

# Use of GS1 Standards in Fresh Fruits and Vegetables Supply Chain - Abstract

Dimitrios Kateris<sup>1</sup>, Nikolaos Tsotsolas<sup>2</sup>, Eleni Koutsouraki<sup>2</sup>, Christos Koidis<sup>3</sup>,  
Panagiotis Papazisis<sup>1</sup>, Aristotelis C. Tagarakis<sup>1</sup>, Dionysis Bochtis<sup>1</sup>

<sup>1</sup>Institute for Bio-economy and Agri-technology (iBO), CERTH, Greece; e-mail:  
d.kateris@certh.gr

<sup>2</sup>Green Projects SA, R&D Department, Greece

<sup>3</sup>Engineers for Business (EfB) SA, R&D Department, Greece

## Summary

Over the past few years, producers, suppliers, and retailers of fresh fruit and vegetables are facing an increasingly extended supply chain, requiring more efficient logistics scheduling, closer production monitoring, tighter production planning, and higher than ever before expectations for quality and safety for consumers. Alongside increasing consumer demands for safe and sustainable food products, fresh fruit and vegetable supply chains are challenged with issues related to consumer trust and information transparency. This uncertainty in matters of trust and transparency arises from the conflicting information provided by producers and consumers. In particular, the basic questions are how and where the fruit and vegetables are cultivated, harvested, processed, and under what conditions. Fresh fruit and vegetable supply chains are tasked with guaranteeing the mitigating the risk of falsification of information and the highest standards in food safety and quality. A sustainable and secure supply chain will require the sharing of information between producers and consumers. The need for information exchange will lead to transformative changes in the practices of fresh fruit and vegetable supply chains and will require a standardized framework of best practice recommendations for the management of supply chain units. This framework will increase the effectiveness of the supply chain, enhance the traceability of fresh fruits and vegetables, improve data management practices, allow data interoperability, and set supply chain identification standards for supply chain products.

Traceability is a procedure that enables in any chain-link of the supply chain to follow products moving from field to retail store. Each part of this traceability procedure must be able to identify the source (producer) and the recipient (customer) of the product. The priority of traceability is consumer protection through more precise and faster identification of the product. The implementation of a complete traceability system presupposes the existence of appropriate and precise standards. These standards are essential because they provide a common language that helps all the enable partners of the supply chain to exchange information with each other, and their information technology systems to process and manage the exchanged data.

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This work examines the incorporation of GS1 standards into fresh fruit and vegetable supply chains in order to explore the effectiveness of these standards as an approach to implementing a standard framework for the successful transformation of fresh fruit and vegetable supply chains. The EAN/UPC barcodes will be used for scanning at retail outlets. The GS1-128 barcodes will be used to identify product units in packaging and pallets in order to give the appropriate information about the products and their movement monitoring.

GS1 standards will provide a solid foundation for visibility-based applications such as track and trace because they are a comprehensive set of global standards for locating, capturing, and sharing information about products, locations, and services. These standards have been shown that promote the quality and quantity of data for backend systems and facilitate communication and information exchange.

**Keywords:** Traceability; supply chain; GS1 standards; fruits; vegetables.

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