

# Specialised Data Specifications

## Section 15 GEMS Geo-Enabled Objects

Not GEMS Geo-enabled	
GEMS Geo-enablement Planned	
Content GEMS Geo-enabled	✓

## 15 GEMS GEO-ENABLED OBJECTS (FEATURES)

### 15.1 Scope of Specification

15.1.1 This specification outlines the elements of the Defence Estate that are represented in GEMS and how they are spatially enabled. It also describes the requirements for providing geometries (spatial data) representing these elements for use in GEMS.

15.1.2 This specification provides requirements for GEMS Objects for which there is no specific SDMP specification. Where the SDMP provides specific specifications, these take precedent (e.g. Section 13 - Environmental Data)

### 15.2 Approaches for Geo-Enablement of Objects (Features)

15.2.1 GEMS Objects are geo-enabled by:

- relying on a “link” only to an existing GEMS geo-enabled object’s geometry (i.e. linked only records have no additional geometry to maintain), or
- receiving a “copy” of the geometry held by a linked GEMS geo-enabled object (i.e. the record acquires its own copy of this object’s geometry which is able to be maintained separately. or
- A geometry directly associated with them.

15.2.2 Table 15-1 lists the “geocoded” GEMS Object types that in and of themselves are not required to be provided with a spatial representation of their location and extent. These objects are geo-enabled by linked reference with another GEMS object geometry.

**Table 15-1: Objects geospatial enabled via attribute association with other GEMS Objects**

Object Type	Referenced to
Real Estate Contracts	Related Architectural Objects. E.g. Property or Building
Equipment	Related Functional Locations
Notifications	Related Functional Locations
Work Orders	Related Functional Locations

15.2.3 Appendix N list the types of objects that are geo-enabled in GEMS with a directly associated geometry and the required feature types (point, line polygon). (for awareness).

### 15.3 How Geometries are Created or Updated for Geo-enabled Objects (as GIS features)

15.3.1 There are two methods available for creation of geometries that will directly represent objects in GEMS, as follows:

**GEMS:**

via GEMS GEO.e tab [Geo-explorer “Local View”] in “edit mode” within the GEMS record transaction, (else automatically created via system “default assignment” of its parent GEMS object geometry).

**Beyond GEMS:**

via GEMS Master Data create or update processing supplemented with the GEMS geo-enablement Refinement Work Flow processing (pending /TBA)

15.3.2 Currently, GEMS geo-enablement geometries, relating to GDL /HOTO and GEMS Master Data processing do NOT require any change to current data provider responsibilities (i.e. such as the current requirement to upload to NSIMS).

15.3.2.1 Data Providers should advise GEMS Master Data management after properly completing NSIMS spatial datasets uploads where related to GDL processing.

**Table 15-2: Methods for Creation of Geometries for Geo-Enabled Objects**

Method	Context	Requirements
GEMS User Interface - manually	Available to DRN users with relevant GEMS edit access or automatically assigned a [temporary] parent record geometry	At the beginning of the life cycle of an Object and in order to confirm the validity of the new record created, the system mandates the requirement that a simple geometry be added, representing the location and shape of the object. (Note that a GEMS geo-enabled record cannot be saved without a geometry)  If required, GEMS geometry may be further maintained; edited directly or else refined via work flows.
GEMS Master Data Creation process	MDM Team and Off-line: Available to Defence Contractors	Contractors lodging GEMS Data Loading (GDL) tools must also continue to upload spatial datasets and geospatial plans into NSIMS per SDMP requirements as usual.  IMPORTANT: Contractors should confirm that they have completed NSIMS uploads to the GEMS Master Data team to assist the completion of GDL processing.

15.3.3 An [interim] process will extract geometries for GEMS records from datasets uploaded into NSIMS by the Contractor. Therefore, it is critical that Contractors ensure that when supplying and uploading spatial data that the correct EBI is assigned where applicable. (Refer to Sections 3 and 4)

**NOTE:** Estate Business Identifiers (EBIs), the physical asset identifier, are E&IG systems “geocodes” (meaning their respective actual geo locations are pre-established within geospatial systems) and should not be modified without approval. These geocodes enable the correct association of information to the estate representation, and thereby achieve the critical geospatial association with the correct GEMS asset record.

15.3.4 To assist new GEMS record creation, where a specific geometry cannot be generated for an object, a “Stand-In” geometry is assigned by default, in which case the geometry of the parent object is used to ensure the correct asset record context is maintained. For example, if a **geometry** cannot be created for a Building the geometry representing its [parent] Property will be applied by Defence.

## 15.4 Data Deliverable Specification

15.4.1 Geospatial data submitted for GEMS must continue to conform with the requirements of **Section 2** General Data Specification, particularly with regard Spatial Integrity of features.

### 15.4.2 Data Format

15.4.2.1 Data shall be provided in ESRI Shapefile format.

### 15.4.3 Required Attributes

15.4.3.1 So that geometries are able to be attached to their GEMS record, they must be attributed with the EBI appropriate to the Object Type. See **Appendix N** – GEMS Geo-Enabled Objects for attribution requirements.

### 15.4.4 File Names

Files shall be names as per the following schema:

GEO\_[Object Type]\_[Pt, Line, Poly]\_YYYYMMDD.shp

Example: EST\_Poly\_20200207.shp