European project SMARTER 2018-2023

SMAll RumimanT breeding for Efficiency & Resilience

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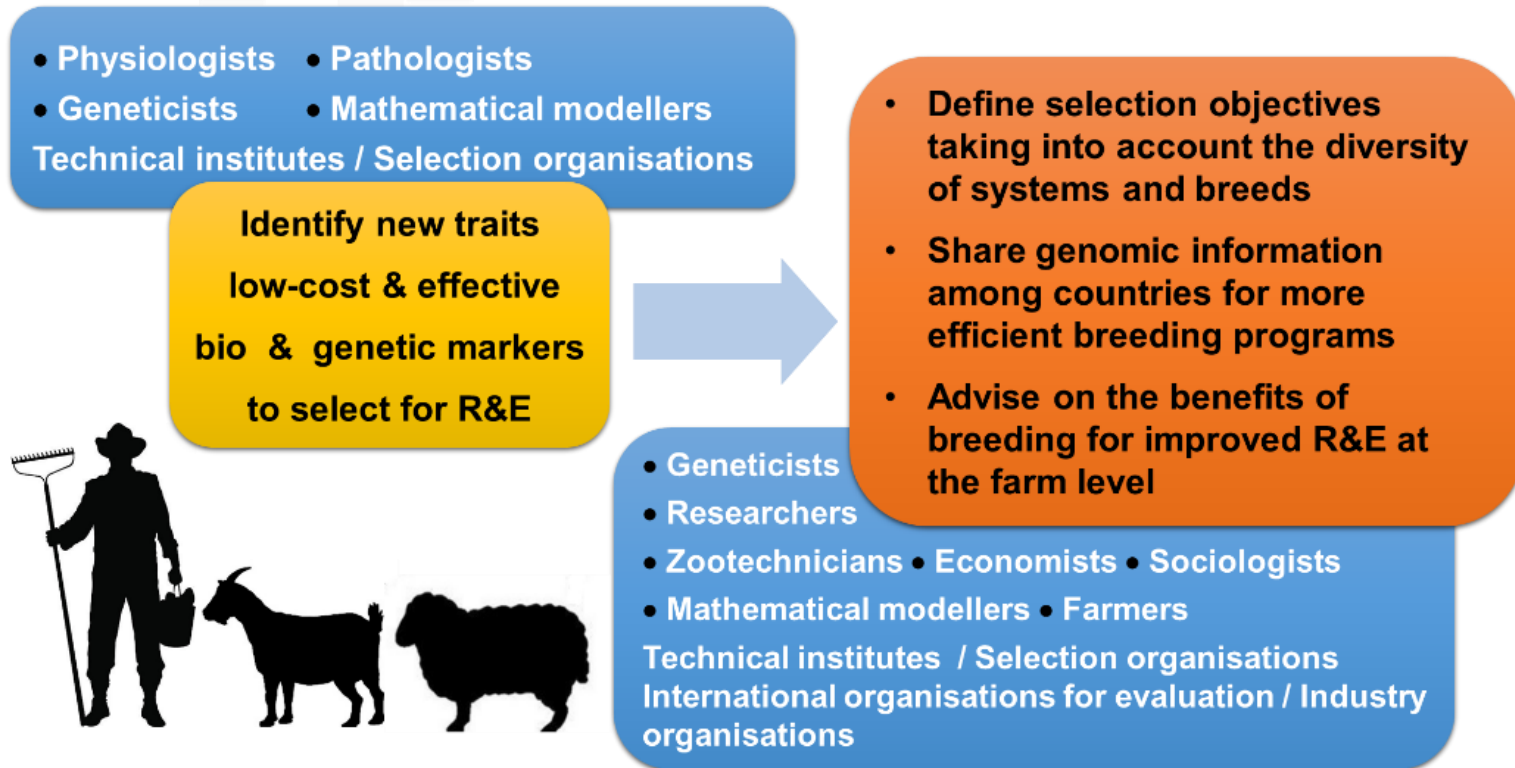# Our understanding of Resilience & Efficiency in SMARTER

Resilience: the ability of an animal/system to either maintain or revert quickly to high production and health status when exposed to a diversity of challenges, with a focus on nutritional and/or health challenges.

- Direct indicators of health : gastro-intestinal parasitism, lameness and mastitis, ….
- Indirect indicators of health and welfare : lamb and foetal survival, functional longevity, maternal and lamb behaviour, and neonatal vigour.
- Development of new resilience trajectory methods
- farming systems more economically resilient to environmental, disease and economic challenges.
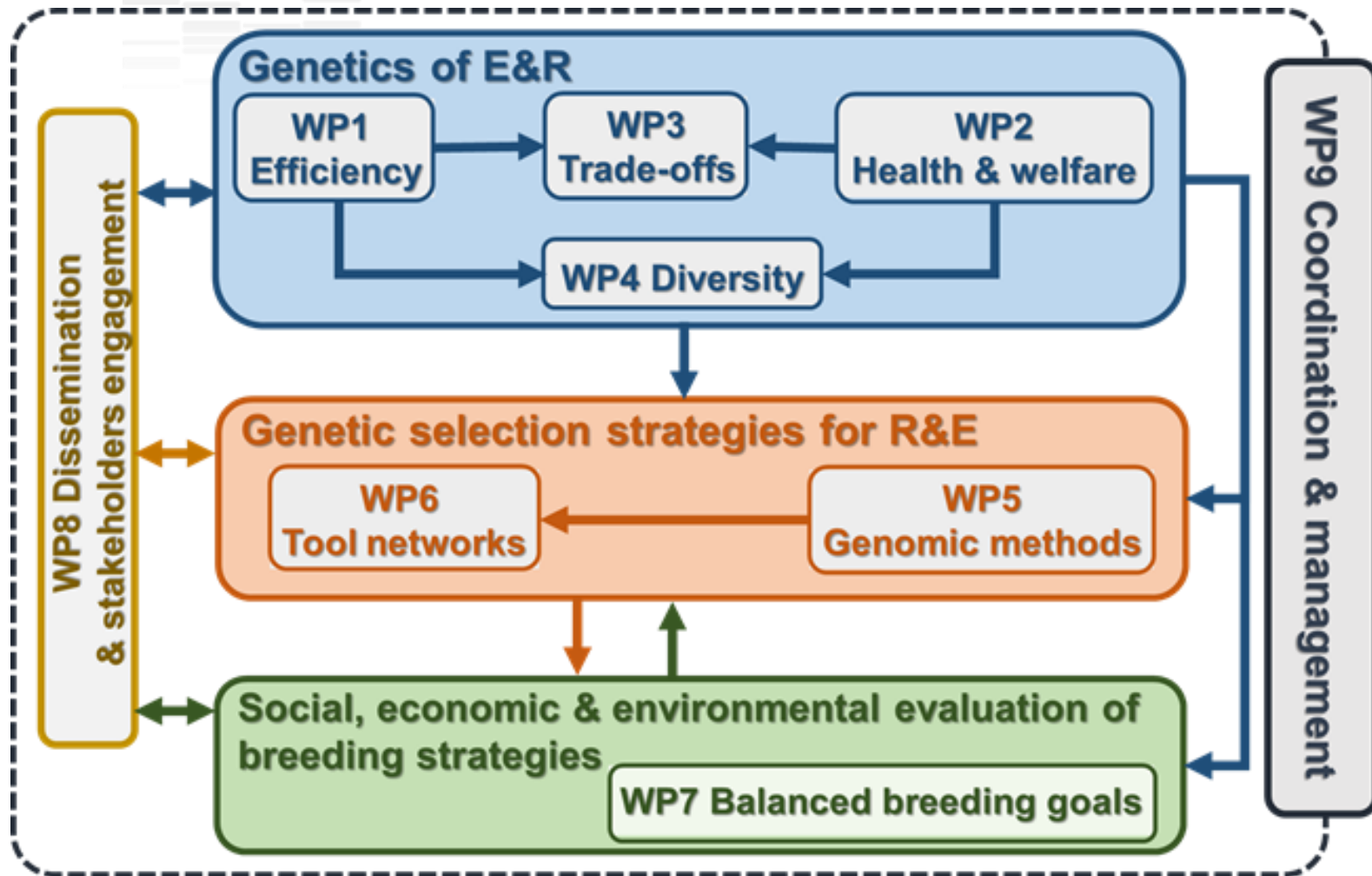
Efficiency: of feed resource use by animals.

- feed efficiency (using residual feed intake),
- dynamics of body tissue mobilisation and its impact on the environment.
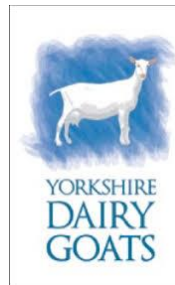- focus on agro-ecological efficiency including greenhouse gas emissions.

Several competences to acheive several goals in the SMARTER project

- Physiologists
- Pathologists
- Geneticists
- Mathematical modellers

Technical institutes / Selection organisations

Identify new traits
low-cost & effective
bio & genetic markers
to select for R&E

- Define selection objectives taking into account the diversity of systems and breeds
- Share genomic information among countries for more efficient breeding programs
- Advise on the benefits of breeding for improved R&E at the farm level

- Geneticists
- Researchers
- Zootechnicians • Economists • Sociologists
- Mathematical modellers • Farmers

Technical institutes / Selection organisations
International organisations for evaluation / Industry organisations

Project organisation

SMARTER a multi-actor project: 26 PARTNERS (14 academic & 12 non-academic partners)