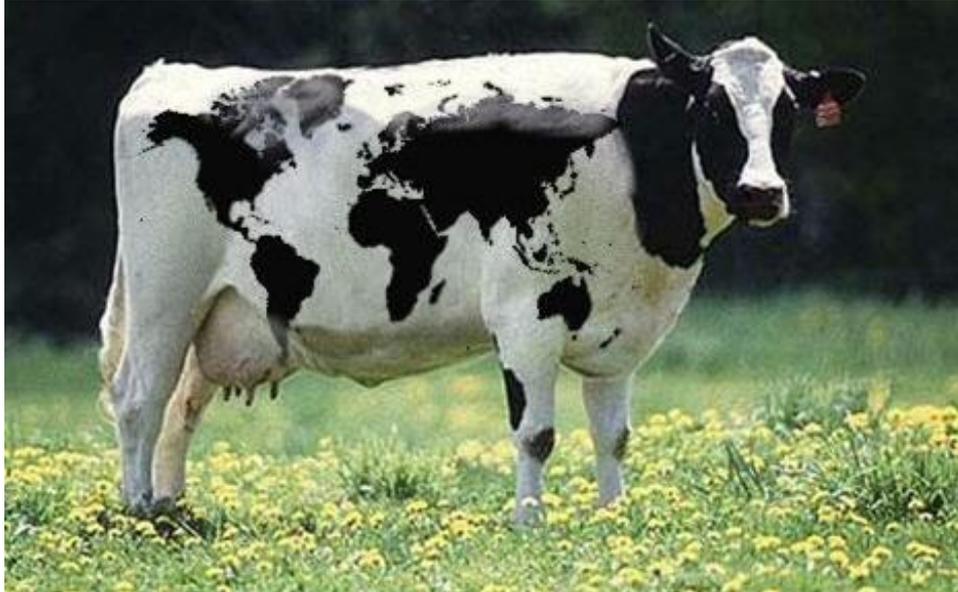




Livestock and Big data

Pascal POITEVIN – FGE – BCTI – Institut de l'Élevage

Dairy cows in the world in 2009



- 247,6 millions
 - Europe: 39,9 millions
 - India: 38,5 millions
 - South America: 34,3 millions
 - North and Central America: 15,4 millions
 - China: 12,8 millions

French herbivores livestock

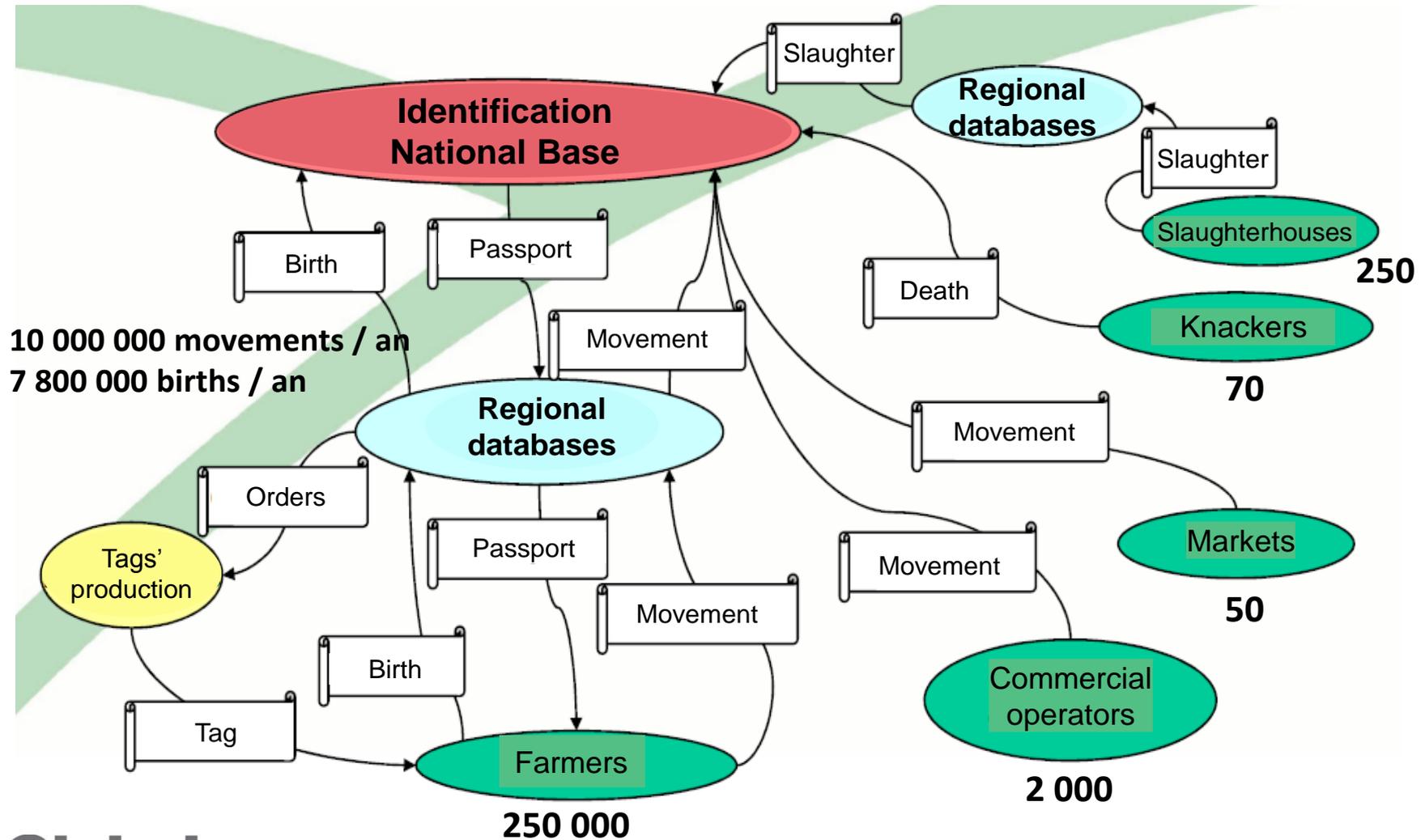
- cattle, goats and sheep -



- 18,9 million cattle
- 1 million dairy sheep
- 900,000 goats
- 17,8 Milliards € (23,1 Billion dollars)
- 27% of French agricultural production
- 209 000 farms (1 farm on 2)
- 15 millions Ha (37 ac)
 - incl. 9.8 which still budding
- 3,7 Md€ trade surplus (4,8 Billion dollars)



French Identification National Base

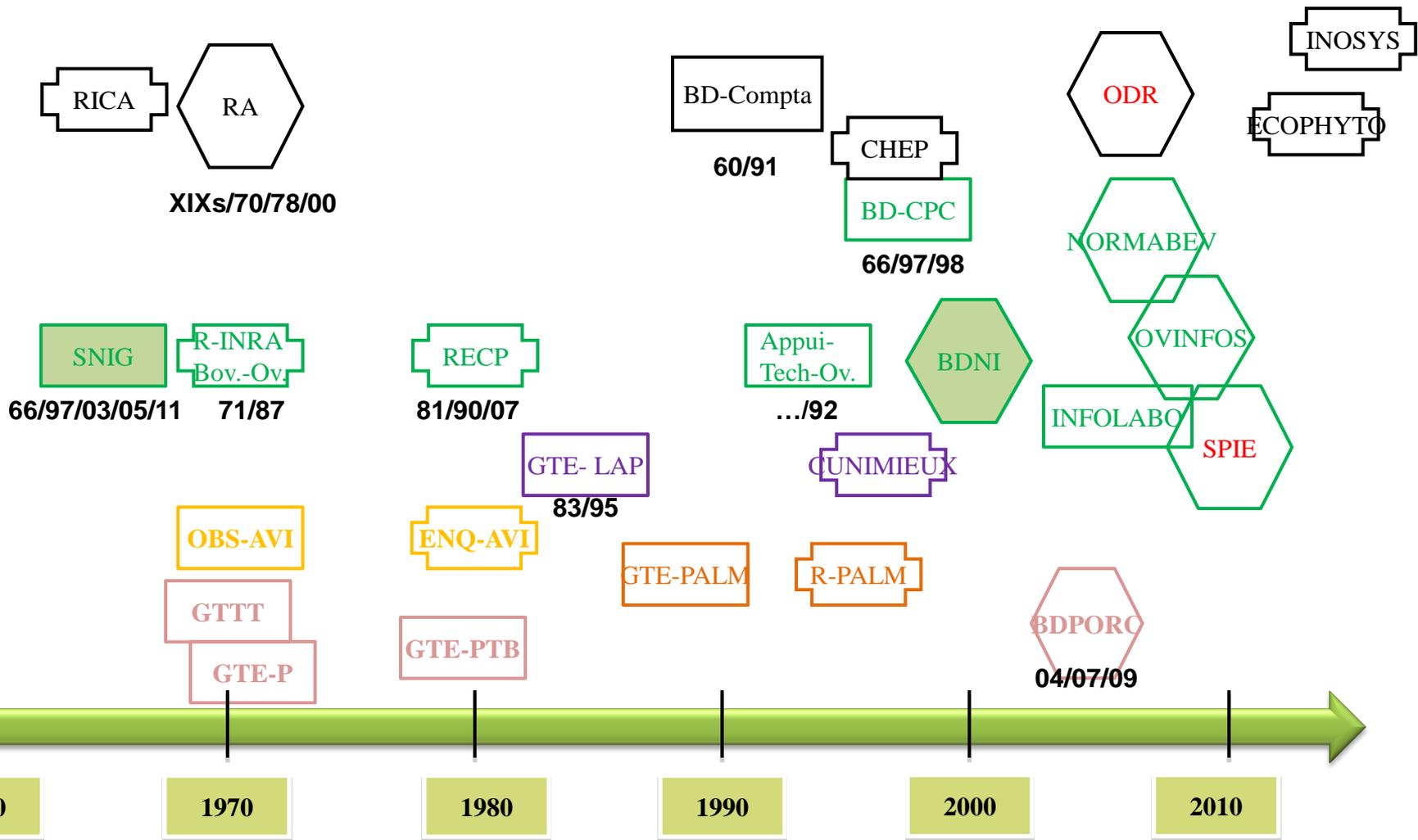


French National Genetic Information Systems

The data stored into the French national genetic information system for cattle

Year 2010	Quantity	Number of new lines per year
Farms	928 000	34 900
Cattle	151 670 000	7 838 000
Entry / Exit	173 547 000	10 310 000
Certified relatives	76 900 000	3 935 000
Dairy Herd Improvement	595 519 000	25 993 000
Weight	33 490 000	1 561 000
Weaning score	7 825 000	419 000
Inseminations	112 902 000	7 013 000
...

French livestock databases' cartography



Old developments and recent deployment

1970



Utilisation of
RFID for
livestock

1980



Milk meters
podometers

1990



Computerisation
and automatic
storage of data

2000



First robots

2010

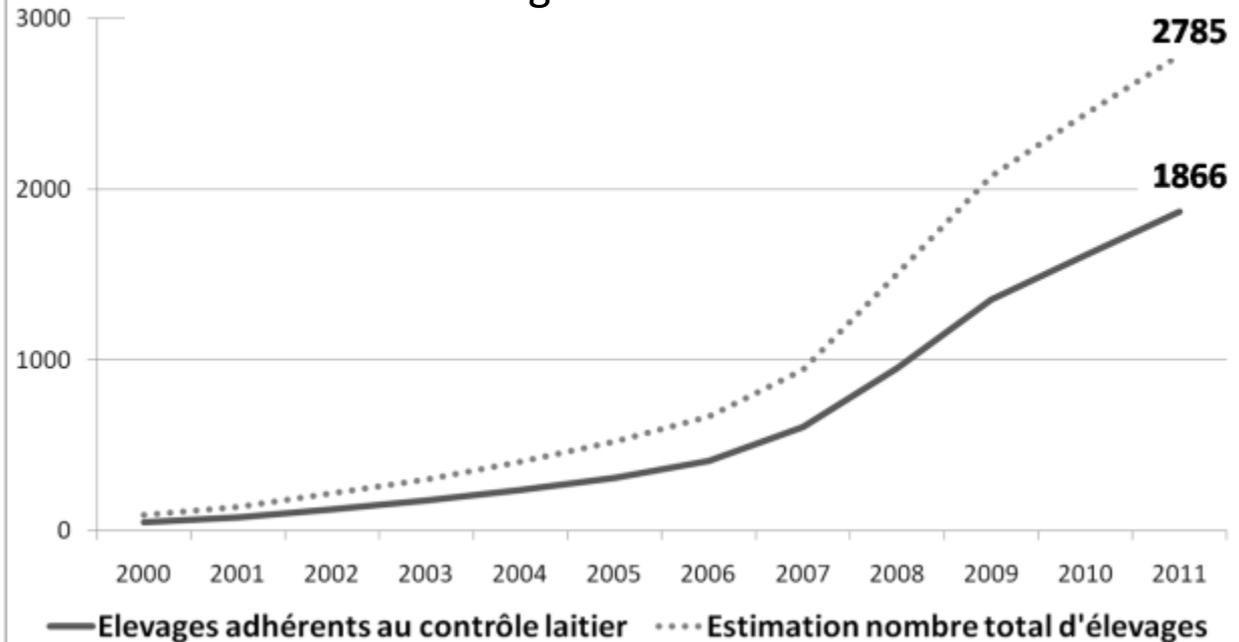


Explosion in the
supply of sensors

Example: milking robots



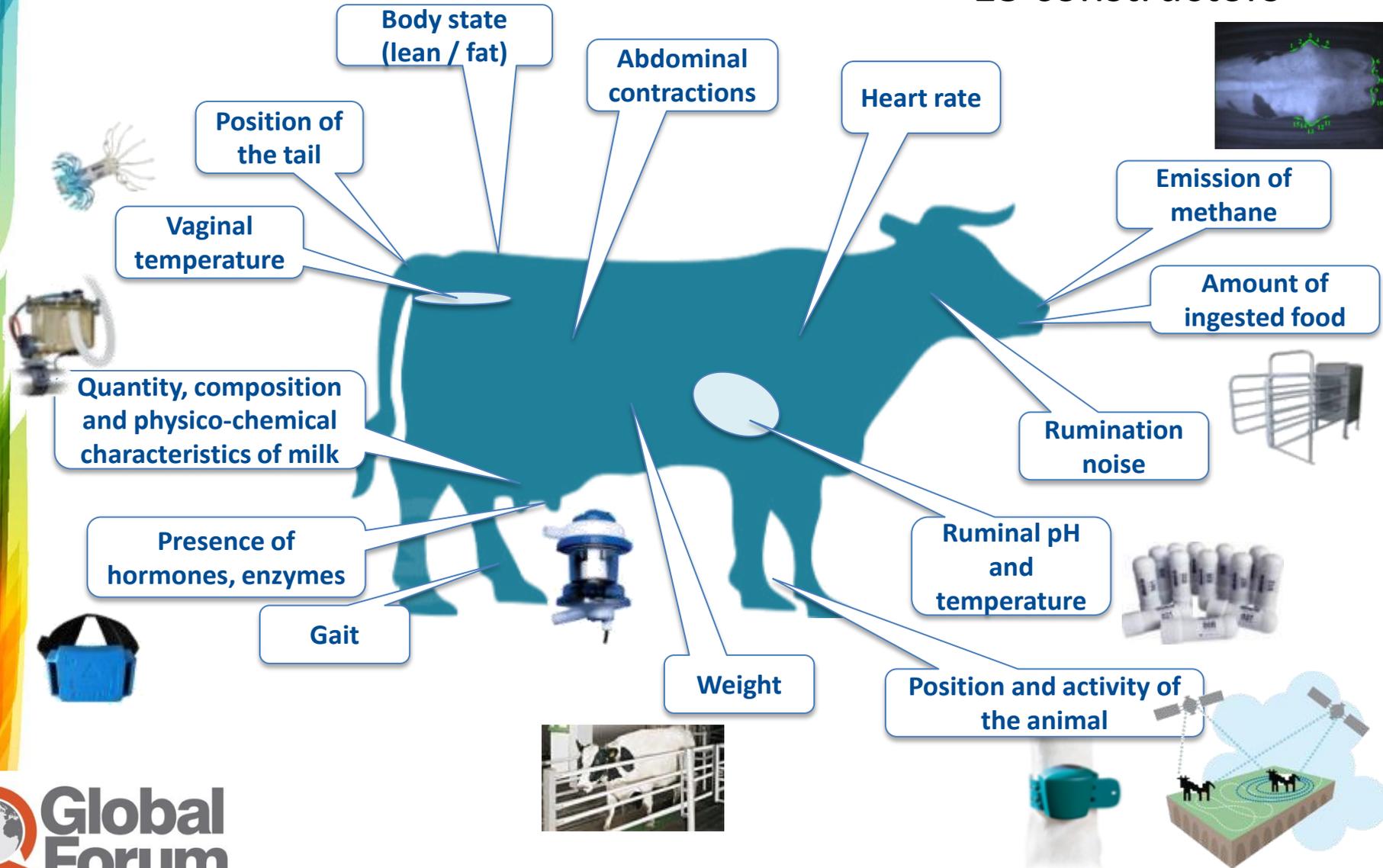
Number of farms equipped with at least one milking robot in France



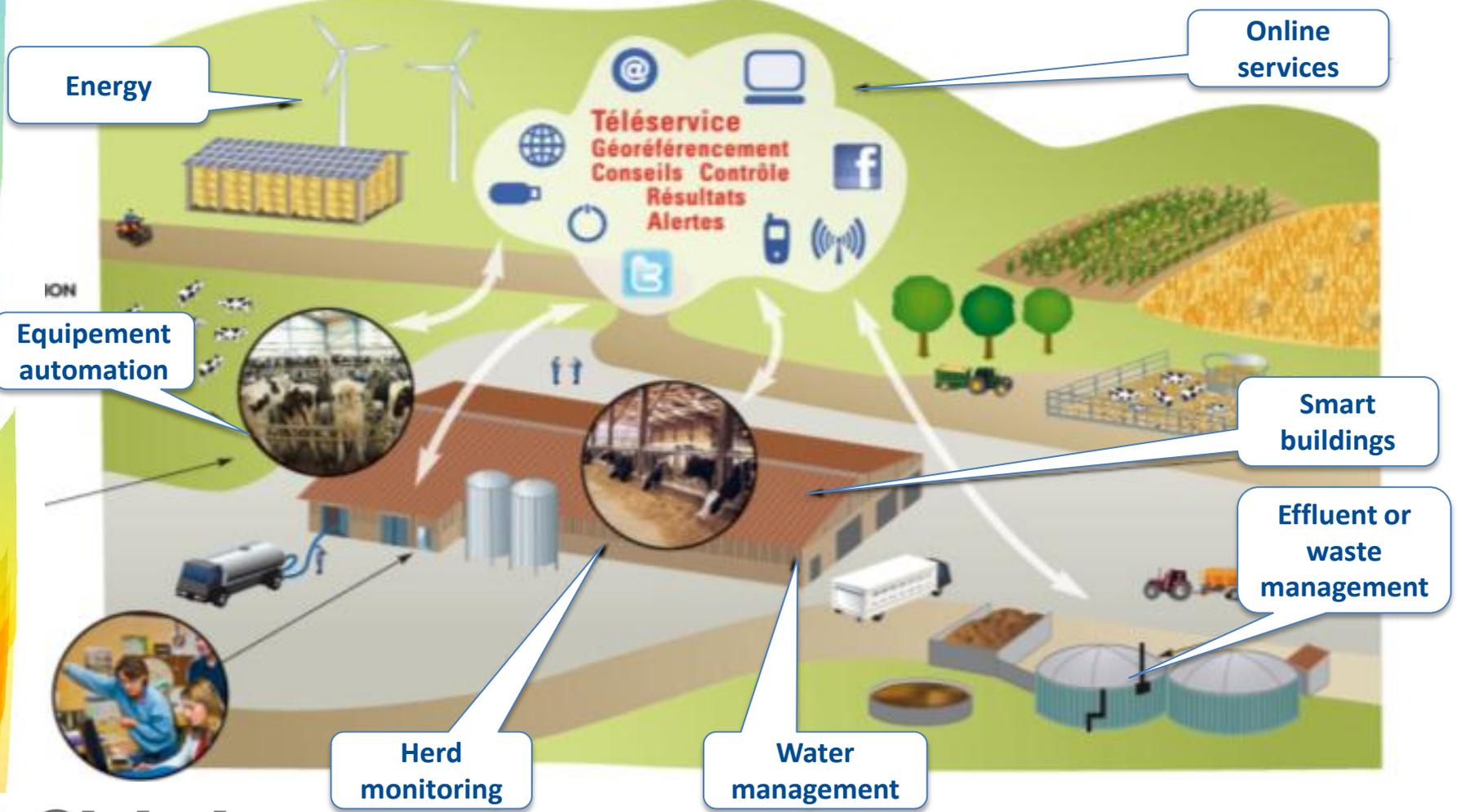
Source : Institut de l'Élevage, base de données nationale de vérification des compteurs à lait électroniques de ferme

What can be measured?

- 57 identified tools
- 13 constructors



The farm of the future



Dematerialisation: e.g. traceability of meat



PASSEPORT DU BOVIN

N° DE TRAVAIL: 785
N° DE MATRICE: FR 71 1256 7891
TYPE RACE: M Charolais
DATE DE NAISSANCE: 04.06.98

FR 71 012345 FR 71 012 345 38 38 02.07.98 FR 71 1234 5679

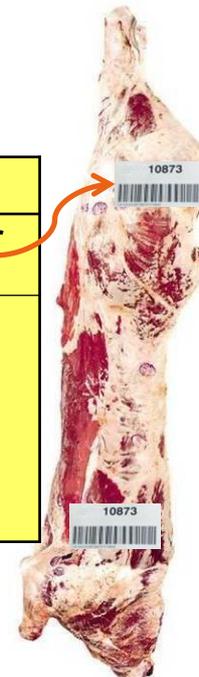
En l'absence de l'attestation sanitaire ou du laissez-passer sanitaire délivré par le Directeur des Services Vétérinaires, ce bovin ne peut pas circuler.

EMPLACEMENT RÉSERVÉ À L'APPOSITION DE L'ATTESTATION SANITAIRE OU DU LAISSEZ-PASSER SANITAIRE

Coller en A et B les extrémités de l'attestation sanitaire ou du laissez-passer sanitaire.



Slaughterhouse register		
Exploitation number	ID number	Slaughter number
FR 71 012345	FR 71 0123 4567	6324



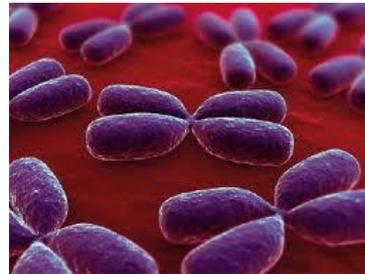
New data > Big data > Open data

Health and environment data



Knowledge

Genomics data



Identification and traceability data



Images

Financial data



Calculation

Text

