iDDEN – implementing ADE

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

• iDDEN as worldwide solution for data exchange
• Design goals of iDDEN
  – Using ADE messages
• Architecture overview of iDDEN
• State of iDDEN
  – Implemented ADE messages
• Using ADE Standard within iDDEN
  – Collaboration with ADE work group
• Summary
• How to get started
Who is iDDEN?

• Owned and governed by a consortium of farmer-controlled member organizations sharing a joint vision
• Each represents a geographical area and/or more that 1 million milk recorded cows
• Represents 20 million cows in 200,000 herds
• Established as a German limited liability company (GmbH) in 2020
• Funding and longevity to enhance, modify and update the data exchange hub as needed

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<th>Shareholder</th>
<th>Designated Area Responsibility</th>
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<td>CRV</td>
<td>The Netherlands &amp; Belgium</td>
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<td>DataGene</td>
<td>Australia</td>
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<td>Lactanet</td>
<td>Canada</td>
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<td>NDHIA</td>
<td>United States</td>
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<td>NCDX ApS</td>
<td>Denmark, Finland, Iceland, Norway &amp; Sweden</td>
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<td>vit</td>
<td>Germany &amp; Luxemburg</td>
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Scope of iDDEN

• **Data exchange system** for on-farm data and cloud-based data repositories
• iDDEN solves the problem of numerous costly interfaces
• Provides a technical solution and a critical size to set standards for:
  – Data definitions (with ICAR **ADE** Group) – new standards added as developed
  – Data transfer mechanisms
  – Data exchange protocols to reduce implementation work with different partners
• Secure data exchange via up-to-date authentication systems
• Farmers retain control of their data – they must authorize access
• Partners agree which data they want to exchange and under which conditions
• No data storage within iDDEN (only temporary to manage technical interruptions)
• Provides tools to monitor day-to-day operation of data exchange
Design Goals

• Reuse as much as possible
  – Authentication / Authorization
  – NCDX Infrastructure

• Standardize as much as possible
  – ADE Messages
  – Open Standards

• Integrate only once
  – Implementation against the iDDEN Hub
  – Make national specialties possible
iDDEN Architecture

- FMS (active)
  - client

- HUB
  - no data storage
  - forwarding / transforming

- Cloud (passive)
  - server

- Data Integrator
  - server
  - client

- passive / active
State of iDDEN

• 2 Partners using iDDEN in Production
  – Started in June 2022
  – More to follow in 2023

• 12 Partners active in Development
  – Ramp up with more parallel development
  – Contact to more DDOs and OEMs to plan participation

• 31 Use cases or ADE messages implemented
  – More are defined/implemented when needed
Using the ADE Standard

• iDDEN works with ICAR ADE-WG on Standard

• Most ADE messages already implemented in the HUB
  – Messages needed and already defined can be implemented quickly

• Find useful enhancements to standard needed in more markets
  – Take this back to ADE working group, if enhancing of messages is needed or new messages need to be defined

• Prevent special implementations
Summary

• Working with ICAR ADE-WG
  – Good discussions on technical and business topics
  – Evolve the standard for the future

• Using ADE as standard in iDDEN
  – Make it easier to convince OEMs to participate
  – National interfaces were wildly used before
How to get started

• Contact the Technical Group of iDDEN
  – Thomas.Pekeler@vit.de

• Find iDDEN documentation and API definitions
  – https://integration.idden.net/

• Visit ICAR ADE working group on GitHub
  – https://github.com/adewg/ICAR/
THANK YOU

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