

**PRODUCT INFORMATION COMMITTEE
DICTIONARY CAPABILITIES PROFILE**

NAME OF DICTIONARY: GS1 Global Product Classification (GPC)

NAME OF DMO: GS1

CONTACT PERSON(S): Art Smith, GS1 Canada

I. SCOPE OF PRODUCT COVERAGE:

How long has the dictionary been in use?

The GPC system of standard classification codes, business rules and attributes went live for initial use by the Food & Beverage sector in 2003.

What industry sectors use this dictionary as their first choice for defining essential product characteristics?

GPC was Sponsored and Developed by Global Retail Sector as one of the four building blocks to the Global Data Synchronization Network (GDSN) – Global Data Dictionary for Product & Location (GDD), Global Product Classification (GPC), Global Registry (GR) and Business Relationship Data Exchange.

- Food, Beverage, Tobacco
- Home Care, Health Care – Retail Pharmacy (including over the counter part of (Health Care), Pet Care, Pet Food, Baby Care, Beauty Personal Care and Hygiene
- Clothing, Footwear, Personal Accessories
- General Merchandise (Furniture & Furnishing, Kitchen Merchandise, Musical Instruments, Toys & Games, Stationery, Audio & Visual, Communication, Computing, Printed & Reference Materials, Sports & Well being, Arts & Crafts, Outdoor & Camping)
- Hardlines /
 - DIY (Lawn & Garden Supplies; Building Materials, Hardware; Tools & Equipment Hand; Safety & Storage; Electrical Supplies; Plumbing; Heat, Ventilation, Air Conditioning)
- Automotive Aftermarket
- Home Appliances

Describe the strength of the dictionary in characterizing products using the separate page titled "Coverage by Product Set." Enter "S" for Strong, "M" for Moderate, and two dashes (--) for incomplete or no coverage.

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II. DEPTH OF PRODUCT CHARACTERIZATION:

What hierarchy is used to organize and locate product classes?

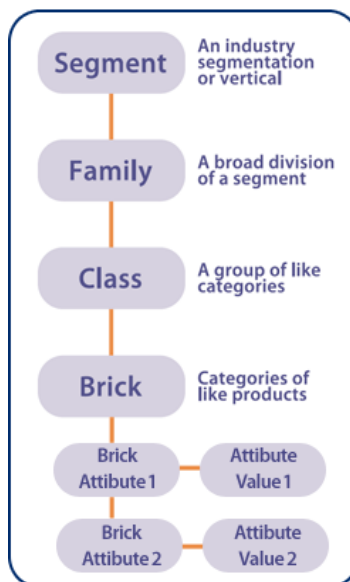
The Key Structural Component of the GPC is the Lowest Level called the Brick. The business rules and definitions of the GPC Brick have been designed to enable users to assign every product bought and sold to a unique GPC Brick.

In the world of buying and selling products, each buying organization and selling organization typically has its own proprietary Merchandise Hierarchy and schema for buying, merchandising, and selling products. The Brick designation (and its corresponding attributes) was designed to allow each organization to map the Brick into their respective internal proprietary Schema.

Having said that, the primary purpose of GPC is not a Hierarchy. In order to group the Bricks in standardized framework, GS1 users have defined the need for a 4-level hierarchy to identify all products from their segment (industry vertical) down to the category (brick) level. These levels include: Segment, Family, Class, Brick.

At the Brick level, additional attributes can be defined to provide further grouping capability. For example, in the still wine category, wines can be further grouped by colour.

Where necessary, standard values can be defined for individual attributes. Again, in the wine example, standard values for colour can be defined (red, white, rose).



The detailed product description characteristics are further defined with standardized attributes (GDD) in the specific product master data record.

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Can each product class be represented by a short numeric product code?

Yes, all bricks are represented by an 8 digit code.

Does the dictionary support the use of attribute or property value pairs to further describe product classes?

Yes. At the Brick level, the dictionary also supports the standard definition of product attributes and their (standard) associated values.

Is there a limit on the number of product classes in a hierarchy? The number of attributes supported? The number of values supported for a single attribute?

There is no limit on the number of product classes (bricks) or attributes or values that can be represented in the hierarchy. At this point in time, GS1 users have identified the need for a maximum of 7 attributes for a given brick code.

III. LEVEL OF DICTIONARY ADOPTION:

For what use does the industry typically use the dictionary – spend analysis, category management, product sourcing, etc.?

The GS1 GPC is the common language of business that enables business around the world to map their internal product codes to a standard hierarchy. The primary use case for GPC was designed for Global Master Data Synchronization (GDSN). GDSN in turn was seen as the foundation for Global Supply Chain E-Commerce. The GPC standard hierarchy supports the following supply chain functions:

- GS1 Global Data Synchronization (GDSN)
- New product introduction
 - used by buyers and sellers to classify new products
 - used in conjunction with other GS1 identification keys (i.e. Global Trade Identification Number to identify products, Global Location Number to identify business entities and their locations)
- Product sourcing
- Category management
- Product Development
- Procurement (Auctioning, Ordering, Demand Forecasting)
- Market Research
- Global cross-referencing
- Global product characterization

What languages/tongues does the dictionary support?

English, French, Serbian, Japanese, and Hungarian (Spanish, German, and Russian are coming up)

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What indications of active industry adoption and use are there? What level of use is seen for each region of the world?

Use of GPC codes is a mandatory data attribute for products being registered to the GS1 Global Product Registry. Currently, over 3 million products have been added to this Registry. The Registry is used by businesses throughout the world.

Provide examples of how the dictionary is being used in international trade and what companies are using it.

The foundational use of the dictionary is in support of the global exchange of product information, using (GS1) standard industry protocols. This business process is called Global Data Synchronization. It is used by the majority of multinational companies in Consumer Packaged Goods (CPG), retail, grocery, hardlines and general merchandise across five continents – currently over 15,000 companies – to manage the introduction of new items. All products must be characterized by a GPC code.

The product data needed to support Global Data Synchronization is being used by manufacturers, wholesalers, retailers and distributors.

IV. LEVEL OF INDUSTRY SUPPORT:

How many supporting and/or voting members does the DMO have?

More broadly, GS1 is a member organization with a global membership in excess of 1 million user companies. GS1 serves users in 150 countries through a network of 108 local Member Organizations.

GS1 administers a Global Standards Maintenance Process (GSMP) across a broad range of standards . GS1 prides itself as a user-driven process.

- GS1 Identification Keys, (for example used to support 5 Billion Barcode Transactions per day around the world across 22 sectors)
- GS1 ECOM / EDI Transaction Standards (working with X12 , Edifact)
- GS1 GDSN Standards (GDD, GR, GPC) for Global Data synchronization
- Electronic Product Code (EPC), Radio Frequency Tags, EPCglobal Network Standards to Support Global Real Time Tracking and Traceability

GPC is a part of the GSMP with discipline on standards maintenance procedures and voting processes. In the specific GPC Steering Committee that has a governance role, there are 15 voting members, and 50+ supporting members. There is also dedicated technical team that assesses each change request with recommendations.

Typically what companies and industry sectors are the DMO's leaders and subject matter experts drawn from?

Subject matter expertise is drawn from user companies in those sectors which are implementing the GPC standard and dictionary, such as CPG, retail, grocery, hardlines, and general merchandise by companies such as: Ahold, Best Buy, Carrefour, Wal-Mart, Target, J&J, P&G, Unilever, L'Oreal. Implementors may be from mature sectors such as food & beverage, or they may be from sectors preparing for implementation, such as Healthcare.

Currently 36 industry sectors have or are contributing to the GPC standard.

What improvements or expansions are planned?

Ongoing maintenance and expansion of GPC codes will continue in step with the needs of new and existing industry verticals. This includes the on-going mapping / alignment with the UNSPSC product classification system.

Presently the needs of the global medical-surgical industry are under review as a potential candidate for GPC. The Global Healthcare User Group (made up of 24 of the top 25 global suppliers) are evaluating 25 of the Global Classifications used around the world to determine a direction for the industry. No decision has been made on GPC engagement.

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V. CHANGE REQUEST PROCESS:

Describe the Change Request (CR) Process?

See Appendix 1

How many CRs were submitted and processed in the past 12 months?

1200+

How many times in a year do you update the dictionary?

Change Requests are processes ongoing. Formal publication of the GPC Standards occurs twice annually.

What are the eligibility requirements to submit a CR? May government entities submit CRs?

Any user may submit a CR. Companies are asked to get sponsorship from a GS1 member organization in their respective country. Government entities that are GS1 members may submit a CR.

What are the eligibility requirements to vote on CRs? How many vote on a typical CR?

There are 15 voting member votes (See Appendix 1)

There are two types of Change requests with different procedures attached – Simple Requests (language, minor definition enhancements, clarifications, Attribute value additions) and Complex Change request which must go through full evaluation process.

What is the average time to: Revise the definition for a commodity or attribute value; Add a new commodity attribute (if applicable); and Add a new commodity?

Complex Change request on average- 30 days

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VI. LEGAL RESTRICTIONS ON USE:

Is all dictionary content in the public domain?

Yes. GS1 standards are open to all users.

What agreements must an organization sign to use the dictionary?

None. GS1 standards are open to all users.

What limitations exist on the use of the content?

None. GS1 standards are open to all users.

Is the DMO a not-for-profit organization?

Yes.

Does the DMO meet the definition of a voluntary consensus standards body as defined by OMB Circular A-119? A voluntary consensus standards body is defined by the following attributes: (i) Openness. (ii) Balance of interest. (iii) Due process. (vi) An appeals process. (v) Consensus, which is defined as general agreement, but not necessarily unanimity, and includes a process for attempting to resolve objections by interested parties, as long as all comments have been fairly considered, each objector is advised of the disposition of his or her objection(s) and the reasons why, and the consensus body members are given an opportunity to change their votes after reviewing the comments.

Yes.

VII. BARRIERS TO INDUSTRY PARTICIPATION:

What barriers might limit mid- or small-size companies from using the dictionary content?

None. Access is open to all users, anywhere in the world. Local GS1 Member Organizations are in place to assist local users with implementation.

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VIII. ELECTRONIC ACCESS:

What electronic methods exist for accessing dictionary content (e.g., transfer of data files, web service real-time inquiries, etc.)?

A web browser service can be accessed from the GS1 global website. The browser provides User support in 5 languages and enables companies to search the entire product hierarchy.

A download facility enables Users to copy product hierarchy information into their local computers.

What data format can the dictionary content be provided in (e.g., XML, Excel spreadsheet, delimited file)?

The download facility supports XML, Excel, and Word formats

How frequently could data files be obtained?

On demand, any time; no restrictions.

What security controls are used to safeguard data integrity and to protect against unauthorized electronic access?

Update access is restricted to authorized GS1 staff. There is centralized governance with regards to rules compliance, electronic access on a public domain, etc. Visitors to the GS1 website are limited to read-only and download functions.

What ISO standards for formatting and transferring data (e.g, ISO 8000 and 22745) do you currently comply with or plan to comply with?

No current plans, but could be considered.

IX. COST OF RECURRING ACCESS AND DATA TRANSFER:

What fees are charged to industry members to use the dictionary content? Please describe these fully and especially in terms of:

- Start up or "initializing" fees;
- Connectivity, system interface, or testing fees;
- Fees that are assessed by file size or have volume boundaries;
- Fees assessed by number of requests or access frequency;
- Monthly overhead or minimum usage fees; and
- Any other fee or charge categories and their basis of operation.

GS1 standards are open and royalty-free to Users around the globe.

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X. DATA QUALITY:

What web site support tools, training, or other assistance is available to industry users who wish to define their products using the dictionary?

Changes to the dictionary can only be affected through the GS1 Global Standards Management Process. See Appendix 1.

There are also other resources available such as:

Get started: <http://www.gs1.org/productssolutions/gdsn/gpc>

Resource library: <http://www.gs1.org/productssolutions/gdsn/gpc/library.html>

How can industry users be certain they are properly applying dictionary terms when defining their products?

GS1 GPC ruleset provides unique placement for product categorization; GS1 GDD provides product property description.

SUMMARY:

What are the strengths of this dictionary?

- GS1 standards are open and available to Users globally
- The combined product categorization and nomenclature system
- All GS1 standards are developed through the direct involvement of users; a highly disciplined and robust open-governance process ensures data integrity
- The GPC standard is aligned with UNSPSC
- The dictionary is currently capable of supporting 36 industry verticals
- The dictionary is used in conjunction with GS1 global identification keys (Global Trade Item Number and Global Location Number)
- Global reach through a network of 108 GS1 Member Organisations
- Have leading position within identification standards / solutions market
- Credibility especially within retail sector, support from major businesses
- Positioned to provide the 'bridge' between trading partners

What are the weaknesses?

- The biggest weakness is that this standard is tied to the rollout success of GDSN. The full value of GPC will only occur when each product listed for sale is assigned to a GPC Brick. There are currently 40 global data catalogues (data pools) certified in the GDSN Network.
- Built up geographically and organically rather than strategically.
- GPC positioned as a technical solution to map products.

General Remarks or Comments:

GS1 GPC and GS1 GDD together represent a global categorization system and product description dictionary.

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COVERAGE BY PRODUCT SET

(See Section I)

HTS SECTION	PRODUCT SET	COVERAGE <i>(“S”=Strong; ”M”=Moderate; “-“ = No Coverage)</i>
Section 1	Live Animals; Animal Products	M
Section 2	Vegetable Products	S
Section 3	Animal or Vegetable Fats, Oils, and Waxes	S
Section 4	Prepared Foodstuffs; Beverages, Spirits, Vinegar, And Tobacco	S
Section 5	Mineral Products	--
Section 6	Chemical or Pharmaceutical Products	M(pharmacy)
Section 7	Plastic and Rubber Products	--
Section 8	Leather, Fur, Travel Goods, and Handbag Products	M
Section 9	Wood, Cork, and Straw Products	M
Section 10	Wood Pulp, Paper, and Paperboard Products	M
Section 11	Textile Products	S
Section 12	Footwear, Headgear, and Umbrella Products	S
Section 13	Stone, Plaster, Cement, Asbestos, Mica Ceramic, and Glass Products	S
Section 14	Pearl, Precious or Semiprecious Stones, Precious metals, Imitation Jewelry, and Coin	M
Section 15	Base Metals and Base Metal Products	--
Section 16	Machinery, Mechanical Appliances, Electrical Equipment, Sound Recorder and Television Products	S
Section 17	Vehicles, Aircraft, Vessels and Transport Equipment	--
Section 18	Optical, Photographic, Cinematographic,	M

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	Measuring, Checking, Precision, Medical Or Surgical Instruments; Clocks And Watches; and Musical Instruments	
Section 19	Arms and Ammunition	M
Section 20	Furniture, Bedding, and Lamps, Toys, Games, and Sports Products	S
Section 21	Works of Art, Antiques, and Collector's Pieces	S

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Appendix 1

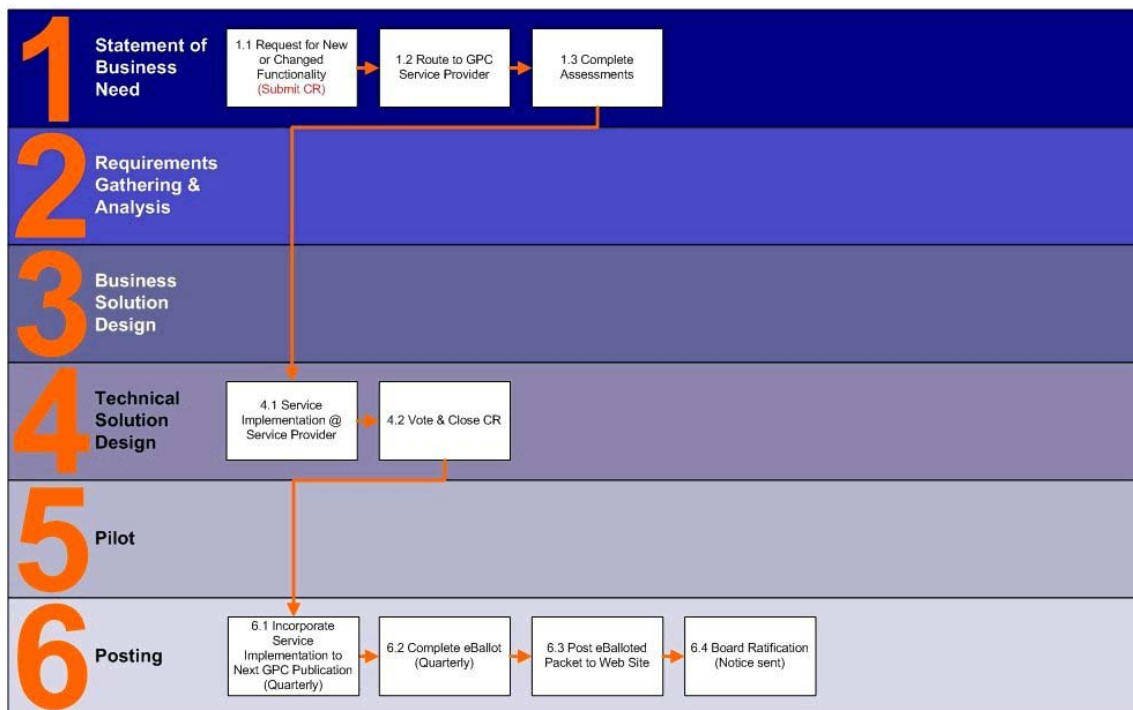
GPC Change Request Process

Changes to the GPC standards are managed by means of a disciplined and open process. This process is managed by GS1 and is used to manage the full suite of GS1 supply chain standards. This change management process is called the GS1 Global Standards Management Process (GSMP).

Change Requests are considered by subject experts from member companies and consequently represent the needs of Users from all around the global.

All change requests are recorded through a central GS1 website where they are analyzed and routed for detailed consideration. Changes to the GPC dictionary may be deemed simple or complex. A GPC Leadership Committee must approve all changes.

A simple change is one where a value is added to the dictionary to accommodate user needs but has no impact on its structure (ontology). GS1 generates a final version of the proposed resolution that is rules compliant and the GPC Leadership Committee considered it for sign-off. That final version is implemented in the GPC database and published at the following due publication (typically quarterly).



Process Flow Name:	GPC Simple Minor Change (Rules Compliant)		
Process Flow Owner:	Zoltan Patkai	Version:	0.2
Process Flow Approver:	Process Group	Version Date:	19-04-2006

GSMP – PROCESS FLOWS



A complex change is one where there is a fundamental change to the schema to accommodate user needs but has major impact on its structure (ontology). If the GPC Change Request (CR) is classified as a complex change then there are 2 process flows:

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Complex Major Change (Non-Rules Compliant or Rules Compliant); and
Complex New Segment.

Complex Major Change (Non-Rules Compliant or Rules Compliant)

- Non-Rules Compliant major change requires GPC Leadership Committee sign-off typically involves complex and comprehensive modifications within the schema due to the level of severity the change it requires.
- Rules Compliant refers to all changes that fit the existing rules and principles of the schema, therefore change is legitimate and its implementation can be justified by its compliance to the schema rules

In both cases the following steps are followed:

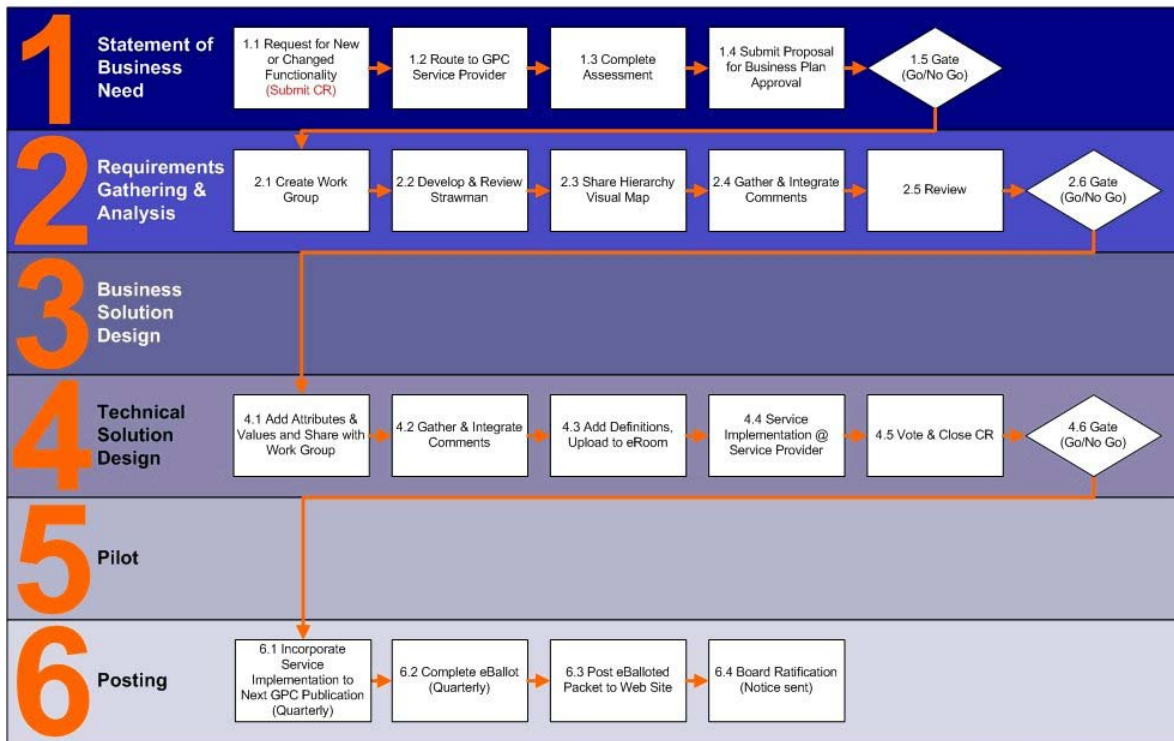
- Proposal for Business Plan approval
- Service implementation
- CR resolution incorporation into next publication release

Complex Major Change - New Segment

In GPC the new segments are developed in Work Groups and signed off and e-balloted by the GPC Leadership Committee. Key stages:

- Develop and review Straw man
- Share Hierarchy Visual Map followed by comments integration from the public review
- Add Attributes & Values to the Bricks followed by comments integration from the public review
- Add definitions
- Service Implementation
- GPC Leadership Committee eBallot
- Publication (quarterly)

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Process Flow Name:	GPC Complex (New Segment)		
Process Flow Owner:	Zoltan Patkai	Version:	0.2
Process Flow Approver:	Process Group	Version Date:	19-04-2006

GSMP – PROCESS FLOWS



GSMP Process FlowTemplate Version 0.1