iDDEN: An international perspective

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Dairy cattle

- Farms get bigger each year
- More need to replace (expensive) labor by technical equipment
  - Automatic milking > 50% in all new installations in Germany
- Equipment / sensors initially developed for use in humans are adapted to animals
Not only in small family farms, 56 stalls AMS in one of the largest herds in Germany → valuable data generated every minute
Teat placement data

- 20,000 cows in 70 herds in NLD, study of CRV
- Data:
  - Teat length
  - Teat placement
  - Udder depth
- Many observations within and also from later lactations
- Results:
  - $h^2_{AMS} > h^2_{class}$
  - $r_g$ AMS : Class ~ > 0
Availability of this data?

- Big OEMs can do most things inside of their systems
Motivation for iDDEN

- Digitalization on farms in many places in the world
- Many national initiatives of hubs for data exchange failed
- For all parties involved: the use of standardised interfaces and standardized data transfer mechanism will significantly reduce current costs
- Major OEMs work global

- iDDEN: Joint effort to build a network that enables efficient data exchange respecting data security and data access and data usage policies
A data exchange/interface service between global dairy equipment manufacturers and farm service providers located around the world

Schematic of data flow between on-farm data and other (central) data

DATA INTEGRATOR
Main Function:
• Manages data usage rights for the farmer
• Needs to handle all national specific needs

Data Transfer Mechanism Hub

Cloud-based cow/data providers

SERVICE PROVIDERS
• DHI
• Breeding
• Management, etc.

Farm/Animals
## Current owners/shareholders

<table>
<thead>
<tr>
<th>Shareholder</th>
<th>Designated Area Responsibilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>CRV</td>
<td>The Netherlands &amp; Belgium</td>
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<tr>
<td>Data Gene</td>
<td>Australia</td>
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<tr>
<td>Lactanet</td>
<td>Canada</td>
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<tr>
<td>NDHIA</td>
<td>USA</td>
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<tr>
<td>NCDX ApS</td>
<td>Den, Ice, Fin, Nor, Swe</td>
</tr>
<tr>
<td>RDV</td>
<td>Austria, Germany</td>
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<tr>
<td>vit</td>
<td>Germany, Luxemburg</td>
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</tbody>
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- iDDEN has been created as a GmbH (limited liability company) under German law on May 6, 2020, acting Managing Director → Reinhard Reents
Worldwide Potential

IDDEN

13 countries
Opportunities to expand

20 million cows
200,000 dairy herds

7 owner companies
36 herd recording organisations
Criteria for participants

**Owners / Shareholders**
- dairy farmer-controlled organization
- national scope with at least one (1) million dairy cows

**Customers**
- Can be a dairy farmer-controlled organization
- an equipment manufacturer
- another entity that wants to exchange dairy cattle data

**Strategic Partners**
- Must be an original equipment manufacturer (OEM) with significant market share
- Have significant input to technical implementation
- Currently frequent meetings with three OEMS
  - Work on the agreements and in parallel
  - Technical work
Technical implementation

• Purchase of the NCDX solution from the NCDX group that is operational in the Scandinavian countries
• Expansion of the current solution to handle also cloud based repositories of data
• Contract between iDDEN GmbH and Mtech (Finland) to house, expand and maintain the iDDEN system
• Implementation of the ICAR ADE Guidelines and standards
Rights Management

- Have an Agreement for Usage of data
  - Farm, MRO and OEM are willing to share data
  - Farm grants usage of sending data from OEMs (iDDEN-ID) to MROs (iDDEN-ID)
  - Farm grants usage of sending data from MROs (iDDEN-ID) to OEMs (iDDEN-ID)

- The delivering partner has to check in his local mandate system if the requesting partner is allowed to access the requested data

- The implementation of this mandate system is up to every partner, as we think every partner has already some sort of system running.
• 7 partners have invested in a joint effort to enable better use of dairy cattle related data

• A sound technical solution is complex and requires a professional service partner → Mtech, Finland

• Interest of the large OEMs because iDDEN can solve their problem with numerous costly national interfaces

• Interest from other MROs and Farm Service Partners, eg
  – Feed advice
  – Health monitoring and advice
  – Etc.

Trust in iDDEN because herd owners and managers are in the lead
iDDEN

Thanks for the attention

Reinhard Reents
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