



UNTDED/ISO7372

An introduction

Wednesday, 25 October 2023

ISO TC154 Plenary Hong Kong

Importance, History - Review Cycles, and Future work
towards 2025 editions?

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Agenda

- ISO7372/UNTDED History
- Uses:
 - Paper Forms for International Trade and the UN Layout Key (UNLK)
 - Mapping ISO7372/UNTDED to a UNLK Paper Form
 - UN/EDIFACT Directories
 - UN Core Component Library (UNCCL)
- Alignment Project: UNEDIFACT, UNCCL and ISO7372/UNTDED
- ISO7372/UNTDED Revision Project Launch October 2023



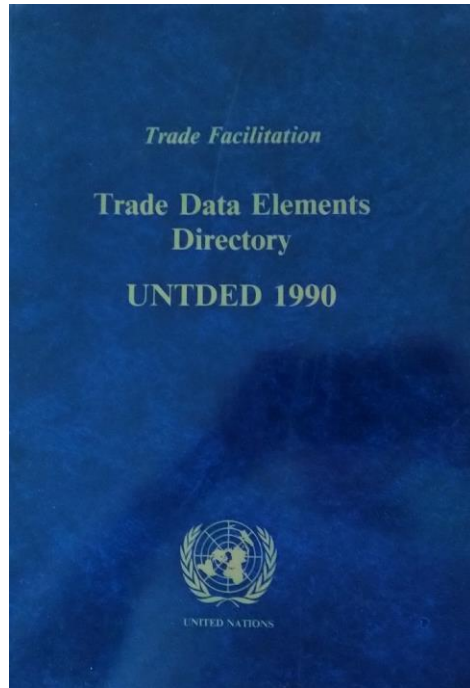
ISO7372/UNTDED in a nutshell

- An internationally accepted standard *repository for the semantic of trade data elements* used in international trade
- A method to describe information requirements from business perspective (*a non-technical description of trade information*).
- The definition is *syntax-neutral* and provides the *basis for migrating to paperless trade*.
- Defining the data content in terms of the UNTDED makes *different trade document and electronic data exchanges become directly comparable*, which helps identify duplication and reduce the number of documents to the strict minimum.
- ISO7372/UNTDED data elements are the foundation of:
 - UN Layout Key
 - UN/EDIFACT Directories
 - UN/CCL (Core Component Library)
 - UN Global Supply Chain Reference Data Model (BSP RDM)
[currently being prepared for fast track into JWG9 – ISO/PWI 16356]
 - WCO DM (World Customs Organisation Data Model)
- Latest version published 2005

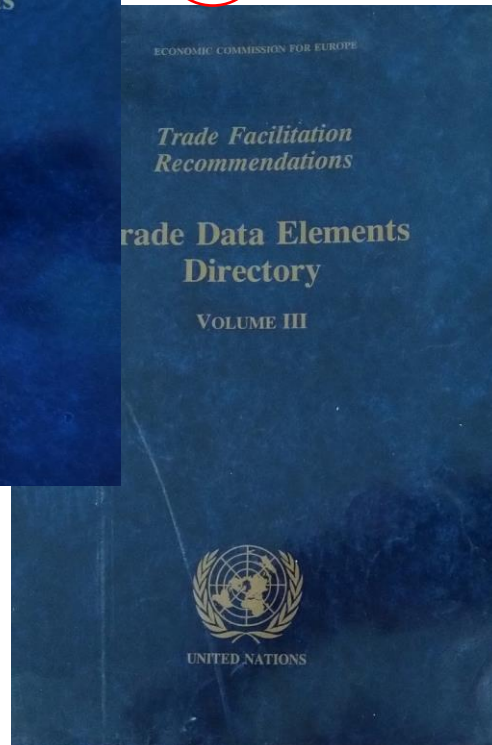


Publication Versions

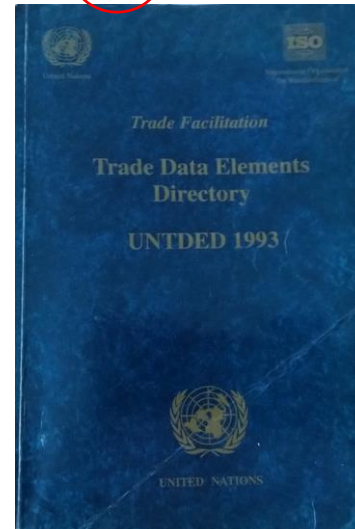
1a 1990



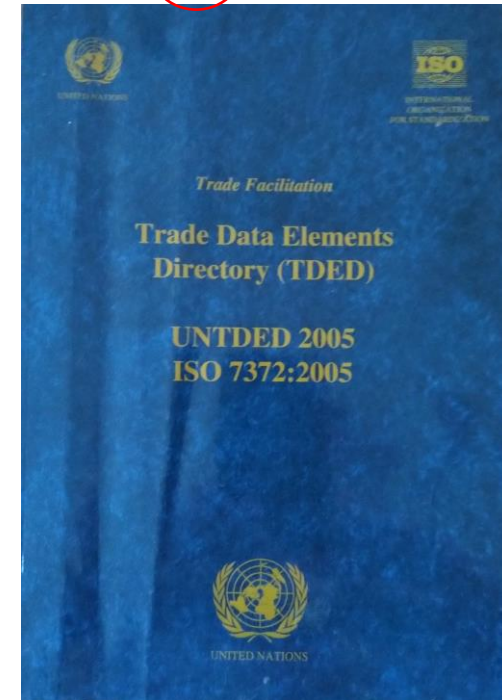
1b 1990



2 1993



3 2005



UNTDDED/ISO7372 Example Page 2005 Edition

Normative

International Layout Mappings

UID	ISO7372 TDED Name	Definition	TDED repr.	Locations, Bridges
1000	Document. Type Name.Text	Free text name of a document such as 352 for Proforma invoice, 380 for Commercial invoice.	an..35	UNLK: L 02, P 45-80 MAR: IMO/FAL 1-7
1001	Document. Type.Code	Code specifying the name of a document such as 352 for Proforma invoice, 380 for Commercial invoice.	an..3	UNLK: L 04, P 41-45 CIMP: (120): a1 SAD: (SAD 1(first to third subdivision))
1099	Transport Means. Stay.Identifier	Identifier of the stay of a means of transport in a port or airport	an..35	
4219	Transport Service. Priority.Code	Code specifying the priority of a transport service.	an..3	CIMP: (704):a1
5068	Invoice. Line Item. Amount	Total sum charged with respect to a single line item of an invoice.	n..18	UNLK: L 56, P 63-80
5070	Consignment. For Customs Total.Amount	Total amount for customs purposes of all goods in a consignment, whether or not they are subject to the same customs procedure, and have the same tariff/statistical heading, country information and duty regime	n..18	AWB: L 24, P 71-81 CIMP: (509):n..12, or the letters 'NCV'
6094	Consolidation. Package.Quantity	Count of the total number of packages in all of the consignments referred to as one consolidation.	n..16	
6292	Goods Item. Gross Weight.Measure	Weight (mass) of goods including packaging but excluding the carrier's equipment.	n..14	AWB: L 33-44, P 13-19 CIM: L 28-33, P 63-74 (CIM 26) CIMP: (600):n..7 CMR: L 28-42, P 63-71 (CMR 11) SAD: (SAD 35) UNLK: L 28-52, P 63-74



Normative Columns

- UID – structured unique identifier
 - 4 digits
 - 1 digit reflects data element context (broad category)
 - ‘1’ Information – documentation, references
 - ‘2’ Dates, times, period of time
 - ‘3’ Parties, addresses, locations, countries
 - ‘4’ Clauses, conditions, terms, instructions
 - ‘5’ Amounts, charges, percentages
 - ‘6’ Measurements, quantities
 - ‘7’ Goods and articles (products)
 - ‘8’ Transportation and Logistics
 - ‘9’ Customs and others
 - 4th digit ‘even’ represents textual data elements whereas 4th digit ‘odd’ represents coded data elements
- Definition – As cross-industry and multimodal as possible



Non-normative Columns

- Name
 - Recommended to follow ISO 11179 tripartite principles plus ISO 1500-5/UN Core Component Technical Specification Naming Convention
- Definition
 - As cross-industry and multimodal as possible
- TDED repr. (Format)
- Locations, bridges
 - Provides positional information for specified UNLK paper forms e.g.

UID	6292
TDED repr.	
Locations, Bridges	AWB: L 33-44, P 13-19 CIM: L 28-33, P 63-74 (CIM 26) CIMP: (600):n..7 CMR: L 28-42, P 63-71 (CMR 11) SAD: (SAD 35) UNLK: L 28-52, P 63-74
Dictionary Entry Name	Goods Item. Gross Weight.Measure
Definition	Weight (mass) of goods including packaging but excluding the carrier's equipment
Links to UNCL	



UN Layout Key (UNLK)

- First published 1960
- Flexible aligned data presentation which has become the de facto standard for the majority of international trade documents
- Foundation for International transport conventions e.g. Maritime B/L (ICS), Airwaybill (IATA), Road CMR (IRU), Rail CIM (UIC) etc.
- Foundation of Customs and other Regulatory Procedures e.g SAD, Phyto-Sanitary Certificates, Cert of Origins etc.
- Hundreds of document formats based on UNLK across trade, transport, finance, customs, insurance, inspection etc.
- Reference semantics provided by ISO7372/UNTDED

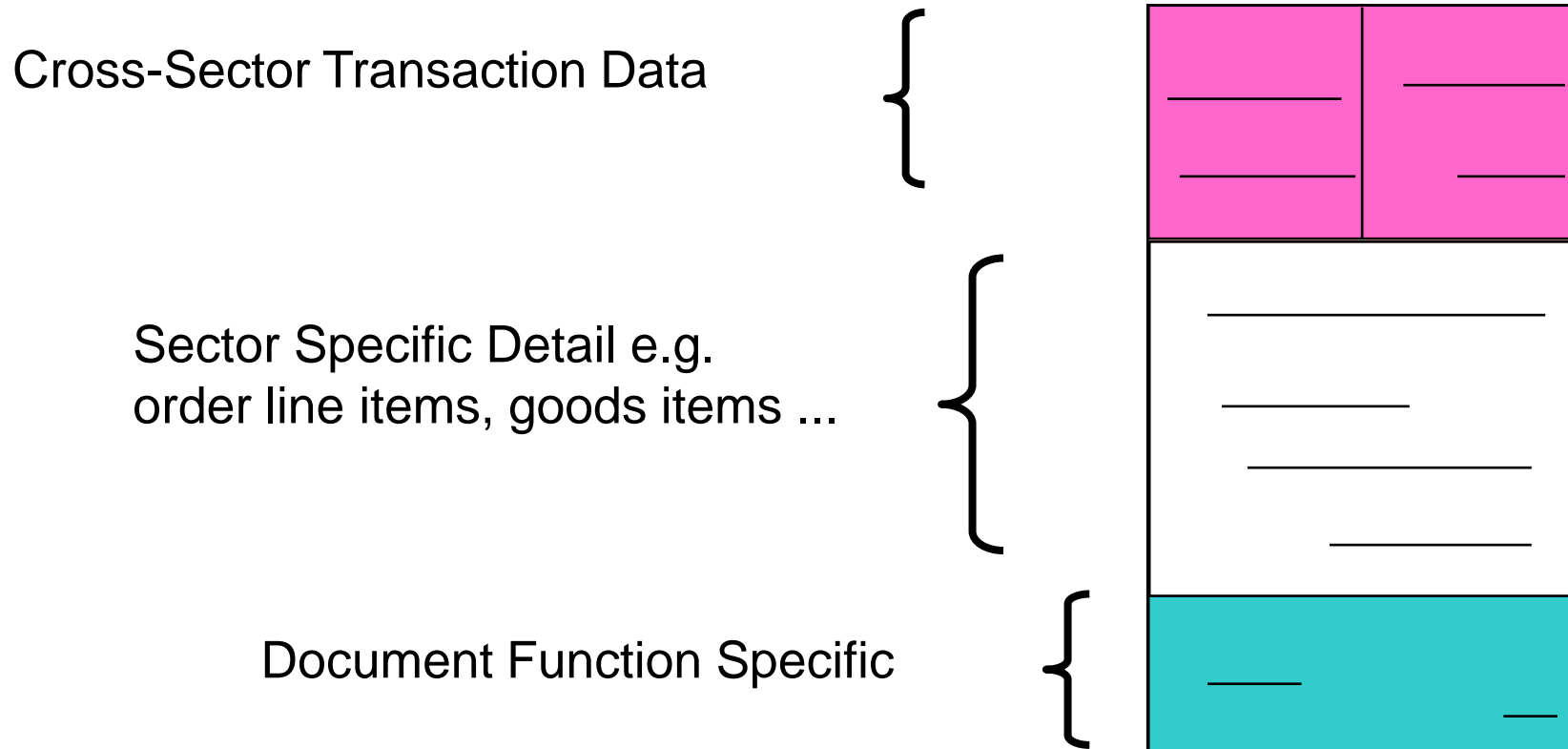


UN/CEFACT Semantics History - 1

- 1970 United Nations Layout Key
- 1990 UN Trade Data Elements Directory (UNTDED and ISO 7372) first version published
- Most recent version published 2005 – new version now planned as joint project under JWG9
- 1989 UN/EDIFACT Directory of United Nations Standard Messages first published based on UNTDED
- UN/EDIFACT Directories still maintained and published twice yearly reflecting submitted change requests
- UNCEFACT Trade Facilitation Code recommendations



UN Layout Key (UNLK) How it works





UNLK Form Families



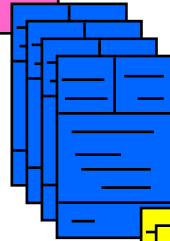
Trade Documents – Quotation, Order, Invoice etc.



Materials Management Documents – Despatch Advice, Pick List, Packing List etc.



Transport Documents – Bill of Lading, Shipping Instructions etc.



Customs Documents – Export, Import, Transit Declarations, Cargo Reports etc.



Other Regulatory Documents – Cert of Origin, DGN etc.

UN Layout Mapping Example

The form is titled 'EXPORT CARGO SHIPPING INSTRUCTIONS' and is divided into several main sections:

- EXPORTER/SHIPPER (A):** Includes fields for UAT no., Booking number, and Exporter's reference.
- CONSIGNEE (B):** Includes fields for UAT no. and Other address.
- TO (C):** Includes fields for Freight forwarder, UAT no., and Country of origin/destination.
- OTHER UN TRANSPORT DETAILS (D):** Includes fields for UAT no., Date of departure, and Place of delivery.
- SHIPMENT DETAILS:** Includes fields for Quantity, Gross weight, and Volume.
- DOCUMENTATION (E):** Includes fields for UAT no., Date of departure, and Place of delivery.
- FRIGHT:** Includes fields for Freight charges, Insurance, and Special instructions.
- TRADE TERMS:** Includes fields for Trade terms, Incoterms, and Total value.
- DECLARATION:** Includes fields for Declaration, Date, and Signature.

A red arrow points from the 'UNLKD' field in the 'DOCUMENTATION' section to the 'Mapping' field in the table below.

UNLKD 2280

Name Transport Means. Actual Departure. Date Time
Definition Date and or time of the departure of means of transport

Synonym Flight Date, Sailing Date
Repr. an..17

Mapping UNLK: L 17, P 16



UN/EDIFACT

- UN/EDIFACT (the United Nations rules for Electronic Data Interchange for Administration, Commerce and Transport)
- Syntax rules jointly developed and maintained in JWG1 as ISO
- Data element tags based on ISO7372/UNTDDED
- First published 1989 (2 UNSM messages - purchase order and invoice)
- Latest version D23A (220 UNSM Messages covering 15 international domains including B2B, B2G and G2G exchanges)
- Millions of UN/EDIFACT messages exchanged globally each day
- The first truly global document exchange electronic standard

UN/EDIFACT Messages

FINPAY	2	Multiple interbank funds transfer message
FINSTA	1	Financial statement of an account message
GENRAL	3	General purpose message
GESMES	3	Generic statistical message
GOVCBR	3	Government Cross Border Regulatory message
HANMOV	7	Cargo/goods handling and movement message
ICASRP	2	Insurance claim assessment and reporting message
ICSOLI	2	Insurance claim solicitor's instruction message
IFCSUM	16	Forwarding and consolidation summary message
IFTCCA	4	Forwarding and transport shipment charge calculation message
IFTDGN	8	Dangerous goods notification message
IFTFCC	3	International transport freight costs and other charges message
IFTICL	1	Cargo insurance claims message
IFTMAN	11	Arrival notice message
IFTMBC	10	Booking confirmation message
IFTMBF	12	Firm booking message
IFTMBP	10	Provisional booking message
IFTMCA	3	Consignment advice message
IFTMCS	12	Instruction contract status message
IFTMIN	16	Instruction message
IFTRIN	4	Forwarding and transport rate information message
IFTSAI	10	Forwarding and transport schedule and availability information message
* IFTSTA	16	International multimodal status report message
IFTSTQ	4	International multimodal status request message
IMPDEF	2	EDI implementation guide definition message
INFCON	1	Infrastructure condition message
INFENT	2	Enterprise accounting information message
INSDDES	3	Instruction to despatch message
INSPRE	1	Insurance premium message
INSREQ	2	Inspection request message

**Example
UNSMs**

UN/EDIFACT Directories

Segments

ADR	Address
AGR	Agreement identification
AJT	Adjustment details
ALC	Allowance or charge
ALI	Additional information
APP	Applicability
APR	Additional price information
ARD	Monetary amount function
ARR	Array information
ASI	Array structure identification
ATT	Attribute
AUT	Authentication result
BAS	Basis
BGM	Beginning of message
BII	Structure identification
BUS	Business function
CAV	Characteristic value
CCD	Credit cover details
CCI	Characteristic/class id
CDI	Physical or logical state
CDS	Code set identification
CDV	Code value definition
CED	Computer environment details
CIN	Clinical information
CLA	Clause identification
CLI	Clinical intervention
CMP	Composite data element identification
CNI	Consignment information
CNT	Control total
COD	Component details
COM	Communication contact

9175	an..3	X	Data element usage type code
9213	an..3	X	Duty regime type code
9280	an..35		Validation result text
9282	an..35		Validation key identifier
9285	an..3	X	Validation criteria code
9302	an..35		Sealing party name
9303	an..3	X	Sealing party name code
9308	an..35		Transport unit seal identifier
9321	an..8		Application error code
9352	an..256		Government Procedure
9353	an..3	X	Government procedure code
9411	an..3	X	Government involvement code
9415	an..3	X	Government agency identification code
9416	an..256		Government action
9417	an..3	X	Government action code
9418	an..3		Service layer code
9421	an..3	X	Process stage code qualifier
9422	an..512		Value text
9424	an..512		Array cell data description
9426	an..35		Code value text
9428	an..35		Array cell structure identifier
9430	an..35		Footnote set identifier
9432	an..35		Footnote identifier

Data Elements

UNTDDED alignment

Codes

Code	Name
1	Clearance
2	Detention
3	Fumigation
4	Inspection
5	Security
6	Means of transport admittance
7	Cargo hold inspection
8	Container inspection
9	Cargo packaging inspection
10	Export certificate not required



UN/CEFACT Semantics History - 2

- 1999 ebXML launched as joint project with OASIS
- Resulted in realisation that syntax exchange independent semantics were needed to support future technological advances (XML, JSON...)
- Core Components Technical Specification (CCTS) was developed to provide a semantic modelling methodology tailored to build in maximum global harmonisation
- Core Components Technical Specification published by UN/CEFACT 2.01 and by ISO TC154 15000-5 (CCS)
- 2003 UN/CEFACT started building a core component library based on CCTS covering international supply chain data exchange processes
- 2006 First version UN/CEFACT Core Component Library (CCL) published
- Current version D23B



UN Core Component Library (UNCCCL)

- A semantic library of eBusiness constructs based on Core Component Technical Specification v2.01 (ISO 15000-5)
- Object Orientated data objects based on UML
- Exchange syntax-neutral library which provides common basis for interoperable exchange syntax implementations
- Naming convention based on ISO 11179 provides semantic clarification and support for language translations
- ‘extension by restriction’ supports greater semantic interoperability
- Mature, stable and trustable library developed, maintained and published by UNECE UN/CEFACT
- Freely available as per UN IPR

ebMOU Resolution R07/06 Semantic harmonization

MoU/MG encourages member SDOs to submit their core components to the UN/CEFACT library maintenance point of contact, and participate in relevant UN/CEFACT activities.



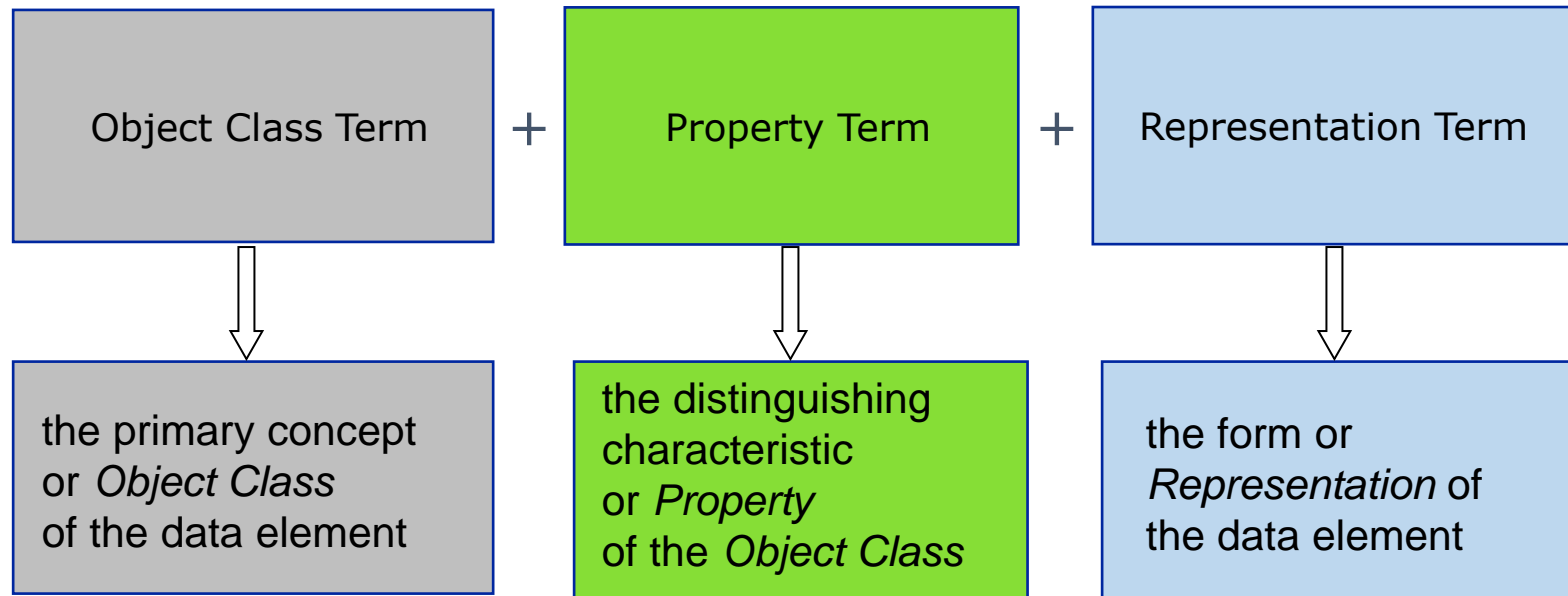
ISO15000-5/UNCCTS Naming Convention

- The Dictionary Entry Name of any Core Component is unique
- Dictionary Entry Names consist of Object Class Terms, Property Terms, Representation Terms, Qualifiers and Special Terms (like “Details” or “Type”)
- Dictionary Entry Names are ISO11179 compliant
- Terms are separated by a period (.) and a single space
- Qualifiers are separated by an underscore (_) and a space
- Multiple words are separated by spaces (no CamelCase!) to aid spelling checks




ISO 11179

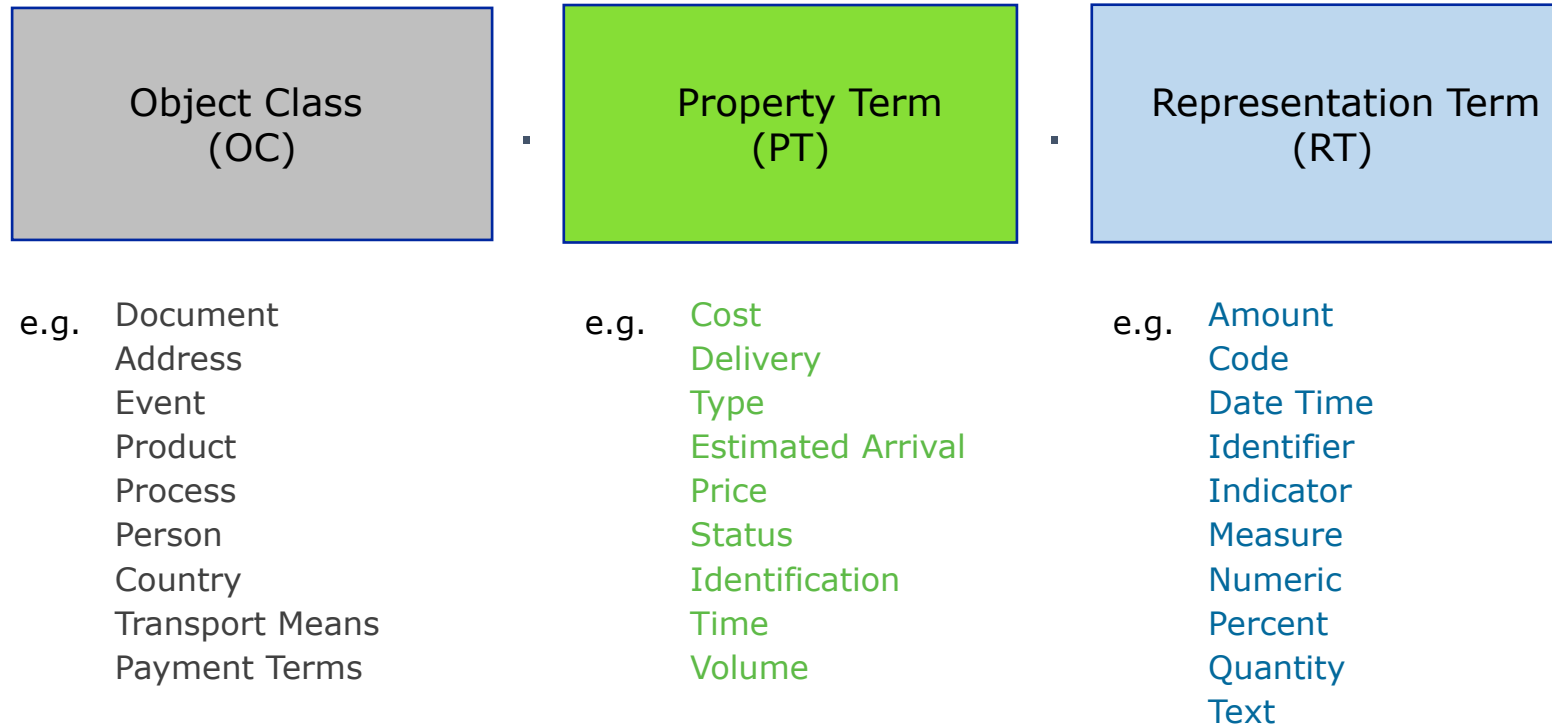
Tripartite Data Element Naming



Example: Country + Name + Text



CCTS Dictionary Entry Names (ISO7372/UNTDED and UN CCL)



Examples:

- Product. Price. Amount
- Document. Status. Code
- Address. City Name. Text
- Transport Means. Estimated Arrival. Date Time

UNCCL - Built-in mappings to UNTDED, UN Layout Key and UN/EDIFACT

The screenshot displays the MMT D20A Context CCL - GEFEG.FX - Professional+ interface. The main window shows the 'Payment Arrangement Code (Logistics_Service Charge. Payment Arrangement. Code)' details. A red circle highlights the code '4237' in the 'CCTS' column, with an arrow pointing to the text 'UNTTED'. Another red circle highlights the 'Code Content' field containing 'AWB: L 24, P 51-52 or 52-53 and P 55-56 or 57-58; CIM: (403):a1; CMR: a1 P = prepaid, C = collect', with an arrow pointing to the text 'UN Layout Keys'. A third red circle highlights the 'TDED' field containing '(4237)', with an arrow pointing to the text 'UNEDIFACT Code List'. The 'Pub Refs' table shows identifiers UN01003724 and UN02000150. The 'Version' field is set to 1.1. The 'Children' table shows a 'Payment Arrangement Code' child with a 'TDED' value of '(4237)'. The 'External code lists' window shows a table with columns 'Code' and 'Name', listing 'A Payable elsewhere', 'B Third party to pay', and 'C Collect'. The 'C' code is highlighted with a red circle and an arrow pointing to the text 'UNEDIFACT Code List'. Below this, the 'Collect' code details are shown, including the name 'Collect' and description 'Charges are (to be) collected from the consignee at the destination.' The 'ITIGG' section shows 'WCO 3' and 'WCO 2' codes.



Library Alignment Project

UNECE UN/CEFACT project 2010 to 2018

Approved at TC154 Plenary 20?? Held at WCO HQ



Library Alignment Project Purpose

TDED Alignment Project

TDED 022 Rev.2

Submitted by: Mary Kay Blantz and Sue Probert 2010-05-04

UNTDED_UNTDID_UNCCL Alignment

Project Purpose

The project's purpose is to align the data elements of the Trade Data Element Directory, the UNEDIFACT Data Element Directory, and the Core Component Library in order to facilitate semantic interoperability for governments and international organizations and businesses. The UNTDED and UNTDID are used worldwide to facilitate trade. These two libraries, plus the newly developed UNCCL, are used for different purposes but have significant semantic overlap. The current lack of alignment of these three libraries causes confusion and impedes data standardization.



Library Alignment Project - Deliverables

- Updated Trade Data Element Directory Standard (ISO7372/UNTDED)
- Updated UN/EDIFACT Data Element Directory (UNTDID)
- Updated UN Code Lists (UNCL)
- Updated Core Component Library (CCL) with links to corresponding TDED and EDED data element tags

Alignment Project 2018 Status

ISO 7372/UNTDED													UNEDIFACT (TDID and UNCL)						UN Core Component Library		
Change indic.	Chg 2013	Tag UID	BSP Y/N	2005 Name	Description	IFA	TDIED Note	repr.	Old name	Business Term	TDIED Required Action	Locations, Bridges	Name	Usage indicators	Description	TDID/UNCL Relationship Note	Repr.	EDED/UNCL Required Action	12/10/2012 Notes	CCL UID	
x		8164					Use 8260 instead		Trailer number		Delete from next version?										
add		8168	1	Transport Equipment, Fullness, Text	Free format text specifying how full a piece of transport equipment is.			an..35													
ond	cn	8169	1	Transport Equipment, Fullness, Code	Code specifying how full a piece of transport equipment is.			an..3	Full/empty indicator, coded	Full or Empty Indicator		CIMP: (803):n1	Full or empty indicator code		Code indicating whether an object is full or		an..3				[UN00001994] [UN02000088]
on		8170	1	Transport Movement, Pre-carriage, Mode, Text	Mode of transport by which goods are moved prior to their main			an..17	Pre-carriage transport mode		mfd use 8066 instead?	UNLK: L 22, P 09-26									
ondr		8171	1	Transport Movement, Pre-carriage, Mode, Code	Code specifying the mode of transport by which goods are moved prior to			an..3	Pre-carriage transport mode, coded		mfd use 8067 instead?	UNLK: L 21, P 17-18									
ond	cn	8178	1	Transport Means, Type, Text	Free form description of a type of means of transport.			an..17	Type of means of transport	Vehicle type, Vessel type		MAR: IMO/FAL 1 SAD: (SAD 21)	Transport means description		Free form description of the means of transport.		an..17				[UN00001325]
ond	cn	8179	1	Transport Means, Type, Code	Code specifying a type of means of transport.			an..8	Type of means of transport identification			MAR: IMO/FAL 1 SAD: (SAD 26)	Transport means description code		Code specifying the means of transport.		an..8				[UN00001324] [UN02000098]
x		8182					Use 6140 instead		Vehicle width		Delete from next version?										
ond	cn	8186	2	Dangerous Goods, Lower Part Orange Hazard Placard, Identifier	To specify the identity number for the lower part of the orange hazard placard required on the means of transport.			an4	Substance identification number, lower part				Orange hazard placard lower part identifier		To specify the identity number for the lower part of the orange hazard placard required on the means of transport.		an4				[UN00001584]
x		8190					Use 8012 instead		Free text, transport		Delete from next version?										
add	cn	8193	1	Transport Equipment, Legal Status, Code	Legal status of the transport equipment with respect to the Container			an..35													[UN00001997]
ond		8211	2	Dangerous Goods, Transport Authorisation, Code	Code specifying the authorisation for the transportation of hazardous cargo.			an..3	Permission for transport, coded				Hazardous cargo transport authorisation code		Code specifying the authorisation for the transportation of hazardous cargo.		an..3				
ondr	cn	8212	1	Transport Means, Name, Text	Name of a specific means of transport such as the vessel name.			an..35	Id of the means of transport		Align representations?	CIMP: (808): an..10 MAR: IMO/FAL 1-7	Transport means identification name		Name identifying a means of transport.		an..70				[UN00002029]
ond	cn	8213	1	Transport Means, Identification, Identifier	To identify a specific means of transport such as the International Maritime			an..3	Id of means of transport identification	Vehicle registration number	Align representations?	MAR: IMO/FAL 1-3,5-7 UNLK: L 23, P 19-26	Transport means identification name identifier		Identifies the name of the transport means.	1153 - VT ()	an..35				[UN00001326]



ISO7372/UNTDED Revision Project

Joint UNECE UN/CEFACT project under JWG9



History: October 2013 F2F Meeting

18 participants from:

AFACT, China, Germany, GS1, Japan, Korea, Netherlands, Slovakia, UNECE, US, UK

Resolutions:

- A new edition of the TDED is needed. (re-affirmation)
- The new edition will be based on the outputs from the Alignment project.
- UNECE will be asked to retain the 2005 UNTDED after publication of the new edition.
- ISO/TC 154 will be asked to retain ISO 7372:2005 after publication of the new edition.
- **New edition to be published in 2015.**