



HORIZON 2020



**EPIC**

# Report

## D5.4 Yearly Dissemination Report 2016

Due date of deliverable:	30/11/2016
Actual submission date:	30/11/2016
Start date of project:	01/10/2014
Work package/Task	WP5/T5.1/T5.2
Lead Beneficiary	CDTI
Lead Author	J. Lopez Reig
Authors	J. Lopez Reig
Status	Final
Dissemination Level	Public
Reference	EPIC-CDTI-5.1-RP-D5.4-1.0



HORIZON 2020

# APPROVAL



# EPIC

<b>Title EPIC Dissemination Plan</b>	
<b>Issue</b> 1.0	
<b>Author</b> Jorge López Reig	<b>Date</b> 30/11/2016
<b>Approved by</b>	<b>Date</b>
EPIC Steering Board	

## CHANGE LOG

Reason for change	Issue	Date
Creation	1.0	30/11/2016

## CHANGE RECORD

<b>Issue</b> 1.0			
Reason for change	Date	Pages	Paragraph(s)



HORIZON 2020



**EPIC**

**Table of contents:**

<b>1</b>	<b>INTRODUCTION .....</b>	<b>4</b>
<b>2</b>	<b>REFERENCE DOCUMENTS .....</b>	<b>5</b>
<b>3</b>	<b>ACRONYMS &amp; ABBREVIATIONS.....</b>	<b>5</b>
<b>4</b>	<b>DISSEMINATION EDUCATION AND OUTREACH OBJECTIVES AND STRUCTURE.....</b>	<b>6</b>
<b>5</b>	<b>TARGET GROUPS .....</b>	<b>7</b>
<b>6</b>	<b>DISEMINATION ACTIVITIES IN 2016 .....</b>	<b>8</b>
6.1	EPIC website in 2016 .....	8
6.2	PSA's Partners own websites in 2016.....	12
6.3	Social Media dissemination in 2016 .....	12
6.4	EPIC Logo in 2016 .....	16
6.5	Organisation of EPIC Workshops events in 2016 .....	16
6.6	External events: Conferences/Workshops/Symposia in 2016 .....	17
6.7	EPIC Partners use of own dissemination channels in 2016.....	18
6.8	Dissemination outside of the usual space landscape channels in 2016.....	20
<b>7</b>	<b>EDUCATION &amp; OUTREACH ACTIVITIES IN 2016 .....</b>	<b>21</b>
<b>8</b>	<b>CONCLUSIONS .....</b>	<b>23</b>



HORIZON 2020



EPIC

# 1 INTRODUCTION

In the frame of the Electric Propulsion Innovation & Competitiveness (EPIC) project, (grant number 640199) and more specifically it's Work Package 5 "Dissemination Education and Outreach", this document has been produced with the aim to describe the activities performed in by the EPIC PSA regarding Dissemination, Education and Outreach (Task T5.1 and Task T5.2) during the second year of execution of the project. These activities are in line with the agreed Dissemination plan RD1 containing the dissemination objectives, target groups identified, and the structure, means and activities to ensure successful and wide dissemination of project results as well as maximising the project visibility.

The present document is the deliverable D5.4: *Yearly Dissemination Report 2016*.

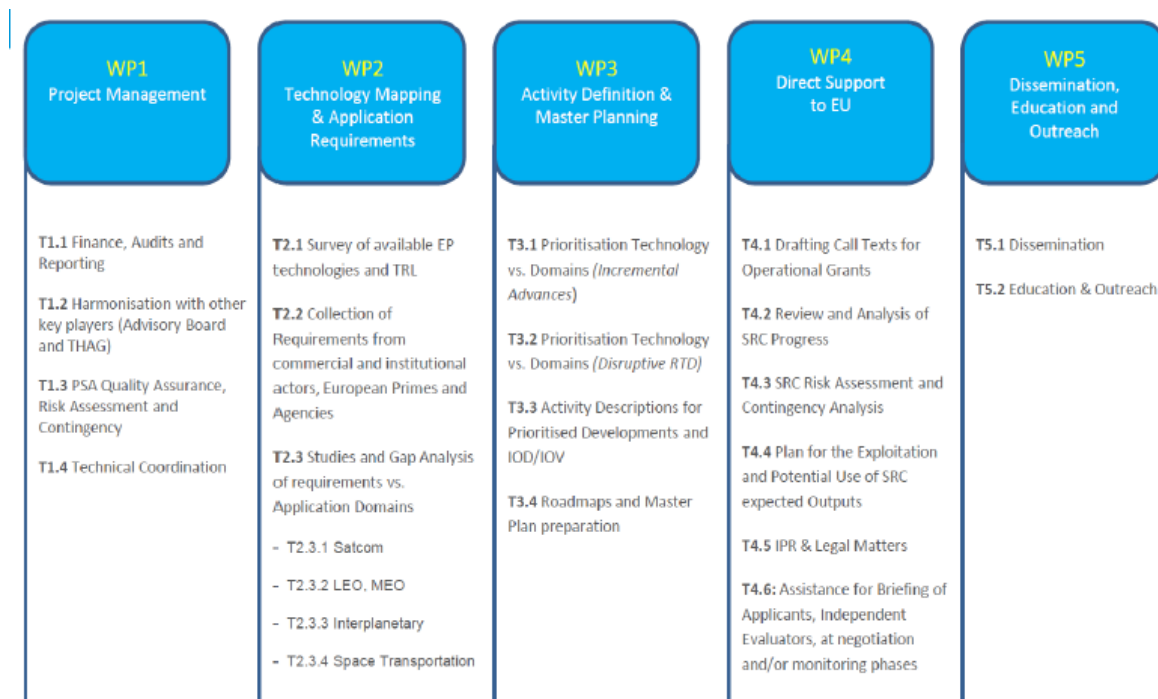


Figure 1.1: EPIC Work Package Structure



HORIZON 2020



**EPIC**

## 2 REFERENCE DOCUMENTS

[RD1] EPIC-CDTI-5.1-RP-D5.1 Dissemination plan

[RD2] EPIC-CDTI-5.1-RP-D5.2 Web Portal for EPIC

[RD3] EPIC Grant Agreement: COMPET-03-2014 EPIC Grant Agreement for: Coordination & support action (Ref. Ares(2014)3706837)

[RD4] EPIC-CNES-2.2-RP-D2.3 Workshop 1

[RD5] EPIC-DLR-3.4-RP-D3.4 Workshop 2

[RD6] EPIC- CDTI-5.1-RP-D5.3 Yearly Dissemination Report 2015

[RD7] D4.3 SRC Collaboration Agreement (CoA)

## 3 ACRONYMS & ABBREVIATIONS

ASI	Agenzia Spaziale Italiana
BELSPO	Belgian Science Policy Office
COSMOS	Continuation of Cooperation Of Space NCPs as a Means to Optimise Services
CDTI	Centro para el Desarrollo Tecnológico Industrial
CNES	Centre National d'Études Spatiales
DLR	Deutsches Zentrum für Luft- und Raumfahrt
EC	European Commission
EPIC	Electric Propulsion Innovation and Competitiveness
ESA	European Space Agency
EU	European Union
H2020	Horizon 2020
NCP	National Contact Points
OG	Operational Grant
PSA	Project Support Activity
SRC	Strategic Research Cluster
UKSA	UK Space Agency
WP	Work Package



## **4 DISSEMINATION EDUCATION AND OUTREACH OBJECTIVES AND STRUCTURE**

In line with [RD1], the EPIC PSA dissemination and exploitation activities are aimed at:

- Promoting the EPIC PSA project, its progress and results.
- Improving access to useful inputs from the SRC Operational Grants.
- Contribute to ensuring that the EPIC and Electric Propulsion SRC achievements are known to the potential users and future potential bidders for SRC Operational Grants.
- Improving the knowledge and acceptance of the SRC and therefore contribute to the subsequent exploitation of the project results by end-users or by a potential next SRC phase beyond 2020.
- Guaranteeing that the EPIC project is exploited to its full potential.

The dissemination activities are the responsibility of and coordinated by CDTI (as leader of Task 5.1 “Dissemination” and of WP 5), but this task includes the participation of all PSA Partners.

EPIC Dissemination activities will be performed as far as possible in coordination with the COSMOS network which is the network of National Contact Points (NCP) for the Space theme under the EU’s Horizon 2020 (<http://ncp-space.net/>); and in collaboration with the PSA Partner organisation NCPs for Space.

The EPIC PSA will also encourage the dissemination of results by the SRC Operational Grants holders, in a united and coordinated way as much as possible, so that all possible channels are exploited, always under the coverage of the SRC Collaboration Agreement (CoA) [RD7].

In line with [RD3], the main education and outreach activities planned are:

- To reach grade-school and high-school students, in order to increase the interest in STEM (science, technology, engineering and math) and of female students in particular.
- Organisation of educational material, trainings or contests, making use of the ESA and National Agencies educational programmes and resources.
- Exchange and network with non-space sectors to identify opportunities outside the space field, presenting the PSA work at non-space events when possible.
- Preparation of education material related to space and EP especially aimed at promoting the interest in science, technology, engineering and mathematics in grade- and high-school students; and sharing it directly with entities performing outreach activities and through the EPIC website in an education and outreach section.
- 1 trainee will be invited to do his/her final thesis in the ESA Propulsion Laboratory at ESTEC in support of EPIC.

The education & outreach activities are the responsibility of and coordinated by ESA (as leader of Task 5.2 “Education & Outreach”), but this task includes the participation of all PSA Partners.

EPIC education & outreach activities will be performed as far as possible in coordination and collaboration with the education & outreach activities of the EPIC Partners and its means and channels. Mainly the National Agencies and ESA will make use of their expertise and resources in organising these types of communication, education & outreach activities.

The participation and support by PSA Partners in these two tasks (T5.1 and T5.2), will be described in detail in each activity of this document.



HORIZON 2020



**EPIC**

## 5 TARGET GROUPS

In line with [RD1], the main target groups for dissemination had been grouped as follows:

- Main research institutions, and academia [DG1-Research/Academia]
- European space industry at all levels, especially manufactures of space subsystems: Large System Integrators, components manufacturers at subsystem, system or component level [DG2-Space Industry].
- European Commission, main Space Agencies, European Member States and Governmental Institutions [DG3-Governments].
- Space satellite operators and new space market and missions developers [DG4-Operators].
- Public media and general public interested in space technology and science, and its impact and benefits in their daily life [DG5-General Public].

These target groups for dissemination will be identify and map for each activity performed in each Yearly Dissemination Report

In line with [RD3], the main target groups for education & outreach activities are:

- Grade-school and high-school students and its teachers [EG1-Schools]
- University students, and Master and students in science, technology, engineering and mathematics; and its teachers [EG2-University]
- Research Institutions; PhD students; young graduate trainees; and junior technical researchers in science, technology, engineering and mathematics, and its tutors [EG3-Research]
- General public [EG4-General public]

These target groups for education & outreach will be identify and map for each activity performed in each Yearly Dissemination Report



**HORIZON 2020**



**EPIC**

## 6 DISEMINATION ACTIVITIES IN 2016

Various dissemination channels and media had been used during 2016 to obtain maximum impact from the promotion of EPIC results. The channels had been selected according to the intended audience.

### 6.1 EPIC website in 2016

The EPIC website is <http://epic-src.eu/>. It has already been set up in 2015 and evolved to its final shape to become the major EPIC dissemination tool. This website should help increasing the public awareness and visibility of the project and it is used as the mayor channel to communicate with the main stakeholders, industry, research institutions and academia. In addition the site is a valuable tool for exchanging information produced in the EPIC PSA and in the SRC Operational Grants to be funded. The website is continuously maintained by CDTI and DLR and its content updated with the contributions of all PSA Partners.

The creation of a PSA web portal (media tool) provides a fast and on-line access of the relevant background, foreground and any other project related information (PSA events, links, public deliverables, news) that can be made public and disseminated.

The structure (Main Page/Child Pages/Sub-child Pages) of the web portal has been updated and it is the following:

- Main Page: Welcome page, including a News section (both with a dynamic window and with a fix list window)
- Child Pages (list of topics in the left had side of the Main Page), and Sub-child pages (second level) for the The EPIC Programme Support Activity Child Page .
  - Child Page: News
  - Child Page: What is Electric Propulsion?
  - Child Page: The Strategic Research Cluster: Programme Support Activity and Operational Grants
  - Child Page: The EPIC Programme Support Activity
    - Sub-child page: The EPIC Partners
    - Sub-child page: The EPIC work performed on its first two years
    - Sub-child page: EPIC Events
    - Sub-child page: EPIC Public Documents
    - Sub-child Page: EPIC Education material
  - Child Page: High Level SRC Roadmap
  - Child Page: Space 2016 H2020 Call on Electric Propulsion
  - Child Page: SRC Operational Grants
  - Child Page: Related links
  - Child Page: Questions & Answers
- Contact box (EPIC web content: Jorge.lopez@cdti.es, EPIC web master: Marc.Jochemich@dlr.de)
- Search box

The content of the web portal contains among others the following:

- The EPIC PSA: what it is, its activities, objectives and PSA Partners,
- The H2020 Electric Propulsion SRC, its set up and the relationship between the PSA and the operational grants
- Background on Electric Propulsion (what it is, history, the EP system, its use, current European situation...)
- EPIC public documents,
- Agenda of events and calendar,
- Information on the EPIC Workshops and EPIC events participation already held (with links to their specific pages), and planned,
- Education material,
- Questions & Answers page (public but not open),
- External links to be included (e.g. to Commission related documents, to SRC operational grants, etc.)
- Information/links on H2020 SRC Calls or relevant documents (as published by the Commission),
- Web links to SRC Operational Grants sites
- Web manager and web content points of contact,





HORIZON 2020



EPIC

During 2016 the main webpages updated have been the following ones: News, What is Electric Propulsion?, EPIC work performed on its first two years, EPIC Events, EPIC Public Documents, EPIC Education material, SRC Operational Grants, and Related links.

The EPIC news Posts published during this period are the following ones (<http://epic-src.eu/?cat=5>):

- IEPC2017 – Abstract Submission Now Open! / 12.10.2016 / <http://epic-src.eu/?p=608>
- Electric Propulsion thrusters flown or ordered / 04.10.2016 / <http://epic-src.eu/?p=586>
- COMPET-3-2016 Proposals selected! / 01.09.2016 / <http://epic-src.eu/?p=574>
- SRC DAY 7th July 2016 / 11.08.2016 / <http://epic-src.eu/?p=568>
- 11th European Space Power Conference ESPC 2016 / 09.08.2016 / <http://epic-src.eu/?p=557>
- H2020 Electric propulsion article on DLR Countdown newsletter / 08.08.2016 / <http://epic-src.eu/?p=552>
- Collaboration Agreement Annex1 – Declaration of Accession in Word version / 08.07.2016 / <http://epic-src.eu/?p=534>
- All Electric Propulsion Satellite ELECTRA contract signature / 05.04.2016 / <http://epic-src.eu/?p=527>
- EC publishes the number of submitted proposals for the COMPET-3-2016 topics of the Horizon 2020 SRC on Electric Propulsion / 14.03.2016 / <http://epic-src.eu/?p=502>
- COMPET-3-2016 Video Briefing for Applicants and Evaluators / 23.02.2016 / <http://epic-src.eu/?p=481>
- Deadline for COMPET-3-2016 is approaching / 22.02.2016 / <http://epic-src.eu/?p=470>
- Airbus and Thales plan ordering satellite electric thrusters from Snecma / 01.02.2016 / <http://epic-src.eu/?p=415>
- Eutelsat Does the Math on Reducing Future Satellite Costs / 15.12.2015 / <http://epic-src.eu/?p=368>
- Download the slides on the Electrical propulsion-SRC shown at the Brussels Infoday / 26.11.2015 / <http://epic-src.eu/?p=352>
- IEPC News: The 35th IEPC will be held in Atlanta / 1.12.2015 / <http://epic-src.eu/?p=352>
- Where to find the Horizon 2020 call documents for Electric Propulsion? / 22.10.2015 / <http://epic-src.eu/?p=101>
- Telecom market is facing revolution with all-electric satellites and Falcon-9 launchers / 15.09.2015 / <http://epic-src.eu/?p=314>
- Snecma electric thrusters chosen by Space Systems/Loral / 14.07.2015 / <http://epic-src.eu/?p=324>

Information on the EPIC Workshops are already included in detail in their respective websites as reported in the deliverables [RD4] D2.3 Workshop 1 report and [RD5] D3.4 Workshop 2 report, and the EPIC website is already linked those websites.

- The EPIC Workshops one organised by EPIC in Brussels: 25-28/11/2014 (<http://www.epic2014.eu/>)
- The EPIC Workshop two organised by EPIC in Stockholm: 11-12/02/2015 ([http://epic-src.eu/?page\\_id=12](http://epic-src.eu/?page_id=12))

Information on future EPIC Workshops (Madrid/2017, London/2018, ESTEC/2019) will be included in due time in the EPIC website with its own page links, and the relevant reports will be produced in dedicated deliverables (Workshop reports).

The EPIC website is one of the Deliverables of the project [RD2] and is updated and maintained continuously by CDTI and DLR, with all PSA Partners contributions. The full description of the EPIC web is detailed in [RD2], and its updates will be recorded if considered necessary in updates of this reference document.

Target Groups	EPIC Website dissemination in 2016	Type of channel	EPIC Partner	EPIC Partner preparing material
[DG1-Research/Academia] [DG2-Space Industry] [DG3-Governments] [DG4-Operators] [DG5-General Public]	EPIC Website / <a href="http://epic-src.eu/">http://epic-src.eu/</a>	PSA Website	CDTI/ DLR	CDTI/ DLR
	EPIC Workshop 1 Website Brussels: 25-28/11/2014 / <a href="http://www.epic2014.eu/">http://www.epic2014.eu/</a>	Workshop website and registration tool	CNES	CNES



HORIZON 2020



**EPIC**

	EPIC Workshop 2 Website Stockholm: 11-12/02/2015 / <a href="http://epic-src.eu/?page_id=12/">http://epic-src.eu/?page_id=12/</a>	Workshop website and registration tool	DLR	DLR
--	--	---	-----	-----

Table 6.1.1: List of EPIC websites for dissemination in 2016



HORIZON 2020



EPIC

At the moment, the EPIC website looks as shown in the following Imaging Print (Only the Main Page is shown).



Figure 6.1.1: EPIC website Main Page



HORIZON 2020



**EPIC**

## 6.2 PSA's Partners own websites in 2016

The publication of the EPIC work and results in PSA's Partners own websites is also a very important dissemination activity. The preparation of the PSA's Partners own website and text is the responsibility of the related PSA Partner, but the current content has been coordinated by CDTI drafting a baseline text proposed to all Partners.

No modification from RD6.

Target Groups	EPIC Dissemination link in the PSA Partner website	EPIC Partner
[DG1-Research/Academia] [DG2-Space Industry] [DG3-Governments] [DG4-Operators] [DG5-General Public]	EPIC reference in ESA website : <a href="http://www.esa.int/Our_Activities/Space_Engineering_Technology/EPIC_Electric_Propulsion_Innovation_and_Competitiveness">http://www.esa.int/Our_Activities/Space_Engineering_Technology/EPIC_Electric_Propulsion_Innovation_and_Competitiveness</a>	ESA
	EPIC reference in ASI website: <a href="http://www.asi.it/it/news/epic-in-space-electrical-propulsion-and-station-keeping">http://www.asi.it/it/news/epic-in-space-electrical-propulsion-and-station-keeping</a>	ASI
	EPIC reference in BELSPO website <a href="http://www.belspo.be/belspo/space/euPolicy_h2020_en.stm">http://www.belspo.be/belspo/space/euPolicy_h2020_en.stm</a> <a href="http://www.belspo.be/belspo/space/euPolicy_h2020_nl.stm">http://www.belspo.be/belspo/space/euPolicy_h2020_nl.stm</a> <a href="http://www.belspo.be/belspo/space/euPolicy_h2020_fr.stm">http://www.belspo.be/belspo/space/euPolicy_h2020_fr.stm</a>	BELSPO
	TBD	CNES
	EPIC reference in CDTI ESH2020 website: <a href="http://eshorizonte2020.cdti.es/index.asp?MP=88&amp;MS=711&amp;MN=2&amp;TR=C&amp;IDR=2394">http://eshorizonte2020.cdti.es/index.asp?MP=88&amp;MS=711&amp;MN=2&amp;TR=C&amp;IDR=2394</a>	CDTI
	EPIC reference in DLR website: in English: <a href="http://www.dlr.de/rd/en/desktopdefault.aspx/tabid-2266/3398_read-44284/">http://www.dlr.de/rd/en/desktopdefault.aspx/tabid-2266/3398_read-44284/</a> and German: <a href="http://www.dlr.de/rd/desktopdefault.aspx/tabid-2266/3398_read-44284/">http://www.dlr.de/rd/desktopdefault.aspx/tabid-2266/3398_read-44284/</a>	DLR
	TBD	UKSA
	EPIC reference in EUROSPACE website: <a href="http://eurospace.win2.nucleus.be/news.aspx">http://eurospace.win2.nucleus.be/news.aspx</a>	ADS-EUROSPACE
	EPIC reference in SME4Space website: <a href="http://www.sme4space.org/index.php?option=com_content&amp;view=article&amp;id=59">http://www.sme4space.org/index.php?option=com_content&amp;view=article&amp;id=59</a>	SME4Space

Table 6.2.1: List of links of each EPIC PSA Partner website dedicated to EPIC and SRC dissemination activities in 2016.

## 6.3 Social Media dissemination in 2016

The dissemination of PSA work and SRC Operational Grants results using social media-related channels is important for the dissemination of EPIC activities.

EPIC has selected Twitter and YouTube as the primary social media channels because they are the most popular general social media networks. They are easy to use and used by all target groups from general public to professionals and companies. The targeted audience would be the general public interested in space science and EU research activities, but also professionals and space research experts, and main stakeholders and decision makers.



HORIZON 2020



EPIC

EPIC had already implemented this Social media dissemination activity by CDTI via Twitter (@EPICh2020) named: EPIC h2020 and YouTube Channel: (<https://www.youtube.com/channel/UC8a2JsVCDgmHu8mFWeQmZlQ>) named: EPIC h2020. These social media dissemination channels are currently used for all EPIC Posts, news, activities, presentations and videos, and they will be used extensively during the following years in coordination with the website and the SRC OGs.

The maintenance and management is performed by CDTI.

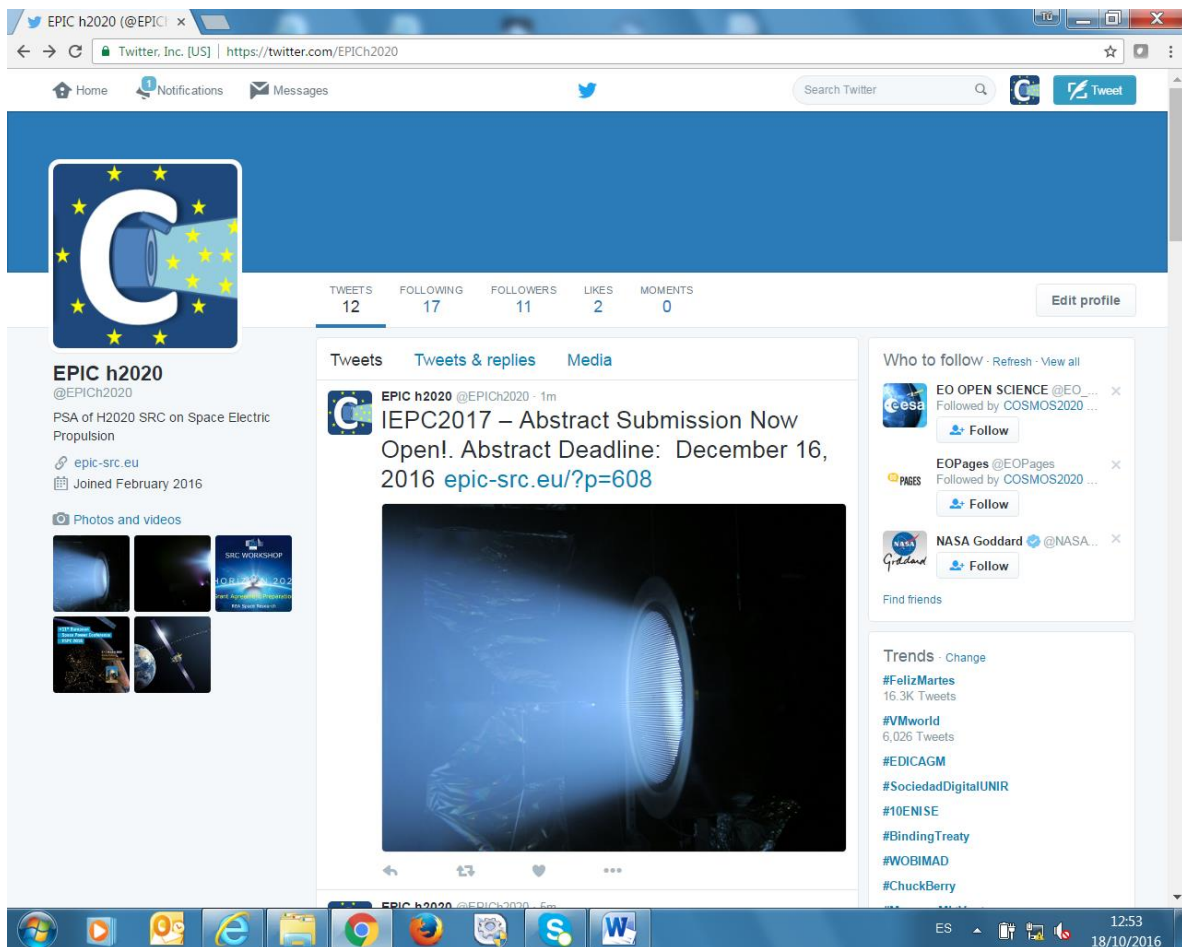


Figure 6.3.1: EPIC Twitter @EPICCh2020



HORIZON 2020



EPIC

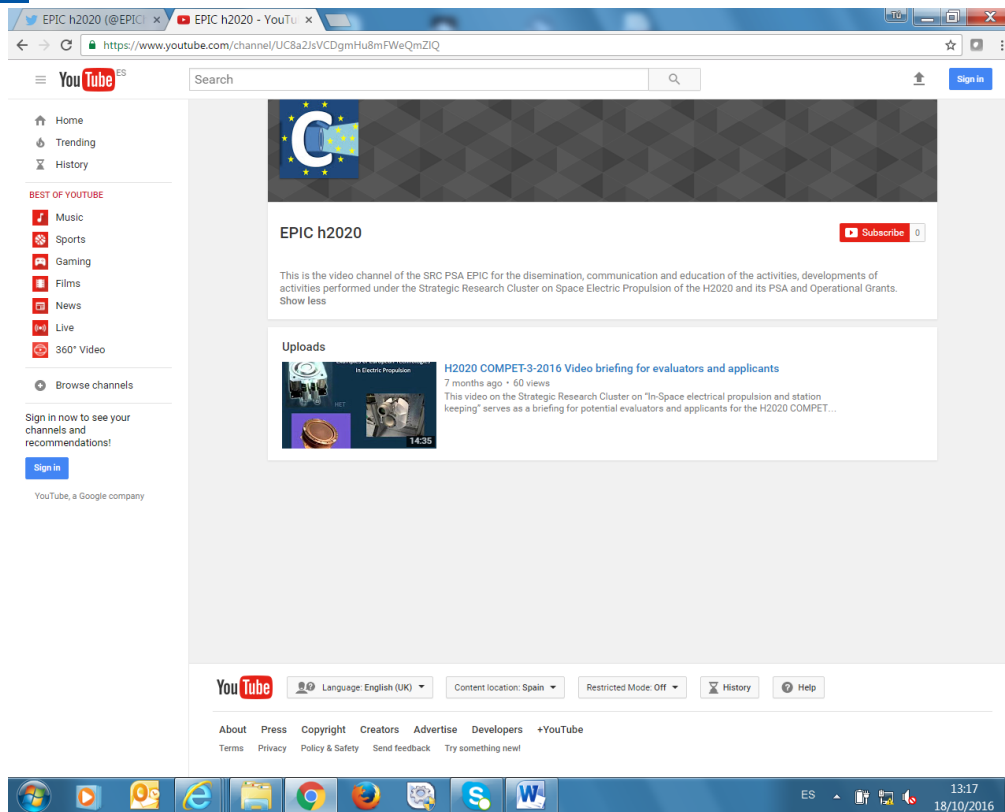


Figure 6.3.2: EPIC YouTube Channel

EPIC has selected LinkedIn as secondary social media channel because it is the largest professional network, it is structured by professionals, companies and technologies. The targeted audience would be professionals of the space sector or other sectors of interest in H2020 which could profit from the networking or knowledge on EPIC. It is currently used by the partner organisations and already contains multiple groups on Horizon 2020 which can also serve as vehicle of promotion and networking.

EPIC had just already implemented this Social media dissemination activity by CDTI via a LinkedIn Dissemination Group (<https://www.linkedin.com/grp/home?gid=8303568>) named: H2020 SRC EPIC. This social media dissemination is currently at its early stages, and it will be further developed and exploited during the following years in coordination with the website.

The maintenance and management is performed by CDTI and will be further developed.





HORIZON 2020



EPIC

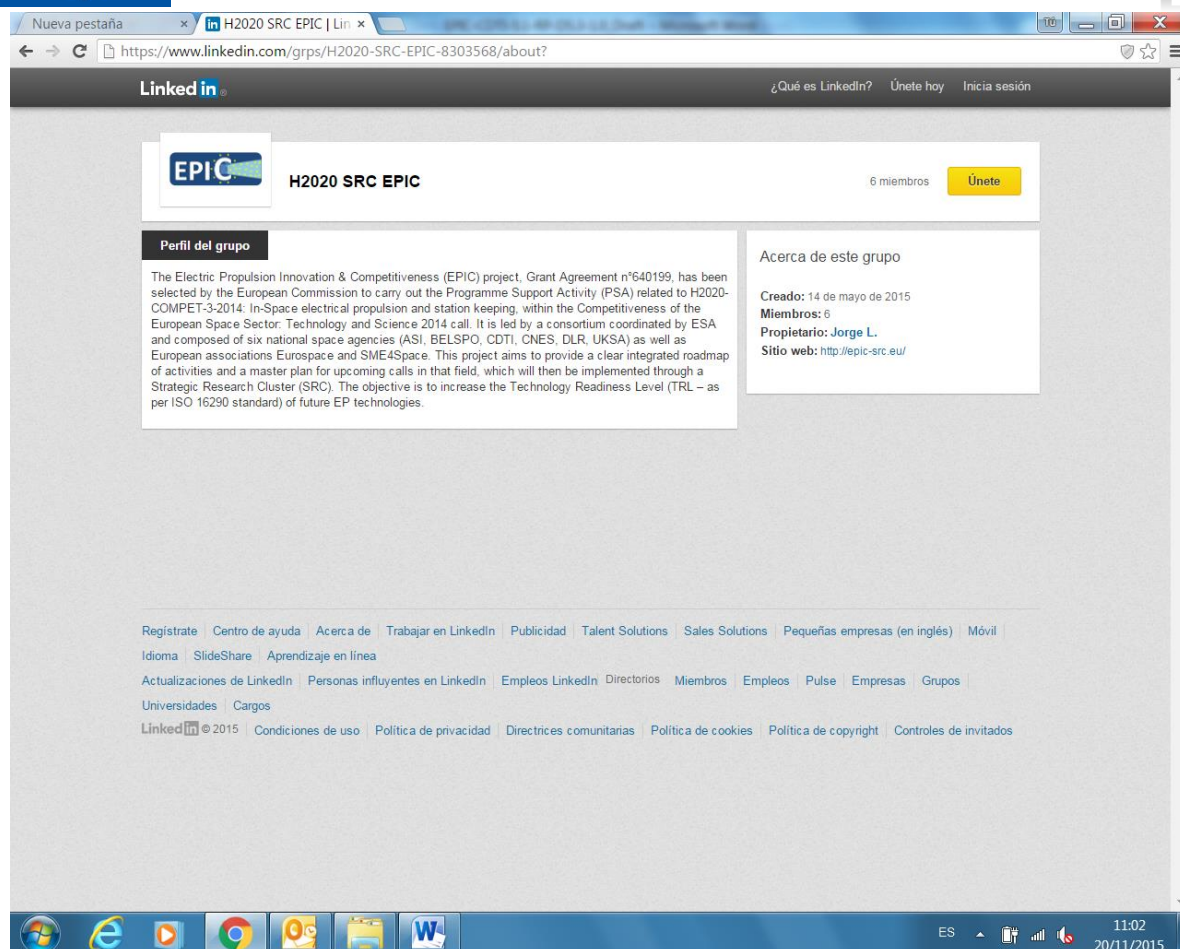


Figure 6.3.3: EPIC Group in LinkedIn

Target Groups	EPIC Dissemination Social Media	EPIC Partner
[DG1-Research/Academia] [DG2-Space Industry] [DG3-Governments] [DG4-Operators] [DG5-General Public]	Twitter EPIC h2020 (@EPICH2020)	CDTI
[DG1-Research/Academia] [DG2-Space Industry] [DG3-Governments] [DG4-Operators]	LinkedIn Group: ( <a href="https://www.linkedin.com/grp/home?gid=8303568">https://www.linkedin.com/grp/home?gid=8303568</a> ) named: H2020 SRC EPIC	CDTI
[DG1-Research/Academia] [DG2-Space Industry] [DG3-Governments] [DG4-Operators] [DG5-General Public]	YouTube Channel: ( <a href="https://www.youtube.com/channel/UC8a2JsVCDgmHu8mFWWeQmZlQ">https://www.youtube.com/channel/UC8a2JsVCDgmHu8mFWWeQmZlQ</a> ) . Named: EPIC h2020	CDTI

Table 6.3.1: List of EPIC Dissemination Social Media activities in 2016.



HORIZON 2020



**EPIC**

## 6.4 EPIC Logo in 2016

The EPIC Logo has been produced in 2015 and selected by the PSA Partners. It is being used in the website and, from now on, on all PSA documentation, presentations and dissemination material along the project.



Figure 6.4.1 EPIC Logo

The EPIC banner to be used in all documents and presentations with the new EPIC PSA Partners Logos has been also produced in 2015 and updated to make it coherent with the PERASPERA banner.



Figure 6.4.2 EPIC PSA Partners Logos

No modification from RD6.

## 6.5 Organisation of EPIC Workshops events in 2016

The EPIC Workshops one and two were the ones organised by EPIC during the first year of execution of the PSA. The first one was in Brussels: 25-28/11/2014 (<http://www.epic2014.eu/>) organised by CNES and BELSPO; and the second one was in Stockholm: 11-12/02/2015 ([http://epic-src.eu/?page\\_id=12](http://epic-src.eu/?page_id=12)) organised by DLR with the help of the THAG Swedish Delegation. Information on the EPIC Workshops performed during the first year of EPIC execution are already included in detail in their respective deliverables [RD4] Workshop 1 report and [RD5] Workshop 2 report.

The future EPIC Workshops will be organized in 2017, 2018 and 2019 in Madrid, London and ESTEC. The preparation had already started for the one to be held in Madrid in 3Q 2017 in full coordination with REA, EC, and all SRC OGs under the SRC Collaboration Agreement RD7.





HORIZON 2020



EPIC



2Q-3Q 2017/ Madrid EPIC Workshop	3Q 2018/ London EPIC Workshop	Sept/Oct. 2019/ ESTEC EPIC Workshop
<ul style="list-style-type: none"> <li>• progress of PSA and SRC</li> <li>• <b>presentation of 2016 OGs</b></li> </ul>	<ul style="list-style-type: none"> <li>• progress of PSA</li> <li>• <b>progress of 2016 OGs</b></li> <li>• Consultation on update of EPIC Roadmap (open to all interested stakeholders)</li> </ul>	<ul style="list-style-type: none"> <li>• Final presentation of PSA</li> <li>• <b>results of 2016 OGs</b></li> <li>• Consolidated 2nd Issue EPIC Roadmap and view for 2020 WP SRC topic</li> </ul>

Figure 6.5.1: future EPIC Workshops.

Target Groups	EPIC Dissemination Social Media	EPIC Partner
[DG1-Research/Academia] [DG2-Space Industry] [DG3-Governments] [DG4-Operators]	EPIC Workshop 3 / Madrid: 2Q-3Q 2017	CDTI/ All Partners
	EPIC Workshop 4 / London: 3Q 2018	UKSA / All Partners
	EPIC Workshop 5 / ESTEC: 3Q 2019	ESA / All Partners

Table 6.5.1: List of future EPIC Workshops.

## 6.6 External events: Conferences/Workshops/Symposia in 2016

The participation and presentation of the PSA work and the progress of the SRC activities with respect to the SRC roadmap at relevant European and international conferences/workshops/symposia is a very important EPIC dissemination activity.

The EPIC PSA had already participated during late 2015 and 2016 in several H2020 Info days presenting the PSA work and the 2016 SRC Call texts and its requirements and guidelines at relevant European and international conferences/workshops/symposia.

EPIC supported during late 2015 the European Commission in the H2020 Space Info Days to present the Electric Propulsion SRC calls and related documentation and presentations. Presentations were produced for each occasion after consultation with the EC. The agenda of the events and the EPIC presentations are available on the EPIC website.

CDTI and ESA prepared standard slides on the EPIC project to be used at different events. EPIC Partners presenting at each events, refined them and adapt them to the event needs.

Target Groups	European and international space conferences/workshops/symposia in 2016*	EPIC Partner particip	EPIC partner preparing
---------------	--	-----------------------	------------------------



**HORIZON 2020**



**EPIC**

		<b>ant</b>	<b>material</b>
[DG1-Research/Academia] [DG2-Space Industry] [DG3-Governments] [DG4-Operators]	H2020 Space Information day 2015 – Warsaw, Poland [29.9.2015]. COSMOS Event/ <a href="https://www.b2match.eu/h2020-space-infoday/pages/information-day-warsaw">https://www.b2match.eu/h2020-space-infoday/pages/information-day-warsaw</a>	ESA	CDTI/ESA/U KSA
	Space Week 2015 in Rome, Italy [23.10.2015]. Dragon Star, organised by ASI and China. Introduction day with EC H2020. Coordination with COSMOS contacts point./ <a href="https://www.b2match.eu/spaceweek-italy/pages/agenda">https://www.b2match.eu/spaceweek-italy/pages/agenda</a>	ESA	CDTI/ESA
	H2020 EC Infoday Brussels [10.11.2015]. Dedicated presentation to SRC – In-Space electrical propulsion and station keeping by EPIC PSA. COSMOS Event. / <a href="https://www.b2match.eu/h2020-space-infoday/pages/information-day-brussels">https://www.b2match.eu/h2020-space-infoday/pages/information-day-brussels</a>	ESA/+ all PSA Partners	CDTI/ESA
	11th European Space Power Conference ESPC 2016 - Greece [03.10.2016]. Dedicated Round Table on “Cost reduction for PPU’s in Electric Propulsion”. EPIC PSA Dedicated presentation. <a href="http://www.espc2016.com">http://www.espc2016.com</a>	CDTI + ESA	CDTI

Table 6.6.1: List of relevant European and international space conferences/workshops/symposia in 2016.

<b>Target Groups</b>	<b>Local space conferences/workshops/symposia in 2016*</b>	<b>EPIC Partner participant</b>	<b>EPIC partner preparing material</b>
[DG1-Research/Academia] [DG2-Space Industry] [DG3-Governments] [DG4-Operators]	H2020 CDTI Infoday 2016 Call, Madrid, Spain [20.10.2015]/ <a href="http://www.cdti.es/index.asp?MP=9&amp;MS=37&amp;MN=2&amp;TR=&amp;IDR=0&amp;accion=si&amp;texto=&amp;idprograma=0&amp;fecha=01/10/2015&amp;filtro=0&amp;fechadesde=&amp;fechahasta=&amp;tipo=&amp;id=3184&amp;xtrmc=&amp;xtrcr=13">http://www.cdti.es/index.asp?MP=9&amp;MS=37&amp;MN=2&amp;TR=&amp;IDR=0&amp;accion=si&amp;texto=&amp;idprograma=0&amp;fecha=01/10/2015&amp;filtro=0&amp;fechadesde=&amp;fechahasta=&amp;tipo=&amp;id=3184&amp;xtrmc=&amp;xtrcr=13</a>	CDTI	CDTI/ESA
	H2020 Info Day Lisbon [28.10.2015] / <a href="http://www.gppq.fct.pt/h2020/docs/eventos/4101_agenda.pdf">http://www.gppq.fct.pt/h2020/docs/eventos/4101_agenda.pdf</a>	ESA	CDTI/ESA
	HUNSPACE Info Day: EU Grant opportunities on Electric Propulsion (EPIC project), Budapest [02.11.2015] / <a href="http://www.hunspace.org/index.php/en-news">http://www.hunspace.org/index.php/en-news</a>	SME4SP ACE	CDTI/ESA

Table 6.6.2: List of relevant local space conferences/workshops/symposia in 2016.

\*Some of them already included in RD6 but performed in late 2015

## 6.7 EPIC Partners use of own dissemination channels in 2016

The dissemination of EPIC work and results using PSA Partners own existing (private/national/European) dissemination channels is very important for the dissemination of EPIC activities because it would take advantage of a well-established, dedicated and efficient apparatus within each PSA Partner organisation, therefore multiplying the impact of each action.

<b>Target Groups</b>	<b>Dissemination activities using own PSA Partners or European dissemination channels</b>	<b>Type of channel</b>	<b>EPIC Partner</b>	<b>EPIC Partner preparing</b>
----------------------	---	------------------------	---------------------	-------------------------------



HORIZON 2020



EPIC

				material
[DG1-Research/Academia] [DG2-Space Industry] [DG3-Governments] [DG4-Operators]	Article in the CDTI Newsletter: Perspectiva CDTI nº 47 p. 14 Dec. 2015 “CDTI desempeña un papel clave en los “Clusters” de espacio de la UE: Una nueva oportunidad para la industria española”	Newsletter article	CDTI	CDTI
	Electric Propulsion dissemination article on the DLR Countdown newsletter nº 32 issued on 01/06/2016 about the Electric Propulsion and the Horizon 2020 EU funds promising space technologies. <a href="http://epic-src.eu/wp-content/uploads/Countdown_Horizon-2020-EPIC.pdf">http://epic-src.eu/wp-content/uploads/Countdown_Horizon-2020-EPIC.pdf</a>	Newsletter article	DLR	DLR

Table 6.7.1: List of events or activities using PSA Partners own existing dissemination channels in 2016

[recursos]

## CDTI desempeña un papel clave en los “Clusters” de espacio de la UE: Una nueva oportunidad para la industria espacial española

CDTI participa en las *Programme Support Activities* (PSA) EPIC y PERASPERA para la implementación de los “Cluster” de investigación estratégica sobre propulsión eléctrica espacial y robótica espacial que financia la UE en H2020.

CDTI tiene una posición de liderazgo en EPIC y PERASPERA en tareas clave como la definición de los planes de trabajo y necesidades tecnológicas para el aumento de la competitividad del sector espacial europeo.

Este nuevo papel del CDTI supone un cambio de paradigma en su participación en temas espaciales, con un nuevo horizonte que va más allá de las actividades tradicionales de CDTI en espacio. Es la primera vez que CDTI tiene una participación a esta escala en dos proyectos de espacio junto a las principales Agencias Espaciales Europeas (ASI, BELSPO, CNES, DLR, ESA, UKSA).

La Comisión Europea ha publicado el nuevo plan de trabajo 2016-2017 para espacio de H2020 que incluye en 2016 la primera parte de la implementación de los “Clusters” de propulsión eléctrica espacial y robótica espacial.

La convocatoria de espacio de H2020 se abrió el 11 de noviembre de 2015 y se cerrará el 3 marzo de 2016. Supone una gran oportunidad para la industria española espacial, que posee grandes capacidades en ambas áreas tecnológicas estratégicas. Las perspectivas y el interés de participación industrial española en robótica espacial (Deimos, GMV, INTA, SENER...) y en propulsión eléctrica espacial (CRISA, Nájera Ingenieros, UC3M, UPM, SENER, Tecnalia, ...), pueden suponer un gran éxito en la parti-



Tecnología española de propulsión eléctrica en misión GOCE.

cipación española si sus propuestas son bien evaluadas y financiadas.

EPIC coordina el “Cluster” de propulsión eléctrica espacial, cuyo objetivo es permitir avances sustanciales en propulsión eléctrica para operaciones en órbita y para transporte espacial y así contribuir



Rover Curiosity de la NASA con importante participación Española.

a garantizar el liderazgo de las capacidades europeas en propulsión eléctrica a nivel mundial en el marco temporal 2020-2030. Su presupuesto indicativo en la convocatoria 2016 es de unos 23 millones de euros.

PERASPERA coordina el “Clusters” de robótica espacial, cuyo objetivo es crear y demostrar, dentro del marco 2020-2030, las herramientas claves necesarias para consolidar la madurez tecnológica de los sistemas robóticos para misiones de mantenimiento orbital y de exploración planetaria, y así contribuir a garantizar el liderazgo de las capacidades europeas en robótica espacial a nivel mundial dentro del marco temporal 2020-2030. Su presupuesto indicativo en la convocatoria 2016 es de unos 18 millones de euros. ✕

### más información

Para más información sobre los Cluster, visitar respectivamente: <http://www.epic-src.eu/> y <http://www.h2020-peraspera.eu/>

En CDTI:  
Departamento de Programas Aeroespaciales  
Tel.: 91 581 04 91  
E-mail: [esa@cdti.es](mailto:esa@cdti.es)



HORIZON 2020



EPIC



Figure 6.7.2: EPIC Article in DLR Countdown newsletter n° 32 in 2016

## 6.8 Dissemination outside of the usual space landscape channels in 2016

None in 2016





HORIZON 2020



**EPIC**

## 7 EDUCATION & OUTREACH ACTIVITIES IN 2016

The official start of Task 5.2 is in January 2016, during the second year, several initiatives on education and outreach have been performed or initiated by EPIC team, and mainly by ESA as Task 5.2 responsible.

Target Groups	Education & Outreach activities in 2016*	Type of activity	EPIC partner
[EG2-University] [EG3-Research]	Lecture at the Aerospace Master Programme at the University Carlos III of Madrid (UC3M) on Electric Propulsion and its applications [22.11. 2015]	Master Lecture at University	ESA
[EG1-Schools]	Second phase of Research Project with Students from Technasium (Calandlyceum Amsterdam) - Design & Manufacturing of a Vacuum Arc Thruster From October 2015 to April 2016 a group of 5 students from the Calandlyceum in Amsterdam did work on a research project in cooperation with ESA. For this projects the students were supervised by one electric propulsion engineer from ESA. During the project the students visited the ESA Propulsion Laboratory (EPL) at several occasions to get an introduction to their project and electric propulsion in general as well as to prepare and finally conduct a test campaign with the thruster prototype they had designed. At the end of the project, the students presented the outcomes of their work to their co-students, teachers and parents.	Electric propulsion educational activity	ESA
[EG2-University] [EG3-Research] [EG4-General public]	ESA Video: Academic background: The importance of an interdisciplinary approach and Space Electric Propulsion./ <a href="https://www.youtube.com/watch?v=iQhi7OoolyI">https://www.youtube.com/watch?v=iQhi7OoolyI</a>	Education Video	ESA
[EG1-Schools] [EG2-University] [EG3-Research] [EG4-General public]	EPIC education webpage with Electric Propulsion education material from different sources / <a href="http://epic-src.eu/?page_id=292">http://epic-src.eu/?page_id=292</a>	Education material compendium webpage	CDTI
[EG2-University] [EG3-Research]	Video Lecture on Electric Propulsion at the UC3M/edx Course "The Conquest of Space" by Jose Gonzalez del Amo / <a href="https://www.youtube.com/watch?v=p6FWQDv30kA">https://www.youtube.com/watch?v=p6FWQDv30kA</a>	Education Lecture Video for online UC3M/edx Course	ESA

Table 7.1: List of Education & Outreach activities in 2016.

\*Some of them already included in RD6 but performed or started in late 2015



HORIZON 2020



EPIC

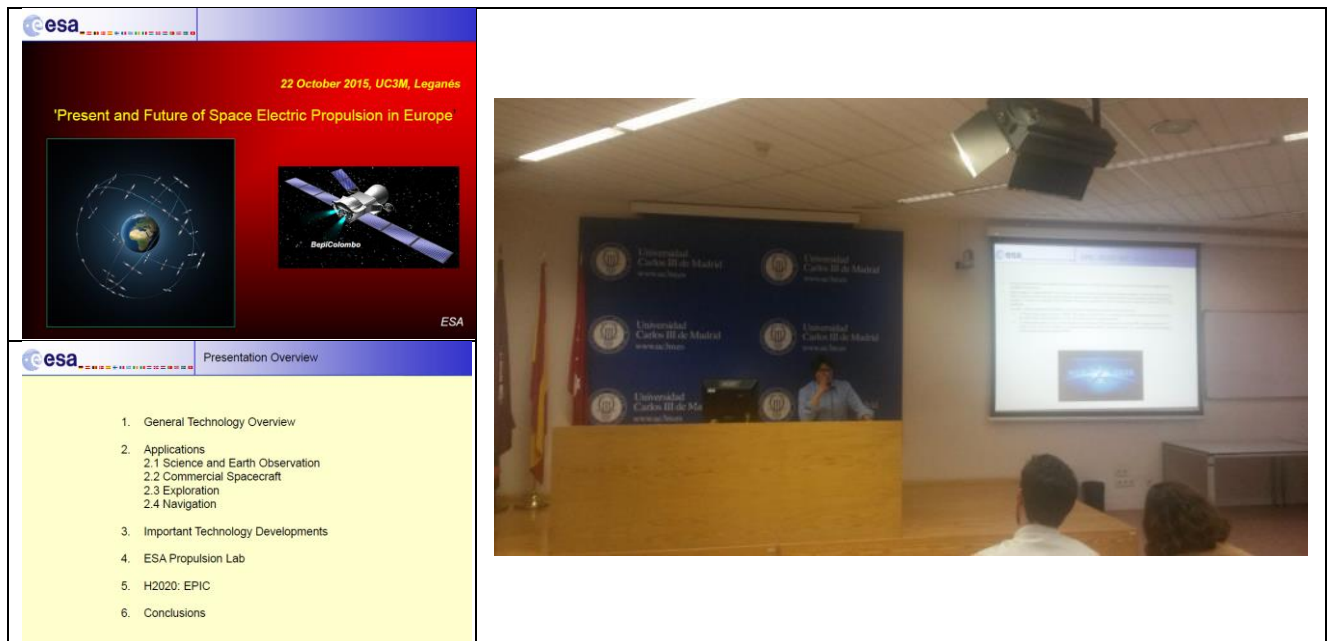


Figure 7.1: Lecture at the Aerospace Master Programme at the University Carlos III of Madrid (UC3M)

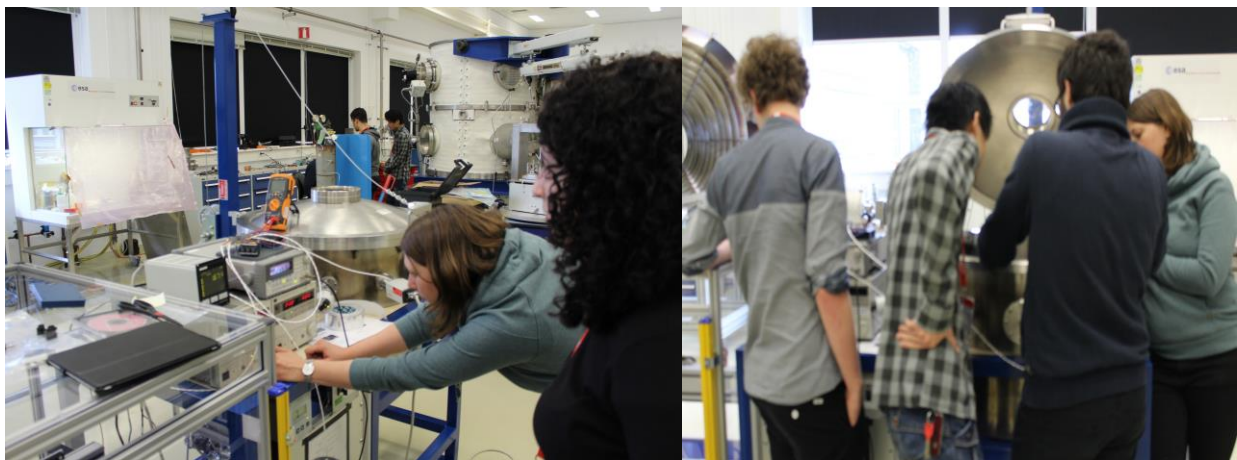


Figure 7.2: Vacuum arc testing at EPL with the students from the Calandlyceum



HORIZON 2020



EPIC



Figure 7.3: EPIC education webpage with Electric Propulsion education material from different sources

## 8 CONCLUSIONS

One of the main objectives of the EPIC PSA is to disseminate its progress and results, and to contribute to the dissemination of the SRC results'. The dissemination activities are been implemented following the EPIC PSA Dissemination plan [RD1] in close coordination with all Operational Grants under the SRC Collaboration Agreement (CoA) RD7.

This document aims at providing the list and detail description of the dissemination activities performed during EPIC PSA second year of execution, detailing: the dissemination activities performed, the role or the involved Partners, and the target groups addressed by each activity.

The dissemination activities presented are separated in different categories and detailed in this document, and they are mainly: EPIC website, PSA's Partners own websites, Social Media dissemination, Organisation of EPIC Workshops, External events: Conferences/Workshops/Symposia (international & local), EPIC Partners use of own dissemination channels, and Dissemination outside of usual space landscape channels.

Also among the main objectives of the EPIC PSA are the education and outreach activities in order to increase the interest in STEM (science, technology, engineering and math) and in the space Electric propulsion in particular on the different



**HORIZON 2020**



**EPIC**

target groups (high-school students, University grade and PhD students, Research Institutions trainees and young researchers, and general public).

This document also aims at providing the list and detail description of the education & outreach activities performed during EPIC PSA second year of execution.

Dissemination, education and outreach future evolution and continuation activities will be reported and updated in following Yearly Dissemination Report.