New Interface to exchange data on the farm

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Presentation Outline

Context of this project
Requirements and expectations
History of this project
Principles
Versions 1 and 2
Deployment in France
Challenges for this interface
Context of this project

- Increase robotic farm participation
- Increase large herd participation
- New sensors, new data......
- Software on the farm not used (maybe 20 % of the capacity)
- Need to interpret and add value to the data
- Less time to manage the farm

- More communication between all systems
Requirements and expectations

For the Farmer

- **Communication**: exchange data using web interface
- **Time**: reduce the time to update every system
- **Quality**: Update the system from the national data center
- **Efficiency**: Collect the data for milk performance testing with the tools and sensors on the farm

For the supplier

- Use the standard interface (no special development)
- Receive milk components
- Update the system from data center, inventory, right number...
- The data can be used to provide advisory services
History of this project

2009

- Reflexion on exchanging data with automated systems
- Meeting with suppliers, and breeding organisations
- Visit to Quebec, meeting with Valacta
  - Agreement with ALL the suppliers
  - Agreement with Valacta to use Trans-D
  - Ori-Automate has started, is only under control of France Conseil Elevage, no other French breeding organization

2010

- Development version 1

2011/2012

- Development version 2 (Under construction)
Principle

Trans-D software from Valacta

Manufacturer Equipment (MilkMeter/Robot)

Export Data

Import Data

Interface Ori-Automate

DATABASE CENTER

Import Data

Export Data
Interface Specifications

- 2 modules: for import and export
- Format XML (standardization of the data)
- Uses specific tools for each manufacturer
- 2 modes to use
  - Manual by user
  - Automatic
- Define the data type exchanged
- Security with individual key activation
V1 and V2

**Farmer’s Computer**

- V2
  - Sensor Data: Milking/Feed Activity/Weight
  - Milk Meter Monitoring
- V1
  - Milk Yield Event Dates

**Manufacturers’ Software**

- V1
  - Inventory Event Dates Fat, Prot., SCC
- V2
  - Feed Ration Extra Data: Events/Milk Yield

**Converter** ORI-AUTOMATE

**FTP Web Service**

**Data Center**

Sensor Data: 
- Milking/Feed
- Activity/Weight
- Milk Meter Monitoring

Milk Yield Event Dates

Inventory Event Dates Fat, Prot., SCC

Feed Ration Extra Data: Events/Milk Yield

Information
Agreement with each manufacturer to have bidirectional exchange

Manufacturer’s side

Manufacturer: Lely/DeLaval/Gea/Boumatic

Manufacturer: Fullwood/Medria/HeatBox/Creavia/Afikim
The screens
Configuration Screen

- **Display**
  - Language: English
  - Number: FR 01025317

- **Herd**
  - Milking parlour: Westfalia Surge / DAIRYPLAN - 5.2 / DPDATAEXCHANGE

- **Automated system**
  - Event selection:
    - Since
    - Since last extraction

- **Export**
- **Import**
- **Feed ration**

- **Information**
  - Events:
    - Milking
    - Calving
    - Insemination
    - Heat
    - Pregnancy check
    - Dry off
    - Activity
    - Body weight
    - Feed ration

- **Directory**
  - In batch mode: C:\proItem\OnAuthor
  - Interactive mode: C:\proItem\OnAuthor

- **Setup for the automat**
  - Program: C:\dairypln\dpdataex
  - Directory
  - Parameter: -A
  - Timeout (min): 10
  - **Entrance**
    - Parameter
    - File: dpdataexchange_in.ads
  - **Exit**
    - Parameter
    - File: dpdataexchange_out.ads

- **Buttons**
  - Validate
  - Close
The configuration

Import

Automate

Export

Silos
Deployment in France

For V1, XML format

<table>
<thead>
<tr>
<th>Data Center</th>
<th>Import</th>
<th>Export</th>
</tr>
</thead>
<tbody>
<tr>
<td>Douai</td>
<td>Setup and Operation</td>
<td>In construction</td>
</tr>
<tr>
<td>Zone Siel</td>
<td>Setup and Operation</td>
<td>OK</td>
</tr>
<tr>
<td>Bretagne</td>
<td>Setup and Operation</td>
<td>In construction</td>
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<tr>
<td>Osmose</td>
<td>Setup and Operation</td>
<td>In construction</td>
</tr>
<tr>
<td>Nancy</td>
<td>Setup and Operation</td>
<td>In construction</td>
</tr>
</tbody>
</table>

For V2, all development for V1 works within version 2 (compatible)
Challenges for this interface

Farmer interest (demonstrate benefit)
Updates to the system
Additional data to exchange, health....
Integrating all new manufacturers
Thanks for your attention