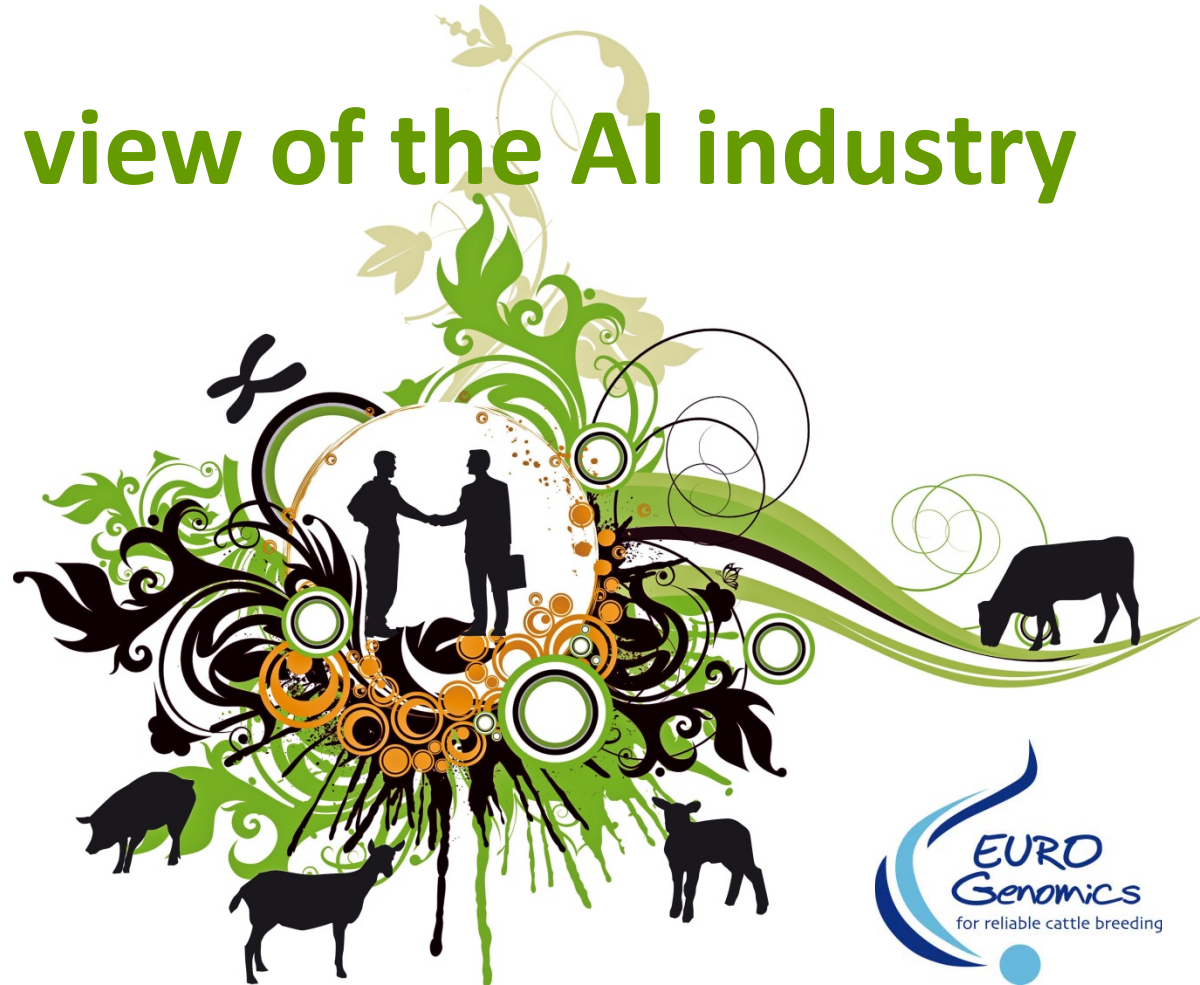


Challenges for health data recording from the perspectives of the different stakeholders

The point of view of the AI industry



X. DAVID
May 31. 2013

The context of breeding

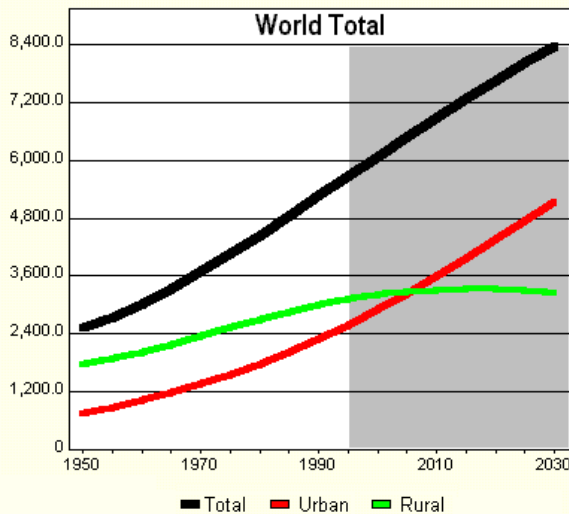


- New society needs

- More focus on health and fitness
- More focus on environmental impact
- Constraint human health / animal treatments



Total, Urban, and Rural Population (Medium Variant)



The context of breeding



- New legislation in EU and outside
 - Animal Health Law
 - Animal Welfare Law
- International conferences

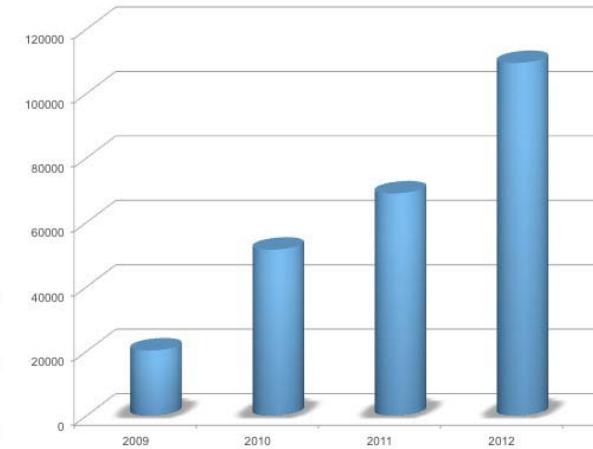
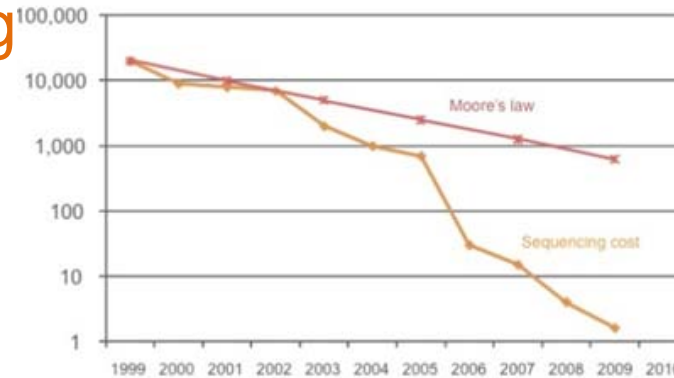


New era for breeding



- **New tools**

- Genomic Selection
- Sequencing



- **New goals**

- Easy-going cows
- Smart breeding



Challenges of health traits



- **Low heritability**
 - $h^2 < 0,2$ / Interaction with environment

- **Complex traits**
 - Immunity
 - Interaction with other functions
 - Long-term effects?



Challenges of health traits



- **Different players for the record**

- Farmer's organization
- Vets
- AI industry



- **Difficult to collect**

- Variability in clinical signs
- Indirect test (PCR, ELISA) : sensibility, specificity ?
- Exhaustive data collection (healthy animal is a data to collect)
- Use of models : « vaccine » challenges



Challenges of health traits



•Registration

- Quality and simplicity of the system
- Standardization



•Priorisation

- Traits with economical impact



Challenges of health traits



- **Some examples of new traits**

- Clinical Mastitis



- Quality of the Hoof



- Paratuberculosis



Conclusion



1950: AI Industry helped in the dramatic improvement of the health status of the herds

2013: AI industry focus breeding for healthy, easy-going and sustainable animals for dairy and beef farms

