



DELIVERABLE

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Project title: INNOVATIVE AND SUSTAINABLE SYSTEMS
COMBINING AUTOMATIC MILKING AND PRECISION
GRAZING

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associations

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Deliverable Name: Final plan for dissemination

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1. Executive summary

This document **Deliverable 5.4 Final plan for dissemination** presents the dissemination activities carried out in AUTOGRASSMILK, together with the dissemination and exploitation plans for the period after completion of the project. The document is a follow-up of the **Deliverable 5.2 Interim plan for dissemination**, which was created at the mid-way phase of the project.

A web-site has been established and maintained, and a logo and templates for Word and PowerPoint have also been developed. Within the project, there have been more than 75 publications produced and a total of 39 events have been held, which have targeted farmers, advisors and scientific and technical audiences.

2. Introduction

This report contains a summary of the dissemination activities carried out and planned by the 14 partners in the AUTOGRASSMILK project.

A fundamental core activity in the project has been dissemination. The SME-AG partners have focused on getting the scientific results to the end users – in this project, that means the farmers with automatic milking systems or farmers considering investing in automatic milking. The status on automatic milking differs considerably across the EU. For instance, in Ireland, automatic milking is only at the starting up phase and the interest from the farmers and the community is high. Alternatively in Denmark, automatic milking has been on the market for more than 10 years and the farmers and community are quite used to cows being milked by automatic systems.

The objectives of dissemination activities in the project are to spread the results from the project to the target audience. The target audience is defined as:

- Primary
 - Small Medium Enterprise-Association (SME-AGs and their members)
 - Dairy farmer end users
- Secondary
 - Wide range of stakeholder groups
 - Extension personnel, advisory consultants, farming organizations
 - Wider group of dairy farmers
 - Milking equipment manufactures
 - International scientific community
 - Relevant Government Departments
 - Policymakers
 - Legislators

The exploitation committee has had a key role in the dissemination, as all dissemination activities have been coordinated at the meetings of the committee. The committee has held 6 meetings over the whole project period.

3. Dissemination tools and materials

AUTOGRASSMILK logo

In the initial stage of the project, a project logo was developed (Figure 1). The logo has been used on leaflets, posters, presentations, and other publications from the project. The logo has ensured a common recognition of the project.



Figure 1 AUTOGRASSMILK logo

Presentation materials

Also, within the project, templates for PowerPoint and Word documents have been developed that are specific to AUTOGRASSMILK. The templates have been used for presentation and communication in the project. The use of these templates has allowed common information to be sent on all communications related to the AUTOGRASSMILK project.

The PowerPoint template is shown in Figure 2 and the Word template is shown in Figure 3.



Figure 2 Template for PowerPoint presentation

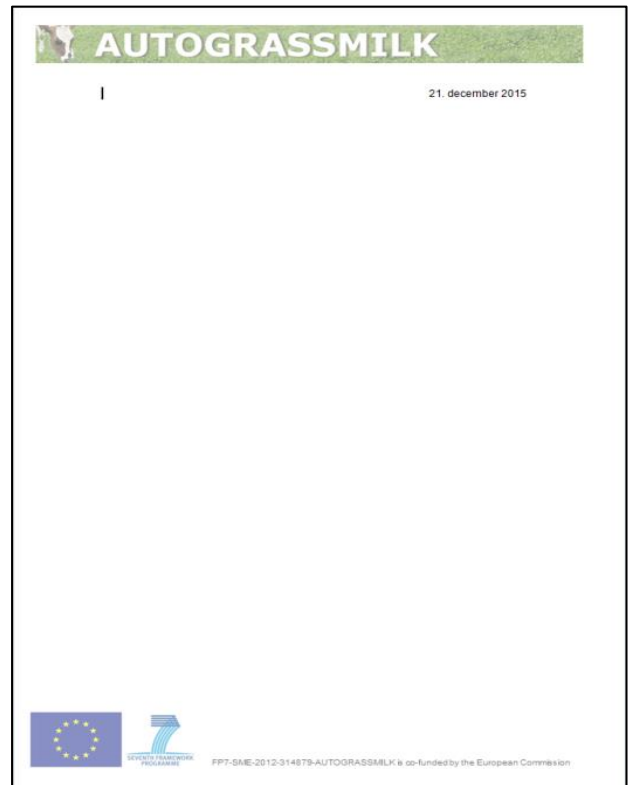


Figure 3 Template for Word

AUTOGRASSMILK website

The project website www.autograssmilk.eu contains all outputs from the project in the form of tools, deliverables, videos, publications, posters, presentations and leaflets. The results are supplemented with background information on automatic milking, presentation of partners in the project, presentation of monitor farms, presentations of work packages and a list of events connected to AUTOGRASSMILK.

The breakdown of the website is shown in Figure 4 as a site tree view. In Figure 5 the initial site of www.autograssmilk.eu is shown. It illustrates the design and the use of logos.

A central site on www.autograssmilk.eu is “Results and deliverables”. This site contains publications, articles, presentations, videos, tools and deliverables produced in or in connection with the AUTOGRASSMILK project. The list is updated regularly and sorted according to work packages in the project.



Figure 4 Site tree view on www.autograssmilk.eu

AUTOGRASSMILK

Start About Autograssmilk Events Results and deliverables In the Media Monitor Farms Litterature Links

Autograssmilk

Combining grazing and automatic milking

AUTOGRASSMILK is a joint research project for the benefit of SME Associations, which objective is to develop and implement improved sustainable farming systems that integrate the grazing of dairy cows with automatic milking (AM) which are appropriate to the different approaches to dairy farming to be found in the different regions in Europe.

It will be achieved by:

1. Develop optimum feeding strategies for dairy cows incorporating grazed grass and AM for various production systems in Europe
2. Optimize the integration of AM with cow grazing using new technologies
3. Increase the sustainability of integrated grazing and AM technologies
4. Develop tools that will allow dairy farmers to optimize economic efficiency when combining grazing with AM systems
5. Continuously disseminate new technology to end-users in a form that is easily accessible and locally adapted to improve farm efficiency.

The research leading to the results on this web-page has received funding from the European Union's Seventh Framework Programme managed by REA-Research Executive Agency [FP7/2007-2013] under grant agreement no. SME-2012-2-314879.

News

"Results and deliverables" are updated with presentations from EGF 2015 and EC-PLF 2015.

Video [Transfert du robot de traite de la ferme expérimentale de l'Université de Liège](#), Lundi 20 Avril 2015

3 videos of open day presentations on automatic milking Open day held at Moorepark April, 2014

[Operation of the milking robot at Moorepark](#), [Dissemination of information on automatic milking at Moorepark](#), [Open day presentation on automatic milking at Moorepark](#)

What is an automatic milking system

In an AM system a robot undertakes the manual work traditionally associated with milking a herd of cows. The system is set up to guide individual cows to come to a milking stall (fixed inside the cow barn) on a voluntarily basis on up to 3 occasions per day. The robot detects the position of the teats, attaches the milking equipment to the teats and milks the cow. During milking, sensors check the quality of the milk and the health of the cow. This information is recorded and is available to the farmer to use in the daily management of his/her herd.

Figure 5 Start site of autograssmilk.eu

Monitor farms

All countries in the project have appointed 3-5 monitor farms. The goal with the monitor farms was primarily to allow farm data and information to be available for RTD activities within the project. A secondary objective was to be able to hold dissemination activities, such as farm walks on the monitor farms, and thirdly, that these farms could be used as the focus in knowledge transfer in the national farmer press. In the project period there have been several events on monitor farms (Appendix 3).

4. Dissemination activities

Publications

More than 75 publications have been produced in total in the AUTOGRASSMILK project. The majority are scientific papers and presentations, but many other types of articles, presentations, leaflets and videos have been produced as well, for audiences other than scientific groups. The publications are accessible from the project website. A list of papers is shown in Appendix 1. The events where presentations and leaflets have been disseminated are listed in Appendix 2.

Conferences and events

Results from AUTOGRASSMILK have been presented at 39 conferences, fairs and meetings as listed in Appendix 2. This means that the results have been put forward to a large number of farmers, advisors, scientists and other stakeholders.

There have been 2 main events at which results of AUTOGRASSMILK have been presentation to the scientific community: EAAP 2015 in Poland and EGF 2015 in the Netherlands. At EAAP 2015, the results w presented on the theme session “*All aspects of automatic milking including combination with grazing*”. The session was co-arranged by AUTOGRASSMILK. At EGF 2015, the project was co-arranged with a meeting with the theme “*Grazing and automation*”.

National SME-AG dissemination

The SME associations have accomplished national dissemination on the project, in cooperation with the national research partner in the respective countries. The dissemination has been carried out using monitor farms, local magazines and local events. The events are listed as part of Appendix 2. The events include fairs and exhibitions, open days on monitor farms and national farmer conferences. The events have been supplemented with articles in the local media, such as Food Systems, Effektivt Landbrug, Frysian radio, Eip-agri Agriculture & Innovation, Nieuwe Oogst and Sunday Times. In total there have been 16 articles identified in different mediums related to AUTOGRASSMILK.

Videos

Results from AUTOGRASSMILK have been presented in 8 videos available on the internet. The videos have been spread through the national dissemination. As an example, the Danish video “*Afgræsning med AMS*” was spread through Facebook (Figure 6).

The videos are described in deliverable 5.3.



Figure 6 Video spread on the internet though Facebook.

5. Plans for further dissemination and exploitation

In 2016 (following formal completion of the project), a considerable volume of material and knowledge will be available (from AUTOGRASSMILK) for dissemination and implementation on dairy farms all over Europe. A main focus in the dissemination process is to convert decision support tools, guidelines and research results into farmer related material appropriate to the different regions. This means that most of the material must be translated from English to French, Dutch, Danish and Swedish, respectively. This process has commenced in the dissemination activities in the project, and some of the deliverables already have been available in late 2015. It is expected that the SME-AG partners will continue the national dissemination in 2016 and 2017. Focus in the national dissemination will be especially centered on the decision support tools in work package 3 and work package 4 together with the guidelines in work package 1.

The SME-AG partners will be in charge of the dissemination activities. The situations regarding automatic milking, grazing and the ability to adapt new management routines will be different throughout the different regions. These different circumstances may influence the SME-AG partners on which results from the project they consider relevant to disseminate in each region.

A part of the decision support tool in wp 4 is already translated and adapted to regional conditions. This means that the tool can be used in all regions.

Use of the project website

The SME association will use the website as a library for all materials developed in the project and materials that are ready for adoption in each country/region.

Appendix 1 List of Publications

LIST OF ALL PUBLICATIONS, SCIENTIFIC AND OTHER										
NO.	Title	Main author	Title of the periodical or the series	Number, date or frequency	Publisher	Place of publication	Year of publication	Relevant pages	Permanent identifiers (if available)	Is/Will open access provided to this publication?
1	Combining robotic milking and grazing	Brocard, V	Grassland Science in Europe	Vol 19			2014	pp 559-562		yes
2	Concentrate supplementation and milking frequency in automated milking with grazing	Foley C	Grassland Science in Europe	Vol 20			2015	pp 410-412		yes
3	Milk production, cow traffic and milking duration at different milking frequencies in an automated milking system integrated with grazing	Foley C	Precision Livestock Farming	'15			2015	pp 40 – 47		yes
4	Integrating robots and grazing	Green G	British Dairying	December			2013	pp 18-22		yes
5	Effects of mild heat stress periods on milk production, milking frequency and rumination time of grazing dairy cows milked by a mobile automatic system	Lessire, F	Grassland Science in Europe	Vol 19			2014	pp 181-183		yes
6	Is it possible for large herds to graze while keeping a high milk yield level? The experience of two Belgian dairy farms	Lessire F	Grassland Science in Europe	Vol 20			2015	pp 452-454		yes
7	A comparison of different milking frequencies in an automated milking system integrated with grazing	O'Brien B	Agricultural Research Forum 10th and 11 th March 2014				2014	pp 130		yes
8	Combining automatic milking with grazing	O'Brien B	Moorepark Dairy Levy Research Update. Breeding	Series 23			2015	pp 33-39		yes

LIST OF ALL PUBLICATIONS, SCIENTIFIC AND OTHER

NO.	Title	Main author	Title of the periodical or the series	Number, date or frequency	Publisher	Place of publication	Year of publication	Relevant pages	Permanent identifiers (if available)	Is/Will open access provided to this publication?
			Strategies for an Expanding Dairy Industry							
9	Robotic Milking from Pasture	O'Brien B	Berry B, Butler S. And Dillon P (ed) Morepark'13 Irish Dairying, Harvesting the potential				2013	pp 108-109		yes
10	Facilitating grazing for organic dairy farms with expanding herd size	Oudshoorn, F. W	Thuenen Report	Vol. 20/vol 1			2014	pp 183-186		yes
11	Operational strategies for optimizing grazing when using automatic milking systems in organic dairy production	Oudshoorn, F. W	NJF Seminar 461	Vol. 93			2013	pp 129-130		yes
12	Deltidsbete – en bra betesmodell för stall med automatisk mjölkning?	Spörndly, E.	Department of Crop Production Ecology, Swedish University of Agricultural Sciences, Uppsala	Report no 18			2014	pp. 59-62		yes
13	Production pasture versus exercise and recreation pasture for cows in automatic milking systems	Spörndly E	Grassland Science in Europe	Vol 20			2015	pp 125-127		yes
14	Production and cow-traffic management during the pasture season in large herds with automatic milking	Spörndly E	Grassland Science in Europe	Vol 20			2015	pp 131-133		yes
15	Use of the Lifecorder+® sensor	Allain C	Grassland	Vol 20			2015	pp 166-168		yes

LIST OF ALL PUBLICATIONS, SCIENTIFIC AND OTHER

NO.	Title	Main author	Title of the periodical or the series	Number, date or frequency	Publisher	Place of publication	Year of publication	Relevant pages	Permanent identifiers (if available)	Is/Will open access provided to this publication?
	to assess grazing time of dairy cows		Science in Europe							
16	Calibration of five rising plate meters in the Netherlands	Holshof G	Grassland Science in Europe	Vol 20			2015	pp 233-235		yes
17	Application of a neck-collar mounted sensor for recording feeding and grazing behaviour	Ipema, B	12th Conference Construction, Engineering and Environment in Livestock Farming, September 8th – 10th in Freising, Germany				2015	pp 128-133		yes
18	Comparison of feeding time in barn and pasture under a given grass allowance in a system with robotic milking and strip grazing by using collected sensor data.	Ipema A.H	Grassland Science in Europe	Vol 20			2015	pp 99-101		yes
19	Combining automatic milking and precision grazing on dairy systems	O'Brien B	Precision Livestock Farming	'13			2013	pp 217-222		yes
20	Using mobile milking robots for special quality dairy products based on site specific grazing	Oudshoorn F.W	Grassland Science in Europe	Vol 18			2013	pp 276-278		yes
21	Effect of indoor silage feeding on pasture time in a batch-milked automatic milking rotary system	Spörndly E	Grassland Science in Europe	Vol 20			2015	pp 128-130		yes
22	Analysis of energy consumption in robotic milking	Upton J	Precision Livestock Farming	'13			2013	pp 405-470.		yes

LIST OF ALL PUBLICATIONS, SCIENTIFIC AND OTHER

NO.	Title	Main author	Title of the periodical or the series	Number, date or frequency	Publisher	Place of publication	Year of publication	Relevant pages	Permanent identifiers (if available)	Is/Will open access provided to this publication?
23	Application of grass and cow sensor data to support grazing management in high output systems	Zom R.L.G.	Grassland Science in Europe	Vol 20			2015	pp 134-136		yes
24	Farm-specific development plan: a tool to manage and improve individual dairy farms	Kohnen H.	Grassland Science in Europe	Vol 20			2015	pp 437-439		yes
25	Bæredygtighed i dansk mælkeproduktion – hvorfor og hvordan?	Stubsgaard A	Ny kvægforskning	Nr 5 13 årgang			2015	pp 10-11		yes
26	Grazing and difficult circumstances: economic benefits depend on milk price and grazing efficiency.	Holshof G	Grassland Science in Europe	Vol 20			2015	pp 236-238		yes
27	An economic appraisal of automatic and conventional milking within a grass based seasonal milk production system	O'Brien B	Precision Livestock Farming	'15			2015	pp 21-29		yes
28	Economic impact of grazing dairy cows on farms equipped with an automatic milking system	Oudshoorn F.W.	Grassland Science in Europe	Vol 20			2015	pp 469-471		yes
29	A comparison of the labour requirements on Irish dairy farms with automatic and conventional milking systems integrated with grazing	Shortall, J.	Precision Livestock Farming	'15			2015	pp 774-781		yes
30	Malkebotter og afgræsning	Oudshoorn F	Ny KvægForskning	nr. 4. 13 årgang			2015	pp 4-6		
31	Automatic milking Systems in Ireland	Foley, C	Irish Grassland Association – Newsletter	July 2014			2014			

Appendix 2 List of dissemination events

LIST OF DISSEMINATION ACTIVITIES

NO.	Type of activities	Main leader	Title	Date/Period	Place	Type of audience	Size of audience	Countries addressed
1	Conference	IGA	IGA Dairy conference	6 January 2013	Ireland	Farmers		Ireland
2	Pressrelease	VFL	Växa Sverige I europeiskt samarbete om robotmjölkning med kor på bete	21 March 2013		Medias		Sweden
3	Pressrelease	VFL	La traite robotisée pour les vaches laitières	22 March 2013		Medias		Belgium
4	Pressrelease	VFL	Nyt project: Robotmalkning og køer på græs	25 March 2013		Medias		Denmark
5	Pressrelease	VFL	Robotic Milking for Grazing Dairy Cows	25 March 2013		Medias		Ireland
6	Pressrelease	VFL	Concilier traite robotisée et pâturage	21 April 2013		Medias		France
7	Pressrelease	VFL	Europees onderzoek gestart naar robotmelken en beweiding	7 June 2013		Medias		the Netherlands
8	Conference	Ulg	Journée d'étude La production laitière : à l'étable ou au pâturage ?	29 Mai 2013		Medias		Belgium
9	Conference	WUR	17th EGF Symposium on The Role of Grasslands in a Green Future - Threats and perspectives in less favoured areas	23-26 June 2013	Iceland	Scientific Community		
10	Conference	IDELE	SPACE 2013	13 September 2013	France	Industry and Farmers		
11	Conference	TEAGASC	European Conference on Precision Livestock Farming	10-12 September 2013	Belgium	Scientific Community		
12	Conference	IDELE	National congress on robotic milking and grazing	10 September 2013	France	Scientific Community		France
13	Conference	IDELE	Rencontres Recherches	4-5 December 2013	France	Rencontres		France and Belgium

LIST OF DISSEMINATION ACTIVITIES

NO.	Type of activities	Main leader	Title	Date/Period	Place	Type of audience	Size of audience	Countries addressed
			Ruminants			Recherches Ruminants		
14	Monitor farmer meeting	IGF	Monitor farmers discussion group meeting	January 2014	Ireland	Farmers		Ireland
15	Conference	SLU	Lely koferens Trondheim	22 February	Norway	Industry and Farmers		Norway
16	Monitor farmer meeting	VFL	Monitor farmers discussion group meeting	19 February 2014	Denmark	Farmers		Denmark
17	Conference	TEAGASC	Irish Grassland and Animal Association conference	11-11 March 2014	Ireland	Scientific Community		Ireland
18	Open Day	TEAGASC	Joint Irish Grassland Association Teagasc open Day at the AMS Research Farm in Moorepark	9 April 2014	Ireland	Farmers		Ireland
19	Conference	SLU	Betesday Lövsta	21 May 2014	Sweden	Farmers		Sweden
20	Webcast		Robotic Business Review – Webcast Series Big Ag & Agribotics	29 May 2014		Farmers		
21	Fair	ULg	Foire de Libramont 2014	25 July	Belgium	Farmers		Belgium
22	Conference	Växa	Animal health and feeding conference	27-28 August 2014	Sweden	Scientific Community, Advisers		
23	Conference	WUR	The Future of grazing - 3 meeting of the EGF working group "Grazing".	7 September 2014	Wales	Scientific Community		
24	Conference	SLU	Satsa när det är svårt läge? Bygga och trimma för en hållbar mjölkproduktion	17 November 2014	Sweden	Farmers		Sweden
25	Web seminar	Växa	Web based informations seminar with extension officeres	4 February 2015	Sweden	Advisers		Sweden
26	Conference	VFL	Afgræsning - sæt koen i	23-24 February 2015	Denmark	Farmers	70	Denmark

LIST OF DISSEMINATION ACTIVITIES

NO.	Type of activities	Main leader	Title	Date/Period	Place	Type of audience	Size of audience	Countries addressed
			arbejde					
27	Conference	ULg	30e anniversaire d'Agra-Ost. La gestion des prairies	30 April	Belgium	Farmers		Belgium
29	Open day	VFL	Teknologi til styring af afgræsning	3 June 2015	Denmark	Farmers	5	Denmark
30	Web seminar	Växa	Web based informations seminar with extension officeres	11 June 2015	Sweden	Advisers		Sweden
31	Conference	WUR	Grazing and automation (EGF meeting)	14 June 2015	The Netherlands	Scientific Community		
33	Fair	ULg	Foire de Libramont 2015	24-27 June 2015	Belgium	Farmers		Belgium
34	Conference	WUR	All aspects of automatic milking including combination with grazing (EAAP 2015)	2 September 2015	Poland	Scientific Community		
35	Open day	VFL	Styring af afgræsning om efteråret	10 September 2015	Denmark	Farmers	35	Denmark
36	Conference	IDELE	Technical days in Trevarez on robotic milking and grazing	11-12 September 2015	France	Farmers		France
37	Conference	TEAGASC	European Conference on Precision Livestock Farming	15-18 September	Italy	Scientific Community		
38	Farmers meeting	ULg	Results 2015 Experimental- and Pilotfarms	30 September	Belgium	Farmers		Belgium
39	Farm Walk	IGF	Combining automatic milking with a grass based system	7 October 2015	Ireland	Farmers		Ireland
40	Workshop	SLU	Optimizing grazing in dairy herds with automatic milking systems	20 October 2015	Norway	Scientific Community, Farmers and advisors		Norway
41	Symposium	WUR	Symposium Robot &	28 October 2015	the Netherlands	Farmers		the Netherlands

LIST OF DISSEMINATION ACTIVITIES

NO.	Type of activities	Main leader	Title	Date/Period	Place	Type of audience	Size of audience	Countries addressed
			Weiden					
42	Conference	WUR	Landelijke Onderwijsdag 'Gezonde veehouderij'	5 November 2015	the Netherlands	Farmers		the Netherlands
43	Conference	IDELE	Rencontre Recherche Ruminants	2-3 December 2015	France	Scientific Community		France, Belgium
44	Fair	ULg	Agribex	8-13 December 2015	Belgium	Farmers		Belgium
45	Conference	WUR	Final meeting of AUTOGRASSMILK in the Netherlands	10 December	The Netherlands	Farmers and advisors		The Netherlands
46	Visits to view operation of integrated AM and grazing at Teagasc Research Farm	TEAGASC	Visits to view AMS Research Farm operations	Jan 2013 – Dec 2015	Ireland	Farmers, advisors, scientists, media personel	492 in 2013 455 in 2014 291 in 2015	

Appendix 3 List of planned dissemination activities

List of planned dissemination activities						
NO.	Activity	Presenter	Time/place	Title of event	Description	Target audience
1	AUTOGRASSMILK website	VFL/SEGES	January 2016 onwards	AUTOGRASSMILK website maintenance	VFL/SEGES will keep the project website alive after the end of the project. It will give an overview of the project as a whole, the results achieved and the materials produced.	Farmers, advisers and researchers
2	Upcoming events for dissemination	Consortium partners	Continuous	Upcoming events	The partners will arrange events to disseminate results from AUTOGRASSMILK. Automatic milking and grazing will be part of the SME-ag partners' continuous activities on improving the members' productivity.	Farmers
3	Scientific conference	WUR	21-23 June 2016	Conference on Precision Dairy Farming	An abstract on the use of activity measurement has been submitted to and is planned to be presented on the conference.	Researchers, advisers and industry
4	Scientific conference	AU	12-15 July 2015	12 th European IFSA symposium	An abstract on sustainability is planning to be submitted to and presented at the conference	Researchers
5	Scientific conference	IDELE	4-8 September	26 th General meeting of European Grassland Federation	An abstract with the title "Recording grazing time of dairy cows in AMS farms thanks to the Lifecorder+ ® sensor has been submitted to the conference	Researchers
6	Translation and adaption of DST	Consortium partners	2016	Decision support tool	The Decision support tool developed in WP4 will be translated and adapted to the local conditions in each partner country.	Farmers
7	Translation and adaption of guidelines	Consortium partners	2016	Guidelines on combining grassing with automatic milking	Deliverable 1.1 contains guidelines on combining grazing with automatic milking in each of the partner countries. The activity is to convert the scientific text in English to a leaflet/article/presentation focused to a farmer audience in each country.	Farmers and advisers
8	Scientific conference	Teagasc	4-8 September, 2016	26 th General meeting of European Grassland Federation	An abstract on time budgeting of cows in an integrated automatic milking and grazing system.	Researchers

List of planned dissemination activities

NO.	Activity	Presenter	Time/place	Title of event	Description	Target audience
9	Manual on integration of Automatic milking and Grazing in Ireland	Teagasc	Ireland/ 2017	Manual	A manual describing all aspects of automatic milking derived during the AUTOGRASSMILK project as relevant to dairy farmers considering investment in automatic milking systems.	Dairy Farmers