GS1 Germany

The Global Language of Business

Glossar/Glossary

Analyse Pilotprojekt Data Exchange End2End

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September, 2020

Glossar/Glossary

- DP DataPort
- EPCIS - Electronic Product Code Information Services
- GBIN - Global Brand Identification Number
- GDM - Global Data Model
- GDSN - Global Data-Synchronization-Network
- GS1 Business Model
- GS1 NL Fashion Base approach
- GS1 US Guideline Raw Material Attributes
- True Code Pilot
- UUID - Universally Unique Identifier
- Verified by GS1

DP DataPort

DP DataPort (DE/EN)

Allgemein

- Es handelt sich um einen „Work in process Standard“ (WIP), der vom Consumer Goods Forum (CGF) im Rahmen der Data Quality Leapfrog Initiative erarbeitet und pilotiert worden ist.
- Es werden Verfahren getestet, um eine Alternative zum GDSN zu entwickeln. Nicht zentrale GDSN Datenpools sondern viele dezentrale PIMs (End2End) sollen die Daten verwalten.
- Das Global Data Model oder andere Datenmodelle können in diese Struktur integriert werden.
- Der Kommunikationsstandard ist XML und/oder JSON.

General

- It is a "Work in process Standard" (WIP), which was developed and piloted by the Consumer Goods Forum (CGF) as part of the Data Quality Leapfrog Initiative.
- Procedures are being tested to develop an alternative to the GDSN. Not central GDSN data pools but many decentralized PIMs (End2End) are to manage the data.
- The Global Data Model or other data models can be integrated into this structure.
- The communication standard is XML and/or JSON.

See also: DataPorts – Solving End-to-End Value Chain Content Integration
https://www.theconsumergoodsforum.com/news_updates/the-cgf-and-intel-publish-dataports-learning-series-whitepaper/

DP Master Data Automation*

Master Data Automation

Future Proof Machine-2-Machine Master Data Exchange (upstream and downstream) will consist of three independent layers:

Information Model	Shared definitions about the "meaning" of information, independent of the data format.
Data Format	The technical/file format in which the data is exchanged.
Data Exchange	How the data files/messages will be exchanged, intracompany and intercompany, across the entire the value chain.

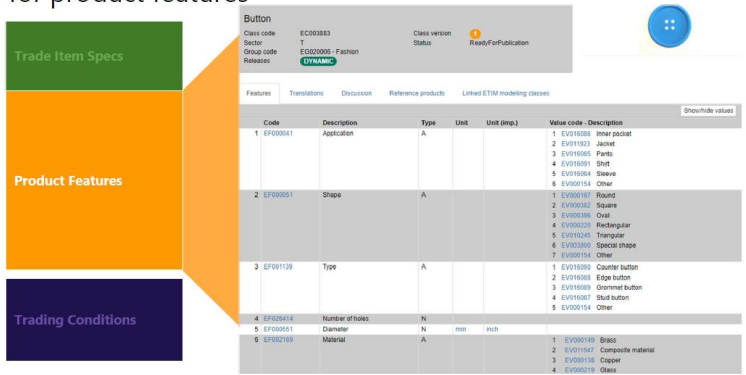
Information Model for Product Data has 3 layers

Type of Information		Definition	Level	Responsible Party
Trade Item Specs		All attributes related to identification and distribution. Examples: GTIN, GLN, GBIN, Trade Item Dimensions & Weight, Packaging Materials.	**Generic** Applies to all products and shippers, will be same at every point in the value chain.	**Brand Owner / Manufacturer**
Product Features	Non-Regulated	Information (free to define) regarding product features & benefits and functional / technical specs. Examples: resolution, diameter, power, colour, size.	**Product Class / Type dependent** Product Features usually apply to all products within a certain category (e.g. GPC, ETIM, GTS class). Will be the same at every point in the value chain. You have Single and Repeating Features.	**Brand Owner / Manufacturer**
	Regulated	Information (predefined) that needs to be provided due to regulation / legislation. Examples: EU 1169 / FDC for processed food and CLP / GHS for chemical substances.	**Product Class / Type dependent** Applies to all products that fall under a regulation. Will be the same at every point in the value chain.	**Brand Owner / Manufacturer**
Trading Conditions		Information about the sales & distribution conditions. Examples: Price, Minimum order quantity (MFG: full pallet of 192, wholesaler X: outer carton of 24).	**Generic, data-set per trader** Applies to both products and shippers and will be dependent on the relation between two parties in the value chain	**Trader** (Manufacturer, Wholesaler, Retailer)

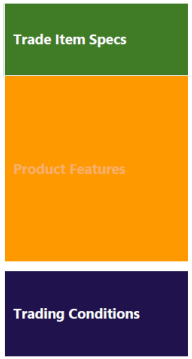
*information from Handout_WG2.1_Workslides_200320_200326_01_datport slide 15ff

DP SynForce regarding Information model*

The Global Textile Scheme is a new **information model** for product features



Trade Item and Trading Conditions
Information Model status

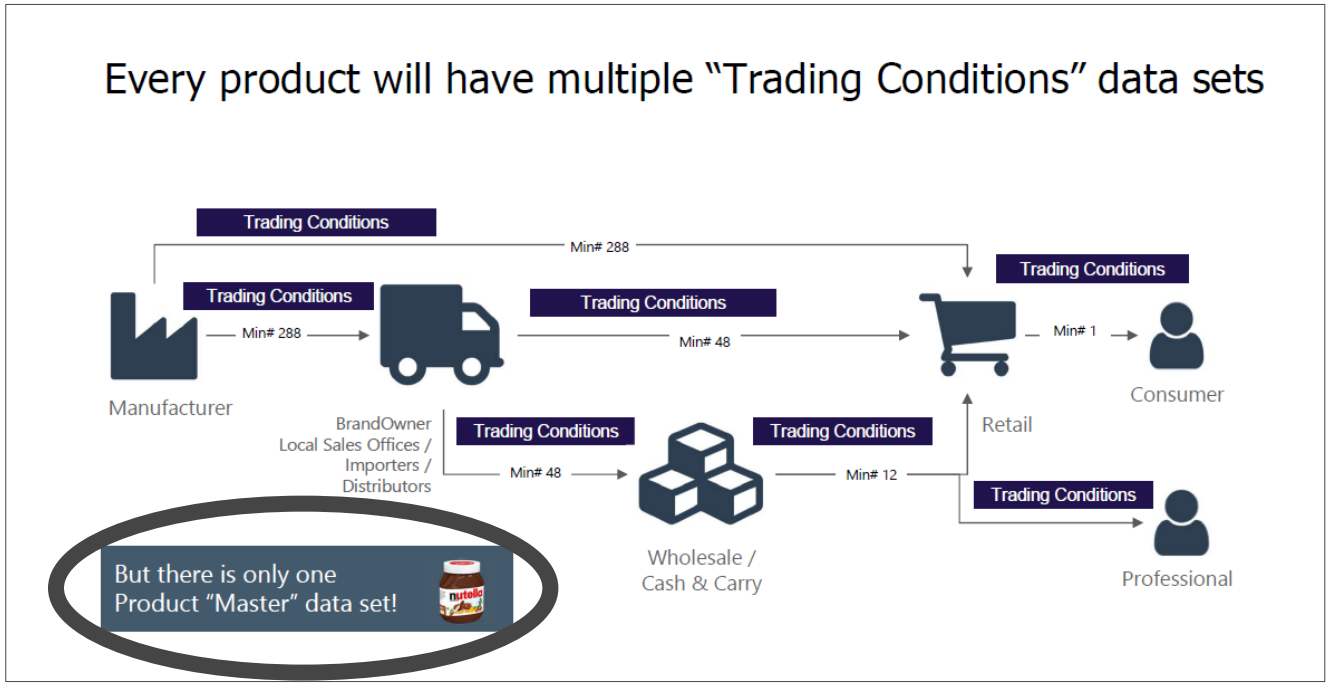


Not yet addressed,

Options:
Adopt GS1 Global Data Model or any other standard used in Fashion

*Information from Handout_WG2.1_Workslides_200320_200326_01_datport slide 15ff

DP SynForce information „Trading Conditions“*



*information from Handout_WG2.1_Workslides_200320_200326_01_datport slide 15ff

DP Data Format XML + JSON*

Data Format Examples

MS Excel for 'Machines'

	A	B	C
1	Feature	Value	
2	EF000041	EV016085	
3	EF000051	EV000167	
4	EF001139	EV016087	
5	EF002169	EV000149	
6			
7			

English Sales PDF or MS Excel sheet	
Application	Pants
Shape	Round
Type	Stud Button
Material	Brass

XML

```
<FEATURES>
    <FEATURE>
        <Code>EF000041</Code>
        <ValueCode>EV016085</ValueCode>
    </FEATURE>
    <FEATURE>
        <Code>EF000051</Code>
        <ValueCode>EV000167</ValueCode>
    </FEATURE>
    <FEATURE>
        <Code>EF001139</Code>
        <ValueCode>EV016087</ValueCode>
    </FEATURE>
</FEATURES>
```

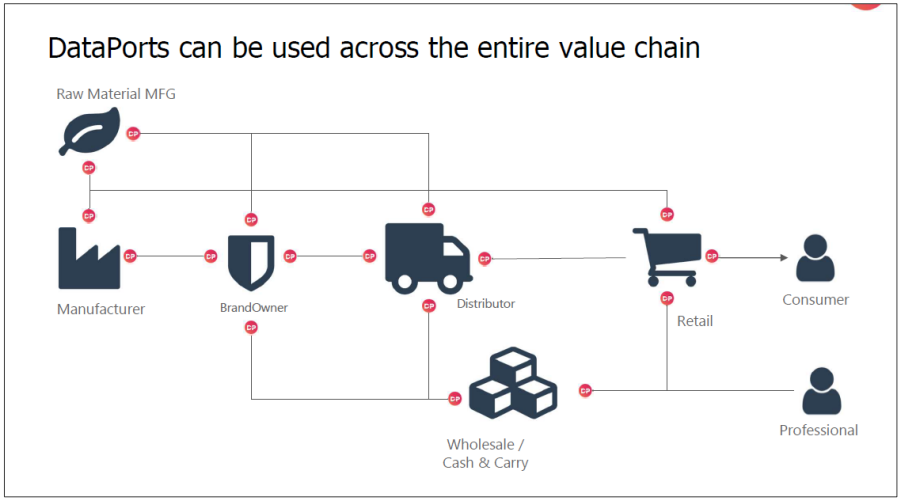
Json

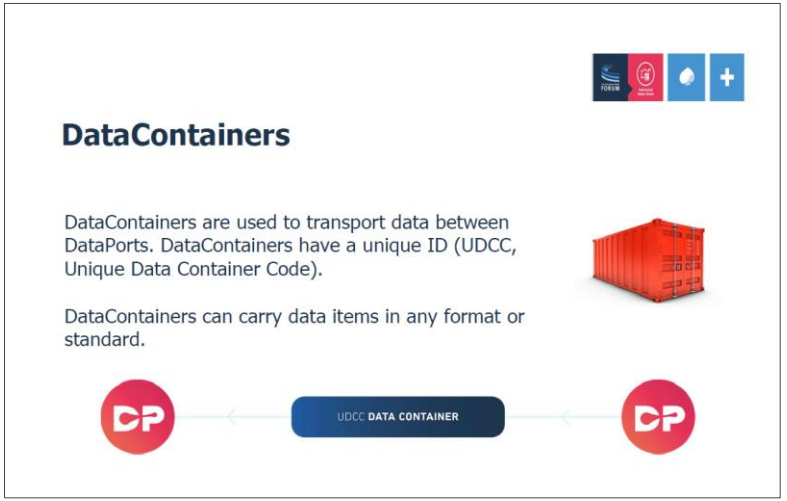
```
{
  "FEATURES": {
    "FEATURE": [
      {
        "Code": "EF000041",
        "ValueCode": "EV016085"
      },
      {
        "Code": "EF000051",
        "ValueCode": "EV000167"
      }
    ]
  }
}
```

New way to Exchange Data: federated sharing via 'E2E DataPorts'

*information from Handout_WG2.1_Workslides_200320_200326_01_datport slide 15ff

DP DataContainers*





*information from Handout_WG2.1_Workslides_200320_200326_01_datport slide 15ff

EPCIS
Electronic Product Code Information Services

EPCIS
Electronic Product Code Information Services (DE)

Transparente Prozesse mit EPCIS

- EPCIS ist ein Standard für den Austausch EPC-basierter Ereignisse - also was passiert wann, wo und warum?
- Mit EPCIS können Geschäftspartner Ereignisse entlang ihrer Wertschöpfungskette erfassen und kommunizieren. Beispiel: Wann wurde eine Lieferung an welchem Ort erfasst – und was genau passierte dort mit der Ware? Antworten liefert EPCIS, ein offener Standard zum Verfolgen beliebiger Objekte wie Produkte oder Sendungen entlang der Lieferkette.
- An bestimmten Punkten der Wertschöpfungskette erfassen beliebige Geräte (zum Beispiel RFID- oder Barcodeleser) GS1 Idente aus. Die erfassten Daten verknüpft das System mit der aktuellen Ortszeit und Lokalität – beispielsweise „Lesetor 1, Warenausgangszone 3" – dem aktuellen Status, zum Beispiel „verkaufsfähig", sowie dem Geschäftsprozess, zum Beispiel „Warenausgang". So entsteht eine zusammenhängende Reihe von Leseereignissen, die ein effektives Tracking & Tracing jederzeit möglich machen. Weiterhin geben rückblickende Analysen Aufschluss über Optimierungsmöglichkeiten.
- Entsprechende Zugriffsrechte vorausgesetzt, kann EPCIS nicht nur unternehmensintern eingesetzt werden, um Sendungen zu verfolgen oder Geschäftsprozesse anzustoßen. EPCIS ermöglicht auch das Tracking & Tracing in unternehmensübergreifenden Lieferketten.
- Für weitere Informationen siehe: https://www.estandards-mittelstand.de/estandards-wissen/prozesse-und-standards/transaktion/epcis/

EPCIS
Electronic Product Code Information Services (EN)

Transparent processes with EPCIS

- EPCIS is a standard for sharing EPC-based events - so what happens when, where, and why?
- EPCIS enables business partners to capture and communicate events along their value chain. Example: When was a shipment captured, at what location - and what exactly happened to the goods there? EPCIS, an open standard for tracking any object, such as products or shipments, along the supply chain, provides the answers.
- At certain points in the supply chain, any device (such as an RFID or barcode reader) can read GS1 Idente. The system links the recorded data with the current local time and location - for example "reading gate 1, goods issue zone 3" - the current status, for example "ready for sale", and the business process, for example "goods issue". In this way, a coherent series of reading events is created, which makes effective tracking & tracing possible at all times. Furthermore, retrospective analyses provide information about optimisation possibilities.
- With appropriate access rights, EPCIS can be used to track shipments and initiate business processes, but not only within the enterprise. EPCIS also enables tracking and tracing in cross-company supply chains.
- For further information see: https://www.estandards-mittelstand.de/estandards-wissen/prozesse-und-standards/transaktion/epcis/

GBIN
Global Brand Identification Number

GBIN
Global Brand Identification Number (DE/EN)

- SyncForce hat 2007 GBIN (Global Brand Identification Number) als neuen globalen Standard zur Identifizierung von Marken eingeführt.

- SyncForce has introduced GBIN (Global Brand Identification Number) as a new global standard to identify brands in 2007

- For more information see: https://www.syncforce.com/company/gbin/

GDM - Global Data Model

The GS1 Global Data Model

One product. One experience. Every channel.

The GS1 Global Data Model helps leverage product content for a seamless shopping experience across every channel.

By simplifying and harmonising the exchange of product data around the world, the GS1 Global Data Model standard increases operational efficiency for brand owners and retailers and improves data accuracy and completeness for consumers.

The GS1 Global Data Model

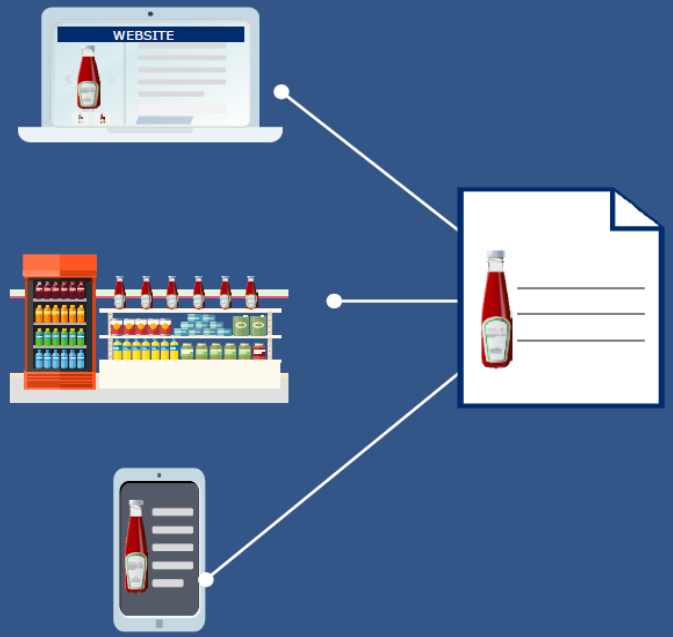
The GS1 Global Data Model Standard is the set of foundational data attributes that are needed to list, order, move, store and sell products

The GS1 Global Data Model

“Foundational data is non-competitive in the digital and physical retail environment.”

Source: The GS1 Global Data Model Business Case

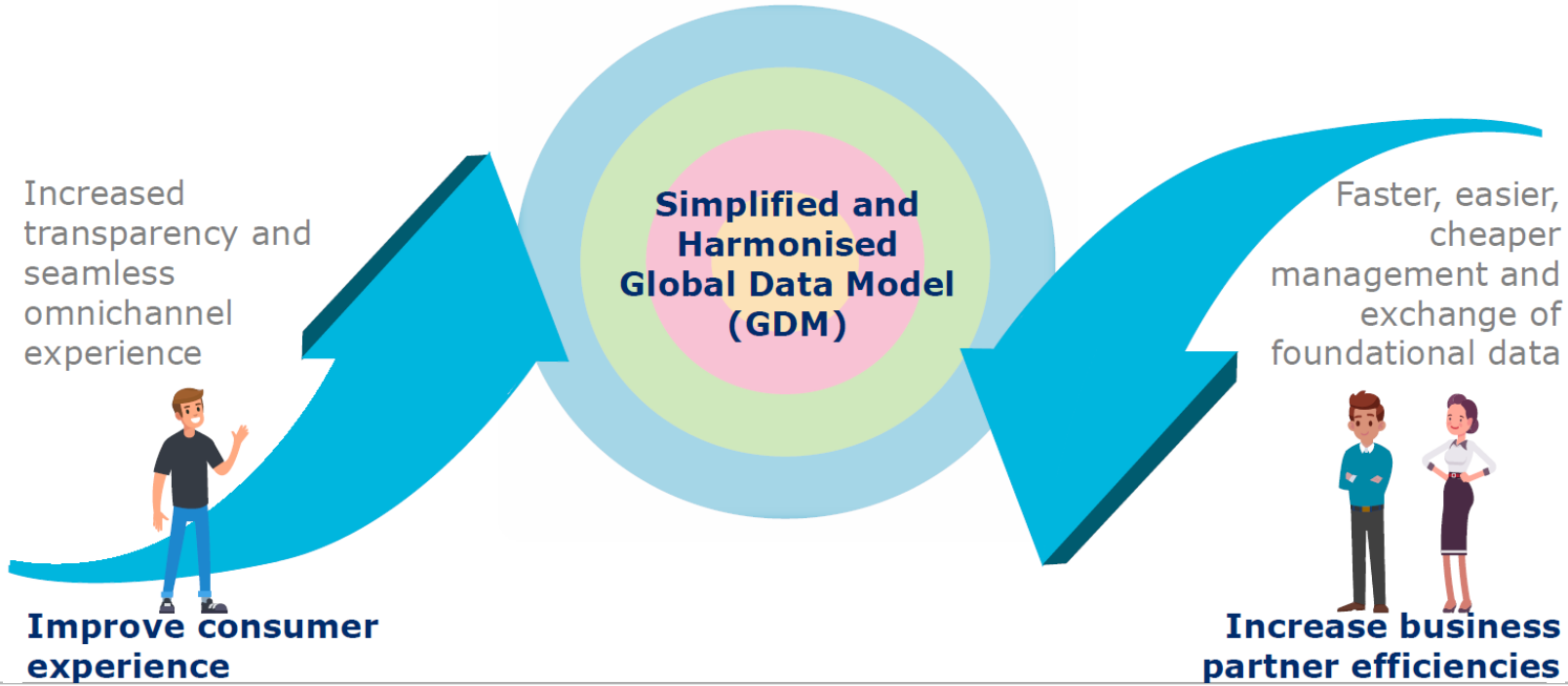
To improve the omnichannel consumer experience, brand owners and retailers should what truly differentiates and what can bei standardised



Foundational data is non-competitive in the digital and physical retail environment

- Product data is comprised of both **foundational and differentiated attributes**
- **Foundational attributes can be harmonised** to enable timely, accurate, and consistent data exchange for brand owners and retailers
- Retailers and brand owners can **shift focus to designing differentiated consumer experiences** versus verifying data quality
- Harmonised data will also unlock **new opportunities through advanced analytics**

Overall, the Global Data Model will enable improved consumer experience and will reduce complexity by harmonising foundational data across the industry



GDM uses the concept of layers to identify product attributes required for data exchange

Global core layer
- Comprised of **attributes** required across **all product categories**

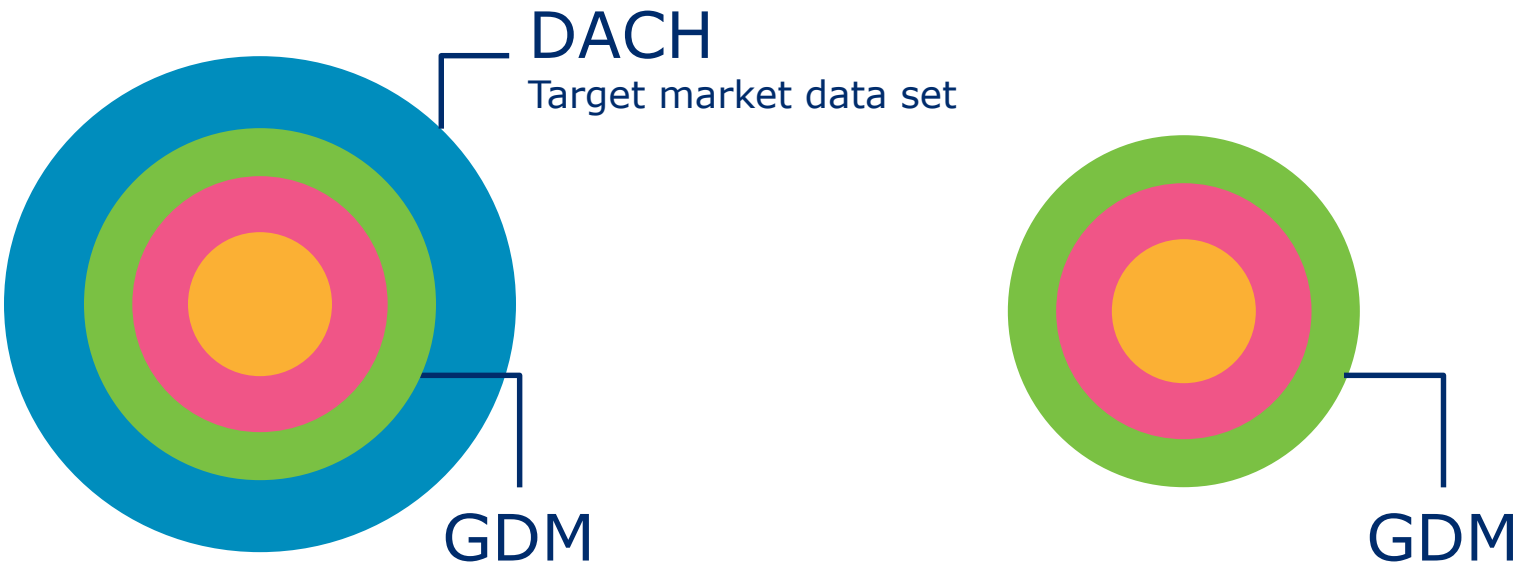
Global category layer
- Comprised of **attributes**[1] required only for a **specific product category** (i.e., FMCG Food, DIY…), applicable at a **global level**

Regional category layer
- Comprised of **attributes**[2] required only for a **specific product category,** only for a specific **region**

Country layer
- Comprised of **attributes**[3] required for a **specific product category,** only for a specific **location** within a region

1 These attributes are mandatory or optional depending on the product subcategory (e.g. "Storage temperature" is mandatory for "Meat" subcategory, while it's not mandatory for "Canned shelf stable products" subcategory)
2 These attributes are mandatory or optional depending on region (e.g. "Allergen statement" is mandatory in North America region due to regulatory requirements, while it's not mandatory in other regions)
3 These attributes are mandatory or optional depending on country (e.g. "Packaging Material Quantity" is mandatory in some countries, while it's not mandatory in others)

GDM in a „glocal“ context



Categories covered by the standard

Current release covers the following retail categories:

- FMCG Food & Near Food
- Alcoholic beverages
- Pet Food
- Tobacco

The term **"near-food products"** refers to drugstore products (e.g. skin care products), but also cleaning agents, etc. So products that are not food, but are still offered by supermarkets because they represent everyday consumer goods.

Planning horizon:

The GS1 Advisory Council has encouraged the GDM team to plan the GDM development for Non-Food categories, e.g. Cosmetics or Apparel in alignment with the new Marketplaces advisory team.

GDM and additionalTradeItemClassification…

		Attribute Definitions for Business (ADB) Release 1.2			Business Message Standard (BMS) Information (v3.1.10)						
BMS ID	Business name	Business definition	Example	Usage Statement	GDD Name	GDSN Technical Attribute	FMCG Food data model layer	FMCG Near Food data model layer	FMCG Pet Food data model layer	FMCG Alcoholic Beverages data model layer	FMCG Tobacco data model layer
171	Additional Product Classification Type Code	The code indicating the type of Additional Product Classification Value used.	Image of: • box of cereal and its United Nations Standard Products and Services Code (UNSPSC) and value. • the same box of cereal with its eCl@ss code and value. • box of syringes with its Global Medical Device Nomenclature (GMDN) Code and value.	Used to declare the type of the additional product classification that allows a buyer to know which classification system is used. Used in conjunction with Additional Product Classification Value.	additionalTradeItemClassificationSystemCode	NO	Local	Local	Local	Local	Local
173	Additional Product Classification Value	A value, other than the Global Product Category Code, which classifies the product, based on the Additional Product Classification Type Code.	Image of: • box of cereal and its United Nations Standard Products and Services Code (UNSPSC) and value. • the same box of cereal with its eCl@ss code and value. • box of syringes with its Global Medical Device Nomenclature (GMDN) Code and value.	Used for additional product classification that allows a buyer to classify a product by other classification systems. Used for multiple use cases such as data quality, category management, space management, workflow routing. Used in conjunction with Additional Product Classification Type Code.	additionalTradeItemClassificationCodeValue	NO	Local	Local	Local	Local	Local

With the attributes you have a link to further classifications like ETIM, GTS.....whose further values can be mapped analog to the GPC of data service providers

Linking a data model with the classification GPC using the example of a WebUser Interface

GPC Abbildung eines T-Shirt im GPC Browser		
Segment	67000000	Bekleidung
Klasse	67010800	Oberbekleidung
Brick	10001352	T-Shirt
Attribute	20003160	Passform
Value	30018901	Moderne Passform

https://www.gs1.org/services/gpc-browser

The electronic data exchange should be technology-agnostic with different classification schemes

There are a attribute set in GDSN that offers these possibilities, a product classification other than the Global Product Classification (GPC)

- Additional Product Classification would be possible to send different classification models
- For more information see: https://gs1.org/voc/AdditionalProductClassificationDetails

The data set:

- **Additional Product Code**
  - Code specifying the applied additional product classification scheme
  - Expected Type xsd:string
- **Additional Product Code description**
  - A description related to the additional product product classification code value
  - Expected Type rdf:langString
- **Additional Product Classification Value**
  - Code specifying an additional product classification other the GS1 Global Product Classification (GPC). The applied classification scheme is specified as additional information together with the classification value
  - Expected Type xsd:string

Extract from the GDSN implementation guide


GDD Data Models - Business Information Entity details

Click here to open the GDD report for package : GDSN Trade Item Classification

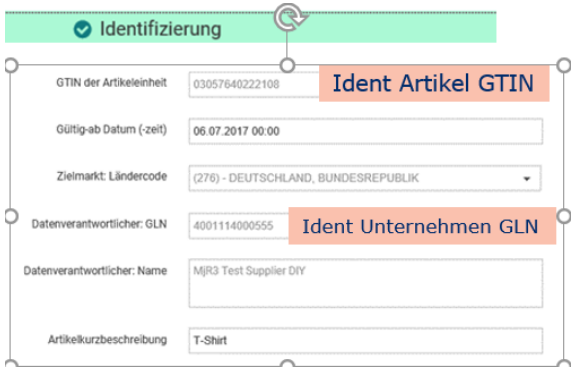
urn:gs1:gdd:bie:AdditionalTradeItemClassificationValue.additionalTradeItemClassificationCodeDescription

Name :	additionalTradeItemClassificationCodeDescription
Subtype	ATTRIBUTE
Type Name :	string
Definition :	Description of the additional classification bundle (code/agency + description).
Facets	(1..200)
Version :	
Cardinality :	0..1
Used In :	Show all
Links :	Data Type (urn:gs1:gdd:bdt:string)

additionalTradeItemClassificationSystemCode	See Global Data Dictionary (GDD) for the latest definition.	Optional	Additional Classification Systems help to provide more clarity as to the item, such as UNSPC, eCl@ss, and GMDN. In particular, UNSPSC is a recommended classification to provide for US Customs as they
additionalTradeItemClassificationCodeValue*	See Global Data Dictionary (GDD) for the latest definition.	Optional	
additionalTradeItemClassificationVersion	See Global Data Dictionary (GDD) for the latest definition.	Optional	

Code List	Code Value	codeName	Definition
AdditionalTradeItemClassificationCodeListCode	31	eCl@ss	Standardized Material and Service Classification and Dictionary
AdditionalTradeItemClassificationCodeListCode	47	DTB	DTB (fashion) Dialog Textil – Bekleiding (DTB) a German group of companies who joined forces for the TC sector. The product classification can be found on their website http://www.dialog-dtb.de
AdditionalTradeItemClassificationCodeListCode	48	FEDAS PCK	SGI-DHO (Sporting Goods Industry Data Harmonization Organization) is representing the interests of the different stakeholders of the sporting goods industry (retailers + brands). Its main task is the
AdditionalTradeItemClassificationCodeListCode	56	BTE	Bundesverband des Deutschen Textileinzelhandels a German Association of Textile Retailers. The product classification can be found on their website http://www.bte.de
AdditionalTradeItemClassificationCodeListCode	59	ETIM	ETIM - (Europees Technisch Informatie Model or European Technical Information Model in English) is an international organisation which develops, manages and publishes one European

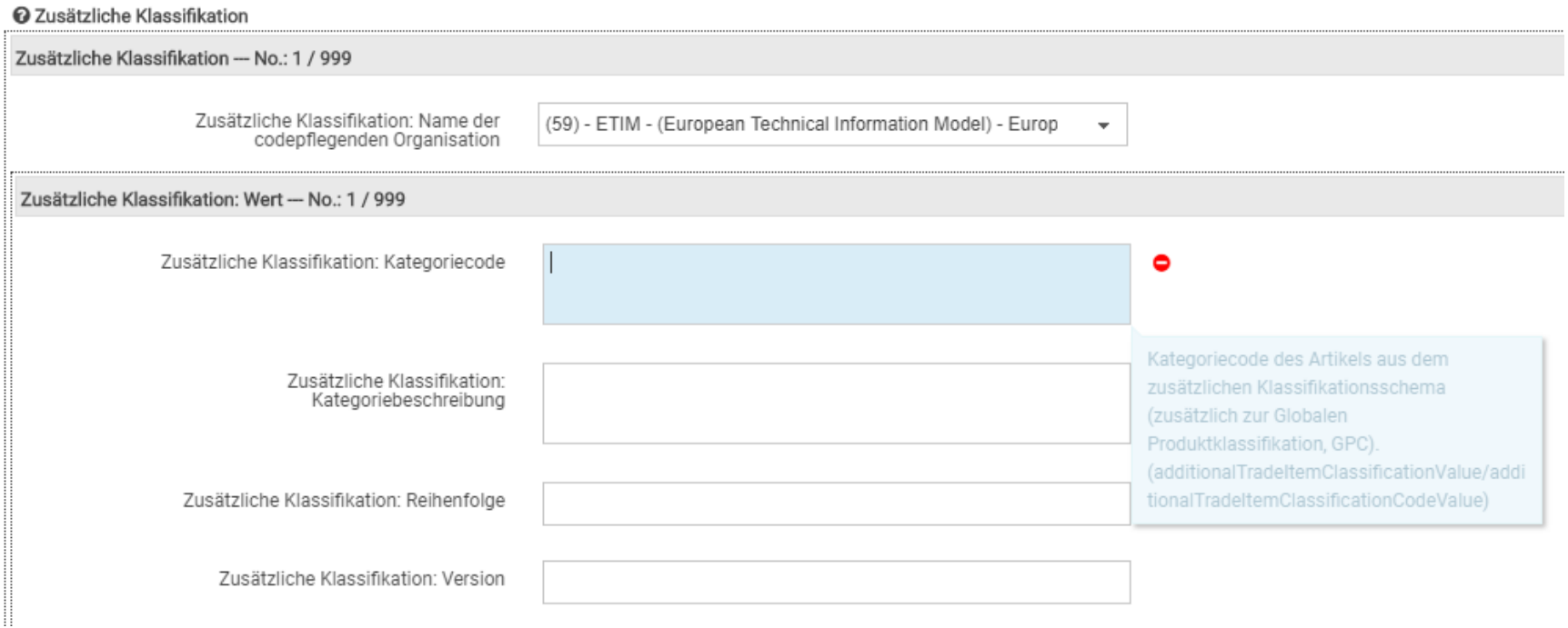
Linking a data model with the classification GPC using the example of a WebUser Interface



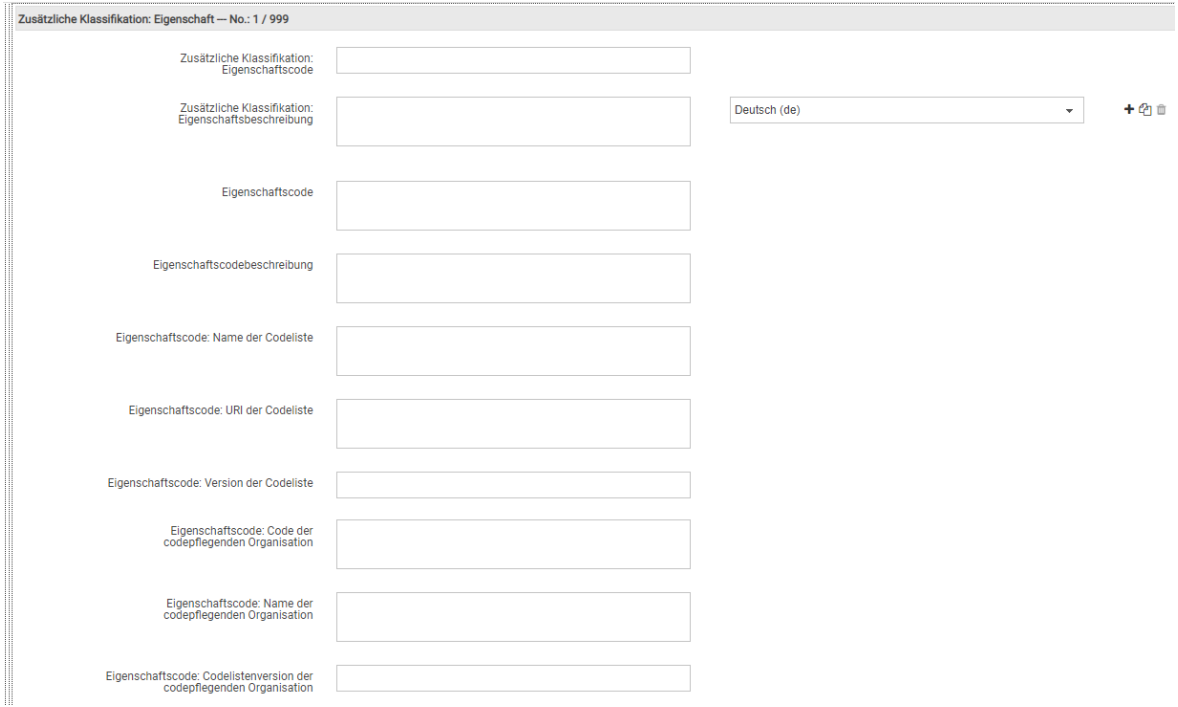
+ Neu

Code List	Code Value	codeName	Definition
AdditionalTradeItemClassificationCodeListCode	31	eCl@ss	Standardized Material and Service Classification and Dictionary
AdditionalTradeItemClassificationCodeListCode	47	DTB	DTB (fashion) Dialog Textil – Bekleiding (DTB) a German group of companies who joined forces for the TC sector. The product classification can be found on their website http://www.dialog-dtb.de
AdditionalTradeItemClassificationCodeListCode	48	FEDAS PCK	SGI-DHO (Sporting Goods Industry Data Harmonization Organization) is representing the interests of the different stakeholders of the sporting goods industry (retailers + brands). Its main task is the
AdditionalTradeItemClassificationCodeListCode	56	BTE	Bundesverband des Deutschen Textileinzelhandels a German Association of Textile Retailers. The product classification can be found on their website http://www.bte.de
AdditionalTradeItemClassificationCodeListCode	59	ETIM	ETIM - (Europees Technisch Informatie Model or European Technical Information Model in English) is an international organisation which develops, manages and publishes one European

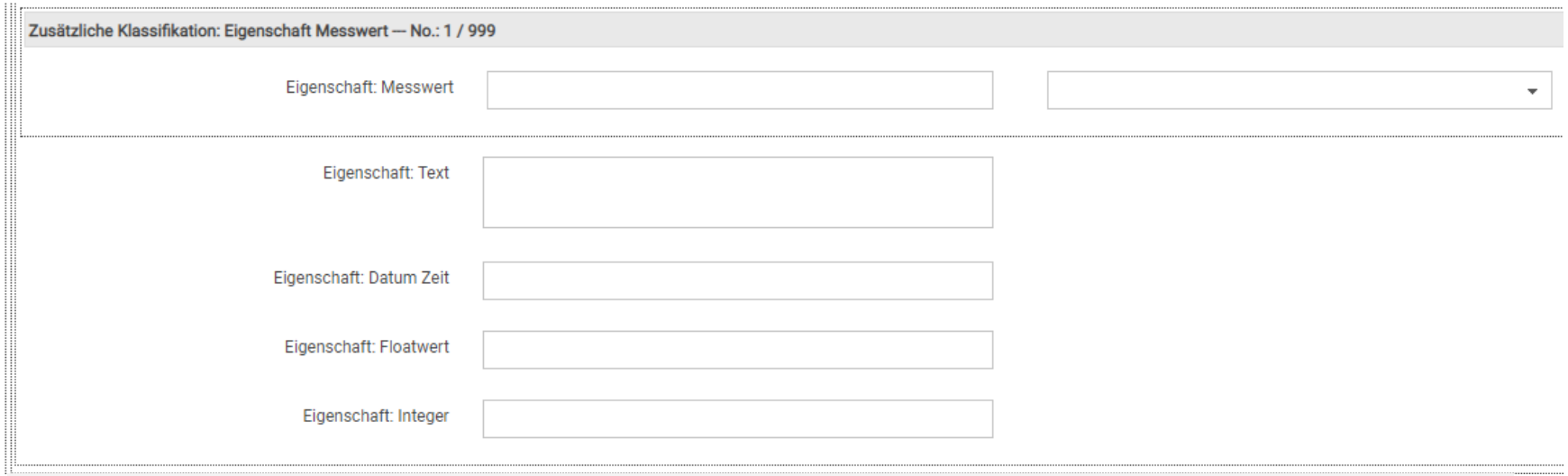
Additional classification: Name of the organization maintaining the code



Additional classification: Features



Additional classification: Property Measured value



For more information see: https://www.gs1.org/standards/gs1-global-data-model

GDSN Global Data-Synchronization-Network

GDSN Global Data-Synchronization-Network (DE/EN)

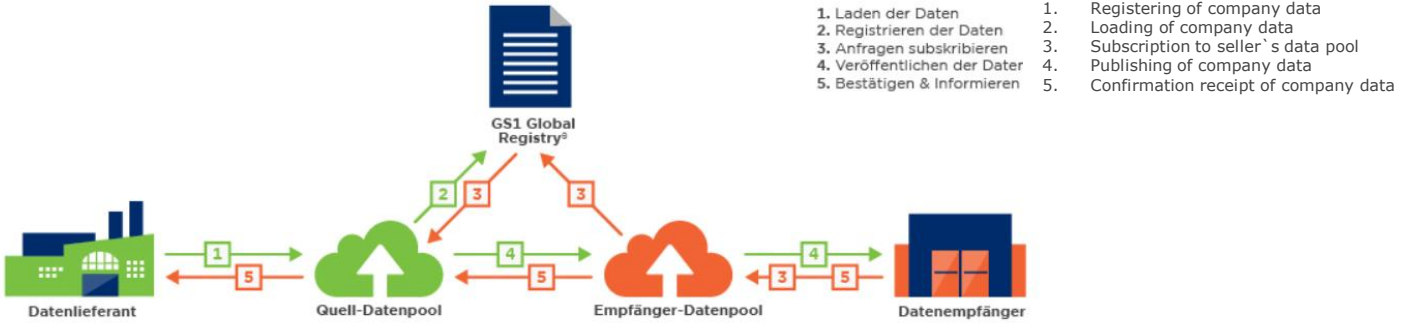
- Das Global Data Synchronization Network (GDSN®) bildet die Basis für valide Stammdaten und deren weltweiten Austausch.
- GDSN® ist ein weltweiter Verbund von zertifizierten Stammdatenpools, an die Unternehmen aus allen Bereichen angeschlossen sind. Über die an das GDSN® angeschlossenen Datenpools tauschen die Marktteilnehmer Stammdaten aus und stellen sie den beteiligten Partnern fortlaufend in aktueller Form zur Verfügung. Möglich wird der reibungslose Datenaustausch über mehrere verschiedene Stammdatenpools durch die einheitliche Nutzung gemeinsam definierter, global gültiger Nachrichtenstandards sowie ein zentrales Register (GS1 Global Registry®).

- The Global Data Synchronization Network (GDSN®) forms the basis for valid master data and its worldwide exchange.
- GDSN® is a worldwide association of certified master data pools to which companies from all sectors are connected. The market participants exchange master data via the data pools connected to the GDSN® and make it available to the participating partners in an up-to-date form on an ongoing basis. The smooth data exchange across several different master data pools is made possible by the uniform use of jointly defined, globally valid message standards and a central registry (GS1 Global Registry®).

GDSN Global Data-Synchronization-Network (DE/EN)

- Die Daten werden über das GDSN in den folgenden fünf grundlegenden Schritten ausgetauscht, die es Handelspartnern erlauben, Artikeldaten miteinander zu synchronisieren:

- Data is exchanged via the GDSN in the following five basic steps, which allow trading partners to synchronize item data:



GDSN Global Data-Synchronization-Network (DE/EN)

- Sämtliche GDSN®-Datenpools nutzen die gleichen Standards. Zwingend vorgeschrieben im GDSN® ist unter anderem die Nutzung der Global Trade Item Number (GTIN) zur eindeutigen Identifikation von Produkten. Ein weiteres wichtiges Pflichtattribut ist die Global Product Classification (GPC) zur Angabe der Klassifikation. Zusammen mit vielen weiteren Attributen bilden sie die Basis für qualitativ hochwertige Stammdaten und einen reibungslosen Ablauf der Kernprozesse.

- All GDSN® data pools use the same standards. Among other things, the use of the Global Trade Item Number (GTIN) for the unique identification of products is mandatory in GDSN®. Another important mandatory attribute is the Global Product Classification (GPC) to indicate the classification. Together with many other attributes, they form the basis for high-quality master data and a smooth flow of core processes.

- For more information see: https://www.gs1.org/services/gdsn

GS1 Business Model

The GS1 story started in 1974

with a simple beep…

Today GS1(Global Standards One) is a global standard setter with 114 local GS1 member organizations

- **Neutral and not-for-profit**
- **Global and local**
- **Inclusive and collaborative**
- **User-driven and governed**

GS1 has been the platform for cross-company collaboration for almost 50 years

Our passion for your business

6 billion
GS1 barcodes are globally scanned daily

More than 110 million Products are globally marked with GS1 barcodes

More than 2 millionCompanies use GS1 standards globally

The Global Language of Business

Our Business Model

The GS1 Numbering System with a unique base number for our customers in all business processes

Award by the responsible GS1 country organization
Base number contained in the Global Location Number (GLN)

Basis zur Bildung für

GLN	(Global Location Number)	4012345 00001 P	für Lokationen
GTIN	(Global Trade Item Number)	4012345 00001 P	für Artikel
NVE/SSCC	(Serial Shipping Container Code)	3 4012345 000000001 P	für Transporteinheiten
GRAI	(Global Returnable Asset Identifier)	4012345 10000 P 12345	für Mehrweggebinde
GIAI	(Global Individual Asset Identifier)	4012345 0000000001	für Individuelle Anlagegüter
GDTI	(Global Document Type Identifier)	4012345 20000 P 000001	für Dokumente
GSRN	(Global Service Relation Number)	4012345 0000000001 P	für Servicebeziehungen

Base number	Self generation	Check digit
4012345	00000	7

Our open standards are globally unique and can be logically linked

IDENTIFY

GLN | GTIN | SSCC | GRAI
GIAI | GSRN | GDTI | GPC

Companies, articles, locations, logistics, plants or services are clearly identified worldwide

- **Link to data identifier**
  - 01 GTIN
  - 00 Nummer der Versandeinheit (SSCC)
  - 21 Seriennummer
  - ……

CAPTURE

This number can be encoded in barcodes, EPC, Datamatrix, RFID and thus automatically read and be captured

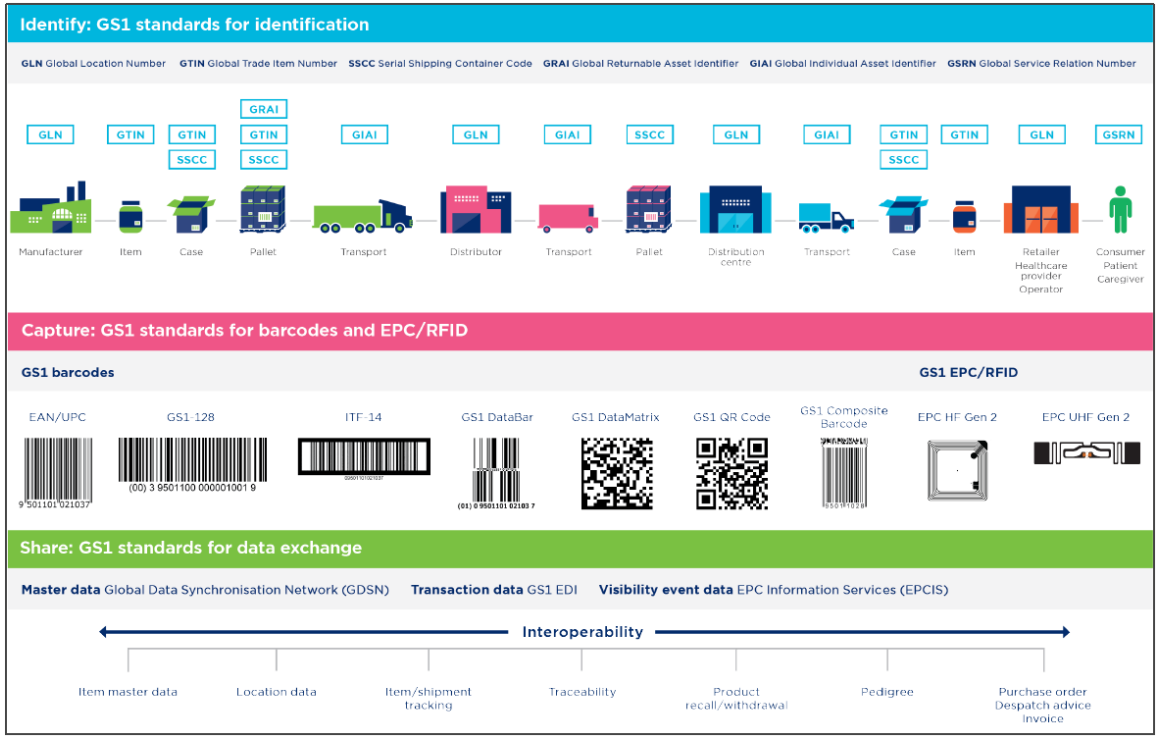
- **E.g. EAN Code= GTIN**

SHARE

GDSN	EPCIS
WebEDI	EANCOM
GS1 XML	EDI

- Master data, transaction data, ……
- EANCOM®–the EDI-Standard No.1 based on GS1-Identifikation standard
- **Link to Qualifier**
  - **GLN, GTIN, NVE….**

Our open standards are globally unique and can be logically linked



Practical example logistics data link - between physical units and information flow

Unique Base-number 4012345

DESADV

UNH	1	M	1	Nachrichten-Kopfsegment
BGM	2	M	1	Beginn der Nachricht
DTM	3	C	1	Datum/Uhrzeit/Zeitspanne
DTM	4	C	1	Datum/Uhrzeit/Zeitspanne
SG1		C	1	RFF-DTM
RFF	5	M	1	Referenzangaben
DTM	6	C	1	Datum/Uhrzeit/Zeitspanne
SG1		C	1	RFF-DTM
RFF	7	M	1	Referenzangaben
SG1		C	1	RFF-DTM
RFF	8	M	1	Referenzangaben
SG1		C	1	RFF-DTM
RFF	9	M	1	Referenzangaben
SG2		C	1	NAD-LOC-SG3-SG4

...

Identify

Globally unique identification keys

ID Keys >

Capture

Automatic data capture

Barcodes >

EPC/RFID >

Share

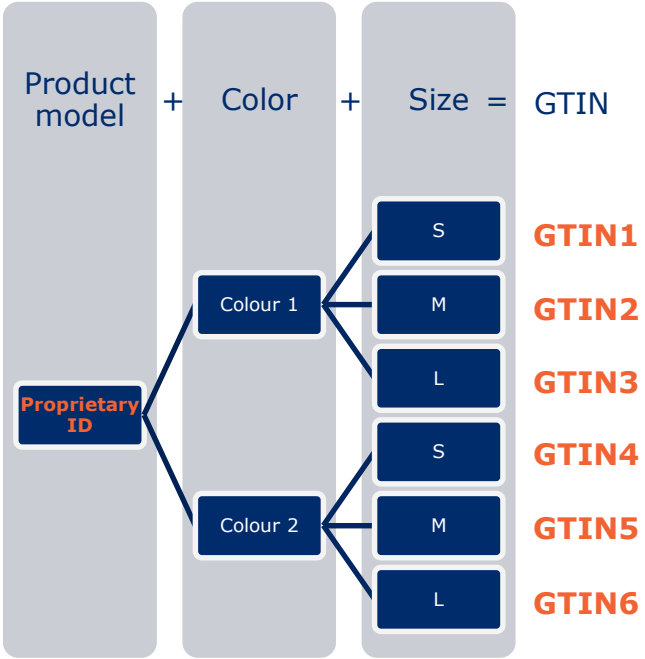
Exchange of business-critical information

New: Global Model Number (GMN)

- The GMN enables companies to identify a product model or product family based on attributes common to the model or family as defined by industry or regulation.
- From the product model, trade items are derived which are identified with a GTIN.
- So far the GMN is approved only for regulated healthcare identification of medical devices (driven by European legislation).

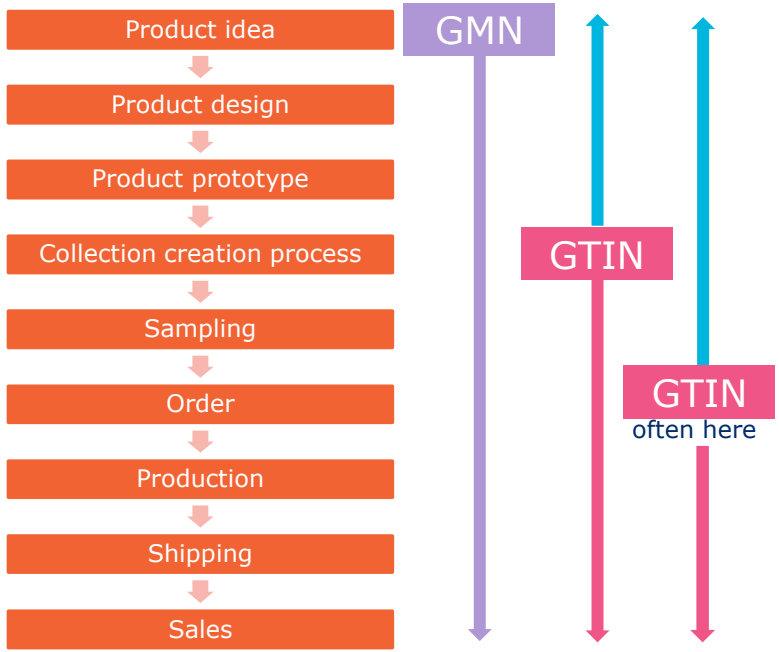
Today’s situation in fashion, apparel & shoes

- In fashion, apparel & shoes the GTIN identifies a trade item by color and size. A certain product model can have a lot of GTINs.
- Today’s proprietary solutions to create this kind of hierarchy vary from brand to brand and therefore create inefficiencies throughout the supply chain.



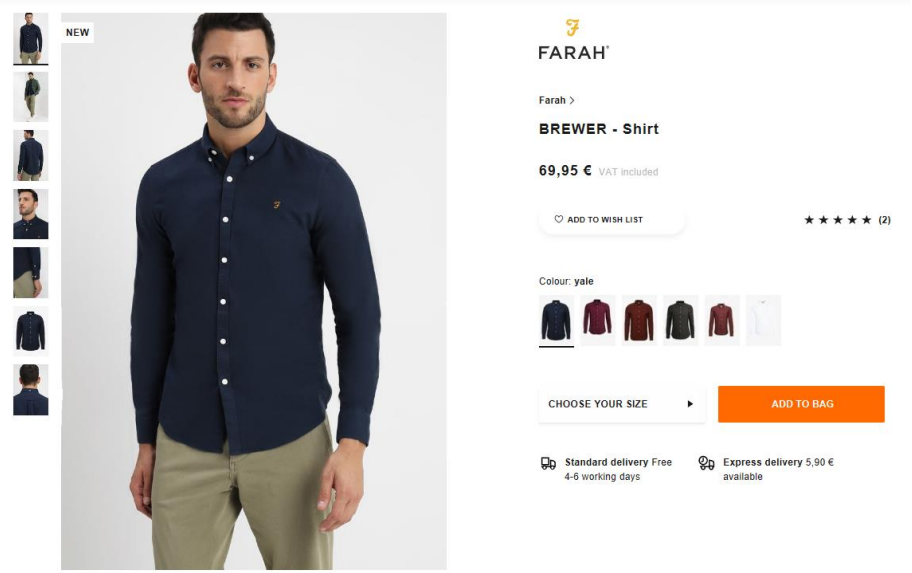
Use-case 2: Product identification at very early stage in product lifecycle

- At the moment of product creation and throughout the design and sampling process, there is today no common standard used to identify the product. Industry and retail basically use proprietary numbers.
- The GMN could be used to uniquely identify the model in a consistent and standardised way. It could be used throughout the entire product lifecycle.



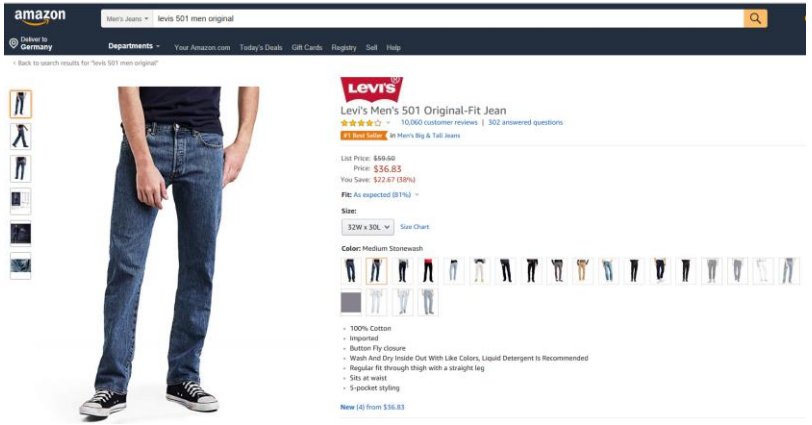
Use-case 3: Improved webshop listings

- Webshop listings are typically not done by GTIN (color & size) in apparel, but by product model. When clicking on the product the consumer gets to chose color and size.
- The GMN would replace proprietary inefficient solutions.



Use-case 4: Analyzing product performance

- Analyzing data is a very important for apparel companies (e.g. what's currently selling and what is not wanted by the consumer).
- Making these analysis on GTIN level can be resulting in wrong conclusions, especially if a product has many different sizes and colors.
- The GMN can aggregate the sales data across GTINs.



GMN Format

- The total maximum length SHALL be 30 characters, including the mandatory check character pair.

Figure 3.9.13-3. Format of GMN in fashion, apparel & shoes

	Global Model Number (GMN)		
	GS1 Company Prefix →	Model reference →	Check characters
	N_1 … N_i	X_{i+1} … variable length $X_{j\ (j<=28)}$	X_{j+1} X_{j+2}

GS1 NL Fashion Base Approach

GS1 NL Fashion Base Approach

GS1 Fashion Base

- We work with a datamodel – based on GPC
- We expanded the GPC codes for Fashion
- We do not work on GDSN (maybe in future with global data model….)
- We work internationally – all countries can join
- Brand will upload data in Fashion Base, it will flow into the PIM system build for GS1 by Icecat
- From Icecat PIM system it can be imported by retailer
- Brands can work with CSV, XML, JSON or make through FTP a API connection
- Retailers can receive data by Scripting, also in formats as CSV, XML, JSON or machine to machine
- Brands can use permission structure to decide which retailer can receive their data

*Quelle: Präsentation GS1 NL v. Mai 2020

GS1 NL Fashion Base Approach

GPC (Global Product Classification)

Segment:

- Clothing
- Footwear
- Sports Equipment

Adding: personal accessories

Family:

- Clothing
  - Activewear
  - Clothing
  - Protective Wear
  - Sleepwear
  - Swimwear
- Footwear
  - Footwear
- Sports Equipment
  - Sports Equipment

Class:

- Clothing
  - Activewear
    - Active/sport Upper body wear
    - Active/sport wear variety packs
    - Active/sport - Lower body wear
    - Active/ Sport wear - accessories
    - Active/sport Full body sportswear
  - Clothing
    - Children's wear
    - Clothing Accessories
    - Clothing Variety Packs
    - Full Body Wear
    - Lower Body Wear/Bottoms
    - Underwear
    - Upper Body Wear/Tops
  - Protective Wear
    - Protective Wear
  - Sleepwear
    - Sleepwear
  - Swimwear
    - Swimwear
- Footwear
  - Footwear
    - Footwear Accessories
    - General Purpose Footwear
    - Indoor Footwear
    - Special Purpose Footwear
    - Sports Footwear

Adding: personal accessories

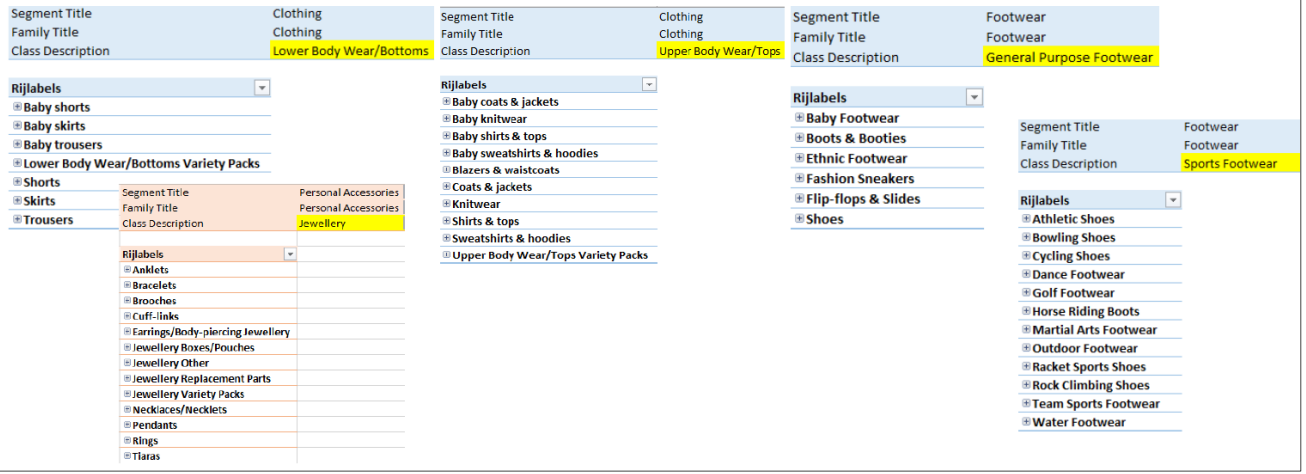
- Personal Accessories Variety Packs
- Jewellery
- Personal Carriers/Accessories
- Watches

*Quelle: Präsentation GS1 NL v. Mai 2020

GS1 NL Fashion Base Approach

GPC (Global Product Classification)

Bricks (examples):



Segment Title	Clothing
Family Title	Clothing
Class Description	Lower Body Wear/Bottoms

Rijlabels
- Baby shorts
- Baby skirts
- Baby trousers
- Lower Body Wear/Bottoms Variety Packs
- Shorts
- Skirts
- Trousers

Segment Title	Clothing
Family Title	Clothing
Class Description	Upper Body Wear/Tops

Rijlabels
- Baby coats & jackets
- Baby knitwear
- Baby shirts & tops
- Baby sweatshirts & hoodies
- Blazers & waistcoats
- Coats & jackets
- Knitwear
- Shirts & tops
- Sweatshirts & hoodies
- Upper Body Wear/Tops Variety Packs

Segment Title	Footwear
Family Title	Footwear
Class Description	General Purpose Footwear

Rijlabels
- Baby Footwear
- Boots & Booties
- Ethnic Footwear
- Fashion Sneakers
- Flip-flops & Slides
- Shoes

Segment Title	Footwear
Family Title	Footwear
Class Description	Sports Footwear

Rijlabels
- Athletic Shoes
- Bowling Shoes
- Cycling Shoes
- Dance Footwear
- Golf Footwear
- Horse Riding Boots
- Martial Arts Footwear
- Outdoor Footwear
- Racket Sports Shoes
- Rock Climbing Shoes
- Team Sports Footwear
- Water Footwear

Segment Title	Personal Accessories
Family Title	Personal Accessories
Class Description	Jewellery

Rijlabels
- Anklets
- Bracelets
- Brooches
- Cuff-links
- Earrings/Body-piercing Jewellery
- Jewellery Boxes/Pouches
- Jewellery Other
- Jewellery Replacement Parts
- Jewellery Variety Packs
- Necklaces/Necklets
- Pendants
- Rings
- Tiaras

*Quelle: Präsentation GS1 NL v. Mai 2020

GS1 NL Fashion Base Approach

GPC - Attributes

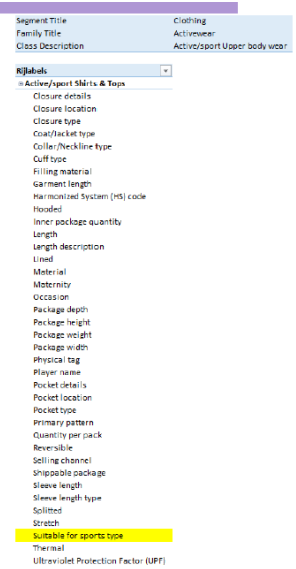
GMN
Product model description
Full Product Name
Marketing text
Bullet points
GTIN (EAN/UPC)
Global Product Classification (GPC) code
Product main colour
NRF Color Code
Product extended colour
Size value 1 t/m 6
Size agency 1 t/m 6
NRF Size Code
Material description (name, %)
Gauge code
Material Country of Origin
Country of Origin
Pattern
Marked Retail Price
Supplier Suggested Retail Price
Currencies
Brand
Vendor collection name
Care Information
Care Instructions Code
Gender
Consumer Life Stage
Special product code
Supply Type
Season
Season code
Reorderable

trousers
Adjustable
Closure details
Closure location
Closure type
Convertible
Fit type
Harmonized System (HS) code
Holiday & event type
Inner package quantity
Inseam length
Leg length type
Length
Length description
Material
Maternity
Number of pockets
Occasion
Pants/Shorts type
Physical tag
Pocket details
Primary pattern
Quantity per pack
Selling channel
Shippable package
Stretch
Waist rise type
Waist size
Waistband type
Waterproof
Wear details
Weight

skirt
Antimicrobial lining
Closure details
Closure location
Closure type
Dresscode type
Harmonized System (HS) code
Inner package quantity
Length
Lined
Lining material
Logo embossed lining
Material
Maternity
Occasion
Physical tag
Primary pattern
Quantity per pack
Selling channel
Shippable package
Skirt length type
Skirt type
Stretch
Waist rise type
Weight

blouse/shirt
Breast pocket
Closure details
Closure location
Closure type
Collar/Neckline type
Cuff style
Cuff type
Fit outerwear
Fit type
Holiday & event type
Inner package quantity
Length description
Material
Maternity
Occasion
Physical tag
Pinned collar
Pocket details
Primary pattern
Quantity per pack
Seamless
Selling channel
Shippable package
Shirt/Blouse type
Sleeve length
Sleeve length type
Stretch
Weight

blazer
Closure details
Closure location
Closure type
Coat/Jacket style
Coat/Jacket type
Collar/Neckline type
Cuff type
Finish
Harmonized System (HS) code
Hooded
Inner package quantity
Length
Material
Maternity
Number of pockets
Occasion
Physical tag
Pocket details
Primary pattern
Quantity per pack
Reversible
Selling channel
Shippable package
Sleeve length
Sleeve length type
Sports team name
Stretch
Ultraviolet Protection Factor (UPF)
Waterproof
Weight
Wrinkle resistant



*Quelle: Präsentation GS1 NL v. Mai 2020

GS1 US Guideline Raw Material Attributes

GS1 US Guideline Raw Material Attributes

GS1 US Guideline for Exchanging Raw Material Attributes

This application guideline provides detailed guidance on how to define Raw Material attributes for use in sourcing applications. It:

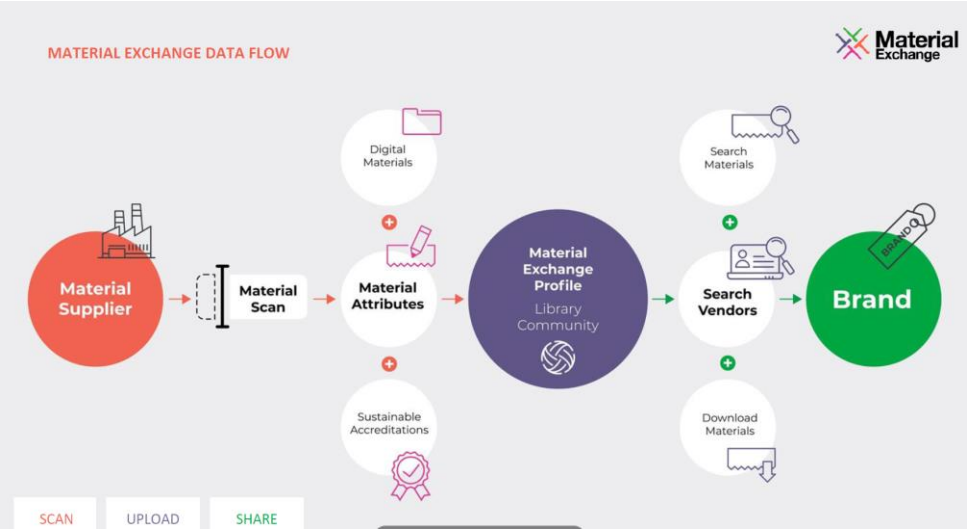
- Increases buying decision speed and reduces product development cycle times.
- Provides a common vocabulary for defining attributes for the four primary materials of Knit Fabric, Woven Fabric, Leather, and Synthetic Material.
- Defines Required and Optional Attributes.
- Defines Attribute List Values, Field Types, and Identification Values for Required fields
- Defines a means of encoding attribute information into an identifier that may be leveraged for like-kind comparisons and to clarify purchasing specifications.

View Guideline

Digitizing this data allows product information to be leveraged in additional ways such as informing 3D prototype rendering, evaluating customer material preferences, and enabling product circularity.

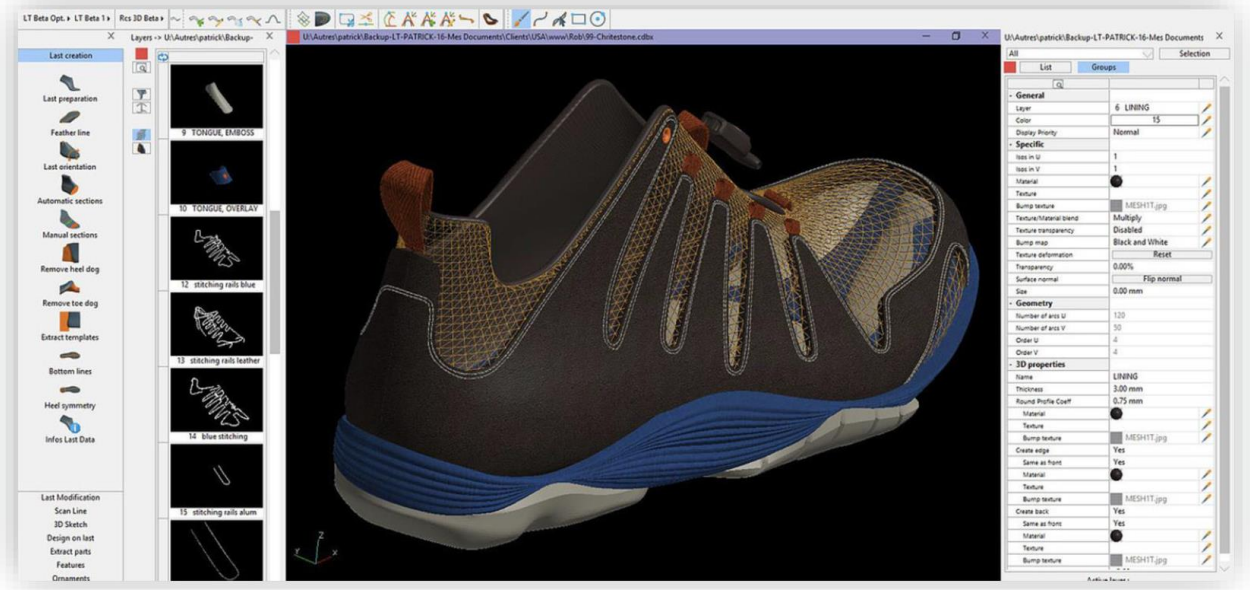
See: https://www.gs1us.org/industries/apparel-general-merchandise/implementation-resources/raw-materials-attributes-guideline

see:
www.material-exchange.com & GS1 US-comment



see:
www.material-exchange.com & GS1 US-comment

APPLICATION INTEGRATION



True Code Pilot
Defining Fields for a Facility Passport

True Code/UUID Initiative* (DE)

In naher Zukunft werden die Daten mit den Produkten reisen: Einzelhändler und Marken brauchen schnelle, billige und zuverlässige Daten. Es gibt mehrere Plattformen (Blockketten, Datenseen, ERP-Systeme), die bereits enthalten anbieter- und produktbezogene Daten; diese Plattformen sind jedoch nicht miteinander verbunden und der Austausch ist begrenzt und oft sehr kompliziert. **Die zentrale Frage ist:** Wie können Daten ausgetauscht werden. wenn man nicht weiß, ob es sich um dasselbe Unternehmen oder dieselbe Einrichtung handelt, die benutzt wird ein Produkt herzustellen oder zu vertreiben? Um die Interkonnektivität und den einfachen Austausch von Daten zu ermöglichen, müssen wir die Identifizierung jedes einzelnen Unternehmens vereinfachen, das in der Lieferkette eine Rolle spielt. Dies kann durch die Verwendung einer eindeutigen, einzigartigen elektronischer Reisepass, der mit jeder einzelnen Einrichtung verbunden ist, von Akteuren in einer Lieferkette. Das SIM-Supply Chain Information Management und die End-to-End-Value Chain Eckpfeiler des Konsumgüterforums bereiten eine Pilotprojekt zur Erprobung einer True-Code/UUID-Generierung als Grundlage für einen so genannten Facility-Pass. **Der Truecode/UUID wird mit einem standardisierten Satz von Datenfeldern kombiniert**, die einen öffentlichen Teil und eine privater Teil des Passes der Einrichtung. In das Pilotprojekt werden alle Akteure der Lieferkette als potenzielle Interessengruppen, von der Primärproduktion bis hin zu Vertrieb und Verpackung, Handel und Einzelhandel.

*Quelle: True Code Pilot Broschüre (deutsche Übersetzung mit deepL)
https://www.theconsumergoodsforum.com/end-to-end-value-chain/true-code/

True Code/UUID Initiative* (EN)

In the near future, data will travel with products: retailers and brands need fast, cheap and reliable data. There are several platforms (blockchains, data lakes, ERP systems) that already contain supplier and product related-data; however, these platforms are not interconnected and exchange is limited and often very complicated. The central question is: how can you exchange data when you do not know if you are talking about the same company or facility that is used to produce or distribute a product? To make interconnectivity and the easy exchange of data possible, we need to simplify the identification of every individual company that plays a role in the supply chain. This can be done by using a clear, unique electronic passport connected to every individual facility that is an actor in a supply chain. SIM Supply Chain and the End-to-End Value Chain Pillar of The Consumer Goods Forum are preparing a pilot to test a True-code/UUID generation as the fundament for a so-called facility passport. The True-code/UUID will be combined with a standardised set of data fields that will form a public part and a private part of the facility passport. In the pilot, all supply chain actors are included as potential stakeholders, from primary production to distribution and packing, trading and retailing.

*Quelle: True Code Pilot Broschüre (deutsche Übersetzung mit deepL)
https://www.theconsumergoodsforum.com/end-to-end-value-chain/true-code/

True Code/UUID Initiative* (DE)

Das Ziel des True-Code-Pilotprojekts ist es, Antworten auf die folgenden Fragen zu finden:

- Wird es einen Mehrwert für die Akteure der Supply Chain bringen, wenn ein Artikelpass mit einem Minimum an Datenfeldern erstellt wird, der von den Lieferanten benötigt wird?
- Wird die Generierung des True-Code in Kombination mit einem Artikelpass den Datenaustausch zwischen den Plattformen erleichtern?
- Wird es einen Mehrwert für die Akteure der Supply Chain bringen, wenn der Artikelpass ein öffentliches und ein privates Element enthält?
- Können wir ein Verifizierungsverfahren auf einen Artikelpass anwenden, um es Unternehmen zu ermöglichen, den Unterschied zwischen einem verifizierten und einem nicht verifizierten Anlagenpass zu unterscheiden?
- Wird es für die Akteure der Lieferkette einen Mehrwert bringen, wenn wir einen Standard für die Verifizierung des Anlagenpasses festlegen?
- Das Pilotprojekt wird einen ersten Sprint haben, der von Oktober 2019 bis Januar 2020 laufen wird und in die SIM Supply Chain-Plattform für Obst und Gemüse integriert wird. Die Ergebnisse werden dem E2E-Lenkungsausschuss im Februar 2020 vorgelegt. Die Ergebnisse des ersten Sprints sind die Basis für die nächsten Schritte.

*Quelle: True Code Pilot Broschüre (deutsche Übersetzung mit deepL)
https://www.theconsumergoodsforum.com/end-to-end-value-chain/true-code/

True Code/UUID Initiative* (EN)

The purpose of the True-code pilot is to find answers to the following questions:

- Will it add value for supply chain actors if we create a facility passport with a minimum set of data fields that we need from suppliers?
- Will the True-code generation combined with a facility passport make exchange of data between platforms easier?
- Will it add value for supply chain actors if the passport has a public and a private element?
- Can we apply a verification procedure to a passport to allow companies to distinguish the difference between a verified and unverified facility passport?
- Will it add value for supply chain actors if we set a standard for verification of the facility passport?
- Can we generate the True-code and facility passport without cost?

The pilot will have a first sprint that will run from October 2019 until January 2020 and it will be integrated in the SIM Supply Chain Fruit and Vegetable platform. Results will be presented to the E2E Steering Committee in February 2020. The results from the first sprint will determine the next steps.

*Quelle: True Code Pilot Broschüre
https://www.theconsumergoodsforum.com/end-to-end-value-chain/true-code/

True Code/UUID Initiative*

The following fields for the digital facility passport for the organisation/location of a supplier of fresh fruit and vegetables:

UUID code/True-code:	Public
Name organisation:	Private
Role: primary producer/farmer, producer group/cooperative, packhouse, processor, logistic service provider, importer, exporter, trader (importer/exporter, distributor), retailer	Public
Sector (product group, commodity)	Public
Address:	Private
Postal code and place:	Private
Country:	Public
Turnover of the organisation registered on this location:	Private
CoC number/legal registration number:	Private
Website:	Private
IBAN code:	Private
GLN:	Private
GGN number (group or individual)	Private
GPS coordinates : Dutch: http://www.gpscoordinaten.nl/bepaal-gps-coordinaten.php English: http://www.gpscoordinates.eu/determine-gps-coordinates.php	Private
Total surface/hectares in use	Private
DBID number:	Private
Data port address:	Private
Number of employees:	Private
Number of male employees:	Private
Number of female employees:	Private
Number of temporary workers:	Private
Number of migrant workers:	Private

*Quelle: True Code Pilot Broschüre
https://www.theconsumergoodsforum.com/end-to-end-value-chain/true-code/

UUID - Universally Unique Identifier

UUID - Universally Unique Identifier* (DE)

- Ein Universally Unique Identifier (UUID) ist eine 128-Bit-Zahl, welche zur Identifikation von Informationen in Computersystemen verwendet wird. Der Ausdruck Globally Unique Identifier (GUID) wird ebenfalls benutzt, typischerweise im Zusammenhang mit Microsoft (z. B. Software, Registry).
- Bei der Generierung nach den Standardmethoden sind UUIDs im Gegensatz zu den meisten anderen Nummerierung-Schematas für praktische Zwecke eindeutig, ohne dass ihre Eindeutigkeit von einer zentralen Registrierungsstelle oder einer Koordinierung zwischen den Parteien abhängt, die sie generieren. Obwohl die Wahrscheinlichkeit, dass ein UUID dupliziert wird, nicht null ist, liegt sie nahe genug bei null, um vernachlässigbar zu sein.
- Daher kann jeder einen UUID erstellen und ihn verwenden, um etwas mit der größtmöglichen Gewissheit zu identifizieren, dass der Bezeichner nicht einen anderen Bezeichner dupliziert, der bereits erstellt wurde oder wird, um etwas anderes zu identifizieren. Informationen, die von unabhängigen Parteien mit UUIDs gekennzeichnet wurden, können daher später in einer einzigen Datenbank zusammengefasst oder auf demselben Kanal mit einer vernachlässigbaren Wahrscheinlichkeit von Duplikaten übertragen werden.
- Die Verwendung von UUIDs und GUIDs ist weit verbreitet. Viele Computerplattformen bieten Unterstützung beim Generieren und Parsen ihrer Textdarstellung.
- Er wurde von der Open Software Foundation (OSF) als Teil des Distributed Computing Environment (DCE) standardisiert und ist jetzt in RFC 4122 geregelt.
- Ein UUID besteht aus einer 16-Byte-Zahl, die hexadezimal notiert und in fünf Gruppen unterteilt wird. In ihrer Normalform sieht ein UUID beispielsweise so aus: 550e8400-e29b-11d4-a716-446655440000

- Für weitere Informationen siehe: https://www.dev-insider.de/was-ist-eine-uuid-a-788491/

*Source: Wikipedia

UUID - Universally Unique Identifier* (EN)

- A Universally Unique Identifier (UUID) is a 128-bit number used to identify information in computer systems. The term Globally Unique Identifier (GUID) is also used, typically in connection with Microsoft (e.g., software, registry).
- When generated according to the standard methods, UUIDs, unlike most other numbering schemes, are unique for practical purposes without their uniqueness being dependent on a central registry or coordination between the parties that generate them. Although the probability of a UUID being duplicated is not zero, it is close enough to zero to be negligible.
- Therefore, anyone can create a UUID and use it to identify something with the greatest possible certainty that the identifier does not duplicate another identifier that has already been or will be created to identify something else. Information that has been tagged with UUIDs by independent parties can therefore later be combined in a single database or transmitted on the same channel with a negligible probability of duplication.
- The use of UUIDs and GUIDs is widespread. Many computer platforms offer support for generating and parsing their text representation.
- It was standardized by the Open Software Foundation (OSF) as part of the Distributed Computing Environment (DCE) and is now regulated by RFC 4122.
- A UUID consists of a 16-byte number that is written in hexadecimal and divided into five groups. In its normal form, a UUID looks like this: 550e8400-e29b-11d4-a716-446655440000

- For further information see: https://www.dev-insider.de/was-ist-eine-uuid-a-788491/

*Quelle: Wikipedia

Verified by GS1

Information in English see:
https://www.gs1.org/services/verified-by-gs1

Verified by GS1 (DE)

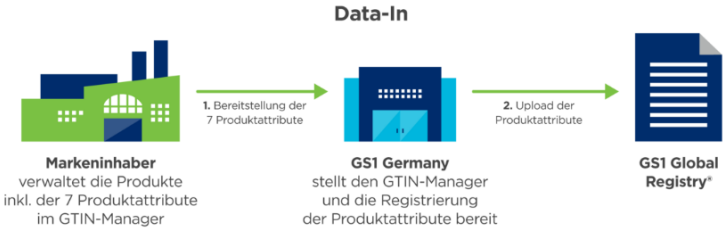
Mit 7 Produktattributen zum Erfolg

Attribut	
1) Global Trade Item Number (GTIN)	Die GTIN identifiziert ein Produkt eindeutig und lässt sich maschinenlesbar im Barcode integrieren.
2) Markenname	Unter dem Markenname finden Verbraucher ein Produkt im Handel.
3) Produktbeschreibung	Merkmale und Umfang des Produktes wie z.B. Nettoinhalt, Funktion oder Variante.
4) Produktbild	Link zur Produktabbildung.
5) Globale Produktkategorie	Die Global Product Classification (GPC) von GS1 hilft Ihnen, eine entsprechende Kategorie zu finden.
6) Mengeneinheit	Verpackungsgröße und Nettoinhalt eines Produktes.
7) Verkaufsgebiet	Informationen darüber, in welchen Ländern ein Produkt zu erwerben ist.

Verified by GS1 (DE)

So funktioniert GS1 Registry für Markeninhaber

Markeninhaber und GS1 Complete Kunden können den GTIN-Manager für die Übertragung ihrer Produktangaben in die GS1 Registry nutzen. Sobald alle notwendigen Felder in dem Online-Tool befüllt sind, lässt sich ein Produkt „aktiv" schalten. Die sieben Produktattribute werden automatisch in die GS1 Registry übertragen.



So funktioniert Verified by GS1 für Händler

Händler und GS1 Teilnehmer können durch den Service Verified by GS1 die vom Markeninhaber bereitgestellten Produktdaten abfragen. Die Abfrage kann jederzeit und überall durchgeführt werden.