

# SmartCow

an integrated infrastructure for increased research capability and innovation in the European cattle sector

## SMARTCOW, A NEW RESEARCH INFRASTRUCTURE (RIs) PROJECT

- Coordinates a network of key European cattle RIs
- Faces the challenge of sustainable production
- Increases use of RIs by academics and private research communities
- Provides transnational access to the network's resources (promoting 30 projects involving 60 users)
- Integrates the RIs through networking activities (harmonizing procedures and data sharing)
- Builds joint research activities (new tools to evaluate feed efficiency, gas emissions and treat sensor data)
- Interacts with stakeholders to stay in line with industry needs

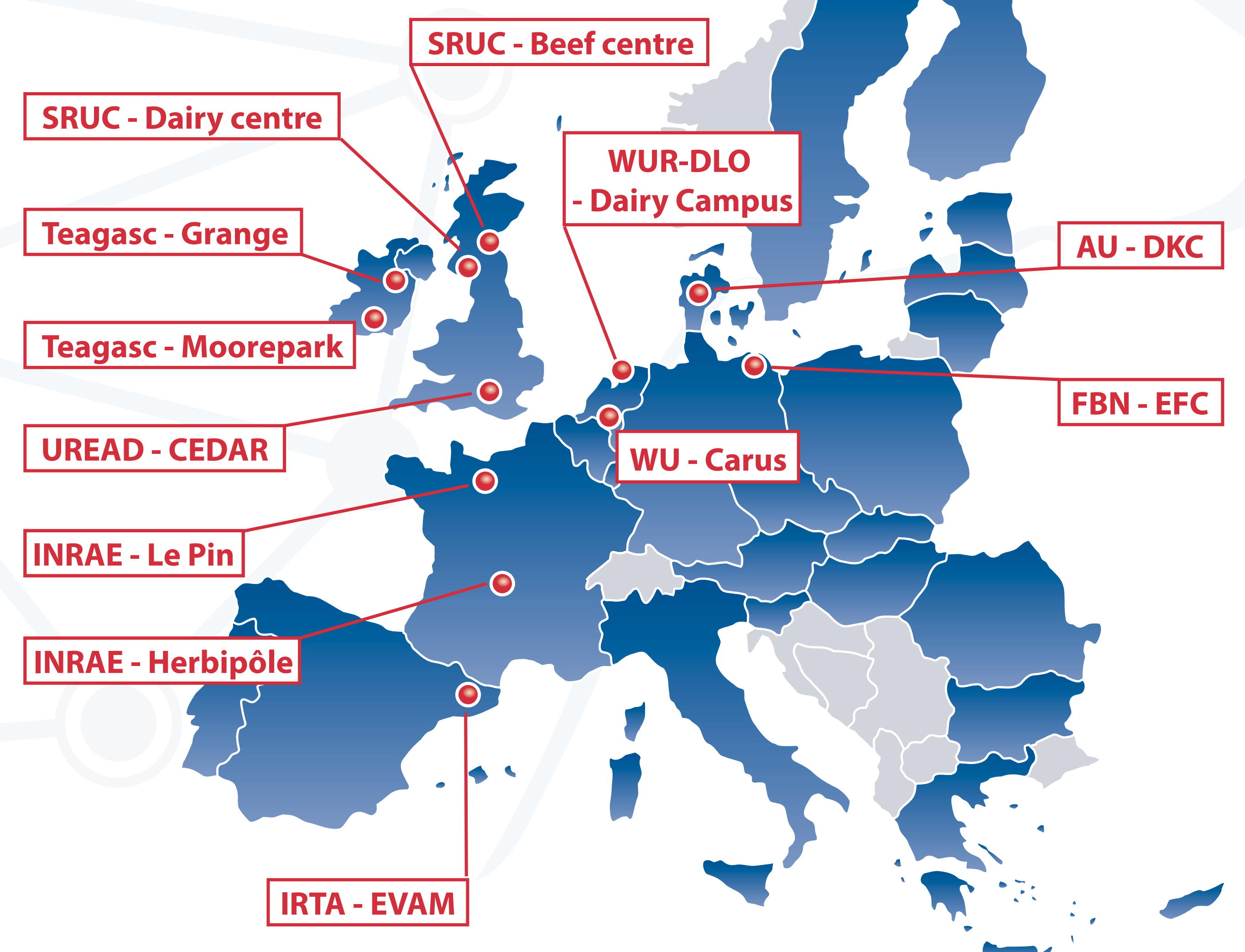
## SMARTCOW'S OUTCOMES IN CATTLE RESEARCH

- Improves transnational use of European RIs
- Facilitates multi-site and multidisciplinary researches
- Gives a harmonized description of the European facilities
- Rises access to RIs by East/South European and private research communities
- Rises access to RIs by young researchers and trains them
- Unifies methods and protocols across Europe
- Refines recording, compatibility and analysis of data through a cloud-based data-platform
- Improves bovine ontologies
- Refines methods and proxies to evaluate feed efficiency and emissions
- Develops new methods to:
  - ✓ Reduce GHG emissions in feed use, and improve animal welfare and health
  - ✓ Reduce the use of animals and the constraints in experimentation
  - ✓ Exploit sensor data for cattle livestock farming

## THE NETWORK

Smartcow gathers 11 major RIs distributed in 7 EU countries (12 locations which include 18 installations, 2500 dairy and 1000 beef cows), and allows a diversified research, in terms of:

- Dairy and beef cattle breeds and genotypes
- Livestock farming areas, production systems, and diets
- Climatic and environmental conditions
- Expertise:
  - ✓ Animal nutrition
  - ✓ Physiology, pathology, ethology, health, welfare
  - ✓ Cattle husbandry technology and engineering
  - ✓ Genetics
  - ✓ Research methodologies
  - ✓ Ethics in experimentation



## CONSORTIUM

14 partners: INRAE – France | SRUC – UK | WU - Netherlands | WUR-DLO - Netherlands | UREAD – UK | FBN – Germany | TEAGASC – Ireland | AU - Denmark | IRTA – Spain | CRA-W – Belgium | IDELE - France | EAAP – Italy | Agrimetrics – UK | INRAE Transfert – France

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