RFID in Live Stock Cattle Management

WHITE PAPER

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The health and general well being of animals is always a concern for the livestock industry. In a commercial setting the ability to **monitor and correct problems associated with animal health** is sometimes limited to available resources. In livestock, feed inputs represent a **high percentage of annual costs**. Therefore, it is very valuable to identify and potentially select animals with lower nutritional requirements because of the **impact on profitability**.

**RFID technology** create the first fully effective animal tracking program that meets the growing needs of the industry and far surpasses government goals for animal traceability. The application of RFID in livestock identification has led to demands for small RFID tags that can be attached to or in animal ears. Animals such as cattle and sheep are tagged for purposes such as disease control, breeding management and also stock management. Keeping **track of medications, treatments, illness, feed, weight gain, location, origin**, and hundreds of other pieces of information allow the **operation the ability to make faster, more accurate decisions about each animal** based on factual histories. It allows **livestock to be processed individually or in groups quickly and effectively eliminating stress to the animal** caused by over-handling.

**Issues faced by Live Stock Cattle Management**

- Intensive epidemiological investigation of farm animals and wildlife.
- Animals transported great distance.
- Large number of movements (auction markets, video markets, private treaty etc).
- Interstate movements.
- Lack of unique identification.
- For herds with several hundred or a thousand cows, is a time consuming task.
- Maintaining the records of monthly herd test for sending the reports (cow reports, herd reports) to dairy is difficult.
- Food safety issues due to potential migration and recovery of the implant.
- It is hard to identify and potentially select animals with lower nutritional requirements.
- Difficult to collect data on animal consumption and feeding behavior.
- Reduction of product recalls and improves effectiveness of product recall management.
- Tedious job to prevent theft control.

Malaysia begins RFID-enabled livestock tracking program

Malaysia has become the first Asian nation to introduce a government-run livestock tracking program based on RFID technology. In the first phase of the program 80,000 head of cattle across the country will receive RFID ear tags.

--RFID news, April 6, 2009
Riding Herd: RFID Tracks Livestock

From the United States to Europe, Australia and New Zealand, governments are encouraging—some even mandating—the use of RFID to track livestock, so animals can be identified quickly in the event of a food recall or disease outbreak. But even without mandates, some farmers are adopting the technology because it delivers internal business benefits.

-- RFID Journal, Oct. 5, 2009
How the Technology Works

Attaching RFID tag:

Focusing on the livestock industry, there are four main ways in which RFID can be used for animal identification:

- Attaching a transponder to the collar
- Attaching a transponder in a tag form to the animals ear (similar placement to current ear tagging however utilized vastly differently)
- Injecting tiny glass transponders under the animal’s skin or via a ‘bolus’ where the RFID transponder is mounted within an acid resistant,
- Cylindrical housing which is inserted permanently within the animals stomach.

The animal would be tagged with an RFID device which could be detected by the stationary or mobile readers placed throughout the farm, on trucks or in the slaughterhouse—in short. Livestock can be identified and recorded without physically restraining the animals or sighting tags, day or night.

Mounting RFID Readers:

Readers are strategically disposed at key control points throughout the chain, to ensure maximal value is delivered in a cost effective manner. Data collection is automated with the RFID remote race Antenna/Reader. These Antenna/Readers can read animals of varying heights moving at various speeds, with either Rumen Pellets or Ear Tags. The device provides the interface between the animal and the reader. As tagged animals move through the race they are identified by an antenna/reader that is bolted to the race. Recording of animal identification numbers is accurate, reliable and is not affected by dust, dirt, mud or poor weather.

The race antenna/reader is transportable, making it easily moved from the race to other recording locations such as loading ramps and plunge dips. RFID also provides hand-held portable models which produce the max read distance from the operators hand.
When the cow is loaded on to a truck, its tag is detected by a reader which immediately transmits and adds information about the cow to the animal register on a central database. Any authorized stakeholder from the farm manager, to inspectors, prospective buyers or meat producers, could access or contribute to this information from the convenience of their own computer, wherever they are located. Veterinarians equipped with mobile readers could access an animal’s full case history from the field, farmers could ensure that the right animal is being transported; health authorities could verify that the cow has passed inspections, and retailers and consumers could be assured of meat quality and origin. Thus, using these RFID cattle ear tags, potentially diseased cattle can be located rapidly when disease outbreak.

**Cattle Insurance Using RFID:**

- Usage of RFID tags for unique identification of cattle and for fraud prevention.
- On the spot cover issued in real time, which means the farmers gets cover on his cattle the very minute he pays the premium. Conventional Cattle Insurance products take 15 days to issue cover.
- Fast-track settlement of claims in 72 hours. While usually for such products the settlement time is around 40 to 60 days making the small and marginal farmers extremely vulnerable during such long duration.
- Each policy cover comes with guaranteed access to basic preventive healthcare measures in the form of deworming and vaccination required for the period of a year.
- Less premium rate is charged because the transaction costs are kept in check, and through the integration of RFID technology platform, information is passed seamlessly with no paperwork and human intervention end-to-end.
Benefits of RFID in Live Stock Cattle Management

- Automatic capture of identification data with long range and high throughput capability.
- Easier management of flock information- the reduction in the need for paperwork and manual input.
- Electronic identification eliminates never-ending paperwork and allows farmers to have accurate livestock data on hand.
- Allows for speedy information and statistics retrieval.
- Allows for individual sheep management.
- Accurate traceability for animal disease management.
- Significant cost savings within the wool pipeline.
- Ability to scan the RFID tags to utilize artificial insemination data, fleece weights, pregnancy testing, and fiber testing and tracking of every sheep on a farm.
- Reduces human error associated with manual recording of ID’s.
- Electronic identification reduces labor required for record keeping and improves accuracy of records.
What IAITO can Provide

Why you should select IAITO Infotech as your partner

1. Understanding the requirement with end customer/partner.
2. Visiting the end customer/partner site and studying the system & IT setup.

1. Defining the software and hardware requirement study (SRS & HRS).
2. Integration of hardware and software in lab environment.

1. Customer site deployment of the hardware & software.
2. Testing the System.
3. Commissioning the system.

1. Justifying the business value of RFID in Live Stock Cattle Management System.
2. Calculating the ROI (Return on Investment)

1. Fully fledged training conducted by IAITO people to Site operation person.
2. Training will be conducted to the management & Admin.
3. AMC & Warranty Support.

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1. Defining the business value of RFID in Live Stock Cattle Management System.
2. Calculating the ROI (Return on Investment)

1. We understand the RFID Technology, Solution and have knowledge of the Industry with the top Notch IIT Kanpur R&D engineers who are having more than 5+ years experience in the same domain.
2. Our understanding about the RFID Business Values & ROI Realization is with 15+ years experience business people in team.
3. We provide High Quality Product & Testing process (ISO 9001: 2008 Certified Company).
4. We Have High Techno Commercial viability – ROI.
5. Indigenous Setup (Design, Developed & Tested in world class RFID lab of IIT Kanpur).
6. We have Local Support & Strong Partner Network Framework to ensure better support.
Conclusion

The ability to identify animals becomes more and more precise. The technology is relatively new compared to traditional ID methods like branding, but RFID is common in the cattle industry. RFID technology will continue to evolve with advances to existing technology and the entry of new competition in the marketplace. Because of the growing use of electronic animal identification, livestock markets need to be prepared for changes in the industry. As the owner or manager of a livestock market, it is important to stay up-to-date on what is occurring in the industry for strategic management of the business. Using RFID technology, livestock identification and tracking services is one potential way an auction market might enhance services to customers.

About IAITO INFOTECH PVT LTD (ISO 9001:2008 certified) an incubate company of IIT Kanpur provides state of the art integrated traceability, identification and authentication solution. It provides software as well as integrated turnkey solution of both(hardware, software & services) in various technologies like RFID, NFC, GPS, Mobile technologies etc.

With the knowledge of experienced professional, we are able to help you to deploy right combination of technology that will maximize your ROI right from start and ensure its expandability as the application grow through the evolution of the technology.

With our R & D experienced team, we have developed different integrated solutions for various industries and carry one of the most comprehensive product/solutions.

IAITO’s turnkey solutions model covers industries like Aviation, Manufacturing, Transportation, Retail, Government, Renewable Energy, BFSI and Mining.

For more Information kindly visit our website http://www.iaito.co.in/

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