Smarter
SMAll RuminanTs breeding for Efficiency and Resilience

SMARTER, a new european project in small ruminants research

- Studies how genetic selection can help to increase resilience and efficiency (R&E) in small ruminants (sheep and goats) in their rearing environments, across a range of diverse environments and production systems

Key facts and impact

- Multi-actor initiative, **13 countries, 27 partners** (50% academic / 50% non-academic)
- **46 breeds, 40 breeding bodies, 5,000 farmers**
- **1,5 million** sheep and goats (20% of EU's livestock and impact on 70%)
- Stakeholder partners adopting the **tools and solutions** developed
- Massive use of shared data: **500,000 phenotyped / 70,000 genotyped animals** on common standards
- **Non-European partners/stakeholders**: China, Canada, USA, Uruguay, Australia and New Zealand
- **Smarter** received €7 mln funding for 4 years from the EU Horizon 2020 R&I program

Consortium and contacts

- **Coordinator:** Carole Moreno-Romieux,
INRAE Toulouse Centre, Tel +33-561285191,
carole.moreno-romieux@inrae.fr
- **Contact:** Aurélie Waquet,
INRAE Transfert Paris, Tel +33-142759656,
aurelie.waquet@inrae.fr

Goals and expected outcomes

- **Breeding for improved R&E**
  - Identifying new traits and providing low-cost predictors to use in selection
  - Define selection objectives taking account of the diversity of breeds, systems and environments
  - Breeding schemes adapted to the different farming types
  - New methods suitable for selection and on-farm implementation
  - Estimation and advises on cost and benefits
  - Identification of putative trade-off between R&E and production traits
  - Increasing R&E while securing productivity
  - Improving animal health and reducing drug-use
- **International cooperation**
  - Sharing genetic and genomic information among countries for more efficient breeding programs
  - Impulsing cooperation to facilitate international evaluations in sheep and goats
  - Creating new shared reference populations
- **Farming systems**
  - Reduction of environmental impact
  - Improvement of socioeconomic sustainability and eco-system services
- **Biodiversity**
  - Promoting diversity-rich livestock breeding and underutilized breeds
- **Training academics, breeders and farmers**

Smarter partners

www.smarterproject.eu