

CoPackaging of Terabit direct-detection and coherent Optical Engines and switching circuits in mulTI-Chip moduleS for Datacenter networks and the 5G optical fronthaul

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Research and Innovation Action (RIA)

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Website Availability and set up of social media accounts

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Table of Contents

List	t of abbrevia	ations	4		
Executive SummaryIntroduction					
					1 POETICS Website
1	I.1 Websit	te Development	8		
	1.1.1 We	ebsite design	8		
	1.1.1.1	Section 1. 'HOME'	9		
	1.1.1.2	Section 2 'ABOUT'	11		
	1.1.1.3	Section 3. 'DISSEMINATION'	14		
	1.1.1.4	Section 4. 'NEWS'	17		
	1.1.1.5	Section 5. 'CONTACT US'	18		
	1.1.2 PC	DETICS Website Statistics	19		
2	POETICS So	ocial Media Accounts	20		
3	POETICS O	nline Documents Repository	22		
4	Conclusion	ns	24		
Lis	of Figures		25		
Lis	of Tables		25		



List of abbreviations

BiCMOS	Bipolar CMOS
CMOS	Complementary Metal-Oxide-Semiconductor
CAGR	Compound annual growth rate
DC	Datacenters
EC	European Commission
EMLs	Electro-absorption Modulated Lasers
ICT	Information and Communication Technologies
MCM	Multi-Chip Modules
RIA	Research and Innovation Action



Executive Summary

The present document reports on the design, development and launch of the official website of the POETICS project and the establishment of social media pages (LinkedIn, Twitter and YouTube channel) and that will act as complementary dissemination as well as outreach tools.

The website of POETICS is designed to allow world-wide knowledge of the activities and results of the project and includes sections on the project concept, objectives, links to material that can be downloaded and viewed on-line and the links to social media accounts.

The actual deliverable is available at <u>ict-poetics.eu</u>.

The present document also includes a description of an Online Documents repository of the POETICS project which was designed and developed at the SharePoint of Microsoft Office 365 aiming to facilitate the exchange of information and documents between the consortium partners in a private area accessible only by registered users.

Keywords: Project website, Dissemination, POETICS social media accounts



Introduction

The rapid adoption of cloud computing in today's economies has fueled an explosive traffic growth in Datacenters (DC), estimated at >25% CAGR, that will result in global annual DC traffic greater than 20 ZB by 2021. To support the emerging workloads and cope with the bandwidth demand, DC operators have followed a combination of two approaches: i) upgrading existing network switches and optical interfaces inside the DC to increase capacity ("scale up") and ii) adding new network equipment and optical interfaces to the DC ("scale out"). Although, both approaches were successful in allowing the Cloud DC infrastructure to grow to hyperscale, it is certain that they will eventually become bound by power and real-estate constraints

POETICS comes as a Research and Innovation project aiming to develop novel Terabit optical engines and optical switching circuits and co-package them with digital switching chips to realize Multi-Chip Modules (MCM) for next generation switching equipment with Tb/s capacities and very high energy efficiency that fit into the roadmap of vendors. In order to do that, POETICS is relying on a photonic integration technology based on a silicon nitride platform, optical polymers, InP electro-absorption modulated lasers (EMLs) and external cavity lasers, and on high-speed electronics based on BiCMOS technology.

POETICS is a 3-year Research and Innovation Action project that brings together eight (8) leading research centers and companies from five (5) from European countries and one (1) associated country (Israel). The project was launched in January 2020 and is expected to finish in December 2022. POETICS project is funded by the European Commission through the Horizon 2020 programme under the Photonics Public Private Partnership (www.photonics21.org).

Through the official website of the project and its social accounts in LinkedIn, Twitter and YouTube channel, the project and its scientific results will be promoted to the international scientific and industrial communities as well as to the wider public.

1 POETICS Website

The development of the POETICS website is a task falling into the Work-Package 7 activities of the project related to the dissemination and exploitation of the project results, aiming to make the achievements and benefits known to relevant target-groups, including scientific/technical community, people from industry, to other EU projects and to the general public.

The POETICS website has been created and already hosts all the basic information regarding the project and its partners, in the address https://ict-poetics.eu.

In specific, POETICS website is:

- Developed in WordPress
- Google Analytics enabled
- Multiple menu with Sections and subsections for covering all types of project's activities
- Contact form available

The structure of the POETICS webpage is the following:

❖ HOME

❖ ABOUT

- Concept
- Objectives
- Consortium

DISSEMINATION

- Publications
- Public Documents
- Press releases
- Deliverables
- Media gallery

❖ NEWS

CONTACT US

The site also provides a link to the POETICS private area secure workspace, as a simple way for the partners (registered users) to access the POETICS Online Documents Repository of POETICS. A link is also provided to access the Reviewers private area through which registered users with specific permission have access to the submitted deliverables and contractual documents of the project.

The site will be updated regularly by the site administrator (ICCS - Project Coordinator) who will be able to upload public documents, news and publications, in order to maximize dissemination of the achieved results and increase project awareness.



1.1 Website Development

The key issues that were considered in selecting, structuring and writing content for the POETICS website are the following:

- ◆ To present the POETICS project's profile to the visitors of the site (members of the scientific community, people from industry, general public).
- To present the concept, specific objectives and progress on the research activities of the project. The site target is the members of the scientific community and the people from industry and aims to attract their interest and to increase the visibility of the project.
- ◆ To facilitate efficient information flow and submission of documents to the EC.
- To disseminate the project activities to the general public through several reports, presentations and others that will be available for reading and downloading to external visitors of the website.
- ♦ To maintain a high profile for content.

1.1.1 Website design

The POETICS Website is based on a plain and simple design which is fast loading, browser compatible, mobile compatible, and focuses on the content. All pages provide a header with the POETICS logo and additional links to the Horizon 2020, the Photonics21 site, as well as to the social accounts of POETICS to networking sites and professional user groups (LinkedIn, Twitter and YouTube).

The site is divided into five (5) sections, which are accessed via a global selection bar that is located horizontally on the top of each page below the header. Sub-sections have been included under specific sections to ensure rational distribution of the online information and to facilitate browsing. The sub-sections are accessible through drop-down menus from the global selection bar.

The website was created so that content (dynamic and static) can be efficiently maintained. Specifically, articles, menu structure and even styling and formatting can be updated and re-arranged as required, giving the ability to upload new information, rearrange content and provide a new browsing experience to visitors whenever required.

The project address is https://ict-poetics.eu/ and hosted on a server leased by ICCS. Moreover, the dynamic scripting language used allows for an efficient update of content without the need for complete re-design of the webpage space. ICCS acts as the website administrator and is responsible for authoring, editing and managing content of the website.

1.1.1.1 Section 1. 'HOME'

The 'HOME' section is designed to provide an overview of the project at a glance. This section serves as the "front page" of the POETICS website and special attention has been paid to achieve an appealing yet simple design. Right below the global selection bar a slideshow has been introduced displaying photos relevant to the project. A slideshow will be updated regularly with photos of the project results and demonstrators. Below this eyecatching graphic, there is also a 'Learn more' button linked to the POETICS 'Concept' page, followed by a quick overview of the project which is provided through the following elements:

- an 'About POETICS project' section (Figure 1) with a short description of the main concept of the project
- a 'News' section with the latest news appearing (Figure 2);
- a 'POETICS partners' section where all partners' logos appear, linked to the official website of each Organization (Figure 2);
- a Footer section (Figure 3) that includes a) general project information such as the GA number, the starting date, the duration and the EU contribution, b) a weblink section including the H2020 framework link, the Photonics21 link c) the private area links to registered users and d)the links to the social accounts of POETICS (see Section 2).



Figure 1. 'About POETICS Project' section at the 'HOME' section.

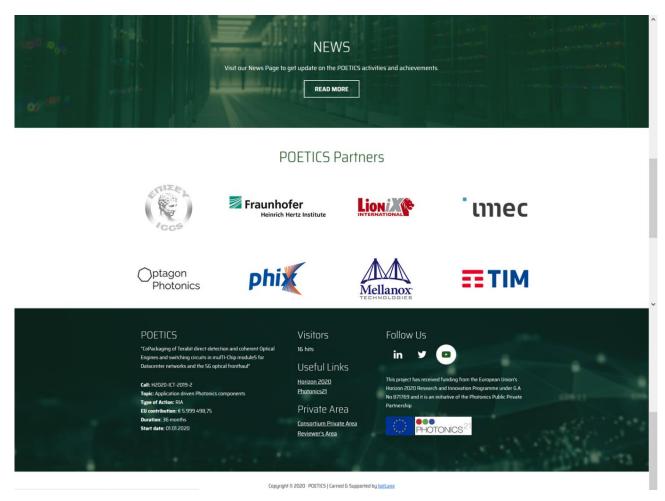


Figure 2. 'News', 'Partners' sections at the 'Home' page.



Figure 3. Footer section of the website included at each page.

1.1.1.2 Section 2 'ABOUT'

The 'ABOUT' section consists of three (3) sub-sections: i) the 'Concept', ii) the 'Objectives' and iii) the 'Consortium' of the project pages.

The 'Concept' page (Figure 4) provides the visitor information on the general concept of POETICS in a comprehensive language.



Home About Dissemination News Contact us

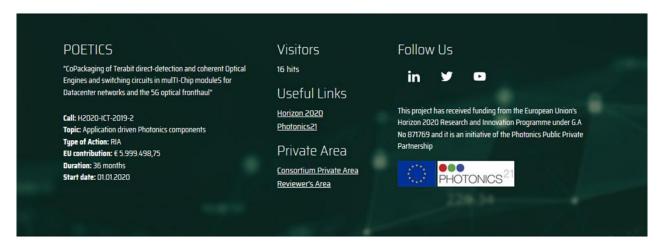
CONCEPT

POETICS comes as a Research and Innovation project aiming to develop novel Terabit optical engines and optical switching circuits and co-package them with digital switching chips to realize Multi-Chip Modules (MCM) for next generation switching equipment with Tb/s capacities and very high energy efficiency that fit into the roadmap of vendors.

In order to achieve this, POETICS is relying on a photonic integration technology based on a silicon nitride platform, optical polymers, InP electro-absorption modulated lasers (EMLs) and external cavity lasers and on high-speed electronics based on BiCMOS technology.

Specific targets in POETICS are:

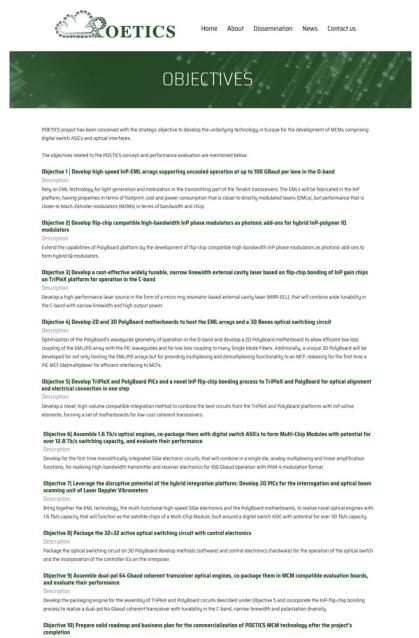
- MCM with 1.6 Tb/s OEs and PolyBoard with parallel SMFs on par with the PSM/DR spec for intra-DC connectivity
- MCM with 1.6 Tb/s OEs and 3D PolyBoard with duplex MCFs for 5G optical fronthaul applications
- Low-power-consumption 3D Benes Optical Switch
- MCM coherent 64 Gbaud OEs with up to 600 Gb/s capacity for DC interconnect applications



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Figure 4. 'ABOUT' section - 'Concept' page

The 'OBJECTIVES' page (Figure 5) provides an analysis of the main technological objectives and their respective descriptions.





Consolidate a strategy for the commercialization of the MCM transceiver and switching technology project in the post-POETICS era.

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Figure 5. 'ABOUT' section - 'Objectives' page



The 'CONSORTIUM' page (Figure 6) provides a short text presenting the consortium as a whole and a description for each partner, their role in the project and the contact persons as well as a map of Europe depicting the home country of every partner.



Figure 6. 'ABOUT' section - 'Consortium' page

1.1.1.3 Section 3. 'DISSEMINATION'

The '**DISSEMINATION**' section acts as a link to all dissemination and communication activities targeted within POETICS.

More specifically, the dissemination section collapses in five different sub-sections namely the (i) the 'Publications' page (Figure 7) which will include the scientific publications of the partners that will be published within the project (ii) the 'Public Documents' (Figure 8) where the documents like the project factsheet and project presentation will be presented (iii) the 'Press Releases' page (Figure 9) where links to the press releases will be reposted, (iv) the 'Deliverables' page (Figure 10) which includes the list of all POETICS deliverables including the public ones which the visitor of the site can easily access and download them in pdf format, and (v) the 'Media Gallery' page (Figure 11) where the promotion video addressing the general public (due for M09), other videos and photos related to the project will be posted.

So far, within the 'Press releases' page there is the first press release of the project related to the project launch and kick-off meeting and in the 'Public Documents' page there are the project factsheet and the project presentation.



Figure 7. 'DISSEMINATION' section - 'Publications' page

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Figure 8. 'DISSEMINATION' section - 'Public Documents' page







Figure 9. 'DISSEMINATION' section - 'Press Releases' page



Home About Dissemination News Contact us



Del.#	Title	Туре	Dissemination Level	Delivery Date	Downloads
D1.1	Project hand-book and documentation standards	R	CO	M01	
D1.2	First interim project activity and management report	R	CO	M10	
D1.3	First period project activity and management report	R	CO	M19	
D1.4	Second interim project activity and management report	R	CO	M28	
D1.5	Second period project activity and management report	R	CO	M36	
D1.6	Project final report	R	CO	M36	
D2.1	Definition of reference applications, system designs, and initial set of system specifications of PDETICS prototypes and components	R	СО	M06	
02.2	Initial set of system level simulations and component specifications	R	СО	M12	
D2.3	Definition of hybrid integration, assembly and packaging methodologies	R	CO	M12	
D2.4	Development of algorithms for the calibration, operation and configuration of the optical switch and external cavity laser	R	со	M19	
02.5	Updated set of system level specifications and simulation results	R	co	M24	
02.6	Final definition of integration and packaging methodologies, and blue prints of POETICS modules	R	CO	M32	
D3.1	Development of 1st generation of InP EML arrays and InP phase sections	R	СО	M14	
03.2	Development of tunable, narrow linewidth external cavity laser on TriPleX	R	CO	M16	
03.3	Development of 20 PolyBoard motherboard and 30 PolyBoard MCF interposer for direct detection prototypes	R	СО	M18	
D3.4	Development of 1st generation of 2D TriPleX and 2D PolyBoard motherboards for coherent prototypes	R	CO	M22	
D3.5	Development of 2nd generation InP EML arrays and InP phase sections	R	CO	M26	
D3.6	Development of 3D optical switch on PolyBoard	R	CO	M32	
03.7	Development of 2nd generation 20 TriPleX and 20 PolyBoard motherboards for coherent prototype	R	CO	M30	

Figure 10. 'DISSEMINATION' section - 'Deliverables' page





POETICS Promotion video coming soon

POETICS Presentation

POETICS - Project presentation Corpociogning of finds it circle-deduction and declarated Optical Finds it circle-deduction and declarated Optical Finds it circle-deduction and declarated Optical Finds and and the Optical Finds in multi-Chip modules for Datacenter networks and the SG optical Finds in multi-Chip modules for Datacenter networks and the SG optical Finds in Multi-Chip modules for Datacenter networks and the SG optical Finds in Multi-Chip modules for Datacenter networks and the SG optical Finds in Multi-Chip modules for Datacenter Networks and the SG optical Finds in Multi-Chip modules for Datacenter Networks and the SG optical Finds in Multi-Chip modules for Datacenter Networks and the SG optical Finds in Multi-Chip modules for Datacenter Networks and the SG optical Finds in Multi-Chip modules for Datacenter Networks and the SG optical Finds in Multi-Chip modules for Datacenter Networks and the SG optical Finds in Multi-Chip modules for Datacenter Networks and the SG optical Finds in Multi-Chip modules for Datacenter Networks and the SG optical Finds in Multi-Chip modules for Datacenter Networks and the SG optical Finds in Multi-Chip modules for Datacenter Networks and the SG optical Finds in Multi-Chip modules for Datacenter Networks and the SG optical Finds in Multi-Chip modules for Datacenter Networks and the SG optical Finds in Multi-Chip modules for Datacenter Networks and the SG optical Finds in Multi-Chip modules for Datacenter Networks and the SG optical Finds in Multi-Chip modules for Datacenter Networks and the SG optical Finds in Multi-Chip modules for Datacenter Networks and the SG optical Finds in Multi-Chip modules for Datacenter Networks and the SG optical Finds in Multi-Chip modules for Datacenter Networks and the SG optical Finds in Multi-Chip modules for Datacenter Networks and the SG optical Finds in Multi-Chip modules for Datacenter Networks and the Multi-Chip modules for Datacenter Networks and the Multi-Chip modules for Datacenter Networks and the Multi-Chip modules for Datace



Figure 11. 'DISSEMINATION' section - 'Media Gallery' page

1.1.1.4 Section 4. 'NEWS'

The 'NEWS' page (Figure 12) presents latest news on the POETICS project such as the realization of meetings, participation in conferences, workshops, exhibition booths etc.





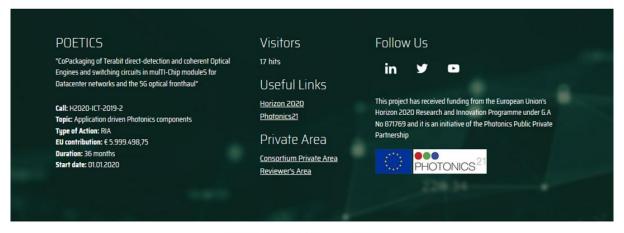


Project Launch

February 26, 2020, 12:39

POETICS was officially kicked off on January 14-15, 2020 at the Institute of Communications and Computer Systems (ICCS) in Athens, Greece. All eight (8) members of the consortium were gathered for a two-day productive meeting and worked together to review the project work plan and the lines of action, define immediate actions and goals, and conduct detailed planning.

READ MORE



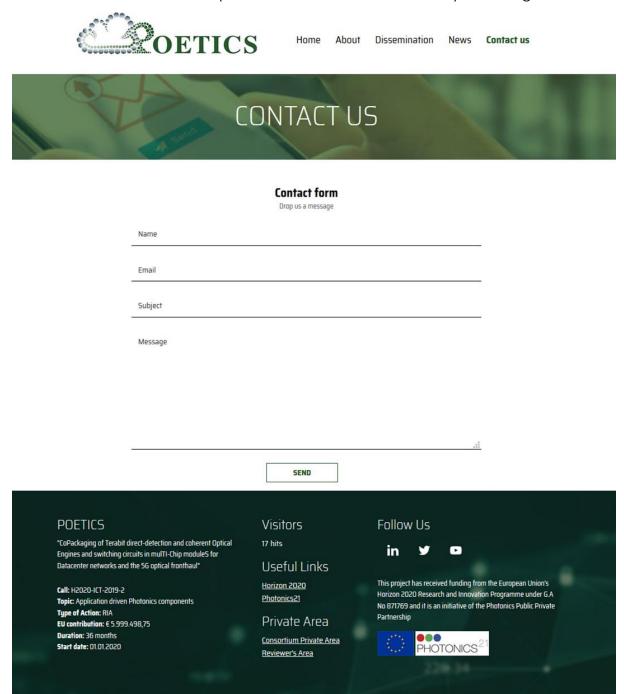
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Figure 12. 'NEWS' section



1.1.1.5 Section 5. 'CONTACT US'

The 'CONTACT US' page (Figure 13) provides a contact form which the visitor can fill in and send to the Coordination team (and administrator of the website) a message.



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Figure 13. 'CONTACT US' section

1.1.2 POETICS Website Statistics

The project website visitor statistics will be collected using a statistics tool (Google Analytics). The tool provides visitor information, geographical information, page view numbers, entry/exit pages, average browsing times and many more parameters that can help analyze the impact of the website in due course of the project.

More importantly, the tool provides accurate visitor information by filtering out bots, crawling engines and administrator activity. The statistics tool is managed by ICCS and the (confidential) data collected will be distributed in consortium meetings for discussing the impact of the website.

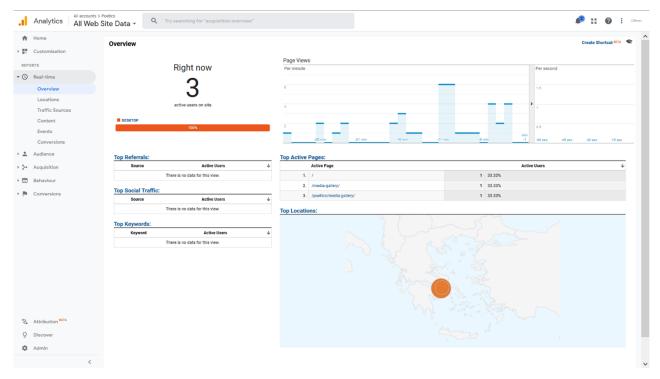


Figure 14. Google Analytics Tool for traffic statistics extraction

2 POETICS Social Media Accounts

POETICS has established social networking accounts (Twitter LinkedIn and YouTube channel), serving as additional dissemination tools. ICCS has created and will manage the following:

1. Twitter (Figure 15): The projects' twitter account can be found at the following address: https://twitter.com/poeticsH2020

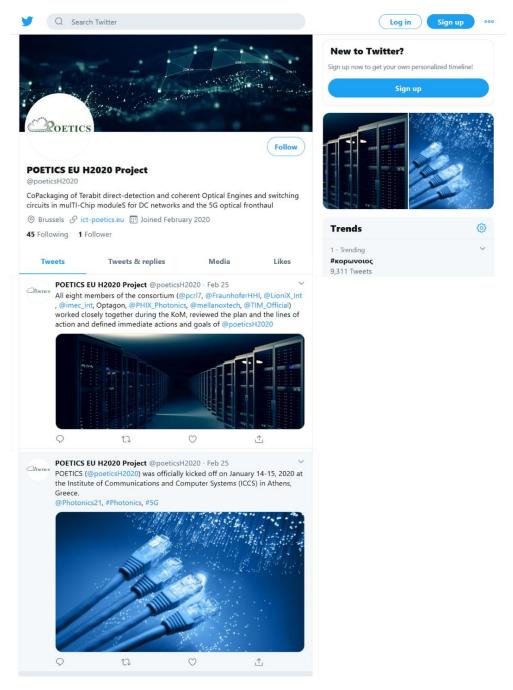


Figure 15. POETICS twitter account (@poeticsH2020)



2. LinkedIn account (Error! Reference source not found.): The projects' LinkedIn account can be found at the following address:

https://www.linkedin.com/in/poetics-project-42b07b1a3/

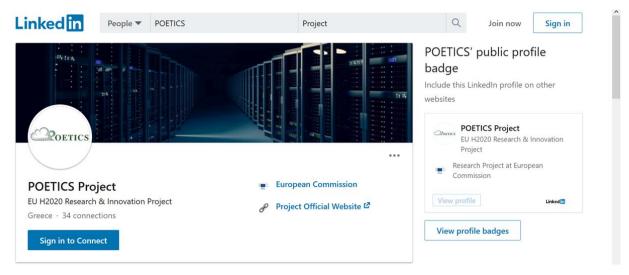


Figure 16. LinkedIn home page of the POETICS project

3. YouTube (Figure 17): The Official Video Channel on YouTube of POETICS is located at:

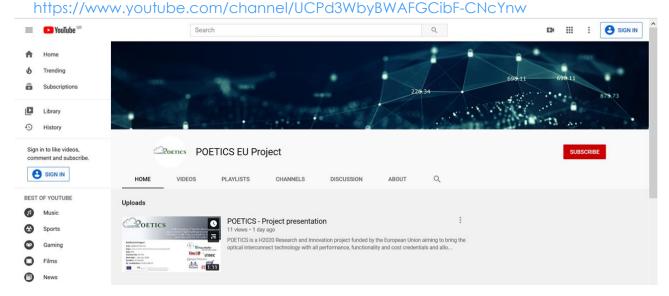


Figure 17. POETICS YouTube Channel home page



3 POETICS Online Documents Repository

To enforce the efficient administrative and technical management of the project, a Repository for the POETICS documents has been created in the very beginning of the project by the Coordination Team (CT) at the SharePoint database-Office 365.

The Online Documents Repository (https://pcrl.sharepoint.com/sites/POETICS), serves as a private area and a point of reference for the exchange of information and documents between the consortium partners.

The online documents repository is restricted to registered users only. Once a user is authenticated, the confidential content is accessible. Different groups of users (user "classes") have been defined with different privileges and variable levels of confidentiality. In specific, four user classes have been created:

- POETICS Members (Permission level: Edit)
- POETICS Owners (Permission level: Full control)
- POETICS Visitors (Permission level: Read with editing permissions in specific folders)
- POETICS Reviewers (Permission level: Restricted view and Read/download permission to the 'Reviewer's Area)

Users 'POETICS Visitors'

Through the repository the members of the consortium (POETICS Visitors) have access to the contractual documents of the project as well as to all working documents (deliverables, meting meetings, actions, etc.) which results in a complete and effective collaboration of the members of the consortium. In this repository are also included News and events related to the POETICS project so as the partners to be always informed on forthcoming conferences, workshops, etc.

The lists and documents that the partners have access through the Documents Repository are the following:

POETICS Contacts (Permission: Read): Contact details of all partners.

Contractual Documents (Permission: Read, Download): Includes all the contractual documents of POETICS (e.g. GA, Annex 1 (Part A & B), CA and the Project Handbook) and the POETICS Logo.

Deliverables (Permission: Read, Download, Add, Edit): Repository for all the deliverables.

WPs – Working place (Permission: Read, Download, Add, Edit): Repository for exchanging data, technical documents, specs, designs and any related documents POETICS partners work with.

Meetings & Telcos (Permission: Read, Download, Add, Edit): Info for all meetings (presentations, arrangements, minutes): Regular Monthly Telco, Bilateral meetings/telco, Project meetings.

Project Reviews (Permission: Read, Download, Add, Edit): Repository for the Review Progress Reports and Review presentations.

Dissemination Actions (Permission: Read, Download, Add, Edit): Presentations, Press releases, Communication kit, etc.

Reviewer's Area (Permission: Read, Download): Contractual Documents and POETICS Deliverables



In the Figure 18 below is shown the Home page of the POETICS Documents repository which is accessible by all partners.

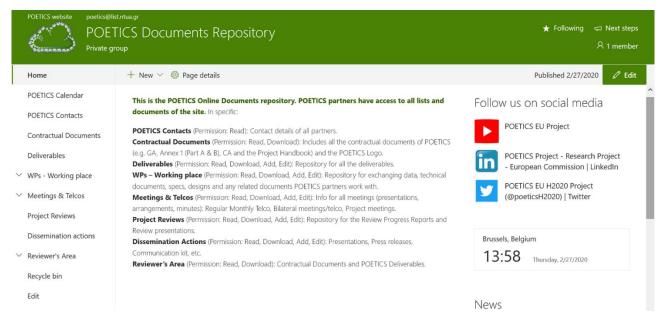


Figure 18. POETICS Online Documents Repository - Home page at the SharePoint site of POETICS.

Users 'POETICS Reviewers'

A Dedicated Private area has been designed for the Project Officer and the Reviewers of the project through which will have access to the contractual documents of the project as well as to the deliverables of the project.

In the Figure 18 below is shown the Home page of the POETICS Documents repository which will be accessible by the users of the site with 'POETICS Reviewers' user permission.

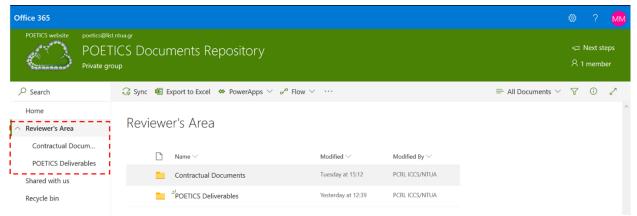


Figure 19. Screenshot of the 'Reviewers' Area' folder at the POETICS Online Documents Repository.



4 Conclusions

The website of the project and the social media accounts have been prepared and set up. The website and the accounts have been populated with relevant material and all the latest info. A structure of the website and detailed information on each webpage has been also documented. The website, the social media accounts and the POETICS Online Documents repository at the SharePoint are being administrated and moderated by ICCS. The website will be updated periodically with all the latest news and relevant newsletters and improvements of the "look-and-feel" of the website will be continuously done in order to enhance its visitation.



List of Figures

Figure 1. 'About POETICS Project' section at the 'HOME' section	9
Figure 2. 'News', 'Partners' sections at the 'Home' page	.10
Figure 3. Footer section of the website included at each page	. 10
Figure 4. 'ABOUT' section - 'Concept' page	
Figure 5. 'ABOUT' section - 'Objectives' page	.12
Figure 6. 'ABOUT' section - 'Consortium' page	.13
Figure 7. 'DISSEMINATION' section - 'Publications' page	.14
Figure 8. 'DISSEMINATION' section - 'Public Documents' page	.15
Figure 9. 'DISSEMINATION' section - 'Press Releases' page	.15
Figure 10. 'DISSEMINATION' section - 'Deliverables' page	.16
Figure 11. 'DISSEMINATION' section - 'Media Gallery' page	.16
Figure 12. 'NEWS' section	.17
Figure 13. 'CONTACT US' section	. 18
Figure 14. Google Analytics Tool for traffic statistics extraction	. 19
Figure 15. POETICS twitter account (@poeticsH2020)	. 20
Figure 16. LinkedIn home page of the POETICS project	.21
Figure 17. POETICS YouTube Channel home page	.21
Figure 18. POETICS Online Documents Repository - Home page at the SharePoint site of	
POETICS	. 23
Figure 19. Screenshot of the 'Reviewers' Area' folder at the POETICS Online Documents	
Repository	. 23

List of Tables

No table of figures entries found.