress their respective technical objectives.

Face-to-Face (F2F) engagements enable DGIWG members to maintain and strengthen both, organizational partnerships and professional relationships, efficiently coordinate work between Panels, and ultimately, progress the development, implementation and evolution of DGIWG standards. The requirements for such standards and associated profiles stem from member nations, clients such as co-production programs, and NATO.

3. 2025 Achievements and Highlights

3.1 Key Technical Outputs.

The technical work this past year includes the collection and validation of client requirements as well as the development of profiles and product specifications to support such requirements.

The key outputs include:

- The publication of **DGIWG 126 GeoPackage Profile, v1.1**. The defence profile of OGC's Geopackage was revised to maintain alignment to the OGC 1.4 Standard. This is a key standard for future data exchanges among alliances.

¹ The Defence Geospatial Information Working Group (DGIWG) is a multi-national body established by a memorandum of understanding between the Defence organisations of respective nations. Its main objective is to provide strategic guidance and recommendations to its membership on the standardisation of geospatial data, products, and services. It also supports the requirements of NATO and the other alliances that its members participate in, including UN sanctioned peacekeeping.

- The **DGIWG Geospatial Reference Architecture (DGRA)** Edition 1.1 received an update and now also includes a synopsis document to supplement the Edition.
 - The DGRA defines a set of standards, implementation guides, and industry practices which together form an ideal framework for achieving geospatial interoperability in a Defence context.
- Two (2) additional **GeoTIFF testing data samples** that are conformant with DGIWG 108, GeoTIFF Profile for Georeferenced Imagery, v2.2, were published for community use.
- Delivery of **Defence Geospatial Information Framework (DGIF) 3.0 compliant schemas** and technical support to Multinational Geospatial Collaboration Programme (MGCP) for 5K, 50K and 250K for their Technical Refresh Documentation (TRD5).
- Technical support to **MGCP** on the adoption of the DGIWG Geopackage Profile as part of their **TRD5**.
- The **expanded DGIF 3.0 Mapping Tables** with Open Street Map (OSM) and EuroGeographic Data.
- **Completion of key specifications** scheduled for publication in 2026, include:
 - DGIWG Profile of ISO 19131 Data Product Specification (DPS) Standards, due for 2026 release.
 - Uplift of Defence Topographic Exchange (DTOX) to DGIF 3.0 specification due for 2026 release, a key specification regarding the interoperability of Vector Data
 - Points of Interest (POI) Product Specification for International Programme of Human Geography (IPHG) due for publication in 2026.

Together, these outputs significantly strengthen the defence geospatial standards baseline and reinforce DGIWG's role as a trusted authority in multinational interoperability.

3.2 Organizational Growth.

Expanded membership advances the state of geospatial interoperability between Defence organisations. DGIWG encourages interested nations to pursue membership and better understand DGIWG mission sets and where contribution opportunities exist.

The membership updates include:

- Poland is now a full, participating member of the DGIWG community.
- Lithuania is a new observer; this temporary, introductory role allows a nation to observe, not participate in, DGIWG development activities.

Sustained Governance and Leadership: Most leadership and panel roles continued without disruption, reflecting the strength and maturity of DGIWG organisational processes.

3.3 Programme Management and Transparency

The **Program of Work (PoW)** depicts the status of all requirements, projects and timelines. This has been updated to better show the progression of projects through their planning, development, delivery and maintenance phases which aids project management and communication of progress. The detailed version is currently only visible to DGIWG members via the portal: https://portal.dgiwg.org/files/?artifact_id=72746

The **Outfacing Programmatic Summary** is a depiction of the PoW that has been made available on the DGIWG public website and aims to improve transparency to all DGIWG clients. As subset of the PoW, this high-level summary captures the project activities as well as the project artefact's current life cycle stage. This outfacing summary will be updated bi-annually, at minimum.

3.4 New Requirements.

DGIWG accepted **four new requirements** during 2025, three from external clients and one agreed by member nations. These have been progressed as projects into the PoW.

- Metadata Support for International Programme of Human Geography (IPHG)
- Metadata Support for MGCP TRD5
- Aeronautical Standardisation within DGIF for NATO Geospatial Aeronautical Working Group (GAWG) via Joint NATO Geospatial Standards Working Group (JGSWG)
- Defence Profile if API Process development for member Nations based on recommendations from DGIWG API Whitepaper

Additionally, DGIWG is currently progressing 19 formal requirements including:

- 6 from NATO JGSWG
- 1 from MGCP
- 1 from IPHG
- 1 from NATO MASINT WG (Measurement and Signature Intelligence Working Group)

4. Enabling Success: Resources and Succession

DGIWG continues to benefit from strong national contributions across leadership and panel roles. Looking ahead, succession planning and targeted reinforcement of key functions will ensure sustained delivery.

Key opportunities for member engagement for the upcoming programme year include:

- Technical Lead – Panel One (Vector Data)
- Quality Assurance reviewers supporting publication activities

The **Quality Panel (P0)** continues to play a critical role in assuring clarity, consistency, and credibility of published standards. Expanding participation in this panel presents an excellent opportunity for nations to make a high-impact contribution, including for non-technical specialists with strong written and editorial skills.

2026 DGIWG Business Plan

1. Planned

The following work items are new requirements that have been accepted into the Program of Work in 2026: Progression on planned work is dependent on securing appropriate resource from nations and clients to progress or other dependencies.

LEAD PANEL	PROJECT NAME	PROJECT DESCRIPTION
P1: Vector Data	Geopackage DGIF Vector Exchange Format	To provide Encoding Rules for DGIF Vector data using GeoPackage in complement of DGIWG Profile of GeoPackage Ed 1.1 as part of the DGIF Series of Standards.
P2: Image and Gridded Data	ESM	To review Elevation Surface Model (ESM) Standardized Profile.
P2: Image and Gridded Data	DRP Revision	To revise Defence Raster Product (DRP) product specification including to add Polar extension.
P2: Image and Gridded Data	DOP Revision	To revise Defence Orthoimagery Product (DOP) product specification including to add Polar extension support.
P2: Image and Gridded Data	LAS Profile	To develop a DGIWG profile of the OGC LAS (LASer) Format designed for the exchange of Lidar point cloud data.
P4: Portrayal	Standard Colours	To revise Printing Colours for Defence Geospatial Products standard.
P5: Web Services	Geopackage Extension: Styling / Portrayal	To investigate Defence Styling / Portrayal Geopackage Extension.
P5: Web Services	API Features Profile	To develop DGIWG Profile of OGC Application Programming Interface (API)- Features

2. Development

The following work items are continuing, or will be under development in 2026, with delivery due within 2026 or 2027. Continuing progress relies on continuing resource from nations and clients.

LEAD PANEL	PROJECT NAME	PROJECT DESCRIPTION
P1: Vector Data	DCM 5/10 Specification	To develop Defence City Map (DCM) Data Product Specification (DPS) for 5k and 10k analogue products in compliance to Defence Geospatial Information Framework (DGIF).
P1: Vector Data	DPS JOG (A)	To develop Joint Operations Graphic – Air Data Product Specification (JOG-A DPS) 250K conformant to Defence Geospatial Information Framework (DGIF) 3.0.

P1: Vector Data	Defence TPC/ONC Specification	To develop Tactical Pilot Chart / Operational Navigation Chart Data Product Specification (TPC / ONC DPS) conformant to Defence Geospatial Information Framework (DGIF) 3.0.
P1: Vector Data	UTRD1 (MUVD Schema & DPS)	To provide artifacts and support to Multinational Geospatial Collaboration Program (MGCP) Urban Vector Data Content and Exchange Schema in line with Defence Geospatial Information Framework (DGIF) 3.0
P1: Vector Data	DTM 25/50/100	To uplift Defence Topographic Map for 1:50,000 Scale (DTM50) Data Product Specification (DPS) in compliance to Defence Geospatial Information Framework (DGIF) 3.0 and extend to include 1:25 000 and 1: 100 000 products.
P1: Vector Data	S101 to DGIF Mapping	To map S101 (Universal Hydrographic Data Model) to Defence Geospatial Information Framework (DGIF) and close gaps
P1: Vector Data	Aero Content Review / AIXM Mapping	To improve and update Aeronautical content in Defence Geospatial Information Framework (DGIF) and provide alignment with Aeronautical Information Exchange Model (AIXM).
P1: Vector Data	Urban Exchange Schema and Specification	To develop Information Model and Exchange Specification for Urban Geospatial Information Compliant to Defence Geospatial Information Framework (DGIF) 3.0.
P1: Vector Data	GeoPackage Implementation Guidance for MGCP	To provide subject matter expertise to Multinational Geospatial Collaboration Program (MGCP) GeoPackage Implementation Guide to ensure conformance to a DGIWG Geopackage Profile.
P1: Vector Data	MGCP 5K/50K/250K DPS	To produce Data Product Specification (DPS) and Artefacts for Multinational Geospatial Collaboration Program (MGCP) 5K/50K/250K Technical Refresh Document (TRD5) outputs.
P1: Vector Data	IPHG POI DPS	To provide artefacts and support International Programme for Human Geography (IPHG) for the capture and exchange of Points of Interest (POI) data in line with Defence Geospatial Information Framework (DGIF) 3.0.
P2: Image and Gridded Data	DGED Revision	To revise Defence Geospatial Elevation Data (DGED) Standard to include new Tiling Scheme
P2: Image and Gridded Data	GeoTIFF Profile Revision	To revise the DGIWG GeoTIFF Profile to support Cloud Optimized GeoTIFF (COG) and BigTIFF and additional compression algorithms encodings (LERC/ZSTD/LZW) and guidance.
P2: Image and Gridded Data	ESM: Encoding GeoPackage	To develop Elevation Surface Model (ESM) – Encoding Rules – Part 5 GeoPackage complementing Defence Geopackage Profile to meet Gridded Data in Geopackage extension.

P2: Image and Gridded Data	Point Cloud Evaluation	To scope and determine prospective standardisation activity required (new or revised standards) to meet Defence geospatial Point Cloud use cases.
P2: Image and Gridded Data	ESM: Encoding NSIF	To revise Elevation Surface Model (ESM) – Encoding Rules – Part 4: NATO Secondary Imagery Format (NSIF) (v1.1.1) in consequence of STANAG 4545 Edition 3 (2024) and evolutions of registry of NSIF extensions.
P3: Metadata	DMF 2.1	To develop DGIWG Metadata Foundation (DMF) 2.1
P3: Metadata	DMF Implementation Guidance	To develop Metadata General Guidelines – Metadata DPS profile mapping to support DGIWG Data Product Specifications (DPSs)
P3: Metadata	Metadata Register	To develop Metadata Register, with machine readable exports, to be made available on the DGIWG website.
P3: Metadata	MGCP Metadata Profile	To define a metadata profile for Multinational Geospatial Collaboration Program (MGCP) 50K/5K Technical Refresh Document (TRD5)
P3: Metadata	IPHG Metadata Profile	To define a metadata profile for International Programme of Human Geography (IPHG).
P4: Portrayal	Symbol Repository and Registry Documentation	To develop supporting documentation and procedures for the DGIWG Portrayal Depository / Registry
P4: Portrayal	Symbol Encoding Guide	To produce Symbol Encoding (SE) Implementation Guide
P5: Web Services	EDR API Profile	To define Defence Profile of OGC Environmental Data Retrieval (EDR) Application Programming Interface (API)
P5: Web Services	Sensor Web Enablement (SWE)	To develop DGIWG Endorsement and Implementation Guide for OGC Sensor Web Enablement (SWE) Standards for MASINT
P5: Web Services	WFS	“To revise Defence profile of OGC’s Web Feature Service 2.0”
P5: Web Services	WPS Guidelines	To produce Web Processing Service guideline document, covering current requirements for, and informs emerging API Processes activity.
P5: Web Services	API Processes Profile	To develop DGIWG Profile of OGC Application Programming Interface (API) Processes.
P5: Web Services	WFS Profile	To revise Defence Profile of OGC’s Web Feature Service (WFS) 2.0 in lieu of and informing work no API Features Profile.

3. Publication

The following items are the minimum publication objectives for 2026:

LEAD PANEL	PROJECT NAME	PROJECT DESCRIPTION
P1: Vector Data	ISO 19131 Profile Update (DPS)	To update the Defence Profile of ISO 19131 Geographic Information – Data Product Specification (DPS).
P1: Vector Data	DTOX	To uplift Defence Topographic Exchange (DTOX) Data Product Specification (DPS) for the exchange of vector data in conformance to DGIF.
P1: Vector Data	Update DGIF 3.0 Mapping Tables	To update/creation of Mapping Tables to Defence Geospatial Information Framework (DGIF) 3.0, Open Street Map (OSM) to DGIF3.0, Defence Vertical Obstruction File (DVOF) to DGIF3.0, EuroGeographics EuroGlobalMap/EuroRegional Map (EGM/EDR) to DGIF 3.0

4. Maintenance

The following items are due for technical review in 2026 when appropriate action (retain, revise, retire, defer) will be determined.

LEAD PANEL	PROJECT NAME	PROJECT DESCRIPTION
P1: Vector Data	IPHG CCL/SEL DPS	To review International Program for Human Geography (IPHG) Data Product Specifications (DPS) for Cultural Context and Statistics (CCL/SEL).
P2: Image and Gridded Data	ESM: GML	To review Elevation Surface Model (ESM): GML Application Schema (v1.0.2)
P2: Image and Gridded Data	ESM: Encoding Core	To review Elevation Surface Model (ESM) – Encoding Rules – Part 1: Core (v1.1.1)
P4: Portrayal	Web Display	To review currency and requirements for Symbology for Web Display Standard, and determine whether to Retain, Revise, or Retire.
P5: Web Services	CSW Profile	To review currency and requirements for Defence Profile of OGC's Catalogue Service for the Web (CSW) 2.0 and determine whether to Retain, Revise, or Retire.
P5: Web Services	WCS Profile	To review currency and requirements for Defence Profile of OGC's Web Coverage Service (WCS) 2.0 and determine whether to Retain, Revise, or Retire.
P5: Web Services	WMS Profile	To review currency and requirements for Defence Profile of OGC's Web Map Service (WMS) and determine whether to Retain, Revise, or Retire.
P5: Web Services	WMTS Profile	To review currency and requirements for Defence Profile of OGC's Web Map Tile Service (WMTS) and determine whether to Retain, Revise, or Retire.