



**REPIVET- RESEPSA Workshop:
epidemiology and surveillance of animal diseases
Tunis, 1-2 December 2015**

Information System in the framework of Animal Health Surveillance

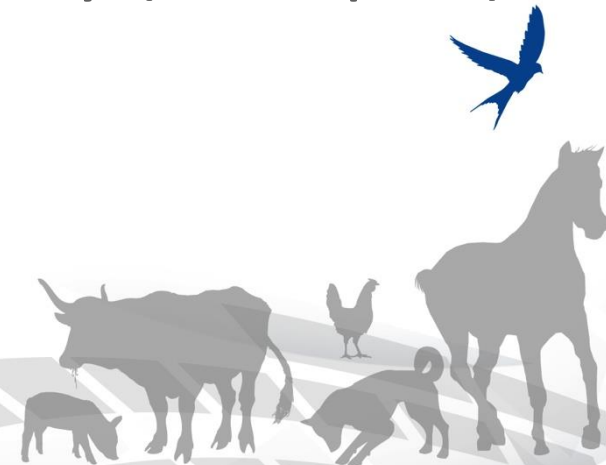
Luigi Possenti


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"G. Caporale", Teramo (Italy)

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- I&R system and AHIS
- Objectives of AHIS
- Inputs and outputs of an AHIS
- Key points for AHIS development
- Systems interoperability (Examples)

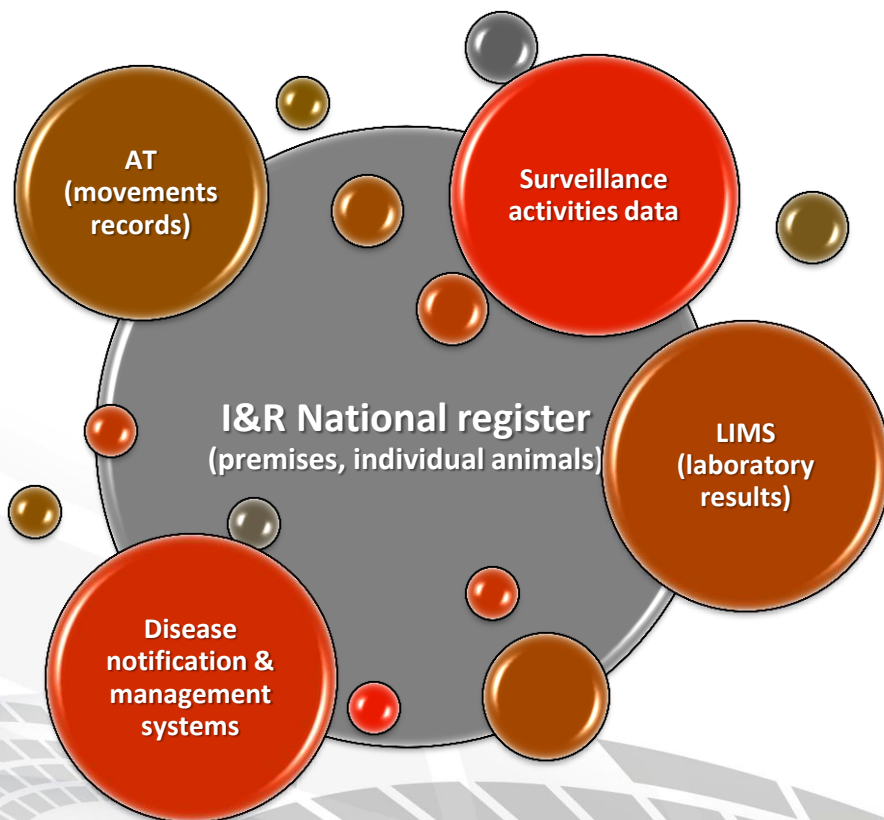


- 
- Any strategy for animal disease prevention and/or control requires the establishment of an animal health information system (**AHIS**)
 - An effective AHIS should be able to **collect**, **manage** and systematically **analyse** relevant epidemiological data, in order to generate appropriate information for **policy-makers** and other **stakeholders** along livestock food value chains.

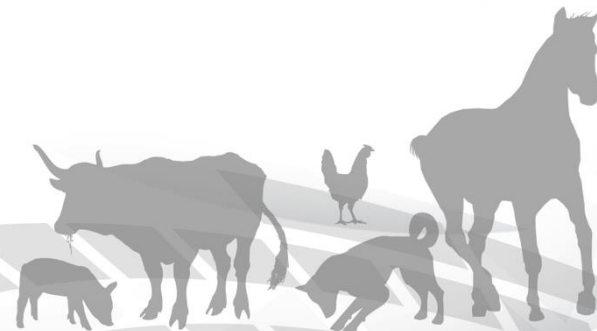


I&R system and AHIS

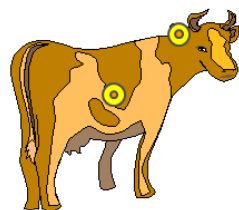
The presence of a fully operative animal identification and registration (**I&R**) system as well as the existence of an animal traceability (**AT**) system are pre-requisites for the establishment of an effective and fully integrated AHIS.



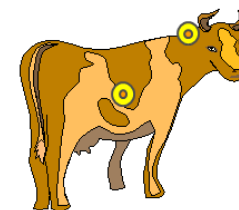
AHIS 



Choices made in I&R influence AHIS performances



Animal electronically
identified



All relevant data
(origin, movements,
health status, etc.) are
recorded and updated



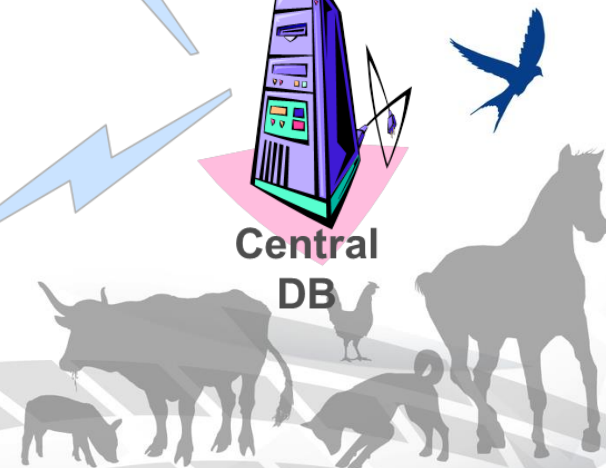
Samples collection
in the framework
of disease control
programmes



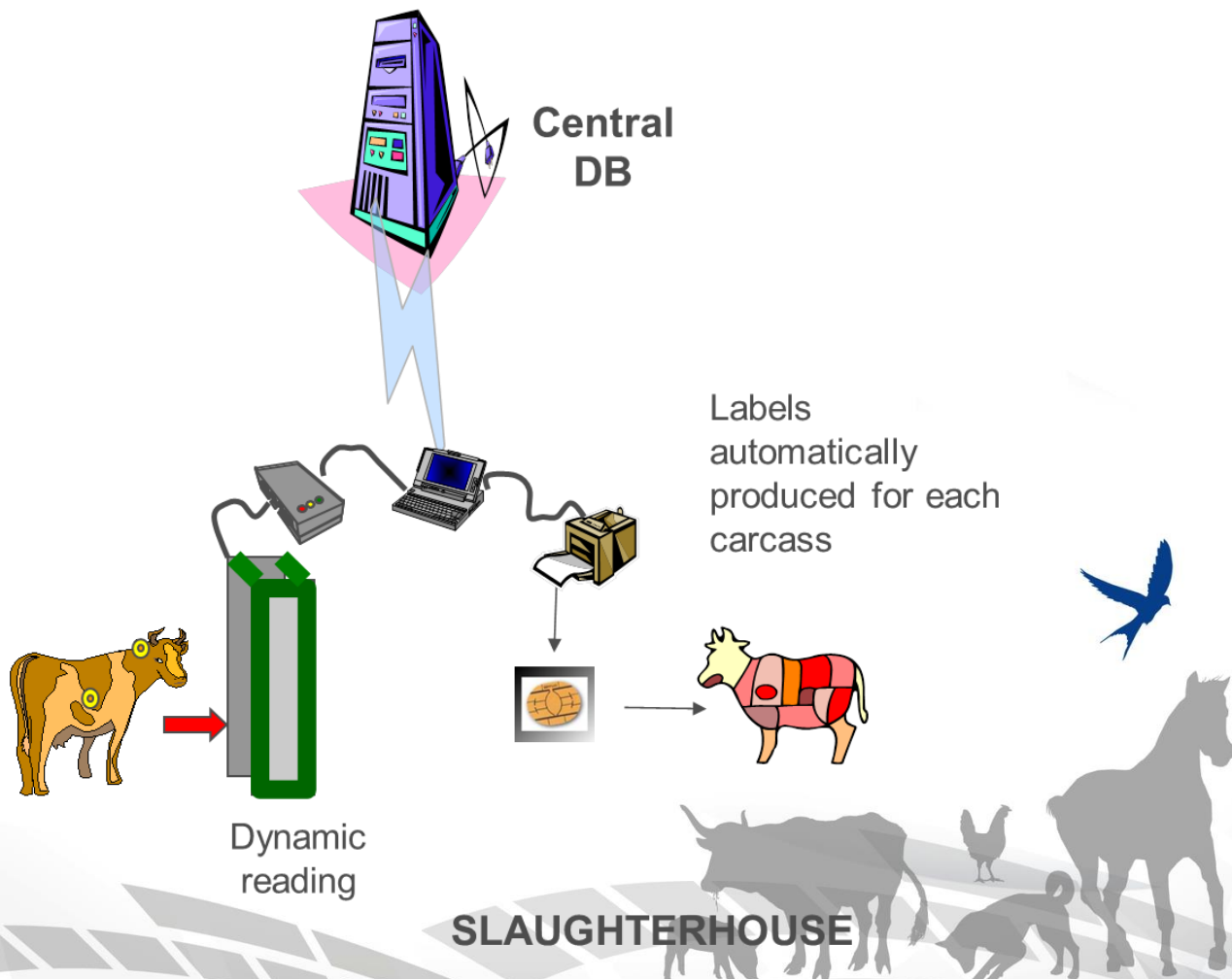
LABORATORIES



Central
DB



Choices made in I&R influence AHIS performances



Choices made in I&R influence AHIS performances

- Not only depending on identification means
But also for example:
 - Epidemiological unit choice (holding vs herd vs village, pastures codification....)
 - Data collected for each premise / group of animal / individual animal (for examples geographic coordinates)
 - Rules for movements notification (movements to pastures, nomadic herds, ...)



Objectives

1

Support animal disease notification system

2

Management of animal health emergencies

3

Enhance surveillance and early warning

4

Support Risk assessment

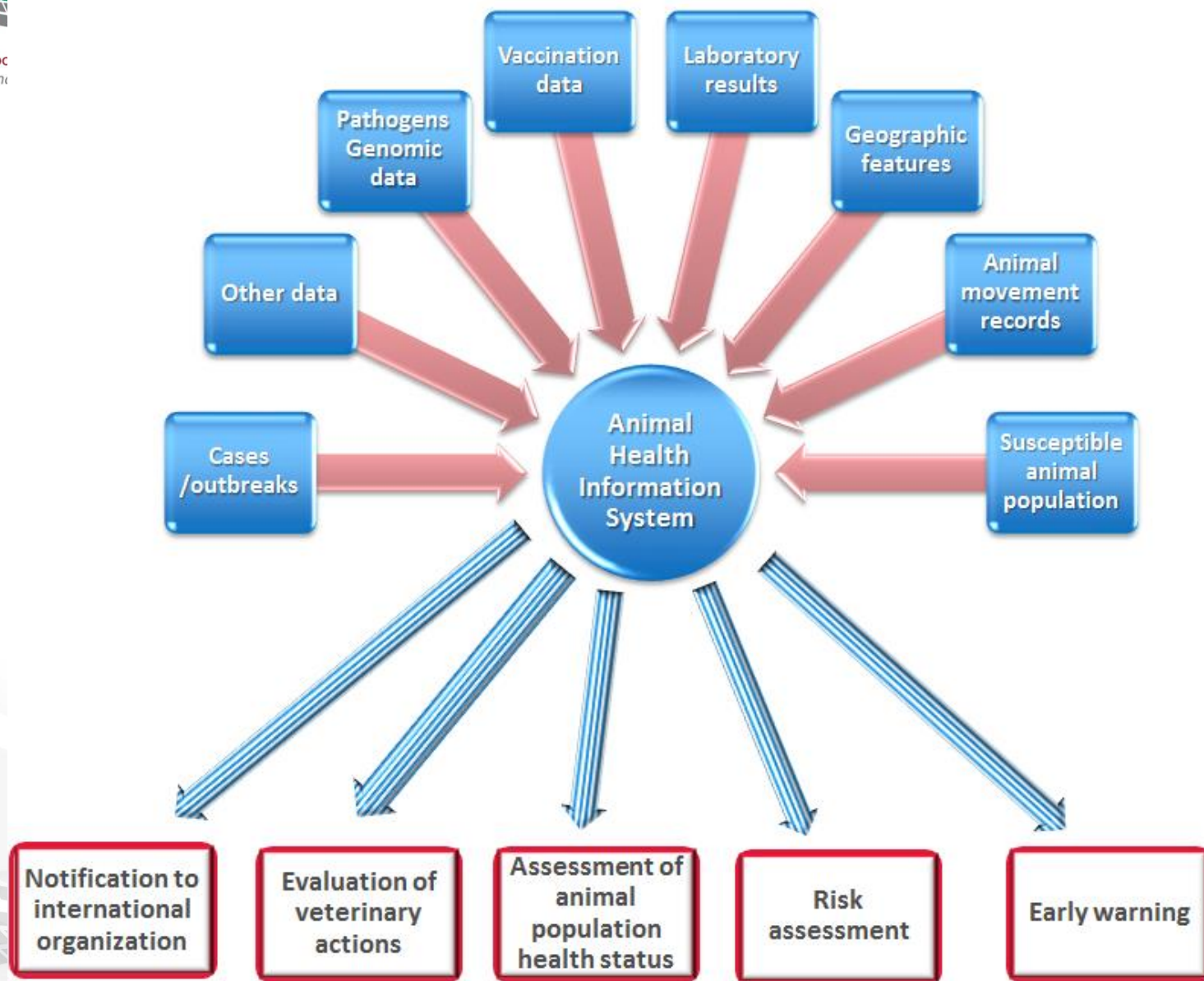
AHIS Objectives

Benefits


- International obligations
- International credibility
- Efficacy of interventions
- Reduction of consequences
- Free of disease demonstration
- Health status and certification
- Import / Export risk assessment
- Support zoning / regionalization / compartmentalization strategies
- Support to decision-making process



Inputs and output of a AHIS



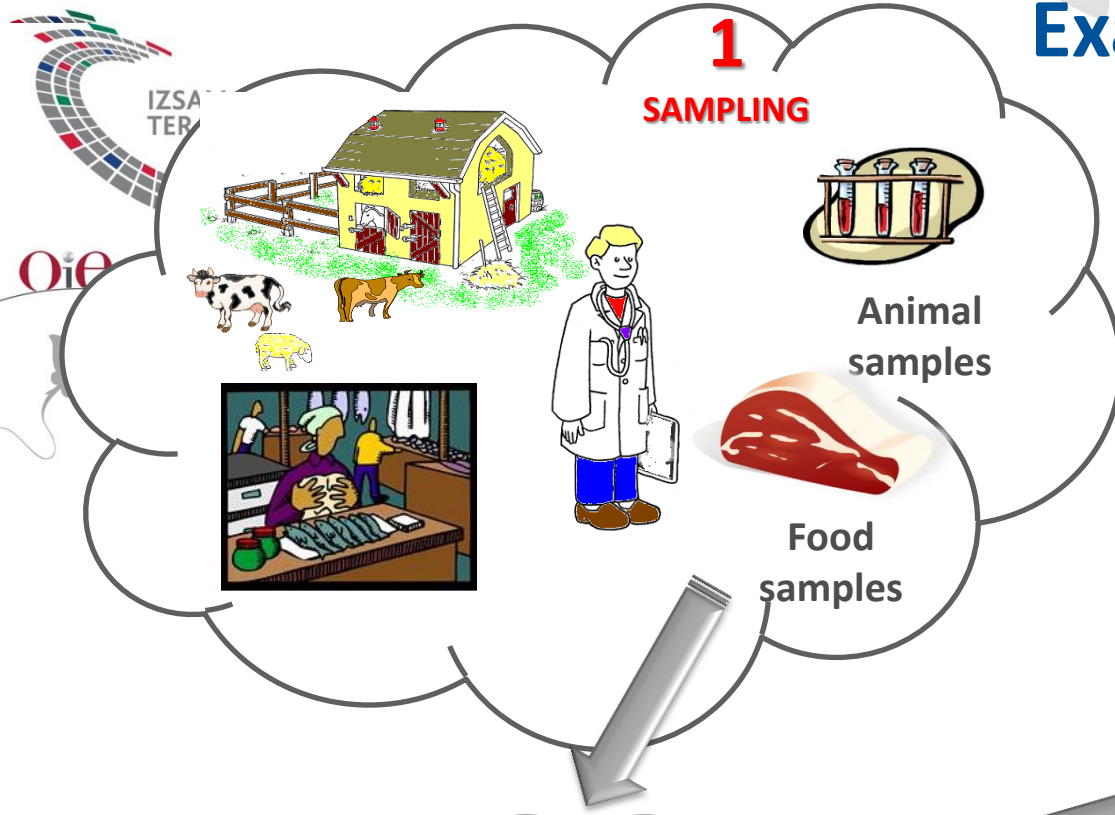
Key points for AHIS development

- 
- AHIS must be based on **clear rules** and **procedures**, specifying the responsibilities and tasks of all “actors”
 - Data should be **validated** by those who have produced them
 - Respect of the **organizational structure**, the legal competencies and tasks of the institutions involved
 - Integration of different data sources requires data and **procedures standardization** and the implementation of **common dictionaries** and **common coding systems**

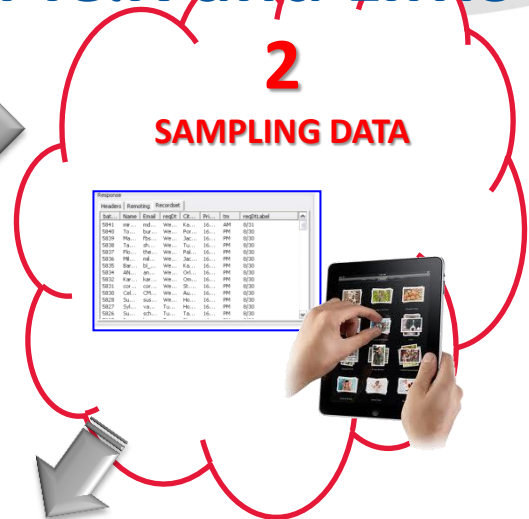


Example of integration of I&R and LIMS

1 SAMPLING



2 SAMPLING DATA



Samples form with a unique sampling code

Master Cuneo Molise
Schede di prelievi campioni di sangue da sottoporre a QM accreditato

Nome: LINDORO
Cognome: LINDORO
Indirizzo: Via...
C.A.P.: ...
Città: ...
Prov.: ...
Telefono: ...
Fax: ...
E-mail: ...
Data prelievo: ...

Asserisco che il prelievo è stato eseguito in conformità con le norme vigenti e che i campioni sono stati conservati in modo appropriato.

COORDINATE AGENZIALE: LINDORO
CONSIGLIO REGIONALE: LINDORO
SPELTI
Scheda n. ...
C.F. prelievo: LINDORO
Città: ...
Prov.: ...
Data prelievo: ...

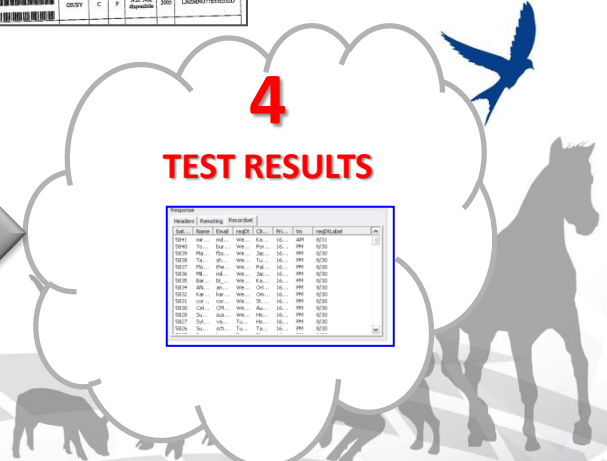
ID	Nome	Specie	Col.	Pa.	Ins.	Longitudine
1	Pa.	Pa.	Pa.	Pa.	Pa.	Pa.
2	Pa.	Pa.	Pa.	Pa.	Pa.	Pa.
3	Pa.	Pa.	Pa.	Pa.	Pa.	Pa.
4	Pa.	Pa.	Pa.	Pa.	Pa.	Pa.
5	Pa.	Pa.	Pa.	Pa.	Pa.	Pa.
6	Pa.	Pa.	Pa.	Pa.	Pa.	Pa.
7	Pa.	Pa.	Pa.	Pa.	Pa.	Pa.
8	Pa.	Pa.	Pa.	Pa.	Pa.	Pa.
9	Pa.	Pa.	Pa.	Pa.	Pa.	Pa.
10	Pa.	Pa.	Pa.	Pa.	Pa.	Pa.
11	Pa.	Pa.	Pa.	Pa.	Pa.	Pa.
12	Pa.	Pa.	Pa.	Pa.	Pa.	Pa.
13	Pa.	Pa.	Pa.	Pa.	Pa.	Pa.
14	Pa.	Pa.	Pa.	Pa.	Pa.	Pa.
15	Pa.	Pa.	Pa.	Pa.	Pa.	Pa.
16	Pa.	Pa.	Pa.	Pa.	Pa.	Pa.
17	Pa.	Pa.	Pa.	Pa.	Pa.	Pa.
18	Pa.	Pa.	Pa.	Pa.	Pa.	Pa.
19	Pa.	Pa.	Pa.	Pa.	Pa.	Pa.
20	Pa.	Pa.	Pa.	Pa.	Pa.	Pa.

3 LABORATORY



Results of laboratory tests

4 TEST RESULTS



Example of integration of I&R and LIMS

1 SAMPLES REGISTRATION



2 SAMPLES TESTING



Samples labelling



Scanner



3 DIGITAL SIGNATURE



Sampling code

Morbo Coitale Maligno
 Scheda di prelievo campioni di sangue da sottoporre a *test* *SL111*

VIOR A.S.P. DI SIRACUSA Distretto DISTRETTO LENTINI
 CARLINTINI Prov. SR
 095500987 Fax

di prelievo Morbo Coitale Maligno:
 avveglanza;
 aspetto clinico;
 seguito di positività;

Anagrafica Azienda (Art. 2, comma 1, lettera b - D.M. 29/12/2009)

CE AZIENDALE CODICE FISCALE SPECIE ALLEVATA
 216 LN2MNO77853E532D Cavalli (0176)

Localita Lanza Monja
 C/DA Tegna Grande Di Pedacari Localita: Pedacari Prov. SR
 CARLINTINI
 Lanza Monja C. F. proprietario LN2MNO77853E532D

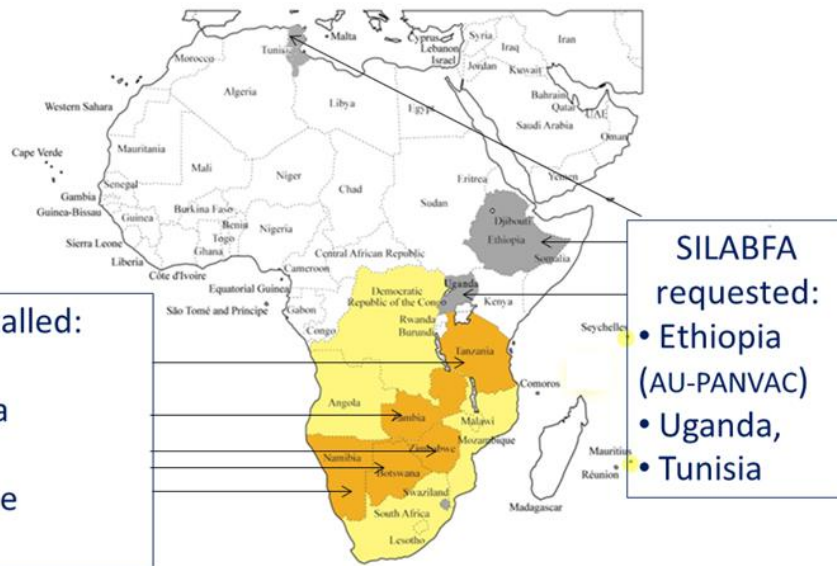
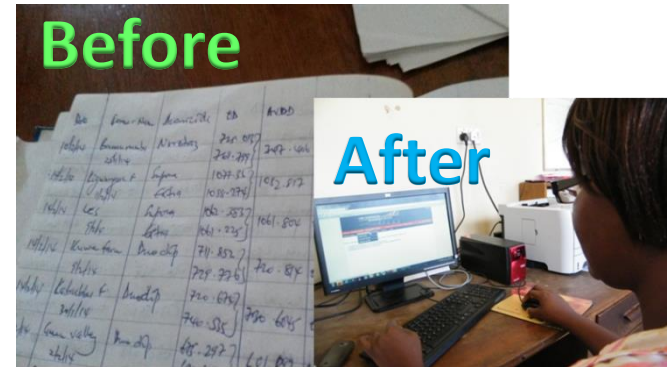
Coordinate geografiche (Sistema WGS84, gradi decimali): Lat. Nord 37.198798 Long. Est 14.94769
 Codice prelievo: 200243
 Veterinario Zirilli Vanessa

N° Campion	Identificativo univoco	Nome	Specie	Sesso	Stato	Anno di nascita	Particolarità
1	941000011068167 083000370	GIUSY	C	F	N.D. Non disponibile	2005	LN2MNO77853E532D

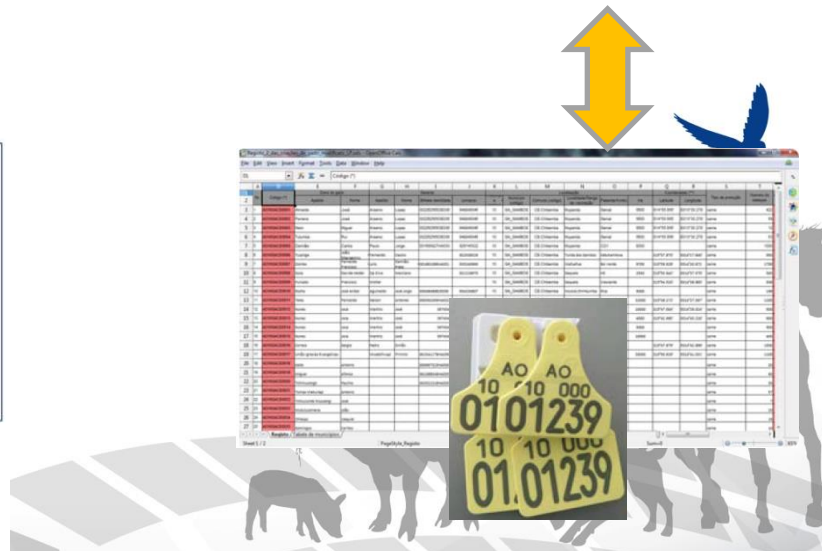


An example of LIMS integration in African countries

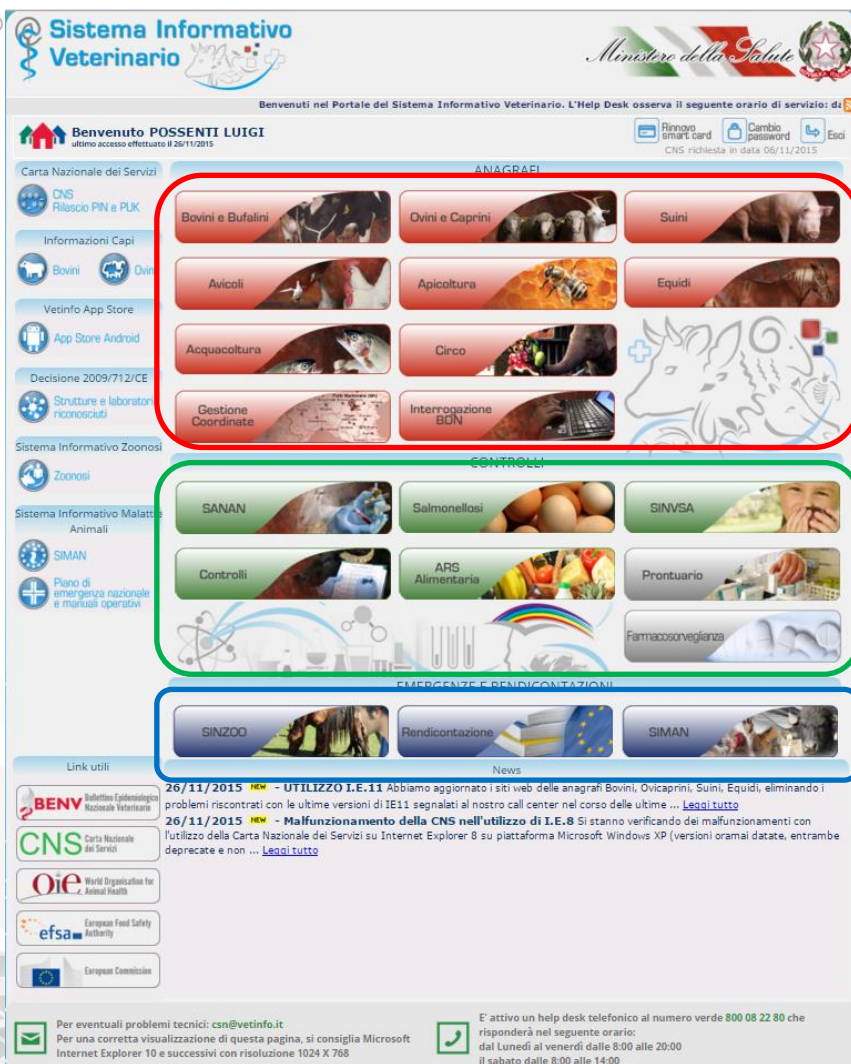
- LIMS web application called “SILAB for Africa” (SILABFA)
- Interoperability with I&R already in place in Botswana and ongoing in Namibia




1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50



Italian integrated National Information System



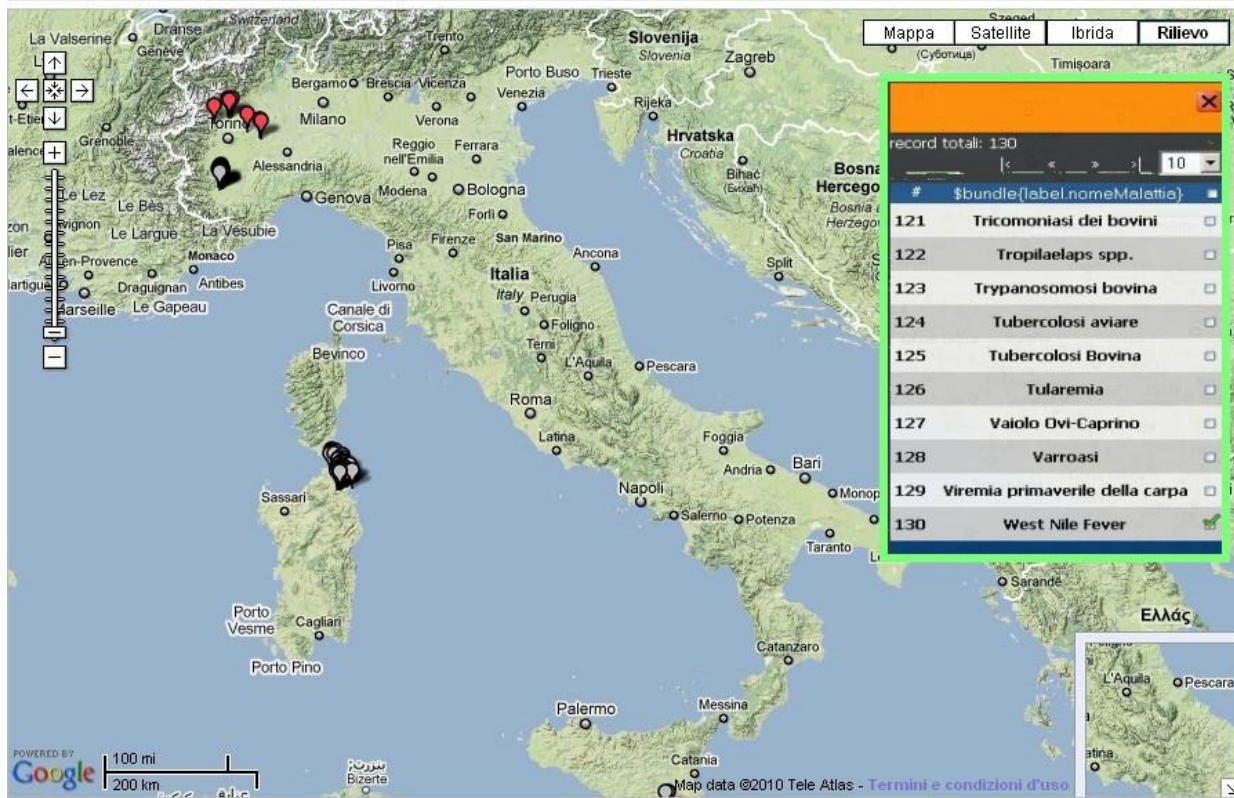
I&R and AT

AHIS

Reports, Notification
and Early warning



Example of integration with I&R for diseases management: Web GIS



Ricerca

Focolai:

Cerca per: Stato focolaio Specie

Malattia: **'Bluetongue', 'West Nile F'**

Da: **26/11/2010** a: **31/12/2010**

Stato focolaio: **'C', 'S', 'E'**

Strutture:

Tipo: **'ALL'**

Allevamenti:

Specie: **'BOVINI E BUFALINI'**

Ricerca con buffer

Legenda

Informazioni

Area di notifica

65 focolai trovati

Totale: 65 Esporta la tabella: [Cliccare sull'intestazione delle colonne per ordinarne il contenuto](#)

ID azienda	Comune	Provincia	Malattia	Stato del focolaio	Tipo focolaio	Data sospetto	Data conferma	Data estensione	Vai
480173	PIASCO	CN	Bluetongue	E	P	Wed Dec 17 01:00:00 CET 2008	19/01/09	20/03/09	
152879	BARBANIA	TO	Bluetongue	C	P	Fri Oct 09 02:00:00 CEST 2009	06/11/09		
477356	LEMIE	TO	Bluetongue	C	P	Wed Aug 12 02:00:00 CEST 2009	17/09/09		
504486	SAN RAFFAELE CIMENA	TO	Bluetongue	C	P	Fri Sep 25 02:00:00 CEST 2009	26/10/09		

Example of integration with AT for diseases management: SNA & tracing tools

Control Panel

Download Network Simulation Map

Data Source:

User Name:

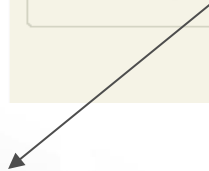
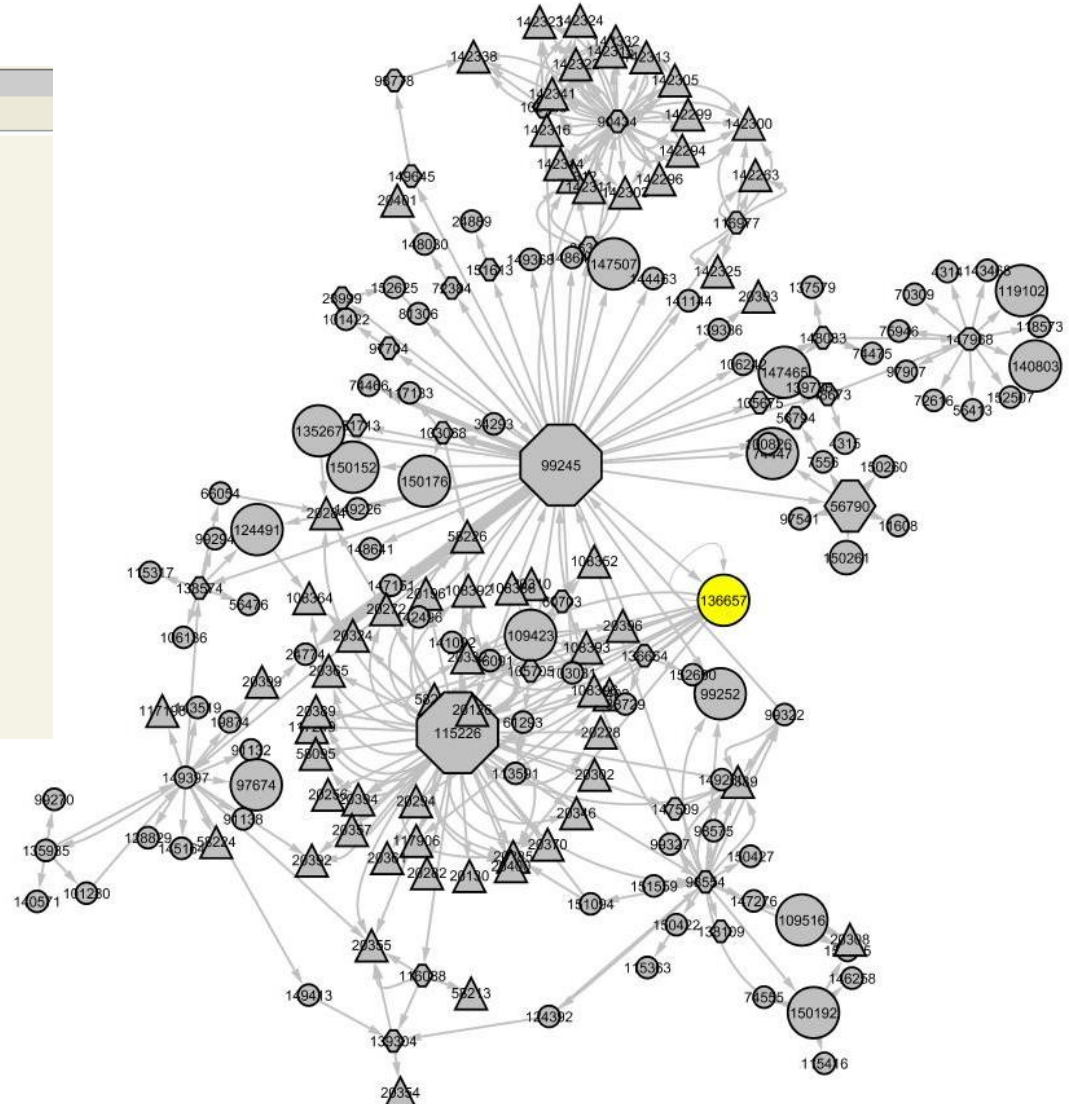
Password:

Function:

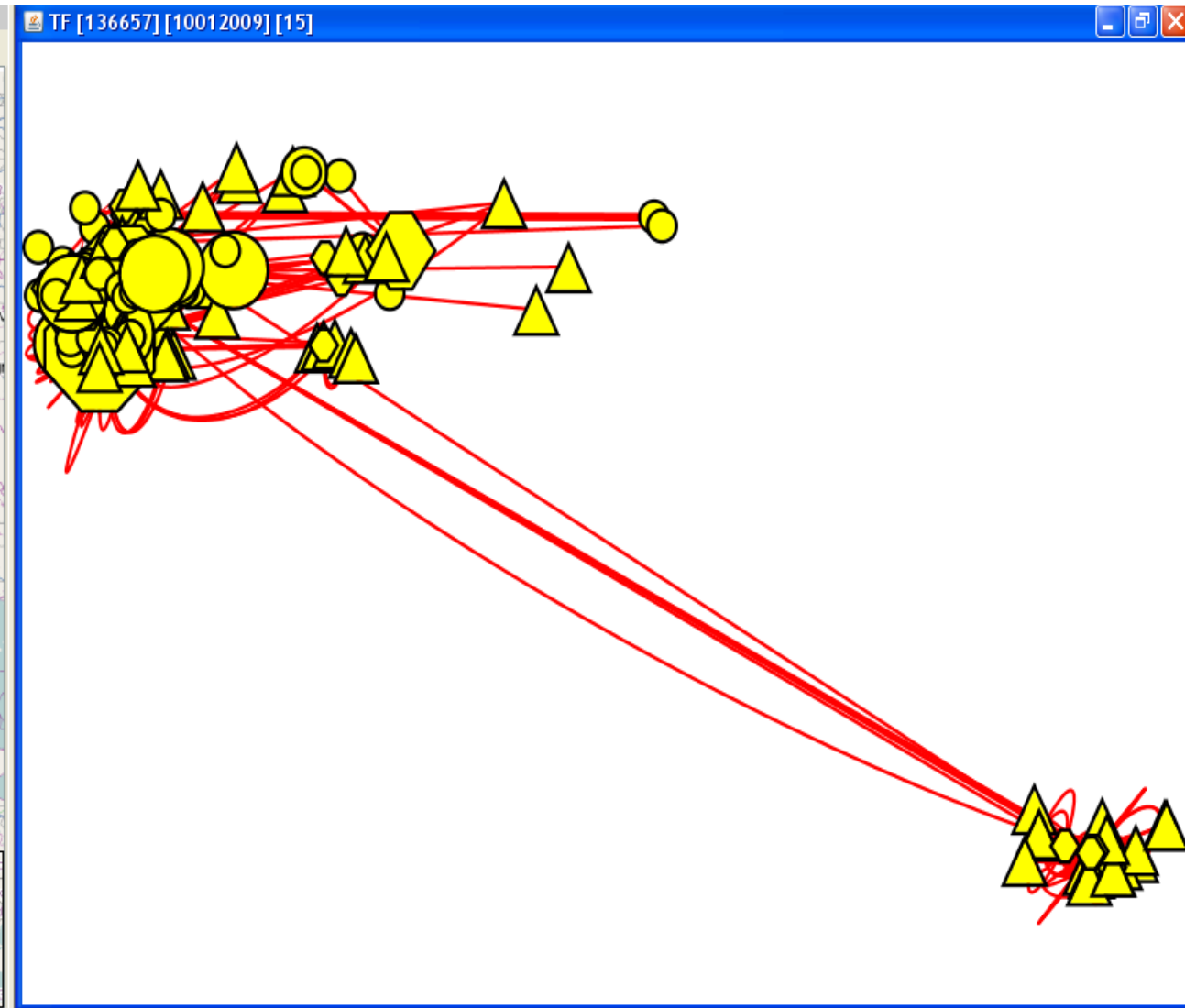
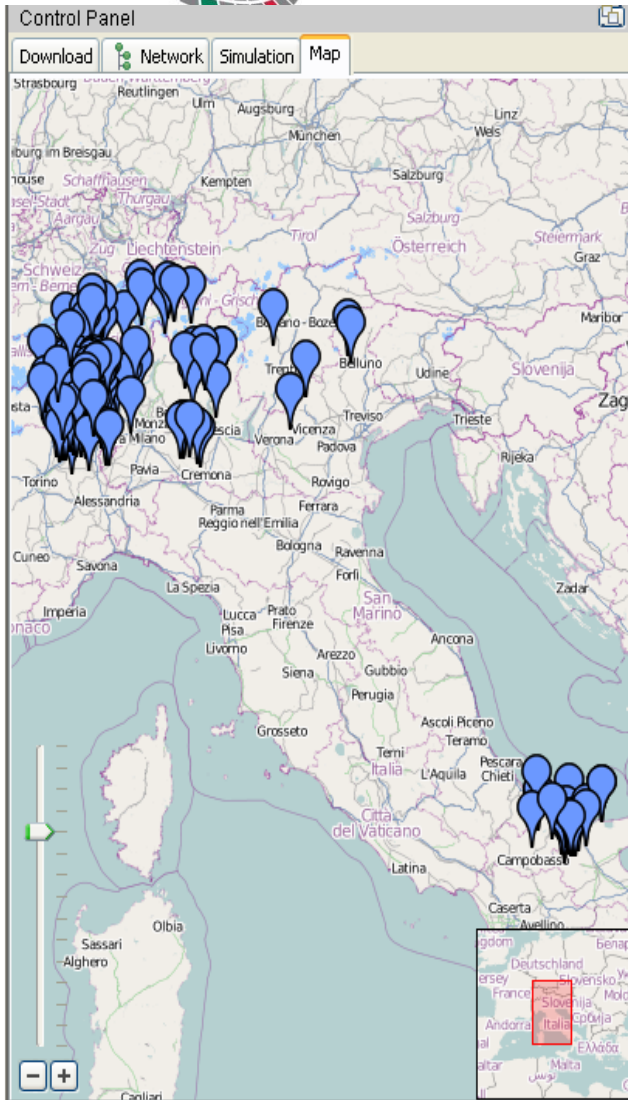
Node:

Date:

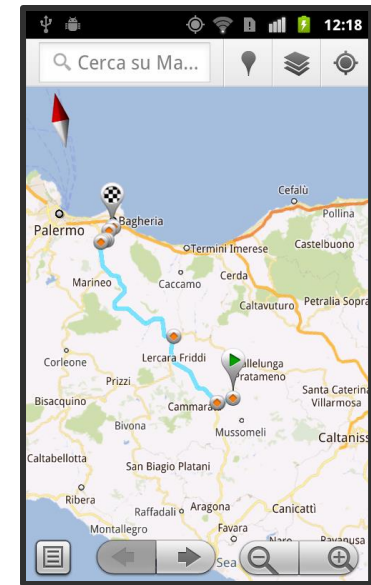
Depth:

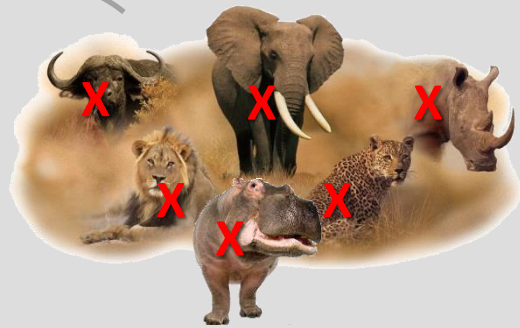


Example of integration with AT for diseases management: SNA & tracing tools



- Smartphones
- **Tablets**





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Thank you for attention