

EIROS

ADVANCED ICE AND EROSION
RESISTANT COMPOSITES

Project Deliverable Report

D7.15: A REPORT OF COMPLETED AND PLANNED COMMUNICATION ACTIVITIES (MONTH 36)

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Project Acronym	EIROS
Project Title	Erosion and Ice Resistant Composites for Severe Operating Conditions
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- *
PU = Public
PP = Restricted to other programme participants (including the Commission Services)
RE = Restricted to a group specified by the consortium (including the Commission Services)
CO = Confidential, only for members of the consortium (including the Commission Services)



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V	Date	Beneficiary	Author
1.0		TWI	Anna Wojdyla-Cieslak
1.1		SIK, MAIER, IFAM, GAM, TEK, LEI, INSA	Various authors - Contributions from the listed partners
1.2		PSC, TWI	Anna Wojdyla-Cieslak



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Table of Contents

1. Introduction	4
2. Objectives.....	4
2.1 Project objectives	4
2.2 Report objectives	4
3. Communication Approach.....	5
4. Production and Approval of Scientific Publications and Presentations	8
4.1 Production of scientific publications and presentations	8
4.2 Review and approval process	8
4.3 EU acknowledgement	8
5. EIROS Completed Communication Activities (Final Year)	10
5.1 Dissemination events overview	10
5.2 Publications overview	18
6. Exploitation strategy seminar.....	22
7. Conclusions	24



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1. Introduction

The EIROS project will develop self-renewing, erosion resistant and anti-icing materials for composite aerofoils and composite structures that can be adapted for different industrial applications:

- Wind turbine blades, in the wind energy sector.
- Aerospace wing leading edges, in the aerospace sector.
- Cryogenic tanks, in the space sector.
- Bumper trims and oil pans, in the automotive sector.

The achievements of these functionalities are based on the addition of novel multi-functional additives to the bulk resin of fibre reinforced composites. The technologies developed in this project will provide the partners and the European materials and technological leadership with a significant competitive advantage.

To maximise the commercial impact of the EIROS technology several communication strategies have been planned and adopted. These can be classified as:

- General communication activities, which include the creation of general marketing material (project logo, project flyers and banners, press release), a project website and a project video by the end of the project.
- Active communication activities, such as publications, conferences, events, trade fairs, workshops, seminars, training, etc.

A detailed analysis of the target groups and the optimal communication methods for each of the activities will be determined as part of the EIROS plan for the dissemination and exploitation of results.

2. Objectives

2.1 Project objectives

EIROS's main aim is to develop novel composite materials which are able to provide to the composite structure ice and erosion resistance performance to improve their performance under harsh environments.

2.2 Report objectives

The deliverable D7.15 'A Report of completed and planned communication activities (Month 36)' is a public document that forms part of the Work Package 7 (WP7 – Exploitation and Dissemination) and it is related to Task 7.1 'Dissemination Activities'.

The main objective of this task (Task 7.1) is to define, plan and undertake communication activities such as workshops, seminars, trade fairs, publications, conferences, press release, etc).



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Key actions are:

- Elaboration of the Dissemination Plan as part of the Business Plan.
- Dissemination in different events carried out by all the partners (workshops, seminars, etc).
- Promotion of cooperation with other related R&D initiatives.
- Dissemination and communication related with nano-safety outputs of the project.
- Traditional events such as conferences.
- Social media dissemination.

More specifically, the main objective of this report is to assure that there is an on-going communication between the consortium and the general public. More specifically, it has the following objectives:

- To confirm the completed communication activities from M24 to M36, including dissemination events and publications.

3. Communication Approach

The Exploitation Team (ET) formed during the KO meeting of the EIROS project (TWI, March 2016) leads dissemination and exploitation activities in the EIROS project. The Exploitation Manager (EM), Mr Jari Knuuttila from Millidyne (MILL), leads this team. The ET is ensuring the best practice of the work undertaken and is in charge of the approvals on IP protection, exploitation plan and the dissemination activities.

EIROS Exploitation Team is listed in Table 1.

Table 1 Exploitation team representatives (1 per partner) at M12, M24 and M36 of the project

	Company	ET representative (M12)	ET representative (M24)	ET representative (M36)
1	TWI	Alan Taylor	Alan Taylor	Alan Taylor
2	IFAM	Volkmar Stenzel	Volkmar Stenzel	Volkmar Stenzel
3	GAM	Lucia Paris Bajos	Almudena Muñoz Babiano	Almudena Muñoz Babiano
4	SB	Gavin Creech	Yingying Qin	Yingying Qin
5	NCC	David Fishpool	David Fishpool	David Fishpool
6	SIK	Celine Schmitt	Celine Schmitt	Celine Schmitt
7	SON	Guillaume Fievez	Guillaume Fievez	Guillaume Fievez
8	RS	Sila Güngör	Sila Güngör	Sila Güngör
9	IOM	Gordon Fern	Steve Hankin	Steve Hankin
10	POLY	Signe Shim	Signe Shim	Poul Bremen
11	TEK	Estibaliz Aranzabe	Estibaliz Aranzabe	Estibaliz Aranzabe
12	SKZ	Felipe Wolff-Fabris	Felipe Wolff-Fabris	Felipe Wolff-Fabris
13	INSA	Frédéric Lortie	Frédéric Lortie	Frédéric Lortie
14	MILL	Jari Knuuttila	Jari Knuuttila	Jari Knuuttila
15	SIG	Gerard Turk	Gerard Turk	Gerard Turk
16	CRF	Davide Roncato	Domenico Fondacaro	Domenico Fondacaro



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	Company	ET representative (M12)	ET representative (M24)	ET representative (M36)
17	MAIER	Irantzu Couto	Unai Aretxederreta	Unai Aretxederreta
18	LEI	Javier Casellas	David González	David González

During the KO meeting of the project (TWI, March 2016), the PRM Month 6 meeting (TEK, September 2016), PRM M12 meeting (NCC, March 2017), PRM M18 meeting (LEI, September 2017), PRM M24 meeting (EC, Brussels, March 2018), PRM M30 meeting (IFAM, September 2018) and final PRM M36 meeting (SON, February 2019) Dissemination Plan has been discussed and revised took place. The key points of discussion are summarised below:

- Dissemination Plan as part of the Business Plan

Reports that have been a part of Dissemination Plan:

- D7.1 'Interim plan for the D&E of results – Month 12'. Due date: M12.
- D7.2 'Interim plan for the D&E of results – Month 24'. Due date: M24.
- D7.3 'Final plan for the D&E of results – Month 36'. Due date: M36.
- D7.10 'Mid-point dissemination activities review'. Due date: M18.
- D7.12 'Project completion dissemination activities review'. Due date: M36.
- D7.13 'A report of completed and planned communication activities – Month 12'. Due date: M12.
- D7.14 'A report of completed and planned communication activities – Month 18'. Due date: M18.
- D7.15 'A report of completed and planned communication activities – Month 36'. Due date: M36.

- Dissemination activities

Dissemination activities have been planned, including workshops, conferences, seminars, etc:

- The whole consortium was responsible for the dissemination of the project through participation in different communication events (i.e. seminars, workshops, etc) and/or elaboration of scientific or business orientated publications.
- Marketing material were created (press release, banner, brochure, flyer, poster).

- Social media dissemination

Different social media channels have been considered for social dissemination (website, YouTube, Twitter, LinkedIn, Facebook). Key channels selected:

- EIROS project website.
- EIROS presentation in public domain – a part of press release: EIROS summary presentation will be available to download on EIROS website. This activity is described in details in D7.8 'Project EIROS presentation'.
- Social media channels from the different partners were used during the course of the project to disseminate and promote the project (i.e. SAFENANO Twitter account (IOM), TWI's Newsletter to Members, SKZ Newsletter to scientific community).

- Press, including press releases, articles, etc

All the partners were responsible for disseminating and communicating publishable information about the project. Marketing materials are available in a form of press releases (described in details in D7.7), project website (www.eirosproject.com), brochure, banner.



The importance of dissemination activities in a function of technical quality and a size of audience are listed in Figure 1.

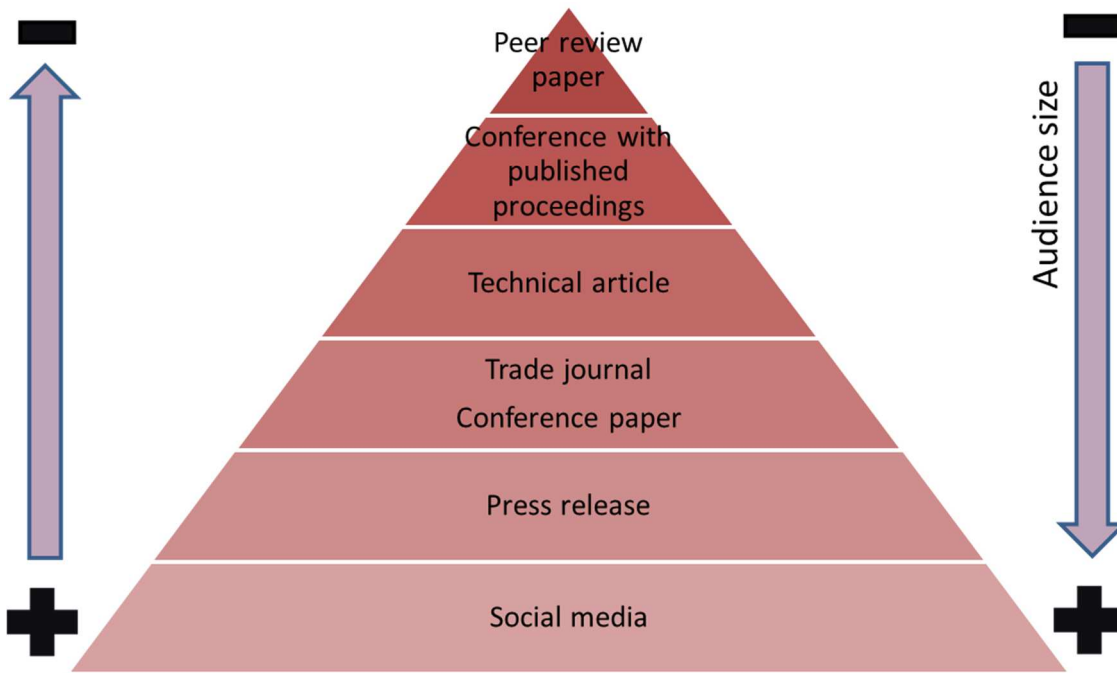


Figure 1 Dissemination impact in terms of technical quality and audience size.

As described in D7.10 ‘Mid-point dissemination activities review’, an Excel spreadsheet named ‘Exploitation and Dissemination log – Year 3 (March 2018 – March 2019)’ was circulated to the PSC and the Exploitation Team to record the activities related with the dissemination activities of the project (Figure 2). It has been agreed by the consortium that:

- These activities were reported to the PC and the Exploitation Manager.
- Each company was responsible for disseminating the project through participation in public and external/internal events to the project and/or through the elaboration of scientific publications. This is stated in the EIROs Grant Agreement.

The screenshot shows an Excel spreadsheet with the following structure:

EIROs Dissemination Events Overview							
Type of activity	Partners involved	Title or description	Date	Location	Type of audience	Size audience	Countries reached

KEY WORDS

Type of activities Presentations at events, Poster sessions, Meeting - Presentation & Dissemination, etc.

Type of audiences R&D, Scientific, Research students,

Figure 2 ‘Exploitation and Dissemination log’ excel Spreadsheet (Project Completion Review).



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4. Production and Approval of Scientific Publications and Presentations

4.1 Production of scientific publications and presentations

As described on the EIROS GA, the EIROS partners are encouraged to produce scientific publications and/or give presentations about the research undertaken in the project in relevant events to the project. The partners can produce these publications themselves or it can be joint collaborations between several parties.

In all the cases, the consortium should approve the content of all publications or all mechanism of dissemination, before it is launched to a wider external audience to the project.

4.2 Review and approval process

As described in previous deliverables (D7.1, D7.10, D7.13), any scientific publication must be formally approved by the PC and the Exploitation Manager before it is published, to review the scientific content and especially assess whether any IP related issues may arise from the publication. Such approval should follow the process described below:

1. Author(s) to inform the PC and the Exploitation Manager.
2. Author(s) and/or PC to inform Project Steering Committee (PSC) by email about plans to produce a scientific paper at least three weeks before Step 4.
3. Author(s) to send draft papers for review to the PC, who will forward it to the PSC for reviewing the scientific content and assessing any IP related issue that may arise from the publication.
4. The coordinator and PSC to approve or comment to the authors within two weeks.
5. Author(s) to send final version to the PC within one week following step 4.
6. Author(s) to provide link to published paper to the PC in due time after publication.
7. PC to upload the publication (if public) on the EIROS website.

4.3 EU acknowledgement

Project partners should include in the publication the following acknowledgement:

This project has received funding from the European Union's Horizon 2020 Research and innovation programme under Grant Agreement N° 685842.

If possible, the EU flag should also be displayed. Flags shown in Figure 3 are available in high resolution in the ShareFile of the project.



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Figure 3 EU flag options.



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5. EIROS Completed Communication Activities (Final Year)

5.1 Communication events overview

This deliverable is intended to describe the completed communication activities from March 2018 (M24) until March 2019 (M36).

In the same way as in previous annual E&D review reports, the information provided was collated from individual spreadsheets from the partners. The data gathered for each event was:

1. Type of activity: workshop, seminar, general presentation, poster session, meetings, relevant telecom, webinars, etc.
2. Partners involved: main partner leading the activity plus collaborators.
3. Title or description.
4. Date.
5. Location.
6. Type of audience: Stakeholder (Industry, academia, government, general public), R&D, Scientific, Research students, University staff, Politician/government, Contractors, Manufacturers, Local authorities, Press, etc.
7. Size of audience.
8. Countries reached.

Dissemination events overview from final year of the project is given in Table 2.



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Table 2 Communication Events Overview - Year 3 (including post-project events related to EIROS technology)

Type of activity	Partners involved	Title or description	Date	Location	Type of audience	Size audience	Countries reached
Exhibition stand	TWI	TWI Research & Development Day – ‘Improving Productivity for Manufacturing’	7-8 March 2018	Cambridge, UK	Industry, Manufacturers, Scientific, R&D, Suppliers, government (including TWI Members & Non-members)	400-500	Europe
Presentation at event	FHG	ECO-Bio Conference 2018	4 th – 7 th March 2018	Dublin, Ireland	Industry, academia, government, general public	200	Europe
Networking session, Workshop	LEI	Research of Advanced Materials in the Automotive Sector	17th April 2018	Barcelona (Spain)	Industry, academia, government, general public	100	Spain
Seminar	SKZ	Dispersion Days	15 th – 17 th May 2018	Selb, Germany	Industry, academia, general public	150	Worldwide
Exhibition stand	TWI	SURFEX Surface & Coating Technology Exhibition	22-23 May 2018	Coventry UK	Industry, Manufacturers, Scientific, R&D, Suppliers, Academia	500-1000	UK

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Type of activity	Partners involved	Title or description	Date	Location	Type of audience	Size audience	Countries reached
EIROS interim review meeting	CRF	Exploitation Strategy Seminar	29-30 May 2018	Turin, Italy	EIROS Exploitation Team	25	Europe
SGRE Management (Internal Stakeholders from ON, Services and OFF units)	SGRE	EIROS Follow-up meeting (Project Advances and next steps)	June 2018	Spain	Internal restricted access	10-20 people	Spain, Denmark
Presentation at event	FHG	IGC Seminar	19 th June 2018	Koln, Germany	Industry	50	Europe
Presentation	SKZ	Presentation in the frame of the industrial seminar "Suspensions & Emulsions"	26-27 th June 2018	Selb (Germany)	Industry	15	European participants
Workshops	TWI	NAMEC workshop on advanced materials & nanotechnologies for wind Energy	29 th June 2018	Brussels, Belgium	Industry, academia, government, general public	500	Europe

Type of activity	Partners involved	Title or description	Date	Location	Type of audience	Size audience	Countries reached
Presentation at Conference	TWI	NanoTech 2018	27-29th June 2018	Paris (France)	Industry, academia, government, general public	300-400	Worldwide
Presentation at Conference	TWI	NSIRC Conference 2018	3rd-4th July 2018	Cambridge (UK)	Stakeholder (Industry, academia, government, general public)	200	UK
Presentation at conference	INSA	2018 – 9th European Silicon days	9th – 12th September 2018	Saarbrücken (Germany)	Industry, academia, government, general public	300-400	Worldwide
SGRE Management (TD Director and Head of TD)	SGRE	EIROS Follow-up meeting (Project Status and next steps)	September 2018	Spain	Internal restricted access	2	Spain
SGRE Management (Internal Stakeholders from ON, Services and OFF units)	SGRE	EIROS Follow-up meeting (Project Advances and next steps)	September 2018	Spain	Internal restricted access	10-20	Spain, Denmark
Presentation	SKZ	4. Expertenkreises „Kleben und Oberflächentechnik für Kunststoffe“ / 4th Experts	12/09/2018	Würzburg (Germany)	Industry	40	Germany

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Type of activity	Partners involved	Title or description	Date	Location	Type of audience	Size audience	Countries reached
		meeting "Adhesives and surface technologies for polymers"					
Presentation	SKZ	Erfahrungsaustausch Führungskräfte der Composites-Industrie / Experience exchange of leading executives of the composites industry	16-18.09.2018	Großpösna (Germany)	Industry	30	Germany
Presentation at conference	LEI	2nd Conference for Early Stage Researchers in Polymer Science	8-12 October 2018	Celestial Olympia Cruise	PhD Students, professors and researchers	30	Europe
Customer meeting: C&M showroom	R&D, Marketing, Management	Presentation of new technologies and finishes to customer, with the objective of using them in new cars	16/10/2018	Maier/MTC	Customers: Purchasing, designers and validations	20	Spain/France/Germany
SGRE Management (TD Director, T Innovation, and CoC managers)	SGRE	EIROS Follow-up meeting (Project Status and next steps)	November 2018	Spain	Internal restricted access	6	Spain
Internal meetings,	MAIER Management (CEO,	Comitee of Innovacion (Management): Status of project and next steps	Once a month	Maier (Headquarters Ajangiz)	Management	Internal restricted access	Spain

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Type of activity	Partners involved	Title or description	Date	Location	Type of audience	Size audience	Countries reached
	Directors)						
Internal meetings	MAIER-Quality manager	Presentation and discussion. Internal restricted distribution	22/11/2018	Maier (Headquarters Ajangiz)	Management+ Director	Internal restricted access	Spain
Internal meetings	MAIER-New Technologies Dpt	Presentation and discussion. Status of project and next steps. Future industrialization equipment analysis and discussion.	11/12/2018	Maier/MTC	Director, industrialisation engineering	Internal restricted access	Spain/UK/Czech R.
Seminar	TWI, SIK, INSA, MILL	Contamination Prevention Seminar 2018 (TWI)	7 th November 2018	Cambridge, UK	Industry, academia, general public	50	Europe
Poster at Symposium	INSA	GFP Symposium 2018	26 th – 29 th November 2018	Toulouse, France	Industry, academia, government, general public	200 – 300	France
Presentation	SKZ	Sitzung des wissenschaftlichen Beirats des EZD / Meeting of the scientific board of the European Centre for Dispersion Technologies (EZD)	15/01/2019	Selb (Germany)	Scientific board of EZD (Industry)	10	Germany

Type of activity	Partners involved	Title or description	Date	Location	Type of audience	Size audience	Countries reached
Conference & Exhibition	SKZ	NanoTech 2019	30 th Jan – 1 st Feb 2019	Tokyo (Japan)	Industry, academia, government, general public	43,000	Worldwide
Presentation	SKZ	Visit of the delegates of the Usti Region (Czech Republic) to the European Center for Dispersion Technologies	12 th February 2019	Selb (Germany)	Industry / Government	20	Czech Republic
Networking event	TWI	Industry Days 2019	5 th – 6 th February 2019	Brussels (Belgium)	Industry, academia, government, general public	1500	Europe
SGRE Management (TD Director, T Innovation, and CoC managers)	Project Status and next steps	EIROS Follow-up meeting (Project Status and next steps)	February 2019	Spain	Internal restricted access	6	Spain
Networking event	LEITAT	11th Microencapsulation Training School	9-12 April 2019	Loughborough, U.K	R&D, Scientific, Research students, Manufacturers	Around 50	Europe
Presentation at events	INSA	Eurofiller Meeting 2019	23rd-26th April 2019	Palermo	Industry, Academia, government, general public	100	Worldwide

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Type of activity	Partners involved	Title or description	Date	Location	Type of audience	Size audience	Countries reached
Seminar, Training	SKZ	Seminar on dispersion of nanoadditives	TBD	Selb, Germany	Industry, academia, government, general public	50-200	Worldwide
Seminar	TWI	Ice prevention Seminar at TWI	November 2019	Cambridge, UK	Industry, academia, general public	50-100	Europe

5.2 Publications overview

Table 3 presents the key publications related to EIOS technology that have been elaborated from March 2018 to March 2019 (final year of the project).

The data gathered for each publication was:

1. Type of publication: Scientific paper, conference paper, press release, online newsletter, article, social media (Twitter, LinkedIn, etc).
2. Partners involved.
3. Title or description.
4. Publication date.
5. Publication name.
6. Type of audience: scientific, press, stakeholder, etc.
7. Countries reached.
8. Link to article/publication.



Figure 4 Screenshot of the March 2018 edition of the TWI Connect+ Newsletter – News Section.



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Table 3 Publications Overview - Year 3 (including publications that will be submitted post-project)

Type of publication	Partners involved	Title or description	Publication Date	Publication Name	Type of audience	Countries reached	Link to article/publication
Scientific Paper	TEK	Thickness effect on the generation of temperature and curing degree gradients in epoxy-amine thermoset systems	27 th February 2018	Journal of Applied Polymer Science	Scientific	All	https://link.springer.com/article/10.1007/s10973-018-7062-9
Social Media	TWI	The EIROS project - combatting ice and erosion in extreme low temperatures	01 March 2018	TWI Connect+ Newsletter – News Section to TWI Members	Scientific and business	Worldwide	TWI's Newsletter to its Members (700 Industrial Members in 4,500 locations worldwide) Sent by email and published at TWI's website (https://www.twi-global.com/news-events/news/)
Scientific Paper	TEK	Thickness effect on the generation of temperature and curing degree gradients in epoxy-amine thermoset systems	27 th February 2018	Journal of Applied Polymer Science	Scientific	All	https://link.springer.com/article/10.1007/s10973-018-7062-9

Type of publication	Partners involved	Title or description	Publication Date	Publication Name	Type of audience	Countries reached	Link to article/publication
Newsletter	SKZ	Nanopartikel in Harzsysteme erfolgreich dispergieren / Successful dispersion of nanoparticles in resin systems	Apr-18	Newsletter of the Bavarian Cluster of Nanotechnology	Industry / Academia	Germany	www.nanoinitiative-bayern.de/gb/
Conference paper	INSA	2018 - 9th European Silicon Days	9th-12th September 2018	Quantitative determination of grafted silane amount on modified silica nanoparticles	Industry, Academia, government, general public	Worldwide	
Conference paper	INSA	GFP Symposium 2018	26th-29th November 2018	Caractérisation de nanoparticules de silice constitutives de matériaux composites résistants à l'érosion et au givrage	Industry, Academia, government, general public	France	
Social Media	TWI	Regular updated on EIROS project website	Regular activity	News and events	Scientific and business	Worldwide	www.eirosproject.com
Scientific Paper	TWI, INSA	Synthesis of High-Reproducible Silica Stober Spheres	April 2019	Journal of Sol-Gel Science and Technology	Scientific	Worldwide	Not yet published

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Type of publication	Partners involved	Title or description	Publication Date	Publication Name	Type of audience	Countries reached	Link to article/publication
Conference paper	INSA	Eurofiller Meeting 2019	23rd-26th April 2019	Functionalized silica-filled epoxy coatings for hydrophobic and erosion-resistant materials	Industry, Academia, government, general public	Worldwide	
Scientific Paper	TWI, INSA	Effect of Temperature on the Silanol Content of Silica Particles	May/June 2019	Journal of Sol-Gel Science and Technology	Scientific	Worldwide	Not yet published
Scientific Paper	TWI, INSA	Monolayer Coverage of Silica Particles	August 2019	To be decided	Scientific	Worldwide	Not yet published
Scientific Paper	TWI, RS	Adding Novel Functionalities to Epoxy Resin Systems	September 2019	To be decided	Scientific	Worldwide	Not yet published
PhD Thesis	TWI	Understanding and Development of Functionalized Nanoscale Components for Advanced Composite Materials	September 2019	London Southbank University PhD Theses	Scientific	Worldwide	Not yet published

6. Exploitation strategy seminar

An Exploitation Strategy Seminar (ESS) for the EIROS project was held on the 29th and 30th of May of 2018 at CRF facilities in Turin (Italy), with representatives of the Exploitation Team of the EIROS project (see Table 1).

The Exploitation Strategy Seminar was focused on the definition and discussion on the key exploitable results defined prior the meeting in Turin. The detailed description of the seminar as well as of exploitable results can be found in D7.3 'Final Plan for the Dissemination and Exploitation of Results'.

As the EIROS partnership is large, the KERs were classified in the following groups:

1. Group 1: RTDs and universities.
2. Group 2: end users.
3. Group 3: SMEs

The list of KERs established during Exploitation Strategy Seminar is given in Table 4.

Table 4 EIROS - List of KERs established during the Exploitation Strategy Seminar.

EIROS PARTNER	KEY EXPLOITABLE RESULT (KER)	
IFAM	KER 1	Test setup to measure the adhesion of atmospheric ice on different substrates and materials.
	KER 2	Multi-scale modelling of the damage evolution of materials operating in severe environments.
NCC	KER 1	Nano-enhanced Resin Infusion Process Development for Composites Manufacture.
TEK	KER 1	Advanced encapsulated PCM materials with anti-icing properties (1) and their manufacturing process (2).
	KER 2	Multi-scale modelling of the damage evolution of materials operating in severe environments and testing of advanced materials.
SKZ	KER 1	Incorporation of particles in resin systems (general case).
	KER 2	Dispersion of EIROS additives in resin systems due to functionality.
LEI	KER 1	Manufacture of smart self-healing materials to work under severe conditions.
TWI	KER 1	Functionalised silica additives
GAM	KER 1	Functional coating for wind turbine blades via functional thermal storage additives.
	KER 2	Functional coating for wind turbine blades via multi-functional additives.
	KER 3	Functional coating for wind turbine blades via self-healing additives.



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SON	KER 1	Development of composite aircraft leading edges containing advanced functional thermal storage additives for operation under harsh environments.
	KER 2	Development of composite aircraft leading edges containing advanced multi-functional additives for operation under harsh environments.
	KER 3	Development of composite aircraft leading edges containing advanced self-healing additives for operation under harsh environments.
RS	KER 1	Use of EIROS Technology for Ice Resistance in Composite Cryogenic Tanks of Space Launch Vehicles.
	KER 1	Use of EIROS Technology for Self-Healing in Composite Cryogenic Tanks of Space Launch Vehicles.
CRF	KER 1	Composite Oil Pan.
	KER 2	Composite oil pan with self-healing properties.
SB	KER 1	Development of anti-icing and erosion resistant coating.
SIK	KER 1	Design of new silanes : <ul style="list-style-type: none"> i. 3,3,4,4,5,5,6,6,6-Nonafluorohexyltrimethoxysilane ii. (3,3,4,4,5,5,6,6,6-Nonafluorohexyl)methoxydimethylsilane iii. Bis(3,3,4,4,5,5,6,6,6-Nonafluorohexyl)dimethoxysilane iv. (3,3,3-Trifluoropropyl)dimethylmethoxysilane v. 1,8-Bis(trimethoxysilyl)octane
	KER 2	Pre-treatment of metallic substrates before applying the functional resin.
	KER 3	In-house functionalization process.
MILL	KER 1	Upscaling process for phase change material capsule.
	KER 2	Upscaling process for functionalized nano silica (NS) particles.
	KER 3	Upscaling process for self-healing (SH) capsules.
SIG	KER 1	Graphene & nano-particle enhanced carbon fibre fabric.



7. Conclusions

As part of the EIROS dissemination activities, the EIROS partners have participated in several communication events and led several publications that have helped to the dissemination of the project during the course of its final year (March 2018 to March 2019).

An Excel spreadsheet log template was circulated to the partners to record these activities this period. Key activities achieved were:

- Key dissemination events:
 - Dispersion Days 2018 on May 2018
 - SURFEX exhibition on May 2018.
 - Exploitation Strategy Seminar on May 2018.
 - NSIRC conference 2018 on July 2018.
 - NanoTech Paris 2018 on June 2018.
 - European Silicon Days 2018 on September 2018.
 - 2nd Conference for Early Stage Researchers in Polymer Science on October 2018.
 - Contamination Prevention Seminar on November 2018.
 - GRF Symposium 2018 on November 2018.
 - NanoTech Japan 2019 on January 2019.
 - Industry Days 2019 on February 2019
 - Presentations to potential future customers of different project partners.

- Key publications:
 - Scientific papers led by TEK.
 - Conference proceeding paper led by NCC.
 - Articles in newspapers and magazines.
 - EIROS project website updates, press release and flyer designed for the project.
 - Social Media: project partner's websites, Twitter posts (project partner's Twitter accounts).
 - Bulletins or Newsletters from different project partners (direct customers of membership based organisations).

In addition, several scientific papers have been prepared and they will be submitted after the project end date.



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