



UncorrelaTED

Solid-liquid thermoelectric systems with uncorrelated properties



Deliverable 6.4

2nd Update of Dissemination Plan

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LOGO	Partner full name	Acronym
	Universitat Jaume I	UJI
	Institut de Recerca en Energia de Catalunya	IREC
	Kungliga Tekniska Högskolan	KTH
	University of Warwick	UW
	Solvionic	SOLV
	Specific Polymers	SP



Deliverable Name: 2nd Update of the Dissemination Plan

Lead by: UJI

Partners: All

Dissemination Level: Public

Version	Date	Changes
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Index

1	Introduction	2
2	Dissemination activities overview (M13-M30)	2
2.1	Dissemination to the scientific community.....	2
2.2	Dissemination to the general public	4
2.3	Dissemination to industry	4
3	Dissemination metrics.....	4
3.1	UncorrelaTEd website	4
3.2	Social media	6
3.3	Other metrics	7
4	Dissemination plan for the next period	8
5	Next updates	9
6	Disclaimer.....	9

Figures index

Figure 1.	Statistics of the UncorrelaTEd website during the 01/01/2021 to 20/06/2022 period. Data points refer to a week period. A Session refers to the period time a user is actively engaged with the website. The bounce rate is the percentage of single-page sessions in which there was no interaction with the page (session has a duration of 0 seconds).	5
Figure 2.	Country of origin of UncorrelaTEd website visitors in the 01/01/2021 to 20/06/2022 period.	6
Figure 3.	Linkedin statistics from 21/06/2021 to 20/06/2022. Each point corresponds to metrics for a month period. Impressions are views when an update is at least 50% on screen for at least 300 ms, or when it is clicked.	7

Tables index

Table 1.	Conferences where project results were presented.	2
Table 2.	Scientific publications published.	3
Table 3.	Outreach activities performed focused on the general public.	4



Table 4. Metrics of the UncorrelaTEd social media during the 01/01/2021 to 20/06/2022 period. 6

Table 5. Metrics of other actions performed..... 7

Table 6. Dissemination events planned for the next period of the project..... 8

Table 7. Next updates of the dissemination plan 9

1 Introduction

The *Dissemination Plan* of UncorrelaTEd was produced at the beginning of the project and described in detail in the Deliverable 6.2 submitted in M3 (March 2020). A 1st update of the dissemination plan (D6.3) was submitted in M12 (December 2020). All the dissemination activities of the project relate to Task 6.1 of WP6, whose main purpose is the implementation of the dissemination and communication activities, according to the *Dissemination Plan*, and to contribute to the societal awareness of the new technological results developed by UncorrelaTEd. The aim of this document is to provide a 2nd update of the Dissemination Plan, describing, on one hand, the dissemination actions performed by the consortium during the 2nd Reporting Period (January 2021 to June 2022, i.e. M13-M30), including different metrics for the project website, the social media, and other actions. On the other hand, this document also details the dissemination activities planned for the next period of the project (July 2022 to December 2023, M30-M48).

2 Dissemination activities overview (M13-M30)

In section 5 of the Dissemination Plan of the project ([D6.2](#)), three different dissemination channels were established for UncorrelaTEd: (i) scientific community, (ii) general public, and (iii) industry. These are the different activities performed by the consortium during the first year of the project for each of these channels:

2.1 Dissemination to the scientific community

In this respect, most of the planned conferences were cancelled due to the pandemic, and the majority of the non-cancelled ones were virtual. In the end, the consortium could only present the project results in the conferences of Table 1.

Table 1. Conferences where project results were presented.

Conference	Date	Contribution	Audience	Partners
Virtual Conference on Thermoelectrics 2021	20 to 22 July 2021	M. Solis-de la Fuente, S. Castro-Ruiz, P. Rullière, S. Fantini and J. García-Cañadas. <i>More than 4 times power factor improvement in a nanostructured Sb-doped SnO₂ film produced by the presence of a solid electrolyte. Oral presentation.</i>	40-50	UJI, SOLV
		S. Castro-Ruiz, M. Solis-de la Fuente, L. Márquez-García, B. Beltrán-Pitarch, A. Mota-Babiloni, F. Vidan and J. García-Cañadas. <i>Significant power factor improvement in a</i>	40-50	UJI

		<i>hybrid solid-liquid thermoelectric device formed by Sb:SnO₂ in contact with a chromium complex solution. Oral presentation.</i>		
		B. Hamawandi, S. Ballikaya, H. Batili, M. Paul, A. Yusuf, N. I. Kilic, M. Johnsson, R. Szukiewicz, M. Kuchowicz, M. Toprak. <i>Microstructure and transport property evaluation of nanostructured Bi₂Te₃ synthesized through different solution chemical routes. Oral presentation.</i>	40-50	KTH
E-MRS Spring Meeting 2021	31 May to 3 June 2021	M. Solis-De la Fuente, L. Márquez-García, S. Castro-Ruiz, B. Beltrán-Pitarch and J. García-Cañadas. Large improvements in the power factor of hybrid solid-liquid systems formed by nanostructured Sb:SnO ₂ and electrolytes. Poster presentation.	300	UJI

Regarding scientific publications, three articles in peer-reviewed journals have been published (see Table 2). In addition, one more article (by UJI) is currently under review.

Table 2. Scientific publications published.

Journal	Article	Impact factor	Partners
Colloids and Surfaces A: Physicochemical and Engineering Aspects 649, 129537 (2022)	On the electrophoretic deposition of Bi ₂ Te ₃ nanoparticles through electrolyte optimization and substrate design. doi: 10.1016/j.colsurfa.2022.129537	4.539	KTH
ACS Applied Materials & Interfaces 14 (17), 19295 (2022)	J. F. Serrano-Claumarchirant, B. Hamawandi, A. B. Ergül, A. Cantarero, C. M. Gómez, P. Priyadarshi, N. Neophytou, M. S. Toprak. <i>Thermoelectric Inks and Power Factor Tunability in Hybrid Films through All Solution Process.</i> doi: 10.1021/acsami.1c24392	9.229	KTH, UW
Nanomaterials 11 (8), 2053 (2021)	B. Hamawandi, H. Batili, M. Paul, S. Ballikaya, N. I. Kilic, R. Szukiewicz, M. Kuchowicz, M. Johnsson, M. S. Toprak. <i>Minute-made, high-efficiency nanostructured Bi₂Te₃ via high-throughput green solution chemical synthesis.</i> doi: 10.3390/nano11082053	5.076	KTH

Finally, a PhD thesis has been completed by KTH:

- Bejan Hamawandi. [Design, synthesis and characterization of nanostructured thermoelectric materials](#). KTH Royal Institute of Technology (2021).



2.2 Dissemination to the general public

The project launched its [website](#) at the end of M2 (26th February 2020). It was populated with different content (news, publications, media, partners info, project overview, etc.) and it is kept updated regularly (new news, deliverables upload, changes of partners, new media, etc.).

Also, other partners have included UncorrelaTEd-related content at their websites. SOLV updated its [news section](#) at its website with UncorrelaTEd news. SP added the [project description](#) to their site and sent the project info through its newsletter.

In addition, several social media were also opened: [Twitter](#), [Linkedin](#), [ResearchGate](#), and [Youtube](#). Several twits and posts were posted on Twitter and Linkedin along this period, and the ResearchGate site was also updated with the new publications. Finally, UJI prepared a short animated [video](#) explaining the project concept that was uploaded to the UJI tem Youtube site.

Apart from the website and social media, three outreach activities focused on the general public, specially on primary and secondary school students, were performed (see Table 3). In the two activities in 2022, the UJI team had a booth where they showed adapted simple experiments to engage the audience. The other activity in 2021 was online due to the pandemic. We would like to remark that related to the European Reserchers' Night, the project was included in the Midnight [website](#), and a poster was shown at the European Corner during the event.

Table 3. Outreach activities performed focused on the general public.

Event	Date	Visits received	Partners
FirUJICiencia	07/04/2022	>200	UJI
European Researchers' Night	24/07/2022	>200	UJI
FirUJICiencia (online via Youtube)	13/05/2021	109	UJI

2.3 Dissemination to industry

As occurred for the dissemination through conferences, most of the conferences and fairs with industrial participation were cancelled due to the pandemic. In any case, members of the industrial sector were part of the audience in the conferences of Table 1 where different partners participated.

3 Dissemination metrics

In this section, dissemination metrics from the different dissemination channels adopted are shown.

3.1 UncorrelaTEd website

The UncorrelaTEd [website](#) has been online since the 26th of February 2020 (basically from M3). Different metrics of the website are presented in Figure 1. Both Sessions and Users statistics

present 3 anomalous peaks above 300 sessions/users, which could be due to robots or similar artifacts out of our control. Discarding this, it can be seen several periods with more activity (around 20 sessions/users) at the beginning of 2021, in July 2021, from September to November 2021, and in May-June 2022. These levels of interaction are similar to the ones found during the first year of the project.

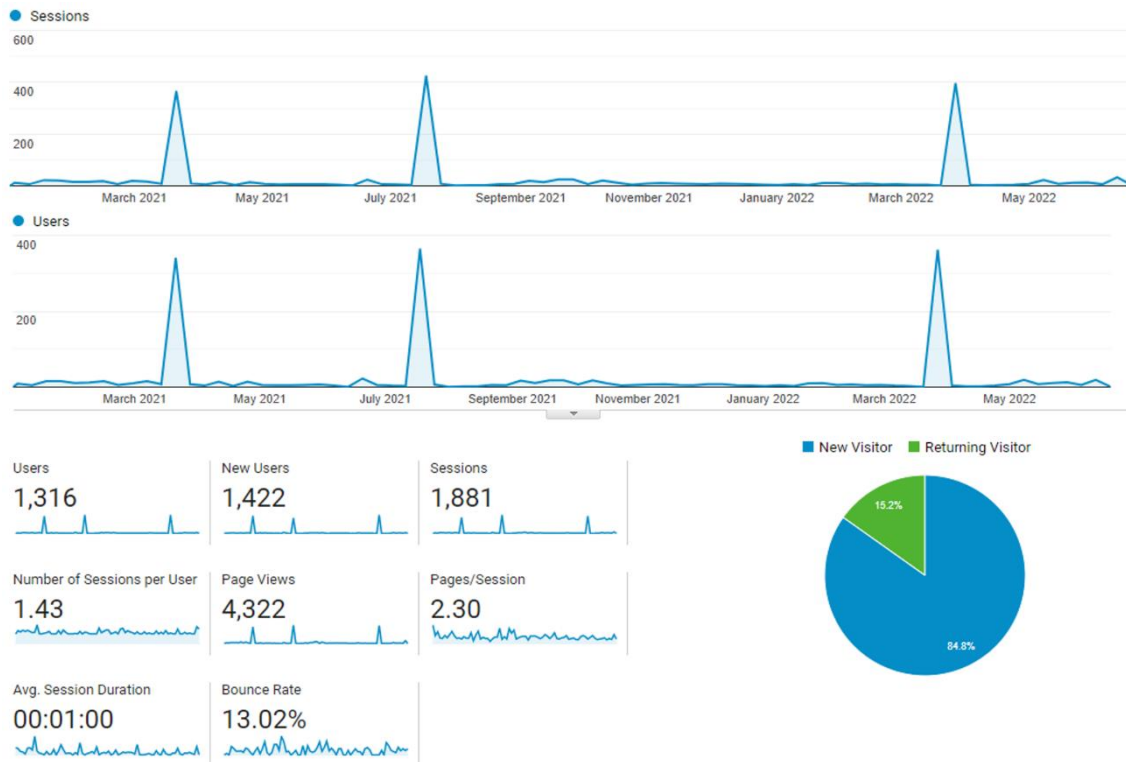


Figure 1. Statistics of the UncorrelaTED website during the 01/01/2021 to 20/06/2022 period. Data points refer to a week period. A Session refers to the period time a user is actively engaged with the website. The bounce rate is the percentage of single-page sessions in which there was no interaction with the page (session has a duration of 0 seconds).

In Figure 2, it is shown the country of origin of the visitors of the website. The main country of origin is Spain (13.38% of the users), where the dissemination activities were more intense. Apart from that, 8.01% of the users come from a European Country different from Spain. Finally, visitors from non-European countries (USA, China, UK, India, Brazil, Japan and Bangladesh) represent 28.43% of the total.

Apart from the project website, the UncorrelaTED description at SP website received 152 visits, and the newsletter sent registered 364 openings.













Country	Users	% Users
1.  Spain	177	13.38%
2.  United States	110	8.31%
3.  France	77	5.82%
4.  China	60	4.54%
5.  United Kingdom	53	4.01%
6.  India	47	3.55%
7.  Brazil	41	3.10%
8.  Japan	35	2.65%
9.  Bangladesh	30	2.27%
10.  Germany	29	2.19%

Figure 2. Country of origin of UncorrelaTEd website visitors in the 01/01/2021 to 20/06/2022 period.

3.2 Social media

The metrics of the different social media during this period are shown in Table 4. From all of them, Twitter and LinkedIn are the ones more frequently updated and gained significant interactions. Although less active, Researchgate also registered a good number of followers. Finally, no new videos were uploaded in the Youtube site during this period, but the video uploaded in the last period continues being viewed (75 views in the 01/01/2021 to 20/06/2022 period). Apart from that, the animated Youtube video uploaded at the Youtube site of the UIJ team produced a good number of views and interactions (32 views and 5 likes the Spanish version, 67 views and 3 likes the English version).

Table 4. Metrics of the UncorrelaTEd social media during the 01/01/2021 to 20/06/2022 period.

Social media	Metrics
Twitter (@UncorrelaTEdFET)	9 tweets and 1 retweet 22 followers 29 following 710 total views from the tweets in this period 68 total interactions from the tweets in this period
LinkedIn	10 posts 32 followers
Youtube	No new videos 6 subscribers 75 views of current video 8 likes of current video
ResearchGate	3 updates 12 followers 93 reads



In Figure 3, more detailed statistics from LinkedIn can be seen (only the last 365 days is allowed). They show a more intense activity during September and October 2021 and in May and June 2022.

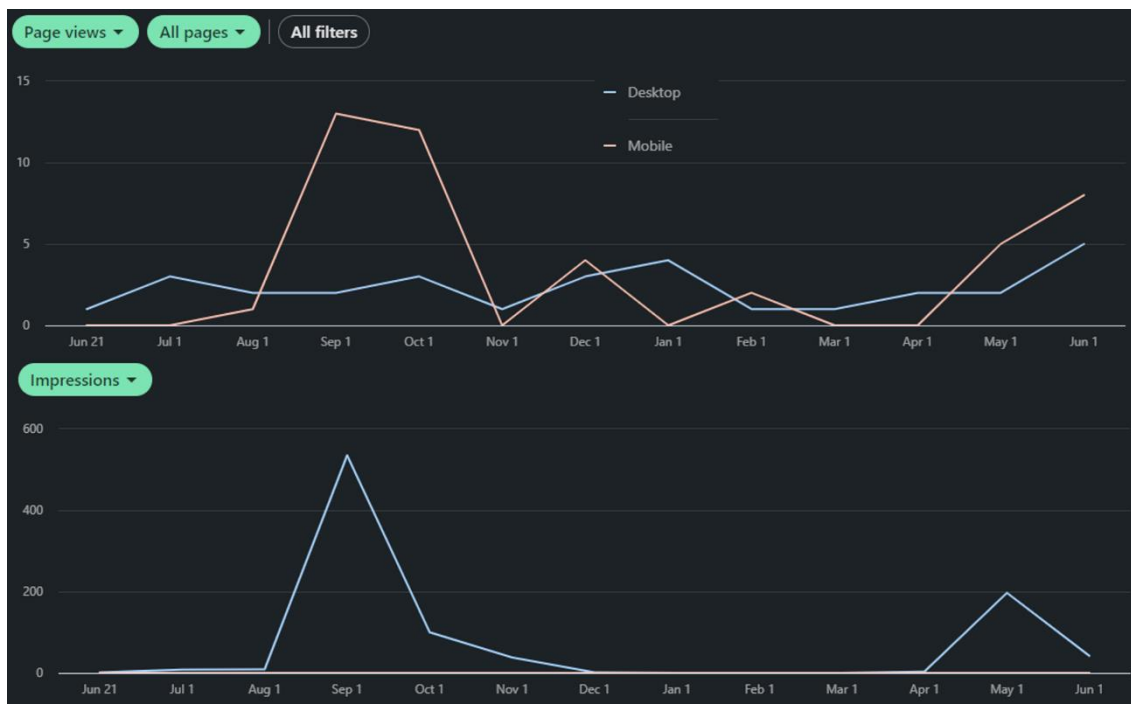


Figure 3. LinkedIn statistics from 21/06/2021 to 20/06/2022. Each point corresponds to metrics for a month period. Impressions are views when an update is at least 50% on screen for at least 300 ms, or when it is clicked.

Apart from the social media of the project, SOLV posted 2 posts related with the project ([post 1](#), [post 2](#)) at its LinkedIn sites with 1,012 and 578 followers, respectively. The posts received 17 likes (post 1) and 313 views and 17 likes (post 2). In addition, SP posted 4 posts at its [LinkedIn](#) site with 6,589 followers that produced an average number of 700 impressions per post and 9 average number of likes per post.

3.3 Other metrics

Apart from the metrics mentioned, Table 5 collects other metrics from different dissemination actions performed.

Table 5. Metrics of other actions performed.

Action	Description	Metrics	Partners
Scientific publication	J. F. Serrano-Claumarchirant, B. Hamawandi, A. B. Ergül, A. Cantarero, C. M. Gómez, P. Priyadarshi, N. Neophytou, M. S. Toprak. <i>Thermoelectric Inks and Power Factor Tunability in Hybrid Films through All Solution Process.</i> . ACS Applied Materials & Interfaces 14 (17), 19295 doi: 10.1021/acsami.1c24392	984 views. 15 tweets. 6 news sites. 1,810 impressions at LinkedIn	KTH, UW



Scientific publication	B. Hamawandi, H. Batili, M. Paul, S. Ballikaya, N. I. Kilic, R. Szukiewicz, M. Kuchowicz, M. Johnsson, M. S. Toprak. <i>Minute-made, high-efficiency nanostructured Bi₂Te₃ via high-throughput green solution chemical synthesis.</i> Nanomaterials 11 (8), 2053 (2021) doi: 10.3390/nano11082053	1,118 views. 6 citations.	KTH
Press release	A press release describing the results of the ACS Applied Materials & Interfaces article above was produced. It was published in the following sites: - KTH website. - Innovation Origins. - New Electronics. - Electronicsforu. - AZOMaterials. - MorningNews. - TechExplore. - TechNewsBoy. - Nanowerck.	Very large number of views.	KTH

Finally, different interactions directly linked with the dissemination activities performed took place as well:

- [Intract](#) company contacted the Coordinator to evaluate possible future collaborations.

4 Dissemination plan for the next period

This section collects the dissemination activities that can be planned at the moment for the next period (July 2022 to December 2023, M30-M48) by the different partners (see Table 6).

Table 6. Dissemination events planned for the next period of the project.

Event description (partner)	Date	Place	Audience	Attendants	Involvement
National Materials Congress (UJI)	2022	Ciudad Real (Spain)	Scientific, industry	500-1000	Oral
18th European Conference on Thermoelectrics (UJI, KTH, UW)	2022	Barcelona (Spain)	Scientific, industry	500	Oral, poster
15th International Workshop on Impedance Spectroscopy (UJI)	2022	Chemnitz (Germany)	Scientific, industry	<100	Oral
Virtual Conference on Thermoelectrics 2022 (UW)	2022	Virtual	Scientific, industry	100	Oral
FM&NT Conference (KTH)	2022	Riga (Latvia)	Scientific, industry	<500	Oral/Plenary
IEEE-Nano 2022 Conference (KTH)	2022	Palma de Mallorca (Spain)	Scientific, industry	<500	Oral



FirUJICiencia (UJI)	2023	Castellon (Spain)	General public	2000	Exhibitor
National Materials Congress (UJI)	2023	Malaga (Spain)	Scientific, industry	500-1000	Oral
Iberian Thermoelectric Workshop (UJI)	2023	Lisbon (Portugal)	Scientific, industry	<500	Oral
International Conference on Thermoelectrics (UJI)	2023	To be announced	Scientific, industry	500-1000	Oral
19th European Conference on Thermoelectrics (UJI)	2023	To be announced	Scientific, industry	500	Oral, poster
EMRS Spring meeting (UJI)	2023	Strasbourg (France)	Scientific, industry	<500	Oral
ICACC2023 Conference (KTH)	2023	Florida (USA)	Scientific, industry	<500	Oral

5 Next updates

Table 7 contains the schedule planned for the next updates of this document.

Table 7. Next updates of the dissemination plan

Deliverable	Title	Lead member	Dissemination	Month
D6.2	Dissemination plan	UJI	Public	3 (Done)
D6.3	1 st update of the dissemination plan	UJI	Public	12 (Done)
D6.4	2 nd update of the dissemination plan	UJI	Public	30 (Done)
D6.5	3rd update of the dissemination plan	UJI	Public	48

6 Disclaimer

This document reflects only the authors' view and the European Commission is not responsible for any use that may be made of the information it contains.