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Paper for Consideration by the S-100 Working Group (S-100WG) Summary of Activities of the IHO GI Registry

Submitted by: IHO GI Registry Manager (TSSO, on behalf of the IHO

Secretariat).

Executive Summary: A summary of the day-today activities of the IHO GI Registry

since its activation on 03 October 2017; and observations/issues identified by the Registry/FCD Register Manager.

Related Documents: 1. IHO Geospatial Information Registry (http://registry.iho.int/).

2. IHO Publication S-99 - Operational Procedures for the Organization and Management of the S-100 Geospatial

Information Registry.

3. HSSC8-05.1E INF5 - Report on Improvement of the S-100

Registry and Registry Interface Demonstration.

Related Projects: Development of the IHO Geospatial Information Registry;

S-100 based Product Specification development.

Introduction / Background

The IHO Geospatial Information (GI) Registry became operational in October 2016. From this time the newly appointed Registry/Register Manager (Technical Standards Support Officer (TSSO) at the IHO Secretariat) began processing proposals for the inclusion of new items in the Feature Concept Dictionary (FCD) Register. The TSSO also began assuming the responsibilities for the day-to-day operation of the Registry as the Registry Manager (on behalf of the IHO Secretariat).

This paper provides a summary of the activities of the IHO GI Registry since it became operational, and summarises the observations/issues identified by the TSSO since October 2016. Other components of the IHO S-100 infrastructure include the S-100 Feature Catalogue Builder (FCB) and S-100 Portrayal Catalogue Builder (FPB) – these are the subjects of separate reports to S-100WG2.

Analysis / Discussion

The IHO Geospatial Information (GI) Registry became operational in October 2016, having been redeveloped from the previous version of the Registry which was substantially developed and managed by the former TSMADWG Chair. This previous version was difficult to maintain and did not have a fully operational interface through which to manage the Registry and its component Registers; and submit and process proposals to the Registers. The new Registry structure (database) and interface has been developed (and continues to be supported/maintained) by the Republic of Korea (ROK) – Korea Hydrographic and Oceanographic Agency (KHOA), with significant input from the S-100WG Chair. The Registry structure and interface has been built to conform with the processes described in S-99 - Operational Procedures for the Organization and Management of the S-100 Geospatial Information Registry, and is hosted on an IHO server. The work of the ROK (KHOA) in the development and maintenance of the IHO GI Registry is gratefully acknowledged and their continued support is greatly appreciated by the IHO.

The IHO GI Registry can be accessed at http://registry.iho.int/. A link is provided on the IHO web site at [IHO Home Page]/ENCs, ECDIS & S-100/Development of S-100/IHO Registry.



Welcome to the S-100 Geospatial Information Registry (Version 2.1)

This registry is owned by the International Hydrographic Organization (IHO) is managed by the Secretariat of the IHO. The site contains many registers of hydrographic information together with registers of supplementary information owned by specialist domain experts. Each register type is further sub-divided into domains e.g. hydrographic, nautical publications, ice, inland ENC etc. The administration of this registry conforms to IHO Publication 5-99 (Operational Procedures for the Organization and Management of the S-100 Geospatial Information Registry) a copy of which can be downloaded here.

The information contained in the Registry can be freely accessed, however items can only be added or changed by the managers of approved Submitting Organizations. Application to become a Submitting Organization can be made by fulfilling the requirements of the prerequisite form available <a href="https://example.com/heres/new/blank-ne

Once accepted as a submitting organization you are free to submit proposals to any register. The Registry interface undergoes periodic improvements and any difficulties using this site should be reported to the Registry Manager.

> Feature Concept Dictionary Register according to S-100 Portrayal Register Valid Superseded Retired Proposed Valid Superseded Retired Proposed Information Type 9 1 0 9 Line Style 55 Simple Attribute Type 219 86 285 <u>470</u> Enumerated Type 3189 210 495 4 Font 69 Complex Attribute Type Code List Type 15 18 Code List Value Type 119 125 Registry Owner Registry Manager Register Managers **Submitting Organizations Executive Control Body Domain Control Body**

Welcome Page of the IHO GI Registry

Coincident with the commissioning of the "new" Registry, the newly appointed IHO Technical Standards Support Officer (TSSO) commenced work at the IHO Secretariat and took up the role of the IHO GI Registry Manager and Feature Concept Dictionary (FCD) Manager on behalf of the IHO Secretariat. The main focus of the TSSO since October 2016 has been the processing of proposals to the FCD Register; and reporting to/liaising with ROK (principally Mr. Yong Baek) on improvements to the Registry interface and any corrective action required.

Registry:

The IHO GI Registry currently consists of the following Registers:

- Feature Concept Dictionary (FCD) Register;
- Portrayal Register;
- Product Specification Register; and
- Data Producer Code Register.

The Product Specification and Data Producer Code Registers are currently in development, and a link to relevant documentation is included under these Register tabs within the "GI REGISTERS" tab in the Registry interface. While there is provision for the addition of a Metadata Register, a justification and use case for such a Register is yet to be developed. The Portrayal Register has made significant progress, with all current S-52 symbols now registered, however it is yet to be fully implemented (February 2017). At the time of compiling this paper, there were 6504 items registered, across the FCD and Portrayal Registers. The principle "day-to-day" activity within the Registry has been for the FCD Register, which will be the main focus for the remainder of this report.

The interface for searching for items within the Registers is accessed via the "GI REGISTERS" tab on the

Registry welcome page. At this stage only the FCD and Portrayal Registers are searchable. Depending on which Register the search is being conducted in, there are a number of parameters that the user can set to narrow their search, with a free text field for searching specific words/codes.



Search Interface for the FCD Register

FCD Register:

The FCD Register contains (at time of compiling this paper) **5747 items**. These items are registered as specific types; and item status as defined in S-99. A detailed report of the Register contents can be seen on the welcome page of the Registry interface (see first figure above). In summary, the FCD Register contains:

- 819 Geo/Meta Features
- 10 Information Features
- 825 Simple Attributes
- 3868 Enumerates
- 89 Complex Attributes
- 16 Codelists
- 119 Codelist Values

Collectively, the status of these registered items is:

- 4242 Valid items
- 940 Superseded items
- 565 Retired items

The Register incorporates the following Domains, across which the items are registered:

- IHO Hydro
- WMO Ice
- WMO Weather
- Inland ENC
- IALA AIS*

- IALA AtoNs*
- IALA VTS*
- Port ENC
- AML
- IEC*
 - * New Domains approved since October 2016

Since 03 October 2016 there have been **1038 Proposals** to the FCD Register. These comprise proposals for:

• 37 Geo/Meta Features (including 5 Withdrawal; 1 Not Approved; 1 Not Yet Determined)

• 9 Information Features

• 285 Simple Attributes (including 40 Withdrawal; 4 Not Approved; 9 Not Yet Determined; 2 Under Negotiation)

• 495 Enumerates (including 23 Withdrawal; 13 Not Approved; 29 Not Yet Determined)

• 69 Complex Attributes (including 3 Withdrawal; 6 Not Yet Determined)

• 18 Codelists

125 Codelist Values

Proposals have covered all Proposal Types (Addition, Clarification, Supersession and Retirement). Proposals at status "Not Yet Determined" or "Under Negotiation" are currently with Submitting Organization or DCB for further evaluation.

The Register Manager currently has 13 items in his Work Queue. These are awaiting resolution of Registry interface issues to allow these proposals to progress.

There are 9 Submitting Organizations registered for the FCD Register, representing IHO, IEC, IALA, WMO, NOAA (S-100WG) and UNH (NIPWG). There are currently 4 DCB members registered, representing IHO (S-100WG), IEC, IALA and WMO. The Register currently has no Executive Control Board members (see S-100WG2-10.2A).

Issues:

A summary of the issues identified by the TSSO ("Nice to Have"'s, "To Do"'s and "For Discussion") are included as an Annex to this paper. This Annex is intended for information only – it is not intended that the issues identified are to be discussed at S-100WG2. However, the Annex has been included as an indication that there is still a significant amount of work required before the Registry, its interface and in particular the FCD Register can be considered to be stable. In order to have as little impact on S-100 based Product Specifications in development as possible, it is considered that discussions on these issues, and implementation of agreed solutions, occur as soon as possible.

The main issues identified by the TSSO, considered to be the highest priority issues to be resolved, have been included as separate papers for S-100WG2, and are summarised here:

The FCD Register, while principally adhering to the concept outlined in S-100 Part 2a in regard to structure and content, has a number of issues that have been identified through practical application. While the FCD concept outlined in S-100 Part 2a is suited to a FCD that is required for a "single domain" community, the registration of items in the IHO GI Registry FCD has identified that these concepts are not suited to a Register that is intended to cater for multiple Domains where a single concept can be modelled in multiple ways dependant on the requirements of individual user communities' Product Specifications. The result is that the current IHO GI Registry FCD has multiple instances of the same (or similar, but conceptually the same) concept registered multiple times (e.g. as feature/attribute/enumerate; or as different enumerate values) to meet the requirements for different Domains in the Register. This has made it extremely difficult for the Register Manager to assess and process proposals to the Register. Additionally, this structure implies a certain level of knowledge by the Register Manager of the modelling requirements associated with submitted proposals. This is not considered to be a role of the Register Manager, who is simply supposed to act as a "gatekeeper" for proposals to the Register in terms of suitability, possible duplication and completeness. The current structure of the FCD and a proposal for a possible way forward are included in paper S-100WG2-09.3A.

- When assessing proposals to the FCD Register, there are no criteria against which to evaluate and assess proposals against items already included in the Register. This is the subject of paper S-100WG2-09.4A.
- Due to various factors, including the first 2 points mentioned above, the contents of the FCD require rationalization. It is considered that the contents of the FCD Register require a complete systematic review. This is the subject of paper S-100WG2-09.5A.
- There is confusion by all parties in the Registry process as to the application of Codelists. This is the subject of paper S-100WG2-09.6A.
- The composition of the FCD Register Executive Control Body (ECB) and Domain Control Body (FCD), and the way these bodies function and adjudicate on proposals (more specific to the IHO Hydro Domain appraisal process), is the subject of paper S-100WG2-10.2A.
- The observations made since the commissioning the IHO GI Registry in October 2016, and practical experience of operating the Registry since then, will likely impact on the guidelines for the management of the IHO GI Registry contained in S-99. This is the subject of paper S-100WG2-09.7A.

Conclusions

The IHO has seen a significant milestone reached with the commissioning of the IHO GI Registry in October 2016. This has seen significant steps taken in S-100 based Product Specification and related Feature Catalogue development as evidenced by the activities of registered Submitting Organizations since that time. The efforts and continuing support of ROK (KHOA) in reaching this milestone are acknowledged and are greatly appreciated by the IHO. It is also pleasing to note the interests demonstrated by other international organizations such as IALA and IEC in establishing their own Domains in the FCD Register, and commencing registration of items required for their own S-100 based Product Specifications.

However, practical experience of the operation of the Registry (particularly the FCD Register), and the commencement of duties of the TSSO in October 2016, have identified that there is still a significant amount of work before the Registry can be considered to be stabilized. It is considered important that the most significant issues so far identified (some of which may be considered to be fundamental to the structure, content and management of the Registry) be resolved as soon as possible so as to have as minimal impact as possible on Product Specifications in development.

Recommendations

There are no recommendations in this paper, which is intended as an introduction to the more specific issues to be addressed by the S-100WG related to the IHO GI Registry, as contained in related papers to S-100WG2.

Justification and Impacts

The IHO GI Registry is owned by the IHO, which comprises the IHO Member States. While the day-to-day operation of the Registry is substantively overseen by the IHO Secretariat, decisions on the structure, content and operational processes for the Registry rest with the Member States. With wider interest in S-100 and the Registry by other organizations related to hydrography, a stable and well operated Registry is of interest to all parties and ultimately impacts on the reputation of the IHO and its Member States.

Action required of NCWG

The S-100WG is invited to:

- a. **Note** this report.
- b. **Note** the activities of the IHO GI Registry since its commissioning in October 2016.
- c. **Discuss** any items of note from the report.

CUMULATIVE LIST OF OBSERVATIONS/ISSUES FOR THE IHO GI REGISTRY IDENTIFIED BY TSSO (SINCE 03 OCTOBER 2016)

<u>NOTE:</u> The following list is not ordered according to the importance of the point identified, but is a chronological list as observed by the TSSO. "Greyed out" text indicates issues that have been addressed.

NICE TO HAVE

- A function for proposers to propose new definition references (if this cannot be done, some on-line guidance for proposers to email if a reference does not exist in the Register).
- Email to submitting organization stating that a proposal has been received and will be assessed by the Register Manager at the first available opportunity (the "push" information rather than having people "pull" (have to find it)).
- Email to submitting organization stating that a proposal has been assessed and has been accepted, and forwarded to the DCB (the "push" information rather than having people "pull" (have to find it)). In progress refer email from Yong 17/10/16 and JW reply 18/10/16.
- Email to submitting organization stating that a proposal has been rejected, incorporating the Register Manager comments as added in the interface when they have completed their assessment and chosen to reject the proposal. NOTE: As an extension to this, a similar email should be generated at any stage during the proposal evaluation process when a proposal is rejected.
- A "signed in as" indication somewhere in the display when logged in.
- A "pop up" dialogue box to indicate that you have been auto logged out due to inactivity. Currently you do not know until you get the Korean "Error" screen when you try to submit.
- Curser turn to "hourglass" when the computer is "thinking".
- A "Stop" icon to cease a process (for instance if you realize you have made an error).
- In the "List", it would be nice if the oldest proposals were at the top optionally a "user preference" option so that the user has the option to set the order to best suit their purpose.
- GI Register searches: Need an "All" option to search all "Item Type" (consider similar for other criteria). This should at least be implemented for the Registry/Register Manager(s). Has been implemented for "Domain", but not yet for "Item Type".
- A list of "standard syntax" responses when rejecting proposals (message back to Proposer) or if there is a consideration for the DCB (when accepted for forwarding). *Develop own Word doc?*
- In "My Work", when looking at "All History", it would be nice to have a "Rejected" annotation in the "Assigned DCB" column against items that have been rejected by the Register Manager. It is difficult to quickly work out the proposals yet to be processed against proposals that have been rejected.
- When doing a search of the Registry, it would be good (for the Register Manager, but perhaps also for others) to see a list of features that have been proposed ("pending"?). At the moment I have to keep a separate document to search for items already proposed (or similar to items already proposed). This could possibly be done using a separate tab?
- References: When listing the references, it would be nice to be able to order them alphabetically. For
 example, there are a large number of WMO references that have been registered at different periods,
 meaning they have widely spaced reference numbers so are at various places throughout the complete
 list. While the index is good it is reliant on knowing which particular search words to use, which may not
 always be reliable.
- A date column that lists when the Register Manager forwarded the proposal to the DCB.
- Proposals: When adding S-4 references, the last entered reference is on top. If entering multiple references in the order they appear in S-4, then the last reference is quoted first in the list. Would like to see this reversed. (NOTE: Probably the same for INT1 references?)
- When searching Reference Sources, the "Alternative Title" is not included in the search when using search words. Good example is MARPOL 73/78 which is named the "International Convention for the Prevention of Pollution from Ships, as Modified by the Protocol of 1978".

- A notification (about 5 minutes?) before the interface is going to be taken out of service to notify anyone using it to finish their work and sign off. Additionally, when the interface is "off-line" for maintenance/development, some notification on the Home page (or a completely different page?) to let users know that their work cannot be processed. It is frustrating to spent 10 minutes doing work in the interface and then get an error message (in Korean) to say that there has been an error.
- An option to search by Disposition Status. To find attributes that are "For Negotiation" you have to go to "All History" and scroll through. As the list of proposals increases, this will become increasingly difficult to find proposals with this disposition status.
- When processing a Supersession, it would be nice to be able to easily look at the item that is being superseded (not easy to do, particularly when the name of the item has been changed).
- Registry Manager: Email notification to the Register Manager when a new application is submitted for Register roles (Submitting Organization, DCB,).

TO DO

- IHO Hydro Register: There are entries for "West Cardinal" and "West Cardinal Mark" (enumerates). Needs to be reconciled consider should be just "West Cardinal". Check all other cardinals.
- For registered items, the field "Distinguishing Features" should be "Distinctions" (also needs to be amended on the Proposal form)
- IHO Hydro Register: There are entries for "Custom" and "Customs Office" (enumerates). Needs to be reconciled. Note also rejected proposal (Briana) for "Customs".
- IHO Hydro Register: There is an entry for "Border" (enumerates). Proposal for "Border Control" (Briana) accepted and forwarded to DCB 20/10/16. Consider that "Border" should be superseded.
- IHO Hydro Register: The entry for "Port Control" (enumerate) is specific to traffic signal station. Suggest that this be re-named to be more specific, e.g. "Port Control Signal".
- IHO Hydro Register: The entry for "Military Practice" (enumerate) is specific to traffic signal station. Suggest that this be re-named to be more specific, e.g. "Military Practice Signal".
- IHO Hydro Register: The entry for "Remotely Sensed" (enumerate) is specific to remotely sensed survey data (bathymetry). Suggest that this be re-named to be more specific, e.g. "Remotely Sensed Survey" (?).
- Metres (metres, Metres) exists 4 times in the Registry with 4 different definitions most of which are fairly specific. Need to rationalize into a single instance with a generic definition (suggest using the definition for "Metres" bound to the attribute distance of unit measurement). Note for DCEG.
- Feet (feet) exists 3 times in the Registry with 3 different definitions most of which are fairly specific. Need to rationalize into a single instance with a generic definition. <u>Note for DCEG</u>.
- Stone (stone) exists twice in the Registry with 2 different definitions. Need to rationalize into a single instance with a generic definition recommend use definition of instance bound to nature of surface.
 Note for DCEG.
- NIPWG (Briana) has submitted proposals for "gross tonnage" and "net tonnage" but also for "gross ton" and "net ton". Need to determine whether these respectively mean the same thing and withdraw as appropriate.
- NIPWG (Briana) has submitted a proposal for "source indication" as a complex attribute. Have noted that this already exists in the Register as a simple attribute, however have accepted her proposal as this attribute is not being used as a simple attribute in any other PS (as far as I am aware). Will need to reconcile.
- Need to know the process (how to) add members to a Domain Control Body (e.g. the WMO Weather Domain has no members of its DCB at the moment. NOTE: This is stopping the processing of proposals to that Domain!! 31/10/16: NOTE: The way the interface works is incorrect according to S-99. Refer to TSSO email to Yong 31/10/16.
- Discussion with Tony 02/11/16: Attribute **nationality** should be renamed **country code** (will need to do some research on this to determine that this is the correct terminology to be using (UN?).
- Discussion with Tony 02/11/16: Need to see whether the concept of a repository of Codelists can be set up in the Registry (refer to structure of INSPIRE Registry. A good example of this is the IUCN Environmental Codes that have been registered by the NIPWG guys (Briana).

- "Centre of Low" exists in the WMO Weather Domain as a Feature with no valid descriptive characteristics.

 Needs to be retired or re-proposed as clarification to fix (contact Joe about this).
- WMO Weather have registered concepts containing the terms "water-spout" and "waterspout". Need to be rationalised.
- In the WMO Weather Domain (FCD Register), there are repeated registered items (from April 2016).
- The enumerate "time" (Category of Signal Station, Warning) needs to be amended to something similar to "time signal". Current name is far too generic.
- Simple attribute Waterway Distance is currently registered twice (IHO Hydro and Inland ENC) with different definitions. The IHO Hydro definition looks to be more generic need to rationalize and discuss with IENC people.

FOR DISCUSSION

- For FCD: Will need a field for "assigned enumerate code/value" so that a unique code can be assigned for use of the concept as an enumeration in a PS? Perhaps this is something that can only be viewed by the Register Manager when a proposal is made and assigned by them before forwarding the proposal to the DCB?
- Within the IHO Hydro Domain, there are a number of registered concepts that have a very "generic" name but a specific contextual definition (refer to many of the comments in the "To Do" list in the previous Section). The reverse may also be the case in some cases. This will need to be addressed as part of the general clean-up of the Registry and the "conventions" and guidance that need to be developed.
- Conventions:
 - Name and definition must be aligned in regard to specificity. A generic name cannot have a
 definition specific to a particular context or application, and vice versa.
 - Should abbreviations be allowed (e.g. "HO")? Need to take into account the use of the "best understood" term (e.g. SMS); and whether the fact that the abbreviation is expanded in the definition is a factor (note also "UTC").
 - Every effort must be made to provide an appropriate unique, <u>authorized</u> (referenced) definition.
 - Syntax for feature/attribute/enumerate names e,g, capitalized first letter(s), etc.
 - Suggest the higher the intended "level" in modelling, the more specific the name/definition can be, i.e. enumerates should in the first instance be very generic, attributes a little more specific and features relatively specific? This follows the line that the "context" of the application of a concept can be gained from the modelling (an "inherited" specificity).
- What is the difference between the "Reference" and "Definition Source" fields in the Proposal form?
- "Closed" (or "fixed") Codelist? Not sure whether things such as the days of the week, months of the year etc. can be modelled. Needs further investigation and discussion.
- I have rejected proposals for enumerates "metre" and "foot" based on their already being instances of "metres" (4 times) and "feet" (3 times) already registered. When dealing with such proposals, should we be using a convention for the terminology in the name (singular or plural)?
- When considering the merit of some proposals, it is difficult to assess them when there is not some indication as to how these are intended to be used in a Product Specification (some sort of context). This is particularly true of feature and attribute proposals. Would like at least one of a "Justification" or "Proposer Comments" free text field in the Proposal form so that the Proposer can supply additional information about the reason for their proposal (if they would like to).
- How specific to Hydrography does a concept need to be to be registered (where such considerations are required)? For instance, the item **distance** (simple attribute) has been forwarded to the DCB. However there are different methods for determining the "distance" between two points on the earth Rhumb line distance and geodesic spring immediately to mind.
- Can the Register Manager make a recommendation to the DCB (beyond just forwarding the proposal for evaluation)?
- In the "Administration: members/All" tab, there is a list of individuals, their organization etc. but no indication as to their "role" in the Registry (SO, DCB, Register Manager). Can this be included in the list? I know that you can get this information by clicking on an entry, but it is a bit of a pain.

- How does someone "apply" to be the DCB member for their Domain?
- Need to have the access to the Registry in a more prominent place on the IHO web site. In particular, do not think it should still be under the "Future Developments" sub-heading.
- Looking at the INSPIRE Registry, I think we need to take a page out of their book and have a "type" list for Codelists. The best example to start with would be the IUCN Environmental Classification codes. The Codelist name should exist in the FCD, but not the values of the Codelist these should be managed in the Codelist (by clarification etc.).
- "Closed" (or "fixed") Codelist? Not sure whether things such as the days of the week, months of the year etc. can be modelled. Needs further investigation and discussion (see above).
- Codelists: In the Proposal Form, there is a separate process for proposing the Codelist type attribute and the Codelist values. This should be combined into a single proposal form, whereby the proposer defines the attribute and the values (including definitions of values) all in one process. Will need to be discussed also in terms of possible clarification (adding to the values). It is important to note with this that the Codelist values will generally be outside the discipline of hydrography and therefore should not need discussion and approval of the DCB only the attribute itself.
- Welcome Page of Registry: The link to the Registry Manager prompts the user to sign in. I don't think this is the intention of this link(??). Suggest that this should bring up an email window with the address populated as the Registry Manager's email address.
- There is a fundamental problem with the proposal process in that there is a field for Data Type that, when enumeration is selected, a "Show" list comes up. If the process is to propose simple attributes before enumerations, how is this list to be created? According to the current process, enumerates cannot be proposed first as they have to be linked to an attribute. A possible way to do this would be to have the list "generated" by the assignment of proposed enumerates to the proposed attribute value.
- There is apparently a "notes" option for proposers to comment when an item is rejected by the Register Manager it has been reported that this is the case (Joe 07/11/16) but it appears that it did not work (also not enough available characters to fully comment). Need to check and discuss with Yong and Tony.
- How are new Domains established in a Register (application and administration processes)?
- Finalizing complex attributes is very difficult. There is no indication in the sub-attributes list as to whether they are valid (I think this is needed), so you do not know that the attribute cannot be finalized until you hit the "Complete" button and get the message time consuming. Again another indication of the importance of having a true FCD to register concepts in.
- Proposals with a disposition of "Negotiation" (as identified by the DCB) do not appear in the RMs queue unless "All History" is selected. Is this intentional? Is it up the DCB to get in touch with the proposer and initiate the negotiation (or vice versa)? Given that the "Not Accepted" are still in the queue, I would think that "Negotiation" would still be there too.
- While the "See All History" option is very useful, it will become more cumbersome as the amount of proposals increases. Perhaps need a method of limiting the selection as required (perhaps by date (year))?
- It does not make sense to me that a proposal for an enumerate, a feature or a complex attribute can be accepted by all but cannot be finalized because a linked simple attribute has been rejected. Again this speaks to the general functionality of a true FC Register, and needs to be resolved.
- Refer email from Joe Phillips 21/11/16 and Yong's reply 22/11/17. There is an issue with Proposing Organizations wishing to propose new enumerate values for attributes that are registered in Domains other than their proposer Domain. Current method could potentially be very confusing.
- Refer to email from Eivind 23/11/16. Missing data types URI, URL, URN and S-100_TruncatedDate.
- "Structured Text" exists as a valid attribute type in the Registry. However, I thought it had been removed from S-100. Needs to be further investigated and possible discussed.
- Refer email from Joe Phillips 28/11/16 and my reply 29/11/16. Cannot define new binding of existing enumerates to a new enumerated attribute in the Register.
- In the proposal form, the mandatory "Justification" field has a character limit restriction. This restriction needs to be removed or the number of allowable characters increased.
- Proposal form for Information Types does not include a field for feature distinctions ("distinguishing features").

- How are associations and roles handled in the Registry (if at all may just be a function of the Feature Catalogue?).
- Need some guidance (as the Registry Manager) as to the process for assessing applications for Registry roles (Submitting Organization, DCB, etc.). I am assuming that the Registry Manager needs to consult with "Domain Owners" (Chairs of WGs?), but at this stage there is no guidance on this.
- Have noted that when a Submitting Organization submits a proposal for Supersession or Clarification for an item that is in a different Domain to the one they represent, the Domain for that item is changed to the proposer's Domain when the proposal has been processed. Not sure if this is a major issue but is probably not the intent of the interface. [Information from Joe Phillips reported that in GML the Domain for an item is used as a tag. In this case this is a big issue!]