

## **Data Streams of International Product Chains Need Advanced and Open IT Technology to Provide Information for Traceability and Quality Management Issues**

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### **Abstract**

*Traceability of single batches through the chain of custody is a challenging and increasingly relevant issue. Its importance becomes immediately evident in highly critical cases or in sensitive situations such as in positive residue tests, false (or even fraudulent) declarations, or where there are discrepancies in quantities traded.*

*Due to greatly rising market demand, traders and processors are increasingly forced to import products from international sources. To assure that these imported products also follow the internal, private, and legal quality schemes, a lot of information has to flow through the chain of custody. Even if some basic information is available on paper, they mean little or nothing if they are not available in electronic form, because it is not possible to analyze big amounts of data in case of suspicion of fraud or other problems. An electronic database has to be in place to manage the huge amount of data through the chain of custody. As a base functionality, the database has to be able to identify and trace a single lot back to its origin.*

*Intact – a software company specialized on food security located in Austria – developed a web-based traceability system that runs in the background of several chains of custody (organic and conventional). In this system, not only data of products like potatoes, carrots, and eggs are covered but also data of processed and/or international traded products, such as coffee and chocolate. To integrate international data streams, a secure and open system that provides automated open interfaces to third party systems has to be in place.*

*A convenient visual tool facilitates surfing back and forth in the chain of custody (tracing and tracking) and getting additional details wherever needed. The solution is a so-called 'batch tree' that provides a visual overview of the product flow with accessible details in the background. With just a double click in the right place, detailed information of every single transfer can be obtained.*

*The main advantages for all participants are:*

- *verification and release of products by the certification body prevents uncertified goods entering the supply chain;*
- *automatic plausibility checks increase the quality of monitoring and disburden staff;*
- *automatically generated alerts make it easy to react quickly;*
- *as a marketing tool, the system also provides data for the point of sale, or at least as background information for the consumer; and*
- *retail chains can use the system to document their efforts regarding product quality and product origin.*

*As an obvious urgent need, the issue of traceability needs to be taken more seriously by the entire organic market, as it is the case of today. Serious cases of fraud took and will take place all over the world. Independently of who is responsible for the fraud or who is the victim in a specific case, the whole sector suffers from bad headlines in the news.*

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