

HORIZON
2020

SMALL RuminanTs breeding for Efficiency and Resilience

Fact Sheet

Project Information

SMARTER

Grant agreement ID: 772787

[Project website](#) 

DOI

[10.3030/772787](https://doi.org/10.3030/772787) 

Project closed

EC signature date

4 May 2018

Start date

1 November 2018

End date

30 June 2023

Funded under

SOCIETAL CHALLENGES - Food security, sustainable agriculture and forestry, marine, maritime and inland water research, and the bioeconomy

Total cost

€ 7 643 751,25

EU contribution

€ 6 998 911,25

Coordinated by

INSTITUT NATIONAL DE
RECHERCHE POUR
L'AGRICULTURE,
L'ALIMENTATION ET
L'ENVIRONNEMENT



France

Objective

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.

Fields of science (EuroSciVoc)

[agricultural sciences](#) > [animal and dairy science](#) > [domestic animals](#) > [animal husbandry](#)
[natural sciences](#) > [biological sciences](#) > [genetics](#) > [genomes](#)



Keywords

[Feed Efficiency](#)

[resilience](#)

[trade-off](#)

[health](#)

[welfare](#)

[genomic selection](#)

[mathematic models](#)

[predictive biology](#)

Programme(s)

[H2020-EU.3.2. - SOCIETAL CHALLENGES - Food security, sustainable agriculture and forestry, marine, maritime and inland water research, and the bioeconomy](#)

MAIN PROGRAMME

[H2020-EU.3.2.1.1. - Increasing production efficiency and coping with climate change, while ensuring sustainability and resilience](#)

Topic(s)

[SFS-15-2016-2017 - Breeding livestock for resilience and efficiency](#)

Call for proposal

[H2020-SFS-2016-2017](#) 

[See other projects for this call](#)

Sub call

H2020-SFS-2017-2

Funding Scheme

[RIA - Research and Innovation action](#)

Coordinator



**INSTITUT NATIONAL DE RECHERCHE POUR L'AGRICULTURE,
L'ALIMENTATION ET L'ENVIRONNEMENT**

Net EU contribution

€ 1 581 713,63

Total cost

€ 1 622 529,88

Address

**147 RUE DE L'UNIVERSITE
75007 Paris**

 **France** 

Region

Ile-de-France > Ile-de-France > Paris

Activity type

Research Organisations

Links

[Contact the organisation](#)  [Website](#) 

[Participation in EU R&I programmes](#) 

Participants (36)

 THIRD-PARTY 

ECOLE NATIONALE VETERINAIRE DE TOULOUSE

 France

Net EU contribution

€ 40 816,25

Address

CHEMIN DES CAPELLES 23
31076 Toulouse 

Region

Occitanie > Midi-Pyrénées > Haute-Garonne

Activity type

Higher or Secondary Education Establishments

Links

- [Contact the organisation](#) 
- [Participation in EU R&I programmes](#) 
- [HORIZON collaboration network](#) 

Total cost

No data



ARISTOTELIO PANEPISTIMIO THESSALONIKIS

 Greece

Net EU contribution

€ 451 000,00

Address

KEDEA BUILDING, TRITIS SEPTEMVRIOU, ARISTOTLE UNIVERSITY CAMPUS
546 36 THESSALONIKI 

Region

Βόρεια Ελλάδα > Κεντρική Μακεδονία > Θεσσαλονίκη

Activity type

Higher or Secondary Education Establishments

Links

[Contact the organisation](#)  [Website](#) 

[Participation in EU R&I programmes](#) 

[HORIZON collaboration network](#) 

Total cost

€ 451 000,00



ASSOCIAZIONE REGIONALE ALLEVATORI DELLA LOMBARDIA

 Italy

Net EU contribution

€ 160 311,71

Address

VIA KENNEDY 30

26013 Crema 

Region

Nord-Ovest > Lombardia > Cremona

Activity type

Other

Links

[Contact the organisation](#)  [Website](#) 

[Participation in EU R&I programmes](#) 

[HORIZON collaboration network](#) 

Total cost

€ 160 311,71



FORSCHUNGSINSTITUT FUR BIOLOGISCHEN LANDBAU STIFTUNG

 Switzerland

Net EU contribution

€ 261 915,50

Address

ACKERSTRASSE 113

5070 Frick 

Region

Schweiz/Suisse/Svizzera > Nordwestschweiz > Aargau

Activity type

Research Organisations

Links

[Contact the organisation](#)  [Website](#) 

[Participation in EU R&I programmes](#) 

[HORIZON collaboration network](#) 

Total cost

€ 261 915,50



CAPGENES

 France

Net EU contribution

€ 185 625,00

Address

Agropole route de Chauvigny 2135

86550 Mignaloux Beauvoir 

SME 

Yes

Region

Nouvelle-Aquitaine > Poitou-Charentes > Vienne

Activity type

Private for-profit entities (excluding Higher or Secondary Education Establishments)

Links

[Contact the organisation](#)  [Website](#) 

[Participation in EU R&I programmes](#) 

[HORIZON collaboration network](#) 

Total cost

€ 185 625,00



INSTITUT DE L'ELEVAGE

 France

Net EU contribution

€ 452 000,00

Address

RUE DE BERCY 149
75012 Paris 

Region
Ile-de-France > Ile-de-France > Paris

Activity type
Research Organisations

Links
[Contact the organisation](#)  [Website](#) 
[Participation in EU R&I programmes](#) 
[HORIZON collaboration network](#) 

Total cost
€ 482 000,00

 **THIRD-PARTY** 

CENTRE INTERREGIONAL D'INFORMATION ET DE RECHERCHE EN PRODUCTION OVINELE MOURIER

 France
Net EU contribution
€ 30 000,00

Address
LE MOURIER 1
87800 Saint Priest Ligoure 

Region
Nouvelle-Aquitaine > Limousin > Haute-Vienne

Activity type
Other

Links
[Contact the organisation](#) 
[Participation in EU R&I programmes](#) 
[HORIZON collaboration network](#) 

Total cost
No data


SERVICE ICAR SRL 
 Italy

Net EU contribution

€ 55 002,83

Address

VIA SAVOIA 78 SC .A - INT.3 BOX 107
00198 Roma 

SME 

Yes

Region

Centro (IT) > Lazio > Roma

Activity type

Private for-profit entities (excluding Higher or Secondary Education Establishments)

Links

[Contact the organisation](#) 

[Participation in EU R&I programmes](#) 

[HORIZON collaboration network](#) 

Total cost

€ 55 002,83



Instituto Nacional de Investigacion Agropecuaria

 Uruguay

Net EU contribution

€ 172 890,00

Address

ruta 50 KM 11 ESTACION EXPERIMENTAL
70 000 Colonia 

Activity type

Research Organisations

Links

[Contact the organisation](#) 

[Participation in EU R&I programmes](#) 

[HORIZON collaboration network](#) 

Total cost

€ 172 890,00



SRUC

 United Kingdom

Net EU contribution

€ 451 937,91

Address

WEST MAINS ROAD
EH9 3JG Edinburgh 

Region

Scotland > Eastern Scotland > Edinburgh

Activity type

Higher or Secondary Education Establishments

Links

- [Contact the organisation](#) 
- [Website](#) 
- [Participation in EU R&I programmes](#) 
- [HORIZON collaboration network](#) 

Total cost

€ 451 937,91



UNIVERSIDAD DE LEON

 Spain

Net EU contribution

€ 308 275,00

Address

AVENIDA FACULTAD 25
24004 Leon 

Region

Centro (ES) > Castilla y León > León

Activity type

Higher or Secondary Education Establishments

Links

- [Contact the organisation](#) 
- [Website](#) 
- [Participation in EU R&I programmes](#) 
- [HORIZON collaboration network](#) 

Total cost

€ 430 500,00

AGENCIA ESTATAL CONSEJO SUPERIOR DE INVESTIGACIONES CIENTIFICAS

 Spain

Net EU contribution

€ 122 225,00

Address

CALLE SERRANO 117

28006 Madrid 

Region

Comunidad de Madrid > Comunidad de Madrid > Madrid

Activity type

Research Organisations

Links

[Contact the organisation](#)  [Website](#) 

[Participation in EU R&I programmes](#) 

[HORIZON collaboration network](#) 

Total cost

No data



TEAGASC - AGRICULTURE AND FOOD DEVELOPMENT AUTHORITY

 Ireland

Net EU contribution

€ 363 696,25

Address

Oak Park

R93 Carlow 

Region

Ireland > Southern > South-East

Activity type

Higher or Secondary Education Establishments

Links

[Contact the organisation](#)  [Website](#) 

[Participation in EU R&I programmes](#) 

[HORIZON collaboration network](#) 

Total cost

€ 363 696,25



THE UNIVERSITY OF EDINBURGH

United Kingdom

Net EU contribution

€ 503 038,75

Address

OLD COLLEGE, SOUTH BRIDGE

EH8 9YL Edinburgh

Region

Scotland > Eastern Scotland > Edinburgh

Activity type

Higher or Secondary Education Establishments

Links

[Contact the organisation](#) [Website](#)

[Participation in EU R&I programmes](#)

[HORIZON collaboration network](#)

Total cost

€ 503 038,75



NEIKER-INSTITUTO VASCO DE INVESTIGACION Y DESARROLLO AGRARIO SA

Spain

Net EU contribution

€ 61 625,00

Address

BERREAGA KALEA 1

48160 Vizcaya

Region

Noreste > País Vasco > Bizkaia

Activity type

Research Organisations

Links

[Contact the organisation](#) [Website](#)

[Participation in EU R&I programmes](#)

Total cost
€ 61 625,00



ASOCIACION PARA LA SELECCION Y MEJORA GENETICA DE OVINO-CAPRINO DE CASTILLA Y LEON (OVIGEN)

 Spain
Net EU contribution
€ 89 000,00

Address
GRANJA FLORENCIA CTRA VILLALAZA-PELEAGONZALO, S/N
49800 Toro, Zamora 

Region
Centro (ES) > Castilla y León > Zamora

Activity type
Private for-profit entities (excluding Higher or Secondary Education Establishments)

Links
[Contact the organisation](#) 
[Participation in EU R&I programmes](#) 
[HORIZON collaboration network](#) 

Total cost
€ 105 000,00

 THIRD-PARTY

ASSAF - E

 Spain
Net EU contribution
€ 16 000,00

Address
FINCA GRANJA FLORENCIA S/N
49800 Toro Zamora 

Region
Centro (ES) > Castilla y León > Zamora

Activity type
Other

Links

- [Contact the organisation](#)
- [Participation in EU R&I programmes](#)
- [HORIZON collaboration network](#)

Total cost

No data



INRAE TRANSFERT SAS

France

Net EU contribution

€ 280 565,00

Address

5 RUE WATT IMMEUBLE BIOPARK
75013 PARIS



Region

Ile-de-France > Ile-de-France > Paris

Activity type

Private for-profit entities (excluding Higher or Secondary Education Establishments)

Links

- [Contact the organisation](#)
- [Website](#)
- [Participation in EU R&I programmes](#)
- [HORIZON collaboration network](#)

Total cost

€ 280 565,00



DEBRECENI EGYETEM

Hungary

Net EU contribution

€ 80 000,00

Address

EGYETEM TER 1
4032 Debrecen



Region

Alföld és Észak > Észak-Alföld > Hajdú-Bihar

Activity type

Higher or Secondary Education Establishments

Links

[Contact the organisation](#)  [Website](#) 

[Participation in EU R&I programmes](#) 

[HORIZON collaboration network](#) 

Total cost

€ 80 000,00



AGROTIKOS KTINOTROFIKOS SINETAIRISMOS DITIKIS ALLADOS

 Greece

Net EU contribution

€ 95 000,00

Address

13th klm Nat Road Agrinio Ioannena

30100 Agrinio 

SME 

Yes

Region

Κεντρική Ελλάδα > Δυτική Ελλάδα > Αιτωλοακαρνανία

Activity type

Private for-profit entities (excluding Higher or Secondary Education Establishments)

Links

[Contact the organisation](#) 

[Participation in EU R&I programmes](#) 

[HORIZON collaboration network](#) 

Total cost

€ 95 000,00



RACES DE FRANCE

 France

Net EU contribution

€ 141 250,00

Address

149 RUE DE BERCY
75595 Paris 

Region

Ile-de-France > Ile-de-France > Paris

Activity type

Other

Links

- [Contact the organisation](#) 
- [Participation in EU R&I programmes](#) 
- [HORIZON collaboration network](#) 

Total cost

€ 292 500,00

 THIRD-PARTY 

RACES OVINES DES MASSIFS-SELECTION

 France

Net EU contribution

€ 50 750,00

Address

ROUTE DE THIERS MARMILHAT
63370 Lempdes 

Region

Auvergne-Rhône-Alpes > Auvergne > Puy-de-Dôme

Activity type

Other

Links

- [Contact the organisation](#) 
- [Participation in EU R&I programmes](#) 
- [HORIZON collaboration network](#) 

Total cost

No data

 THIRD-PARTY 

GEODE RECHERCHE ET INNOVATION

 France

Net EU contribution

€ 24 000,00

Address

1 ROUTE DE CHAUVIGNY TOUTEJOIC
86500 Montmorillon 

Region

Nouvelle-Aquitaine > Poitou-Charentes > Vienne

Activity type

Private for-profit entities (excluding Higher or Secondary Education Establishments)

Links

- [Contact the organisation](#) 
- [Participation in EU R&I programmes](#) 
- [HORIZON collaboration network](#) 

Total cost

No data

 THIRD-PARTY 

UNITE POUR RACE LACAUNE UPRA LACAUNE

 France

Net EU contribution

€ 46 500,00

Address

CAR DE L AGRICULTURE
12000 Rodez 

Region

Occitanie > Midi-Pyrénées > Aveyron

Activity type

Other

Links

- [Contact the organisation](#) 
- [Participation in EU R&I programmes](#) 
- [HORIZON collaboration network](#) 

Total cost

No data

 THIRD-PARTY 

ORGANISME SELECTION 3 RACES LOCALES BREBIS LAITIERES

 France

Net EU contribution

€ 30 000,00

Address

QUAI AHETZIA

64130 Ordiarp 

Region

Nouvelle-Aquitaine > Aquitaine > Pyrénées-Atlantiques

Activity type

Other

Links

[Contact the organisation](#) 

[Participation in EU R&I programmes](#) 

[HORIZON collaboration network](#) 

Total cost

No data



UNIVERSITY OF GUELPH

 Canada

Net EU contribution

€ 0,00

Address

50 STONE ROAD EAST

N1G 2W1 GUELPH 

Activity type

Higher or Secondary Education Establishments

Links

[Contact the organisation](#)  [Website](#) 

[Participation in EU R&I programmes](#) 

[HORIZON collaboration network](#) 

Total cost

€ 246 840,00



UNIVERSITATEA DE STIINTELE VIETII REGELE MIHAI I DIN TIMISOARA 

 Romania

Net EU contribution

€ 0,00

Address

CALEA ARADULUI 119

300645 Timisoara 

Region

Macroregiunea Patru > Vest > Timiș

Activity type

Higher or Secondary Education Establishments

Links

[Contact the organisation](#) 

[Participation in EU R&I programmes](#) 

[HORIZON collaboration network](#) 

Total cost

No data



FEDERAZIONE EUROPEA DI ZOOTECNICA

 Italy

Net EU contribution

€ 216 800,00

Address

VIA GIUSEPPE TOMASSETTI 3 A/1

00161 Roma 

Region

Centro (IT) > Lazio > Roma

Activity type

Other

Links

[Contact the organisation](#)  [Website](#) 

[Participation in EU R&I programmes](#) 

[HORIZON collaboration network](#) 

Total cost

€ 216 800,00



BRITISH TEXEL SHEEP SOCIETY LIMITED(THE)

United Kingdom

Net EU contribution

€ 90 000,00

Address

THE MECHANICS WORKSHOP, NEW LANARK

CV8 2LG Lanark Lanarkshire

Region

West Midlands (England) > Herefordshire, Worcestershire and Warwickshire > Warwickshire

Activity type

Private for-profit entities (excluding Higher or Secondary Education Establishments)

Links

[Contact the organisation](#)

[Participation in EU R&I programmes](#)

[HORIZON collaboration network](#)

Total cost

€ 90 000,00



YORKSHIRE DAIRY GOATS

United Kingdom

Net EU contribution

€ 70 000,00

Address

THE FARM OFFICES ST. HELENS FARM SEATON ROSS

YO424NP York

SME

Yes

Region

Yorkshire and the Humber > North Yorkshire > York

Activity type

Private for-profit entities (excluding Higher or Secondary Education Establishments)

Links

[Contact the organisation](#)

[Participation in EU R&I programmes](#)
[HORIZON collaboration network](#)

Total cost
€ 70 000,00



NORSK SAU OG GEIT

Norway

Net EU contribution
€ 160 000,00

Address

MOERVEIEN 2A
1431 As

Region
Norge > Oslo og Viken > Viken

Activity type
Other

Links
[Contact the organisation](#)
[Participation in EU R&I programmes](#)
[HORIZON collaboration network](#)

Total cost
€ 160 000,00



INSTITUTE OF ZOOLOGY, CHINESE ACADEMY OF SCIENCES

China

Net EU contribution
€ 0,00

Address

Beichen West Road 1 5
100101 Beijing

Activity type
Research Organisations

Links
[Contact the organisation](#) [Website](#)

Total cost
€ 398 000,00



CONSIGLIO NAZIONALE DELLE RICERCHE

Italy
Net EU contribution
€ 212 750,00

Address
**PIAZZALE ALDO MORO 7
00185 Roma**

Region
Centro (IT) > Lazio > Roma

Activity type
Research Organisations

Links
[Contact the organisation](#) [Website](#)
[Participation in EU R&I programmes](#)
[HORIZON collaboration network](#)

Total cost
€ 212 750,00



ABACUSBIO INTERNATIONAL LIMITED

United Kingdom
Net EU contribution
€ 73 376,25

Address
**10 John Street
WC1N 2EB London**

Region
London > Inner London — West > Camden and City of London

Activity type
Private for-profit entities (excluding Higher or Secondary Education Establishments)

Links

- [Contact the organisation](#)
- [Participation in EU R&I programmes](#)
- [HORIZON collaboration network](#)

Total cost

€ 73 376,25

 THIRD-PARTY

ABACUSBIO LIMITED

 New Zealand

Net EU contribution

€ 0,00

Address

442 MORAY PLACE
9016 Dunedin 

Activity type

Private for-profit entities (excluding Higher or Secondary Education Establishments)

Links

- [Contact the organisation](#)
- [Participation in EU R&I programmes](#)
- [HORIZON collaboration network](#)

Total cost

No data



INTERNATIONAL COMMITTEE FOR ANIMALRECORDING (ICAR)

 Netherlands

Net EU contribution

€ 120 847,17

Address

ARTHUR VAN SCHENDELSTRAAT 650
3511 MJ Utrecht 

Activity type

Other

Links

- [Contact the organisation](#)

[Participation in EU R&I programmes](#) 

[HORIZON collaboration network](#) 

Total cost

€ 120 847,17

Last update: 1 August 2024

Permalink: <https://cordis.europa.eu/project/id/772787>

European Union, 2025