With this case study we wish to show the technical steps taken with the first implementations of the OriginTrail – a system that allows brands to effectively differentiate in the marketplace based on the traceability of the origin of their products. The case study will serve as an example on how to understand *defining, collecting and exchanging* traceability information that is shown through the OriginTrail system for the dairy industry. This white paper was drafted following an implementation of the OriginTrail at the Celeia Dairy.
DEFINING THE NECESSARY INFORMATION

The regulatory requirements on traceability are already fairly high in the dairy industry, making it necessary for the producers of dairy products to keep track of the ingredients that are put in their final products. However, such regulation is strictly focused on the possibility to determine the source of the milk in case something goes wrong – e.g. contamination on the farm or recalls for any other reason. As a consequence, the protocols for keeping the data on traceability are almost solely crafted to serve that purpose. The challenge we faced was, how to use the data on traceability already available in the dairy's IT/ERP system to serve an entirely different purpose - to communicate the origin of their products and its ingredients to the final consumer.

To conquer this challenge, we sat down together with our partners and went back to the start. We broke down the production process and the data-keeping process to fragments in order to find out which information is absolutely necessary to be able to find out which farms’ milk is included inside the final product.

Looking at the process top-down, we were able to find the correct proxies that allowed us to reach that goal. Our partner dairy organised its milk collection with routes which were mostly static. Every route (every truck) that collected milk for the dairy, always collected it from the same farmers. Consequently, the information that we really needed was: which route brought milk into the dairy on the day when a particular product was produced. Production date of a particular product was, of course, easily accessible through a proxy of expiry date on the packaging.

The necessary information, therefore, was:

- EAN code on the packaging – tells us which product it is
- Expiry date on the packaging – tells us when it was produced
- Routes used on the production date – tells us which farmers gave milk to make the product
COLLECTING THE NECESSARY INFORMATION

We quickly realised that the information on traceability is not easily accessible inside the IT/ERP system of our partners. However, once we found the correct proxies for obtaining the same type of information, we were able to overcome this challenge.

The information about the routes that brought milk into the production on a particular day was kept in the IT/ERP system of the partner dairy and could easily be set up for daily exports. The only manual thing that remains to be done, is to correct the list of farmers on a route if it changes (once or twice a year).

The rest of the static information about the products and the farms was accessible through the marketing department, which also gave important input on the rest of the visual elements when preparing final product presentations for the OriginTrail app.

EXCHANGING THE NECESSARY INFORMATION

Once we were able to locate the correct information in the system of our partner, we started developing the protocol through which we could exchange the information optimally.
As we have already established, the most crucial part of the dynamic data was to sync the information about which routes (and in turn farms) were included in the dairy production on a particular production day. Since our partner’s products get to the shelves of the supermarkets very quickly, we had to set up a system that would transfer this information to the consumers fast enough. After considering several possibilities, we opted for the daily exports from the system in the form of an xml document where only the necessary information is included while protecting all other information in the partner’s IT/ERP system by not exporting it from their system.

There is also a fair amount of static information that is included in the OriginTrail. Some examples are – name, description, photo, nutritional values of products etc. In order to evade the necessity of being constantly in touch with our team directly, we have created a simple dashboard interface that allows our partner dairy to manage everything that is visible in the application by themselves. We helped out with the first “bulk” import of all products and allowed the partner’s marketing department to manage all the details through the dashboard afterwards.

After setting up the entire system, we tested it out for a week to make sure that the information showing in the system is correct. We compared what the application was showing with what the employees at the partner dairy found out if they used their manual methods. We were able to fix some glitches quickly and deploy the final solution to the market (mobile app, iframe on the website, and dashboard).

Minor updates and corrections are still ongoing on all parts of the system and new functionalities are being developed in cooperation with all OriginTrail partners.
With the help of the OriginTrail system, the Dairy Celeia is able to provide consumers with a unique experience of being aware of the exact origin of the milk in their final products. Consumers may access the information on the provenance of Dairy Celeia's products through an Android and iOS mobile application currently and through an iframe integrated into our partner’s website.

Try out app or iframe with product data shown below.

**Semi-skimmed milk 1l**

![Barcode](3831051009486.png)

**Expiry date**

4. February 2017

**LCA Probiotic blueberry yogurt**

![Barcode](3831051008667.png)

**Expiry date**

28. February 2017

Additional sources


