

Grant Agreement No.: 760941

Project acronym: RESISTANT

Project title: Large riblet surface with super hardness, mechanical and temperature resistance by nano functionalization

Call (part) identifier: H2020-NMBP-PILOTS-2017

Topic: PILOTS-03-2017 Pilot lines for manufacturing of nanotextured surfaces with mechanically enhanced properties

Starting date of project: 1st of January, 2018

Duration: 48 months (60 months after extension).

WP 10 – Dissemination

Deliverable D10.8 – Report on Dissemination and Communication activities III

Due date of deliverable: **31st December 2021**

Actual submission date: **19th January 2022**

Organisation name of lead contractor for this deliverable: PRODINTEC (IDONIAL)

Dissemination Level		
CO	Confidential, only for members of the consortium (including the Commission Services)	
PU	Public	X

DISCLAIMER: This publication reflects only the author's view. The Commission is not responsible for any use that may be made of the information it contains

Table of Contents

List of abbreviations / Nomenclature	3
1 Introduction	4
2 Online activities	5
2.1 Updates of the website, project identity and public image	5
2.2 Project promotional materials / communication toolkit	6
2.3 Project media presentations and distribution of press release	7
2.4 Periodic e-newsletter	9
2.5 Social networking tools	11
2.6 Project information distribution and related news	13
3 Onsite activities	16
4 Impact	17
5 Conclusions	19
6 References	21

List of abbreviations / Nomenclature

Abbreviation	Definition
WP	Work package
GA	General Assembly
TRL	Technology Readiness Level

1 Introduction

The present document constitutes Deliverable D10.8 in the framework of the project “Large Riblet Surface with Super Hardness, Mechanical and Temperature Resistance by Nano Functionalization” (Project Acronym: ReSiSTant; Contract No.: 760941). This document is the result of the activities performed within the framework of work package 10 (WP10): “Dissemination”, and more specifically of Task 10.1 “Dissemination strategy and implementation” and Task 10.2 “Release and maintenance of a public website” led by IDONIAL (aka PRODINTEC) and in collaboration with the rest of the consortium partners.

ReSiSTant intends to develop, upscale and industrially demonstrate up to TRL7 reliable manufacturing processes to obtain nanostructured riblet surfaces to be applied in Aircraft Turbofan Engines and Industrial Compressors (two demonstrators) to reduce drag and the related fuel consumption and emissions. In this sense, the main aim of the dissemination activities – reported in the present document - is to create a suitable framework for awareness following a coherent strategy, including:

- ▶ To spread ReSiSTant project results and its deliverables beyond the consortium among relevant stakeholders, scientific and industrial community.
- ▶ To perform networking actions that foster dialogue inside and outside RDI and industrial communities to facilitate cooperation among other NMBP Pilot topic projects.
- ▶ To improve awareness of the potential and environmental benefits when nanocoatings/materials are used in turbomachinery manufacturing, as well as the existing European knowledge, capabilities and developments among stakeholders

The website will be updated during the project and will be active for at least a year after the project. All partners from the consortium will provide content to update the website. A methodology for a regular collection of content will be provided.

This document describes in detail the set of Dissemination and Communication activities during the third year of the project (Month 37 (January 2021) to Month 48 (December 2021)).

2 Online activities

This section includes all the online activities carried out by ReSiSTant consortium for project dissemination.

2.1 Updates of the website, project identity and public image

As detailed on Deliverable D10.2. *Public Website online*, the WP10 Leader (IDONIAL, aka PRODINTEC) was responsible of project identity and public identity, as well as, the creation of the website. All partners contributed to create the content (text and images). The project website is accessible through [1] and it is valid for PCs or laptops as well as for mobile devices. Figure 1 shows the web appearance under both types of devices. During this year, the website content was updated.

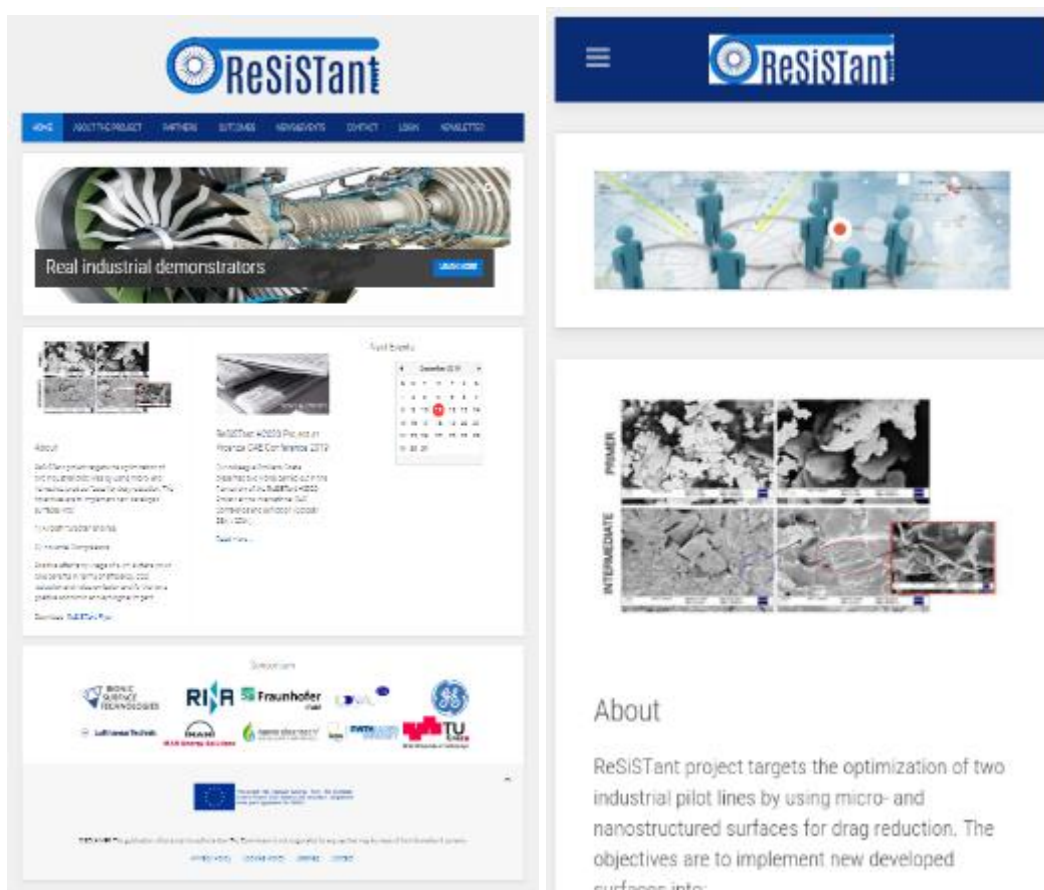


Figure 1. ReSiSTant website: Screenshot from PC/Laptop (left) and from mobile (right)

The website is user friendly and is structured on the following sections: (1) *Home*, (2) *About*, (3) *Partners*, (4) *Outcomes*, (5) *News&Events*, (6) *Contact*, (7) *Login* and (8) *Newsletter*. The website was updated with regular information and several changes were required, such as:

- ▶ *Home* section includes updates on the latest news and events (calendar). → updates on consortium logos due to changes on public image of some partners (BIONIC, LUFTHANSA and IDONIAL (previously named PRODINTEC)). It also affected other sections such as *About the project* or *Partners*.
- ▶ *Outcomes* section includes public project deliverables. → New deliverables/e-newsletters

were uploaded.

- ▶ *News&Events* section details related project news. → Four news from 2021 were created.
- ▶ *Next events* includes a calendar where relevant events are updated. → The calendar included project related events during 2021.
- ▶ *Newsletter* includes the register to be part of project distribution list. → It was updated regarding legal framework.

There is also a Member area which is private and exclusive for project partners. It is accessible through *Login* section and its content was regularly refreshed.

2.2 Project promotional materials / communication toolkit

Since the project beginning some promotional materials and a communication toolkit have been prepared as presented below:

- **Project promotional material:** at this moment, a poster / flyer (Figure 2) has been created for a general audience. It includes general information of the project such as objectives, roadmap, consortium or website. During the project, new versions will be created according to target audiences. During the period Month 13 to Month 24, this flyer was updated due to changes on partner's logo (BIONIC, LUFTHANSA and IDONIAL (aka PRODINTEC)).



Figure 2. ReSiSTant flyer / poster (most recent version)

This flyer/poster can be found in an electronic manner, through the project website (section Outcomes:[2]). In addition, BST and IDONIAL have been working on the design of two folders and roll-ups for each demonstrator. Hence, there will be

promotional material targeted to each sector needs (aerospace and industrial compressors). The content is under development and will be agreed with all partners.

- **Communication toolkit:** this is an exclusive set of documents for the consortium and it is accessible through the Member area. It includes project logo, presentation template and project flyer/poster. This communication toolkit is updated when new versions of the documents are created. At this moment, four versions of the communication toolkit were created due to changes of partner's logos.
- **Other documents:** related project documents (templates for meeting minutes or project reports) include the project logo in order to provide a unique project image. A new version was created due to changes of partners' public image.

2.3 Project media presentations and distribution of press release

In September 2018, WP10 Leader (IDONIAL aka PRODINTEC) provided the **first project press release** to ReSiSTant partners (English version), agreed and reviewed by all partners. The translation of press release to official languages of the rest of partners was responsibility of each partner. During 2019, some partners (e.g. IDONIAL) include this press release on their website in order to maximize project impact.

During 2020, the consortium has done an important effort to disseminate the project and WP10 team has prepared and published an **article about the project on Open Access Government Journal – April 2020 Edition** [16]. The final appearance of the article is shown on Figure 3.

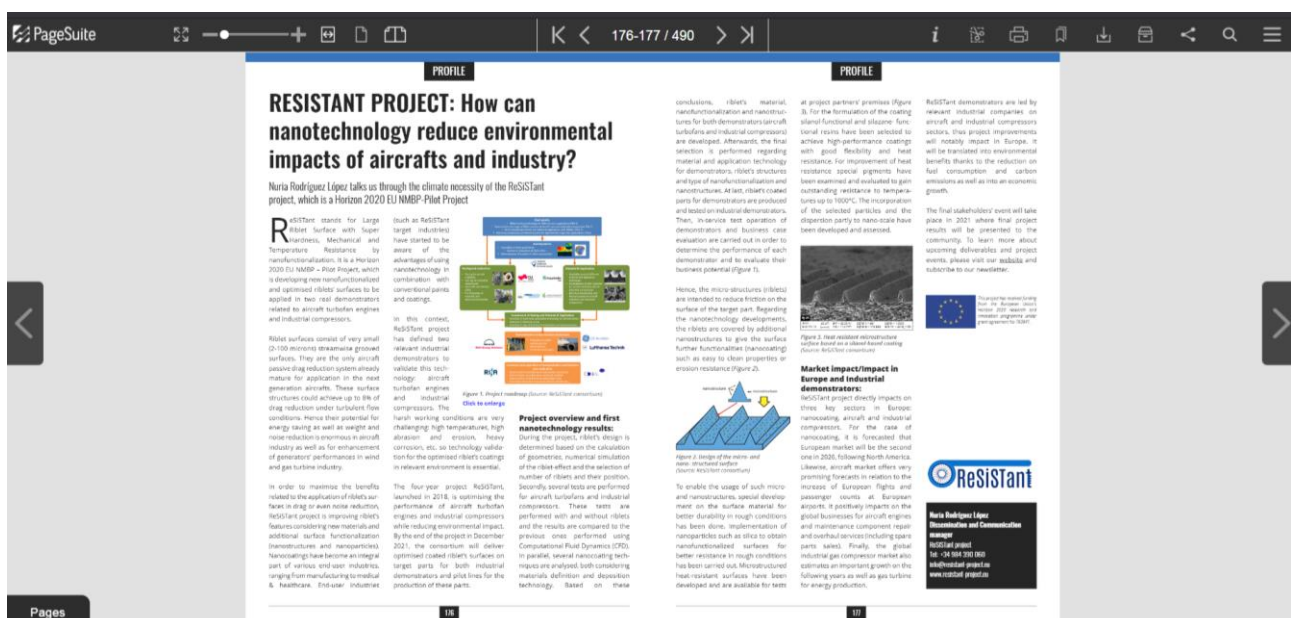


Figure 3. ReSiSTant article on Open Access Government Journal

CORDIS team has prepared a new related to the project based on existing information. It was created in 6 languages (English, French, German, Spanish, Italian and Polish) and it can be found on "News & Multimedia" section on CORDIS website [17]. The English version of the new can be found on Figure 4.

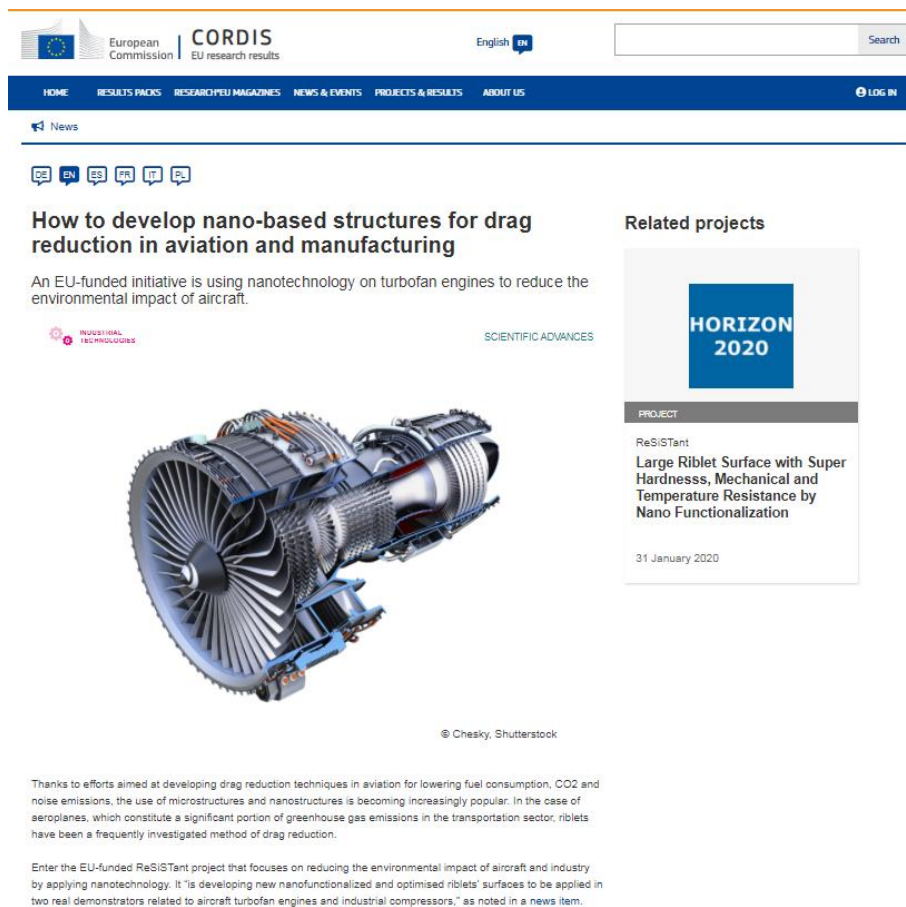


Figure 4. CORDIS new about ReSiSTant project

On April 2021, ReSiSTant project participated in the **Susnanofab Networking event with a virtual booth**:



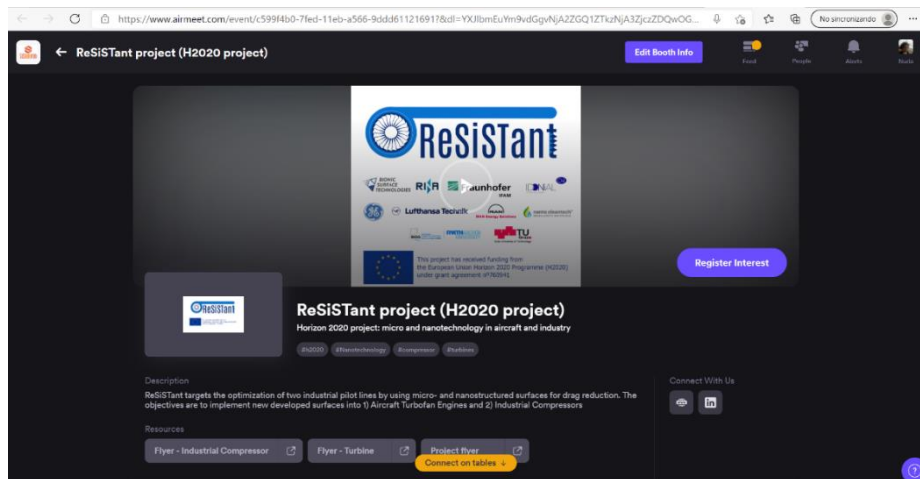


Figure 5. Virtual booth at Susnanofab Networking Event

The project website reflects these actions and they are reflected on the website content (news, calendar...) or even on the project e-newsletter, when required.

2.4 Periodic e-newsletter

This year, one e-newsletter was created and distributed:

- 6th e-newsletter: this was the sixth newsletter and it was distributed among partners. Based on the impact of the first and second newsletter, several improvements were implemented as detailed below following the same criteria as for 3rd e-newsletter. This newsletter is similar to the forth one and it is shown on Figure 6.
- Project logo: by clicking it, the user is redirected to project website.
- Title: “eNewsletter – December 21”.
- New section to attract the attention of the subscribers.
- Latest news: informing about project 8th project GA and Progress Meeting online, the virtual booth at Susnanofab Networking event and project demonstrators.
- Where can you find us?: information about coming events which will be attended by project partners and where ReSiSTant project will be presented somehow. It includes direct links to website calendar where such events are detailed.
- Recent project outcomes: the deliverables which were published or updated recently, can be found on this section, through a link to the project website where they can be downloaded.
- Do you want to be updated?: instructions about how the interested audience can register themselves within the newsletter distribution list
- Consortium: logos of the partners, to show an overview of its potential.
- “Visit us” button: easy and user friendly manner to increase website accesses.
- EC logo and project information: mandatory information about EC funding and project information according to Grant Agreement.
- Social Media sharing tools: some direct links to share the newsletter through Twitter

or by e-mail were included at the end of the newsletter.



Figure 6. 6th ReSiSTant e-newsletter

The newsletter has been shared through social media as detailed on section 2.5. It has been also uploaded on “Outcomes” section and sent by e-mail to the audience registered through the website.

2.5 Social networking tools

All partners have contributed to make the project is present on social media. Next, a review of activities carried out, using social networking tool selected on the project dissemination plan.

Table 1. List of ReSiSTant activities in social networking tools

#	Type	Date	Description	URL
1	IDONIAL LinkedIn	December 21	Information about ReSiSTant project updates (6 th e-newsletter).	¡Error! No se encuentra el origen de la referencia.
2	IDONIAL Twitter	December 21	Information about ReSiSTant project updates (6 th e-newsletter – English version).	¡Error! No se encuentra el origen de la referencia.
3	IDONIAL Facebook	December 21	Information about ReSiSTant project updates (6 th e-newsletter – English version).	¡Error! No se encuentra el origen de la referencia.

Next, an overview of main activities of the project related to social networking tools. Figure 7 shows a sample of ReSiSTant publications done in **LinkedIn**.

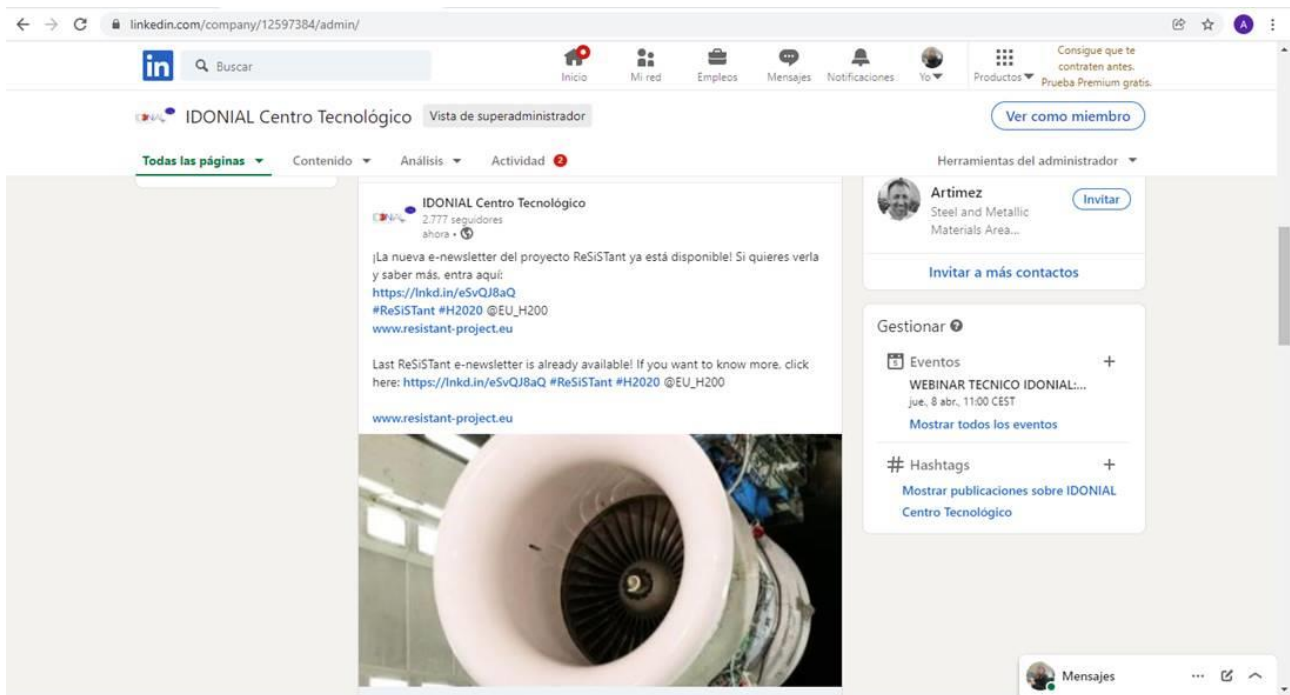


Figure 7. Sample of ReSiSTant publications on LinkedIn

Likewise, ReSiSTant is also present in other social media such as Twitter. Figure 8 shows a sample of project publications carried out on **Twitter**.

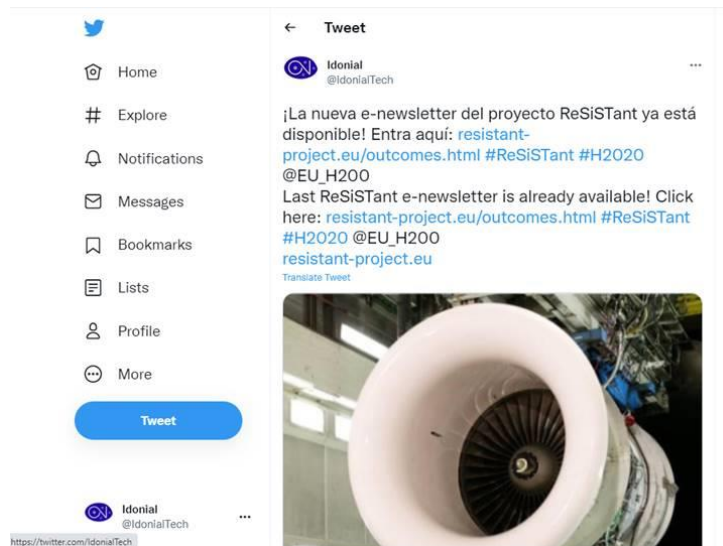


Figure 8. Sample of ReSiSTant publications on Twitter

Finally, a sample of a public publication on **Facebook** in Figure 9:



Figure 9. Sample of ReSiSTant publications on Facebook

2.6 Project information distribution and related news

The **partners** have already distributed the project **through their own website** during 2018 and this information is still present on their websites. Updated information during 2019 and 2020 is also considered:

- **BST** has included information about the project on their updated website [12].
- **IFAM** has included information about the project on their own website, on a section related to its R&D projects [10].
- **IDONIAL** on its new website, has published information about the project, where the flyer and the press release can be found [3]. New about the project and the Open Access Government publication can be found on IDONIAL website: English version [14] and Spanish version [16].
- **NANTO** has published information about this project within the section Horizon 2020 found on its website but also related news [9].
- **RINA** has published information about the Project on their Case Study section within RINA website [11].

Figure 10 shows a selection of main ReSiSTant project publications that can be found on partners' websites.

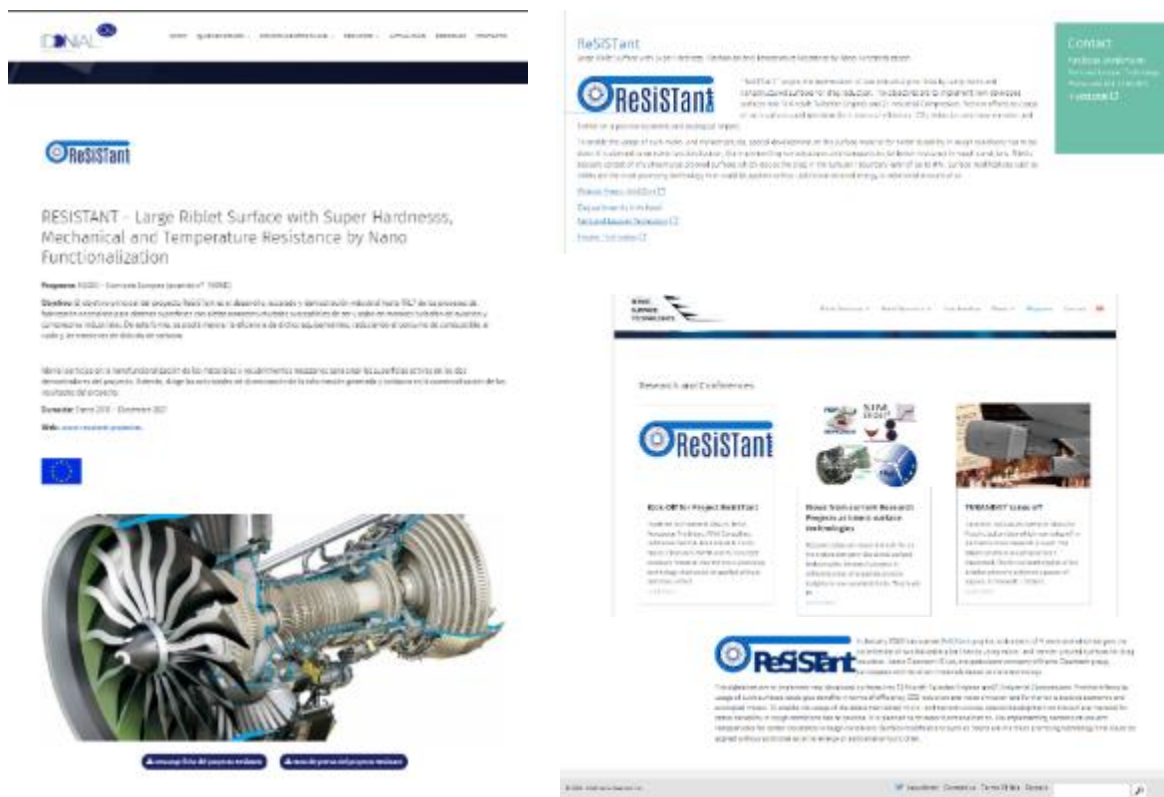


Figure 10. Selection of ReSiSTant publications on partners' websites

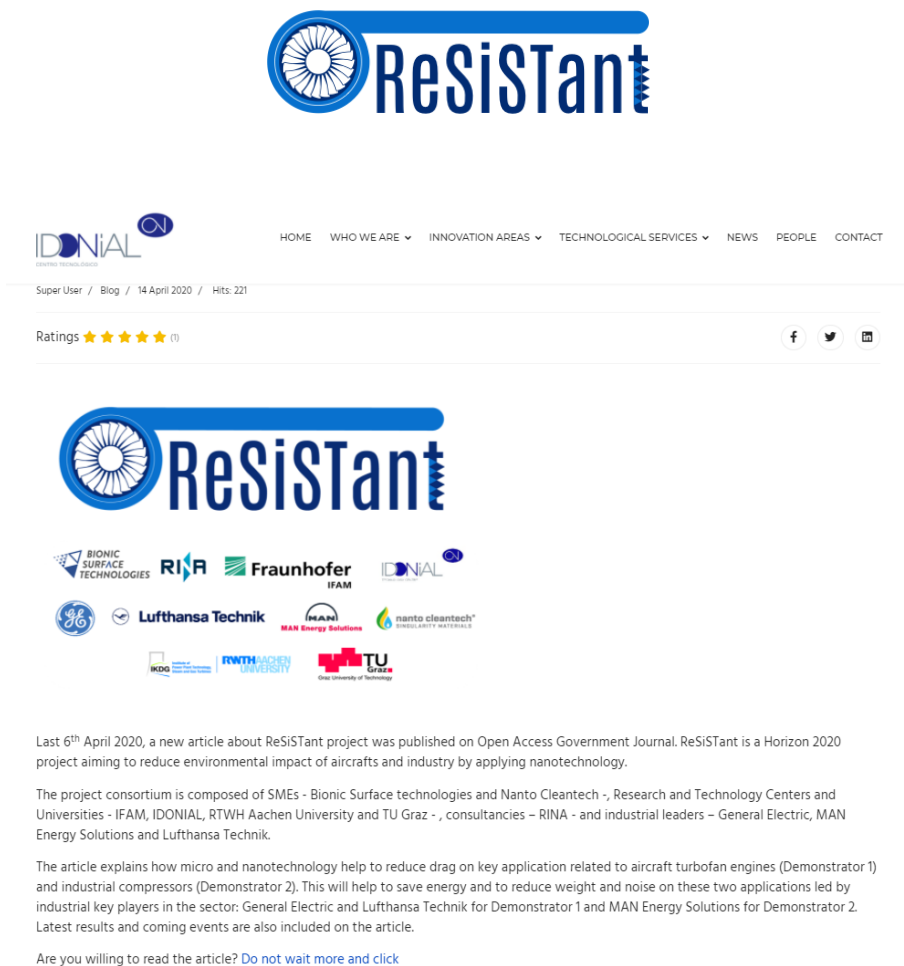


Figure 11. IDONIAL website – new about project publication on Open Access Government journal (English version)

The project can be found on **CORDIS** website, provided by European Commission [4], and it was updated with information provided during first reporting period as shown on Figure 12. CORDIS team also created a new about the project that was included on the “News & Multimedia” section as explained previously.

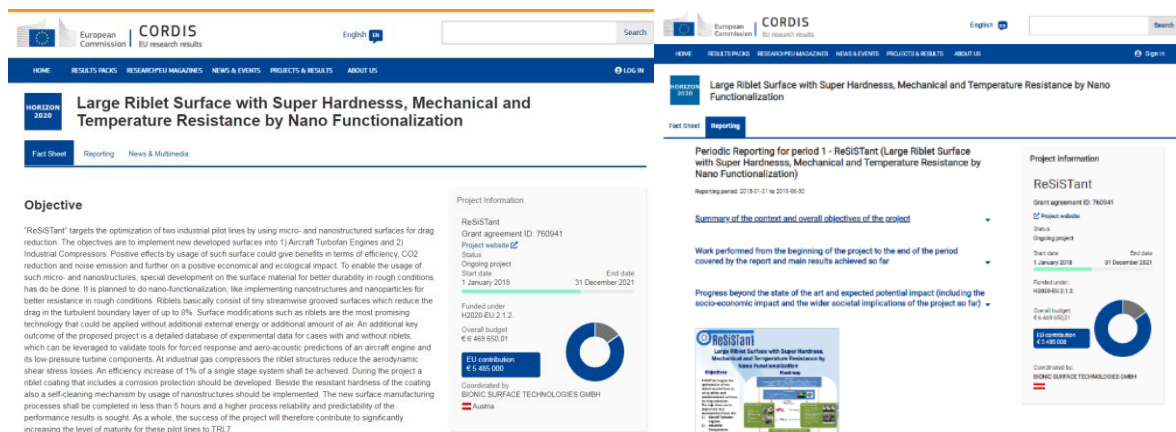


Figure 12. ReSiSTant information on CORDIS website

Apart from Open Access Government journal publication, there is a regular new about ReSiSTant project on the website [18] as shown on Figure 13, left. In addition, the website has also fit out a section where interested users can directly contact to Project Dissemination and Communication manager (Figure 13, right). Moreover, a project banner was included on the website (Figure 14) and remains active during 2021.

WEDNESDAY, NOVEMBER 18, 2020 CONTACT US ABOUT US EDITORS OUR AUDIENCE HABSBETH INFORMATION PAGE PRESTIGE CONTRIBUTORS TESTIMONIALS

OPEN ACCESS GOVERNMENT NORTH AMERICA ANALYSIS HIGHLIGHTING KEY AREAS WITHIN CANADA AND THE US READ MORE

HOME NEWS PUBLICATIONS SPECIAL REPORTS STAKEHOLDERS EBOOKS SUBSCRIBE

GOVERNMENT HEALTH ENVIRONMENT AGRICULTURE ENERGY RESEARCH TRANSPORT EDUCATION FINANCE WORKPLACE TECHNOLOGY NORTH AMERICA ASIA

Home » Open Access News » Research & Innovation News » RESISTANT PROJECT: How can nanotechnology reduce environmental impacts of aircrafts?

Open Access News Research & Innovation News

RESISTANT PROJECT: How can nanotechnology reduce environmental impacts of aircrafts?

April 9, 2020

© Dezzor

Nuria Rodríguez López talks us through the climate necessity of the [ReSiSTant project](#), which is a Horizon 2020 EU NMBP - Pilot Project, to reduce the environmental impacts of aircrafts

ReSiSTant stands for Large Riblet Surface with Super Hardness, Mechanical and Temperature Resistance by nanofunctionalization. It is a Horizon 2020 EU NMBP - Pilot Project, which is developing new nanofunctionalized and optimised riblets' surfaces to be applied in two real demonstrators related to [aircraft turbofan engines](#) and industrial compressors.

Follow Open Access Government

Latest Research Reports

- Finding safer substitutes for endocrine disruptors is a tricky job July 16, 2020
- Voice biomarkers that identify driving skills June 22, 2020
- Covid screening: Let private accredited laboratories show their worth May 15, 2020
- Contaminants and infections: a link to explore April 17, 2020

Latest Research eBooks

- The Search for Dark Matter Quick Launch eBook More Details September 28, 2020
- Improving cattle production by counting chromosomes Quick Launch eBook More Details July 8, 2020

Figure 13. ReSiSTant new on Open Access Government website

HOME NEWS PUBLICATIONS SPECIAL REPORTS STAKEHOLDERS EBOOKS SUBSCRIBE

Here, ethical cleaning company Bio-D, suggest 5 reasons as to why you should switch up your wardrobe and opt for more eco-friendly fashion for the sake of the planet.

How can the transportation industry reap the benefits of composite materials?

October 9, 2020

With a high strength to weight ratio, environmental advantages and reduced maintenance costs, the transportation industry is reaping the benefits of composite materials. Jari Sopanen, Product Business Owner for Transportation at Ecol Composites, explains more.

CBG: The mother of all Cannabinoids with broad antibacterial activity

October 12, 2020

Dr. Christian Löffler, researcher and product developer at BioBloom in Austria explains CBG (cannabigerol), a "new" cannabinoid with vast potential in cannabis research.

What causes insecticide resistance?

Dr. Joel R. Costa, Distinguished Professor of Entomology & Toxicology, sheds some light on the causes of ever-changing insecticide resistance.

Research by ERC grantee Stanley Hance

Conducting advanced research and development aimed at producing a brighter and safer future through advances in computer based technologies

western technical college

Integrated Technology Division

Inflammatory Cell Death

Click here to learn more about our research

THE UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL

UNC DEPARTMENT OF BIOLOGY

北海道大学環境科学研究科

Figure 14. ReSiSTant banner on Open Access Government website

3 Onsite activities

This section would collect all onsite activities carried out within and outside the consortium during 2021. However, due to COVID-19 outbreak, all planned activities were cancelled.

4 Impact

This section includes an overview of the achieved values related to ReSiSTant Key Performance Indicators. Such values can be found on Table 2.

Table 2. ReSiSTant dissemination and communication Key Performance Indicators

KPI ID	KPI Title	Value (M1- M48)	Target value (Accumulative values)
			M48
1	Web visits	<ul style="list-style-type: none"> 16,700 visits 4,183 users Average visit time: 2' 21" 	10,000
2	(Electronic) Material downloads / distribution (website outcomes section)	<ul style="list-style-type: none"> Flyer: 757 D1.3 Data management Plan: 677 D9.1. Business model: 762 D9.2. Commercialization Technology Roadmap: 419 1st Press release: 619 1st e-newsletter: 376 2nd e-newsletter: 427 3rd e-newsletter: 216 4th e-newsletter: 264 5th e-newsletter: 149 Report of Dissemination and Communication activities - 2018: 161; 2019: 130; 2021: 54. 	90
3	Brochure / Leaflet distribution	<ul style="list-style-type: none"> ~450-> visits to IDON (PROD) stand in GREXpo + BIEH + other partners 709 electronic downloads 	1,000
4	Project e-newsletters downloads / distribution	<ul style="list-style-type: none"> 1st eNewsletter sent to 27 / 15 opens / 10 clicks + downloaded from website by 292 (May'18). 2nd e-newsletter sent to 32 / 18 opens / 8 clicks + downloaded from website by 342 (October'18). 3rd eNewsletter sent to 21 / 12 opens / 5 clicks + 	90

KPI ID	KPI Title	Value (M1- M48)	Target value (Accumulative values)
			M48
		<p>downloaded from website by 215 (May'19).</p> <ul style="list-style-type: none"> • 4th-newsletter sent to 24 / 13 opens / 3 clicks + downloaded from website by 116 (March'20). • 5th-newsletter sent to 26 / 14 opens / 3 clicks + downloaded from website by 8 (November'20). • 6the-newsletter sent to 26 / 9 opens / 2 clicks (December 21) • 3 new subscribers. <p>Total: 1103</p>	
5	Conference presentations	<ul style="list-style-type: none"> • International CAE Conference: 2 presentations • CAE Conference 2019: 1 presentation <p>Total: 3</p>	5
6	Published releases press	<ul style="list-style-type: none"> • 1st press release (September 2018) • Electronic downloads: 413 • Sent to key media. • Published by 1 regional newspaper (Spain). • CORDIS new (6 languages) • Publication on OAG – April 2020 <p>Total: 3</p>	6

5 Conclusions

This document collects all activities which were detailed on the project dissemination strategy as part of dissemination and communication tasks related to the project. The monitoring of the activities was based on several Key Performance Indicators whose values for this period are collected on Table 2. In general terms, the project impact is even higher than expected as shown on such table.

Regularly, these activities were monitored and some improvements had to be performed in order to boost such impact when some weaknesses were discovered.

- **New sections on 4th and 5th e-newsletter:** despite the newsletter tab of the website, there is a low number of subscribers out of the consortium. This is the reason why the second newsletter included a section related to “how to subscribe” and it remained on the following e-newsletters. In addition, the 4th e-newsletter included a section to attract audience awareness and the 5th e-newsletter had a new section to “create community” around the project related technologies, applications, industries, etc.
- **Outcomes section:** this section was initially designed to share public deliverables. However, in order to increase project impact, other project related documents (e.g. e-newsletters or press releases) can also be found on this section. This section helps to achieve project impact objectives so project relevant documents will be still disseminated through this section.
- **CORDIS and project information:** CORDIS website updated information according to first project reporting where project flyer was also included. The CORDIS team also created a new one on the website based on project website and project publications.
- **Project wide spreading from partners:** ReSiSTant partners have also shared the project information and website through their corporate websites. IDONIAL has updated its website and has included a specific section with ReSiSTant project information including project flyer and press release. These activities have also helped to increase project impact.
- **Social media sharing and origin of website access:** additionally, the project information has been shared through Social Media to increase the project web impact (Figure 15). An analysis of website accesses (accumulative value from M1 to M48), shows that access trends are similar to the ones of previous year:
 1. Access through social media is the lowest one;
 2. Organic search (from search engines earned, not paid) represents 11% (previous period was 11.3%). This is particularly important if the web is well positioned on such engines;
 3. Referral access is the next one;
 4. The main type of access origin is direct (any traffic where the referrer or source is unknown), and it has been reduced compared to last period. Now it represents 75.9% compared to the previous 74.3%. The problem for direct access is that cannot be controlled and it is complicated to obtain more details about where it comes from. Some possibilities for direct access are: people who enter our URL into their browser or find it via a bookmark, emails from particular email clients, mobile traffic, Secure (https) to non-secure sites (http), etc.

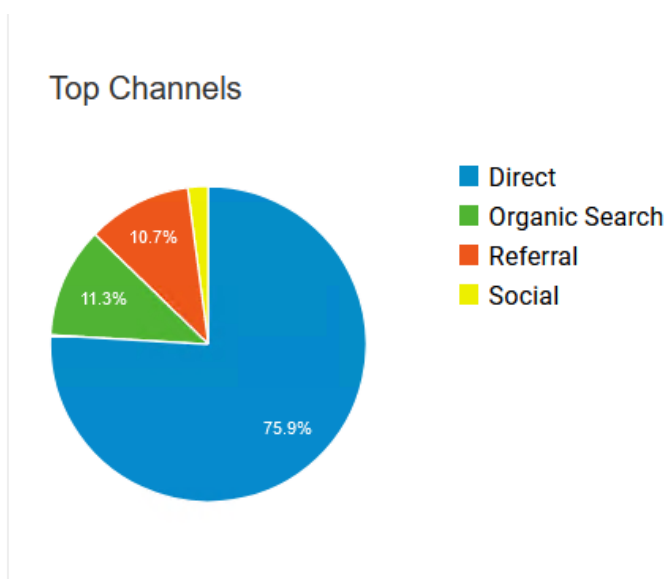


Figure 15. ReSiSTant website analytics (type of accesses) – Month M1 to M48

The geographical origin of the website accesses is the following: 1. Spain, 2. Germany, 3. Indonesia, 4. USA, 5. Italy, 6. Austria, 7. France, 8. Canada, 9. Japan and 10. China. Many accesses come from partners' countries but there is a clear interest on other countries which are not involved in the project such as Indonesia or USA.



Figure 16. ReSiSTant website analytics (geographical origin) – Month M1 to M48

The public website was fully operational since May 2018 and since then, the website impact has been enormous (e.g. website visits are almost the double of target value). Now, it is well positioned in Google as “resistant project” or “resistant eu” are key words and project website is shown.

Based on this analysis, future actions are related to create the 7th e-newsletter at the beginning of year 2022. Thus, project disseminates new content. On the other hand, during year 2022, it is expected to boost the creation of particular content focused on the different demonstrators (folders, roll-ups, etc.).

6 References

- [1] Project website: www.resistant-project.eu
- [2] Outcomes: <http://resistant-project.eu/outcomes.html>
- [3] ReSiSTant project on IDONIAL website:
<http://idonial.com/es/component/sppagebuilder?view=page&id=59>
- [4] ReSiSTant project reporting on CORDIS:
<https://cordis.europa.eu/project/id/760941/reporting>
- [5] ReSiSTant new on IDONIAL LinkedIn:
https://www.linkedin.com/posts/idonialcentrotecnologico_outcomes-public-resistant-project-activity-6876841522902421504-N8BI
- [6] ReSiSTant new on IDONIAL Twitter:
<https://twitter.com/i/web/status/1471076568294379522>
- [7] ReSiSTant new on IDONIAL Facebook: <https://www.facebook.com/pg/Idonial-CT-335585426988962/posts/>
- [8] ReSiSTant new on IDONIAL Twitter:
<https://twitter.com/IdonialTech/status/1247129591564689408?s=20>
- [9] NCT website – project information: <http://nantocleantech.us/?s=resistant>
- [10] IFAM website – project information:
<https://www.ifam.fraunhofer.de/de/Forschung/forschungsprojekte.html#tabpanel-Forschungsprojekte>
- [11] RINA website: <https://www.rina.org/en/media/CaseStudies/resistant>
- [12] BST website: www.bionicsurface.com/en/magazine/
- [13] 10th Aviation Forum Hamburg 2020: <https://www.aviationforumhamburg.com/>
- [14] New about ReSiSTant publication on Open Access Government Edition in April 2020 (English version): <https://www.idonial.com/en/blog/latest-news-about-resistant-project>
- [15] New about ReSiSTant publication on Open Access Government Edition in April 2020 Spanish version): <https://www.idonial.com/es/blog/ultimas-noticias-del-proyecto-resistant>
- [16] Open Access Government Journal – ReSiSTant publication:
<https://edition.pagesuite-professional.co.uk/html5/reader/production/default.aspx?pubname=&edid=a7aef526-7afd-4c66-8b33-ab775edf4c9b>
- [17] CORDIS new about the project (English version):
<https://cordis.europa.eu/article/id/418045-how-to-develop-nano-based-structures-for-drag-reduction-in-aviation-and-manufacturing>
- [18] Open Access Government website – ReSiSTant new:
<https://www.openaccessgovernment.org/nanotechnology-reduce-environmental-impacts-of-aircrafts/85311/>
- [19] NanoFabNet – newsletter – Issue 5 - November 2020:
<https://mailchi.mp/175a25c954a1/mbsmlmug0n-8034702>