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Position Paper about the identification of products with different labelling in distance selling

in the context of the Food Information Regulation (FIR)

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1.1	October 2020	Carolin Prinz	Update of the document with regard to the implementation of the Food Information Regulation (FIR) in 2014

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GS1 Germany GmbH

It started with a simple beep.

In 1974 a barcode was scanned for the first time in a supermarket. This was the beginning of automated checkout - and the beginning of GS1's success story. The machine-readable GS1 barcode with the GTIN it contains is now the universal standard in the global exchange of goods and is scanned on products six billion times a day. GS1's standards are the global language for efficient and secure business processes, valid across company boundaries and continents. As part of a worldwide network, we work with our customers and partners to develop market-driven and future-oriented solutions that directly contribute to their business success. Today, two million companies from over 20 industries worldwide use this language to uniquely identify products, locations and assets, to capture relevant data and to share it with business partners in value-added networks. GS1 - The Global Language of Business.



1 Status quo

In 2011 the EU passed the Food Information Regulation 1169/2011 (FIR). The FIR states that all new requirements regarding product labelling and information transfer are to be implemented by all participants of the supply chain from 13/12/2014.

In order to better inform the consumer, the manufacturer and retailer (for own name brands) are required to print – among others – a detailed declaration regarding allergens, nutritional value, surrogates and product origin on the product packaging.

The FIR concerns explicitly all forms of foodstuff provision for consumers: this includes the sale of foodstuffs by way of distance selling. Foodstuffs delivered to consumers by way of distance communication (e.g. in an online shop) fall under the same obligation to inform the consumer as foodstuffs sold in a retail store.

Obligatory information regarding foodstuffs, which are to be sold via distance selling are discussed in Article 14 of the FIR. According to Article 14, all obligatory declarations – excluding the best before date and the sell buy date – are to be made available to the consumer before the purchase is concluded, either by way of material supporting the distance selling or by another appropriate means clearly identified by the food business operator.

If the foodstuff does not correlate 100 % with that which has been ordered online, this is a violation of the FIR, which can be met with the corresponding sanctions.

Foodstuffs, which the FIR regards as having different or modified declarations, must be easily identifiable within the data management in order to guarantee that the information from the distance seller and that on the packaging of the delivered product correlate at all times.

A clear need for action can be seen especially in the identification of (practically) identical foodstuffs with slightly different or revised declarations (e.g. a change in the list of ingredients or nutritional value due to a change in recipe). As manufacturer and retailer (for own name brands) do not tend to allocate a new GTIN (Global Trade Item Number) alongside the product change, it is not possible to clearly identify the newly declared product in distance selling by way of GTIN. This action does not conform with the FIR (see above).

With support of GS1 Germany, representatives from industry and retail have analysed various basic solutions for the identification of foodstuffs and their effect on the supply chain.

The subject of the analysis is singularly products with a slightly different or revised declaration according to the FIR. Products that are permanently coexisting in the market are not looked at, as they are presently identified with separate GTINs by the manufacturer or retailer (for own name brands).

2 Alternative solutions for foodstuff identification and their effect on the supply chain

In order to identify (practically) identical foodstuffs with slightly different or revised declarations, there are two basic alternatives. Each change of declaration in accordance with the FIR is followed by either the allocation of a new GTIN ('GTIN new') or the use of the current GTIN with an added identification element ('GTIN+X').

In the case of 'GTIN+X', the added identification element describes a certain declaration of a product. The following alternatives are currently under discussion: GTIN plus serial number, batch number, best before date, variation, version number, link to a HTML-page (e.g. URL in QR-Code) or a validity date. A decision about the exact nature of the additional identification element has not yet been met. The nature of the additional identification element is not an aspect of the previous studies.

The tables in the Appendix represent the effects of the use of the alternatives 'GTIN new' and 'GTIN+X' for product identification along the entire process chain.

An overview of the most important results:

GTIN new	GTIN+X
Adaption of the barcode on the product; new shelf labelling	Attachment of the additional identification on the product
In the production, new master data records have to be created for a basic article; new GTINs have to be created for every GTIN hierarchy level of the packaging	In the production, an internal variant of the existing process can be created
At every stage of the process, the preceding product and the replacement product have to be joined and combined with the complete history of an article	In many processes (e.g. in the order process) the same GTIN is still used
Different storage places have to be established	Different storage places have to be established
If applicable: increased number of articles in the purchase / category management	If applicable increased number of articles in the purchase / category management (just valid for online trade since articles have to be distinguished)
Increased occurrence of listings (advertising, data cleansing, condition maintenance, new shelf labelling, etc.)	No increased occurrence of listings, since mostly just the GTIN is used without additional ID
Ongoing synchronisation of the physical product and the informatory data flow	Systems in many relevant process steps have to be adapted to process/display the additional identification information

3 Conclusion and Outlook

The analysis shows that both alternative solutions have an impact on the current processes and as a consequence will require expense for the adaption of IT systems.

Overall, the results show an advantage for the alternative 'GTIN+X' regarding the processual impacts. The non-recurring investment expense for the adaption of the systems, which cannot be quantified exactly at the moment, affects all involved partners in the supply chain and therefore needs an appropriate timeframe for practical implementation. Retailers are predominantly affected.

Currently existing IT systems can be used for the solution alternative 'GTIN new', but at the moment the related processes are not prepared for the expected increase – in some product categories a significant increase – in the number of GTINs. Technical adaption is particularly needed in processes, in which the relation between the preceding and succeeding GTIN has to be implemented.

Based on the present analysis results, industry and retail in Germany agreed on the following position:

1. As a temporary transitional solution 'GTIN new' is the only possibility because of the short termed implementation requirements of the FIR. Industry and retail are aware that processual adaption in the operational implementation is necessary and needs to be elaborated. Depending on the product category an increase – in some product categories a significant increase – in the quantity of GTINs is expected.
2. Industry and retail agree that the generally preferred solution is 'GTIN+X', even though the common opinion is that it is only realisable in the middle or long-term.
3. As a prerequisite for the implementation of 'GTIN+X', further development and adaption of the existing IT systems – in particular in retail – are needed. Further analysis and data is needed – among others on basis of the quantitative structure – for the evaluation of the process and investment costs.

In the event that enterprises consider not allocating new GTINs for product changes they categorise as minor to avoid an increase in new GTINs, they knowingly accept a risk in distance selling, as far as they implemented no other measures that guarantee the accurate delivery of an (e.g. online) ordered product.

In particular for all potentially health relevant product changes (e.g. addition of an allergen), new GTINs should be mandatorily allocated to ensure an unambiguous distinguishability of the products even in distance selling.

The GTIN changes due to slightly changed product declaration described in this document are not to equate with classical product introductions.

Especially in the following areas, further action and standardization is needed:

- Clarification of the kind of additional identification and of the data carrier,
- If applicable: specification of the GTIN-allocation rules,
- Clarification of the dealing with assortments, e.g. (mixed) displays,
- If applicable: adaption of GDSN (contents and process recommendation),
- If applicable: adaption of the EDI implementation guidelines.

Thereto, an expert group within GS1 Germany is going to mirror international developments in this context and provide contributions from the German market.

4 Appendix

Table 1: Process effects with solution alternative 'GTIN new

Physical flow of goods	Process steps	Sub-steps	GTIN new	Consequence
Production	Product development			Avoidance of declarable changes and the related new GTINs
	Marketing	Package design	Adaption barcode to product	Avoidance of declarable changes and the related new GTINs
	Data management	Creation of material master records	Creation of new master records for basic articles as well as creation of new GTINs for every GTIN hierarchy level of the packaging	Increased volume of master data by frequent change of the declaration
		Creation of process master data	Complete new creation of the process master data depending on the internal article number	Increased volume of master data, existing process can be used
		Creation in GDSN	Creation of new master data for basic articles as well as creation of new GTINs for every GTIN hierarchy level of the packaging	Increased volume of master data, existing process can be used; increased maintenance effort due to many new creations (if applicable manual processes)
	Scheduling		Consolidation of the preceding product with the replacement product, conjunction of the complete history of an article	Increased volume of master data, if applicable need of technical adaption; increased complexity, requires increased planning accuracy; packaging, labels
	Production (physical)			Increased volume of master data, if applicable need of technical adaption; changeover times, increased error rate, increased complexity
Storage	Storage		Different storage areas	Ongoing reorganisation of the picking line, if applicable increased need for space, increased volume of the master data, if applicable need of technical adaption, increased complexity/What happens to remainders of stock?

Physical flow of goods	Process steps	Sub-steps	GTIN new	Consequence
Turnover	Category Management		Consolidation of the preceding product with the replacement product, conjunction of the complete history of an article	Increased complexity
	Distribution	Update consumer price lists/listings overview	Consolidation of the preceding product with the replacement product, conjunction of the complete history of an article, maintenance of the price list	Increased need of communication about GTIN/contents (in Germany, no fees for listing are charged within this context)
	Order management	Recording of orders	Consolidation of the preceding product with the replacement product, application of the 'valid' GTIN in the order	Increased complexity in the inventory and order management; increased need of coordination; sustainability: what happens to remainders of stock? Enormously high need of clarification in the case of relisting, if applicable cancellation of articles
		Material control (finished product)	Restricted possibility of control	Delivery problems
		Invoicing	none	none
Outgoing goods	Physical commissioning			Ongoing reorganization of the picking line, if applicable increased need for space, increased volume of the master data, if applicable need of technical adaption, increased complexity/What happens to remainders of stock? Supply of online-trade through commissioning in stationary retail
	Outgoing goods	Delivery advice	none	none
Receipt of goods	Purchase/category management		If applicable increased number of articles	Increased need for communication regarding GTIN/contents; increased effort for admin
	Data management	Transfer of master data	Transfer of new master records for basic articles as well as creation of new GTINs for every GTIN hierarchy level of the packaging	Increased volume of the master data, rapid distribution
		Listing	Increased occurrence of listings (advertising, data cleansing, condition maintenance, new shelf labelling etc.)	(in Germany, no fees for listing are charged within this context)

Physical flow of goods	Process steps	Sub-steps	GTIN new	Consequence
	Order		Consolidation of the preceding product with the replacement product; application of the 'valid' GTIN in the order, scheduling	Increased complexity in the inventory and order management; increased need of coordination; sustainability: what happens to remainders of stock?
	Receipt of goods		Consolidation of the preceding product with the replacement product; application of the 'valid' GTIN in the order/delivery advice	Increased complexity in the inventory and order management; increased need of coordination; sustainability: what happens to remainders of stock?
	Accounting			If applicable: increased need for correction of invoices
Storage	Supply/storage	Centre of distribution		Ongoing reorganization of the picking line, if applicable increased need for space, increased volume of the master data, if applicable need for technical adaptation, increased complexity, increased time requirement and increased error-proneness
		Distance distribution		Ongoing reorganization of the picking line, if applicable increased need for space, increased volume of the master data, if applicable need for technical adaptation, increased complexity, increased time requirement and increased error-proneness
Distribution	Sales channel	Stationary	If applicable additional shelf space	If applicable increased danger of out-of-stocks
		Distance selling	Permanent synchronization of the physical product and the informational data flow	Increased effort of data management; ordered GTIN = delivered GTIN
	Marketing		Increased effort required in order to update the marketing campaigns	
	POS		New shelf labelling, new books for recipes	Increased effort for the admin
Customer/ Final consumer			none	None, customer can distinguish between the articles
Return			none	Current existing regulations continue to apply

Physical flow of goods	Process steps	Sub-steps	GTIN new	Consequence
	Reporting system/statics	(process independent, e.g. Nielsen)	Consolidation of the preceding product with the replacement product	Increased complexity in report management, increased need for coordination

Table 2: Process effects with solution alternative „GTIN+X“

Physical flow of goods	Process steps	Sub-steps	GTIN + additional identification	Consequence	
Production	Product development			Avoidance of declarable changes and the related new GTINs/changes in recipe causes allocation of 'new' additional identification (while GTIN remains the same)	
	Marketing	Package design	Application of the additional identification on the final consumer unit	Application of additional bar codes for additional identification? If applicable lack of space, depending on size of the product	
	Data management	Creation of material master records	Creation of material master records	Complete creation of an internal variant, existing process can be used/creation of new master record optional – not a must	Increased volume of data
		Creation of process master data (conditions etc.)	Creation of process master data (conditions etc.)	Complete creation of an internal variant, existing process can be used/creation of new master record optional – not a must	Volume of data like today (living process)
		Creation in GDSN	Creation in GDSN	New area for additional identification	Adaption of SAP+EDI/changes just in the related areas with distinction via additional ident
	Scheduling		Scheduling already takes place on the basis of the variants	Dependencies have to be examined	
	Production (physical)			Production with new recipe leads to separated inventory controlling (based upon additional ident)	
Storage	Storage		Different storage places	Online trade/goods have to be stored separately	
Turnover	Category Management				
	Distribution	Update consumer price lists/listings overview	GTIN is still used, additional ID is just used for identification		
	Order	Recording of orders	Process of ordering between industry and retail is still based upon GTIN, without the addition		
		Material control (finished product)	Full possibility of control	Flexible as always	

Physical flow of goods	Process steps	Sub-steps	GTIN + additional identification	Consequence
		Invoicing	Adopt GTIN + additional identification in invoice	Adaption of the systems
Outgoing goods	Physical commissioning		Different places of storage	Partially at commissioning internal article numbers are used
	Outgoing goods	Delivery advice	Transfer of GTIN + additional identification	Adaption of systems is necessary (SAP+EDI), additional ident has to be incorporated into DE- SADV
Receipt of goods	Purchase/category management		If applicable increased number of articles (just valid for online trade since articles have to be distinguished)	Increased need for communication regarding GTIN/contents; increased effort for admin (just for online trade since articles have to be distinguished)
	Data management	Transfer of master data	New area for additional identification / online trade; creation of new data record GTIN + additional identification	Additional master data record
		Listing	No modification, since just GTIN without additional ID is used mostly	
	Order		No modification, since just GTIN without additional ID is used mostly	
	Receipt of goods		No modification, since just GTIN without additional ID is used mostly	
	Accounting			
Storage	Supply/storage	Centre of distribution	External stocks have increased effort because of the additional ID and when delivery instructions take place, the internal article number has to be used	
		Distance distribution		
Distribution	Absatzkanäle	Stationary		No additional shelf labelling necessary
		Distance selling		
	Marketing			
	POS			
Customer/ final consumer			Apps have to be updated	If the customer used 'old' apps, he cannot distinguish between the articles
Return				

Physical flow of goods	Process steps	Sub-steps	GTIN + additional identification	Consequence
	Reporting system/statistics	(process independent, e.g. Nielsen)		

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