Title: Ensure consistent usage of ISO 639-2 3-letter language codes

S-100 Maintenance - Change Proposal Form

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Change Proposal Type *(Select only one option)*

1.Clarification	2.Correction	3.Extension
	X	

Location (*Identify all change proposal locations*)

S-100 Version No.	Part No.	Section No.	Proposal Summary
5.0 20210330 draft	4a/17 10b 11 GitHub Schema	9.6.1 Table 11-4 S100XSLTPR	Add "/T" to 639-2 references. Update *datasetLanguage* Specify "ISO 639-2/T" Replace xs:language with string restriction

Change Proposal

Ensure consistent usage of three letter ISO 639-2/T language codes. Details attached.

Change Proposal Justification

S-100 language codes must use an ISO 639-2/T 3-letter code.

Some parts of S-100 specify use of ISO 639 without specifically requiring ISO 639-2/T.

The S-100 GML encoding currently specifies use of an ISO 639-1 two letter code ("EN").

The portrayal and alert schema specify that xs:language is used to store language codes. Although xs:language permits three character codes, it also allows two character codes. RFC 3066 says for languages with both two and three letter codes the two-letter code must be used. xs:language also allows various sub-tags to be added using hyphens.

These are all valid per xs:language, but only "mas" conforms to S-100:

Code	Language	Explanation
en	English	ISO-639 two-letter language code
mas	Masai	ISO-639 three-letter language code
fr-CA	French as used in Canada	ISO-639 two-letter code with ISO-3166 two-letter country code
en-scouse	English Liverpudlian dialect known as 'Scouse'	ISO-639 two-letter language code with addition, IANA-registered
i-klingon	Klingon	IANA-registered language code
x-pig-latin	Pig Latin	Unregistered/Experimental

What parts of the S-100 Infrastructure will this proposal affect?

☐   S-100 Feature Concept Dictionary Interface or Database
☐   S-100 Portrayal Register
☐   S-100 Feature Catalogue Builder

☐   S-100 Portrayal Catalogue Builder
☐   S-100 UML Models
☒   S-100 GitHub Schemas

Please send completed forms and supporting documentation to the secretary S-100WG.

Part 4a/17 PT_Locale

Role Name	Name	Description	Mult.	Type	Remarks
…	…	…	…	…	…
Attribute	language	Designation of the locale language	1	LanguageCode	ISO 639-2/T 3-letter language codes.
...	…	…	…	…	…

4a/17-4.6 Overview of multilingual support in S-100 Exchange Set Catalogue

...
The PT_Locale class as defined in ISO 19115-1:2014 has the following members:
- LanguageCode – required ISO 639-2/T, 3-letter code in lowercase i.e. "fra"
- CountryCode – optional ISO 3166-1 2-letter code in uppercase i.e. "CA" intended to be used when the national language differences can impact the interpretation or processing of localized content
- MD_CharacterSetCode – required MD_CharacterSetCode in lowercase i.e. "utf8"

10b-9.6.1 Dataset identification

Table 10b-3 – Dataset identification header elements

Field	XML Tag	Value	Mult.	Type	Description
…	…	…	…	…	…
Dataset language	datasetLanguage	"engEN"	1	ISO 639-2/T 3-letter code1	The (primary) language used in this dataset
...	…	…	…	…	…

11-6 Data product identification

Table 11-4 – Identification Information

Name	Description	Mult.	Type
…	…	…	…
language	Language(s) of the dataset. If language is not applicable, for example for raster data, use "not applicable" as value for the element.	1..*	CharacterString (ISO 639-2/T)
...	…	…	…

S100CSL.xsd

...
```
<!-- UnlimitedInteger -->
```

```
<xs:simpleType name="UnlimitedInteger">
  ...
</xs:simpleType>
...
<!-- ISO 639-2/T 3-letter language code -->
<xs:simpleType name="languageCode">
  <xs:restriction base="xs:string">
    <xs:pattern value="[a-z][a-z][a-z]"/>
  </xs:restriction>
</xs:simpleType>
```

S100PortrayalCatalog.xsd

```
...
<xs:schema
  xmlns:xs=http://www.w3.org/2001/XMLSchema
  xmlns:s100Symbol=http://www.iho.int/S100SymbolDefinition version="4.1.0-
20191115">
  xmlns:s100CSL="http://www.iho.int/S100ConceptualSchema"
  <xs:import namespace="http://www.iho.int/S100SymbolDefinition"
schemaLocation="S100SymbolDefinition.xsd"/>
...
<!-- Class for descriptive information about a catalogue item -->
<xs:complexType name="Description">
  <xs:sequence>
    <xs:element name="name" type="xs:string" minOccurs="0" maxOccurs="1"/>
    <xs:element name="description" type="xs:string"/>
    <xs:element name="language" type="xs:languages100CSL:languageCode"/>
  </xs:sequence>
</xs:complexType>
```

S100AlertCatalog.xsd

```
...
<xs:schema
  xmlns:xs="http://www.w3.org/2001/XMLSchema"
  xmlns:s100Symbol="http://www.iho.int/S100SymbolDefinition">
  xmlns:s100CSL="http://www.iho.int/S100ConceptualSchema"
  <xs:include schemaLocation="S100PortrayalCatalog.xsd"/>
  <xs:import namespace="http://www.iho.int/S100SymbolDefinition"
schemaLocation="S100SymbolDefinition.xsd"/>
<!-- MESSAGES -->

<xs:complexType name="Text">
  <xs:simpleContent>
    <xs:extension base="xs:string">
      <xs:attribute name="language" type="xs:languages100CSL:languageCode"
default="eng"/>
    </xs:extension>
  </xs:simpleContent>
</xs:complexType>
...
```