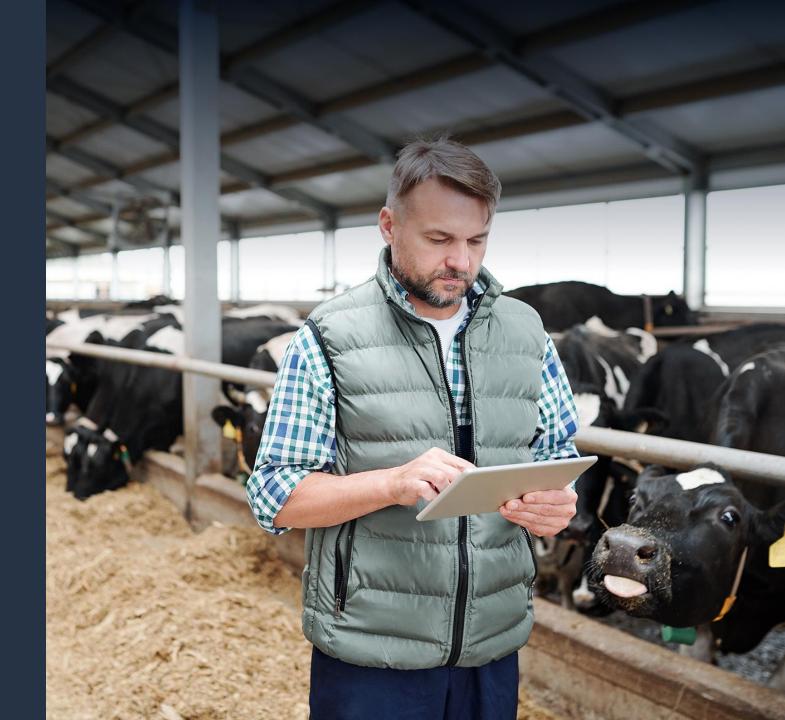


# Practical Lessons from Data Hub Implementation

Johannes Frandsen with great support from Chris Murphy

May 24 2023

Streamlining data exchange between dairy herds, milk recording organizations, farm service providers, dairy equipment manufacturers and on-farm software organizations.



## Perspective from a user



# Johannes Frandsen, SEGES, Director, Livestock:

Business responsible for Dairy Management System in Denmark for dairy farmers, advisors, veterinarians and other relevant stakeholders. Including:

- Central cattle database including the mandatory movement data to ministry
- Exchange of cattle related data with stakeholders across the dairy business
- Make the farmer happier and richer

**Manager for NCDX Aps** 

**NCDX** Aps representative in iDDEN

Member of the ICAR ADE WG

#### The Danish perspective

- We have seen the need for exchange of data for years
- We have been searching for the most cost-efficient way to make this happen
  - National
  - Nordic
  - And now international level
- We do get a lot of request from providers of on-farm systems to exchange data

## **Today's presentation**

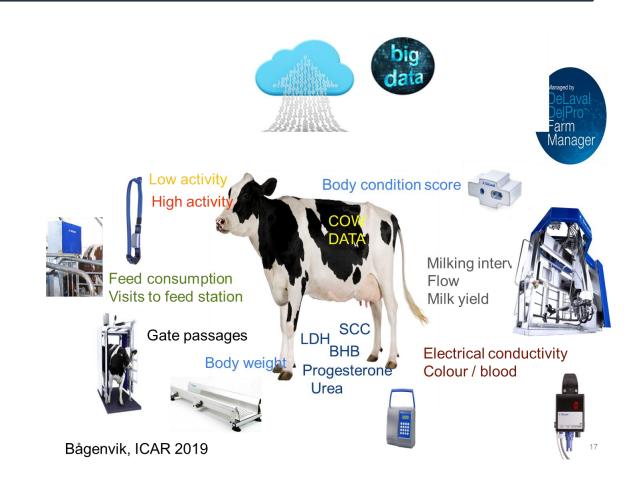


- International Dairy Data Exchange Network (iDDEN)
  - Background and rationale
- The barriers and challenges to data exchange
  - Technical
  - Regulatory
  - Organizational
- Solutions and practical lessons learned

## Rationale

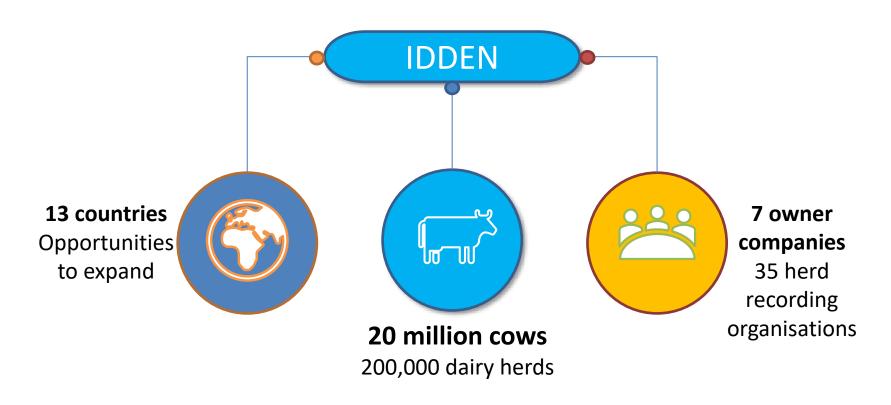


- Farms get bigger each year
- More need to replace (expensive) labor by technical equipment
- Equipment / sensors initially developed for use in humans are adapted to animals
- Availability of new data



#### **Worldwide Potential, current shareholders**





Future customers (OEM, DDO, and others) and additional shareholders will help to be one of the key players worldwide, to set a common standard for dairy cattle data and data exchange

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#### Where are we now?



- All shareholders are connected to the iDDEN system
- 31 ICAR ADE messages implemented
- Agreements with two strategic partners and two OEMs
- Good interest from DDOs and service providers

**GEA CREATES INTERFACE FOR EXCHANGE OF MILK AND** ANIMAL DATA WITH IDDEN

> GEA and the International Dairy Data Exchange Network (iDDEN) have entered into partnership. This cooperation aims to optimize data exchange between DairyNet software for GEA equipment and international organizations for animal data collection and processing.



**♠** DeLaval

Home / Media / Press releases and news / DeLaval Group making data-exchange easier for farmers

#### **DeLaval Group making data-exchange** easier for farmers

Stockholm, Sweden, 22 March 2023 - DeLaval Group is improving data handling for farmers by partnering with iDDEN (International Dairy Data Exchange).

DeLaval, one of the world's leading manufacturers of milking equipment, and its affiliates UNIFORM-Agri, an internationally specialized provider of herd management software, and Dairy Data Warehouse, the world's larges' dairy data company, have signed a strategic partnership agreement with iDDEN.

"In almost all countries, farmers are required by law to report their farm data, and sometimes even in multiple systems. That is complicated and time consuming, so through this collaboration we can offer a fast and safe system that will simplify the exchange of data for our customers. They will be able to easily exchange data to and from the DeLayal systems on their farms to local animal track-and-trace organisations and the local milk recording organisations," says Lars Bergmann, EVP Digital Services at DeLaval.

iDDEN is the largest international dairy data partnership, bringing together farmer-owned organisations and national databases across thirteen countries representing approximately 200,000 dairy herds, 20 million dairy

"The dairy industry is becoming increasingly digitalised, and most equipment is, or will be, connected. It is therefore important to have a solid system that offers a harmonised data exchange based on the International Committee for Animal Recording (ICAR) animal data exchange standard, to the benefit of farmers around the world," says Dr Reinhard Reents, Managing Director of iDDEN GmbH.

For DeLaval, it is important to make the data handling easy for the customer, "At DeLaval, we strongly believe in

#### Implemented Messages:

The iDDEN Hub uses ADE messages for communication with external partners. Following is a list of all implemented messages so far. The list will be growing over time whenever new requirements are identified and defined in ADE

Number	Event	Comments
1	Milking	Individual milking events
2	Milking complex	Milking events supplemented by sensor data
3	Milking by quarter	Teat coordinates, milk weights & time by quarter
4	Herd list	Animals in the herd
5	Feed Intake	Feed consumption on the farm
6	Feedstuffs	Feedstuffs available at the farm
7	Available Identities	Free animal identities / tags for use for new-born calves
8	Body Condition	Animal body condition score
9	Milk recording result	Milk analysis and 24-hour yield
10	Birth	I&R births
11	Stillbirth	I&R stillbirths
12	On movement	I&R entering stock
13	Off movement	I&R exiting stock
14	Death	I&R deaths

Assortment Media

ial insemination/ embryo transplant event unning with a bull event ot to calve again f event incy diagnosis event m abortion event a arout difficulties etc

ig event, difficulties etc.	
m device information	
bservation event	
it of an animal	
ı – Diagnoses	
ı – Treatments	
ı – Treatment programs	
gement – Animal Sets (Groups of Animals)	
gement – Animal joins Group	
gement – Animal leaves Group	

# Data Exchange on line – the goal



Animal data
Kg Milk
Fat & Protein
SCC
Flowdata
Sensor data
Kg feedstuff

Data exchange partners

Milking Equipment

Sensor data, activity data



Animal data
Activity
Ruminating
Movement
Standing/laying time
Health data

Milk analysis Feed analysis Genomic analysis Lab

- Milk
- · Feed stuff
- · Genomic selection

Feeding registration, feed stuffs



Feed rations
Kg loaded per feedstuff
Kg unloaded peer group
NIR

## **Technical**



#### **Barriers and challenges**

- OEMs and other companies operating across different countries, languages, and data providers
- Different data definitions
- Lack of people or resources allocated to integration

## **Technical**



#### Solutions and practical lessons learned

- Standardize as much as possible
  - ICAR ADE data definitions
  - Open Standards
- Critical size to influence or set standards
- High level of tech support
  - Info pack for new users
  - Biweekly coordination meetings during integration
  - Tech discussions via Slack
- Tools

- Translation Tool to support OEMs for different markets
- Admin Tool to monitor the day-to-day operation of your data exchange
- Professional service partner
  - Mtech (Finland), an experienced agricultural software service provider
- Sufficient size to finance the necessary infrastructure

# **Legal / Regulatory**



#### **Barriers and challenges**

- Confusion about data use regulations
- Translating and understanding legal jargon
- Disconnect between technical teams, senior management, and lawyers
- Concerns about data being stored
- Concerns about data access

## **Legal / Regulatory**



#### Solutions and practical lessons learned

- No data storage within iDDEN
  - Only temporary to deal with technical interruptions
  - Log files to help customers monitor their data exchange
- Authentication approaches
  - Farmers retain control of their data they must authorize access
- Use of standardized, simple data use agreements
- An international approach most OEMs are global or operate across many countries

## **Organisational**



#### **Barriers and challenges**

- Companies that:
  - Have no data management strategy
  - Are unclear on the value of data sharing
  - Want to 'control' data (even from other sources)
- Data exchange is seen as a "technical function" instead of a business priority
- Disconnect between technical teams and senior management ("decision makers")
- Limited budgets allocated to data

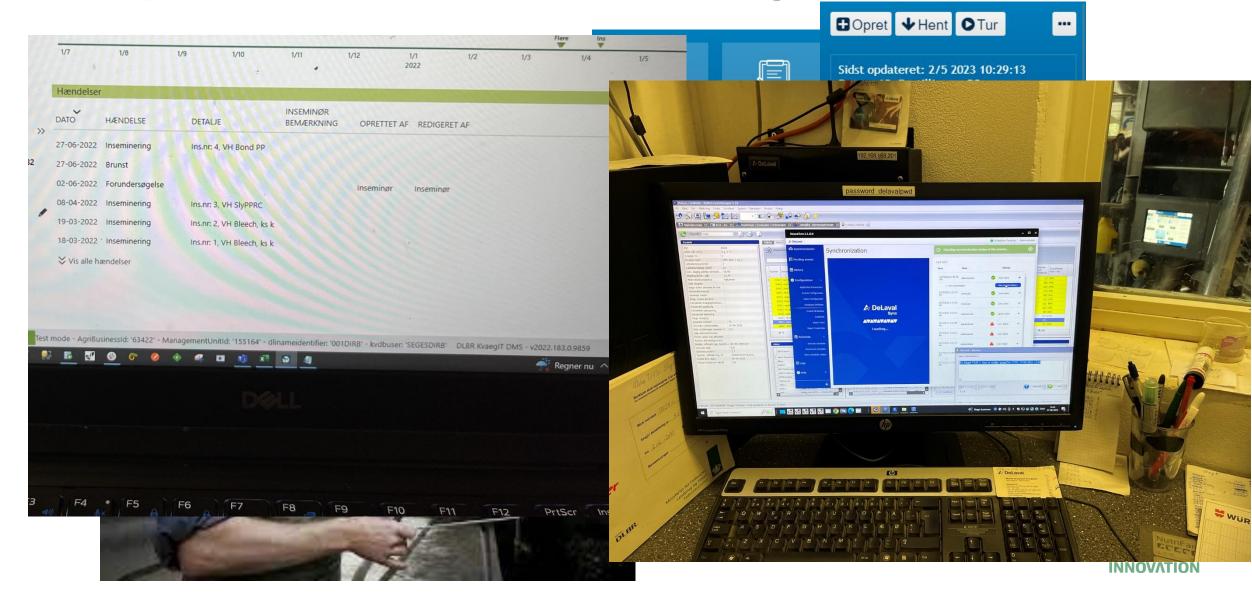
## **Organisational**



#### Solutions and practical lessons learned

- Communication
- Communication
- Communication
- Simplifying data exchange processes
- Ownership and governance by a consortium of farmer-controlled member organisations from around the world
- Advisory Committee comprising iDDEN shareholders and strategic partners

## World premiere of the iDDEN data exchange ©



## **Summary**



- Farmers want their service organizations to help them make better use of data
- Benefits to data exchange are clear but not all companies have seen the value (yet)
- Overcoming any technical barriers is relatively easy
- Legal barriers are overcome by only exchanging (not storing data), authentication, and standard

- agreements
- Organizational barriers are addressed by frequent communication, simplifying data exchange, and building trust
- It works!



#### **THANK YOU**

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