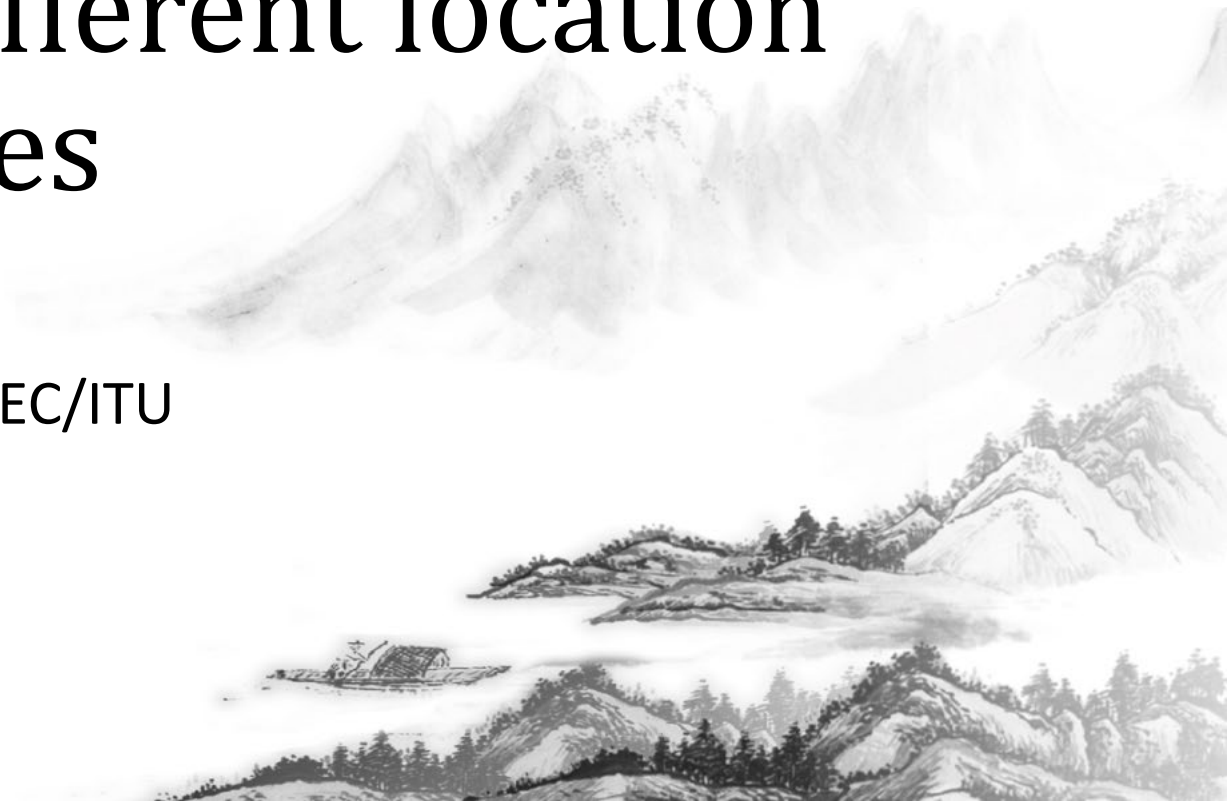
Comparison of different location codes

From ISO/IEC/ITU



- GS1 GLN (Global Location Number)
- ISO/IEC 15459 & ISO/IEC 15418 & ANS MH10.8.2
- ISO/IEC 9834-1 & ITU X.660

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GS1 GLN (Global Location Code)

- Structure:

AI	GCP	Location Reference	C
Application Identifier	GS1 Company Prefix	Location Reference assigned by the party	Check digit

AI	Data Content	Format [1]	FNC1 required [4]	Data title
402	Global Shipment Identification Number (GSIN): AI (402)	N3+N17	(FNC1)	GSIN
403	Routing code: AI (403)	N3+X..30	(FNC1)	ROUTE
410	Ship to - Deliver to Global Location Number (GLN): AI (410)	N3+N13		SHIP TO LOC
411	Bill to - Invoice to Global Location Number (GLN): AI (411)	N3+N13		BILL TO
412	Purchased from Global Location Number (GLN): AI (412)	N3+N13		PURCHASE FROM
413	Ship for - Deliver for - Forward to Global Location Number (GLN): AI (413)	N3+N13		SHIP FOR LOC
414	Identification of a physical location - Global Location Number (GLN): AI (414)	N3+N13		LOC No.
415	Global Location Number (GLN) of the invoicing party: AI (415)	N3+N13		PAY TO
416	Global Location Number (GLN) of the production or service location: AI (416)	N3+N13		PROD/SERV LOC
417	Party Global Location Number (GLN): AI (417)	N3+N13		PARTY
420	Ship-to / Deliver-to postal code within a single postal authority: AI (420)	N3+X..20	(FNC1)	SHIP TO POST
421	Ship-to / Deliver-to postal code with three-digit ISO country code: AI (421)	N3+N3+X..9	(FNC1)	SHIP TO POST
422	Country of origin of a trade item: AI (422)	N3+N3	(FNC1)	ORIGIN
423	Country of initial processing: AI (423)	N3+N3+N..12	(FNC1)	COUNTRY - INITIAL PROCESS
424	Country of processing: AI (424)	N3+N3	(FNC1)	COUNTRY - PROCESS

GS1 GLN (Global Location Code)

- Two variants:
  - GLN

AI	GCP	Location Reference	C
Application Identifier	GS1 Company Prefix	Location Reference assigned by the party	Check digit

  - SGLN: GLN with a serial part

AI	GCP	Location Reference	C	(254)	Serial part
Application Identifier	GS1 Company Prefix	Location Reference assigned by the party	Check digit		

GS1 GLN (Global Location Code)

- Two variants:
  - GLN

AI	GCP	Location Reference	C
Application Identifier	GS1 Company Prefix	Location Reference assigned by the party	Check digit

  - SGLN: GLN with a serial part

AI	GCP	Location Reference	C	(254)	Serial part
Application Identifier	GS1 Company Prefix	Location Reference assigned by the party	Check digit		

ISO/IEC 15459 & ISO/IEC 15418 & ANS MH10.8.2

- GS1 GLN is a ISO/IEC 15459 code
- ISO/IEC 15459 Information technology — Automatic identification and data capture techniques — Unique identification
- It has GS1 codes and non-GS1 codes

2. Register ordered by Issuing Agency Code

0 thru 9	GS1 Global Office	GS1 AISBL Blue Tower, Avenue Louise 326, bte 10 BE 1050 Brussels BELGIUM Phone: +1 609 439 3975 Email: nadi.gray@gs1.org
D	NATO Support and Procurement Agency (NSPA)	NATO Support and Procurement Agency (NSPA) 11, rue de la Gare L-8325 Capellen G.-D Luxembourg Phone: 00 352 30 63 63 18 Email: pierre-olivier.franceus@nspa.nato.int
GH	Ghana Revenue Authority	Ghana Revenue Authority PMB, TUC Post Office Accra GHANA
J	Universal Postal Union	Universal Postal Union Weltpoststrasse 4 3015 BERNE SWITZERLAND Phone: +41 31 3503241 Email: elizabeth.phelan@upu.int
KCA	Department of National Defense – Canada	Dept of Natl Defense – Canada 101 Colonel By Drive Ottawa, Ontario, CANADA K1A 0K2 Phone: +1 819-682-7724 Email: pierre.conlin@forces.gc.ca
LD	DOD-DLIS Department of Defense - Defense Logistics Information Service	Defense Logistics Information Service 74 Washington Ave N. STE 7 BATTLE CREEK, MI 49017-3084 USA
LF	FIATA International Federation of Freight Forwarders Associations	FIATA Schaffhauserstrasse 104 CH-8152 GLATTBRUGG SWITZERLAND
LH	EHIBCC European Health Industry Business Communications Council	EHIBCC Jozef Israelsplein 8 2596 AS DEN HAAG THE NETHERLANDS
LI	ICCBBA International Council for Commonality in Blood Bank Automation Inc.	ICCBBA P.O. Box 11309 San Bernandino CA, 92423-1309 USA Attn: Karen Moniz Email: Karen.moniz@iccbba.org Phone: +1 909 793 6516
KDK	DALO Danish Defense Acquisition and Logistics Organization	DALO Postbox 220 Arsenalvej 55 9800 Hjorring DENMARK
KKR	Korea Institute of Distribution and Logistics (KIDL)	Korea Institute of Distribution and Logistics (KIDL) 17F KCCI Bldg. 45 Namdaemunno 4-Ga Jung-Gu SEOUL 100-743 KOREA
KLT	State Tax Inspectorate of Lithuania	State Tax Inspectorate of Lithuania Attn: Žygintas Grekas Vasario 16-th str. 14 01514 Vilnius Lithuania Email: zygintas.grekas@vmi.lt Phone: +370 5 2687 833
KPL	PWPW S.A. Polish Security Printing Works	Polish Security Printing Works (PWPW S.A.) Sanguszki 1 Rodziny Hiszpańskich St. 6 Warsaw 02-685 POLAND Email: karolina.lesiak@protonmail.com Phone: +48 509 066 330
KNL	Ministerie van Defensie	Ministerie van Defensie Commando Diensten Centra IVENT Dienstverlening Postbus 90004 3509 AA UTRECHT THE NETHERLANDS
KRU	FSBI <<46 CRI RFMD>> Federal State Budgetary Institution <<46 Central Research Institute of the Russian Federation Ministry of Defence>>	FSBI <<46 CRI RFMD>> 129327 Chukotsky Lane 10, Moscow RUSSIA Phone: +7 495 470 39 56 Email: mik-belorozov@mail.ru
KSE	Försvarets Materielverk	Försvarets Materielverk (Swedish Defence Materiel Administration) Myndighetsuppgifter / MS 520 Försvarsstandardisering 11588 Stockholm SWEDEN
KUS	TCJ5/4-I United States Transportation Command	TCJ5/4-I United States Transportation Command 508 Scott Drive Scott AFB IL 62225-5357 USA
KXM	NATO Support and Procurement Agency (NSPA)	NATO Support and Procurement Agency (NSPA) 11, rue de la Gare L-8325 Capellen

ISO/IEC 15459 & ISO/IEC 15418 & ANS MH10.8.2

- When it is AIDC-based supply chain application, Qualifier can be chosen from ISO/IEC 15418 “Information technology — Automatic identification and data capture techniques — GS1 Application Identifiers and ASC MH10 Data Identifiers and maintenance”
- Here non-GS1 code are ANS MH10.8.2 Data Identifier code scheme

ISO/IEC 15459 & ISO/IEC 15418 & ANS MH10.8.2

Assigned:		
META DATA	**DI**	**EXPLANATION**
	L	Storage Location.
	1L	Location.
	2L	"Ship To:" Location Code defined by an industry standard or mutually defined.
	3L	"Ship From:" Location Code defined by an industry standard or mutually defined.
an2+a2	**4L**	Country of Origin, two-character ISO 3166 country code. *With agreement of trading partners and when the Country of Origin is mixed, Country Code "AA" shall be used.*
	5L	"Ship For:" Location Code defined by an industry standard or mutually defined.
	6L	Route Code assigned by the supplier to designate a specific transportation path.
an2+an6	**7L**	6-character Department of Defense Activity Code (DoDAAC).
	8L	Port of Embarkation – Mutually Defined.
	9L	Port of Debarkation – Mutually Defined.
	10L	Reserved.
an3+n5…27	**11L**	Location (Latitude/Longitude/Altitude) encoded in the format xnn.nnnnn/xnnn.nnnnnn/xnnnn[9].
	12L	"Ship To:" Location (Latitude/Longitude/Altitude) encoded in the format xnn.nnnnn/xnnn.nnnnnn/xnnnn[9].
	13L	"Ship From:" Location (Latitude/Longitude/Altitude) encoded in the format xnn.nnnnn/xnnn.nnnnnn/xnnnn[9].
	14L	Reserved.
	15L	"Ship For:" Location (Latitude/Longitude/Altitude) encoded in the format xnn.nnnnn/xnnn.nnnnnn/xnnnn[9].
an3+an1...60	**16L**	Tag Activation Location. English location name (character set: 0-9, A-Z <Space>).
an3+an1...60	**17L**	Tag Deactivation Location. English location name (character set: 0-9, A-Z <Space>).
an3+an2...12	**18L**	FAO fishing area code as defined by the Fisheries and Aquaculture Department of the FAO (http://www.fao.org. Search for Fishing Area Code sub-site). All characters of the GS1 General Specification-defined sub-set of ISO/IEC 646 are allowed. Examples: 18L37.1.3 Western Mediterranean Sea, Sardinia 18L47.B.1 Atlantic, Southeast, SEAFO Division, Namibia EEZ 18L67 Pacific, Northeast
	19L– 19L	Reserved .
The following DIs can be used to provide for Location identification, which is different than or in addition to Location Reference provided by "L".		
	20L	First Level (internally assigned).
	21L	Second Level (internally assigned).
	22L	Third Level (internally assigned.
	23L	Fourth Level (internally assigned).
	24L	Fifth Level (internally assigned).
an3+an1...35	**25L**	Identification of a Party to a Transaction, e.g., 25L IAC CIN LOC assigned by a holder of a Company Identification Number (CIN) and including the related Issuing Agency Code (IAC) in accordance with ISO/IEC 15459 and its registry, structured as a sequence of 3 concatenated data elements: IAC, followed by CIN, followed by the physical internal location (LOC) that is unique within the CIN holder's domain.

ISO/IEC 15459 & ISO/IEC 15418 & ANS MH10.8.2

	26L	"26L" Location Code, being a code identifying a location or geographic area, or an associated group of such locations or areas, that has relevance to a related transaction and that complies with **one** or the structures defined in (a) to (f) below: a) two upper case alphabetic character corresponding to the ISO 3166-1 two alpha country code of the country in which, or consisting of which, the location(s) or area(s) are situated; b) three upper case alphabetic characters corresponding to the IATA code of the airport or city in, close to, or consisting of which the location(s) or area(s) are situated; c) four or more characters of which the first three correspond to an ISO 3166-1 country code followed by a dash (-), with the balance being a postcode in the country concerned; d) four or more characters of which the first three correspond to an ISO 3166-1 country code followed by a dot (.), with the balance being an ISO 3166-2 country subdivision code in the country concerned; e) five upper case alphabetic characters corresponding to the UN/LOCODE of the area in, close to, or consisting of which, the location(s) or area(s) are situated; f) the concatenation, being not less than seven or more than 35 characters in length, of: — an ISO/IEC 15459 issuing agency code; — a location code, consisting of characters drawn from the set {A-Z; 0-9} which accords with specifications of the issuing agency concerned.
an3+an5+n1...3	**27L**	Event Location UN/LOCODE. UN/LOCODE followed by a plus (+) character followed by one or more code values from EDIFACT Code List 3227 "Location function code qualifier", e.g., **7** Place of Final Delivery **5** Port of Departure **9** Port of Lading **11** Port of Unlading **13** Place of transhipment **24** Port of Entry **35** Exportation country **88** Place of Carrier Receipt **125** Foreign Port prior to Depart to U.S **147** Stowage cell/position **159** Place of delivery (to consignee) **248** Loading Location http://www.unece.org/cefact/locode/
an3+an1...35	**28L**	Number and Street Address. Used in conjunction with H, 6H, 28L, 29L, 30L, 31L, 32L.
an3+an1...35	**29L**	City Name. Used in conjunction with H, 6H, 28L, 29L, 30L, 31L, 32L.
an3+an1...9	**30L**	Country Sub-entity Details. Used in conjunction with H, 6H, 28L, 29L, 30L, 31L, 32L.
an3+an4...11	**31L**	Postal Code. Used in conjunction with H, 6H, 28L, 29L, 30L, 31L, 32L (If a "-" dash is used, it shall be expressly encoded).
an3+a2	**32L**	Country Code. ISO 3166-1 Alpha 2 Code Used in conjunction with H, 6H, 28L, 29L, 30L, 31L, 32L.
	33L	Uniform Resource Locator (URL). Includes all characters that form a URL, including header data such as e.g., http://. Character set as listed in RFC 1738.
	34L	Pointer to Process URL (P2P URL) for initiating a URL to carry all other data elements encoded in an AIDC media according to the following rule: Scan the code and initiate the URL starting with the P2P URL string, omitting DI 34L and ISO/IEC 15434 envelope syntax (prefix and postfix) and append all other data elements that have been scanned in same sequence as encoded in the media, including DIs and data element separators. Convert special characters in the appended data into RFC 1738 format (e.g., Group Separator "$^{G}_{S}$" translated into RFC 1738 sequence %1D). Note that this does not apply to the P2P URL itself. Example: Encoded data string (using ISO/IEC 15434) [)>$^{R}_{S}$06$^{G}_{S}$25SUN123456789PA12345$^{G}_{S}$4LUS$^{G}_{S}$16D20131108$^{G}_{S}$34LHTTP://WWW.SECUREUID.COM/ITEMDATA/?SCAN=$^{R}_{S}$05$^{G}_{S}$13131108$^{R}_{S}$$^{E}_{O}$$_{T}$ results in the following URL with the transmitted data: HTTP://WWW.SECUREUID.COM/ITEMDATA/?SCAN=25SUN123456789PA12345%1D4LUS%1D16D20131108 *Note: data from the "05" format envelope was not incorporated in the URL since the 34L was encoded in the "06" format envelope*
an3+a2+an3...27	**35L**	A government-assigned approval number of vessel / aquaculture site / farm / processor, starting with an ISO 3166-1 alpha-2 country code, followed by the approval number. All characters of the GS1 General Specification-defined sub-set of ISO/IEC 646 are allowed. Example: 35LIECK0107EC = Country; Ireland. Vessel Name; FV Endurance DA31.
an3+a2+an3...27	**36L**	A government-assigned approval number of producer or farm or first deboning / cutting hall, starting with an ISO 3166-1 alpha-2 country code, followed by the approval number. All characters of the GS1 General Specification-defined sub-set of ISO/IEC 646 are allowed. Example: 36LIECK0107EC = Country; Ireland. Vessel Name; FV Endurance DA31.
	37L– 50L	Reserved.

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ISO/IEC 15459 & ISO/IEC 15418 & ANS MH10.8.2

The following two Data Identifiers are to be used for shipments within the jurisdiction of a single postal authority.		
an3+an1...9	**51L**	"Ship From:" - Location code defined by a postal authority (e.g., 5-digit and 9-digit ZIP codes identifying U.S. locations or 6-character postal codes identifying Canadian locations).
an3+an1...9	**52L**	"Ship To:" - Location code defined by a postal authority (e.g., 5-digit and 9-digit ZIP codes identifying U.S. locations or 6-character postal codes identifying Canadian locations).
	53L	Reserved.
The following two Data Identifiers are to be used for shipments between locations governed by different postal authorities		
an3+an1...9	**54L**	"Ship From:" - Location code defined by a postal authority in the format: postal codes (e.g., 5-digit ZIP codes identifying U.S. locations or 6- or 7-character postal codes identifying United Kingdom locations) followed by two character ISO 3166 country code (e.g., US or GB).
an3+an1...9	**55L**	"Ship To:" - Location code defined by a postal authority in the format: postal codes (e.g., 5-digit ZIP codes identifying U.S. locations or 6- or 7-character postal codes identifying United Kingdom locations) followed by two character ISO 3166 country code (e.g., US or GB).
	56L - 999L	Reserved for future assignment.

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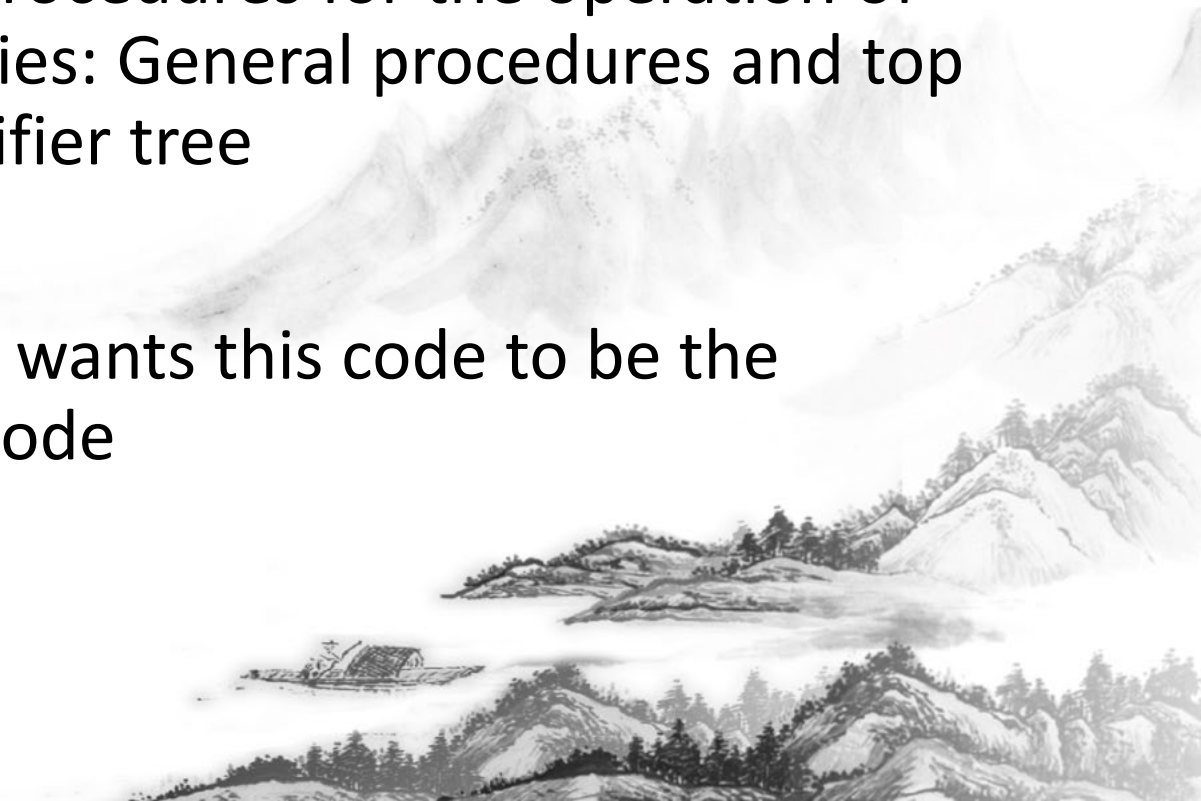
ISO/IEC 9834 & ITU X.660

- ISO/IEC 9834 Information technology — Procedures for the operation of object identifier registration authorities
- ITU X.660 Information technology - Procedures for the operation of object identifier registration authorities: General procedures and top arcs of the international object identifier tree
- Object identifier: From SNMP
- Especially, in China, one state agency wants this code to be the competitor of GS1 and other global code



ISO/IEC 9834 & ITU X.660

OID description

- Create child OID
- Create sibling OID
- Find similar OIDs

OID:	{joint-iso-itu-t(2) country(16) us(840) organization(1) hl7(113883) externalUseRoots(3) sfhs(643) warrenclinicapplication(2) wcbaurgentcarelocation(54)}	(ASN.1 notation)
	2.16.840.1.113883.3.643.2.54	(dot notation)
	/Country/US/1/113883/3/643/2/54	(OID-IRI notation)
Description:	WCBA Urgent Care Location	

First Registration Authority

Name:	Saint Francis Health System	To contact the registration authority, replace "&" by "@" in the email address
Address:	6161 South Yale Avenue Xavier Bld, Floor 1 Tulsa, OK 74136 United States (the)	
Phone:	+1 918 494 3515	

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Different context, different coding

- GS1 and ISO/IEC 15459 is party address code not geographical code:
  - It can be an address or virtual location of the given party, not a physical positioning code
  - It is maintenance only by the given party
  - The latitude and longitude is only a optional attribute of the data of the given GLN or ISO/IEC 15459 location code
- UN/LOCODE, based on the nature of her maintenance, it is physical positioning location code
- In my humble opinion, there is no physical positioning location code in supply chain area of ISO. So, UN/LOCODE will be welcomed to be the ISO international standard, if UN/CEFACT and UNECE wish to do.

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THANK YOU

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