

# BSI committee Geographic Information (IST/36) / AGI Standards Committee Business Plan 2020

Public version

Peter Parslow, Chairman

## 1. Scope

IST/36 is the committee of British Standards Institution (BSI) with responsibility for standards for geographic information. It also operates as the AGI's standing Standards Committee, although this may change in 2020

Membership currently stands at 21, with representatives from a range of government and commercial organisations, as well as several individual members with special expertise in the development of standards, who are co-opted. A full list of members at the end of 2019 is given in Table A1 in Annex A; two members left this year, and two new people joined.

The Committee meets quarterly at BSI. These meetings are supplemented by telephone conferences held in the months between quarterly meetings.

Administrative support is provided by the Committees Support Centre (CSC) at BSI; AGI provide a Committee Secretary (sponsored by Ordnance Survey).

Committee members represent UK at the Technical Committee meetings of ISO/TC 211 (Geographic information/Geomatics). These meetings qualify for AITS<sup>1</sup> travel funding for members who are eligible. The schedule of meetings, as far as is known, for 2020 is given in Table A2 in Annex A.

The committee also maintains an active liaison to several other BSI committees, such as SDS/2 Smart and Sustainable Cities and Communities, and CB/5 Digitalisation of the Built Environment; and also to the UK & Ireland forum of the Open Geospatial Consortium (OGC®).

## 2. Mission

The mission of the Committee is:

*To enable the UK to have an agreed portfolio of relevant and trusted standards for the better exploitation and sharing of geographic information and that these are maintained and promoted.*

## 3. Terms of Reference

The terms of reference are to:

- understand and specify the stakeholder requirements, especially through the Association for Geographic Information (AGI);

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<sup>1</sup> Assisted International Travel Scheme funded by the Department for Business, Energy and Industrial Strategy but administered by BSI

- engage with various professional and domain groups who could be using geographic information standards, such as surveying, cartography, computing, smart cities, construction.
- on behalf of BSI, propose and provide technical approval of British Standards;
- monitor and prioritise the overall effort on UK standards;
- promote the value, understanding and adoption of national, European and International standards, including through AGI;
- obtain funding for standards work and liaise with sponsors to ensure that the work of the Committee can be sustained;
- maintain a membership which is representative of the users, developers and producers of geographic information in UK;
- maintain a network of relevant UK domain and standard experts;
- coordinate UK input into the work of ISO/TC 211, CEN/TC 287 and other relevant *de jure* national, European and International Standards bodies;
- be responsible for the UK metadata standard, UK GEMINI, and its associated guidance and implementation documents;
- agree the publication of ISO standards as British Standards where relevant and applicable to UK;
- maintain awareness of developments within the OGC where these will impact on the development of ISO standards.

### 3. Achievements during 2019

#### **Support for ISO/TC 211**

The UK provided active support to the following activities:

- UK experts led three ISO TC211 projects to completion, and another starting;
  - revision of ISO 19112 *Spatial referencing by geographic identifiers* (published 2019-02),
  - revision of ISO 19111 (joint with OGC) *Referencing by coordinates* (published 2019-01)
  - revision of ISO 19162 (joint with OGC) *Well known text representation of coordinate reference systems* (published 2019-07)
- Amendment to ISO 19135-1 *Procedures for item registration*
- UK provided the leader for an Ad Hoc group looking at TC211's future structure
- attendance at meetings of Technical Committee, Working Groups, Project Teams, Editing Committees and coordinating groups including the Programme Management Group and the Advisory Group on Strategy (see Tables A3 and A4 in Annex A);
- Twelve experts nominated to seventeen standards projects;
- Experts nominated to the Terminology Maintenance Group and the Control Body for the Geodetic Registry
- national body response to formal ballots and request for comments on draft standards (see Table A5 in Annex A);
- liaisons between ISO/TC 211 and the Oil and Gas Producers (OGP), and Energistics.

#### **Support for CEN/TC 287**

The UK provided the Chair and Secretariat of the TC - the Chair is Dr Robert Walker; secretariat is provided by BSI HQ staff. The current activity of the TC is to adopt ISO/TC 211 standards as CEN standards, via the Vienna Agreement.

### **British Standards**

We have continued work on revision BS7666 *Spatial datasets for geographical referencing*. A revised edition of BS7666-1 was published in December.

### **UK GEMINI**

The GEMINI Working Group of the committee continued to revise the informative text of AGI's UK GEMINI 2.3, in response to feedback from users. This resulted in two editorial update releases, and a revised set of Schematron and example files, now hosted on GitHub. The UK INSPIRE Discovery Service and location data on data.gov.uk can accept GEMINI 2.3 records, but still operate better with GEMINI 2.2. The Working Group provided support to companies developing GEMINI 2.3 software. Further details are provided as Appendix 1.

### **Other standards activity**

The Committee maintains liaison with BSI's SDS/2 Smart and Sustainable Cities and Communities, and with B/555 Construction design, modelling and data exchange. The committee regularly coordinates input into relevant BSI Publicly Available Specifications.

The chair contributes to the central government Data Standards challenges, and has been involved with iStandUK, the English local authority data standards group.

The committee has been invited to MOD's Geospatial & Imagery Standards Steering Group, the chair of which is a member of IST/36.

The chair has engaged with the Geospatial Commission concerning priorities; as AGI, we applied for Geospatial Commission funding to update the data publishers' priority standards, and to ensure these align with data users' priorities for standards. This application was not approved for 2019.

The chair has provided geospatial standards input to the National Digital Twin group of the Centre for Digital Built Britain.

## **4. Plan for 2020**

### **Changing relationship with AGI**

Recognising the success of IST/36 as a BSI committee, AGI will close its Standards Committee in 2020. From that date, IST/36 will no longer fulfil that role. IST/36's Terms of Reference will be revised accordingly.

The GEMINI Working Group will transfer to AGI, at a time to be agreed between the Working Group, IST/36, and AGI. IST/36 will receive a regular (liaison) report from the AGI GEMINI Working Group.

### **Support for ISO/TC 211**

The UK will continue to be active in ISO/TC 211. Much of the work will involve UK input to the revision of existing standards. In particular, UK will provide

- convenor of the Programme Management Group, to try to ensure that there is a clear scope and business requirement for all new work items.
- Input to various joint working groups, as TC211 works more closely with domain communities (construction industry; intelligent transport)
- Input to specific projects as determined by UK priorities and availability of experts

### **Support for CEN/TC 287**

The UK will continue to support CEN/TC 287 and continue to provide the Chair and Secretariat.

### **British Standards**

We will finish revision of BS7666:2006, based on the consultation conducted previously. We expect BSI to publish revised versions of parts 0 and 2.

### **UK GEMINI2**

The GEMINI Working Group will publish a further editorial release, including guidance on the 'Metadata standard name' and 'Metadata standard version' elements of ISO 19115:2003. The group will then transfer to AGI, at a time to be agreed between the Working Group, IST/36, and AGI. It will continue to provide support including responding to queries via the AGI website. This may involve publishing clarifications and editorial updates, in support of wider adoption, and involvement in European INSPIRE activities around metadata. The Working Group will provide a liaison report to IST/36. IST/36 remains the appropriate channel for issues concerning ISO geographic metadata and related standards.

### **Liaison with other BSI work**

- Active liaison with other BSI technical committees who should be using GI standards, such as BIM and Smart Cities
- Involvement in BSI projects, such as creating PASs

### **Other standards activities**

Other standards activities will include the following:

- work more closely with the OGC UK & Ireland forum
- seek to understand barriers to the use of standards, and where possible, produce further material to improve adoption and use
- seek to work with the Geospatial Commission
- collaborate with AGI and Geospatial Commission to check the data publishers' priority standards, which were expressed in September 2018 and updated since, trying to ensure these align with data users' priorities for standards.

## **5. Risks and mitigation**

1. Isolation from AGI leadership, due to lack of communication, interest and support from Council:
  - We expect AGI to nominate a member of their Council to IST/36.
2. Out of date information on the AGI website:
  - As part of the organisational change, IST/36 and AGI will review the AGI Standards Committee website content to reflect the new direction and ensure the information is accurate and low maintenance.
  - IST/36 then needs to consider whether it needs a distinct web presence.
3. Lack of representation at ISO/TC211 meetings, due to shortage of travel funding via AITS. Members continue to report that AITS covers less than half the cost of attending meetings; this means that UK is often not able to send the most appropriate expert to a meeting – only if they have another source of funds. This diminishes UK influence on

- European and International standards development, because of not being present in particular meetings, and being generally seen as less committed to TC211.
- We will plan ahead such that AITS applications go in early and always before the quarter in which the meeting occurs.
  - Seek alternative funding where possible, including sponsorship from potential beneficiaries of the work.
  - dial in to meetings. Experience suggests that this is less effective than attendance.
4. Over-dependence on a few long-serving members:
- We will continue our efforts to communicate the activities of IST/36 and the benefits of standards both to AGI and the wider user community.
  - AGI to help IST/36 seek new members from our membership and network.
  - Seek to find new participants especially amongst those newer to the industry.
  - Follow up people whom we meet during outreach activities.
  - Ensure that nominating organisations are represented by people with interest, and senior support for their involvement.
5. Competing standards: Individual sectors which regard themselves as "special" and produce their own standards that are incompatible with industry, National or International Standards. At the national level, competing standards have already been produced.
- We will encourage the use of existing standards through continuing promotion of the benefits.
  - We will attempt to minimise conflict by encouraging membership of IST/36 by other bodies and influencing through AGI and OGC.
  - AGI to seek to connect with new sectors, signpost members to IST/36 and act as a convenor as required
  - We will establish a way to work with the Open Data Institute, who are becoming active in promoting data standards.
6. Failure by government to appreciate the importance of standards or even recognise their existence in the domain of geographic information.
- We will continue our efforts to communicate and involve government departments through encouragement of their participation in the work of IST/36, promotion of relevant standards, meetings with individual departments and personal contacts.
  - We will continue to support UK INSPIRE where resources allow.
  - We will engage with the UK government Open Standards Board
  - We will engage with any Data Leaders Network<sup>2</sup> activity on SDIs
7. The Geospatial Commission, as it evolves and realises its mandate, may not engage with IST/36.
- We will seek opportunities to present our work to the Geospatial Commission, and actively find a way to work together, as in the plan above.

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<sup>2</sup> <https://www.gov.uk/government/groups/data-advisory-board-and-data-leaders-network>

## Annex A.

**Table A1: Membership of IST/36 – December 2019**

<b>Representing (Role)</b>
AGI (Secretary) (Note: supported by Ordnance Survey)
British Association of Remote Sensing Companies
British Cartographic Society
British Geological Survey
BCS, the Chartered Institute of IT
BSI Chair (Note: supported by Ordnance Survey)
EPL/278 liaison
Land Registry
Marine Environmental Data & Information Network (MEDIN)
Ministry of Defence (MOD)
Office of National Statistics (ONS)
Open Geospatial Consortium (OGC)
OS, nominee to ISO 19152 (LADM) project
Satellite Applications Catapult
The Improvement Service
UK INSPIRE (Note: supported by EDINA)
GeoPlace
Individual capacity (geodesy)
Individual capacity (geographic information)
Individual capacity (imagery)
Individual capacity (metadata); chair CEN/TC 287

This table does not include an additional seven committee members who are members of particular working groups or ISO groups.

**Table A2: Schedule for AITS funding**

01 January 2020 – 31 December 2020

<b>Committee Reference</b>	<b>Location</b>	<b>Dates of meeting</b>	<b>Probable No of Delegates for AITS</b>
ISO/TC 211	Helsinki, Finland	June 2020	3
ISO/TC 211	TBC	November 2020	3

Delegates will be confirmed nearer the dates of the meetings. CEN/TC287 does not meet.

**Table A3: Participation in European and International Technical Committees in 2019**

Technical Committee	Meetings		Role
	Location	Dates	
ISO/TC 211	Maribor (Slovenia)	3 - 7 June	Head of UK Delegation Member of Delegation  WG/PT delegates Remote participants
	Omiya (Japan)	9 - 13 December	Head of UK Delegation  WG/PT delegate Remote participants:

**Table A4: Participation in ISO/TC 211 working and *ad hoc* groups in 2019**

Project or group	Title	Status/date
ISO 6709	Standard representation of geographic point locations by coordinates	Committee draft approved to enter enquiry 2019-11
ISO 19107	Spatial schema – revision project team	Published 2019-12
ISO 19111	Referencing by coordinates – revision project team – project lead	Published 2019-01
ISO 19112	Spatial referencing by geographic identifiers – revision project – project lead	Published 2019-02
ISO 19127	Geodetic codes and parameters / Geodetic register	Published 2019-02
ISO 19131	Data product specification – revision	Enquiry closed 2019-04
ISO 19135-1	Procedures for item registration	Working draft
ISO 19139-1	Metadata – XML schema implementation – revision project team	Published 2019-03
ISO 19144	Classification - Land Cover Meta Language	Stage 0
ISO 19148	Linear referencing	Committee
ISO 19152	Land Administration Domain Model	Stage 0
ISO 19157	Data quality	Project approved 2019-07
ISO 19159-2	Calibration and validation of remote sensing imagery sensors and data — Lidar	
ISO 19160-3	Addressing - data quality	Final draft out for vote
ISO 19160-6	Addressing - Digital interchange models	Working draft
ISO 19161-1	Geodetic References: ITRS - project team	Text sent for publication
ISO 19162	CRS Well Known Text	Published 2019-07
ISO 19165-2	Preservation of digital data and metadata – Part 2 Content specification for earth observation data and derived digital products	Enquiry closed 2019-11

ISO 19166	BIM to GIS conceptual mapping	Project deleted 2019-06
ISO 19168-1	Geospatial API for Features -- Core	Enquiry to close 2020-01
ISO 19169	Gap analysis between Geographic Data Files (GDF) and conceptual models of geographic information	Working draft
JWG11	TC211/TC204 Joint Task Force on Intelligent Transport Systems	
	TC59-SC13/TC211 joint working group on Geo-BIM	
AG 02	Advisory Group on Strategy	
AG 03	AG Programme Management Group	
AG 12	Control Body for Geodetic Registry Network	
AG 01	Advisory group on outreach	
AG 07	AG Terminology maintenance	
n/a	<i>Ad hoc group on Location Based Services disbanded in summer meeting</i>	
n/a	<i>Ad hoc group on classification issues disbanded in summer meeting</i>	
AHG 13	<i>Ad hoc group to revise the TC211 business plan disbanded in December</i>	
AG 11	Advisory group on supporting UN	
AHG 15	<i>Ad hoc group on engagement</i>	
AHG 16	<i>Ad hoc group to study possible future WG structures; disbanded in December</i>	

**Table A5: UK Responses to International Ballots for Standards in 2019 as advised by IST/36**

<b>ISO Standard</b>	<b>Stage</b>	<b>Title: Geographic information systems -</b>	<b>Vote</b>	<b>Result of vote in ISO</b>
6709	CD	Standard representation of geographic point location by coordinates	Approve, with comments	Approved, with lots of comments
19105	CD	Conformance and testing	Disapprove, with comments	Approved, comments to be discussed in December
19107	FDIS	Spatial schema	Abstain with comments	Approved
19115-1	Review	Metadata – Part 1: Fundamentals	Confirm	Confirmed
19115-3	Review	Metadata -- Part 3- XML schema implementation for fundamental concepts	Confirm with correction of errors	Revise
19116	DIS	Positioning services	Approve	Approved
19129	Review	Imagery, gridded and coverage data framework	Abstain	Confirmed
19130-3	DTS	Imagery sensor models for geopositioning - Part 3 Implementation Schema	Approve, with comment	Approved, with several technical comments
19131	DIS	Data product specifications	Disapprove, with comments	Approved
19135-2	Review	Procedures for item registration – XML schema implementation	Abstain	Confirmed
19139-1	DTS	XML schema implementation – Encoding rules	Approve	Approved
19139-2	Review	Metadata – XML schema implementation – Part 2: Extensions for imagery and gridded data	Withdraw	Withdrawn
19148	CD	Linear referencing	Abstain	Approved, with comments
19150-1	Review	Ontology – Part 1: Framework	Revise	Confirmed, with a stage 0 to investigate requirements for revision

ISO Standard	Stage	Title: Geographic information systems -	Vote	Result of vote in ISO
19153	Review	Geospatial Digital Rights Management reference model (GeoDRM RM)	Withdraw	Confirmed, but withdrawn by resolution
19157	Review	Data quality	Revise, with comments	Confirmed, but TC resolved to revise
19158	Review	Quality assurance of data supply	Confirm	Confirmed
19159-2	Review	Calibration and validation of remote sensing imagery sensors and data -- Part 2- Lidar	Confirm with correction of errors	Confirmed
19159-4	NP	Calibration and validation of remote sensing imagery sensors – Part 4: Space-borne passive microwave radiometers	Approve	Approved
19160-3	DIS	Addressing – Part 3: Address data quality	Disapprove, with comments	Approved for FDIS (UK comments accepted)
19161-1	DIS	Geodetic references – Part 1: The International Terrestrial Reference System (ITRS)	Approve	Approved
19162	DIS	Well-known text representation of coordinate reference systems	Approve, with comments	Approved
19163-1	Review	Content components and encoding rules for imagery and gridded data – Part 1: Content model	Approve	Approved
19163-2	DTS	Content components and encoding rules for imagery and gridded data - Part 2 Implementation schema	Abstain	Approved, but several technical comments
19165-2	CD	Preservation of digital data and metadata – Part 2: Content specifications for earth observation data and derived digital products	Approve	Approved
19165-2	DIS	Preservation of digital data and metadata - Part 2 Content specifications for Earth observation data and derived digital products	Approve	Approved with comments (some technical)
19168-1	DIS	Geospatial API for features – Part 1: Core	Approve with one comment	<i>Ballot result pending</i>
19170	NWIP	Discrete global grid systems	Approve with comments	Approved
19170	CD	Discrete global grid systems	Approve with comments	Approved

ISO Standard	Stage	Title: Geographic information systems -	Vote	Result of vote in ISO
ISO 24609	NP	Smart community infrastructures – Data framework of infrastructure governance base on digital technology	Commented	n/a

#### Explanation of 'stage' acronyms:

NWIP: New Work Item Proposal, may have a draft attached, proposed for any stage

CD: committee draft (i.e. agreed at TC211)

DIS: draft international standard (for public vote managed by ISO)

FDIS: final draft international standard (optional stage, required if DIS attracts technical comment)

Review: periodically, ISO documents are reviewed: the choices are: confirm; confirm with correction of errors; revise; withdraw

Changes not tracked from here – whole Appendix inserted

## Appendix 1: GEMINI Working Group report 2019

### Background

The AGI Standards Committee's GEMINI Working Group has existed on and off since the creation of GEMINI in 2004. The current Terms of Reference date from April 2015 and can be provided on request.

“This is a working group of the AGI Standards Committee established for the purpose of overseeing the revision and maintenance of the [GEMINI](#) metadata standard and the UK INSPIRE profile.”

[GEMINI 2.3](#) was published in June 2018; the Working Group released editorial updates in July, August, September, and October 2018.

The Working Group continues to oversee minor corrections, which mostly arise from early implementers (largely Astun Technology for Scottish Government, but also MEDIN, BGS).

Meeting records are detailed at <https://docs.google.com/document/d/1NaPvvHL-YMQXe40D1AMqqESmwuG4PWTFrOJOxRT6lq4/>

### 2019 Membership

Chair: chair of AGI Standards Committee	also provides link to GDS's data.gov.uk
BGS	<ul style="list-style-type: none"> <li>produced the Schematron validation files for GEMINI 2.3, drawing on his experience of BGS's implementation, with responsibilities across NERC.</li> </ul>

	<ul style="list-style-type: none"> <li>• also provides.</li> </ul>
BODC / MEDIN	links to the MEDIN community, which have their own profile, based on GEMINI, with their own tooling: <i>Metadata Maestro</i> . Users include Natural Resources, Wales;
CEH	
EDINA	a member of the Defra led UK INSPIRE Architecture & Interoperability Board, and his team provided the UK Location Metadata Editor – and are currently working on upgrading that to GEMINI 2.3, under contract to Defra
HS2	
ONS	
Scottish SDI	acts as the technical customer for Scottish SDI’s use of GEMINI, and
UK INSPIRE	<p>one of the UK’s technical reps on the EC INSPIRE Maintenance &amp; Implementation Group provides a link to the EC INSPIRE Metadata group</p> <p>the chair also runs the UK INSPIRE Discovery Service under an MOU between Defra, Cabinet Office, and OS.</p>
Individual experts	<ul style="list-style-type: none"> <li>• managed the Defra funded project which got the creation of GEMINI 2.3 started; he had been involved in earlier GEMINI versions.</li> <li>• the editor of GEMINI and associated AGI guidance from version 1 to version 2.2.</li> </ul>

The group maintains direct links with GDS (for data.gov.uk), Defra’s AIB, Web Foundry (AGI website support), AGI staff.

### **2019 Activity**

**January 2019:** released a minor fix to the Technical Documentation of the Schematron package.

**March 2019:** editorial release. “*The largest impact is to note that INSPIRE only allows one Quality scope element - i.e. the metadata has to describe the whole dataset.*”

**April 2019:** Webex meeting, particularly to discuss two issues:

- *Guidance for Metadata standard name & version*
- *Guidance for INSPIRE 'Conditions for access and use'; this still sometimes raised issues in the INSPIRE geoportal harvest check.*

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*June 2019: Published [Schematron files on GitHub](#), after discussion with AGI Council in May/June, leading to AGI establishing a GitHub presence.*

*September 2019: Webex meeting to*

- *agree the new guidance for Metadata standard name & version*
- *agree a small number of other editorial corrections, including to the XML sample files provided with the Schematron file*

*Work towards a release intended to be made in 2019, now likely in early 2020. This has included getting a small number of values added to the NERC Vocabulary Server.*

*Ongoing advice provided by chair, officially responding to [gemini@agi.org.uk](mailto:gemini@agi.org.uk), to:*

- MOD geo standards (Joint User, Joint GI Standards Development)
- Astun Technology, as they implement a GEMINI 2.3 under contract to Scottish Government
- Cabinet Office GDS data.gov.uk Product Manager & development team,
  - updating their validation to allow GEMINI 2.3 records; work outstanding to display GEMINI 2.3 records better.
  - Assisting debugging their back-end (CKAN) migration
- MEDIN, for their GEMINI 2.3 implementation
- Natural Resources, Wales

### **2020 Plan**

The **GEMINI 2.3 release** that's been under development since September 2019 should go live in the first few months.

We expect a number of **GEMINI 2.3 editors** to go live during the first few months of 2020:

- Scottish SDI, developed by Astun Technology
- MEDIN, developed by BODC
- Public Defra-owned UK Metadata Editor, developed by EDINA

It seems inevitable that the later stages of development will through up further **issues**, so it will be important to keep the working group available to agree resolution, at least for anything beyond simple editorial fixes / improvements.

It is possible that GDS resources will become available to **improve the presentation on data.gov.uk** of GEMINI 2.3 records. It is likely that this will need further input.

It is possible that the **relationship between UK and the European Commission** will settle. This could result in changes to the governance of "UK INSPIRE", and therefore of the close relationship between GEMINI and INSPIRE Metadata Technical Guidance. It may result in changes to the harvesting of GEMINI records.