

# **Implementation of e-traceability in ASEAN**

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**tool for monitoring  
cross-border disease transmission**

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# AAITS

- Asean Animal Identification and Traceability System
- Proposed by Malaysia in the 18<sup>th</sup> ASEAN Sectorial Working Group on Livestock (ASWGL), 2010
- Consumers in the world have become increasingly concerned with the precise origins of meat products and food of animal origin due to repeated food scares caused by diseases such as BSE, HPAI and FMD.
  - The spread of disease is a result of movement of infected animals to “clean” herds

# AAITS – identify & trace

- to have a system that can **identify**
  - individual animals or
  - groups or
  - products,
  - the premises where they are located, and the date of entry to those premises
- to have a system that can **trace...**
  - The origin
  - Date and location of event
  - To trace one step before and one step after

# AAITS – what it is NOT

- Remote sensing



Image from [www.niras.com](http://www.niras.com)

- Telemetry



Images from [www.bluskytelemetry.co.uk](http://www.bluskytelemetry.co.uk)



Image from [www.fs.fed.us](http://www.fs.fed.us)

# AAITS – main reason for e-Traceability

- Most traceability and trade data are still paper-based
  - this will be a nightmare if the need arises to search and trace a disease outbreak
- In order to achieve optimal success in controlling or eradicating an animal health threat, the ability to **retrieve** that information within a short period is critical in determining what other animals were exposed and estimating the size and scope of the outbreak. The more **quickly** this can be done, the less the disease will spread, and the less impact the outbreak will have.

What Malaysia had tried ...

**SOME IDEAS**

# Stages of implementation

- Development of online, web-based database
- Adoption of Radio Frequency Identification (RFID)
- Requirements for tagging
  - Impose requirement to tag cattle in cross-boundary movements (Veterinary Health Certificate is issued only if animal is tagged)
  - Cattle are tagged during vaccination programmes
  - Mandatory RFID tagging required for imported cattle, buffaloes, sheep, goat
- Identification & registration of premises (farms, processing plants, feed mills) and transportation vehicles (trucks, lorries) related with livestock movements

# RFID started with Cattle Imports

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Monday, April 13, 2009

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## Malaysia begins RFID-enabled livestock tracking program

Monday, April 6, 2009 in News

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.

The program, which is funded by the Veterinary Department of Malaysia's Ministry of Agriculture and Agro-based industries, was instituted to control disease outbreaks among livestock, helping to identify the source of the outbreak and any animals which had been exposed to that source. Each tag will contain an identification code that provides access to data including the bearer's location, sex, name of breeder, origin of the livestock and dates of movement.

Government officials hope the tracking system will increase the competitiveness of Malaysia's livestock industry by helping it meet the import regulations of the United States and countries in Europe and the Middle East. The program will also help producers meet the dietary standards of the halal market.

If the initial phase of the program is successful, it will be expanded beyond cattle to include the tracking of other livestock animals such as goats. ■■



# Basic architecture



**Unique Identification number**

Linked to

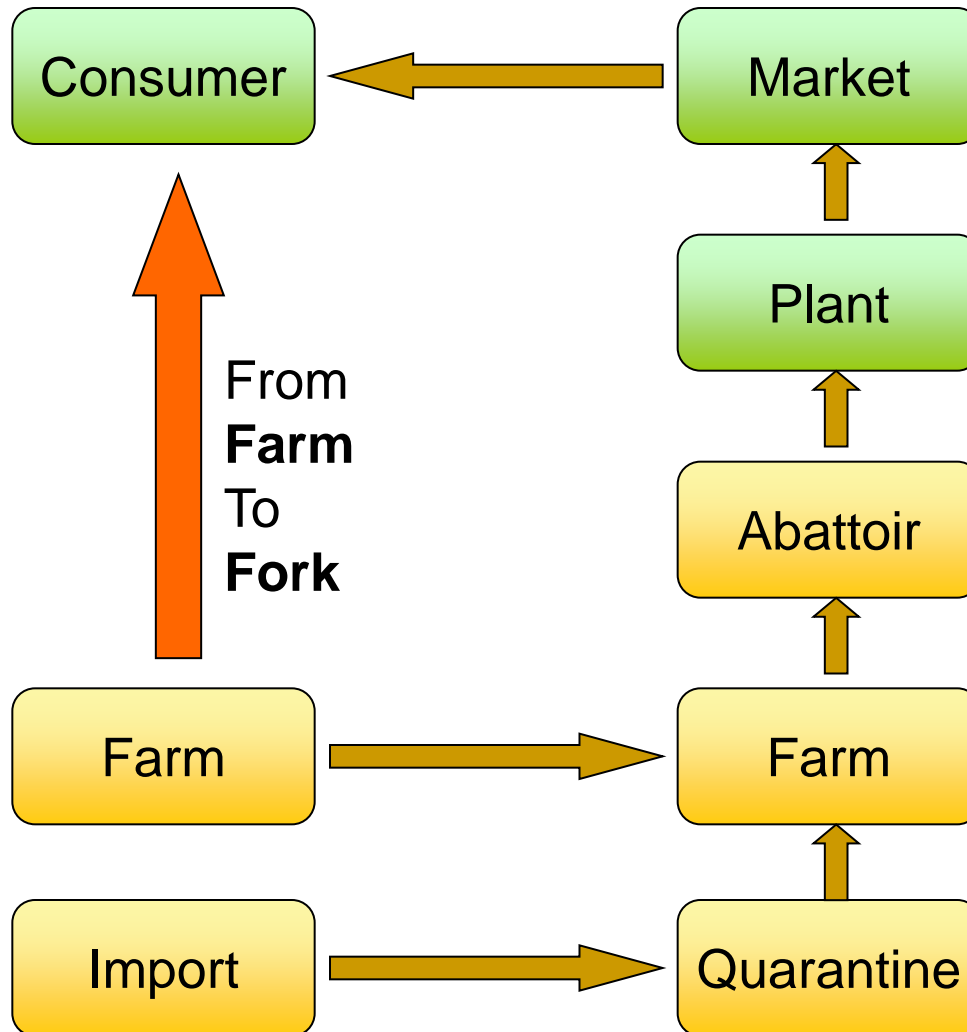
**Database**

- Animal ID
- Birth date
- Premise & GPS
- Farmer profile
- Health records
- Vaccination records
- Feed records
- Breed records
- Movement records
- Slaughter
- etc



**Modular structure –**  
future modules added based on needs and readiness

# Traceability flow



Data –

- Processing plant
- Halal
- Source
- Date

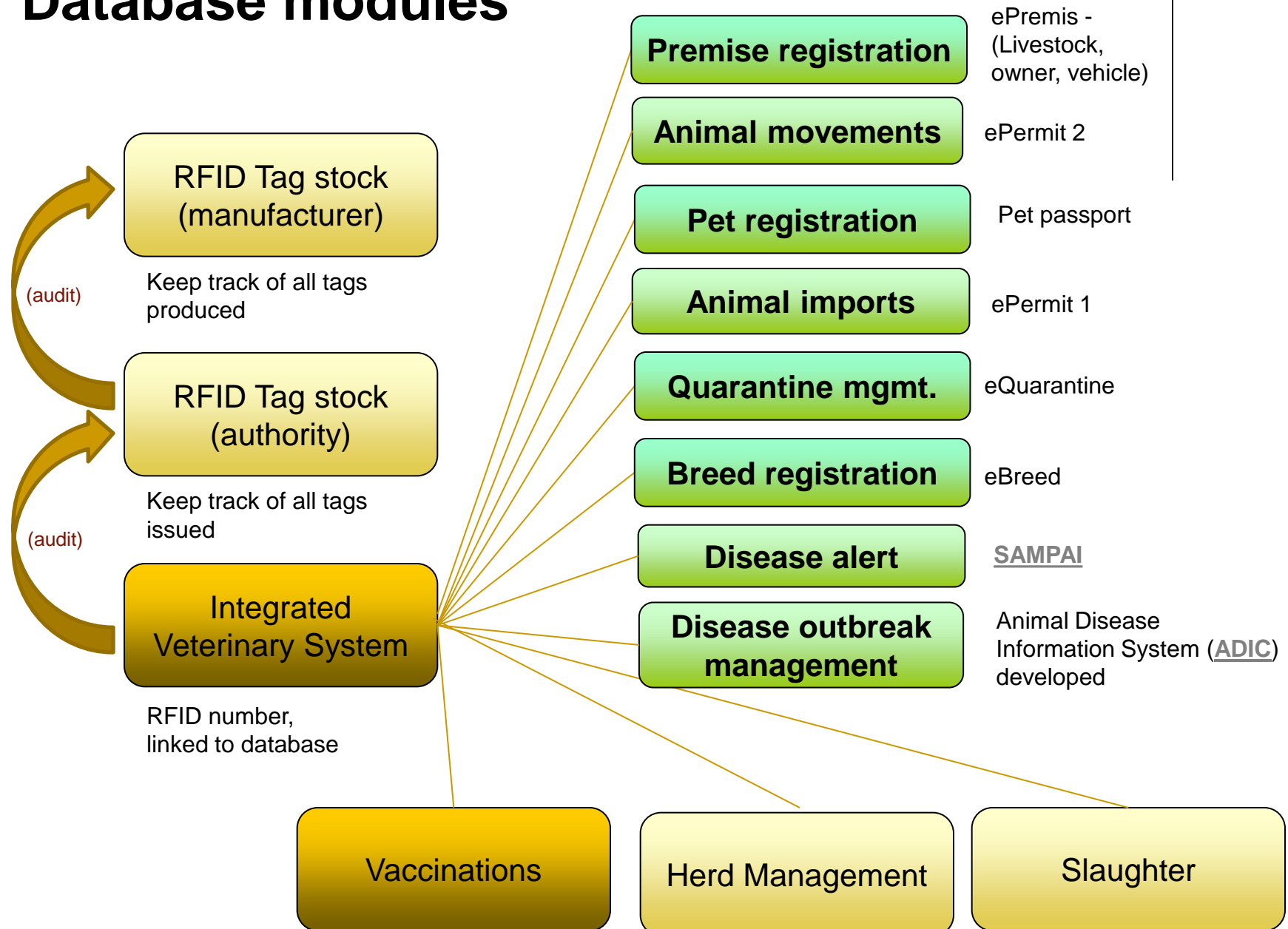
**BarCode**

Data –

- Source
- Livestock
- Health status
- Feed
- Biologics
- Transport

**RFID**

# Database modules



# Key points

- **Animal needs to be identified with a unique ID**
  - No duplication of ID with another living animal
- **Identification only when necessary**
  - The law should not burden the farmer by imposing unnecessary costs
  - Identification should only be legally bound when necessary for disease control and eradication
- **The law should not define the method of identification**
  - This is to provide for adoption of new ID methods
  - ID method to be determined by the Veterinary Authority

## Report on DVS Malaysia's brief experience

# Registration of Premises

- From 2009, over 40,000 premises were registered
  - Farms
  - Slaughter houses
  - Processing plants
  - Veterinary clinics
  - Pet shops
  - Other premises related to animal and animal products

# Registration of Transporters

- Transport vehicles used in animal movements were registered to facilitate traceability of animal movements
  - More than 13,300 vehicles registered in database
  - Name and contact of drivers
  - Name and contact of assistant driver
- Ruminant transport trucks were sealed after loading and seal is broken at destination by the veterinary authority

# Reduction of disease

- data the year 2009 to 2011 showed that animal movement is the main factor causing disease outbreaks in Malaysia. Although animal movement traceability does not directly prevent the spread of disease, it can minimize the risk and identifies the animals at risk by implementing disease control strategies at the right place and time based on the traceability records.
- Since the implementations of the e-traceability system in 2009, the foot-and-mouth (FMD) disease outbreaks have reduced tremendously from 111 outbreaks in year 2009 to 26 outbreaks in year 2011



# BENEFITS

# Benefits of traceability

- Participating countries will benefit from the solution as it will bring economic benefits in terms of compliance to strict import regulations for meat products imposed by the developed nations
- Participating countries will benefit from having a livestock registry. Related benefits include being able to trace animals at risk of disease
- Future developments extend to feed, pharmaceuticals and Halal

# PROBLEMS

# Problems associated with traceability

- No traceability standards
- Movement of livestock which have not been vaccinated or treated for livestock diseases
- No documented reference to establish transparent movement controls
- Source of infection is unknown and cannot be traced
- Animals at risk (exposed to disease) is unknown and cannot be traced
- No assurance of unique identifier for livestock
- Foreign market access limited by the lack of traceability

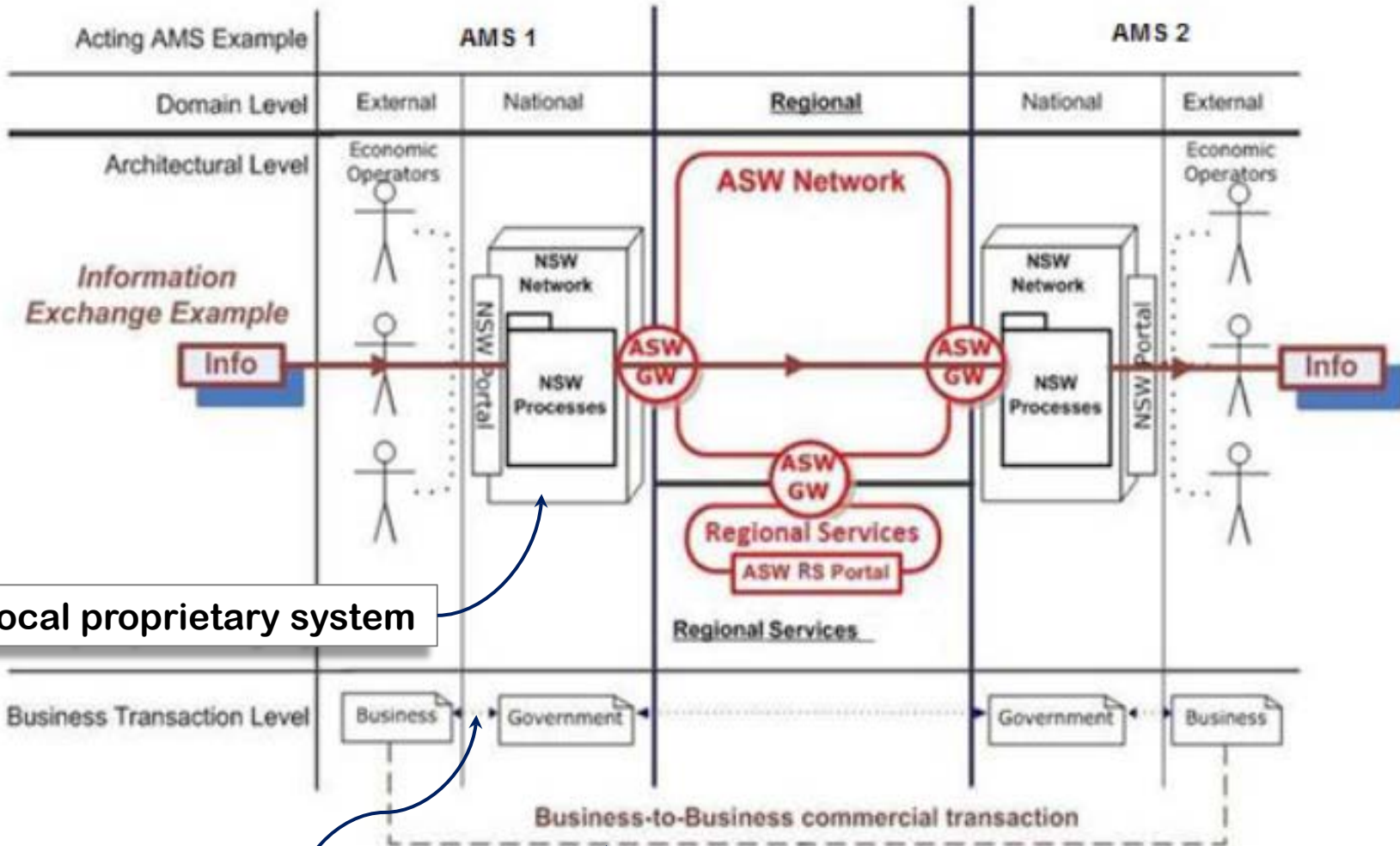
# Regional Problems in disease control

- For ASEAN member countries that share common international borders, it is difficult to control the movement of livestock and thus the transmission of livestock diseases become a big economic problem
- Border controls that include quarantine, vaccination and health certification of livestock are not easy to enforce effectively
- Ineffective enforcement for compliance to quarantine requirements and with the demand for meat, livestock smuggling becomes a problem
- Movement control problems within member state

Riding on

**EXISTING SYSTEMS**

# The ASEAN Single Window



Local proprietary system

Data transport channels

# Some considerations

- Single Window is a trade system
  - Granularity – agriculture and agricultural product electronic-traceability riding on it will have more details in coding for species, breeds, disease, etc
  - Different importer country requirements



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**THANK YOU**