



The Global Language of Business

GS1 Standards Event

11 – 15 April 2016 – Jersey City

Building Standards to Deliver Business Value

Session: GS1 Smart Search Training

Time: 11:30-12:30, 13 April

Who May Attend: (Everyone)

Speakers: Eric Kauz and Dr. Mark Harrison, GS1

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>.

Agenda

- What is GS1 SmartSearch?
- Benefits of SmartSearch
- GS1 SmartSearch and Other GS1 Standards?
- Pilots
- How to get started?

What is GS1 SmartSearch?

What is GS1 SmartSearch?

- A new set of GS1 standards, guidelines and tools that extend GS1 standards (e.g. defined terms and identifiers) to the semantic web to make it available as open data in a machine-interpretable format.
- This effort makes information about products and offers more visible to software (e.g. browsers, smartphone apps, search engines and APIs) and makes it more actionable.

GS1 SmartSearch and the Semantic Web

- GS1 SmartSearch builds on other Semantic Web efforts such as schema.org.
- The Semantic Web is a “common framework that allows data to be shared and reused across applications, enterprises and community boundaries”.
- At the core of this framework are languages specifically designed for working with relationships in structured data:
 - Resource Description Framework (RDF),
 - Web Ontology Language (OWL), etc.

What Exactly is SmartSearch?

- **GS1 SmartSearch Guideline**

Guidance on how machine-readable structured data about a product offering can be embedded within a web page and suggestions on how to represent the GTIN.

- **GS1 Web Vocabulary**

Provides a collection of properties and classes that can be used to help add structured data to webpages. It is based on the models in the GS1 Global Data Dictionary. Using RDF, GS1 has created our own web vocabulary of standard properties.

- **Deployment Tools:**

- browsable HTML representation of vocabulary
- tools for generating examples of structured data markup



Importance of Web Vocabularies

- Express meaning to computers in an unambiguous way.
- Vocabularies can provide a reference for systems mapping whatever internal structures are used. Do not need one fixed schema just a common link suffices to connect resources.
- Good vocabularies/ontologies make use of URI representation to help connect the data instances with the metadata and definitions.
- In GS1 SmartSearch, a block of structured data is inserted in a web page in JSON-LD format and this references properties in the web vocabulary.

What are the benefits?

GS1 SmartSearch Benefits

- More relevant search results
- More detailed and accurate product information displayed in search results.
- Capability for consumers to access facts about the product directly from the brand owner's website e.g. via a smartphone scanning app
- Provides better ways of representing information which can help drive customer decisions.
- Higher rankings.

Facilitating APIs

- APIs include actions or data elements clients will access when communicating with your service.
- It is beneficial to use well-known public names for actions and data elements from sources like Schema.org and the GS1 SmartSearch Vocabulary.
- A repository of well-defined, shared names ensures that developers have seen them before and understand what they mean. This improves the usability of an API.

GS1 SmartSearch relation to other standards/solutions

Relation between SmartSearch and other GS1 Standards

- There is a need to define and send attributes in other formats besides XML for example:
 - Product Characteristics defined in GDSN
 - attribute/value pair syntax used for EPCIS.
- Parts of GDSN could be enhanced by using the techniques used for the GS1 Vocabulary which document for each property:
 - a unique URI
 - a data type
 - a domain (e.g. apparel, food and beverage)
 - definitions/comments

Importance of URIs

- Uniform Resource Identifiers (URIs) used to identify not only documents but also concepts (people, places, things, abstract/intangible concepts) and properties / data relationships.
- URIs are used to uniquely identify attributes within a namespace or an instance of this attribute for example:
 - GS1 Vocabulary Properties:
`gs1.org/voc/percentageOfAlcoholByVolume`
 - EPCs are expressed as URIs
`urn:epc:id:sscc:0614141.1234567890`

Relationship With Google and schema.org

- GS1 has been working closely with schema.org.
- Benefits to having this recognition include:
 - increased visibility of GS1 Vocabulary
 - increased usage of GS1 “language”
 - recognition by or integration with various Google tools.
- schema.org has recognized the GS1 Vocabulary as the first external extension.

Current Pilots

GS1 SmartSearch Pilots

- 6 MOs are either piloting SmartSearch or are planning pilots: Brazil, France, Hong Kong, Netherlands, Poland and UK.
- GS1 Italy has marked up a test website within their own domain.
- 8 Other MOs have expressed interest in piloting.

GS1 SmartSearch is easy to implement

Here are three key steps to follow:

1. Convert your product data into GS1 SmartSearch format. GS1 offers an online “wizard” tool to help you.
2. Embed the GS1 SmartSearch product data in the templates of you your product webpages.
 - Scripts Can be used to easily embed GS1 SmartSearch JSON in product web pages.
3. Submit the product page to search engine indexes.

Findings so far

- Adding mark-up for product description plus one or more values from the GS1 SmartSearch caused web pages to rank highly (GS1 UK test)
- Pilot at a coupon site yielded on average a 14 percent improvement in page ranking.
- Search results are dependent on having the mark-up reflect words entered into the search box.
- Benefits go beyond page ranking to having more relevant and actionable search results.

Some Ideas on What to Test (1/2)

- Type of Vocabulary Included:
 - GS1 SmartSearch only
 - schema.org + GS1 SmartSearch
- Mark-up format:
 - JSON-LD embedded within the page
 - JSON-LD referenced from an external file / source.
- Position of mark-up within the page:
 - within <head>
 - start of <body>
 - end of <body>

Some Ideas on What to Test (2/2)

- Dynamic page generation:
 - none (static pages)
 - server-side generation of dynamic content
 - client-side generation of dynamic content
 - client-side with server-side generation as backup

(optional and dependent on how companies manage their content).

What Should a SmartSearch Pilot Include?

- JSON-LD mark-up.
- Reference to gs1.org/voc
- Reference to schema.org
(if schema.org properties are used)
- Basic SmartSearch properties such as **gtin**, **productName**, **productDescription**, **brandName**, **price**, **priceCurrency** (also in schema.org)
- 14-digit representation of the GTIN if **gtin** property is populated with a value.

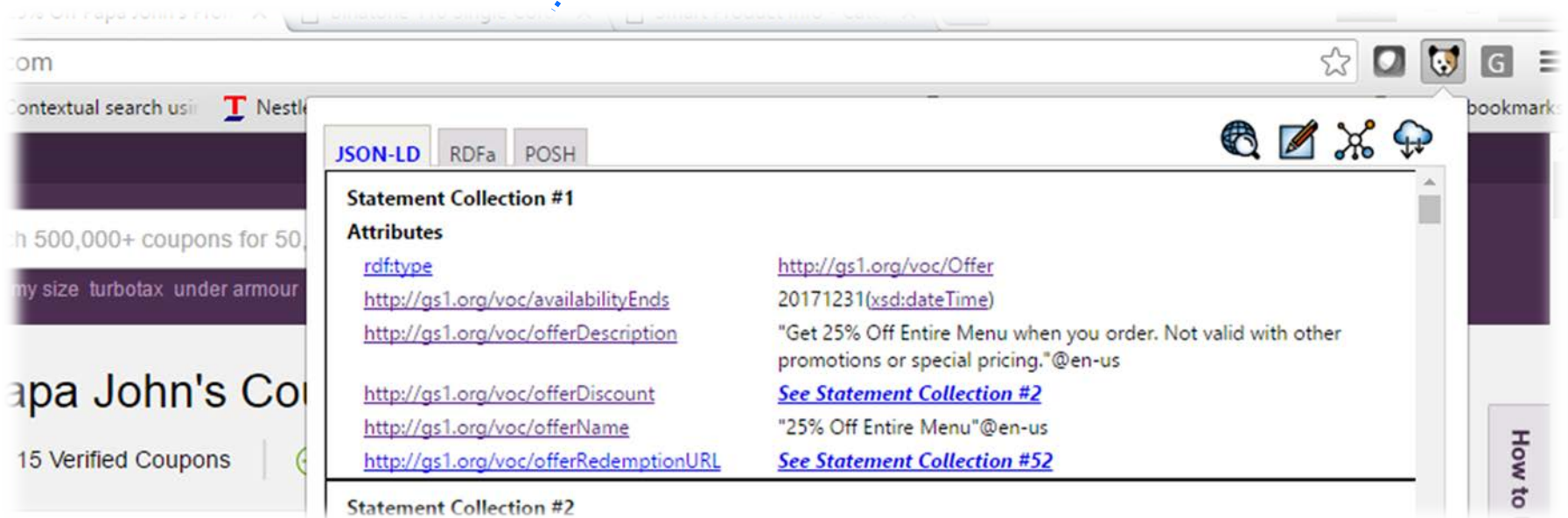
How to measure the impact of GS1 SmartSearch

Three routes:

- **Relevant search improvement**
Measure impact search rankings for a product page when you type a relevant search phrase for a part.
- **Increased sales per click-though from search engine results**
Calculate what percentage of consumers landing on a product page from a search engine go on to buy a product (or add to basket or wish list).
- **Reduced returns**
Measure number of returns as a percentage of sales. By helping more accurate product information to be available, less consumers should be ordering the wrong products.

How to Validate a Page for SmartSearch

Tools such as Structured Data Sniffer can easily point out mark-up languages as well as the vocabulary and properties being used.

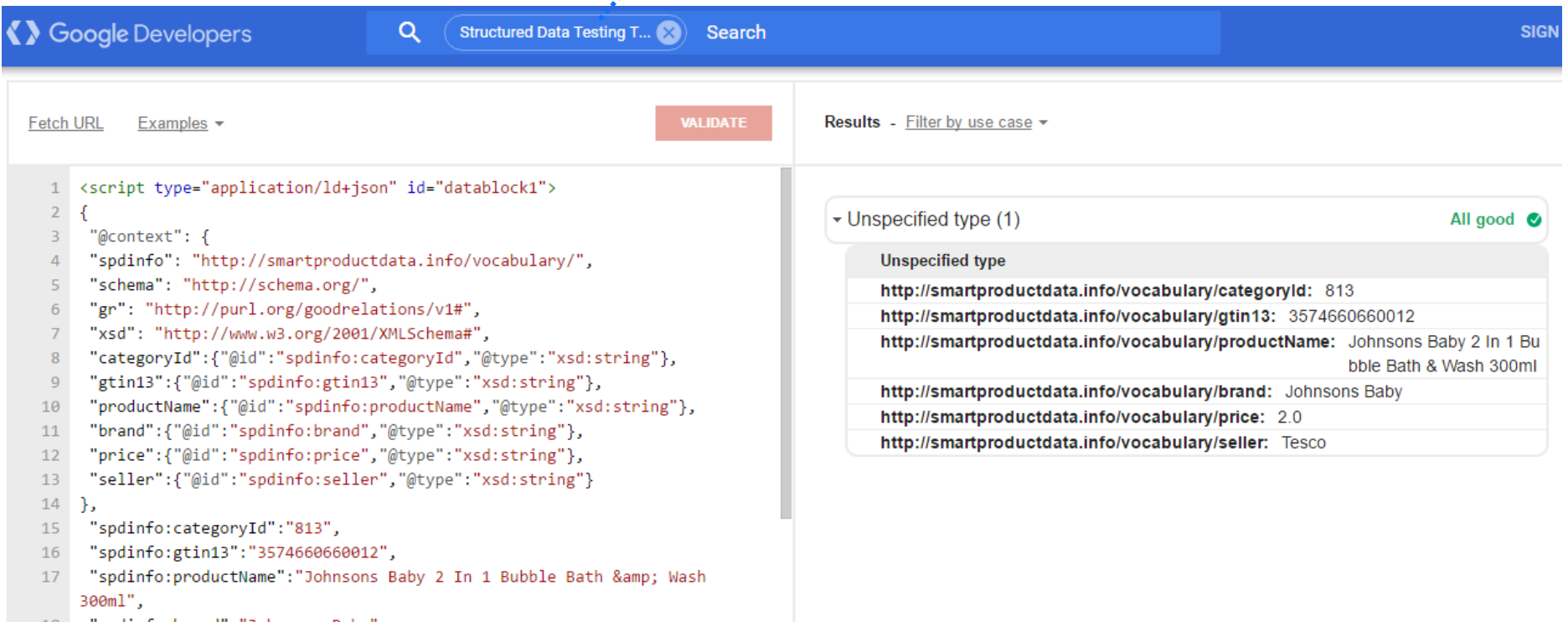


The screenshot shows a browser window with a structured data validation tool overlay. The tool displays the following information:

- Statement Collection #1**
- Attributes**
- rdf:type**: <http://gs1.org/voc/Offer>
- http://gs1.org/voc/availabilityEnds**: 20171231(xsd:dateTime)
- http://gs1.org/voc/offerDescription**: "Get 25% Off Entire Menu when you order. Not valid with other promotions or special pricing."@en-us
- http://gs1.org/voc/offerDiscount**: [See Statement Collection #2](#)
- http://gs1.org/voc/offerName**: "25% Off Entire Menu"@en-us
- http://gs1.org/voc/offerRedemptionURL**: [See Statement Collection #2](#)

Mark-Up Validity

Google's Structured Data Testing Tool will validate JSON-LD and point out any issues that need to be fixed.



Google Developers Structured Data Testing T... Search SIGN

Fetch URL Examples VALIDATE Results - Filter by use case

```
1 <script type="application/ld+json" id="datablock1">
2 {
3   "@context": {
4     "spinfo": "http://smartproductdata.info/vocabulary/",
5     "schema": "http://schema.org/",
6     "gr": "http://purl.org/goodrelations/v1#",
7     "xsd": "http://www.w3.org/2001/XMLSchema#",
8     "categoryId": {"@id": "spinfo:categoryId", "@type": "xsd:string"},
9     "gtin13": {"@id": "spinfo:gtin13", "@type": "xsd:string"},
10    "productName": {"@id": "spinfo:productName", "@type": "xsd:string"},
11    "brand": {"@id": "spinfo:brand", "@type": "xsd:string"},
12    "price": {"@id": "spinfo:price", "@type": "xsd:string"},
13    "seller": {"@id": "spinfo:seller", "@type": "xsd:string"}
14  },
15  "spinfo:categoryId": "813",
16  "spinfo:gtin13": "3574660660012",
17  "spinfo:productName": "Johnsons Baby 2 In 1 Bubble Bath & Wash
18  300ml",
19  "spinfo:brand": "Johnsons Baby"
```

Unspecified type (1) All good ✓

Unspecified type
http://smartproductdata.info/vocabulary/categoryId: 813
http://smartproductdata.info/vocabulary/gtin13: 3574660660012
http://smartproductdata.info/vocabulary/productName: Johnsons Baby 2 In 1 Bubble Bath & Wash 300ml
http://smartproductdata.info/vocabulary/brand: Johnsons Baby
http://smartproductdata.info/vocabulary/price: 2.0
http://smartproductdata.info/vocabulary/seller: Tesco

GS1 SmartSearch: Starter Kit

GS1 SmartSearch Starter Kit

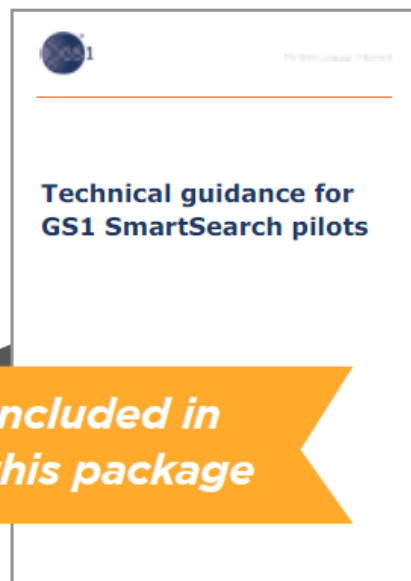
Everything you need to know to run a pilot

Pilot guidance

5-step pilot guide



Technical pilot guidance

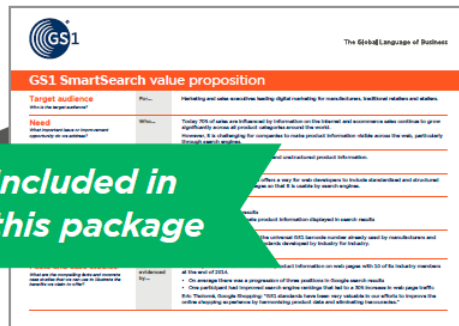


GS1 SmartSearch Starter Kit

Everything you need to know to run a pilot

Communication materials

Value proposition



The Global Language of Business

GS1 SmartSearch value proposition

Target audience
Who is the target audience?
Who... Marketing and sales executives leading digital marketing for manufacturers, national retailers and others.

Need
What need does it address?
Why... Today, 70% of sales are influenced by information on the internet and consumers often struggle to give significantly across all product categories around the world.
How... It is a challenge for consumers to make product information visible across the web, particularly through search engines.

Value
What value does it create?
How... GS1 SmartSearch provides a way for manufacturers to include standardized and structured product information across the web, particularly through search engines.

Impact
What impact does it have?
How... GS1 SmartSearch provides a way for manufacturers to include standardized and structured product information across the web, particularly through search engines.

Key messages
What are the key messages?
How... GS1 SmartSearch provides a way for manufacturers to include standardized and structured product information across the web, particularly through search engines.

Call to action
What is the call to action?
How... GS1 SmartSearch provides a way for manufacturers to include standardized and structured product information across the web, particularly through search engines.

Next steps
What are the next steps?
How... GS1 SmartSearch provides a way for manufacturers to include standardized and structured product information across the web, particularly through search engines.

Conclusion
What is the conclusion?
How... GS1 SmartSearch provides a way for manufacturers to include standardized and structured product information across the web, particularly through search engines.

Included in this package

Booklet



The Global Language of Business

GS1 SmartSearch

Results

Buy

Included in this package

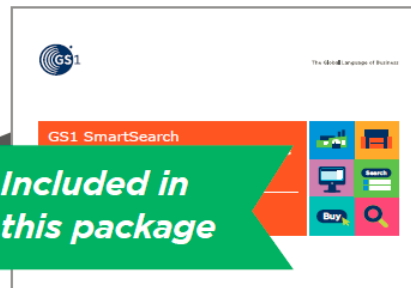
Video



GS1 SmartSearch

Buy

PowerPoint slides



The Global Language of Business

GS1 SmartSearch

Results

Buy

Included in this package

GS1 SmartSearch Starter Kit

Everything you need to know to run a pilot

Technical materials

GS1 SmartSearch vocabulary standard

GS1 SmartSearch guideline

Interactive HTML representation of the standard

**Wizard website to generate GS1 SmartSearch code
for individual products**

Tools

- **HTML Representation of the GS1 Vocabulary**
 - www.gs1.org/voc/
- **GS1 SmartSearch wizard (JSON-LD Mark-up Tool):**
 - www.gs1.org/1/smart-search-demo



Two “To do’s”, please!

1. Check-in to this session
2. Rate this session using the mobile app

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