GS1 Digital Link 1.1: Helping Brands Maximize the Power of Real-time Product Data for Direct-to-Consumer Engagement

Product Digitization and the Release of GS1 Digital Link 1.1 Signals a New Era for the Consumer Products Industry

A new digital ecosystem is transforming the way consumer product brands and their customers interact. At the heart of this ecosystem is the newly released GS1 Digital Link 1.1 global standard that upgrades the ubiquitous barcode used by two million manufacturers across the $13.5-trillion consumer products industry. GS1 Digital Link allows brands to quickly, simply and cost-effectively transform products into web-connected digital assets.

Think about it. Every product can now serve as a direct-to-consumer channel to reach your customers – pre- and post-sale. Brands no longer need to worry about losing valuable consumer connections, or more importantly the data that comes from those connections to online retailers. And beyond the consumer, brands gain operational efficiencies by gathering and applying real-time data intelligence to every product’s journey through the supply chain. All with one code on the product or connected packaging.

With product digitization and GS1 Digital Link, brands have a scalable, future-proof solution to deliver direct-to-consumer experiences, transparency, and proof of brand integrity.

The Digital Transformation of an Industry
According to FMI, 74% of consumers say they’d switch to a brand that provides more in-depth product information than what is on the label. Related, research by Invesp confirms companies with omnichannel customer engagement strategies retain on average 89% of their customers compared to 33% customer retention rate for companies with weak strategies.

Brands across industries are taking this research to heart to transform their business models.
For instance, EVRYTHNG is working with Mowi ASA, the world’s largest producer of Atlantic salmon, to roll out the new standard at mass scale. A GS1 Digital Link-enabled QR code on each pack connects to a unique EVRYTHNG Active Digital Identity™ (ADI) managed in the EVRYTHNG Product Cloud. Consumers simply point their smartphones at the QR code on the Mowi package to access item-specific provenance information on their fresh seafood products.

Raising the Standard

Standards are critical to achieving the global goal of circularity across industries. For this reason, I’m passionate about GS1 Digital Link 1.1 and serve as co-chair of the GS1 Standards Development Work Group that defined the new specification. By connecting GS1 Digital Link with an EVRYTHNG Active Digital Identity™ (ADI), consumer product brands can apply data science and intelligence to every product’s journey, and to every product experience for the consumer.

“With EVRYTHNG, companies can achieve unprecedented transparency and visibility into the authenticity of products.”

Michel Ottiker, GS1 Switzerland

The NEW GS1 Digital Link 1:1 Standard

It has been 18-months since EVRYTHNG announced that its platform would be the first to commercially support the new GS1 Digital Link standard and as shared it is gaining great momentum with brands across the consumer products
industry. Learning from early deployments, the Working Group has since been working on two mighty improvements to the standard:

**GS1 Digital Link 1.1 Compression**

To support use cases where the space to print a tag is limited, version 1.1 of the GS1 Digital Link standard offers a compression algorithm. This not only makes URLs shorter, and hence allows smaller tags or NFC/RFID tags with lesser capacity, but it also works offline. Meaning that a PoS for example does not necessarily need to connect to the Web to decode the compressed Web address of a product. The compression algorithm makes GS1 Digital Links up to about 60% shorter depending on the combination of attributes and keys it contains.

To show you an example of why this matters take a GS1 Digital Link such as: [https://dlnkd.tn.gg/01/9780345418913](https://dlnkd.tn.gg/01/9780345418913) with GS1 Digital Link 1.1 compression it gets transformed into: [https://dlnkd.tn.gg/ARHKVAdpQg](https://dlnkd.tn.gg/ARHKVAdpQg). The difference in size (6 characters) might not seem much but it means the former will need a version 3 QR whereas the latter a version 2 QR, allowing the QR code with the compressed Digital Link to be printed at significantly smaller sizes.

**GS1 Digital Link LinkTypes**

With GS1 Digital Link 1.1. applications can now request specific content for a product instead of getting a generic redirection. For example an allergy app or fitness tracker may request nutritional facts for a particular product. Similarly, a supply chain application can request traceability or recall information for a product. Applications can do this simply by adding a link Type query parameter to a GS1 Digital Link.

For instance when an app reads: [https://dfnnr.tn.gg/01/860080001300/21/445](https://dfnnr.tn.gg/01/860080001300/21/445) it can transform the GS1 Digital Link to: [https://dfnnr.tn.gg/01/860080001300/21/445?linkType=gs1:allergenInfo](https://dfnnr.tn.gg/01/860080001300/21/445?linkType=gs1:allergenInfo) to request allergen data for this particular product. This creates a universal language for requesting product information because it integrates with the Semantic Web and Linked Data.
Importantly, this means GS1 Digital Link redirection can be dynamic based on requests and context rules rather than static. This is where EVRYTHNG supports and adds value to users of GS1 Digital Link with a powerful product called Redirector and associated strategic intellectual property. In order to foster the development of GS1 Digital Link applications, EVRYTHNG is offering a royalty free license which you can apply for here: https://evrythng.com/gs1digitallink/

According to Frits van den Bos, Manager Innovation, GS1 Nederland,

“We are happy to work with our members and solution providers like EVRYTHNG to set new standards and bring them to life. Together we are helping companies bring a whole new level of granularity to managing products through the supply chain. Using the GS1 Digital Link standard, every physical product can now be linked to a unique identity on the web providing access to real-time data intelligence via a single on-pack code.”

Frits van den Bos, Manager Innovation, GS1 Nederland

A New Digital Ecosystem

EVRYTHNG built the partner ecosystem required for brands to realize the full potential of this technology. EVRYTHNG has teamed with some of the world’s largest packaging and supply chain companies including, WestRock and Crown in the food, beverage, and household goods sectors, and Avery Dennison in the footwear and apparel market to produce products ‘born digital.

This newest generation of GS1 Digital Link allows consumer product brands to print codes at scale on items with smaller labels. For example, working together with Avery Dennison we’ve created a digital ecosystem to embed apparel and footwear items with GS1-compatible digital identities at point of manufacture. This means products are literally born-digital with labels embedded with digital identities as they are produced at mass scale.

According to Bill Toney, Vice President, Global RFID Market Development, Avery Dennison,

“Today’s consumers demand greater transparency from brands. By working with EVRYTHNG and GS1 Digital Link to switch-on the world’s apparel and footwear industry at mass scale, we create opportunities for brands to build this trust. The new GS1 standard
means every unique apparel item can be enhanced with our RFID
technology and a QR code to support direct-to-consumer applications
at scale."

Bill Toney, Vice President, Global RFID Market Development, Avery
Dennison

What's Next

Collaboration across the supply chain and access to end-to-end product
lifecycle data is critical to achieving a more sustainable economy as we work
together toward the goal of circularity. With connected packaging – powered
by this new digital ecosystem – consumer product brands are no longer left
guessing. Data can now be gathered at a mass scale – the crucial word being
mass – with a simple, printed, scanned code that follows a product throughout
its journey. Brands now know where every product item is, who’s got it and
how it is recycled and/or disposed of.

I encourage you to reach out to learn more about how product digitization and
the adoption of global standards like GS1 Digital Link can both transform
your business and position you to lead with data in 2020 and beyond. You can
learn more here: https://evrythng.com/gs1digitallink/

About the Author
Dominique Guinard is CTO and co-founder of EVRYTHNG, the Product Cloud
providing digital identities for the world’s consumer products. Dom is an IoT
expert, having spent more than a decade working on projects for Oracle, the
Auto-ID Labs, Nokia and SAP. He was a Web of Things (WoT) pioneer at ETH
Zurich and MIT, and his Ph.D on the WoT was granted the ETH Medal. Dom is
currently an advisor and contributor to the World Economic Forum’s Centre for
the Fourth Industrial Revolution Blockchain for Supply Chain project, a co-
chair of the GS1 Digital Link working group, a faculty member at the
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