

Smart Dairy Farming 3.0: multiplying innovations on the farmyard

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Abstract

SmartDairyFarming 3.0 is an initiative of three farmer-owned Dutch cooperatives: Agrifirm (feed), CRV (genetics/herdmanagement) and FrieslandCampina (dairy products). In March 2016 these organizations signed a cooperation agreement: 'Smart Dairy Farming in a Cooperative Perspective'.

One of the main reasons to launch the program was the lack of accessibility of data from individual animals. Stock management at herd level is today not accurate enough to enable optimal attention for individual animals. Sensors, index figures and decision-making models can help farmers establish the precise needs of individual cows, and make the right choices. At the same time new digital technology is being implemented on farms with high speed. Automatic milking robots, feeding systems, sensors to track movement and behaviour of the cow are examples and all are producing lots of data. In SmartDairyFarming 3.0 a digital highway for farm-generated data is being developed: The Smart Dairy Farming Datahub. To share farm data in a way where the farmer stays in control of this own data, the Datahub functions as a safe and secure electronic highway for an optimal data exchange. Data from farmers, dairy technology suppliers, research institutes and the participating companies are all combined to improve dairy farming as a whole. To be successful, it is essential to gain the trust of all parties involved but especially the farmers trust. This is why there is a strong emphasis on privacy and security of data.

To harvest from all this data we need to make smart use of these data: data collection, combining data from different farm and agri-business data sources, analysis and create valuable information to steer on. This offers dairy farmers the opportunity to work more sustainable, more efficient and make better choices in the area of health, fertility and nutrition, ultimately improving revenue and our planet.

The technology used in the Smart Dairy Farming Datahub follows a best-of-breed strategy: the datahub is using industry-standards with existing components. An important consideration is the position of the dairy farmer as the owner of 'his personal data' and an architecture that safeguards data flows. The data hub is expected to be operational at the end of 2017. Another aim set for end 2017 is inviting other stakeholders in the dairy sector to participate in the program.

In this lecture this will be further explained and some actual use cases will be presented.

Keywords: Needs of individual cows, IoT, trusted share of farm data, industry-standards