SMARTER

SMAll RuminanTs breeding for Efficiency and Resilience

Research and Innovation action: H2020 – 772787
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Work programme topic: SFS-15-2016-2017
Duration of the project: 01 November 2018 – 31 October 2022

Website on-line & Communication package

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DELIVERABLE D8.1

Work package N°8

Due date: M4

Actual date: 30/05/2019

Dissemination level: Public

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About the SMARTER research project

SMARTER will develop and deploy innovative strategies to improve Resilience and Efficiency (R&E) related traits in sheep and goats. SMARTER will find these strategies by: i) generating and validating novel R&E related traits at a phenotypic and genetic level ii) improving and developing new genome-based solutions and tools relevant for the data structure and size of small ruminant populations, iii) establishing new breeding and selection strategies for various breeds and environments that consider R&E traits.

SMARTER with help from stakeholders chose several key R&E traits including feed efficiency, health (resistance to disease, survival) and welfare. Experimental populations will be used to identify and dissect new predictors of these R&E traits and the trade-off between animal ability to overcome external challenges. SMARTER will estimate the underlying genetic and genomic variability governing these R&E related traits. This variability will be related to performance in different environments including genotype-by-environment interactions (conventional, agro-ecological and organic systems) in commercial populations. The outcome will be accurate genomic predictions for R&E traits in different environments across different breeds and populations. SMARTER will also create a new cooperative European and international initiative that will use genomic selection across countries. This initiative will make selection for R&E traits faster and more efficient. SMARTER will also characterize the phenotype and genome of traditional and underutilized breeds. Finally, SMARTER will propose new breeding strategies that utilise R&E traits and trade-offs and balance economic, social and environmental challenges.

The overall impact of the multi-actor SMARTER project will be ready-to-use effective and efficient tools to make small ruminant production resilient through improved profitability and efficiency.

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1 Summary

Deliverable 8.1 is related to the development of the project's public website (www.smarterproject.eu), which will be used as the main instrument to present the project objectives/structure and its consortium. The website will be the predominant tool for disseminating project activities and achievements, scientific publications and other resources, events of interest, newsletters and press releases, etc.

The SMARTER website will include links to the project accounts on social networks (Twitter Facebook, and YouTube) to facilitate and increase dissemination activities.

Deliverable 8.1 also entails the creation of a communication package, in line with the graphic identity of the project. The SMARTER communication package is composed of a logo, a poster, a leaflet and a template for Power Point, presenting the project as a whole.

2 Introduction

The SMARTER website and communication package are part of task 8.4 to be carried out in Work package (WP) 8 of the project, which is led by EAAP.

The SMARTER website (www.smarterproject.eu) is the major dissemination tool of the project, intended to facilitate the spread of project information to different stakeholder groups, such as: scientists outside SMARTER consortium, policy makers; breeding organizations; breeding industry, etc.

The purpose of the SMARTER website is to disseminate project outputs in order to:

- Raise awareness about the project activities;
- Inform about the aims, the ongoing research, the findings, the achievements and the resources created;
- Encourage feedback from stakeholders;
- Promote the exploitation of project results.

The SMARTER poster and leaflet were developed as tools which easily allow the reader to identify the project aims, partners, expected outcomes and main contacts. Both documents will be exploited for dissemination activities during European and international conferences/events related to SMARTER topics.

3 Results

3.1 Website

The SMARTER website has been prepared by EAAP - who provided technical support in the hosting and development of the website - in close interaction with INRA.

The official registration of the domain name is: http://www.smarterproject.eu/. The site is operative since 13 May 2019.

The structure, design and functionalities of the web interface were identified and agreed by EAAP, and INRA. All partners have agreed to actively collaborate to update the information displayed in the website.

The website is structured according to the following sections (see Annex 1):

Item	Content
Home Page	Facts and figures about the project; navigation tabs; links to social media; access to SMARTER Intranet (i.e.: restricted collaborative workspace for project partners); Activity News box
Project	Summary, Challenge; Objectives, Expected impact, Structure
Consortium	Map and list of project partners
Dissemination	Communication package (downloadable logo, leaflet and poster), video, newsletter
Stakeholders	It will host a platform, which will allow interaction with different stakeholders
Gallery	Project related photos
Events	Display of future project events and other events of interest
Contacts	Form to address messages to SMARTER coordinator

3.2 Communication package

The communication package was developed in close collaboration with INRA and consists of:

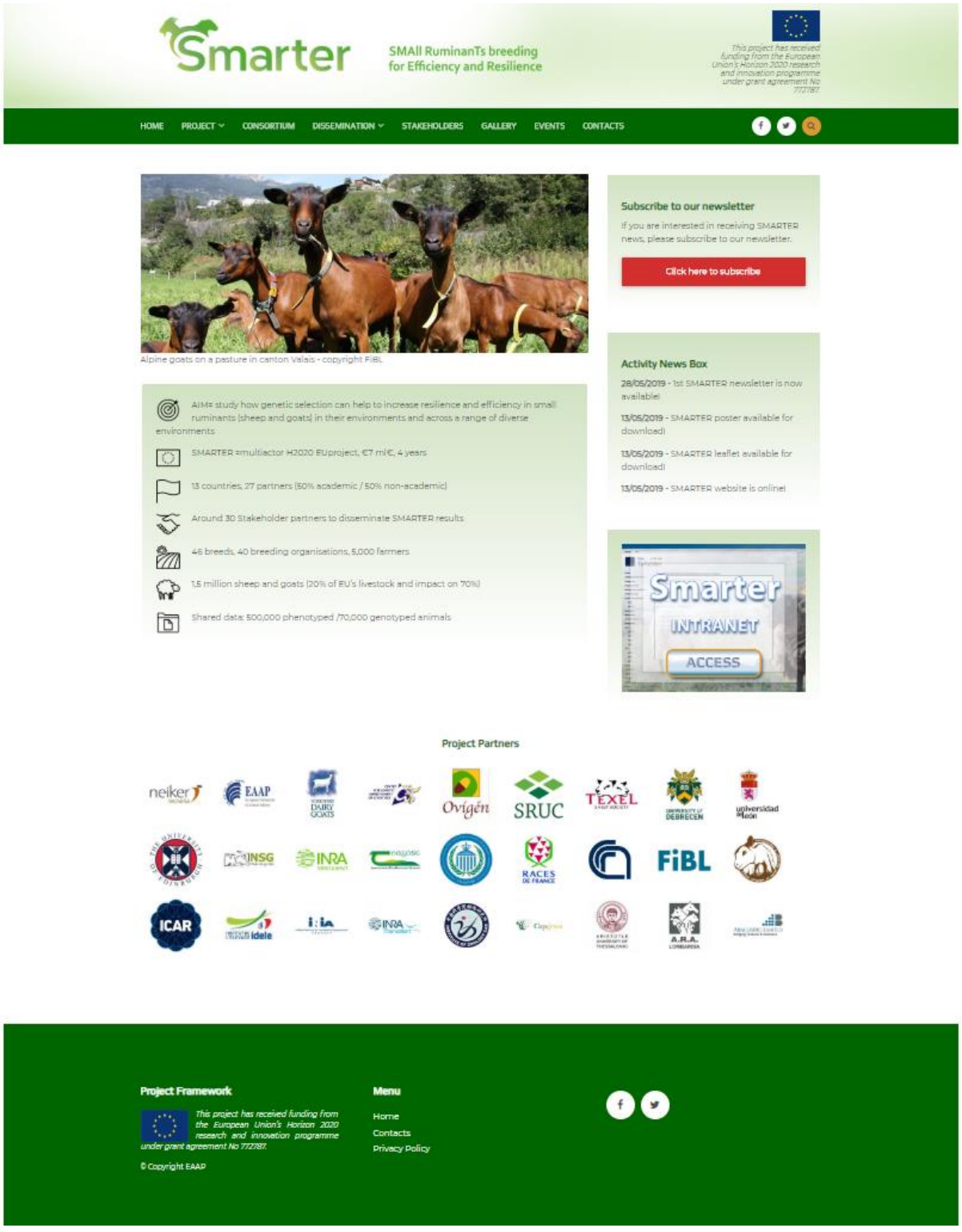
- The project logo (see Annex 2)
- The project leaflet (see Annex 3)
- The project poster (see Annex 4)
- The template for Power Point presentations (see Annex 5)

4 Deviations or delays

The website became operative on mid-May 2019 (M7), with a delay of two weeks due to the implementation of last-minute changes.

5 Annexes

5.1 Annex 1 Home page of the SMARTER website



5.2 Annex 2 SMARTER logo

5.3 Annex 3 SMARTER leaflet

Consortium and contacts

Coordinator: **Carole Moreno-Romieux**, INRA Toulouse Centre,
Tel +33-561285191 carole.moreno-romieux@inra.fr

Contact: **Cloe Paul-Victor**, INRA Transfert, Montpellier,
Tel +33-499613068, cloe.paul-victor@inra.fr

www.smarterproject.eu

Key facts and impact

A multi-actor initiative with **27 partners** *in* **13 countries**, *50% academic and 50% non-academic stakeholders*

46 breeds, **40 breeding bodies**, **5.000 farmers** *raising* **15 million small ruminants** *(20% of EU's livestock,* **impact on 70%** *of it)*

Stakeholder partners adopting the **tools and solutions** *developed, and disseminating them within their sectors*

A massive use of shared data, 500,000 phenotyped and 70,000 genotyped animals *(on common data standards)*

Non-European partners/ stakeholders: *China, Canada, USA, Uruguay, Australia and New Zealand*

Smarter *received €7 mln funding for 4 years (2018-2022)*

Smarter partners

This project has received funding from the European Union's Horizon 2020 Programme for Research & Innovation under grant agreement n°772787.

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SMAll RuminanTs breeding for Efficiency and Resilience

Small ruminant breeding for ef ciency and resilience

Smarter is a new international collaborative research project, launched on 1/11/2018.

Smarter's objective is to study 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, and make their raising more sustainable.

Smarter's approach concerns as well the animal, population/breed, and system/farm levels.

Constant interaction with stakeholders helps **Smarter** staying in line with the needs of the breeders.

Definitions

Resilience: *the ability of an animal/system to maintain or revert quickly to high production and health status when exposed to a diversity of nutritional/health threats. Sheep and goats, mostly reared in less-favored environments, have a strong capacity of resilience and can adapt to harsh conditions.*

Efficiency: a) of feed resource used by the animal: ability to *maintain or gain weight on less feed than another animal in the same environment*, b) *at agroecological level: includes the reduction of GHG emissions. Small ruminants forage does not compete with other land use, the improvement of their feed efficiency is a challenge.*

Main goals

- To identify new traits to select for R&E, and low-cost predictors of these traits
- To develop new methods to select R&E suitable for on-farm implementation
- To share genetic and genomic information among countries for more efficient breeding programs, and impulse international cooperation in evaluation of small ruminants
- To define R&E selection objectives taking account of the diversity of breeds, systems and environments
- To advise on the benefits of breeding for improved R&E at the farm level

Resilience and efficiency traits studied in Smarter

Resilience: **health and welfare, disease resistance, longevity, fertility, lamb vigor, survival, robustness**

Efficiency: **food efficiency, resource allocation, microbiota, gas emissions**

Tradeoff **between R&E traits**

Expected outcomes

- Reducing the environmental impact of the farming systems
- Improving their socioeconomic sustainability and the eco-system services they provide
- Increasing resilience of livestock production while securing productivity
- Providing predictors of R&E suitable for on farm implementation
- Using resilience as lever to improve animal health and reduce drug-use
- Generating across-country genetic and genomic evaluations by pooling genomic data and creating new shared reference populations in sheep and goat
- Creating an international initiative to facilitate international evaluations in small ruminants
- Promoting diversity-rich livestock breeding and underutilized breeds
- Adapting breeding schemes to the different farming types
- Estimating the costs and benefits of the new selection strategies at farm level
- Training academics, breeders and farmers with the new tools generated by Smarter
- Exploring how better adaptation to local conditions improves animal wellbeing

5.4 Annex 4 SMARTER poster

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, INRA Toulouse Centre, Tel +33-561285191, carole.moreno-romieux@inra.fr
- **Contact:** Cloe Paul-Victor, INRA Transfert, Montpellier, Tel +33-499613068, cloe.paul-victor@inra.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

5.5 Annex 5 SMARTER template

SMAll RuminanTs breeding for Efficiency and Resilience

Title Presentation

Authors (Organization)

CompanyLogo

Name event (ex. KoM): Institute (INRA), place (Toulouse),
date of the event (7th-8th November 2018)

SMARTER WPxx - Title

Write here your text.

Write here your text.

- Point 1.
- Point 2.

2

SMARTER PARTNERS

Thank you for your attention

www.smarterproject.eu