



**Iodine Fed Advanced Cusp field Thruster**



## D9.5 – Final Plan for the Dissemination, Communication & Exploitation of project results

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### *Abstract*

This deliverable is a detailed report on the planned and performed dissemination and exploitation activities during the first year of the project. Based on the preliminary Dissemination and Exploitation plan included in the proposal, this deliverable will summarize the consortium’s strategy and future actions to disseminate, exploit and protect the foreground expected to be generated within the project.

### *Keywords*

Communication, Dissemination, Exploitation



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## Authoring and Approval

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### **Acronyms and Terminology**

<b>Term</b>	<b>Definition</b>
EASN	European Aeronautics Science Network
EC	European Commission
PU	Public
QR Code	Quick Response Code
iFACT	iodine Fed Advanced Cusp field Thruster
WP	Work Package
DEC	Dissemination, Exploitation, Communication
D&C	Dissemination and Communication

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# 1 Introduction

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## 1.1 Scope of dissemination and exploitation activities

Communication, dissemination, and exploitation are vital processes of the excellent science. Bringing research and its outcomes to the attention of the project's scientific peers, potential business partners, policy makers and to the broader public, lays the foundations of further knowledge exchange, collaboration, and innovation. Strategic communication and dissemination will help to build support for future research and innovation funding, ensure the uptake of the results achieved within the scientific community, open potential business opportunities for novel products or services and create links between scientists and the wider public by explaining and showcasing the wider societal relevance of science. Overall, it helps to increase the impact of research and innovation in many ways.

Dissemination is that significant tool used to connect the consortium members with the stakeholders of the related scientific fields with regards to the achievements and activities performed within the project. Exploitation involves all actions related to the use of the results generated within the project. Consequently, by effectively and strategically disseminating the project's findings, greater knowledge sharing is achieved, and the potential of market uptake and the commercialization of the project results is considerably increased so additional products and services can be expected in the future.

In the frame of the iFACT project a dedicated dissemination and exploitation plan was adopted and followed from the very beginning of the project by all consortium partners. This Plan for the Exploitation and Dissemination of the project Results has been evolving during the project's two and a half-year lifetime responding to the partners' needs and unforeseen opportunities. The performed and foreseen activities of the iFACT plan were reported and evaluated on a semester basis, to allow an effective monitoring, management, and coordination of the future actions.

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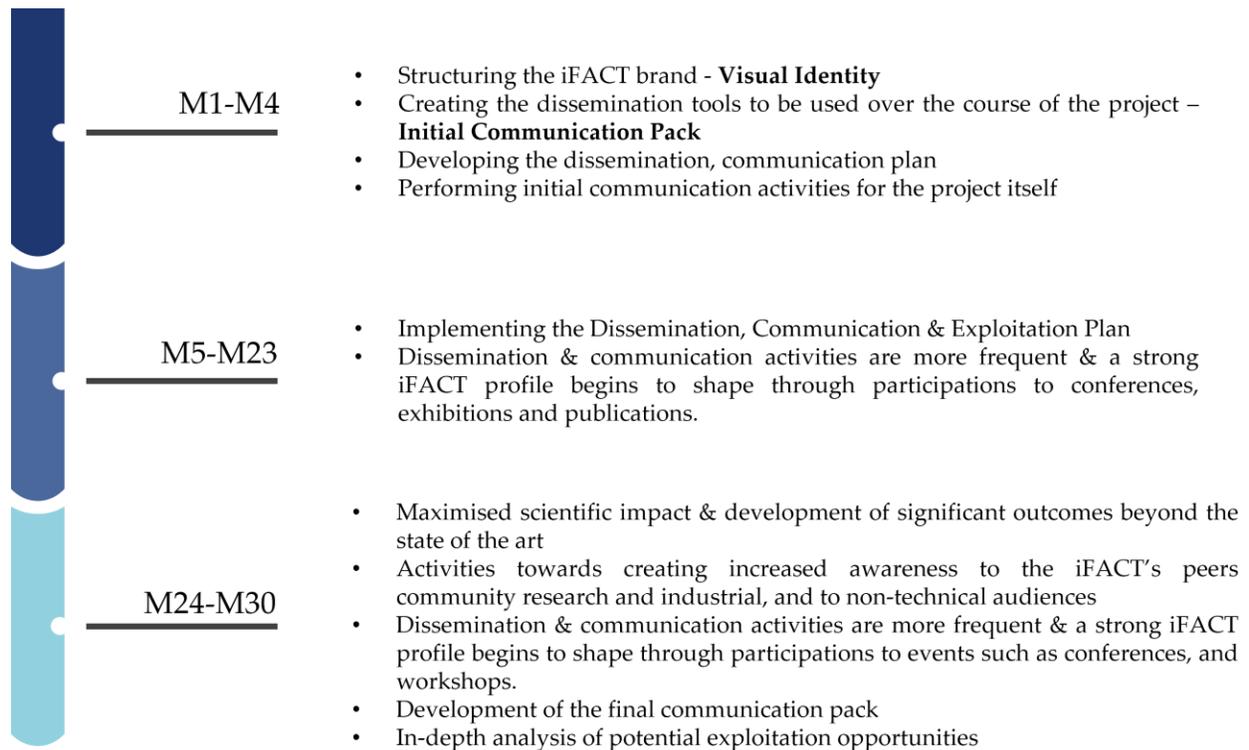
## **1.2 Objectives of this period**

iFACT's dissemination, communication and exploitation activities were expected to closely follow and orient upon the technical progress of the project. In this frame, during the first months of iFACT, WP9 activities focused on the creation of the most effective communication channels and tools that would be later used to raise awareness for the project itself and its achievements, within multiple audiences such as the research and industrial community, SMEs, academia, and the general European public.

Along mid-term, WP9 activities focused on implementing the dissemination and communication strategy to approach the iFACT stakeholders as well as the broader public. The target was to engage a full range of potential adopters of the project's results and keep them informed about iFACT research activities and findings. Finally, towards the end and last phase of the project, when its scientific impact was maximized, and significant outcomes beyond the state-of-the-art were available both dissemination and exploitation activities gain added focus.

The figure below depicts in summary the timeline of the dissemination, communication, and exploitation activities of the project.

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*Figure 1: Timeline of the iFACT dissemination, communication & exploitation strategy*

This time distribution was heavily based on the technical progress of the project and each phase of the project lifecycle. During the past 30 months of the project lifetime, the PDR was constantly under a continuous feedback assessment loop. Being an extrovert methodology, it needed to be continuously revised and updated throughout this period to ensure that the project's technical achievements were presented to the specified target groups, at the right time, using the proper language and tools.

The current deliverable aims to report on the performed dissemination, communication, and exploitation activities during the past two and a half year of the project. More specifically, the objectives of D9.5 are to:

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- Report on the envisaged dissemination, communication, and exploitation activities.
- Evaluate the performed and planned dissemination, communication and exploitation activities and the impact achieved through them.

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## 2 iFACT Plan for the dissemination of results

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With a strong focus on the implementation of an efficient dissemination, communication, and exploitation strategy, the iFACT partners prepared a dedicated plan for the dissemination, communication, and exploitation of the project results. The objective of this plan was to strategically target, identify and organize the activities to be performed to maximize the impact of the project and to communicate the right information to the right people at the right time using the right language and taking into account the dissemination needs of the project at each stage of its lifecycle.

A well-structured methodology was necessary to ensure that dissemination and communication activities would be realized across a wide range of events, channels and geographical areas, and that an effective targeting of users would be achieved. Furthermore, there was a need to secure that those actions would be evenly and rationally distributed across the project duration, to successfully disseminate the project's results, along its entire lifetime.

The iFACT Plan for the Dissemination of the project Results (PDR) was firstly drafted during the proposal stage, based on inputs and contributions by all consortium partners, as they were asked to define key scientific fora, events and publications which should be pursued for the dissemination activities of the project. The synthesis of the performed and foreseen activities was reported and evaluated on a periodic basis, to be precise on a semester basis, and prior the project's internal progress meetings, in order to allow an effective monitoring, management and coordination of future actions.

Being a live document, the iFACT PDR was continuously updated. Past entries were updated and amended according to what was performed to have a solid and precise database of all these activities. New entries could be added at any time (based on dissemination opportunities which emerged) and older plans could be modified

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(following the progress of the project), to ensure maximum impact of the related activities.

## **2.1 Objectives of this period**

During the first year of the project (**M1-M12**), the objectives of the communication activities were mainly focused on creating the project's visual identity, key transmission tools (e.g. setting up the project official website, developing informational leaflets, press-releases, etc.), and identifying initial dissemination and communication opportunities. Communication activities realized during that period aimed at raising awareness upon the project and stimulating the engagement of target groups (members of industry, research establishments and academia) to the project's progress and expected results through overview presentations and introductory information on the considerations and methods of the project.

Following the completion of Year 1, WP9 objectives for the second year (**M13-M24**) were to continue with, and enhance the actions realized across the first months. In this sense, the main targets were to perform activities following the initial plan and opportunities previously defined, while not failing to further increase the communication and dissemination outreach of iFACT. More specifically and following the scientific progress of the project, dissemination and communication activities for this period were expected to generate an enhanced diffusion of the iFACT outcomes across the scientific community through participations at high-impact events, towards creating a strong presence among the main drivers of the research field.

During the last semester of the project duration (**M25-M30**), dissemination and communication activities were expected to increase, following the completion of most of the project's tasks, and the acquisition of interesting results. Partners were expected to pursue high impact dissemination activities, such as presentations in international conferences and scientific publications in journals or conference proceedings.

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## 2.2 Methodology

The dissemination team followed a dedicated methodology for effectively monitoring and managing the PDR. The team also established a continuous feedback loop of evaluation and amendments throughout the project duration.

In overall, the objectives were to:

- Gather standardized information on the partners' planned and future activities
- Monitor activities to ensure that the specified target groups were effectively addressed
- Avoid duplication of activities and/or major gaps
- Ensure that major opportunities were pursued
- Confirm a continuous and standard flow of disseminating information
- Maintain a clear overview of the project's dissemination display

The collection and the analysis of the required information from the entire consortium was realized with the usage of a standard template (namely the PDR Template). This template was created based on the standard forms being used in the Participant Portal for the scientific reporting of the project and on the information that would be valuable for the dissemination team to assess the impact of these activities. The PDR template was composed of the following sections:

- Dissemination:
  - List of CURRENT AND FORESEEN Scientific (peer reviewed) Publications (e.g. publications in peer-reviewed journals, book chapters and conference proceedings)
  - List of PERFORMED AND PLANNED Dissemination Activities (e.g. conference presentations, web- based project information, etc.)

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- Exploitation:
  - List of FORESEEN & PERFORMED applications for patents, trademarks, registered designs, etc.
  - List of exploitable foregrounds(s)
  - List of PERFORMED AND PLANNED exploitation activities

### Section A

Table A1: List of Current and Foreseen scientific (peer reviewed) publications:

Table A1: List of Current and Foreseen scientific (peer reviewed) publications:																
NO.	Type of Scientific Publication <sup>1</sup>	Title of the publication	DOI or Repository Link	ISSN or ESN	Main author		Title of the Journal/Proceedings/Book Series or equivalent	Number, Date or frequency of the Journal/Proceedings/Book or equivalent <sup>2</sup>	Publisher	Place of publication	Year of Publication	Relevant pages <sup>3</sup>	Is this a joint public/private publication? <sup>4</sup>	Is this a peer reviewed publication? <sup>5</sup>	Is this publication available in Open Access (OA) or will it be made available? <sup>6</sup>	
					Organization(s)	Authors' Names									Yes - Green OA	To be completed
e.g.	Article in journal	Mechanical behaviour of AA 2024 friction stir overlap welds	<a href="http://dx.doi.org/10.1108/17579861311303663">http://dx.doi.org/10.1108/17579861311303663</a>	ISSN: 1757-9864	EASN-TIS	Michael Papadopoulos (EASN-TIS)	International Journal of Structural Integrity	Volume 4 Issue 1	Emerald Group Publishing Limited	Australia	2013	pp.108 - 120	No	TBC	Yes - Green OA	To be completed

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### Section A

Table A2 - List of **Performed and Planned** Dissemination Activities

Table A2: List of Performed & Planned dissemination activities										
NO.	Type of activities <sup>7</sup>	Main leader		Title of the disseminated material	Title of the dissemination activity	Publisher	Date	Type of audience <sup>8</sup>	Size of audience	Geographic coverage
		Organization	Authors' Name(s)							
e.g.	Participation to a conference	EASN-TIS	Michael Papadopoulos (EASN-TIS)	Hydrothermal Synthesis of nanoparticle gels	5th International EASN Workshop on <del>Aerospace</del> Manchester, UK	Not Applicable	2nd – 4th September 2015	Scientific Community (higher education, Research), Industry	400	International

5. Conference presentation, workshop presentation, web based project information, press release, flyer distribution, articles published in press, videos, media briefings, presentations in other events, exhibitions, thesis, interviews, films, TV clips, poster display, Other.
6. Scientific Community (higher education, Research), Industry, Civil Society, Policy makers, Medias ('multiple choices' is possible).

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*Figure 2: Sample of the PDR template*

The iFACT PDR was circulated and updated periodically from the beginning of the project. This continuous collection of inputs allowed partners to introduce corrections, amendments and updates on the existing information (e.g. with regards to foreseen activities) and also the Dissemination Manager to maintain a concrete and accurate image of the activities already performed as well as for those planned for the future. This further allowed the in-time identification of gaps, duplications, and other inconsistencies. Consequently, this consistent periodic monitoring ensured that the proposed plan was responding to the project's goals and expected impact outreach.

### **2.3 iFACT target audience**

An extremely imperative precondition to ensure augmented exploitation, high impact and increased likelihood of uptake of the project's results, was to prudently and effectually communicate the appropriate information to the relevant and interested audiences in a concise, well-articulated, understandable and attractively packaged manner. Based on the analysis performed for the identification of the iFACT target groups, the groups of interest for the iFACT Consortium were identified and presented to Figure 3 below:

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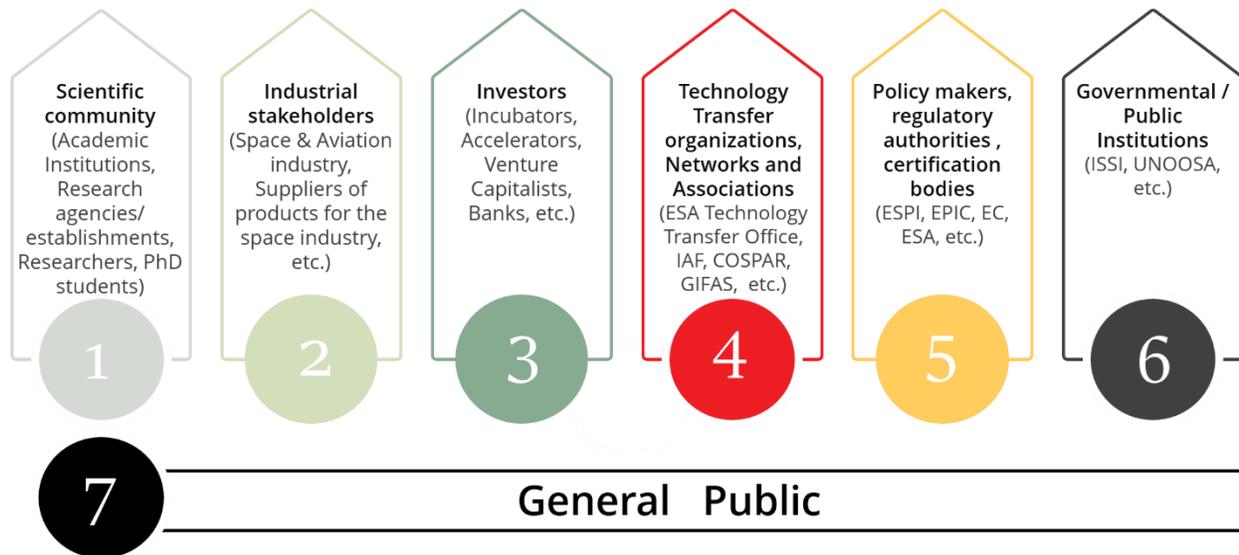


Figure 3: iFACT identified target groups

It is worth noting that the dissemination activities planned to take place during and beyond the lifetime of the project, focus and address the full range of potential users, including research, commercial, social, policy making and setting standards. It is worth highlighting that the key disseminated/communicated messages were formulated according to the information needs of each of the related target groups, to ensure an effective outreach strategy and successfully achieve the corresponding objectives.

## 2.4 Dissemination tools and activities

Following the successful completion of the project, an updated set of dissemination material was developed with the aim to promote and showcase the project’s achievements and of course support the consortium partners with their dissemination activities on the major findings and results of the project even beyond its end. Further to this, the iFACT official website that undoubtedly constituted the supporting pillar of the project’s online image during the past two and a half years will remain accessible and

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fully functional after the project end, so that information about iFACT and its technical achievements remains available to the broader public and to the project's stakeholders.

#### **2.4.1 iFACT Communication for project legacy**

Collateral material such as informative leaflets and posters aim at facilitating partners in their dissemination and communication activities within and beyond the project's lifetime. Based on the final project results, the dissemination team created a second version of the iFACT leaflet during the last month of the project. The redesigned iFACT leaflet presents the project's end results, forming the so-called communication pack for project legacy. More detailed information is available in D9.4: "Communication Pack for the project legacy".

#### **2.4.2 iFACT Official Website**

The iFACT official website ([www.epic-ifact.eu](http://www.epic-ifact.eu)) was established during the first few months of the project, aiming to act as one of the main tools for communicating project related information. In this sense, references to the iFACT website have been included in the majority of the project's announcements (progress announcements, press releases, presentation in various events etc.) as a way to prompt users for more information on the project.

As the project was heading towards its end, the dissemination team devised a plan to revamp the iFACT website. The aim of this plan was to structure a website that will optimally showcase the project's end results. After the end of the iFACT project, the website will continue to act as a 24/7 beacon of the project's outcomes. More detailed information is available in D9.4: "Communication Pack for the project legacy".

#### **2.4.3 Social Media Pages**

iFACT social media profiles were created in **LinkedIn**, **Twitter**, and **YouTube** with the aim to widen the project's diffusion. Taking advantage of social medias' in-depth user data, the goals of these profiles have primarily been to increase our fans bases on these

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networks, engage our target audience and drive them directly to the iFACT official website. Project partners as well as individuals from the targeted audiences were invited to join. At each stage of the project, information related to the project progress, news and findings was posted, keeping our virtual community updated. Additionally, the iFACT events were discussed and promoted. Thanks to these platforms, we drilled down to target:

1. Users that are interested in electric propulsion systems that power small satellites (in research and industrial level)
2. Users that work in space industry
3. Bloggers and journalists
4. Policy Makers

The social media pages can be accessed through the following links:



[@iFACT Project](#)



[LinkedIn | iFACT - Iodine Fed Advanced Cusp field Thruster](#)



[YouTube | iFACT EU Project](#)

#### 2.4.4 iFACT dissemination and communication activities

The abovementioned target groups have been approached through a wide range of dissemination and communication channels and activities. For each type of audience, a distinct strategy was applied, using tailored means and language that would optimally convey the iFACT messages. In this context, on the one hand specific dissemination channels such as presentations to conferences and exhibitions were exploited in order to approach the project's scientific peers and the stakeholders of its results while on the other hand targeted measures were taken so as to communicate and promote the benefits

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and societal impact arising from the project to multiple, non-technical audiences, including the general public and the media.



*Figure 4: iFACT activities performed for dissemination purposes and type of actions used towards communicating the project*

Some dissemination and communication highlights:

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- ✓ **21 participations** to key **conferences** and major **exhibitions** (e.g. Small Satellite Conference, International Astronautical Congress, Satellite 2022, etc.) which gathered more than 6000 participants and attendees each.
- ✓ **2 scientific publications** were published, and a significant number of foreseen scientific publications are planned to be released beyond the project's lifetime, sharing the project's achievements with the scientific community.
- ✓ **Organization of an EPIC SRC projects joint session** in the frame of the 11th EASN Virtual International Conference 2021 in September 2021 among the iFACT, NEMESIS, GIESEPP and EDDA projects.
- ✓ The iFACT **public website** engaged **11,788 pageviews** (total number of website pages viewed).
- ✓ **2 videos** were created engaging approximately **1000** views in total and presenting iFACT experiments.
- ✓ **Communication material** such as leaflets and posters were prepared and are available to anyone who is interested in accessing them through the iFACT official website.
- ✓ Several **newsletter entries, press releases** and **popularized publications** were published, diffusing information about iFACT and its activities to a wider audience.

The following section presents in detail the project's dissemination and communication activities that were realized during the entire project lifetime. It is worth mentioning that a full list of these activities is included in the [Appendix](#) of this deliverable.

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## 3 Performed and planned dissemination and communication activities

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Dissemination and communication activities promote the project research but also the scientists and partner institutions driving this research, thus leading to enhanced recognition, networking, and new collaborations on all levels – cross sectoral and interdisciplinary. These activities allow the spread of new knowledge and contribute to the acceleration of innovation and European excellence by enhancing the scientific and industrial profile of the European R&D.

### 3.1 Performed dissemination and communication activities

In what follows, we present in detail the project's dissemination and communication activities that were realized over the course of the project (M1-M30). In the [Appendix](#) of this deliverable, an extended list with all the performed and future dissemination and communication activities is included.

#### 3.1.1 Scientific peer-reviewed publications

- 1 **P. J. Klar (University of Giessen), 2020.** "Ion thrusters for electric propulsion: Scientific issues developing a niche technology into a game changer". Review of Scientific Instruments, Volume 91, Issue 6, doi: 10.1063/5.0010134.
- 2 **Katja Wätzig, Jochen Schilm (Fraunhofer), 2021.** "Electronic, mechanical, and thermal properties of  $[\text{Ca}_{24}\text{Al}_{28}\text{O}_{64}]_{4+(4e-)}$  electride ceramic". International Journal of Ceramic Engineering & Science 2021, <https://doi.org/10.1002/ces2.10098>.

#### 3.1.2 Participations to Conferences/Workshops/Other type of events

- 1 **G. Sisinni (ESAT), 2020.** iFACT Project (Overview Presentation), Small Satellite Conference, August 2020.
- 2 **G. Sisinni (ESAT), 2020.** iFACT Project (Overview Presentation), IAC 2020 CyberSpace Edition, October 2020.

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- 3 **G. Sisinni (ESAT), 2020.** iFACT Project (Overview Presentation), Tech Crunch Space 2020, December 2020.
- 4 **M. Vaupel (Airbus FDH), 2021.** Development Progress of the ACFT Propulsion System, Space Propulsion 2021, February 2021.
- 5 **G. Kottke (Airbus FDH), 2021.** Investigation of C12A7 electride as a thermionic neutralizer, Space Propulsion 2021, February 2021.
- 6 **F.G. Hey (Airbus FDH), 2021.** iFACT Project (Overview Presentation), virtual presentation to online event by the German Air and Space Society, March 2021.
- 7 **G. Sisinni (ESAT), 2021.** iFACT Project (Overview Presentation), 2021 CubeSat Developers Workshop, April 2021.
- 8 **G. Sisinni (ESAT), 2021.** iFACT Project (Overview Presentation), GSTC 2021 Part II, June 2021.
- 9 **G. Sisinni (ESAT), 2021.** iFACT Project (Overview Presentation), Satellite 2021, July 2021.
- 10 **G. Sisinni (ESAT), 2021.** iFACT Project (Overview Presentation), 72nd International Astronautical Congress, October 2021.
- 11 **G. Sisinni (ESAT), 2021.** iFACT Project (Overview Presentation), Space Tech Expo, November 2021.
- 12 **G. Sisinni (ESAT), 2022.** iFACT Project (Overview Presentation), The 7th SmallSat Symposium, February 2022.
- 13 **G. Sisinni (ESAT), 2022.** iFACT Project (Overview Presentation), Satellite 2022, March 2022.
- 14 **F.G. Hey (Airbus FDH), 2022.** Disruptive Line – EPIC Project iFACT, EPIC – WORKSHOP 2022, April 2022.
- 15 **G. Sisinni (ESAT), 2022.** iFACT Project (Overview Presentation), 4S Symposium, May 2022.
- 16 **M. Vaupel (Airbus FDH), 2022.** 3000 h Endurance Testing with Iodine, Space Propulsion 2022, May 2022.

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- 17 **L. Bauer (Airbus FDH), 2022.** Cusp Field Thruster Upscaling with alternative scaling schemes, Space Propulsion 2022, May 2022.
- 18 **F.G. Hey (Airbus FDH), 2022.** Overview of the European iodine Fed Cusp Field Thruster Research and Innovation Action - iFACT, IEPC 2022, June 2022.
- 19 **G. Kottke (Airbus FDH), 2022.** Iodine Hollow Cathode Development and Testing with Alternative Emitters - iFACT, IEPC 2022, June 2022.
- 20 **S. Gabriel (UoS), 2022.** Two-dimensional modelling of hollow cathodes with Krypton propellant, IEPC 2022, June 2022.
- 21 **A. Daykin-Iliopoulos (UoS), 2022.** Iodine compatible hollow cathode, IEPC 2022, June 2022.

### 3.1.3 Organization of a workshop

**F.G. Hey (Airbus FDH), C. Drimala (EASN-TIS), 2021.** EPIC SRC projects joint session: iFACT, NEMESIS, GIESEPP, EDDA, 11th EASN Virtual International Conference 2021, September 2021.



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### 3.1.4 Non-scientific and non-peer reviewed publications (popularized publications)

1. **Wätzig K. (IKTS), 2020.** Iodine as a low-cost fuel for small satellites – Fraunhofer IKTS contributes material competence to iFACT project, Fraunhofer Institute for Ceramic Technologies and Systems IKTS Official Website, May 2020<sup>1</sup>.
2. **Papathanasopoulos G. (EASN-TIS), 2020.** Iodine as Alternative Propellant for Electric Propulsion, Space Safety Magazine, March, 2020<sup>2</sup>.
3. **Papathanasopoulos G. (EASN-TIS), 2020.** Iodine As Alternative Propellant For Electric Propulsion, Space Daily your portal to space, March, 2020<sup>3</sup>.

<sup>1</sup>[https://www.ikts.fraunhofer.de/en/press\\_media/news/14\\_05\\_2020\\_iodine\\_as\\_a\\_low-cost\\_fuel\\_for\\_small\\_satellites.html](https://www.ikts.fraunhofer.de/en/press_media/news/14_05_2020_iodine_as_a_low-cost_fuel_for_small_satellites.html)

<sup>2</sup><http://www.spacesafetymagazine.com/press-clips/press-clips-week-11-2020/>

<sup>3</sup>[https://www.spacedaily.com/reports/iodine\\_as\\_alternative\\_propellant\\_for\\_electric\\_propulsion\\_999.html](https://www.spacedaily.com/reports/iodine_as_alternative_propellant_for_electric_propulsion_999.html)

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4. **Papathanasopoulos G. (EASN-TIS), 2020.** Iodine As Alternative Propellant for Electric Propulsion – Satellite News Digest, SUPREMESAT Portal, March, 2020<sup>4</sup>.
5. **Papathanasopoulos G. (EASN-TIS), 2020.** Iodine As Alternative Propellant for Electric Propulsion, Japan Press Network, March, 2020<sup>5</sup>.
6. **Papathanasopoulos G. (EASN-TIS), 2020.** Iodine As Alternative Propellant for Electric Propulsion, Space News-World Space hottest news, March, 2020<sup>6</sup>.
7. **C. Drimala, Papathanasopoulos G. (EASN-TIS), 2020-2022.** The iFACT Project (Newsletter), EASN Newsletter.
  - EASN Newsletter - May 2022<sup>7</sup>
  - EASN Newsletter - February 2022<sup>8</sup>
  - EASN Newsletter - October 2021<sup>9</sup>
  - EASN Newsletter - January 2021<sup>10</sup>
  - EASN Newsletter – August 2020<sup>11</sup>
  - EASN Newsletter - April 2020<sup>12</sup>

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<sup>4</sup> <http://www.supremesat.com/iodine-as-alternative-propellant-for-electric-propulsion-satellite-news-digest/>

<sup>5</sup> [http://www.jpnr.co.jp/reports/iodine as alternative propellant for electric propulsion 999.html](http://www.jpnr.co.jp/reports/iodine%20as%20alternative%20propellant%20for%20electric%20propulsion%20999.html)

<sup>6</sup> <http://spaceworldsnews.blogspot.com/2020/03/iodine-as-alternative-propellant-for.html>

<sup>7</sup> <https://easn.net/newsletters/issues/easn-newsletter-may-2022>

<sup>8</sup> <https://easn.net/newsletters/issues/easn-newsletter-february-2022>

<sup>9</sup> <https://easn.net/newsletters/issues/easn-newsletter-october-2021>

<sup>10</sup> <https://easn.net/newsletters/issues/easn-newsletter-january-2021>

<sup>11</sup> <https://easn.net/newsletters/issues/easn-newsletter-august-2020>

<sup>12</sup> <https://easn.net/newsletters/issues/easn-newsletter-april-2020>

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Figure 5: Indicative sample of some iFACT popularized publications

### 3.1.5 Video/ Film

1. Airbus FDH, EASN-TIS. "Advanced Cusp Field Thruster (ACFT) firing with iodine as propellant", YouTube, March 2021.<sup>13</sup>
2. Airbus FDH, EASN-TIS. "Advanced Cusp Field Thruster firing with xenon during acceptance tests", YouTube, March 2021.<sup>14</sup>

<sup>13</sup> <https://www.youtube.com/watch?v=lkvEB61LlOQ>

<sup>14</sup> <https://www.youtube.com/watch?v=JLf7fzmvHy0>

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### 3.1.6 Publications in different social media Pages & Websites

1. **Drimala C. (EASN TIS), Chamos A. (EASN TIS), 2020.** LinkedIn group: iFACT - Iodine Fed Advanced Cusp Field Thruster April 2020.<sup>15</sup>
2. **Drimala C. (EASN TIS), Chamos A. (EASN TIS), 2020.** Twitter group: @IfactProject, April 2020.<sup>16</sup>
3. **Drimala C. (EASN TIS), Chamos A. (EASN TIS), 2020.** iFACT EU Project YouTube Channel<sup>17</sup>, March 2021.
4. **Papathanasopoulos G. (EASN-TIS), 2020.** iFACT space project launched, EASN Association Official Website, March, 2020<sup>18</sup>.
5. **JLU, 2020.** iFACT: Iodine Fed Advanced Cusp Field Thruster, JUSTUS-LIEBIG-UNIVERSITAET GIESSEN Official Website.<sup>19</sup>
6. **iFACT Consortium, 2020.** iFACT: Iodine Fed Advanced Cusp Field Thruster, EPIC: Electric Propulsion Innovation & Competitiveness Official Website, 2020<sup>20</sup>.
7. **G. Sisinni (ESAT), 2022.** Our Projects, iFACT, ENDUROSAT Official Website, 2022<sup>21</sup>.

### 3.1.7 Flyer

1. **JLU digital flyer.** Campus Research Focus- Space Applications, iFACT Project, JUSTUS-LIEBIG-UNIVERSITAET GIESSEN Official Website.
2. **iFACT initial and final digital flyers.** iFACT Project, iFACT official website.

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<sup>15</sup> <https://www.linkedin.com/groups/8912666/>

<sup>16</sup> <https://twitter.com/IfactProject>

<sup>17</sup> <https://www.youtube.com/channel/UC6Edpw9u0NOX0IEIMcZWz6w>

<sup>18</sup> [https://www.easn.net/?q=news\\_view\\_article&id=349](https://www.easn.net/?q=news_view_article&id=349)

<sup>19</sup> <https://www.uni-giessen.de/research/research-organizations/eu-projects/cooperation>

<sup>20</sup> <https://www.epic-src.eu/src-operational-grants/>

<sup>21</sup> <https://www.endurosat.com/projects/>

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## 3.2 Upcoming dissemination and communication activities

Taking into consideration that the bulk of the iFACT outcomes emerged towards the end of the project's lifetime and that these can be brought together to address the call challenges and expected impacts, a viable dissemination and communication plan was devised to address the activities that will be followed after project completion. Dissemination, communication, and exploitation measures remain relevant beyond the project's end thus, results will continue to be publicised, creating an increasing awareness and interest amongst stakeholders, which in turn fuels further exploitation of results as well as among broader audiences.

### 3.2.1 Scientific peer-reviewed publications

1. **Daniel Zschätzsch (JLU), Sebastian L. Benz (JLU), Kristof Holste (JLU), Max Vaupel (Airbus FDH), Franz G. Hey (Airbus FDH) and Peter J. Klar (JLU), 2022.** "Corrosion of Metal Parts on Satellites by Iodine Exposure in Space". Journal of Electric Propulsion.
2. **Franz G. Hey (Airbus FDH) et al.** "Overview of the European iodine Fed Cusp Field Thruster Research and Innovation Action – iFACT". Proceedings of the International Electric Propulsion Conference 2022.
3. **Alexander Daykin-Iliopoulos (UoS) et al.** "Iodine compatible hollow cathode". Proceedings of the International Electric Propulsion Conference 2022.

### 3.2.2 Participations to Conferences/Workshops/Other type of events

1. **G. Sisinni (ESAT), 2022.** iFACT Project (Overview Presentation), SmallSat Conference, August 2022.
2. **G. Sisinni (ESAT), 2022.** iFACT Project (Overview Presentation), Space-Comm Expo, September 2022.

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## 4 Summary and evaluation of the impact achieved

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To evaluate the efficiency and success of the dissemination and communication strategy that was followed over the course of the project, it is necessary to consider the impact achieved as an outcome of these activities. In what follows, we demonstrate measurable values in terms of:

- i. Website traffic
- ii. Different types of D&C activities
- iii. Target Groups addressed
- iv. Geographical coverage

to evaluate how effectively iFACT achieved key D&C objectives. We have not included in this assessment the exploitation activities as these mainly remain at a planning stage.

### 4.1 Public Website

Google Analytics (<https://www.google.com/analytics/>) is one of the most popular digital analytics software tools, that allows the administrator to analyze in-depth detail about the website traffic. This tool was incorporated into the iFACT official website since its first official release to monitor and gather data about the website visitors and the sources of the website traffic (<https://www.epic-ifact.eu/>).

Google Analytics allowed us to evaluate among others; how effectively the public website works towards the dissemination and communication of the project, the pieces of content on the iFACT website that were most attractive to the user, the traffic sources, and the geographical coverage of the public website. Repeated patterns on this metrics, offered us a deeper understanding and valuable conclusions on how the consortium's effective dissemination and communication activities have contributed to the engagement of the audience, which was then prompted to seek for more information on the iFACT website.

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The above has been very useful in measuring the success of the dissemination plan and redesigning some of its parts when it deemed necessary.

The figure below presents an overview of the iFACT website visitors across the period April 2020 - June 2022 (the iFACT website was launched in April 2020). Following the overview of the dissemination and communication efforts that were realized during this period, as these were analyzed in the previous section, we could use the following figure towards comprehending the impact achieved.



Figure 6: Overview of the website traffic per month, M1-M30

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## Top 10 pages viewed

1. Homepage
2. Progress
3. Consortium
4. About/project-overview
5. Media/news
6. Media/news
7. Media/news/successfully-reached-1000-hours-continuous-operation-iodine-fed-advanced-cusp-field
8. Media/videos
9. Dissemination/scientific-publications
10. About/work-plan

Figure 7: Top ten most viewed pages



Figure 8: iFACT public website users' overview, M1-M30

According to the data acquired for the period April 2020 - June 2022, we observe that 4782 users visited the iFACT website at least one time while 4372 is the number of the loyal

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website visitors. As reflected in the graph above, although the website traffic in general terms seems to follow a stable pattern but we cross-checked that the peaks it presents coincide with the dates when significant dissemination and communication activities occurred. We can therefore draw the conclusion that these were effective dissemination and communication activities which targeted audiences relevant to iFACT and managed to engage them towards visiting the project website to gain more detailed information.

These dissemination and communication activities are summarized below:

- I. the Consortium's participations in conferences, workshops, exhibitions, and other events
- II. the publication of iFACT related articles both peer reviewed (journals-proceedings) and non-peer reviewed (articles in press/news agencies and portals)
- III. the publication of progress updates at the different issues of the EASN newsletters, which reach approximately 10,000 recipients (researchers and academics, aerospace industry representatives etc.)
- IV. the organization of the EPIC SRC projects joint session at the 11th EASN Virtual International Conference.

The main conclusions suggest that presentations at events significantly contributed to the engagement of target audiences, which were then prompted to seek for more information about the project on the iFACT public website. Additionally, the selection of these target audiences was very important while we observed that high-impact events extended their impact to the project as the multiple presentations attracted the interest of the relevant stakeholders. Furthermore, the referencing of iFACT at various websites as well as at the partners' institutional and corporate websites (ENDUROSAT, EPIC-SRC, JLU, EASN, etc.) directly maximized the potential outreach of the project by introducing it to potential stakeholders with pre-defined needs. Additionally, references to the iFACT website which have been included in most of the project-related announcements (newsletters,

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press releases, collateral material, etc.) operated as a key element for engaging broader audiences.

## 4.2 Analysis of the types of the performed dissemination and communication activities

A graphical illustration of the different types of the project's dissemination and communication activities realized over the course of the project is presented in Figure 9 below. The classification of these activities reflects the consortium's focus and the target audiences that were identified to be approached towards the realization of the objectives of this period.

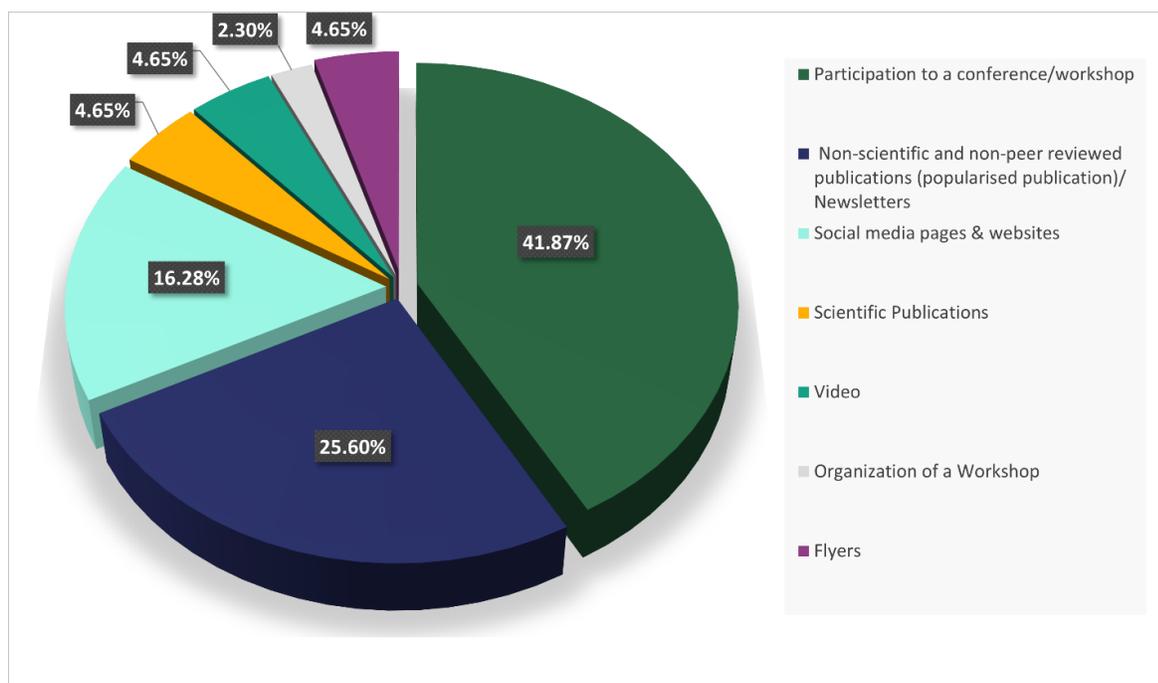


Figure 9: Distribution of iFACT dissemination and communication activities per type (M1-M30) Source: [PDR](#)

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Most of the dissemination activities of the iFACT consortium are participations in significant scientific events, such as conferences and workshops. These activities were favoured by all partners accounting to 41.9% of the total performed dissemination activities significantly enhancing the project's visibility, emphasizing to target groups related to scientific community and industry and fostering this way dialogues with potential adopters of the iFACT results.

Another important dissemination channel that was exploited, was the publication of scientific results in journals and proceedings. The iFACT scientific publications currently account for 4.65% while further scientific papers are planned to be published beyond the project's lifetime. This is a very important output of the project, as the list of publications that will be realized will remain available for the years to come to the scientific community.

A total of 25.6% of the overall dissemination and communication activities were focused on non-scientific articles (popularized publications), newsletters and press releases. These actions were pursued with the aim to reach broader audiences, including iFACT stakeholders, the general public and the media. A series of iFACT related articles has been included in the periodic [EASN newsletter](#) which is distributed to approximately 10,000 scientists, policy makers and key players in the European Aerospace sector.

Further to the above, the dissemination team and the consortium partners taking into consideration the latest tactics to influence and engage target audience, were frequently publishing iFACT related information in various portals, websites, and social media accounts. These online publications result in 16.3% of the overall actions realized. A necessary piece to the dissemination and communication strategy which contributed to the plan's success, was the release of two iFACT [experimental videos](#) (4.65%) that have attracted approximately 1000 views in total up to M30.

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We could not end this analysis without mentioning the organization of the “EPIC SRC projects joint session: iFACT, NEMESIS, GIESEPP, EDDA” in the frame of the 11th EASN Virtual International Conference 2021 on the 3rd of September 2021. The virtual session was a successful online gathering of the GIESEPP, EDDA, NEMESIS, and iFACT research projects, which are all under the EPIC-SRC umbrella, offering the opportunity to foster links among them and learn more details about each other’s research activities.

### 4.3 Target Groups

Diffusing the right information to the right people, using the right “language” is the key to a successful dissemination and communication strategy. In this context, within the iFACT project the different target groups were identified and classified, as well as the messages to be communicated were compiled, using the proper “language” for each target group according to their information needs. In addition, the appropriate measures, and channels through which the messages would be diffused to each tier of audience were identified. All the above contributed considerably to increasing the likelihood of market uptake of the project’s findings. Thus, the selected and addressed primary target audiences are the following:

- **Technical stakeholders.** Scientific and technical presentations took place at events mainly being addressed at academics, researchers, industry representatives and policy makers. Remarkable is also the engagement of industrial representatives through our participations at these events whose audience size in many cases reached more than 6,000 participants and attendees. Additionally, this type of target group was addressed through the project’s scientific articles, newsletter articles and the organization of the EPIC SRC projects joint session.
- **Broader public.** The web-based online presence of the project (website & social media publications), the non-technical articles in press and video material related to iFACT is directly addressed at broader audiences, including the **general public** and **media**. Their universal and open availability makes it possible for them to be traced from almost anyone and without geographical boundaries.

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An estimation of the target groups approached is illustrated in the Figure 10<sup>22</sup>.

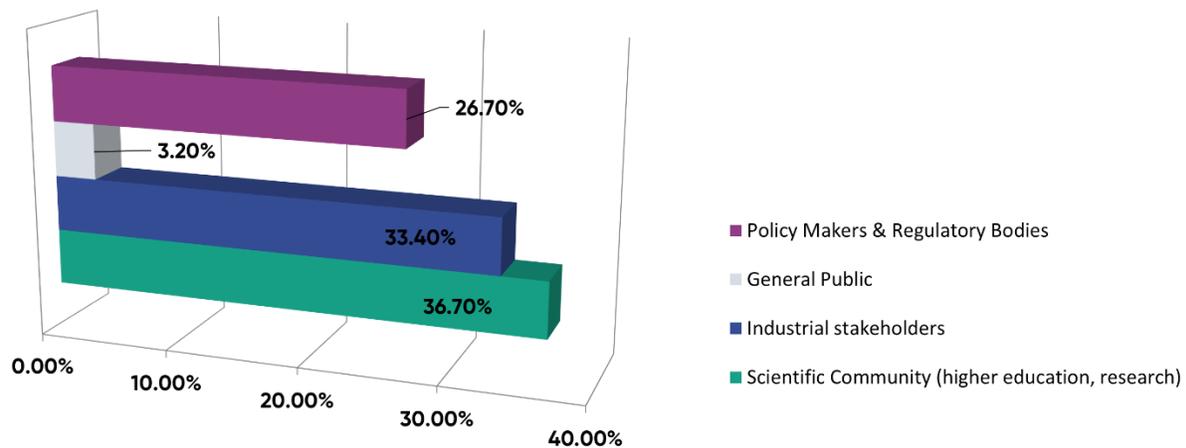


Figure 10: An estimation of the target groups approached through the iFACT dissemination and communication activities, source: [PDR](#)

Based on the figure above most of the performed dissemination activities were focused on the academic and research community (36.7%) and the industry (33.4%) while the focus on policy makers (26.7%) and the general public (3.2%) follows.

The abovementioned Figure 10 is heavily attributed to the fact that the iFACT consortium gave great attention towards ensuring that the foregrounds and results generated within the project will be exploited to the greatest possible extent. It is worth noting that the iFACT consortium performed many dissemination activities to address the scientific and

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<sup>22</sup> Based on the input received from the partners regarding the type of target audience addressed through each performed dissemination activity, the percentage of the performed dissemination activities that addressed a specific target audience was estimated.

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research community with the aim to reach experts in fields closely related to the research challenges that iFACT addresses and thus, their awareness ensures and enhances the project's visibility and recognition for the achievements realized beyond the current state of the art. However, the engagement of industry gained ground favouring the exploitation of the new research horizons, based on the industrial needs, as well as the commercial uptake of the project's results. Finally, special care was placed towards approaching the wider public and creating awareness about the impact and benefits arising from the iFACT activities through articles in high-impact portals/magazines, videos, etc..

#### 4.4 Geographical Impact

Another indicator that could be used for the assessment of the performance of the performed dissemination and communication activities, as reported by the iFACT partners, is the geographical distribution of the performed activities.

A wide geographical impact maximizes the opportunities for new collaborations and exploitation of the project results, while it also enhances the profile of each partner individually, of the consortium as a whole as well as the European scientific profile. The iFACT consortium disseminated the project's outcomes mainly on a pan-European level.

Below Figure 14 presents the places where face-to-face iFACT dissemination and communication activities have taken place. These heavily depend on:

- i. the partners' countries (to reflect regional impact)
- ii. the places in which major conferences and events were held.

However, at these challenging times due to the COVID-19 outbreak this estimation became even more challenging. The limitations that we faced are the following:

1. The place where an event is taking place (e.g. a conference) may act as an initial indication; however, this may attract attendees from all over the world. During the

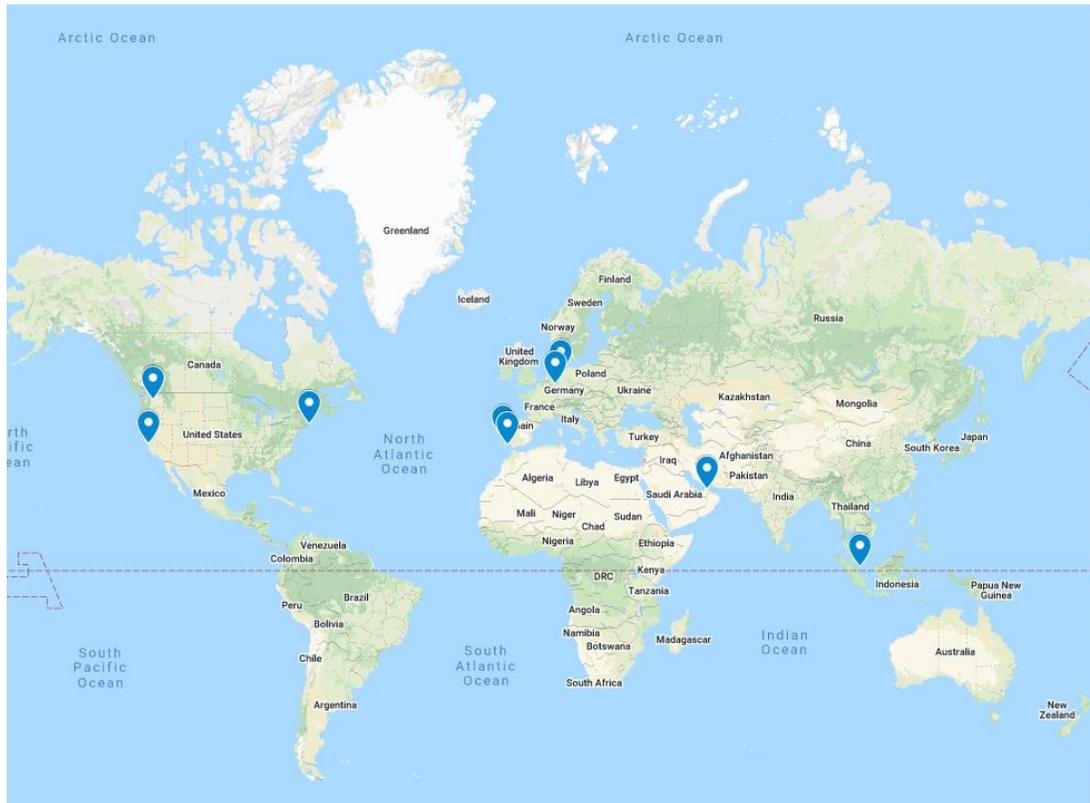
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COVID-19 pandemic, this assessment became more difficult as many events in which we participated were virtually held.

2. Publications in journals and conference proceedings are more or less addressed to a wide borderless scientific community from all over the world.
3. Web material is accessible from all over the world, but this does not guarantee neither the regional distribution of its readers neither their consistency, i.e., one single visitor to the iFACT website from Beijing, does not necessarily mean that the project has been effectively disseminated in China.

Lastly, further to the face-to-face activities considered below, dissemination and communication activities such as journal publications, newsletters, web-based publications, videos, etc. have the potential of a cross-European and international outreach, which cannot be graphically represented.

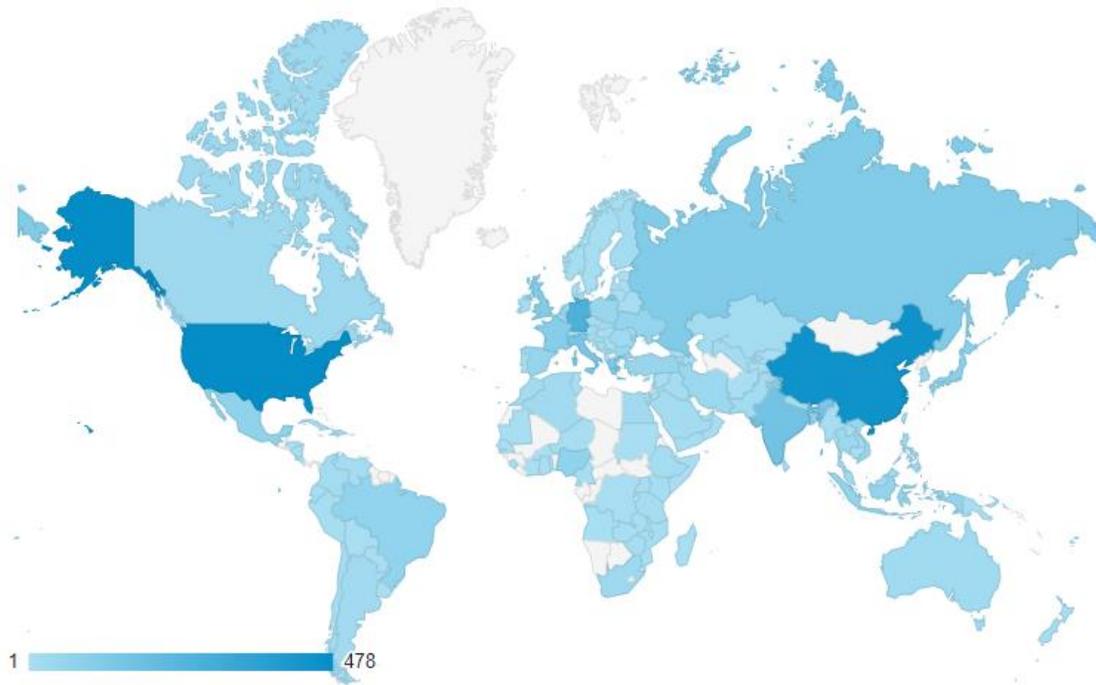
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*Figure 11: Geographical coverage of the iFACT dissemination and communication activities*

Based on Google Analytics, we can estimate the current geographical impact of the iFACT official website, i.e., the geographical origin of its users. As seen in below, iFACT has managed to generate an international impact with followers in Europe, America, and Asia.

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*Figure 12: Geographical coverage of the iFACT website visitors*

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## 5 iFACT Exploitation activities

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Within the scope of iFACT different technological bricks have been developed, tested and combined to complete Electric Propulsion (EP) subsystems in different power classes. All these bricks will be used for further development and different products beyond the iFACT research and innovation action. This exploitation of the project results is performed by the different partners as joint teams but also independently.

### 5.1 Iodine as Propellant

The main goal of the iFACT programme was to foster and advertise iodine as alternative propellant for in-space propulsion. Therefore, different technology demonstrations and a lot of testing has been performed. Due to the achieved results, namely the completion of the 3000 h firing test with iodine, the integration of iodine in a CubeSat platform, the detailed material testing and the successfully facility development, the technological readiness level of iodine has been increased. The experimental success removed most of the reservations with respect to iodine people in the space community had. All these results have been published and released to the iFACT peer community during the aforementioned dissemination events. Subsequently, even within further activities of the programme partners, the exploitation of this main goal is ongoing. A clear indicator is that other non-iFACT member companies such as Exotrail, ThrustMe and others actively developing higher power iodine fed thruster subsystems.

In addition the iFACT partners are seeking to continue their work on iodine in the future to ultimately flying the propellant within their products.

### 5.2 Advanced Cusp Field thruster Exploitation

The Advanced Cusp Field Thruster (ACFT) has been further developed and matured in different power classes within the iFACT programme. The results achieved illustrated that the technology can be scaled and operated over a wide range of power and is

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therefore suited for many different applications. These applications are not only limited to iodine as a propellant for electric thruster.

Specifically, **Endurosat** and **Airbus** are in discussions to further continue their partnership beyond iFACT in order to enable an in-orbit demonstration of the CubeSat subsystem that has been developed. Both companies have the ambition to further mature the equipment developed under iFACT to reach a sufficient mature and flight readiness level in due time.

The 300 W engine has been successfully tested for multiple thousands of hours, which was a very important step to demonstrate that the principle is able to operate in the time domain required for most of the applications. This information has been presented at different conferences. **Airbus** plans to use the results for various future development activities.

The 1000 W ACFT demonstrated the possibility to up-scale the principle with alternative scaling schemes, namely a linear 1 dimensional scaling. The results indicated that further research is required in order to understand the complete physics of the linear scaled thruster.

### 5.3 C12A7 Exploitation Plans

With iFACT the thermionic properties of C12A7:e- have been significantly improved especially, compared to other grade of C12A7 used in other European programmes. Therefore, **IKTS**, **Airbus** and **other partners** plan to further develop the material so as to enable its use for a wide range of cathode applications, not only limited to hollow or thermionic cathodes.

### 5.4 Iodine fed Hollow Cathode further Development

Due to COVID-19 impact and technical challenges, a fully iodine fed cathode could not be operated within iFACT. However, the bread board and the facility developed at the

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University of Southampton are available and will be used to perform additional research and development activities beyond iFACT.

To perform the 3000 hours test, a krypton fed hollow cathode was developed, constructed and used by Airbus. The fact that this cathode successfully passed the endurance test in an iodine environment, is a proof that this concept works for long time of period. These results have been published and are available for use by the technical stakeholders.

## **5.5 Iodine compatible Test Facility**

A 3000 hours test has been performed within iFACT, therefore a dedicated European Iodine compatible electric propulsion test facility has been developed. This facility, that was provided by **AEROSPAZIO** in Italy, is available as a test chamber for anybody who would be interested in testing an electric thruster with or without the use of iodine as a propellant.

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## 6 Knowledge management and protection of IPR

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### iFACT e-approval tool

From the beginning of the project, the Dissemination Manager sought to ensure that the necessary measures and procedures are being applied towards the protection of the knowledge developed within the project and the Intellectual Property Rights (IPR) of the involved partners. Specifically, according to Annex I of the Grant Agreement “A beneficiary that intends to disseminate its results must give advance notice to the other beneficiaries of – unless agreed otherwise – at least 45 days, together with sufficient information on the results it will disseminate.

Any other beneficiary may object within – unless agreed otherwise – 30 days of receiving notification if it can show that its legitimate interests in relation to the results or background would be significantly harmed”.

To this end, a dedicated on-line tool (namely the iFACT e-approval tool) was set-up during the first months of the project. The iFACT e-approval tool was monitored on a daily basis and included the following tasks:

- EASN TIS received the dissemination material that would be communicated outside the consortium in order to be circulated to the partners for approval, i.e. a new poll was created; according to the project’s Grant Agreement this was realized at least 30 days prior to the intended publication date.
- A daily verification on whether all partners had received automatic e-mail notifications was sent by the iFACT e-approval tool. If a partner had not acknowledged the receipt of the aforementioned notifications, he/she was contacted directly via e-mail or by telephone, in order to confirm the receipt of the respective notifications.
- If a partner requested major modifications (such as adding or removing information) upon the dissemination material under approval, then the dissemination material was re-circulated to the consortium for approval.

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- If a partner rejected a planned dissemination activity, then in cooperation with the Project Coordinator the respective partners were contacted in order to mutually resolve the issue. Once resolved, the said partner was allowed to re-cast his/her vote for the approval process to be finalized.
- An activity was considered as “Approved” when all partners agreed on its contents, or when the voting period expired.

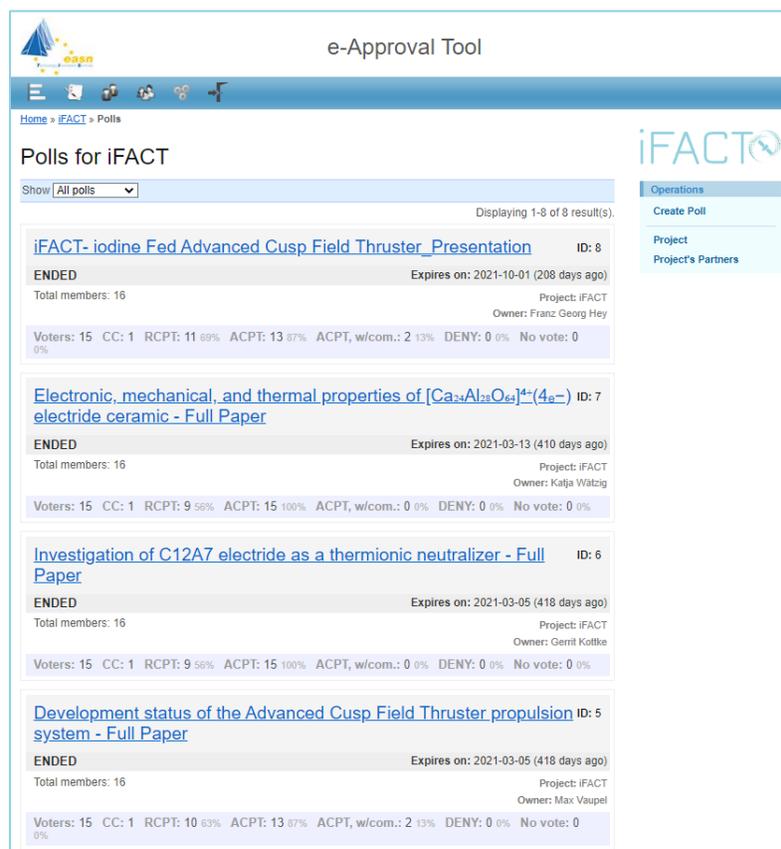


Figure 13 : Screenshot from the iFACT e-Approval tool

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## 7 Conclusions

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The current document is a thorough report on the dissemination, communication and exploitation activities that were realized during the past two and a half years within the framework of Work Package 9. The deliverable aimed at contributing to the evaluation of the Plan for the Exploitation and Dissemination of project Results that was implemented during the 30-months period of the project. An overview of the activities performed up to date was presented and an assessment of their impact was discussed. The current document acts as a point of reference for the project's performed and foreseen dissemination and exploitation activities (beyond the project duration). The PDR was continuously monitored and updated throughout the project lifetime. In addition, it was circulated to the consortium for updates, corrections and/or amendments on a semi-annual basis.

This deliverable includes the final PDR release and describes the final stage of the plan. It outlines the performed actions as to disseminate the generated results. The information presented in this deliverable was based on the input collected from all iFACT partners by the June 2022. This final deliverable aims at presenting the dissemination, communication and exploitation strategy that was followed by the iFACT partners, for making the project and its results known all over Europe and beyond.

Based on the analysis that was made in the above chapters the DEC strategy is considered to be sufficient by taking into account the nature of the project and its TRL. In addition, the time distribution of the performed and planned activities is considered to be satisfactory by taking into account that the project started its activities in January 2020 and usually the highest amount of activities is expected to be performed towards the end of the first year as at that time results were available for presentation. Finally, the involvement of all partners in the implementation of the DEC activities is considered to

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be more than adequate since all partners have reported their involvement in such type of activities. Therefore, we can draw the conclusions that the dissemination and communication actions taken during this period were in line to the objectives, needs and progress of the project. Additionally, significant dissemination and communication activities are planned to take place beyond the project's lifetime.

This report closes a successful period of project dissemination, communication, and exploitation towards reaching a wide group of target communities and individuals, and yielding constructive feedback, which will provide recommendations for future research and conclude that there is still room for further research on the field. The final iFACT PDR is included in the [Appendix](#) of this deliverable.

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

## List of References

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- EC (2012), Guidance Notes on Project Reporting. FP7 Collaborative Projects, Networks of Excellence, Coordination and Support Actions, Research for the benefit of Specific Groups (in particular SMEs) [http://ec.europa.eu/research/participants/data/ref/fp7/89692/project-reporting\\_en.pdf](http://ec.europa.eu/research/participants/data/ref/fp7/89692/project-reporting_en.pdf)
- European IPR Helpdesk, 2018 “Making the Most of Your H2020 Project”

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**D9.5 – Plan for the Dissemination,  
Communication & Exploitation of  
project results**

**Version 1.0**

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**D9.5 – Plan for the Dissemination,  
Communication & Exploitation of  
project results**

**Version 1.0**

## Appendix

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Table A1: List of Current and Foreseen scientific (peer reviewed) publications:

NO.	Type of Scientific Publication <sup>1</sup>	Title of the publication	DOI or Repository Link	ISSN or ESSN	Main author		Title of the Journal/Proceedings/Book Series or equivalent	Number, Date or frequency of the Journal/Proceedings/Book or equivalent <sup>2</sup>	Publisher	Place of publication	Year of Publication	Relevant pages <sup>3</sup>	Is this a joint public/private publication? <sup>4</sup>	Is this a peer reviewed publication? <sup>5</sup>	Is this publication available in Open Access (OA) or will it be made available? <sup>6</sup>	
					Organization(s)	Authors' Names										
1.	Article in journal	Electronic, mechanical, and thermal properties of [Ca <sub>24</sub> Al <sub>28</sub> O <sub>64</sub> ] <sub>4+(4e<sup>-</sup>)</sub> electrified ceramic	<a href="https://doi.org/10.1002/ces2.10098">https://doi.org/10.1002/ces2.10098</a>	2578-3270	IKTS	Katja Waetzig, Jochen Schilm	Ceramic Engineering and Science	Volume 3, Issue 3 May 2021	American Ceramic Society	Westerville, USA	2021	N/A	No	Yes	Yes - Green OA	
2.	Article in journal	Ion thrusters for electric propulsion: Scientific issues developing a niche technology into a game changer	<a href="https://doi.org/10.1063/5.0010134">doi: 10.1063/5.0010134</a>	0034-6748	University of Giessen	P. J. Klar	Review of Scientific Instruments	Volume 91, Issue 6	AIP	Melville, NY	2020	N/A	No	Yes	Yes - Green OA	

<sup>1</sup> Possible options: Article in journal; Publication in conference proceedings/workshop; Book/Monograph; Chapter in a book; Thesis/dissertation; Other

<sup>2</sup> Please insert: i) the number of the journal, and/or ii) the month of the publication, and/or iii) the year of the publication

<sup>3</sup> [Please insert the first page of the publication] - [Please insert the last page of the publication]

<sup>4</sup> Please confirm or not that this is a joint publication coming from public and private project participants (Yes/No).

<sup>5</sup> Please indicate whether this is a peer review publication or not (Yes/No).

<sup>6</sup> Possible options: "Yes - Green OA", "Yes - Gold OA", No. If you select "Yes - Green OA", then please insert the length of embargo (if any). If you select "Yes - Gold OA", then please insert the amount of processing charges in EUR (if any).

- **Green Open Access (Self-archiving):** Beneficiaries can deposit the final peer reviewed manuscript in a repository of their choice. A repository for scientific publications is an online archive. Institutional, subject-based and centralised repositories are all acceptable choices; repositories that claim rights over deposited publications and preclude access are not. Beneficiaries must ensure open access to the publication within at most 6 months.
- **Gold Open Access (Open access publishing):** Researchers can also publish in open access journals, or in hybrid journals that both sell subscriptions and offer the option of making individual articles openly accessible. Monographs can also be published either on a purely open access basis or using a hybrid business model. Article processing charges (APCs) for gold open access are eligible for reimbursement during the duration of the project. As stated, the article must also be made accessible through a repository upon publication.

**Table A1: List of Current and Foreseen scientific (peer reviewed) publications:**

NO.	Type of Scientific Publication <sup>1</sup>	Title of the publication	DOI or Repository Link	ISSN or ESN	Main author		Title of the Journal/Proceedings/Book Series or equivalent	Number, Date or frequency of the Journal/Proceedings/Book or equivalent <sup>2</sup>	Publisher	Place of publication	Year of Publication	Relevant pages <sup>3</sup>	Is this a joint public/private publication? <sup>4</sup>	Is this a peer reviewed publication? <sup>5</sup>	Is this publication available in Open Access (OA) or will it be made available? <sup>6</sup>	
					Organization(s)	Authors' Names										
3.	Article in journal	Corrosion of Metal Parts on Satellites by Iodine Exposure in Space	tbd	2731-4596 (E-ISSN)	University of Giessen	Daniel Zschätzsch, Sebastian L. Benz, Kristof Holste, Max Vaupel, Franz G. Hey and Peter J. Klar	Journal of Electric Propulsion	tbd	Springer	tbd	2022	N/A	Yes, No	Yes	Yes - Green OA	
4.	Publication in conference proceeding S/workshop	Iodine compatible hollow cathode	tbd	tbd	UoS	Alexander Daykin-Iliopoulos (UoS) et al	Proceedings IEPC 2022	tbd	tbd	tbd	2022	tbd	tbd	Yes	Yes - Green OA	
5.	Publication in conference proceeding S/workshop	Overview of the European iodine Fed Cusp Field Thruster Research and Innovation Action - iFACT	tbd	tbd	Airbus FDH, Airbus TLS, EASN, UoS, IKTS, AERO, JLU, ESAT	Franz G. Hey (Airbus FDH) et al	Proceedings IEPC 2022	tbd	tbd	tbd	2022	tbd	tbd	Yes	Yes - Green OA	

**Table A2: List of Performed & Planned dissemination activities**

NO.	Type of activities <sup>7</sup>	Main leader		Title of the disseminated material	Title of the dissemination activity	Place of the Dissemination Activity	Date	Type of audience <sup>8</sup>	Size of audience	Geographic coverage
		Organization	Authors' Name(s)							
1.	Participation to a conference	ESAT	Giuseppe Sisinni	iFACT Project (Overview Presentation)	Small Satellite Conference	Online event	Aug-20	Industry, Scientific Community (higher education, Research), Industrial Stakeholders, Policy makers and regulatory authorities	~8000	International (from 123 countries)
2.	Participation to a conference	ESAT	Giuseppe Sisinni	iFACT Project (Overview Presentation)	IAC 2020 CyberSpace Edition	Online event	Oct-20	Scientific Community (higher education, Research), Industrial Stakeholders, Policy makers and regulatory authorities	~6500	International
3.	Participation to a conference	ESAT	Giuseppe Sisinni	iFACT Project (Overview Presentation)	Tech Crunch Space 2020	Online event	Dec-20	Scientific Community (higher education, Research), Industrial Stakeholders, Policy makers and regulatory authorities	~4500	International
4.	Non-scientific and non-peer reviewed publication (popularised publication)	EASN-TIS	EASNTIS	iFACT Latest News and Progress	EASN Periodical Newsletter	<a href="https://easn.net/newsletters/issues/easn-newsletter-april-2020">https://easn.net/newsletters/issues/easn-newsletter-april-2020</a>	Apr-20	Scientific Community (higher education, Research), Investors, Policy makers and regulatory authorities	10000	European
5.	Non-scientific and non-peer reviewed publication (popularised publication)	EASN-TIS	EASNTIS	iFACT Latest News and Progress	EASN Periodical Newsletter	<a href="https://easn.net/newsletters/issues/easn-newsletter-august-2020">https://easn.net/newsletters/issues/easn-newsletter-august-2020</a>	Aug-20	Scientific Community (higher education, Research), Investors, Policy makers and regulatory authorities	10000	European

<sup>7</sup> Possible options: Organisation of a Conference, Organisation of a workshop, Press release, Non-scientific and non-peer reviewed publication (popularised publication), Exhibition, Flyers, Training, Social media, Website, Communication campaign (e.g radio, TV), Participation to a conference, Participation to a workshop, Participation to an event other than a conference or workshop, Video/film, Brokerage event, Pitch event, Trade fair, Participation in activities organised jointly with other H2020 project(s), Other

<sup>8</sup> Possible options: Scientific Community (higher education, Research), Industry, Investors, Technology Transfer Organizations, Networks and Associations, Policy makers and regulatory authorities, General Public, Civil Society, Other

**Table A2: List of Performed & Planned dissemination activities**

NO.	Type of activities <sup>7</sup>	Main leader		Title of the disseminated material	Title of the dissemination activity	Place of the Dissemination Activity	Date	Type of audience <sup>8</sup>	Size of audience	Geographic coverage
		Organization	Authors' Name(s)							
6.	Non-scientific and non-peer reviewed publication (popularised publication)	IKTS	Katja Wätzig	Iodine as a low-cost fuel for small satellites – Fraunhofer IKTS contributes material competence to iFACT project	Fraunhofer Institute for Ceramic Technologies and Systems IKTS Official Website	<a href="https://www.ikts.fraunhofer.de/en/press_media/news/14_05_2020_iodine_as_a_low-cost_fuel_for_small_satellites.html">https://www.ikts.fraunhofer.de/en/press_media/news/14_05_2020_iodine_as_a_low-cost_fuel_for_small_satellites.html</a>	May-20	Scientific Community (higher education, Research), Industry, Investors, Technology Transfer Organizations, Policy makers and regulatory authorities, General Public	n/a	International
7.	Non-scientific and non-peer reviewed publication (popularised publication)	Airbus FDH	Airbus FDH	Iodine as alternative propellant for electric propulsion	SpaceDaily your portal to space	<a href="https://www.spacedaily.com/reports/Iodine_as_alternative_propellant_for_electric_propulsion_999.html">https://www.spacedaily.com/reports/Iodine_as_alternative_propellant_for_electric_propulsion_999.html</a>	Mar-20	General Public	n/a	International
8.	Non-scientific and non-peer reviewed publication (popularised publication)	Airbus FDH	Franz Georg Hey	iFACT - Programme Overview	Virtuell presentation via the Germany Air and Space Society	Online event	Mar-21	General Public	1000	Germany
9.	Participation to a conference	Airbus FDH	Max Vaupel	3000 h Endurance Testing with Iodine	Space Propulsion 2022	Estoril	May-22	Scientific Community (higher education, Research)	n/a	International
10.	Participation to a conference	Airbus FDH	Leonard Bauer	Cusp Field Thruster Upscaling with alternative scaling schemes	Space Propulsion 2022	Estoril	May-22	Scientific Community (higher education, Research)	n/a	International

**Table A2: List of Performed & Planned dissemination activities**

NO.	Type of activities <sup>7</sup>	Main leader		Title of the disseminated material	Title of the dissemination activity	Place of the Dissemination Activity	Date	Type of audience <sup>8</sup>	Size of audience	Geographic coverage
		Organization	Authors' Name(s)							
11.	Participation to a conference	Airbus FDH	Franz Georg Hey	Overview of the European iodine Fed Cusp Field Thruster Research and Innovation Action - iFACT	IEPC 2022	Boston	June-22	Scientific Community (higher education, Research)	n/a	International
12.	Participation to a conference	Airbus FDH	Max Vaupel	Development Progress of the ACFT Propulsion System	Space Propulsion 2021	Online event	Feb-21	Scientific Community (higher education, Research)	n/a	International
13.	Participation to a conference	Airbus FDH	Gerrit Kottke	Investigation of C12A7 electrified as a thermionic neutralizer	Space Propulsion 2021	Online event	Feb-21	Scientific Community (higher education, Research)	n/a	International
14.	Non-scientific and non-peer reviewed publication (popularised publication)	EASN	EASNTIS	Iodine As Alternative Propellant For Electric Propulsion	Space Safety Magazine	<a href="http://www.spacesafetymagazine.com/press-clips/press-clips-week-11-2020/">http://www.spacesafetymagazine.com/press-clips/press-clips-week-11-2020/</a>	Mar-20	General Public	n/a	International
15.	Non-scientific and non-peer reviewed publication (popularised publication)	EASN	EASNTIS	Iodine as alternative propellant for electric propulsion – Satellite News Digest	SUPREMESAT Portal	<a href="http://www.supremesat.com/iodine-as-alternative-propellant-for-electric-propulsion-satellite-news-digest/">http://www.supremesat.com/iodine-as-alternative-propellant-for-electric-propulsion-satellite-news-digest/</a>	Mar-20	General Public	n/a	International

Table A2: List of Performed &amp; Planned dissemination activities

NO.	Type of activities <sup>7</sup>	Main leader		Title of the disseminated material	Title of the dissemination activity	Place of the Dissemination Activity	Date	Type of audience <sup>8</sup>	Size of audience	Geographic coverage
		Organization	Authors' Name(s)							
16.	Non-scientific and non-peer reviewed publication (popularised publication)	EASN	EASNTIS	Iodine as alternative propellant for electric propulsion	Japan Press Network	<a href="http://www.jpnp.co.jp/reports/iodine_as_alternative_propellant_for_electric_propulsion_999.html">http://www.jpnp.co.jp/reports/iodine_as_alternative_propellant_for_electric_propulsion_999.html</a>	Mar-20	General Public	n/a	International
17.	Non-scientific and non-peer reviewed publication (popularised publication)	EASN	EASNTIS	Iodine as alternative propellant for electric propulsion	Space News World Space hottest news	<a href="http://spaceworldsnews.blogspot.com/2020/03/iodine-as-alternative-propellant-for.html">http://spaceworldsnews.blogspot.com/2020/03/iodine-as-alternative-propellant-for.html</a>	Mar-20	General Public	n/a	International
18.	Participation to a conference	ESAT	Giuseppe Sisinni	iFACT Project (Overview Presentation)	2021 CubeSat Developers Workshop	Online event	Apr-21	Scientific Community (higher education, Research), Industrial Stakeholders, Policy makers and regulatory authorities	~1500	International
19.	Participation to a conference	ESAT	Giuseppe Sisinni	iFACT Project (Overview Presentation)	GSTC 2021 Part II	Singapore	Jun-21	Scientific Community (higher education, Research), Industrial Stakeholders, Policy makers and regulatory authorities	~900	International
20.	Participation to a conference	ESAT	Giuseppe Sisinni	iFACT Project (Overview Presentation)	Satellite 2021	Washington	Jul-21	Scientific Community (higher education, Research), Industrial Stakeholders, Policy makers and regulatory authorities	~4000	International

Table A2: List of Performed &amp; Planned dissemination activities

NO.	Type of activities <sup>7</sup>	Main leader		Title of the disseminated material	Title of the dissemination activity	Place of the Dissemination Activity	Date	Type of audience <sup>8</sup>	Size of audience	Geographic coverage
		Organization	Authors' Name(s)							
21.	Non-scientific and non-peer reviewed publication (popularised publication)	EASN	Clio Drimala	iFACT Latest Progress	EASN Periodical Newsletter	<a href="https://easn.net/newsletters/issues/easn-newsletter-january-2021">https://easn.net/newsletters/issues/easn-newsletter-january-2021</a>	Jan-21	Scientific Community (higher education, Research), Industry, Policy makers and regulatory authorities	10000	International
22.	Video/film	EASN, Airbus FDH	Franz Georg Hey, Franz Georg Hey, Clio Drimala	Advanced Cusp Field Thruster firing with xenon during acceptance tests	Video in YouTube	<a href="https://www.youtube.com/watch?v=JLf7fzmvHyo">https://www.youtube.com/watch?v=JLf7fzmvHyo</a>	Mar-21	General Public	350	International
23.	Video/film	EASN, Airbus FDH	Franz Georg Hey, Franz Georg Hey, Clio Drimala	Advanced Cusp Field Thruster (ACFT) firing with iodine as propellant	Video in YouTube	<a href="https://www.youtube.com/watch?v=lkvEB61LloQ">https://www.youtube.com/watch?v=lkvEB61LloQ</a>	Mar-21	General Public	600	International
24.	Organisation of a workshop	Airbus FDH	Franz Georg Hey	iodine Fed Advanced Cusp Field Thruster - iFACT	EPIC SRC projects joint session: iFACT, NEMESIS, GIESSEP, EDDA. 11th EASN Virtual International Conference	Online event	Sep-21	Scientific Community (higher education, Research), Industry, Policy makers and regulatory authorities	20	International
25.	Non-scientific and non-peer reviewed publication (popularised publication)	EASN	Clio Drimala	iFACT Latest Progress	EASN Periodical Newsletter	<a href="https://easn.net/newsletters/issues/easn-newsletter-october-2021">https://easn.net/newsletters/issues/easn-newsletter-october-2021</a>	Oct-21	Scientific Community (higher education, Research), Industry, Policy makers and regulatory authorities	10000	International
26.	Non-scientific and non-peer reviewed publication (popularised publication)	EASN	Clio Drimala	iFACT Latest Progress	EASN Periodical Newsletter	<a href="https://easn.net/newsletters/issues/easn-newsletter-february-2022">https://easn.net/newsletters/issues/easn-newsletter-february-2022</a>	Feb-22	Scientific Community (higher education, Research), Industry, Policy makers and regulatory authorities	10000	International

**Table A2: List of Performed & Planned dissemination activities**

NO.	Type of activities <sup>7</sup>	Main leader		Title of the disseminated material	Title of the dissemination activity	Place of the Dissemination Activity	Date	Type of audience <sup>8</sup>	Size of audience	Geographic coverage
		Organization	Authors' Name(s)							
27.	Participation to a conference	ESAT	Giuseppe Sisinni	iFACT Project (Overview Presentation)	72nd International Astronautical Congress	Dubai	Oct-21	Industry, Scientific Community (higher education, Research), Industrial Stakeholders, Policy makers and regulatory authorities	6000	International
28.	Participation to a conference	ESAT	Giuseppe Sisinni	iFACT Project (Overview Presentation)	Space Tech Expo	Bremen	Nov-21	Industry, Scientific Community (higher education, Research), Industrial Stakeholders, Policy makers and regulatory authorities	4000	International
29.	Participation to a conference	ESAT	Giuseppe Sisinni	iFACT Project (Overview Presentation)	The 7th SmallSat Symposium	Mountain View	Feb-22	Industry, Scientific Community (higher education, Research), Industrial Stakeholders, Policy makers and regulatory authorities	1000	International
30.	Participation to a conference	ESAT	Giuseppe Sisinni	iFACT Project (Overview Presentation)	Satellite 2022	Washington	Mar-22	Industry, Scientific Community (higher education, Research), Industrial Stakeholders, Policy makers and regulatory authorities	12000	International
31.	Participation to a conference	ESAT	Giuseppe Sisinni	iFACT Project (Overview Presentation)	4S Symposium	Vilamoura	May-22	Industry, Scientific Community (higher education, Research), Industrial Stakeholders, Policy makers and regulatory authorities	<b>planned dissemination</b>	International
32.	Participation to a conference	ESAT	Giuseppe Sisinni	iFACT Project (Overview Presentation)	SmallSat 2022	Utah	Aug-22	Industry, Scientific Community (higher education, Research), Industrial Stakeholders, Policy makers and regulatory authorities	<b>planned dissemination</b>	International
33.	Participation to a conference	ESAT	Giuseppe Sisinni	iFACT Project (Overview Presentation)	Space-Comm Expo	UK	Sep-22	Industry, Scientific Community (higher education, Research), Industrial Stakeholders, Policy makers and regulatory authorities	<b>planned dissemination</b>	International

Table A2: List of Performed &amp; Planned dissemination activities

NO.	Type of activities <sup>7</sup>	Main leader		Title of the disseminated material	Title of the dissemination activity	Place of the Dissemination Activity	Date	Type of audience <sup>8</sup>	Size of audience	Geographic coverage
		Organization	Authors' Name(s)							
34.	Participation to a workshop	Airbus FDH	Franz Georg Hey	Disruptive Line – EPIC Project iFACT	EPIC – WORKSHOP 2022	GERMANY, COLOGNE	Apr-22	Scientific Community (higher education, Research), Industry, Policy makers and regulatory authorities	tbd	International
35.	Social media	EASN	Giorgos Papathanasopoulos, Clio Drimala	iFACT Project	Twitter	<a href="https://twitter.com/ifactProject">https://twitter.com/ifactProject</a>	Feb-20	General Public	355	International
36.	Social media	EASN	Giorgos Papathanasopoulos, Clio Drimala	iFACT Project	Linkedin	<a href="https://www.linkedin.com/groups/8912666/">https://www.linkedin.com/groups/8912666/</a>	Feb-20	General Public	106	International
37.	Social media	EASN	Giorgos Papathanasopoulos, Clio Drimala, Clio Drimala	iFACT EU Project	YouTube	<a href="https://www.youtube.com/channel/UC6Edpw9uONOX0IEIMcZWz6w">https://www.youtube.com/channel/UC6Edpw9uONOX0IEIMcZWz6w</a>	Feb-20	General Public	11	International
38.	Website	EASN	Clio Drimala	iFACT space project launched	EASN Association official website	<a href="https://www.easn.net/?q=news_view_article&amp;id=349">https://www.easn.net/?q=news_view_article&amp;id=349</a>	Mar-20	Scientific Community (higher education, Research), Industry, Policy makers and regulatory authorities, General Public	n/a	International
39.	Website	JLU	n/a	iFACT: Iodine Fed Advanced Cusp Field Thruster	JUSTUS-LIEBIG-UNIVERSITAET GIESSEN Official Website	<a href="https://www.uni-giessen.de/research/research-organizations/eu-projects/cooperation">https://www.uni-giessen.de/research/research-organizations/eu-projects/cooperation</a>	n/a	General Public	n/a	International

Table A2: List of Performed &amp; Planned dissemination activities

NO.	Type of activities <sup>7</sup>	Main leader		Title of the disseminated material	Title of the dissemination activity	Place of the Dissemination Activity	Date	Type of audience <sup>8</sup>	Size of audience	Geographic coverage
		Organization	Authors' Name(s)							
40.	Website		n/a	SRC Operational Grants	EPIC Official Website	<a href="https://www.epic-src.eu/src-operational-grants/">https://www.epic-src.eu/src-operational-grants/</a>	Mar-20	Scientific Community (higher education, Research), Industry, Policy makers and regulatory authorities, General Public	n/a	International
41.	Website	ESAT	Giuseppe Sisinni	iFACT Project	Endurosat Official Website	<a href="https://www.endurosat.com/projects/">https://www.endurosat.com/projects/</a>	n/a	Industry, Investors, Technology Transfer Organizations, General Public	n/a	International
42.	Flyer	EASN	Clio Drimala	iFACT Project	Development of collateral material	n/a	April 2020, June 2022	Industry, Investors, Technology Transfer Organizations, General Public	n/a	International
43.	Flyer	JLU	Peter J. Klar	iFACT Project	Campus Research Focus - Space Applications	<a href="http://www.fcmh.de/Forschung/Campus-Schwerpunkte/Folder/Uploads-flyer/2021.09.17_FCMH_CampusResearchFocus_SpaceApplications.pdf">http://www.fcmh.de/Forschung/Campus-Schwerpunkte/Folder/Uploads-flyer/2021.09.17_FCMH_CampusResearchFocus_SpaceApplications.pdf</a>	n/a	Scientific Community (higher education, Research), General Public	n/a	International
44.	Participation to a conference	UoS	S. Gabriel (UoS)	Two-dimensional modelling of hollow cathodes with Krypton propellant	IEPC 2022	Boston	June-22	Scientific Community (higher education, Research)	n/a	International
45.	Participation to a conference	UoS	A. Daykin-Iliopoulos (UoS)	Iodine compatible hollow cathode	IEPC 2022	Boston	June-22	Scientific Community (higher education, Research)	n/a	International

Table A2: List of Performed &amp; Planned dissemination activities

NO.	Type of activities <sup>7</sup>	Main leader		Title of the disseminated material	Title of the dissemination activity	Place of the Dissemination Activity	Date	Type of audience <sup>8</sup>	Size of audience	Geographic coverage
		Organization	Authors' Name(s)							
46.	Participation to a conference	Airbus FDH	G. Kottke (Airbus FDH)	Iodine Hollow Cathode Development and Testing with Alternative Emitters - iFACT	IEPC 2022	Boston	June-22	Scientific Community (higher education, Research)	n/a	International