Animal data exchange

Achievement, problems and proposal

For consideration by the Board of ICAR

ADE current status

Pilot implementation of Animal Data Exchange (ADE) takes more time than expected.

Specifications are available, pilot milk recording organizations (MRO) have invested or are about to invest.

With the exception of one, manufacturers seems to be reluctant.

Background.

The ISO standards for data exchange between farm equipment and computers designed by ISO in the mid of the nineties and updated 10 years ago are ageing and no more maintained.

However, data exchange with equipment has been existing for many years. Almost all the equipment are delivering data using specific protocols and formats specific which require adaptations for each country.

Due to a lack of standards and in order to get data according a unique format, MRO are using several software to transform the data provided by the equipment. Some of those are edited by MRO (TRANSDEV, ORIAUTOMATE…), others by third parties (DairyComp…).

Problem statement

That results in several problems:

- Each manufacturer has to pay to adapt its software to different MRO
- Each MRO or group of MRO has to pay to get uniform data
- Manual operations are required to exchange data
- The range of exchanged data is limited because of the costs of specification, implementation and operation
- Real time is difficult or impossible.
- Evolutions are complex, costly and slow
- Data may be degraded by the software during conversion

ADE goals and objectives

The goal of ADE is to provide solutions to the above problems:

- Getting rid of manual operations to allow automatic exchanges
- Real time data exchange when it is required
- Data exchange in both way: from the equipment to MRO and from MRO to equipment
- Facilitating the evolutions by annual versions
- Reducing the cost of specification, implementation and maintenance for manufacturers and MRO

- Making exchange more reliable by establishing direct communications between the equipment and the MRO as long as an appropriate network is available.

In order to achieve those goals the objectives of ADE are to deliver and maintain a system consisting of:

- Internet standards for communication (https), transport (tcp) and exchange security.
- A comprehensive data dictionary providing the definitions and the codifications of the elementary data elements which are the bricks of the exchanged messages.
- A unique message architecture.
- Standardized roles: the equipment is the client and the MRO the server.
- A unique syntax based on XML standard.
- A unique messaging system based on SOAP standard.
- Unique interfaces based on WSDL standards.

ADE Stake holders and benefit

The main stakeholders in order of importance of the expected benefits from ADE are:

1. **Farmer**:
   - Reduction of administrative burden by a unique data entry
   - Better indicators for herd management by the combination of data equipment with other sources
   - Indirect benefits from an improved operation of the equipment, improved MRO and advisor services as well as better genetic material from breeding company
2. **Breeding company,** improved genetic material by selection based on new or more relevant traits.
3. **MRO,** improved services by:
   - Better data availability,
   - Better indicators for farm management,
4. **Advisor,** improved services by facilitating access to data
5. **Research and development in animal production**.
6. **Manufacturer**:
   - Reducing the costs for several systems for different MRO.
   - External data should improve and facilitate the operation of the equipment (calibration from certified milk analysis, animal events for a more efficient cow monitoring…)

Working group analysis

Standardization is always a long process.

A first set of ADE specifications has been delivered to transmit milking results and to feed the equipment with basic animal data.

Although ADE specifications are technically sound and in accordance with the state of art they needed to be tested against real situations by pilot implementation.

Although the ADE long term goal is relevant, the short term objectives are too narrow for a reasonable return on investment.

The stakeholders, and mainly those the expected benefits are the lowest not do not have enough incentives to invest because of a lack of:

- A clear and realistic ICAR strategy
- A critical mass of ADE users
- A market signal from farmers for equipment implementing ADE standards

The delay to deliver ADE specifications is not time bounded and too long due to the limits of the good willingness of free contributions from the working group members.

Proposal of an action plan

The action plan would address the above concerns focusing on three main lines:

A1. Proving the technical feasibility: completing with the pilot tests.

A2. Defining a strategy:

- By the end of January the working group prepares an outline of the future system which should be precise, attainable, time bounded and based on a realistic business model.
- Endorsement of the proposal by the board of ICAR with a commitment on date, and resources.

A4. Getting a critical mass of users and clear market signal by leading the creation of a consortium encompassing the leading MRO and manufacturers, based on an agreement to:

- To invest and use totally or partly ADE within a specified delay
- To increase farmer awareness to the benefit of ADE.

On the behalf of the ADE coordination group

Erik Rehben

January 2015

Animal data exchange - Test platform

Review December 2014

For consideration by the board of ICAR

Background

1. The test plat form was proposed by the coordination group for the pilot phase to help manufacturers and the recording organizations :
   - to get a clear understanding of the behavior of the web services by using demonstration requests
   - to qualify their software by submitting their own requests to the web service hosted by the platform

2. The platform is operated by an operator which has contracted with ICAR in order:
   - To host two web services
   - To provides the users with the current version of web service

3. In September 2013, the terms of reference for a call for the tender were approved by the coordination group.

4. In November 2013, the coordination group proposed to the board to contract with a French company A4IS.

5. In January 2014, the contract was passed between ICAR and A4IS for a total amount of 5 600 € for the duration of the pilot phase.

6. In March 2014, the test platform was available.

7. In May 2014 changes were brought to be in compliance with UNCEFACT standard.

8. In July 2014, the new version was available.

9. From September until now the test platform was used by two manufacturers out of 3.

Recommendations from the working group

Due to the delay for implementing the pilot tests, the test platform was not yet used as much as expected.

The opinion of the working group is that:

- In future a test platform will remain necessary to facilitate the implementation of the standard.
- The test platform is still relevant for pilot implementations which should be completed.
- The service provided by A4IS is in compliance with their terms of reference.

On the behalf of the ADE coordination group

Erik Rehben, January 2015