The Global Language of Business

GS1 Standards Event – A digital experience

Material Master Data in the **Rail Industry** "Flash talk"

Steven Baker / Siemens Australia & Bonnie Ryan / GS1 Australia
June 25th, 2020

Anti-trust caution

- GS1 operates under the GS1 anti-trust caution. Strict compliance with anti-trust laws is and always has been the policy of GS1.
- The best way to avoid problems is to remember that the purpose of the group is to enhance the ability of all industry members to compete more efficiently.
- This means:
  - **There shall be no discussion of prices, allocation of customers, or products, boycotts, refusals to deal, or market share.**
  - If any participant believes the group is drifting toward impermissible discussion, the topic shall be tabled until the opinion of counsel can be obtained.
- The full anti-trust caution is available via the link below, if you would like to read it in its entirety: http://www.gs1.org/gs1-anti-trust-caution.

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Statement & reminder for seeking intellectual property information

- Relevant to the features of the specification that are being developed in this work group, if anyone has knowledge or information about intellectual property rights, such as, patents or patent applications; please promptly convey this information to the work group facilitator.
- The intellectual property rights can either be in development or owned by persons, companies or third parties within this work group or outside this work group.
- We do this under the guidance of the GS1 Intellectual Property Policy, so that GS1 can seek to avoid the uncertainty regarding intellectual property claims against the Specification.

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Meeting etiquette

- **Meetings will *begin* and *end* promptly as scheduled**
- **Be present – avoid multi-tasking**
- **Avoid distracting behaviour:**
  - Place mobile devices on silent mode
  - Avoid doing other work as much as possible
- **Be considerate**
  - Use chat function to ask questions
  - Raise hand before speaking freely
- **Respect work group decisions**
  - Avoid re-opening decisions unless there is a significant quality impact

- **Collaborate** in support of meeting objectives
  - Ask questions
  - Be open to alternatives
- Be **representative**
  - Avoid personal remarks
  - Do not speak for your company or community if you do not clearly understand their needs
  - Votes should reflect the needs of your company or community

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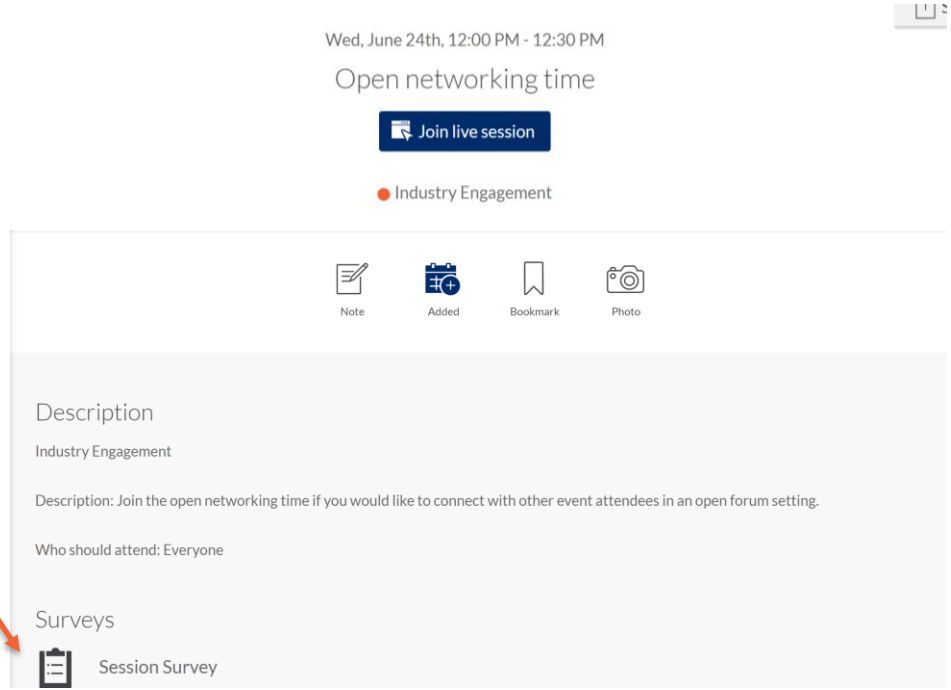
Session Surveys



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Project i-TRACE
Material Master Data in the Australian Rail Industry

GS1 Industry & Standards event

25 June 2020

Unrestricted

Today's session

- Introducing "Project iTRACE"
  - Our engagement with the Australian Rail Industry
- Material Master Data initiative

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Your presenters

Head of Product Innovation
Siemens Mobility
Australia

Director – Freight Logistics & Industrial sectors
GS1 Australia

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Project iTRACE

Project iTRACE is an overarching industry initiative that covers a program of works around the implementation of GS1 standards

Project iTRACE

AIDC

Identification of parts and components

Common, consistent, globally unique product codification

Barcoding and Tagging

Automatic data capture through physical marking or tagging of components & assets

GDSN

Material Master Data

Consistent data model for material master data

Common sharing mechanism

EPCIS / DL

Tracking and Tracing

Supporting through life support processes

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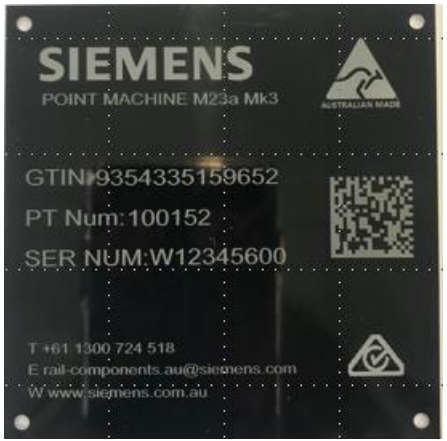
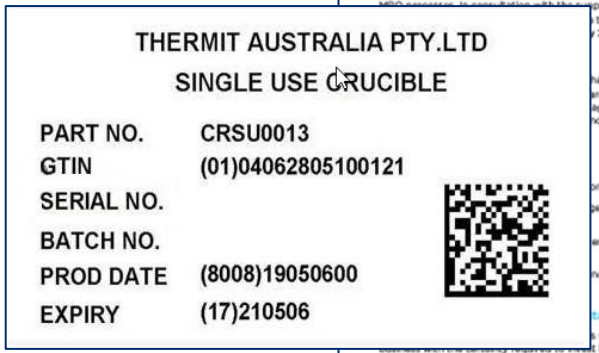
Call to Action

Australian Rail Industry has been implementing since early 2019





Material Master Data

Identified a need for improved material master data management in the Australian Rail sector

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Master Data project

Project i-TRACE Material Master Data Work Stream

Commenced in March 2019 with objective to develop an agreed Material Master Data set for rail parts/components & assets as well as a standard process for sharing the data between systems and businesses across the industry.

Industry Participants:

- ABB
- Aust Rail Assoc
- Aust Rail Track Corporation
- Bluescope Steel
- Cold Forge
- Downer Group
- Granger Forge
- GS1 Australia
- Infrabuild
- Kiwi Rail
- Martinus Rail
- Mineral Resources
- Siemens
- Sydney Trains
- Thermit
- VAE
- V/Line
- Vossloh

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Scope

Develop additional competency in Material Master Data management in the rail sector

1. Review GDSN attributes
2. Agree on Core MMD attributes for rail
3. Standard process(s) for exchanging MMD
4. Pilot data exchange
5. Recommendations to Steering Committee

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Core MMD Attributes

List of Core Material Master Data attributes for Rail (68) agreed by the work group

Core Material Master Data Attributes (V1.2)

Attribute	Alpha/Numeric	Length	NPC Field	Description	Attribute Cardinality	Notes	GDSN Changes Required
GTIN - Global Trade Item Number	Numeric	14	Global Trade Item Number	The Global Trade Item Number (GTIN) is the GS1 key used to uniquely identify a trade item. A trade item is any item (product or service) upon which there is a need to retrieve pre-defined information, and that may be planned, priced, ordered, delivered and/or invoiced at any point in any supply chain. (gtin)	Mandatory		
Item Description	Alpha	40	Trade Item Description	Should be a concatenation of: Noun = Function type = Brand = Variant (e.g. size) = Net Content (Base Unit) = Child Quantity =	Mandatory		
Vendor Name	Alpha	40	Information Provider Name	The name of the company selling the item/providing the data	Mandatory		
Business Unit	Alpha	40	Business Unit	The name of an independant organisation or organisation subset within the company (e.g. Rail division)	Conditional	Field submitted for customising, deploy in future release	Field submitted for customising, deploy in future release
Information Provider GLN	Numeric	13	Information Provider GLN	GLN of the information provider, under which the base unit and all of its packaging items are stored in the 1WorldSync pool. (informationProviderOfTradeItem/gln)	Mandatory		
Vendor ID	Alpha/Numeric	80	Additional Party Idenification Type Code = BUYER_ASSIGNED_IDENTIFIER_FOR_A_PARTY + Value	Internal number assigned by the buyer to identify the company selling the items	Conditional		
Item Action (ADD, UPDATE, DELETE)	Alpha	6	documentCommandHeader	Specify whether the record is being added (ADD), updated (UPDATE) or deleted (DEL)	Mandatory		
Vendor Item Number	Alpha/Numeric	18	Additional Trade Item Identification Type Code = SUPPLIER_ASSIGNED + Value	Internal product number assigned by the seller to the item being sold	Mandatory		
GTIN of Base Unit	Numeric	13-14	GTIN of Base Unit	A reference to the GTIN of the lowest level of product contained within this product's family hierarchy. Only required where item not a base unit.	Conditional		
Number of Base Units	Numeric	4	Number of Base Units	A reference to the number of GTINs of the lowest level of product contained within this product's family hierarchy. Only required where item not a base unit.	Conditional		
Country of Origin	CodeList	3	Country of Origin	The code of the country in which the goods have been produced or manufactured. The term "country of origin" is subject to the customs law. (placeOfProductActivity/countryOfOrigin/countryCode)	Mandatory		
Trade Item UoM	Alpha (code List)	3	Ordering Unit of Measure	The unit of measure of the trade item (e.g. EACH, Metre, Kilogram)	Mandatory		
GPC Code	CodeList		GPC Category Code	The Global Product Classification (GPC) code groups items based on their essential properties as well as their relationships to other products (https://www.gs1.org/standards/gpc/jun-2019)	Mandatory	Can it be kept at family level?	Change from mandatory to optional
UNSPSC Coding	Numeric	8	UNSPSC Code (version 19.0501)	The United Nations Standard Products and Services Code (UNSPSC) is a hierarchical convention that is used to classify all products and services. (https://data.ok.gov/sites/default/files/unspsc%20codes_3.csv)	Optional	Can it be kept at family level?	Can UNSPSC coding be kept to family level?
Trade Item Depth	Numeric	13	Product Depth	The depth of the trade item including the packaging, as measured according to the GDSN Package Measurement Rules. If the trade item is a unit load, include the shipping platform.	Mandatory		Change from mandatory to optional
Trade Item Depth UoM	Alpha (code List)	3	Product Depth UOM	Unit of measure of the trade item depth.	Mandatory		Change from mandatory to optional
Trade Item Width	Numeric	13	Product Width	The width of the trade item including the packaging, as measured according to the GDSN Package Measurement Rules. If the trade item is a unit load, include the shipping platform.	Mandatory		Change from mandatory to optional

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Rail Context (the challenge)

- Siemens
  - Rail Industry old
  - MMD based on manufacturing MMD/MRP is more about BOMs and routings and supply chain.
  - 15,000+ items on MMD
  - 7000+ are Unique - implies Approx. 8000 produced by external suppliers.
  - 1944 products identified as signals
  - Product life 20 + years and some instances 30+ years.
  - ERP data designed for manufacturing not EDI so may attributes (e.g. Dimensional Data) do not exist.
  - Other attributes missing e.g. structured descriptions and product family information.
  - Multinationals MMD data ownership.

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MMD localisation

				AdditionalTradeItemIdentification[0]	AdditionalTradeItemIdentification[0]			
				Vendor Item Number	code = SUPPLIER_ASSIGNED	Vendor Name		
	GlobalTradeItemNumber	InformationProvider	TargetMarketCountryCode	additionalTradeItemIdentificationValue	additionalTradeItemIdentificationType	NameOfInformationProvider	TIDBrandName	TIDFunctionalName[en]
Localized name	GTIN	Information Provider GLN	Target Market Country Code	Additional Trade Item Identification Value	Additional Trade Item Identification Type	Information Provider Name	Brand Name	Functional Name
Definition	The Global Trade Item Number (GTIN) is the GS1 key used to uniquely identify a trade item (also for re- or transport packagings). A trade item is any item (product or service) upon which there is a need to retrieve pre-defined information, and that may be planned, priced, ordered, delivered and/or invoiced at any point in any supply chain. (gtin)	GLN of the information provider, under which the base unit and all of its packaging items are stored in the atrify pool. (informationProviderOfTradeItem/gln)	Target market (country) assigned to the trade item (and all of its packaging items). The target market is where the trade item is intended to be sold. Different target markets have different demands regarding the item master data profile. (targetMarket/targetMarketCountryCode)	Value of an additional trade item identification, for instance to cross-reference the vendors internal trade item number to the GTIN in a one to one relationship. (additionalTradeItemIdentification)	Code specifying the type (and format) of the additional trade item identification. (additionalTradeItemIdentification/@additionalTradeItemIdentificationTypeCode)	Name of the information provider. (informationProviderOfTradeItem/partyName)	The name used by the brand owner to uniquely identify a line of trade items or services, which is recognizable for the consumer. (brandName)	Describes use of the product by the consumer. It should help clarify the product classification associated with the GTIN. For example, "salad dressing", "drill", "soup", "beer", etc. (functionalName) and (.../@languageCode)
Comment	Component of the Primary GDSN Data Key comprised of GLN+GTIN+TM.	Must be GLN. Component of the Primary GDSN Data Key comprised of GLN+GTIN+TM	Component of the Primary GDSN Key comprised of GLN+GTIN+TM.	If there is a need to send Additional Trade Item identifiers other than a GTIN, these attributes may be used more than once. Both the Trade Item Identifier Value and Type must be sent for each iteration. Indicator identifying the type and format of the Additional Trade Item Identification Value.	If there is a need to send Additional Trade Item identifiers other than a GTIN, these attributes may be used more than once. Both the Trade Item Identifier Value and Type must be sent for each iteration. Indicator identifying the type and format of the Additional Trade Item Identification Value.			Format was change to Multi Short Description in BMS Release 2.3.
GDSN cardinality	Mandatory	Mandatory	Mandatory	Optional	Optional	Conditionally optional	Mandatory	Mandatory
Field type	Integer; 14	String; 13	Country Code List	String; 80	Additional Trade Item Identification Code List	String; 35	String; 70	String; 35
	04047637012767	9377779401842	036	A2V00002415147	SUPPLIER_ASSIGNED	Siemens Mobility	ACM 250	Axle Counter
	04047637012774	9377779401842	036	A2V00002374679	SUPPLIER_ASSIGNED	Siemens Mobility	ACM 250	Axle Counter
	04047637012897	9377779401842	036	A2V00002172330	SUPPLIER_ASSIGNED	Siemens Mobility	ACM 250	Axle Counter
	04047637012880	9377779401842	036	A2V00002221416	SUPPLIER_ASSIGNED	Siemens Mobility	ACM 250	Axle Counter

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Pilot Participants

GS1 Australia GDSN data pool (NPC) as the mechanism for data exchange

Publishers of Data (Suppliers)

COLD FORGE

SIEMENS

Transport Sydney Trains

InfraBuild

COMMENCING JUL-20

Data Recipients/Receivers (Operators)

Transport Sydney Trains

V/Line

COMMENCING JUL-20

Pilot Timeline

Company	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Cold Forge	S	T	T	T	T	R	A			L
Infrabuild		S			T	R	A			
Siemens	S	T	T	T	T	R	A			L
Sydney Trains	S	T	T	T	T	R	A			L
V/Line	S			T	T	T	R	A		

Setup
Testing
Review
Approval
Live

- New Rail fields to be released in NPC early Jul-20
- Infrabuild and V/Line to commence Pilot in Jul-20
- Cold Forge, Siemens and Sydney Trains testing to resume when NPC Xpress for Rail is available (late Aug-20)

Next Steps - 2020

1. Complete Data Exchange Pilot
2. Recommendations to be presented to Steering Committee e.g.
   a) Mandated Vs Optional fields
   b) Data Gaps
   c) NPC Express naming conventions
   d) Templates for Common Fields
3. Seek industry call to action for new process
4. Initiate industry adoption activities moving into 2021
5. Potential for massaging data pool to suit

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Thank you

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