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International Forwarding and Transport Messages Project

UN/CEFACT 36th Virtual Forum

APRIL/MAY 2021

Project Lead - Michael Dill

Air Freight – **Steve Hill**

Rail – **Kagisho Ramatsa**

Maritime/Inland Waterway/Road – **David Roff**

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Project Brief

- UN New York launched **COVID-19 initiative to encourage exchange of digitised electronic data** rather than paper documents in transport contract related data exchanges
- Many operators still have a document-centric approach to data exchange including **wide use of the IFT*** family** of UN/EDIFACT UNSMs
- Business Requirements Specifications (BRS) done
- Profiles for many classic transport document types done -> next step to publish further profiles on the UN/CEFACT website after UN/CEFACT Bureau notification (see UNTTC.ORG website)
- Current phase: **Air Mode** and **Dangerous Goods**

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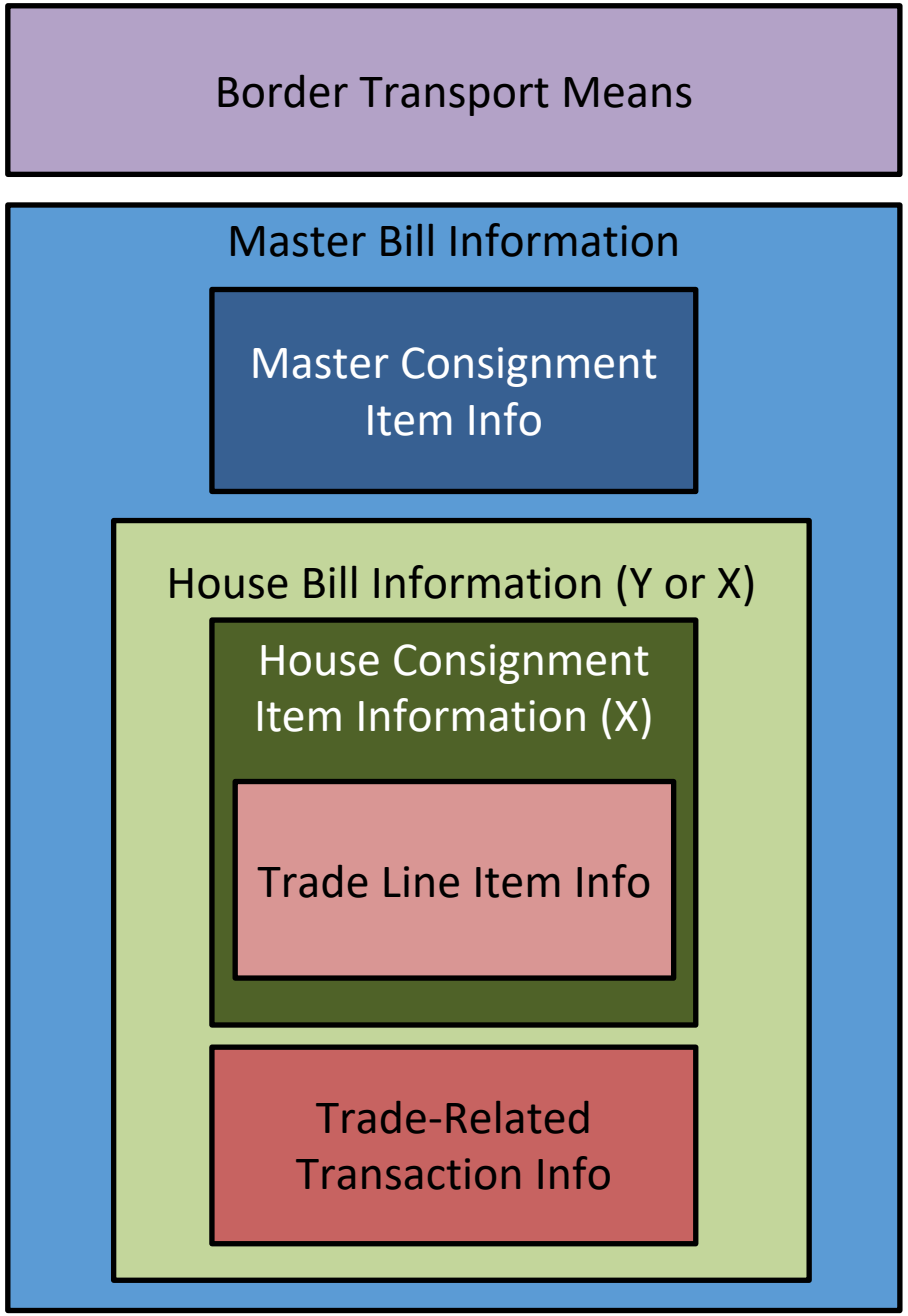
The MMT building blocks: Pipeline Data Exchange Structure (PDES) D21A



Main Transport Movement details

Master Transport Contract details

Master Transport Contract Item details

House Transport Contract

House Transport Contract Item details

Trade Product Information (commodity code etc.).

Commercial information (seller and buyer details).

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One Pipeline Data Exchange Structure (PDES) fits all?

- Focus on supporting digitalised data exchange to expedite cargo movements from mode to mode in multimodal transport movements such as corridors.
- Operational data of utmost importance highlighting a) dangerous goods information from one modal regulatory framework digitally to another without compromising safety and b) enabling traceability by linking key identifiers e.g. data pipe line (PDES)
- There might be other ways to define a common PDES. The last slide‘s picture is the identified way of profiling MMT for multimodal approaches

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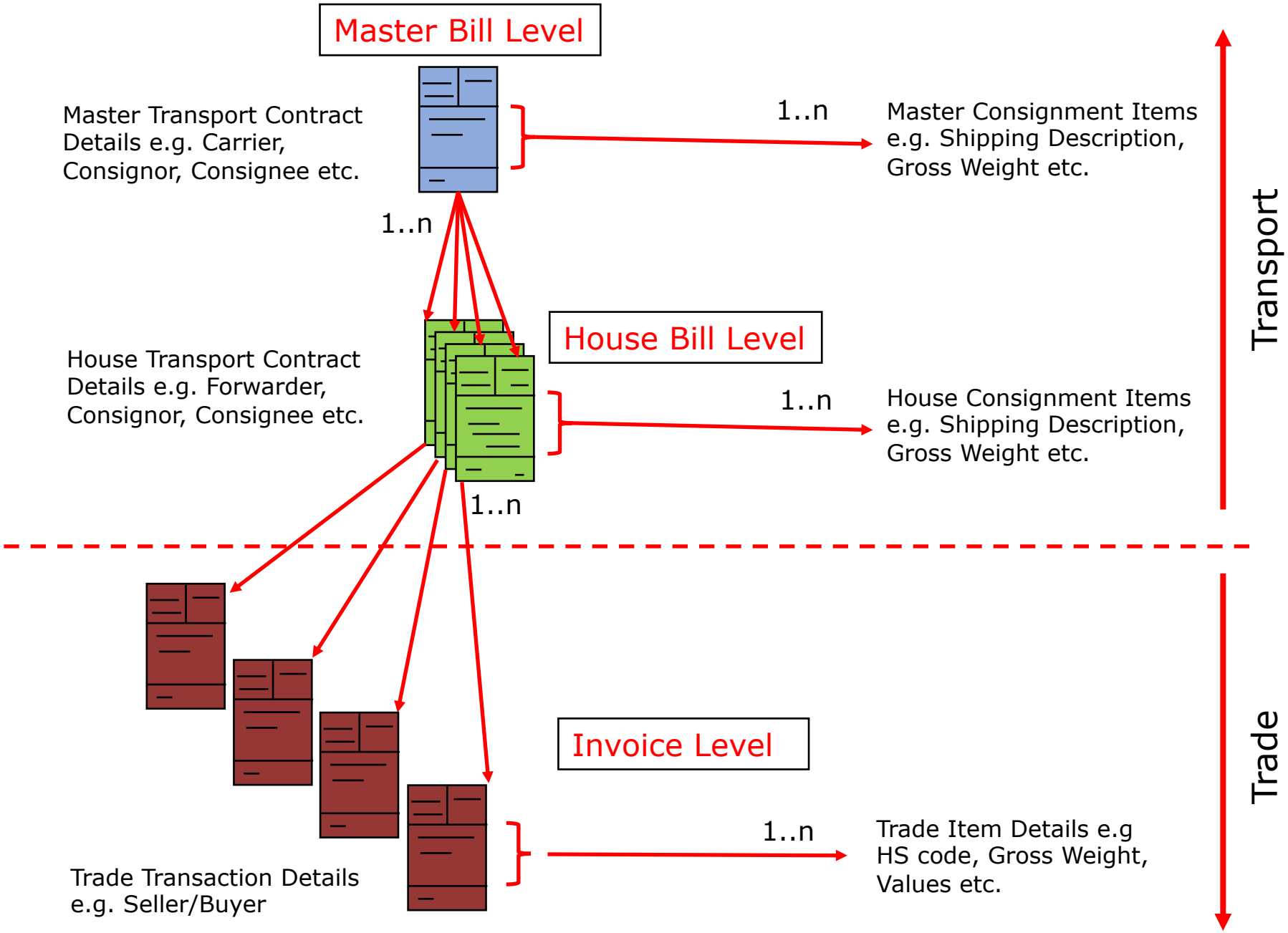
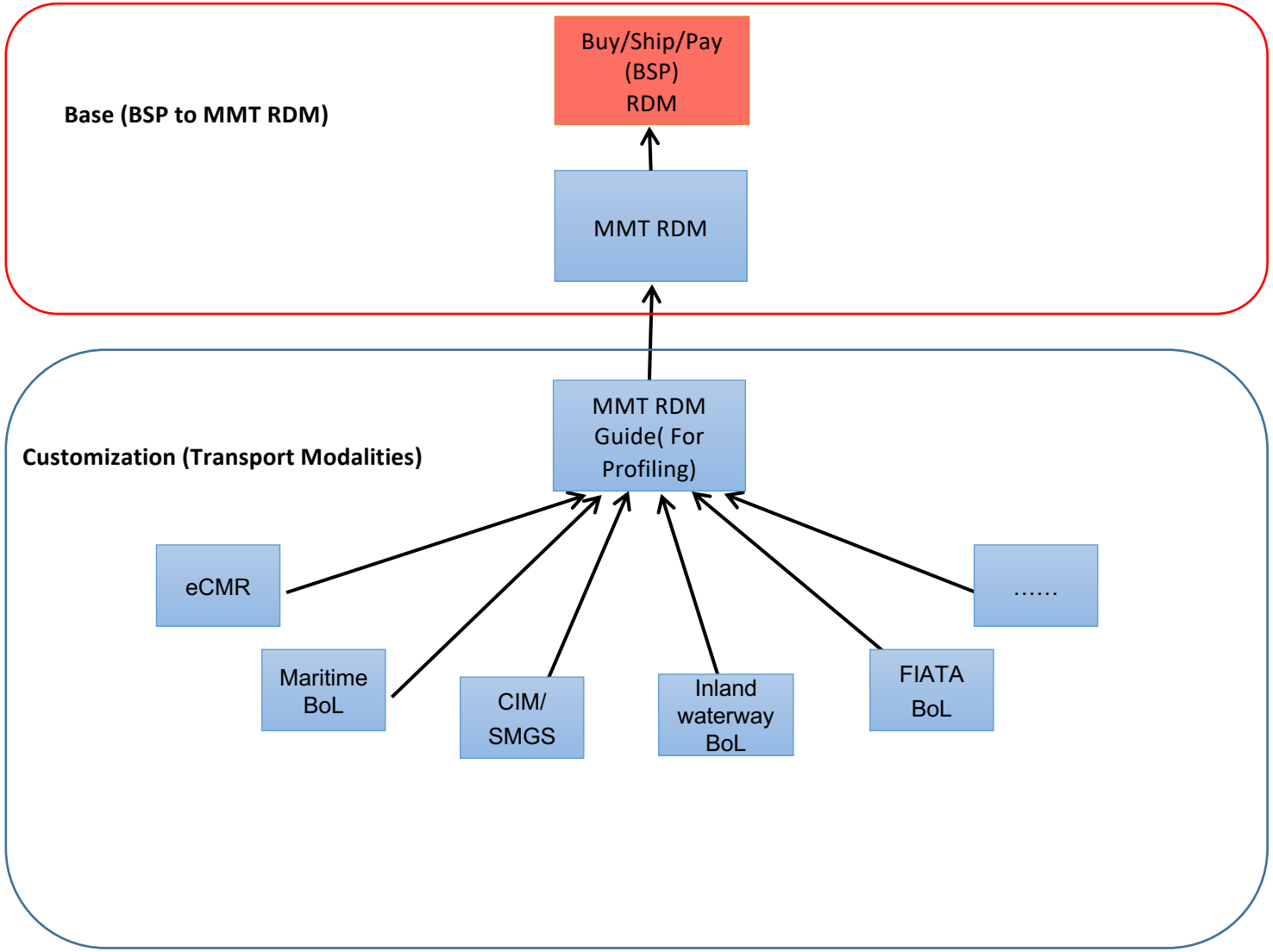


MMT RDM profiles – Various Transport Modes



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UN/CEFACT Reference Data Models – Interoperability by Design

Different experts and organisations can develop and maintain different profiles of MMT:

- with different lifecycle and update frequency
- with their own privacy policies
- on the level of UN/CEFACT and/or their organisations
- independently from each other
- with individual and different Intellectual Property Rights
- even by further customising profiles
- targetting various exchange methods and formats
- keeping their data model independent but linking them through mapping
- Aligned to UN Layout Keys paper documents and UN/EDIFACT

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Profiles combined – gap analysis – which data can be forwarded from one mode to the other?

common data set	eCMR	Maritime BoL	CIM-SMGS Consignment Note	CIM-SMGS Consignment Note under URL	Wagon List	Inland Waterway BoL	FIATA BoL
Invoice Amount	X		X	X			
Gross Weight	X	X	X	X	X	X	X
Gross Volume	X	X				X	X
Information		X				X	
Tariff Quantity	X						
Trade Line Item Quantity			X	X			
Global ID	X						
Cargo Nature Identification	X				X		X
Type Code							X
Identification Text	X				X		X
Transport Dangerous Goods	X	X	X	X	X	X	X
UNDG ID	X	X	X	X	X	X	X
Regulation Code	X	X	X	X		X	

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Multimodality and Interoperability example: EU eFTI regulation

eFTI-DR – Table view 1

Unique UN Assigned ID	UN Business Name	SG1 Business Name	UN Dictionary Entry Name (DEN)	UN Definition
UN01004121	Gross Weight	Gross mass (kg)	Supply Chain_ Consignment Item. Gross Weight. Measure	A measure of the gross weight (mass) of this supply chain consignment item which includes packaging but excludes any transport equipment.
UN01004122	Net Weight	Net mass (kg)	Supply Chain_ Consignment Item. Net Weight. Measure	A measure of the net weight (mass) of this supply chain consignment item which excludes all packaging.
UN01004124	Gross Volume	Gross volume (m3)		
UN01010139	Package Quantity	Number of packages Total Packages		

Unique UN Assigned ID	UN Business Name	SG1 Business Name	DTLF/SG1 Business Clarification/Definition	Occurrence Min	Occurrence Max
UN01004121	Gross Weight	Gross mass (kg)		0	1
UN01004122	Net Weight	Net mass (kg)		0	1
UN01004124	Gross Volume	Gross volume (m3)		0	1
UN01010139	Package Quantity	Number of packages Total Packages		0	1
UN01004130	Cargo Nature Identification			0	1
UN01004759	Identification Text	Goods description (textual)		0	unbounded
UN01004131	Transport Dangerous Goods	Dangerous goods		0	unbounded

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Multimodality and Interoperability

https://svn.gefeg.com/svn/efti-publication/HTML/001.htm

eFTI-DR – Table view 2

UN Business Name	SG1 Business Name	SG1 Code comments	SG1 Remark
Gross Weight	Gross mass (kg)	-	Not always clear from legislation wheather gross or net is required. And if, diverging definitions. Gross seems most relevant & cusotms description seems ok. DG&WS have specific reuqirements
Net Weight	Net mass (kg)	-	Not always clear from legislation wheather gross or net is
Gross Volume	Gross volume (m3)	-	
Package Quantity	Number of packages Total Packages	- -	
Cargo Nature Identification			
Identification Text	Goods description (textual)	-	
Transport Dangerous Goods	Dangerous goods	decisions need to be made	
UNDG ID			

UN Business Name	SG1 Business Name	Rates&Conditions	Combined Transport	Access to road haulage	Waste	Dangerous Goods	Rail Intero-perability	Aviation Security
Gross Weight	Gross mass (kg)	M	M	O	M	M	?	M
Net Weight	Net mass (kg)	-	-	-	M	M	?	-
Gross Volume	Gross volume (m3)	O	O	O	O	M	O	O
Package Quantity	Number of packages Total Packages	M -	M -	M -	M -	M M	? -	M -
Cargo Nature Identification								
Identification Text	Goods description (textual)	M	M	M	M	M	?	M
Transport Dangerous Goods	Dangerous goods	-	-	-	-	M	-	-

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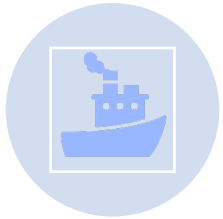
Modal Specific MMT-based Customisations

✓ Maritime

✓ Road



✓ Inland Waterway

✓ Rail

Air (currently in flight!)

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Rail

- Mapping of CIM/SMGS ECN data structure (MMT subset) to IFTMIN EDIFACT message
- Developed CIM/SMGS ECN data structure under the unified railway law as a subset of MMT
- Developed CIM/SMGS Wagon list data structure as a subset of MMT
- Mapped the possible data elements from railway documents for the purpose of achieving multimodality to MMT RDM
- Publication of the railway MMT subset artefacts on the UNTTC.org website (Component Library (CCL) Structure, Dataset alignment with other ‘document’ objects, XSD schema, UML diagrams, HTML index)

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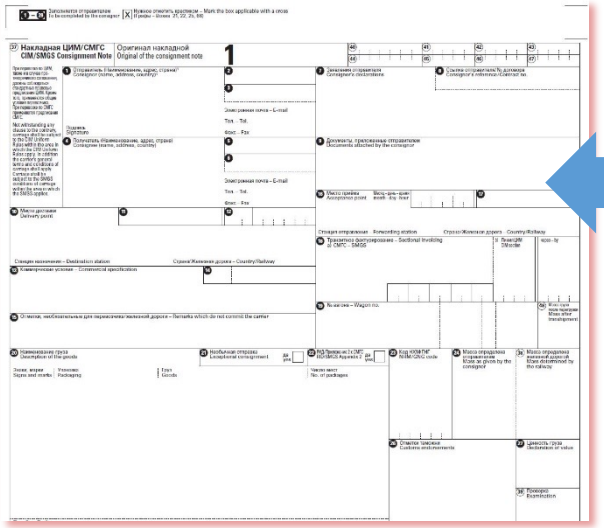
Rail

Core Mappings

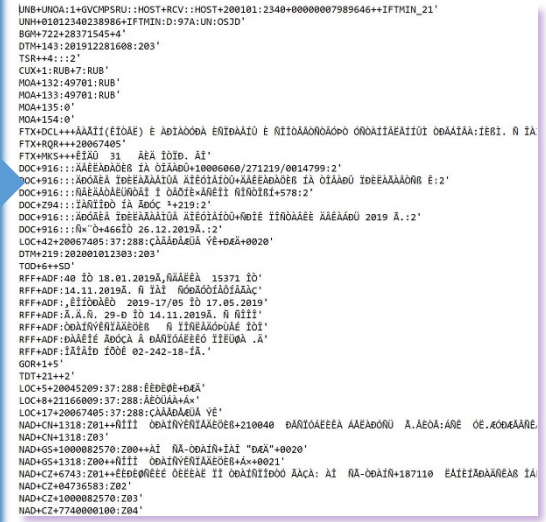
CIM-SMGS MMT Subset

CIM-SMGS



Накладная ЦИМ/СМГС
CIM/SMGS Consignment Note
Оригинал накладной
Original of the consignment note

IFTMIN (SMGS)



```
UNB+UNOA:1+GVCMPSRU::HOST+RCV::HOST+200101:2340+00000007989646++IFTMIN_21'
UNH+01012340238986+IFTMIN:D:97A:UN:OSJD'
BGM+722+2837154S+4'
DTM+143:201912281608:203'
TSR++4::2'
CUX+1:RUB+7:RUB'
MOA+132:49701:RUB'
MOA+133:49701:RUB'
MOA+135:0'
MOA+154:0'
FTX+DCL+++ÀÀÄÏÍ(ÉÎÒÀÉ) È ÀÐÌÀÒÓÐÀ ÈÑÎÐÌÀÌÍ È ÑÎÎÒÀÀÒÑÒÀÓÐÓ ÓÑÒÀÍÎÂÈÂÍÎÉ ÒÐÀÍÌÀ:ÍÉßÍ. Ñ ÎÀ
FTX+RQR+++20067405'
FTX+MKS+++ÉÎÄÓ  31   ÄÈÄ ÎÒÎÐ. ÄÎ'
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DTM+219:202001012303:203'
TOD+6++SD'
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RFF+ADF:14.11.2019Ã. Ñ ÎÀÌ  ÑÓÐÃÓÒÎÀÒÍÄÄÀç'
RFF+ADF:,ÊÎÎÒÓÀÈÒ  2019-17/05 ÎÒ 17.05.2019'
RFF+ADF:Ã.Á.Ñ. 29-Ð ÎÒ 14.11.2019Ã. Ñ ÑÎÎÎ'
RFF+ADF:ÒÐÀÍÝÝÉÑÎÄÄÈÓÈß   Ñ ÎÎÑÉÄÄÓÐÙÄÉ ÎÒÎ'
RFF+ADF:ÐÄÄÊÎÉ ÄÐÓÇÀ À ÐÄÑÎÓÄÉÈÉÓ ÎÎÉÓÙÐÀ .À'
RFF+ADF:ÎÄÎÄÎÐ ÎÒÓÈ 02-242-18-ÎÄ.'
GOR+1+5'
TDT+21++2'
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LOC+8+21166009:37:288:ÄÈÓÙÄÄ+Ä×'
LOC+17+20067405:37:288:ÇÄÄÐÅÉÙÀ ÝÉ'
NAD+CN+1318:Z01++ÑÎÎÎ  ÒÐÄÍÝÝÉÑÎÄÄÉÓÉß+210040  ÐÄÑÎÓÄÉÈÉÀ ÄÄÉÀÐÓÑÙ  Ä.ÀÈÓÀ:ÁÑÈ  ÓÉ.ÆÓÐÆÄÄÑÉ
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NAD+CZ+6743:Z01++ÊÈÐÉÙÑÉÉÉ ÒÉÉÉÄÉ ÏÏ ÒÐÄÍÑÎÎÐÓÓ ÄÀÇÀ: ÄÏ  ÑÄ-ÒÐÄÍÑ+187110  ÊÄÍÈÏÐÄÄÑÉÄÄ ÏÄ
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NAD+CZ+1000082570:Z03'
NAD+CZ+7740000100:Z04'
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Air

Project outline

Documents/dataset mappings to MMT RDM:

1. Air Waybill (AWB)
2. Consignment Security Declaration (CSD)
3. Dangerous Goods Declaration (DGD)

Plan:

Two phases

1. Develop the standards – 15 July 2021
2. Pilot implementations – 01 September 2021

Now:

- Plan & project team assembly
- Domain experts welcome!
- Kick-off & project calls

1. Standards:

Follows UN/CEFACT MMT RDM

- Business Requirements Specifications (BRS)
- Core Component Library (CCL) Structure
- Dataset alignment with other 'document' objects
- XLS guideline structure
- XSD schema
- UML diagrams
- HTML index
- JSON-LD schema

2. Pilots:

In collaboration with ICAO

- Identify/outreach to candidate countries/areas
- Engage . Educate . Assist – with deployments

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Air

Core Mappings

DGD

SHIPPER'S DECLARATION FOR DANGEROUS GOODS

(Provide at least two copies to the airline.)

Shipper	**Air Waybill No.** Page of Pages Shipper's Reference No. (optional)
Consignee	**WARNING** **Failure to comply in all respects with the applicable Dangerous Goods Regulations may be in breach of the applicable law, subject to legal penalties. This Declaration must not, in any circumstances, be completed and/or signed by a consolidator, a forwarder, or an IATA cargo agent.**
Two completed and signed copies of this Declaration must be handed to the operator.	
TRANSPORT DETAILS	
This shipment is within the limitations prescribed for: *(delete non-applicable)* **PASSENGER AND CARGO AIRCRAFT** **CARGO AIRCRAFT ONLY** Airport of Departure:	Shipment Type: *(delete non-applicable)* **NON-RADIOACTIVE** **RADIOACTIVE**
Airport of Destination:	

NATURE AND QUANTITY OF DANGEROUS GOODS

Dangerous Goods Identification							
UN or ID No.	Proper Shipping Name	Class or Division	Packing Group	Subsidiary Risk	Quantity and Type of Packing	Packing Inst.	Authorization

ADDITIONAL HANDLING INFORMATION:
"Prior arrangements as required by IATA Dangerous Goods Regulations 1.3.3.1 have been made."
Prepared according to ICAO/IATA.
24hr. Emergency Contact No.

I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked, labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national government regulations.	Name/Title of Signatory Place and Date Signature (see WARNING above)

FOR RADIOACTIVE MATERIAL SHIPMENT ACCEPTABLE FOR PASSENGER AIRCRAFT: THE SHIPMENT CONTAINS RADIOACTIVE MATERIAL INTENDED FOR USE IN OR INCIDENT TO RESEARCH, MEDICAL DIAGNOSIS, OR TREATMENT.

AWB

STAPLE DOCUMENTS ABOVE PERFORATION

Shipper's Name and Address | Shipper's account Number

Not negotiable
Air Waybill
issued by

Copies 1,2 and 3 of this Air Waybill are originals and have the same validity

Consignee's Name and Address | Consignee's account Number

It is agreed that the goods described herein are accepted in apparent good order and condition (except as noted) for carriage SUBJECT TO THE CONDITIONS OF CONTRACT ON THE REVERSE HEREOF. ALL GOODS MAY BE CARRIED BY ANY OTHER MEANS INCLUDING ROAD OR ANY OTHER CARRIER UNLESS SPECIFIC CONTRARY INSTRUCTIONS ARE GIVEN HEREON BY THE SHIPPER, AND SHIPPER AGREES THAT THE SHIPMENT MAY BE CARRIED VIA INTERMEDIATE STOPPING PLACES WHICH THE CARRIER DEEMS APPROPRIATE. THE SHIPPER'S ATTENTION IS DRAWN TO THE NOTICE CONCERNING CARRIER'S LIMITATION OF LIABILITY. Shipper may increase such limitation of liability by declaring a higher value for carriage and paying a supplemental charge if required.

Issuing Carrier's Agent Name and City | Accounting Information

Agent's IATA Code | Account No.

Airport of Departure (Addr. of first Carrier) and requested Routing | Reference Number | Optional Shipping Information

to | By first Carrier | Routing and Destination | to | by | to | by | Currency | CHGS Code | WT/VAL PPD | WT/VAL COLL | Other PPD | Other COLL | Declared Value for Carriage | Declared Value for Customs

Airport of Destination | Flight/Date | For Carrier Use only | Flight/Date | Amount of Insurance | INSURANCE – If carrier offers insurance, and such insurance is requested in accordance with the conditions thereof, indicate amount to be insured in figures in box marked 'amount of insurance'

No. of Pieces RCP | Gross Weight | kg lb | Rate Class | Commodity Item No. | Chargeable Weight | Rate / Charge | Total | Nature and Quantity of Goods (incl. Dimensions or Volume)

Prepaid | Weight Charge | Collect | Other Charges

Valuation Charge

Tax

Total other Charges Due Agent

Total other Charges Due Carrier

Shipper certifies that the particulars on the face hereof are correct and that insofar as any part of the consignment contains dangerous goods, such part is properly described by name and is in proper condition for carriage by air according to the applicable Dangerous Goods Regulations.

Signature of Shipper or his Agent

Total prepaid | Total collect

Currency Conversion Rates | cc charges in Dest. Currency

For Carrier's Use only at Destination | Charges at Destination | Total collect Charges

Executed on (Date) at (Place) Signature of issuing Carrier or its Agent

Common Data Elements

CSD

Consignment Security Declaration (CSD)

Regulated Entity Category (KC, RA or RC) and Identifier (of the regulated party issuing the security status)		Unique Consignment Identifier (if AWB format is nnn-nnnnnnnn)
Contents of Consignment ☐ Consolidation		
Origin	Destination	Transfer/Transit points (if known)
Security Status	Reasons for issuing security status	
	Received from (codes)	Screening Method (codes) / Grounds for Exemption (codes)
Other Screening Method(s) (if applicable)		
I confirm that I have reviewed all available documentation and have determined that none of the cargo being offered in this consignment or consolidation either originated in, transferred from or transited through any point in Yemen, Syria, Somalia or Egypt.		
Security Status Issued by Name of Person or Employee ID		Security Status Issued on Date (ddmmmyy) Time (hhmm)
Regulated Entity Category (KC, RA or RC) and Identifier (of any regulated party who has accepted the security status given to a consignment by another regulated party)		
Additional Security Information		

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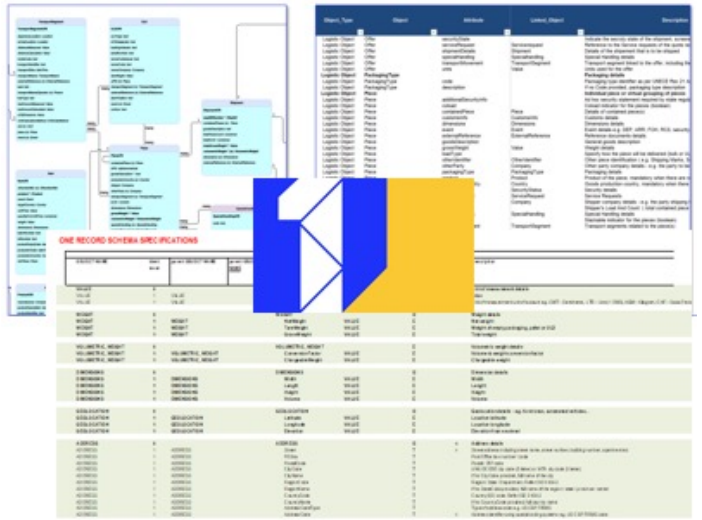
Air

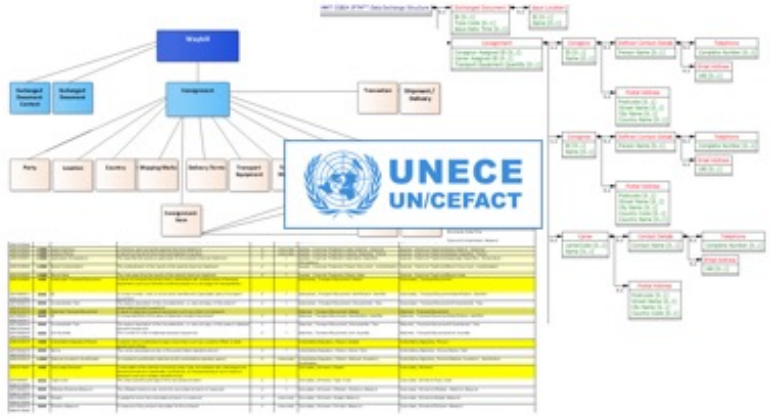
Air Waybill Approach

Airfreight supports multiple IATA standards for

B2B & some B2G:

- Cargo-IMP: legacy, bespoke EDI
- Cargo-XML: current, UN/CEFACT aligned
- ONE Record: piloting, JSON-LD backwardly compatible





Mapping UN/CEFACT subset with **IATA ONE Record**

Enhanced data model e.g. piece level

MMT (BOL) <> Air Waybill (AWB) baseline, others to be considered e.g. House Waybill

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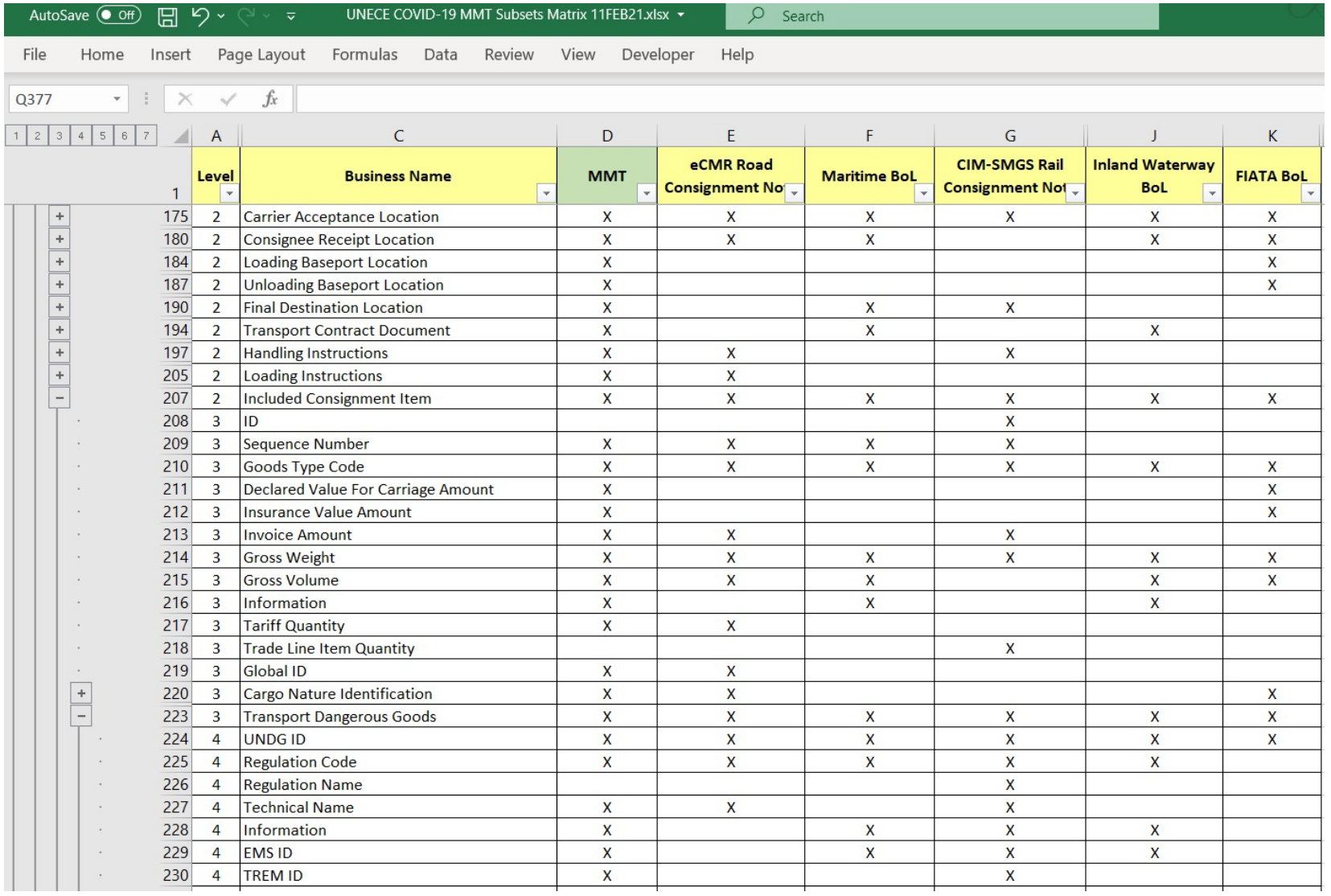
Results – March 2021



	Level	Business Name	MMT	eCMR Road Consignment No	Maritime BoL	CIM-SMGS Rail Consignment No	Inland Waterway BoL	FIATA BoL
175	2	Carrier Acceptance Location	X	X	X	X	X	X
180	2	Consignee Receipt Location	X	X	X		X	X
184	2	Loading Baseport Location	X					X
187	2	Unloading Baseport Location	X					X
190	2	Final Destination Location	X		X	X		
194	2	Transport Contract Document	X		X		X	
197	2	Handling Instructions	X	X		X		
205	2	Loading Instructions	X	X				
207	2	Included Consignment Item	X	X	X	X	X	X
208	3	ID				X		
209	3	Sequence Number	X	X	X	X		
210	3	Goods Type Code	X	X	X	X	X	X
211	3	Declared Value For Carriage Amount	X					X
212	3	Insurance Value Amount	X					X
213	3	Invoice Amount	X	X		X		
214	3	Gross Weight	X	X	X	X	X	X
215	3	Gross Volume	X	X	X		X	X
216	3	Information	X		X		X	
217	3	Tariff Quantity	X	X				
218	3	Trade Line Item Quantity				X		
219	3	Global ID	X	X				
220	3	Cargo Nature Identification	X	X				X
223	3	Transport Dangerous Goods	X	X	X	X	X	X
224	4	UNDG ID	X	X	X	X	X	X
225	4	Regulation Code	X	X	X	X	X	
226	4	Regulation Name				X		
227	4	Technical Name	X	X		X		
228	4	Information	X		X	X	X	
229	4	EMS ID	X		X	X	X	
230	4	TREM ID	X			X		

Air

AWB

CSD

DGD

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Further Information

All documents available on UNTTC.org and UN/CEFACT Project pages

To participate or find out more contact:

Michael Dill – Project Leader

<u>Team Leaders</u>

Air Freight – **Steve Hill**

Rail – **Kagisho Ramatsa**

Maritime/Inland Waterway/Road – **David Roff**