Work And Budget Plan

FA1308 Grant Agreement Period 4

01/05/2017 to 20/03/2018

Section I: Action Profile

Action General Information

Action Code	FA1308	MC Chair	Prof Chris Knight
Action Title	FA1308 - DairyCare		
MOU	061/13	Draft MOU	oc-2013-1-15365
CSO Approval Date	2013-11-15		
Action Start Date	2014-03-21	Action End Date	2018-03-20
Science Officer	Dr Ioanna Stavridou	Administrative Officer	Ms Cassia Azevedo

Participating COST Members:

	ITC		Non-ITC		Total
COST Members (countries) having accepted the MoU	Number	14	Number	16	30
	% of all ITCs	46.67%	% of all non-ITCs	53.33%	
Number of Action MC members	26		33		59

COST Member and Acceptance Date		
AT 27/10/2014	HU 11/12/2013	RO 30/12/2013
BE 29/01/2014	IE 20/01/2014	RS 12/04/2014
BA 22/09/2014	IL 05/12/2013	SK 07/08/2014
HR 16/01/2014	IT 10/02/2014	SI 20/03/2014
DK 27/11/2013	LT 28/09/2015	ES 02/12/2013
EE 04/12/2013	MT 22/03/2014	SE 07/03/2014
FI 07/01/2014	NL 23/12/2013	CH 17/01/2014
FR 20/02/2014	NO 16/01/2014	TR 07/03/2014
DE 07/01/2014	PL 17/12/2013	UK 26/11/2013
EL 28/11/2013	PT 21/01/2014	MK 11/12/2013

Submitted : DRAFT NOT YET SUBMITTED

Generated : 2017-02-07 at 6:33 PM

International cooperation

	NNC	IPC	Specific Organisation	Total
Number of entities formally approved to join Action	0	2	0	2
Number of countries	0	2	0	2

Working Groups

	WG Title	WG Leader	Number of WG members
WG1	Biomarker-based Welfare Technologies	Prof Gianfranco Gabai	144
WG2	Activity-based Welfare Technologies	Dr Vivi M. THORUP	94
WG3	System-level Welfare Technologies	Dr Jon Moorby	63

COST is supported by the EU Framework Programme Horizon 2020

COST Association
Avenue Louise 149 I 1050 Brussels, Belgium
t: +32 (0)2 533 3800 I f: +32 (0)2 533 3890
office@cost.eu I www.cost.eu

Section II: MoU objectives and Grant Agreement Period Goals and Activities

Action Objectives from MoU

Aim/primary Objective
The main objective of the Action is to assist in the development and application of novel technological solutions for improving the wellbeing of dairy animals across a range of dairy farming systems.
Secondary objectives
1. wider dissemination of established best-practice technologies, including from the dairy cow sector into niche sectors working with non-bovine and novel dairy animals 2. Integrate experience and expertise from diverse dairy production systems in different parts of Europe and elsewhere to build awareness and knowledge of the welfare needs of dairy animals, and of the capabilities and limitations of current and developing welfare technologies 3. Combine expert knowledge and expertise from the many relevant disciplines, including animal scientists, ethologists, veterinarians, technologists, computer scientists, veterinarians, systems scientists and social/socioeconomic scientists 4. Identify gaps in current knowledge and technology, and encourage new and innovative scientific investigation in these areas 5. Through this integration, innovation and combination, assist the development, validation and application of novel technologies for monitoring, managing and improving the health and welfare status of dairy animals 6. Generate one or more cross-disciplinary, cross-regional, cross-species blueprints for action to improve dairy animal management based on these new technologies 7. Disseminate this new knowledge and encourage the incorporation into different management practices of all relevant new scientific knowledge and technology as it arises during the next few years 8. Through these various means, increase the competitiveness of the European dairy industries

COST is supported by the EU Framework Programme Horizon 2020

COST Association
Avenue Louise 149 I 1050 Brussels, Belgium
t: +32 (0)2 533 3800 I f: +32 (0)2 533 3890
office@cost.eu I www.cost.eu

Grant Agreement Period

Grant Agreement Period Start Date	01/05/2017	Grant Agreement Period End Date	20/03/2018

Grant Agreement Period Goals

Number	Grant Agreement Period Goal	MoU Objective(s) it relates to
GAPG 1	Highlight the state of art in wellbeing sensing at the end of the action	• Aim/Primary objective • Secondary objective 1 • Secondary objective 6 • Secondary objective 7 • Secondary objective 8
GAPG 2	Define how wellbeing sensing could be implemented in practice on farms of different types	• Aim/Primary objective • Secondary objective 1 • Secondary objective 6 • Secondary objective 7 • Secondary objective 8
GAPG 3	Highlight what further research and development is needed to ensure the most effective and widespread uptake of those technologies	• Aim/Primary objective • Secondary objective 1 • Secondary objective 4 • Secondary objective 6 • Secondary objective 8
GAPG 4	Highlight management practices that enhance wellbeing of cow and calf	• Aim/Primary objective • Secondary objective 2 • Secondary objective 3
GAPG 5	Highlight characteristics of sensor technologies adapted to small dairy ruminants	• Aim/Primary objective • Secondary objective 2 • Secondary objective 3 • Secondary objective 5 • Secondary objective 8
GAPG 6	Highlight methods and develop protocols for validation of sensor technologies	• Aim/Primary objective • Secondary objective 2 • Secondary objective 3 • Secondary objective 5 • Secondary objective 8

COST is supported by the EU Framework Programme Horizon 2020

COST Association
Avenue Louise 149 I 1050 Brussels, Belgium
t: +32 (0)2 533 3800 I f: +32 (0)2 533 3890
office@cost.eu I www.cost.eu

Section IV: Work and Budget Plan for the Grant Agreement Period

Work and Budget Plan Summary

A. COST Networking Tools	EUR
(1) Meetings	95,480.00
(2) Training Schools	0.00
(3) Short Term Scientific Missions (STSM)	18,000.00
(4) COST Action Dissemination	5,290.00
(5) Other Expenses Related to Scientific Activities (OERSA)	0.00
B. Total Science Expenditure (sum of (1) to (5))	118,770.00
C. Financial and Scientific Administration and Coordination (FSAC) (max. of 15% of B)	15,440.10
Total Grant (B+C)	134,210.10

COST is supported by
the EU Framework Programme
Horizon 2020

COST Association
Avenue Louise 149 I 1050 Brussels, Belgium
t: +32 (0)2 533 3800 I f: +32 (0)2 533 3890
office@cost.eu I www.cost.eu

Meetings

Overview

Meeting Title	Meeting Type	Dates	Location	ITC	Total Cost(EUR)
Meeting of journalists and specialist agricultural consultants	Dissemination Meeting	15/05/2017 - 15/05/2017	Brussels (Belgium)	No	3,850.00
Regional Stakeholder Meeting	Dissemination Meeting	16/06/2017 - 16/06/2017	Edinburgh (United Kingdom)	No	6,600.00
Meeting of Incubator Grant Group 3, A validation protocol for sensor based recording of animal behaviour	Workshops/Conferences	20/06/2017 - 21/06/2017	Aarhus (Denmark)	No	11,710.00
Meeting of Incubator Grant Group 1, Keeping cow and calf together in high yielding dairy production systems	Workshops/Conferences	20/06/2017 - 21/06/2017	Uppsala (Sweden)	No	11,710.00
Meeting of Incubator Grant Group 2, Development of sensor technologies for small ruminants	Workshops/Conferences	20/06/2017 - 21/06/2017	Barcelona (Spain)	No	11,710.00
5th DairyCare Conference, Blueprint for Wellbeing Technologies	Management Committee Meeting, Workshops/Conferences	15/03/2018 - 16/03/2018	Krakow (Poland)	Yes	49,900.00
				Total	95,480.00

Details

Meeting Type	Dissemination Meeting
Title of the Meeting	Meeting of journalists and specialist agricultural consultants
Grant Period Goal(s) it will address	Highlight the state of art in wellbeing sensing at the end of the action,Highlight what further research and development is needed to ensure the most effective and widespread uptake of those technologies

COST is supported by the EU Framework Programme Horizon 2020

COST Association
Avenue Louise 149 I 1050 Brussels, Belgium
t: +32 (0)2 533 3800 I f: +32 (0)2 533 3890
office@cost.eu I www.cost.eu

Description	This will be a one day meeting to advise specialists on DairyCare activities and outcomes and to receive advice from those same experts on how best to disseminate and communicate outputs to endusers, especially dairy farmers		
Output(s)	Dissemination strategy and articles in agricultural press		
Location	Brussels (Belgium)	ITC	No
Start Date	2017-05-15 09:00:00	End Date	2017-05-15 17:00:00
Duration	1 day		
Number of expected total participants	15	Number of participants to be reimbursed from COST funds	7
Average reimbursement(per participant)(EUR)	550.00	Total Reimbursement costs (EUR)	3,850.00
Local Organiser Support (EUR)	0.00		
Total cost of the meeting (EUR)	3,850.00		

Meeting Type	Dissemination Meeting		
Title of the Meeting	Regional Stakeholder Meeting		
Grant Period Goal(s) it will address	Highlight the state of art in wellbeing sensing at the end of the action,Highlight what further research and development is needed to ensure the most effective and widespread uptake of those technologies		
Description	Dissemination will be undertaken to stakeholders and especially farmers at relevant agricultural meetings/conferences/shows targeting inclusiveness countries		
Output(s)	Direct dissemination to endusers		
Location	Edinburgh (United Kingdom)	ITC	No
Start Date	2017-06-16 09:00:00	End Date	2017-06-16 17:00:00
Duration	1 day		
Number of expected total participants	100	Number of participants to be reimbursed from COST funds	12
Average reimbursement(per participant)(EUR)	550.00	Total Reimbursement costs (EUR)	6,600.00
Local Organiser Support (EUR)	0.00		
Total cost of the meeting (EUR)	6,600.00		

Meeting Type	Workshops/Conferences
Title of the Meeting	Meeting of Incubator Grant Group 1, Keeping cow and calf together in high

COST is supported by the EU Framework Programme Horizon 2020

COST Association
Avenue Louise 149 I 1050 Brussels, Belgium
t: +32 (0)2 533 3800 I f: +32 (0)2 533 3890
office@cost.eu I www.cost.eu

	yielding dairy production systems		
Grant Period Goal(s) it will address	Highlight management practices that enhance wellbeing of cow and calf		
Description	DairyCare Incubator Grants are specifically designed to foster cross-disciplinarity Development of a long term cross-disciplinary research programme to develop a dairy systems based on cows and calves remaining together during the milk feeding period, and that is economically viable, socially acceptable and environmentally friendly. The research team will divide the project into different subthemes, which will enable the research group to approach different local and international funding bodies. Specific objectives that will be developed include determining the potential benefits and challenges for both the cow and calf in the weeks around calving (the transition period), the design of the calving area and the facilities where the cows and calves will be housed, the methods used to separate the cows and calves during the milking of the cows, methods of separation that minimize distress for both the dam and the calf, identifying changes in feeding behaviour in calves before and after separation and weaning, and the effects on lifetime productivity and longevity.		
Output(s)	Verbal report to be presented at 5th DairyCare Conference, written report to be available online at www.dairycareaction.org and published in special issue of Journal of Dairy Research		
Location	Uppsala (Sweden)	ITC	No
Start Date	2017-06-20 09:00:00	End Date	2017-06-21 17:00:00
Duration	2 days		
Number of expected total participants	30	Number of participants to be reimbursed from COST funds	17
Average reimbursement(per participant)(EUR)	630.00	Total Reimbursement costs (EUR)	10,710.00
Local Organiser Support (EUR)	1,000.00		
Total cost of the meeting (EUR)	11,710.00		

Meeting Type	Workshops/Conferences
Title of the Meeting	Meeting of Incubator Grant Group 2, Development of sensor technologies for small ruminants
Grant Period Goal(s) it will address	Highlight characteristics of sensor technologies adapted to small dairy ruminants
Description	The DairyCare Incubator Grants are specifically designed to foster cross-disciplinarity In the context of delivering a rumen-located technology suitable for monitoring wellbeing of small ruminants, this project will integrate inputs from electronics engineering (e.g., integrated circuits, antennas, batteries), sensing (e.g., accelerometers, pH and temperature), radiofrequency communications, signal processing, data analyticsand software development, as well as veterinaries and animal scientists, specialists in animal behaviour, rumen physiology and nutrition, chemists and/or scientists who can contribute to the design of the suitable bolus and measurement methods for small dairy

COST is supported by the EU Framework Programme Horizon 2020

COST Association
Avenue Louise 149 I 1050 Brussels, Belgium
t: +32 (0)2 533 3800 I f: +32 (0)2 533 3890
office@cost.eu I www.cost.eu

	ruminants. The findings of this work may be incorporated into novel measurement/diagnostic devices that can be deployed widely within an operational farm environment. In this regard, we have already detected several research institutes, nutrition companies and key stakeholders interested in the use of the produced sensing devices in commercial farms of dairy sheep and goats located in the EU.		
Output(s)	Verbal report to be presented at 5th DairyCare Conference, written report to be available online at www.dairycareaction.org and published in special issue of Journal of Dairy Research		
Location	Barcelona (Spain)	ITC	No
Start Date	2017-06-20 09:00:00	End Date	2017-06-21 17:00:00
Duration	2 days		
Number of expected total participants	30	Number of participants to be reimbursed from COST funds	17
Average reimbursement(per participant)(EUR)	630.00	Total Reimbursement costs (EUR)	10,710.00
Local Organiser Support (EUR)	1,000.00		
Total cost of the meeting (EUR)	11,710.00		

Meeting Type	Workshops/Conferences		
Title of the Meeting	Meeting of Incubator Grant Group 3, A validation protocol for sensor based recording of animal behaviour		
Grant Period Goal(s) it will address	Highlight methods and develop protocols for validation of sensor technologies		
Description	The DairyCare Incubator Grants are specifically designed to foster cross-disciplinarity The aim is to improve reliability of sensing technologies in the field of animal well-being and animal behavior. Currently there are no agreed standards in this field and farmers have to rely on manufacturers for information on equipment performance, lifetime and maintenance. The key deliverable is “One or more validation and standardization protocols for application to commercial sensor technologies that have relevance to animal wellbeing”. The proposal for a validation protocol is open to any variable relevant to describe the quality and reliability of a given sensor technology, as well as its usefulness in commercial (or research) application. Hence, experts of data acquisition, statistics, animal behaviour and engineering will each need to provide input to the complete protocol. The protocol needs to be scrutinized by experts in herd management, because those are seen as the key advisors to dairy herd owners or managers. Representatives of the sensor technology industry will benefit from having a reliable and broadly accepted protocol		
Output(s)	Verbal report to be presented at 5th DairyCare Conference, written report to be available online at www.dairycareaction.org and published in special issue of Journal of Dairy Research		
Location	Aarhus (Denmark)	ITC	No

COST is supported by the EU Framework Programme Horizon 2020

COST Association
Avenue Louise 149 I 1050 Brussels, Belgium
t: +32 (0)2 533 3800 I f: +32 (0)2 533 3890
office@cost.eu I www.cost.eu

Start Date	2017-06-20 09:00:00	End Date	2017-06-21 17:00:00
Duration	2 days		
Number of expected total participants	30	Number of participants to be reimbursed from COST funds	17
Average reimbursement(per participant)(EUR)	630.00	Total Reimbursement costs (EUR)	10,710.00
Local Organiser Support (EUR)	1,000.00		
Total cost of the meeting (EUR)	11,710.00		

Meeting Type	Management Committee Meeting,Workshops/Conferences		
Title of the Meeting	5th DairyCare Conference, Blueprint for Wellbeing Technologies		
Grant Period Goal(s) it will address	Highlight the state of art in wellbeing sensing at the end of the action,Define how wellbeing sensing could be implemented in practice on farms of different types,Highlight what further research and development is needed to ensure the most effective and widespread uptake of those technologies		
Description	This will be a two day Conference open to all DairyCare participants, with an associated MC Meeting. The first day will be scientific discussion including reports form the three Incubator Grant groups. The second day will be dissemination based targeting DairyCare endusers and introducing the Blueprint for Action		
Output(s)	Proceedings, 5th DairyCare Conference. DairyCare Blueprint for Action publication as part of commissioned book on dairy wellbeing technologies. Conference papers as part of special issue of Journal of Dairy Research Minute of 6th MC Meeting.		
Location	Krakow (Poland)	ITC	Yes
Start Date	2018-03-15 09:00:00	End Date	2018-03-16 17:00:00
Duration	2 days		
Number of expected total participants	150	Number of participants to be reimbursed from COST funds	70
Average reimbursement(per participant)(EUR)	670.00	Total Reimbursement costs (EUR)	46,900.00
Local Organiser Support (EUR)	3,000.00		
Total cost of the meeting (EUR)	49,900.00		

COST is supported by the EU Framework Programme Horizon 2020

COST Association
Avenue Louise 149 I 1050 Brussels, Belgium
t: +32 (0)2 533 3800 I f: +32 (0)2 533 3890
office@cost.eu I www.cost.eu

Short Term Scientific Missions (STSM)

Number	Average cost per STSM(EUR)	Total cost(EUR)
9	2,000.00	18,000.00
Grant Period Goal(s) it will address	Highlight management practices that enhance wellbeing of cow and calf,Highlight characteristics of sensor technologies adapted to small dairy ruminants,Highlight methods and develop protocols for validation of sensor technologies	
Description	STSMs will directly support the cross disciplinary incubator grant groups	
Output(s)	cross-european transfer of skills and expetises	

COST Action Dissemination

Title	Type	Publisher/provider	Expected date of Release	Cost(EUR)
Journalist and specialist advisor briefings	Press release / News flash	DairyCare	01/12/2017	1,000.00
Grant Period Goal(s) it will address	Highlight the state of art in wellbeing sensing at the end of the action,Define how wellbeing sensing could be implemented in practice on farms of different types,Highlight what further research and development is needed to ensure the most effective and widespread uptake of those technologies			
Description	Press releases and briefings			
Output(s)	dissemination to endusers			

Title	Type	Publisher/provider	Expected date of Release	Cost(EUR)
Proceedings of 6th DairyCare Conference	Printed publication	DairyCare	01/03/2018	1,500.00
Grant Period Goal(s) it will address	Highlight the state of art in wellbeing sensing at the end of the action,Define how wellbeing sensing could be implemented in practice on farms of different types,Highlight what further research and development is needed to ensure the most effective and widespread uptake of those technologies			
Description	Proceedings of 6th DairyCare Conference			
Output(s)	Publication			

Title	Type	Publisher/provider	Expected date of Release	Cost(EUR)
special issue of Journal of Dairy Research	Printed publication	Cambridge University Press	20/03/2018	1,000.00
Grant Period Goal(s) it will address	Highlight the state of art in wellbeing sensing at the end of the action,Define how wellbeing sensing could be implemented in practice on farms of different types,Highlight what further research and development is needed to ensure the most effective and widespread uptake of those technologies			

COST is supported by the EU Framework Programme Horizon 2020

COST Association
Avenue Louise 149 I 1050 Brussels, Belgium
t: +32 (0)2 533 3800 I f: +32 (0)2 533 3890
office@cost.eu I www.cost.eu

Description	special issue of Journal of Dairy Research
Output(s)	dissemination to scientific community

Title	Type	Publisher/provider	Expected date of Release	Cost(EUR)
DairyCare Blueprint for Action	Printed publication	Elsevier	20/03/2018	1,000.00
Grant Period Goal(s) it will address	Highlight the state of art in wellbeing sensing at the end of the action,Define how wellbeing sensing could be implemented in practice on farms of different types,Highlight what further research and development is needed to ensure the most effective and widespread uptake of those technologies			
Description	DairyCare Blueprint for Action			
Output(s)	dissemination to endusers and scientific community			

Title	Type	Publisher/provider	Expected date of Release	Cost(EUR)
www.dairycareaction.org	Action Website	breathescience	01/05/2017	790.00
Grant Period Goal(s) it will address	Highlight the state of art in wellbeing sensing at the end of the action,Define how wellbeing sensing could be implemented in practice on farms of different types,Highlight what further research and development is needed to ensure the most effective and widespread uptake of those technologies,Highlight management practices that enhance wellbeing of cow and calf,Highlight characteristics of sensor technologies adapted to small dairy ruminants,Highlight methods and develop protocols for validation of sensor technologies			
Description	DairyCare Website			
Output(s)	networking to members			

Total Disseminations	5,290.00

COST is supported by the EU Framework Programme Horizon 2020

COST Association
Avenue Louise 149 I 1050 Brussels, Belgium
t: +32 (0)2 533 3800 I f: +32 (0)2 533 3890
office@cost.eu I www.cost.eu