



# Deliverable 6.6

## Final report on dissemination activities

Period covered by the report: 01/05/2017 - 30/09/2021



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 741527 and runs from May 2017 to September 2021.

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<b>Version</b>	<b>Contributors</b>	<b>Comments</b>
1.0	VA	CRG



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## Executive summary

The aim of the ORION Open Science was to explore ways in which research performing and research funding organisations in life sciences and biomedicine can open up the way they fund, organise and do research. During the project lifetime we have developed and tested a wide range of engagement methods, funding schemes, training materials and co-creation activities to engage the public in science. Communication and dissemination activities have been important and integral parts for the success of the project.

The outreach and embedding Work Package, WP6, was led by VA (Public & Science), which has been responsible for the overall communication management of the ORION project, whereas all partners have supported and contributed to the communication and dissemination activities. WP6 set the framework for project communication through the Dissemination and Communication Plan (D6.1), by giving communication support to the other WPs, by communicating and disseminating project information through different channels and by promoting the project objectives and activities to relevant stakeholders: business and industry, research community, educational community, policy makers and civil society organisations.

This final report on dissemination activities covers all the communication and dissemination activities from the project start on 1 May 2017 until the project end on 30 September 30 2021.



## Introduction

The overarching goals of WP6 “Outreach and embedding” was to raise awareness and communicate about project objectives, activities and results among stakeholders, to support project partners in their communication activities and to create opportunities for the stakeholders to contribute to the project. This has been achieved by using a wide range of communication channels, including the project website, the partners’ websites on ORION (and Open Science), the quarterly project newsletter, social media (Facebook, LinkedIn, Twitter and YouTube), conferences, workshops, presentations as well as articles and podcasts. Dissemination and communications activities have been designed and planned to target the key audiences and stakeholders and to maximise awareness of ORION’s objectives and results.

The WP leader VA developed at the start of the project an extensive communication and dissemination plan (D6.1) which provided the framework for communicating, disseminating and embedding the knowledge generated during the ORION project. The plan outlined the communication and dissemination strategy for the ORION project as well as an Action Plan containing detailed actions and timescales for external and internal communication, digital and written media. A revision of the plan was made in May 2018.

### Task 6.1 Communication & dissemination management

A variety of communication channels have been set up within the ORION project to reach, communicate and disseminate tailored messages to the different stakeholder groups. The reason for using several different communication channels is to offer the stakeholders interested in the project or in Open Science and Responsible Research and Innovation (RRI) practises a choice of channels through which they can receive information about the project. VA has been responsible for the overall communication management and all ORION partners have been encouraged to disseminate and engage in dialogues with different stakeholders through the organisation and attendance of workshops, events and courses, as well as through the organisation of ORION activities in all the different WPs (especially WP2, WP3 and WP4).

The ORION communication channels are the following:

- Project website, <https://www.orion-openscience.eu/>
- Institutional webpages on partners’ websites
- Newsletter
- Facebook, <https://www.facebook.com/ORIONOpenScience/>
- Twitter, [https://twitter.com/ORION\\_opensci](https://twitter.com/ORION_opensci)
- LinkedIn, <https://www.linkedin.com/company/orionopenscience/>
- YouTube, <https://www.youtube.com/channel/UCovcn92bS6OMmFyT3FetWYw/featured>
- Podcasts, including Twitter account (created and managed by WP4)  
[https://twitter.com/OOSP\\_ORIONPod](https://twitter.com/OOSP_ORIONPod)

Considering the diverse nature of all communication channels, they are presented separately, including brief description of the context and statistics of each channel.



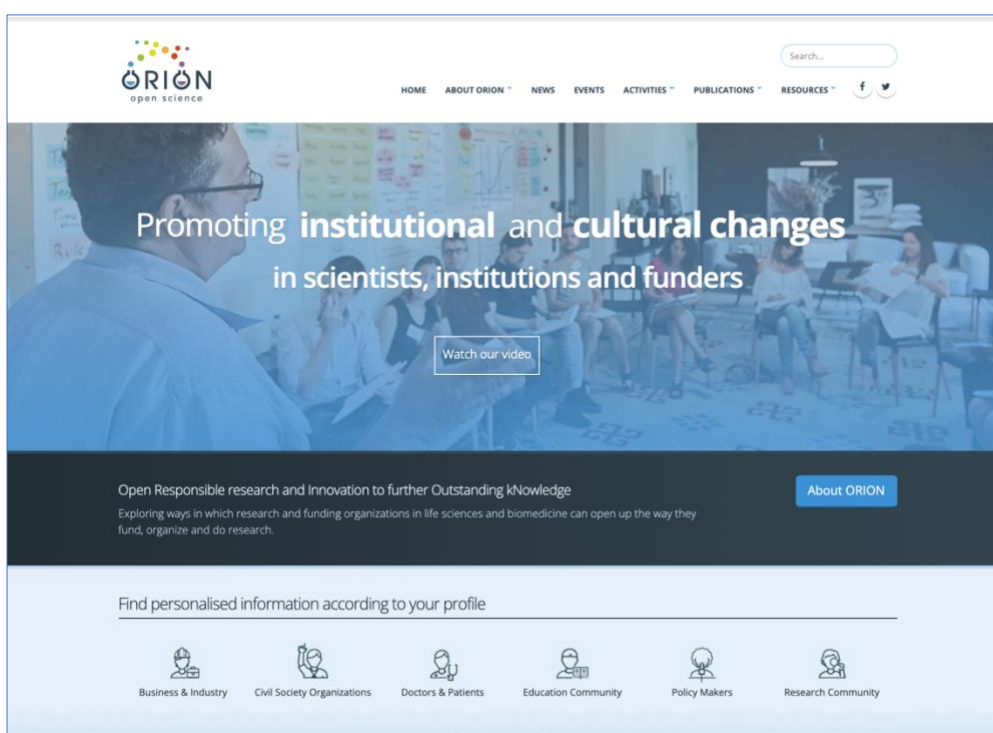


## Task 6.2 ORION project website and institutional Open Science web pages

The project website <http://www.orion-openscience.eu/> has been the communication node for the project where all project related information, such as news, events, publications, inspiring stories, projects, training materials, event information and deliverables, can be found. VA has been the main partner responsible for the website updates together with CRG. By sharing responsibilities, the website has been up-to-date content-wise and 1-2 news items have been published every month throughout the project. CRG has hosted the website and will continue to host it beyond the life of the project so that all resources will remain accessible. Resources will also be uploaded on open repositories like [Zenodo](#), RRI Tool and FOSTER platforms.

The website was developed by CRG, VA and the company Scienseed, with a modern and interactive user experience interface. Specific efforts were made to ensure an easy-to-read design that is responsive and has a high contrast in colour (background and text) in order to enhance the user experience and work across different devices.

To facilitate the search for relevant content and information for specific users, a stakeholder banner was built in the main image, which has helped users to be redirected to relevant content, depending on which stakeholder group they belong to.



Screenshot ORION website



## How to be involved in ORION?

The four research performing organizations within ORION (CEITEC, BI, MDC and CRG) are functioning as a testing ground for the different Open Science approaches (e.g. public dialogues, citizen science calls) and the evaluations of institutional change in each of them. Researchers will also be the beneficiaries of our [training and educational resources](#).

Researchers are a key target group that we wish to support in becoming better informed about Open Science, to enable this ORION provides a range of training and educational resources.

For additional info, take a look at the **content selected for you** here below and visit the [RRI Tools website](#).

### NEWS

Inspiring story - Harvesting the fruits of citizens' collaboration in the development of the Genigma game

[All →](#)

### ACTIVITIES

ORION Open Science Train-the-Trainer Online Course

Public dialogue on genome editing in Prague

[All →](#)

### PUBLICATIONS

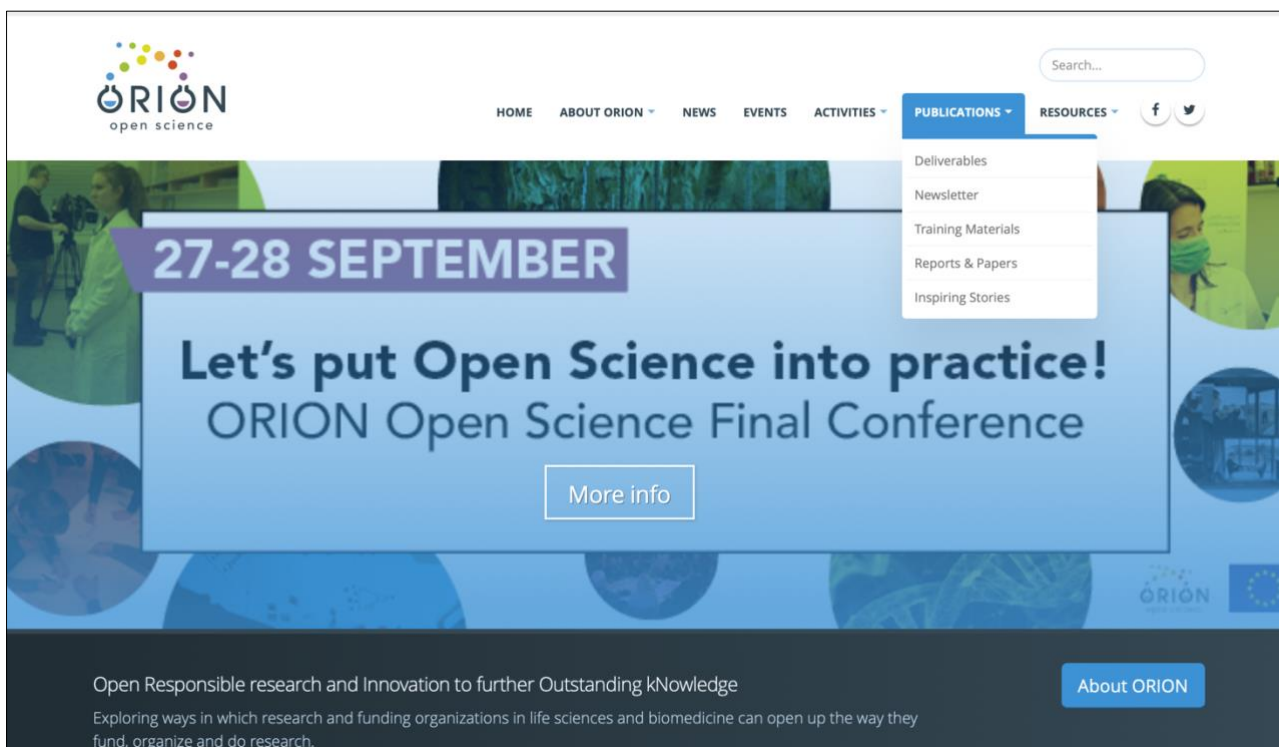
D5.5 Final evaluation report on trainings

5.4 Final evaluation report on co-creation experiences

[All →](#)

Screenshot of the stakeholder specific webpage for the research community

New features have regularly been added to support new evolving activities during the project lifetime. The main menu covers the following sections; Home, About ORION, News, Events, Publications and Resources. The latest addition to the menu is the *Inspiring stories* under the Publications section that contains 11 inspiring stories which captures the EUREKA moment of ORION activities.



The screenshot shows the ORION website header with a navigation menu: HOME, ABOUT ORION, NEWS, EVENTS, ACTIVITIES, PUBLICATIONS, and RESOURCES. The PUBLICATIONS menu is open, showing options: Deliverables, Newsletter, Training Materials, Reports & Papers, and Inspiring Stories. Below the menu is a large banner for the "27-28 SEPTEMBER Let's put Open Science into practice! ORION Open Science Final Conference" with a "More info" button. At the bottom, there is a footer with the text "Open Responsible research and Innovation to further Outstanding kKnowledge" and an "About ORION" button.


Screenshot of the ORION website and the Publications drop down menu



HOME > PUBLICATIONS


# Inspiring Stories

VIEW EDIT DEVEL



### Aligning an entire country to develop an Open Science action plan

Taking Open Science ideas and putting them into practice is a challenge. Even at institutional level there are many different stakeholders with different motivations and challenges who need to support Open Science initiatives. At a national level, these challenges are even greater with many institutions and governing bodies needing to find common ground. This is a challenge that has been taken up in the ORION project and the Czech partner CEITEC - the Central European Institute of Technology, set about changing the way that their institution engaged in Open Science.




### Encouraging co-creation through a funding call


A major goal of the ORION project was to open a funding call that encouraged different stakeholders to come together and present new and innovate ways to make science more accessible and participatory. The overall aim of this funding call was to support long-term collaboration between unusual/different stakeholders.

[View details](#)


**RECENT PUBLICATIONS**



**D5.5 Final evaluation report on trainings**  
Wed, 10/06/2021 - 09:07




**5.4 Final evaluation report on co-creation experiences**  
Wed, 10/06/2021 - 08:56



**D4.4 Final report on the training work package**  
Tue, 10/05/2021 - 13:45

**Tweets** by @ORION\_opensci



**ORION Open Science** @ORION\_opensci

The ORION project has officially ended but we're now making sure that all our project deliverables, activities & resources are easy to

Screenshot of Inspiring stories webpage

Web statistics can provide more information about the audience, and their behaviour, e.g. who visits the website, how long do they stay, where are they located (demographics), most popular pages, gender, how they arrive at the website, the number of new visitors and much more.

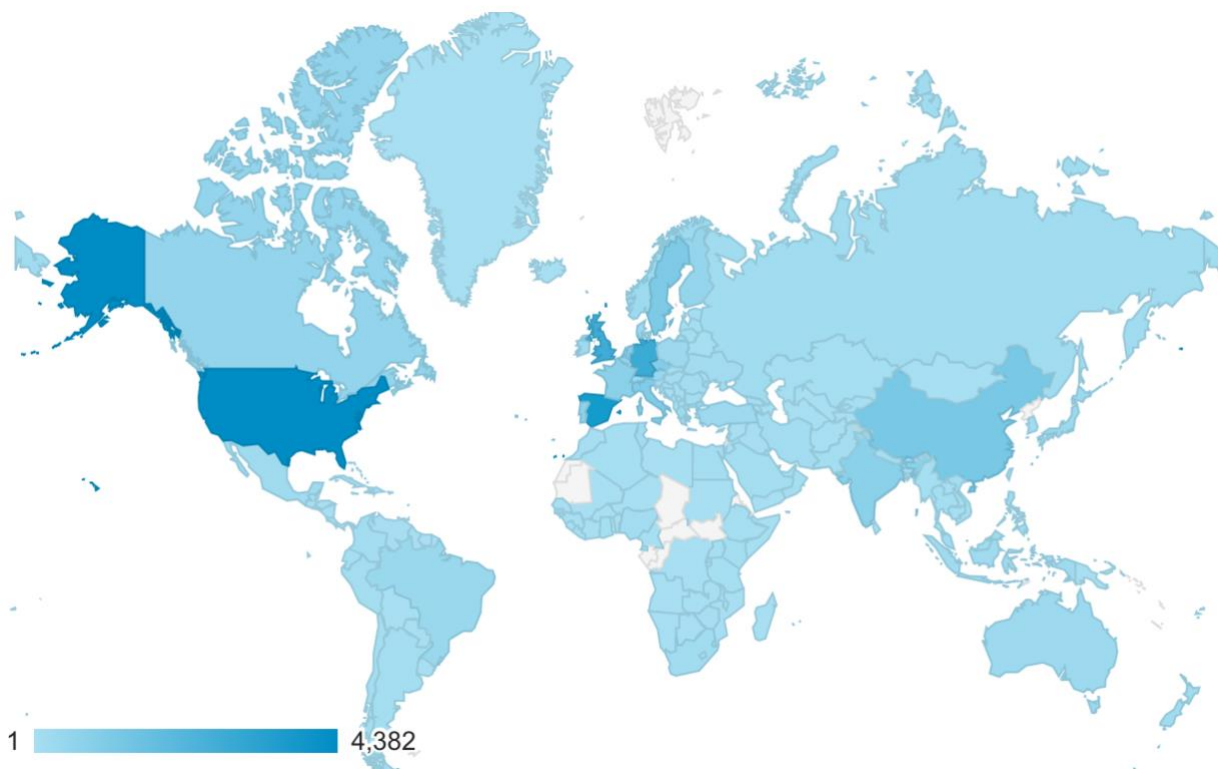
According to the statistics from Google Analytics, the ORION project website has had more than 95 000 page views by close to 32 000 different users over the project lifetime (1 May 2017 – 30 September 2021). The number of users has grown steadily during the project lifetime.

A larger proportion of the visitors, 86%, are new to the website and only 14% are returning visitors. This low percentage of returning visitors is probably due to the fact that the ORION project and its activities have changed continuously throughout the project lifetime explored and built new knowledge and collaborations, and therefore constantly attracted new audiences.


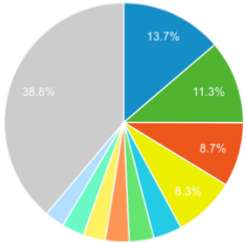









The majority of the ORION website users come from the US, ORION partner countries Spain and UK, followed by China, whereas users during the first half of the project mostly came from ORION partnering countries Spain, Germany, Czech Republic, Sweden and Italy.







ORION website users across the globe

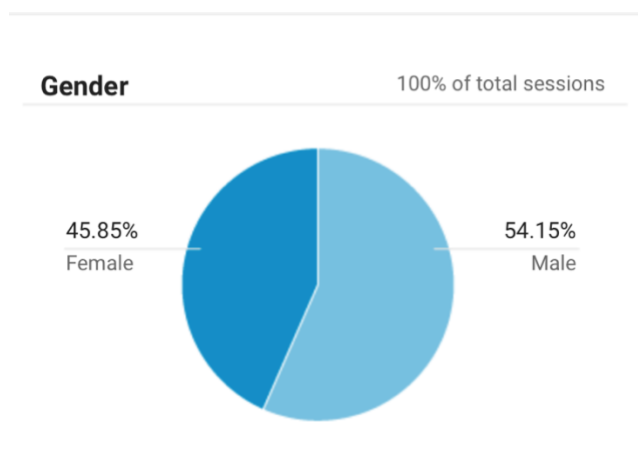
Country	Users	Users	Contribution to total: Users
	<b>31,705</b> % of Total: 100.00% (31,705)	<b>31,705</b> % of Total: 100.00% (31,705)	
1.  United States	<b>4,382</b>	13.75%	
2.  Spain	<b>3,602</b>	11.30%	
3.  Germany	<b>2,766</b>	8.68%	
4.  United Kingdom	<b>2,660</b>	8.35%	
5.  China	<b>1,237</b>	3.88%	
6.  Sweden	<b>1,065</b>	3.34%	
7.  Italy	<b>1,017</b>	3.19%	
8.  Singapore	<b>961</b>	3.01%	
9.  Czechia	<b>956</b>	3.00%	
10.  Netherlands	<b>853</b>	2.68%	

ORION website users by country during 2021



ORION has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 741527.

The ORION website visitors equally represent both sexes; 46% women and 54% men. Most visitors are between 18 and 34 years old.



*Gender of website visitors*

Half of the users find the website by searching for ORION Open Science on the internet, 30% via direct links to webpages (one source is the ORION newsletter), 10% through referrals from other websites and newsletters, and 10% via the social media accounts. Twitter is the main source for social referral, followed by Facebook, LinkedIn and YouTube.

The website section and pages that have generated the largest number of views are the following:

- [/resources/open-science](#)
- [/about \(ORION project\)](#)
- [/about/partner-institutions](#)
- [/activities/training](#)
- [/events](#)
- [/news](#)
- [/about/team](#)
- [/activities/co-creation](#)
- [/publications/training-materials](#)
- [/news/201901/would-you-live-forever](#)

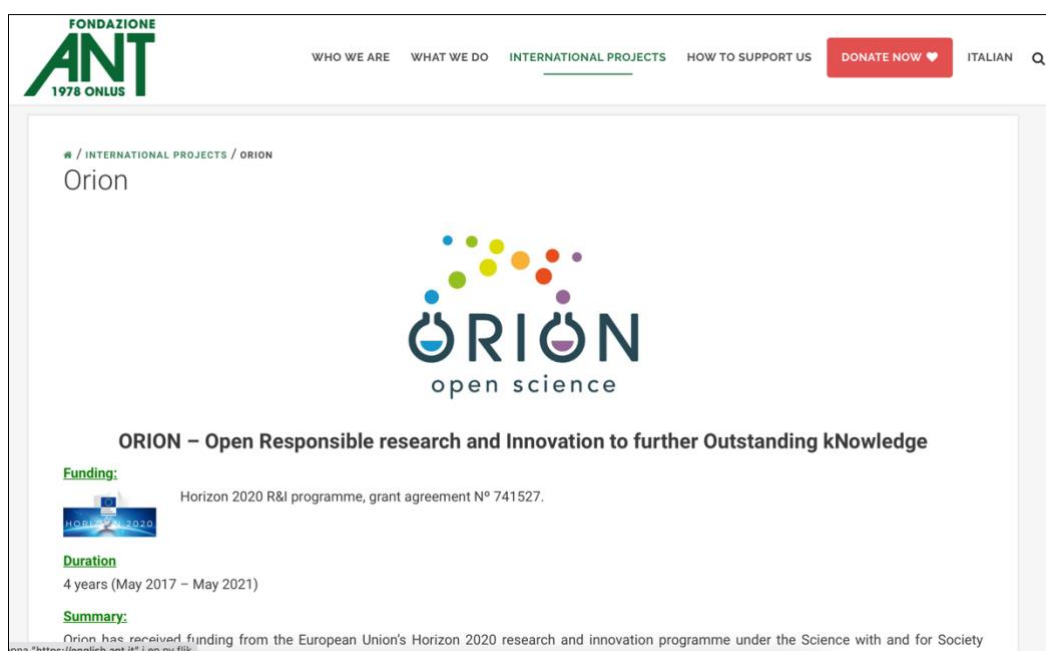
## **Institutional ORION and Open Science web pages**

To further communicate and disseminate information about the project, each partner has created dedicated webpages to the ORION project as well as to Open Science and/or RRI on their institutional website. The design, content and the use of these webpages differ between the partners, some have only a brief ORION project description and some include blogs, news and events to the webpage. Most partners have set up webpages in their local language and some also in English. A brief presentation of the institutional webpages follows below. Whereas the ORION partner use google analytics for measuring website performance, these statistics are included in the presentation.



## [Assistenza Nazionale Tumori, ANT](#)

ANT has created one webpage <https://english.ant.it/international-projects/orion/> dedicated to the ORION project which gives general information on the project and a separate webpage with basic information on the Genigma citizen science project.

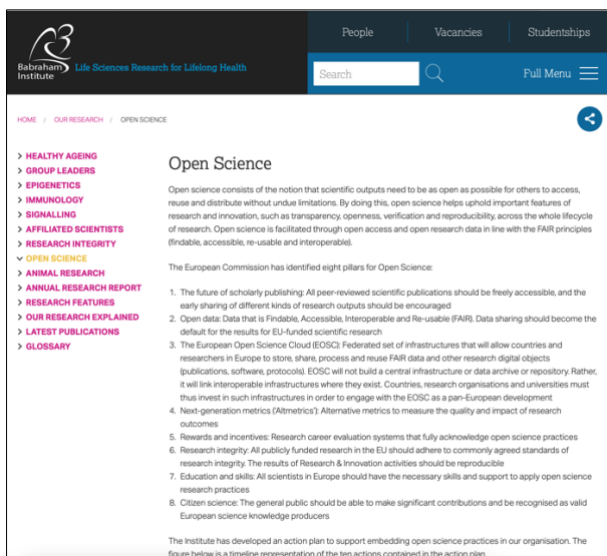


Screenshot of the ANT ORION webpage

## Babraham Institute, BI

A "Special Projects' page" for the ORION project was created on 5 September 2017: <https://www.babraham.ac.uk/about-us/impact/public/special-projects> It has had close to 800 page views since the start of the project. Originally this was the main ORION page for the Institute. This page was split on 6 April 2021, to <https://www.babraham.ac.uk/about-us/impact/public/special-projects/orion> which has had 97 views since then. This is now the main page with full details on the ORION project, and the above page has just a paragraph summary. A new Open Science webpage, which includes the BI Action plan for Open Science, was created on 28 July 2021 and has already had 115 page views <https://www.babraham.ac.uk/our-research/open-science>.

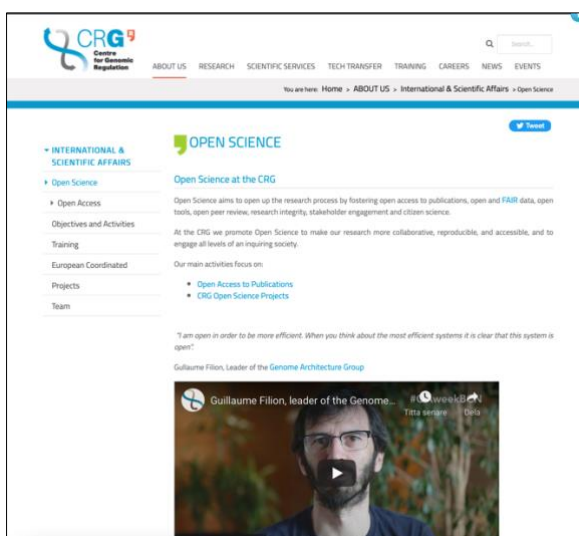




Screenshot of Babraham Institute's newly created Open Science webpage

## Centre for Genomic Regulation, CRG

The CRG has created 4 webpages in relation to the ORION project and Open Science; ORION, Open Science, Open Access, Open Access Policy FAQs and. The ORION project page <https://www.crg.eu/en/content/research/projects/ec-coordinated/orion> has had 385 page views since its creation. The Open Science webpage gives information on how the CRG is working with Open Science: <https://www.crg.eu/content/about-us-international-scientific-affairs/open-science>, including the link to its new Strategic Plan 2021-2024. It has had close to 1300 page views by 900 users since it was published. The Open Access webpage includes the CRG Open Access policy: <https://www.crg.eu/content/about-us-international-scientific-affairs-open-science/open-access> and has attracted close to 600 views since its' creation. In addition to these pages CRG has also published a webpage with Frequently asked questions on Open Access policy.



Screenshot of CRG's Open Science webpage

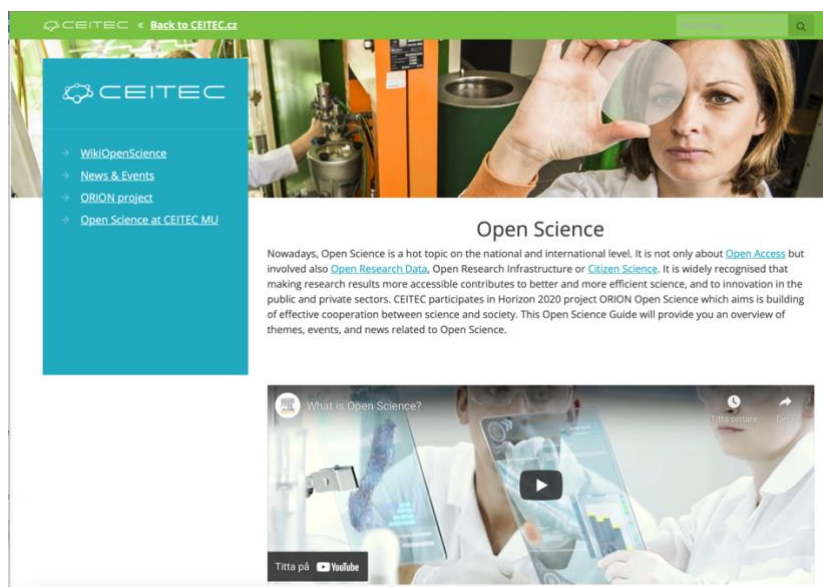


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## The Central European Institute of Technology, CEITEC

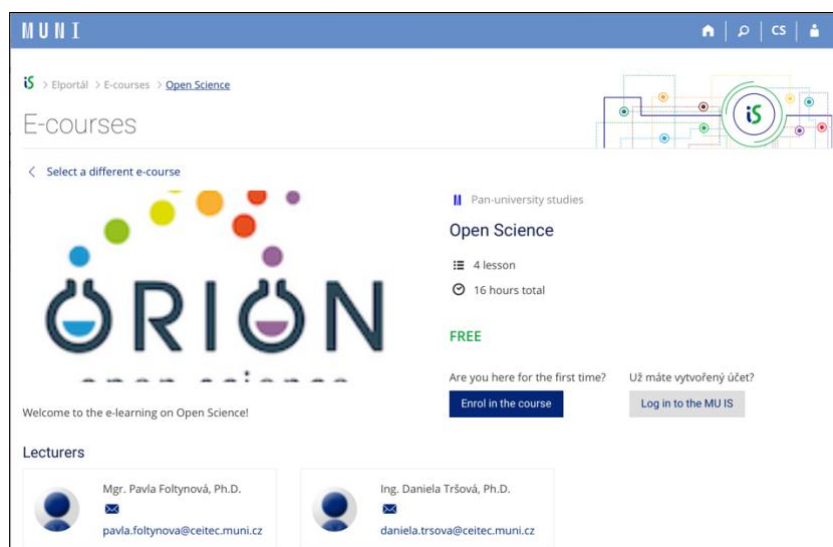
The CEITEC has created a mini platform for Open science on its main website:

<http://openscience.ceitec.cz>. This includes a Wiki on Open Science, news and events related to ORION and Open Science, a presentation of the ORION project as well as a dedicated page on how Open Science is implemented at CEITEC which includes their Action plan on Open Science.



Screenshot of CEITEC's Open Science webpage

In addition to this, CEITEC has also launched a free [Open Science E-learning platform](#) which contains four lessons on different aspects of Open Science; the concept and principles of Open Science, Open Access publishing, Open Science data management practices and how to apply the FAIR principles. The e-learning course is available in both English and Czech.



Screenshot of the Open Science E-learning platform





## The Centre for Research in Science and Mathematics Education, CRECIM

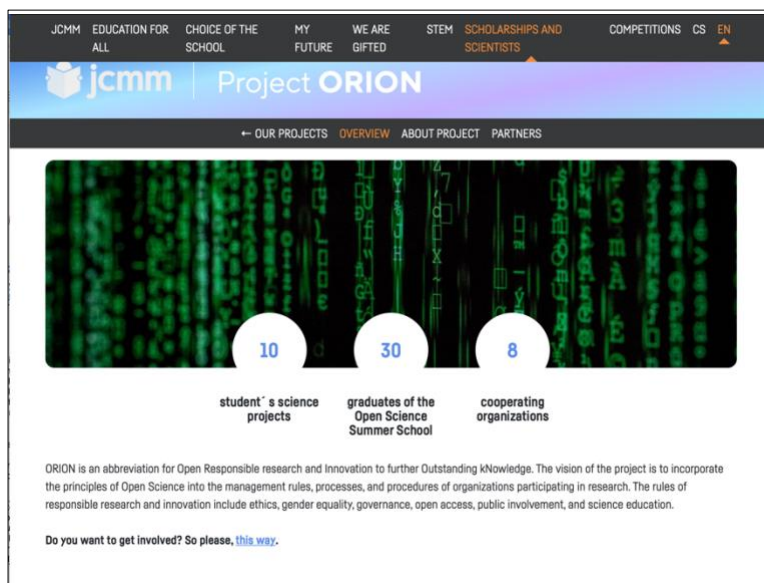
CRECIM has a dedicated webpage: <https://crecim.cat/en/open-responsible-research-and-innovation-to-further-outstanding-knowledge-orion/> for the ORION project which also contains information on project deliverables.



Screenshot of the CRECIM ORION webpage

## South Moravian Centre for International Mobility, JCMM:

The JCMM has created two webpages dedicated to the ORION project, one in Czech and one in English: [http://www.jcmm.cz/projekt/orion\\_en](http://www.jcmm.cz/projekt/orion_en). Both language versions contains information on the ORION project, on Open Science, events and projects. The Czech version of the page has had 125 page views since its launch.



Screenshot of JCMM's ORION webpage



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## Max Delbrück Center for Molecular Medicine in the Helmholtz Association, MDC

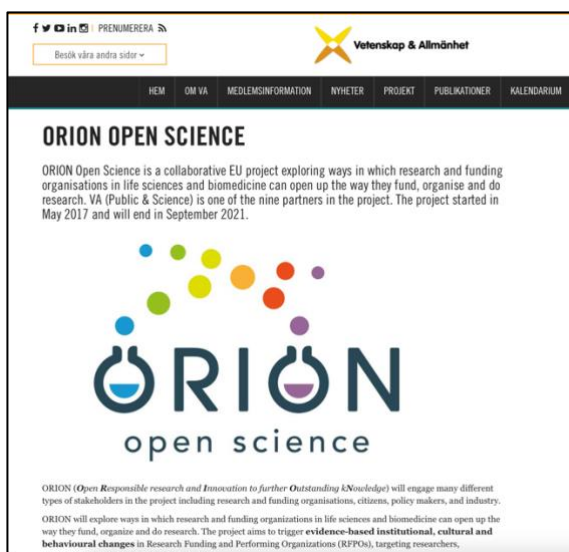
The MDC has created a web page which gives information on both the ORION Open Science project and Open Science: <https://www.mdc-berlin.de/orion-open-science> Up till the project end date, the web page had had 941 views.



Screenshot of MDC's Open Science and ORION webpage

## VA Public & Science

VA has created a specific webpage for the ORION project both in English: <https://v-a.se/english-portal/projects/orion/> and in Swedish: <https://v-a.se/paverkan-och-utvecklingsarbete/orion-open-science/>. The webpages contain general project information as well as forthcoming events and articles. The Swedish version has had close to 500 views since its launch.

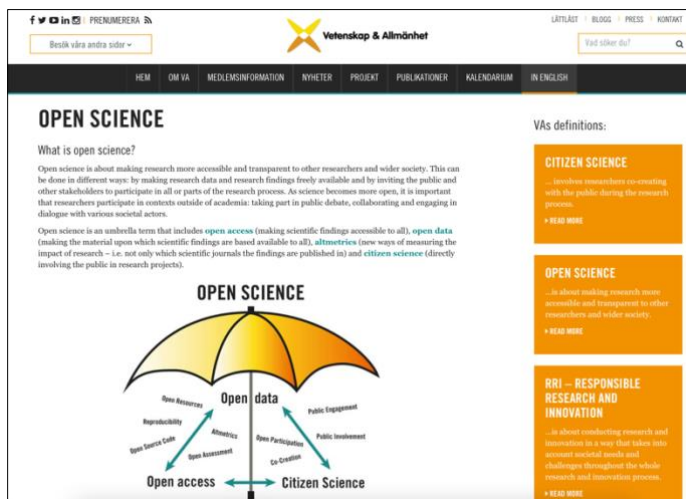


Screenshot of VA's ORION Open Science webpage



ORION has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 741527.

A specific webpage for Open Science was also created on the VA website to inform and promote Open Science: <https://v-a.se/english-portal/open-science/>. A similar page was also published in Swedish: <https://v-a.se/oppnen-vetenskap/>, which has had close to 600 page views since its creation in late 2019.

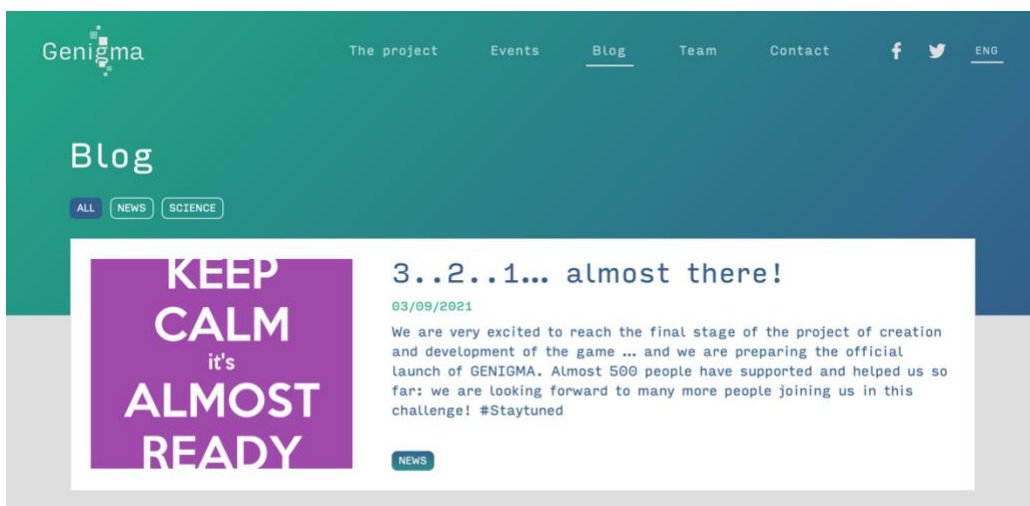


Screenshot of VA's Open Science webpage

## Additional web pages

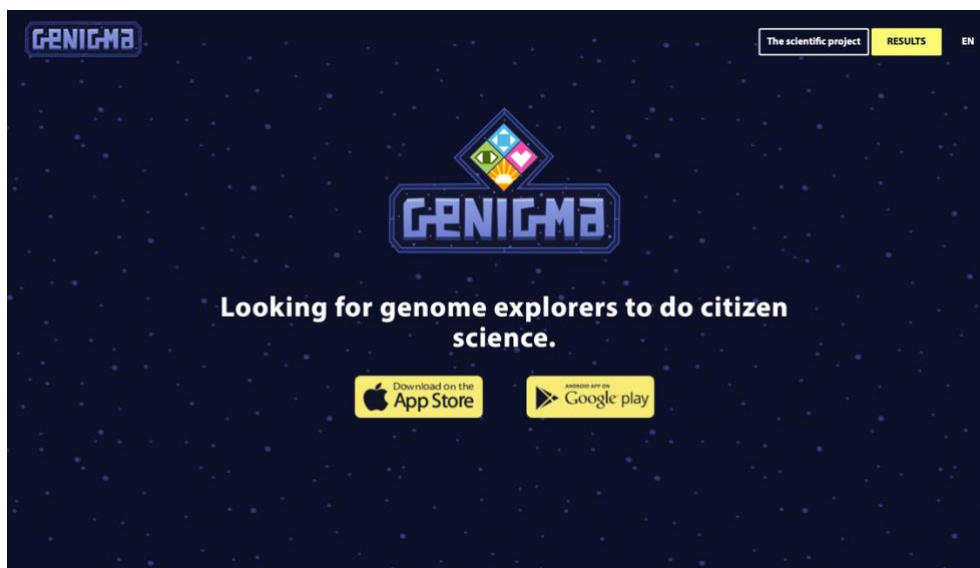
In collaboration with the WP6 leader specific webpages have also been created for the [co-creation projects](#) ([Genigma](#), [MELTIC](#) and [SMOVE](#)) on the ORION website and on each of the responsible partners' websites.

**Genigma** Citizen Science project website: <https://genigma.app/?lang=en>. Genigma game website: <https://genigmagame.app/en/#>



Screenshot of the Genigma website





Screenshot of the Genigma game website

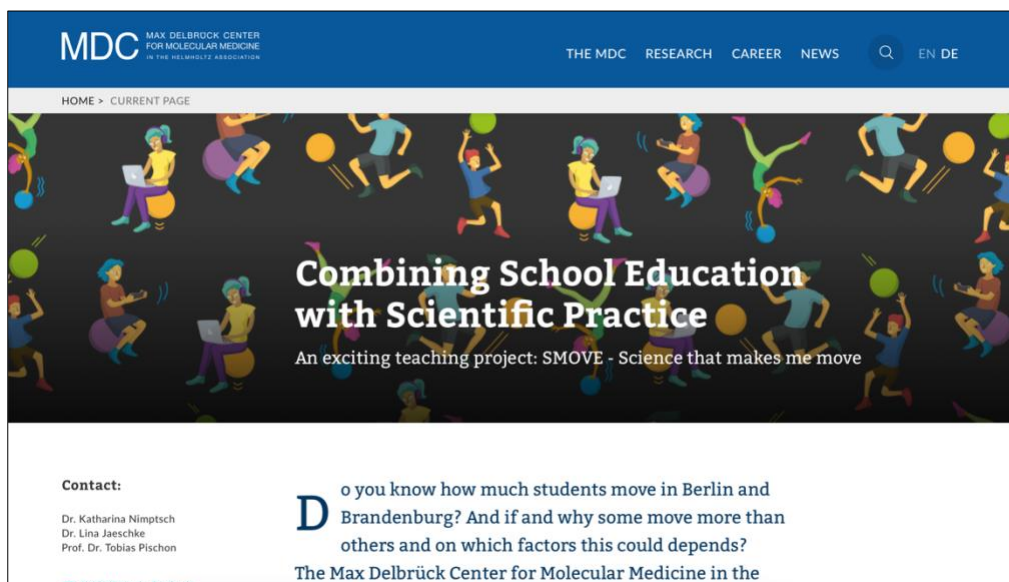
**MELTIC** - Ideas MELting pot for TIC and Health Science for Citizens in Small communities:  
<https://www.isciii.es/QuienesSomos/CentrosPropios/UITES/Paginas/ProyectosdeInvestigacion.asp>



Screenshot of the MELTIC project webpage on the ISCIII website

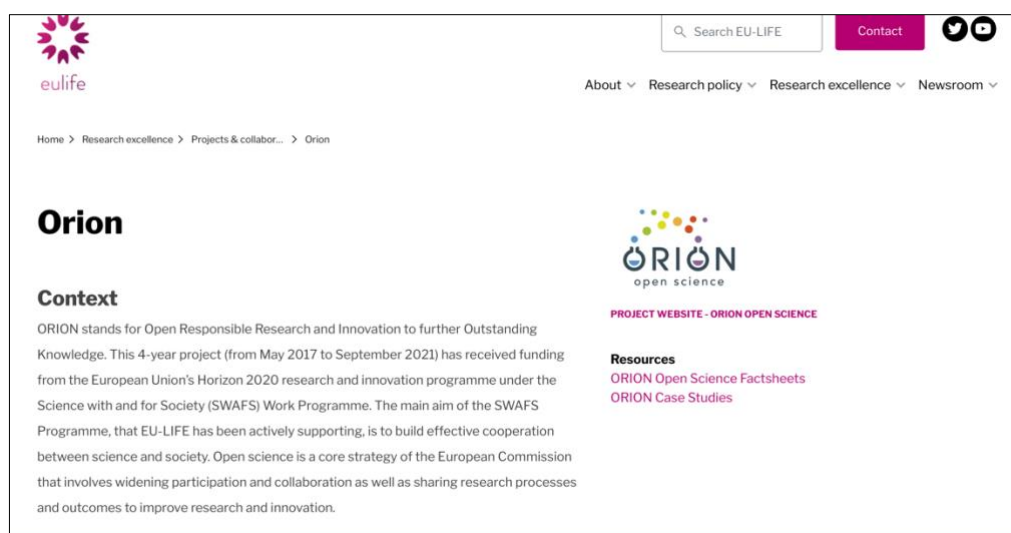


**SMOVE** – Science that makes me move, project website: <https://www.mdc-berlin.de/content/combining-school-education-scientific-practice>



Screenshot of the SMOVE webpage on the MDC website

One of the [ORION associated partners](#) EU-LIFE, the European alliance of life science research institutes, has also published a dedicated [webpage](#) for the ORION Project on its website:



Screenshot of the EU-life webpage on ORION.



ORION has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 741527.



## Task 6.3 ORION social media platform and other communication channels

Five social media accounts were set up during the ORION project: two on Twitter, Facebook, LinkedIn and YouTube. The aim with these accounts has been to showcase and communicate the activities and the results of the project to the different target audiences. Social media has also been used to disseminate information broadly, create dialogue, interact with the larger Open Science and RRI community and reach new audiences. VA has been responsible for ensuring regular social media postings and monitoring accounts, although all partners have been encouraged to post and share information.

Posts on social media have always included relevant links to resources, activities, events or news on the ORION website in order to direct people to the website. In addition to ORION's own posts, the project follows other accounts of interest and shares, likes and retweets interesting and related content from other EU projects and from stakeholders relating to all aspects of Open Science and RRI.

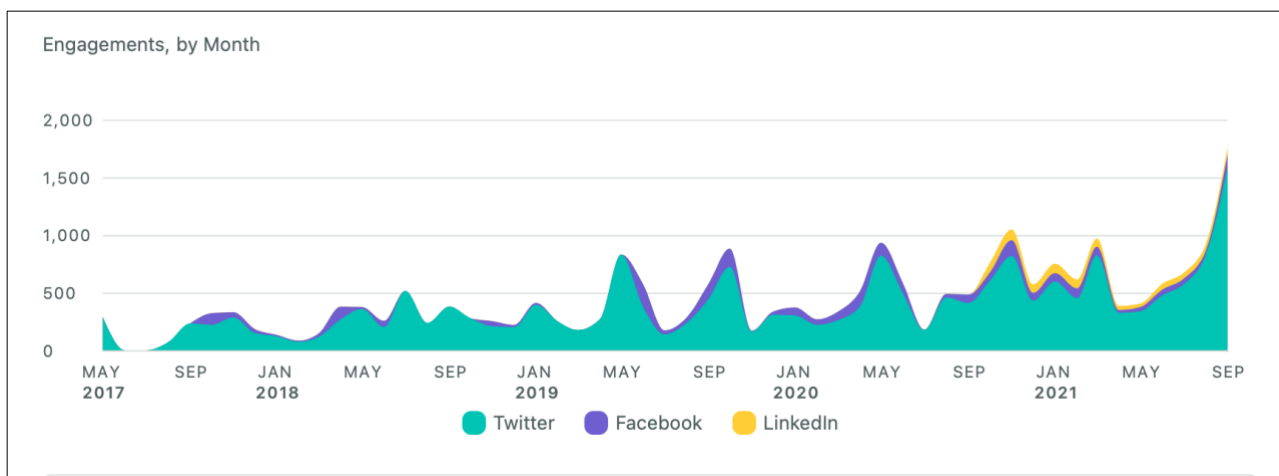
The content of posts in the different social media accounts is more or less the same, with the exception of Twitter where messages cannot be larger than 280 characters. The Facebook account is used more for publishing and promoting ORION events. All posts contain # hashtags for words related to the project, e.g. #lifesciences #openscience #Cocreation, #publicengagement, #RRI. Social media handles @ and the organisation's name, are used to highlight relevant people or organisations e.g. @EU\_2020 (European Commission's official Horizon 2020 Twitter account). All social media accounts have been managed and monitored daily by VA.

The Social Media accounts have their own analytics to track their impact and (mostly) their reach. Drawing from the standard analytics data available for these media, VA has delved further into understanding the presence and progress of the ORION project. However, in order to manage and monitor the project's impact and engagement in digital media properly, specific engagement tools – Meltwater and Falcon, have been used.

By monitoring audience behaviour, i.e. how much the ORION Open Science project has been mentioned in social media by all our followers, we can gain an understanding of who and how many people that have potentially been reached with information about the project, which country they are from, which languages are primarily used and the division between men and women. Potential reach is the total number of people that we are able to reach through followers across all social media channels. Engagement refers to the number of occasions where followers have interacted i.e. liked, shared/retweeted, commented, clicked on links etc.

There has been quite a lot of engagement from the ORION audience within the three social media accounts throughout the project, with a peak at the end of the project and the final conference. This is shown in this graph.





News about the project have been picked up by ORION fans and spread around the globe, as shown by the statistics for each of the social media accounts below (apart from Twitter). However, it should be noted that the maps do not show the physical position of the user/follower but the location of the computer hub where the social media account is registered.

### Twitter accounts: @ORION\_opensci & @OOSP\_ORIONpod

Twitter is the channel that has had the largest growth and reach during the project. The channel has been used for daily news postings about the project and its activities. The ORION Twitter account has, apart from the website, been the primary digital communication channel. Two twitter accounts were set up during the ORION project; the account @ORION\_opensci, set up in 2017, which has served as the official account, plus the @OOSP\_ORIONpod which has been dedicated to tweet about the ORION podcast. This account was set up at the beginning of 2019 at the launch of the podcast series.



Screenshots of the two ORION twitter accounts

The @ORION\_opensci channel has been used for daily and general news postings about the project and its activities. The ORION Twitter account has, apart from the website, been the primary digital communication channel. Nearly all posts published on the ORION twitter account contained a link to



the project website which consequently has driven traffic to the website. The number of followers has nearly doubled since the Mid-term communication report (D6.3) in 2018. At the end of September 2021, the account had close to 2000 followers, followed more than 1000 accounts and had made close to 2100 twitter posts. During the last year of the project lifetime, the total reach of the twitter account was 350000 persons.

The top three tweets with the major reach during this period were:



10 March 2021, reach; 5400



25 May 2021, reach; 4800



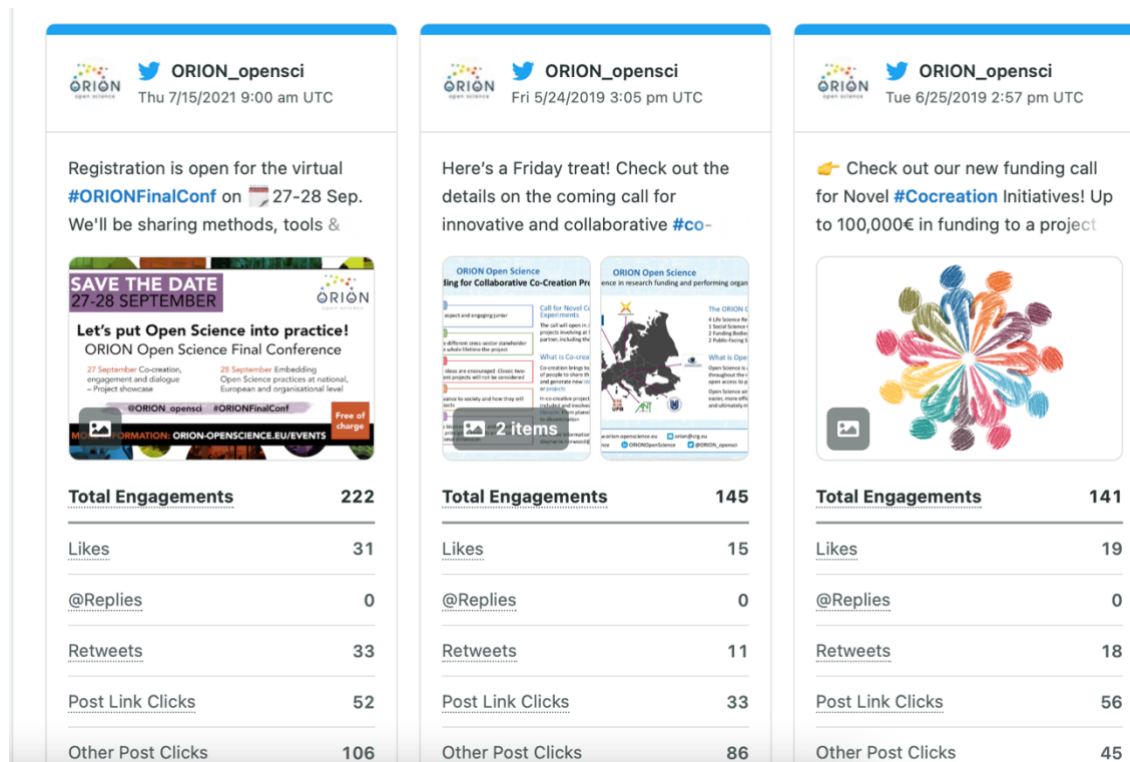
24 August 2021, reach; 3600

The top three posts with the maximum potential reach, i.e. the total number of people who may have seen the tweet (including followers retweet) for the same period are:

Tweet Content	Potential Reach
<p>Did you know that the @ORION_opensci project has produced some hands... <a href="https://t.co/223wklir2G">https://t.co/223wklir2G</a></p> <p><b>ORION OPEN SCIENCE FACTSHEETS</b> Brief, informative, and easy-to-understand one-page factsheets on Open Science topics</p>	163,154
<p>Enroll today for the coming @ORION_opensci #MOOC for #OpenSci... <a href="https://t.co/vXTWbb0N4s">https://t.co/vXTWbb0N4s</a></p> <p>Enroll today for the coming @ORION_opensci #MOOC for #OpenSci... <a href="https://t.co/vXTWbb0N4s">https://t.co/vXTWbb0N4s</a></p>	153,828
<p>Thanks to all speakers &amp; participants at #ORIONFinalConf for making the event a great success! We'll ... #opencscience</p> <p>Thanks to all speakers &amp; participants at #ORIONFinalConf for making the event a great success! We'll ... #opencscience</p>	111,191

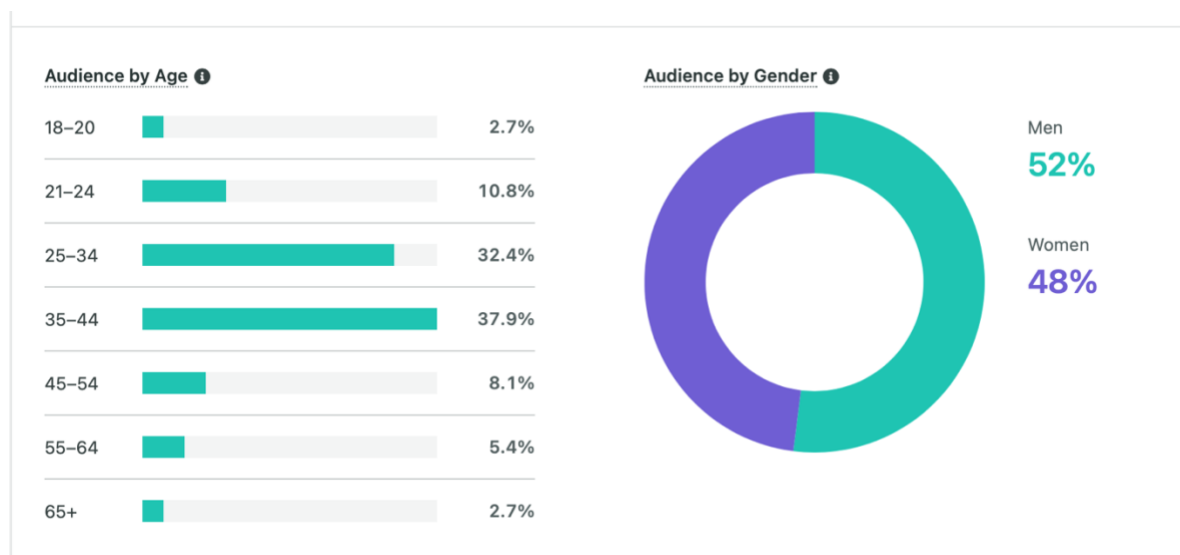


The top three posts in what regards user engagement, are the following:



When looking at the demographic statistics of the ORION twitter followers, there are a few more men followers than women. Most followers are between 25 and 44 years old.

Gender and age of ORION Twitter followers



The ORION Twitter account has also been used to promote, inform and disseminate information prior, during and after major conferences, where members of the ORION project have participated. For the greater part of these conferences, a specific twitter hashtag has been used, for example

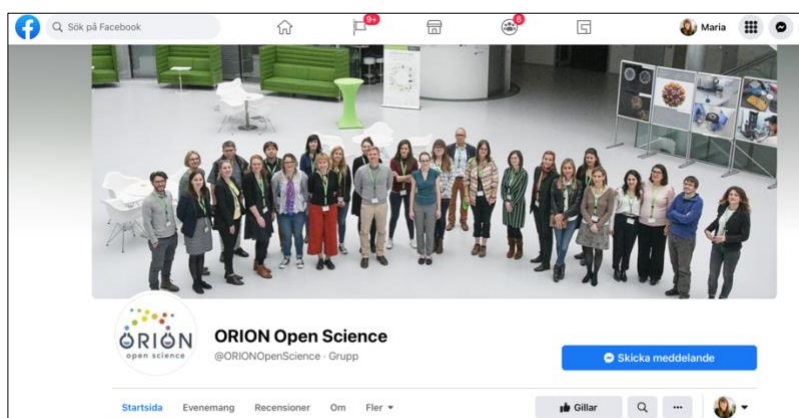




#FSCC21 – Future of SciComm Conference which took place on 24–25 June 2021. Please see D6.5 Report on Final international workshops for more information.

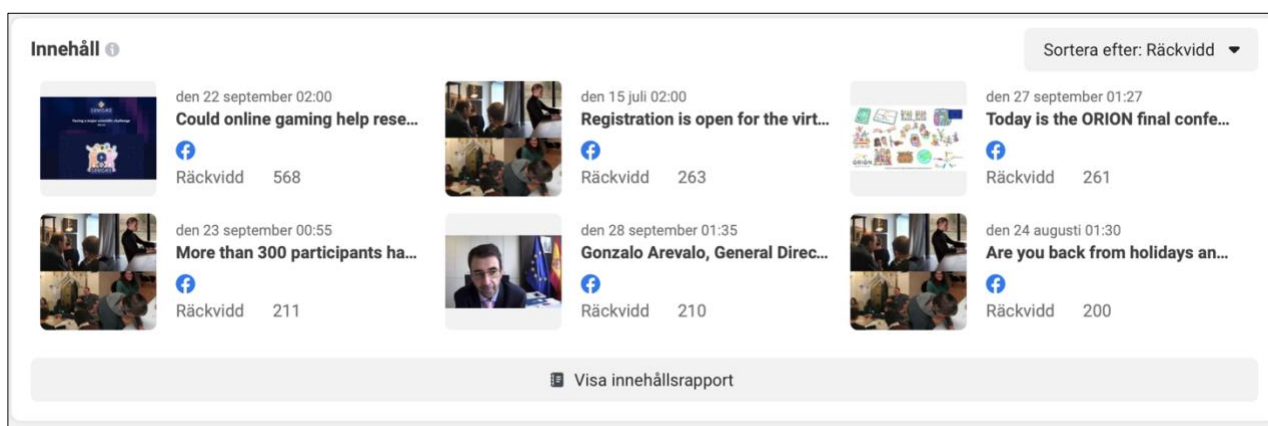
## Facebook - @ORIONOpenScience

Interest in the ORION Facebook account was a bit slow at the start of the project but it has gained a larger audience during the latter part of the project. The Facebook account has mainly been used for promoting project events, as well as news intended for a broad audience. By the end of the project in September 2021, the account had 240 followers.



Screenshot of the ORION Facebook account

The Facebook posts that have gained the most interest and with the largest reach have been the recent post about the new ORION online games; the Genigma and the Virus Fighter. More than 500 people has viewed the post. Other popular posts have been the ones about the final conference and the post about the opening address by Gonzalo Arevalo, General Director at the Spanish Ministry of Science and Innovation.



Most popular ORION Facebook posts



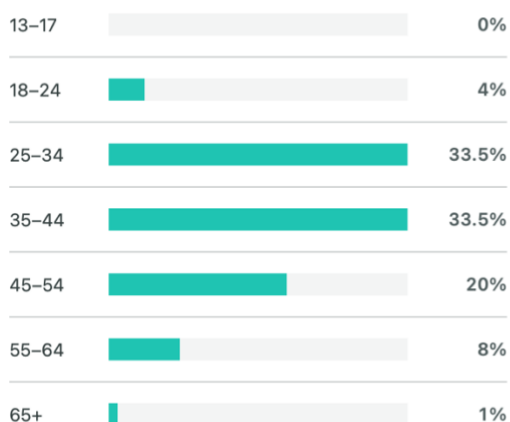




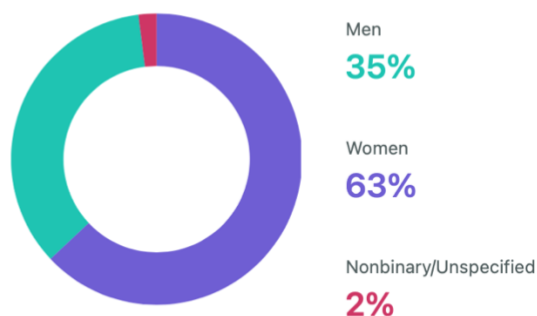
Two popular ORION Facebook posts

The ORION Facebook has been followed by mostly women (63%) and the largest age group of the women users are 25–44 year old. This has been the case throughout the project.

Audience by Age <sup>i</sup>



Audience by Gender <sup>i</sup>



Gender and age of ORION Facebook followers

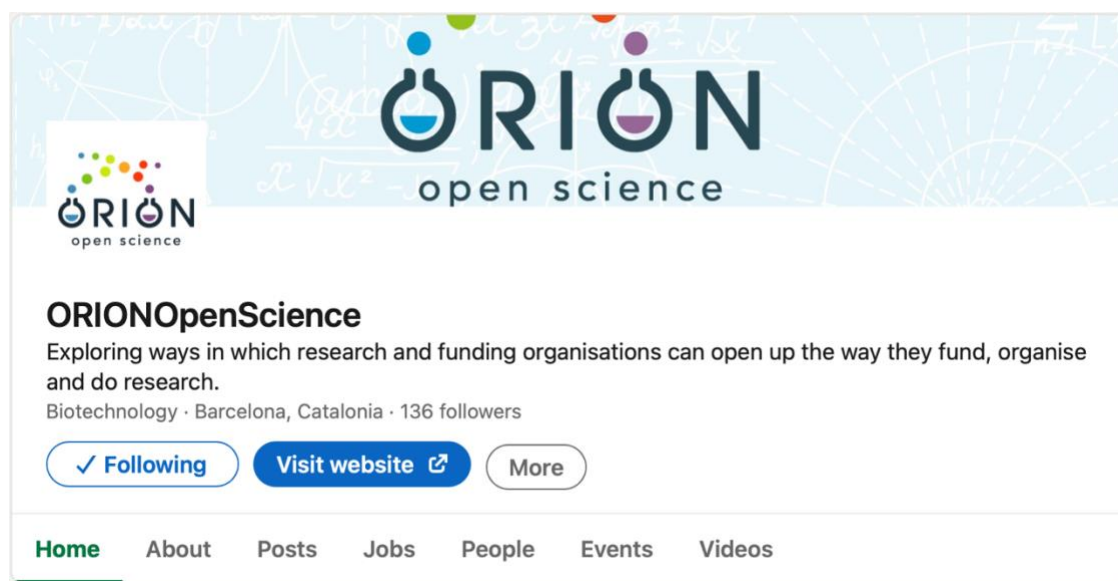


The geographical spread of the Facebook users, the last year of the project, can be seen from this world map where the 15 top countries are shown.



### LinkedIn - @ORIONOpenScience

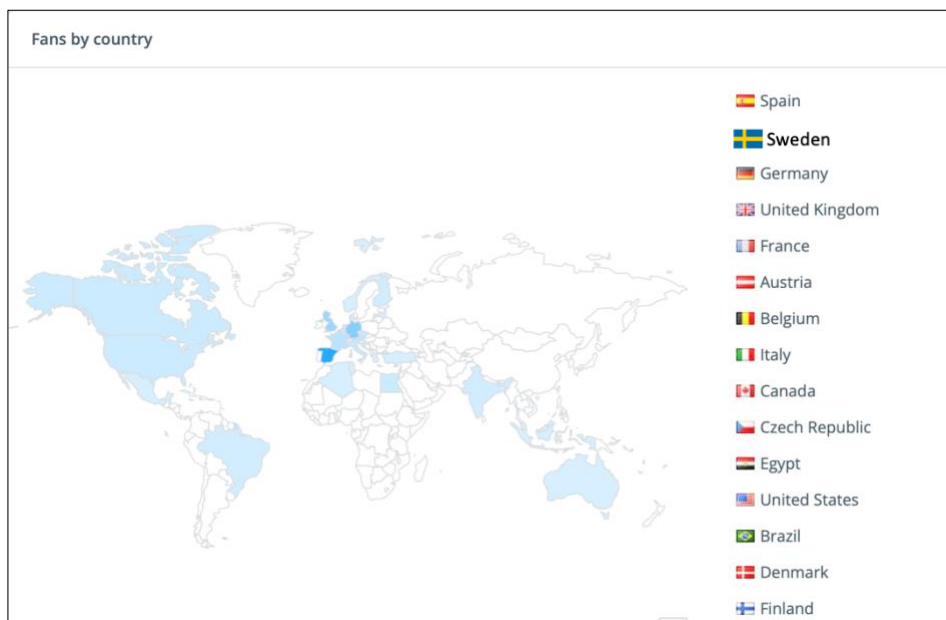
To diversify the channels through which the project is communicated, to reach new target groups and to offer more ways of obtaining information about ORION, a LinkedIn account was set up in 2018. As LinkedIn has more users within the business and research community, the aim was to reach and engage stakeholders within those sectors. The published posts have covered and highlighted project activities, policies and events. The number of followers of the account evolved slowly at first but at the end of the ORION project there were 136 followers.



Screenshot of the ORION Open science LinkedIn page



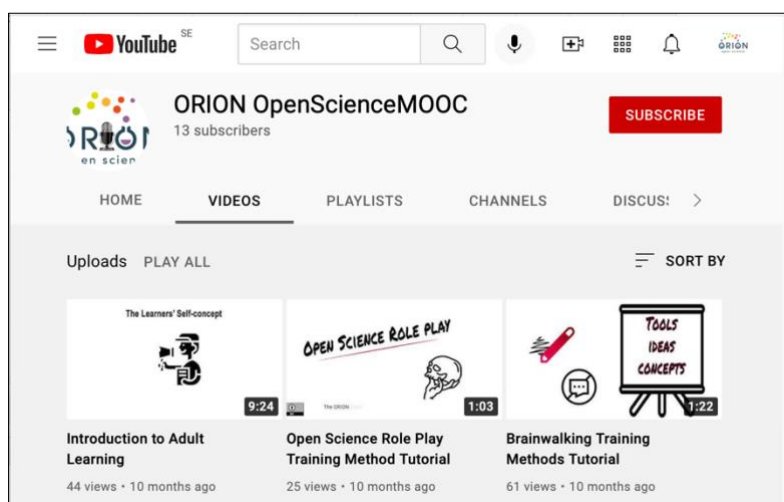
Even though the account does not have many followers, it has a good geographical spread with fans from all over the globe, illustrated by this image of the top 15 countries of ORION LinkedIn followers.



ORION LinkedIn fans per country the last year of the project

## YouTube

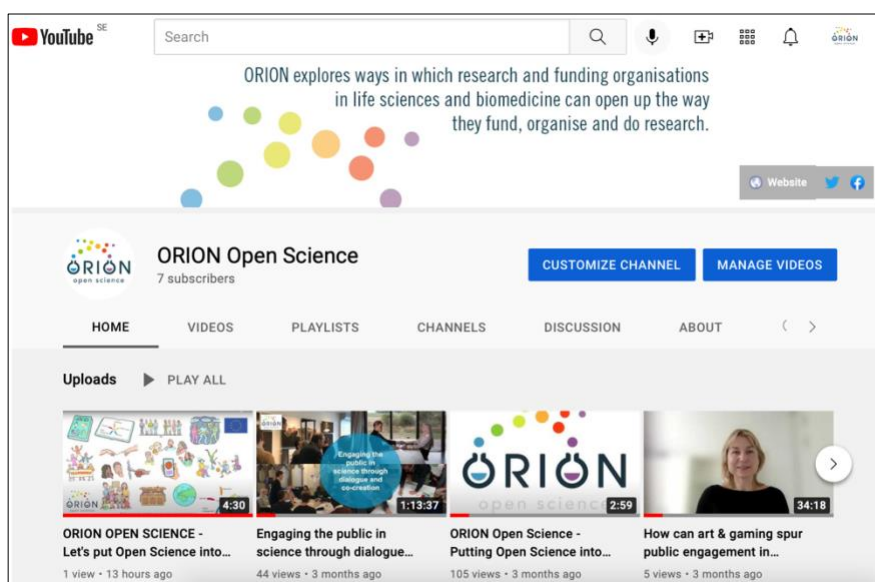
The ORION project has set up two YouTube channels where the audience and followers can easily watch and share online videos. The first one, the [ORION Open Science MOOC](#) was set up in 2019 to support participants in the ORION workshops and the MOOC course participants. All teaching material has since then been uploaded to [Zenodo](#).



Screenshot of the ORION Open Science MOOC YouTube channel start page



The main project YouTube channel [ORION Open Science](#) was set up at the beginning of 2020 to promote project highlights, activities and conference participation via videos. The main promotional videos of ORION as well as all recordings from major conferences that the project has run or participated in are available on this channel. For instance, a specific playlist containing all session recordings from the final virtual ORION conference has been created to facilitate the uptake and learnings from the final major dissemination event.



Screenshot of the ORION Open Science YouTube channel start page

## ORION News Flash and Newsletter

An internal digital News Flash was created during the first year of the project. The aim was to share information about project activities with partners and associated partners. Two issues of the News Flash (Dec 2018 and March 2019) were disseminated during the first year of the project to all partners.

During the second year, an external digital Newsletter was launched and the first issue was disseminated in June 2018 targeting all project stakeholders. The newsletter was sent out prior to ESOF 2018 in Toulouse to particularly highlight the project's activities at the conference.

The newsletter contained links to ORION articles published on the ORION website, information about forthcoming activities, a brief description of past events plus a "Meet the Team" section. In this section a member of the ORION Project has been interviewed on his/her opinion on Open Science and aspiration of the ORION project. This interview has also been published and made available on the ORION website. By linking all material to the website, we have increased the number of visitors to the ORION platform.

The newsletter has been issued four times per year and has also been accessible via the "News section" on the ORION [website](#). The number of subscribers after the first newsletter amounted to 50. An extensive dissemination campaign in social media and in partners' newsletters and websites, was conducted prior to the second issue in October 2018 and the number of subscribers for the third edition of the newsletter in March 2019 had more than doubled. The number of subscribers has continued to increase and amounts at the end of ORION to 232. A total number of 13 newsletters





have been issued during the ORION project. VA has been responsible for design, content and dissemination of the newsletter, but all partners have been encouraged to contribute.

The last edition of the newsletter will be disseminated at the very end of the ORION project containing a farewell message from the coordinator, as well as information on project activities and open resources.

First issue of the ORION Newsletter – July 2018

Latest issue of the ORION Newsletter – June 2021

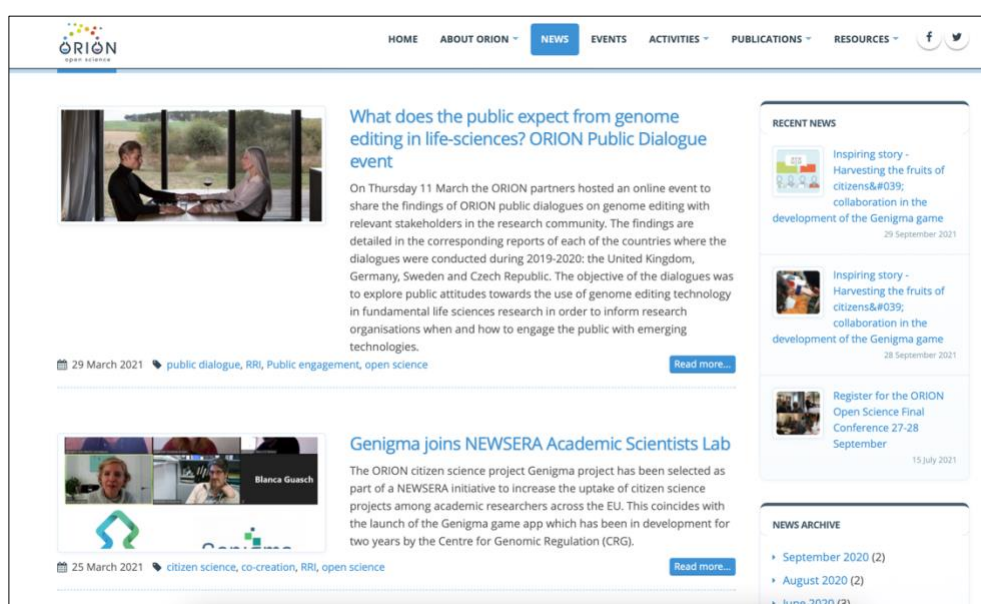


ORION has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 741527.



## Articles, press releases and blogs

Another way of communicating the ORION project activities has been through articles, press releases and editorial blogs. However, in today's diversified communication and media landscape this has been done in combination with other communication channels. Press releases were sent out at the start of the ORION project to European and international media houses. It was also published on each of the partners' websites and in several organisations' newsletters. A total number of **96 articles** have been published on the ORION website since the start of the project. These have covered all aspects of the ORION project activities and have been further disseminated via the ORION social media channels and been included in the quarterly newsletter.



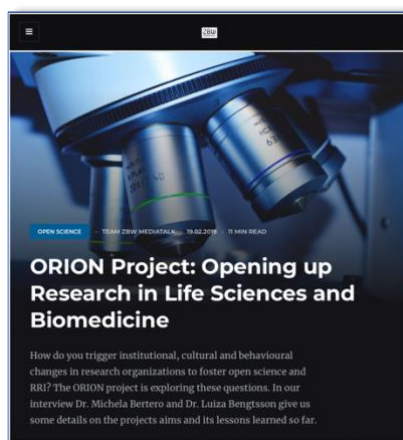
Screenshot of the ORION News section

A number of external articles and blogs on project activities has been written and published in online magazines, websites and blogs during the project lifetime. All partners have been encouraged to communicate with the media and the WP6 leader together with the editorial team has supported and suggested ideas and items for articles and blogs. Several news articles have also been published on partners' websites in local languages and in other digital media. A total number of **116 articles and blogs** (2021:19, 2020: 41, 2019: 20, 2018: 25, 2017: 11) have been published by different media sources across the globe during the ORION project lifetime (Annexe 1).

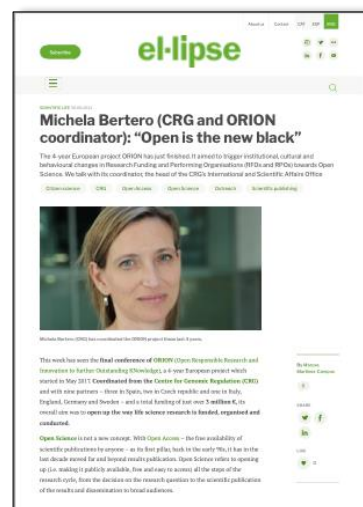




EuroScientist, June 27 2018



ZBW Mediatalk Blog on Open Science, Feb 19 2019



el-clipse, 30 September 2021

## ORION Inspiring stories

The 12 inspiring stories capture the "EUREKA moment" in the different activities and achievements of embedding of Open Science and RRI performed during within the ORION project. The stories cover 6 different engagement and Open Science aspects as: citizen science, co-creation, public dialogues/public engagement, RRI, science communication and training. Each story showcase examples on the impact, in some cases the attitude change, and the positive effect that the ORION activity has had on a person, a process, on an organisation and even on a country. The stories have been written by the WP6 leader in close collaboration with the task leaders. They have been used to further communicate the impact of the ORION project and to inspire others, and have been disseminated via the ORION newsletter, in the social media channels and on the ORION [website](#). The stories have been compiled into a [booklet](#), which is available for download via the ORION website (Annexe 2).



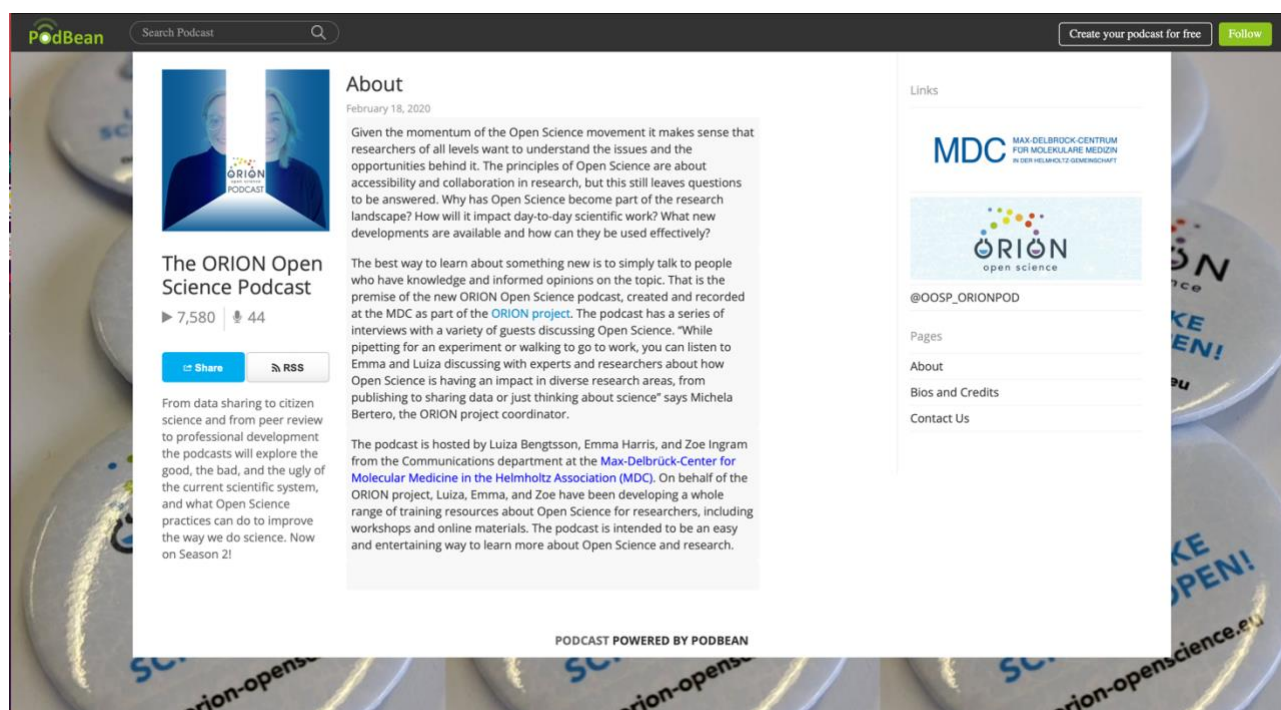
The ORION Inspiring stories booklet



## Podcasts

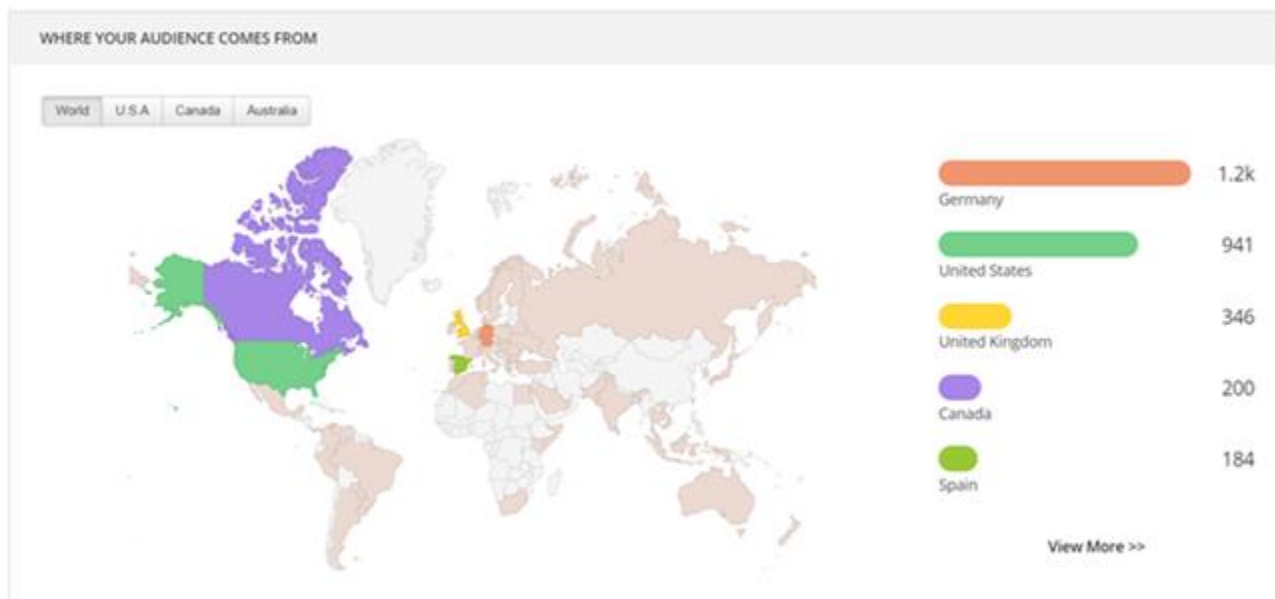
The ORION Open Science podcast was developed by the WP4 leader Max-Delbrück-Center for Molecular Medicine in the Helmholtz Association (MDC) and launched at the end of January 2019. The podcast is structured around a series of interviews with interesting guests on a variety of topics related to Open Science. The aim with the podcast is to offer an easy and entertaining way for researchers to learn more about Open Science. From data sharing to citizen science, and from peer review to professional development, the podcasts include interviews with a wealth of guests to explore the good, the bad, and the ugly parts of the current scientific system, and what Open Science practices can do to improve the way we do science.

The podcast series includes **44 sessions** and is available via [PodBean](#). The sessions had up till the end of the project been downloaded 7,580 times. The podcast has reached listeners from Germany to Japan, from the UK to the US and Canada, as can be seen on the map below. More information about the podcast series can be found in the deliverable [D.4.2 Open Educational resources on RRI](#).



Screenshot of the ORION page on PodBean





Podcast audience worldwide January 2019 – June 2021

## Outreach activities – major conferences

One of the key objectives of the ORION project is to engage with different research performing organisations, policy makers, business representatives and the general public to disseminate project activities and key outcomes. One way of fulfilling this objective is to actively take part as speakers, give talks and presentations at conferences, events and science festivals, and to organise own outreach events. In total, project partners have participated in, co-organised and presented the ORION project more than **60 conferences** on open science, public engagement and citizen science across Europe (Annexe 3). Among these; [ESOF 2018](#) and [ESOF 2020](#), [Future of Science Communication 2021](#), [Engage Festival 2020](#), PCST 2021 and the European Commission’s cluster event on institutional changes.

All ORION events and events with ORION speakers have been announced at the Events section on the ORION website and information on the activities have been disseminated through the ORION communication channels. Due to the outbreak of the Covid-19 pandemic, participation and presentations at major conference came to a halt the first six months of 2020 and was later mostly performed online. This did not however affect the project activities negatively; on the contrary virtual conferences and workshops spurred interest and facilitated participation from across the globe. This also made it possible for ORION partners to participate in and present the project at several more conferences than originally foreseen.

The ORION Final conference was initially planned to be held in Barcelona. Although Covid-19 restrictions prevented us from meeting in person, organising the event entirely online meant that speakers and delegates from across the globe were able to and did participate.





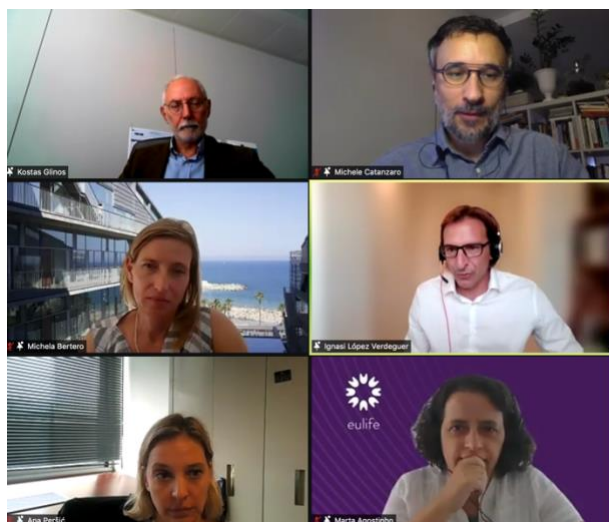


Science Festival 2017

Cambridge



ESOF 2018 Toulouse



ORION virtual Final Conference 2021

## Outreach materials to enhance visibility

To further promote, inform, communicate and highlight the project at conferences, workshops and outreach activities, the WP6 leader designed and produced a set of visual communication and dissemination materials at the start of the project. These included:

- Flyers and leaflets – handouts for Events, Visits, Presentations (to inform)
- Rollup banners (different languages) – for use at events (awareness)
- Poster: key info about the project – for use at events (awareness)
- Promotional materials as badges, key rings and stickers

Moreover, the WP3 (Co-creation) and WP4 (Training) have developed, in collaboration with WP6, a set of information materials such as factsheets, an Open science checklist, and a co-creation menu, which have been used at conferences, workshops and outreach events to inform about open science and the project. All training materials are available on the project website and the Zenodo platform for anyone to use.







A selection of ORION communication and promotional materials



ORION Roll-up banner



ORION Project Poster

Several more posters have been developed during the course of the project to highlight different activities and project achievements. Some examples are the MDC poster on the Artist in Residency project and the AEON art exhibition as well as the BI final ORION presentation on the institutional action plans.



ORION has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 741527.

BETWEEN UTOPIA AND DYSTOPIA LIES THE LAND OF KNOWLEDGE  
OR  
HOW TO STIMULATE SOCIAL DISCOURSE  
BASED ON FACTS RATHER THAN FEAR  
Dr. Luiza Bengtsson  
Max-Delbrück-Centrum für Molekulare Medizin in der Helmholtz-Gemeinschaft  
luiza.bengtsson@mdc-berlin.de @bengtza @OOSP\_ORIONPod

**PUBLIC DIALOG ON GENOME EDITING**  
IN UK, GERMANY, SWEDEN & CZECHIA

EXHIBITIONS

3-MONTH RESIDENCY IN MDC LABS, REFINING CONCEPT, PROOF OF CONCEPT EXPERIMENTS

LESSONS LEARNED!

ARTIST MEETS SCIENTISTS: MODERATED CLASH OF CULTURES  
OPEN CALL: WINNER EMILIA TIKKA  
ORION OPEN SCIENCE PROJECT: CO-CREATION EXPERIMENTS

ORION MDC Artist in Residency and AEON exhibition

**EMBEDDING OPEN SCIENCE IN RESEARCH FUNDING AND PERFORMING ORGANISATIONS**  
EMMA MARTINEZ, BARBRAHAM INSTITUTE

**PROJECT OBJECTIVES**

1. Assess: To gather knowledge and practice about Open Science and RRI among targeted stakeholder groups.
2. Co-create: To co-design and perform "open experiments" with multiple stakeholders.
3. Train: To design, deliver and disseminate innovative training programmes on Open Science and RRI to stakeholders.
4. Embed: To embed "lessons learnt" during the project across to inform institutional and cultural changes in research funding and performing organisations.
5. Outreach: To engage research funding and performing organisations and other stakeholders to disseminate projects activities and key outcomes.

**PROJECT RESULT 1: ORION Open Science education resources**

Training content for researchers and professional staff on funding agencies and research performing organisations on RRI and Open Science concepts, practices and tools. [www.orion-project.eu/en/education-resources/](https://www.orion-project.eu/en/education-resources/)

- **Factheets:** 15 brief, informative, and easy-to-understand one-page factheets on Open Science topics.
- **Online course:** Six ready-to-use modules that explore the different aspects of Open Science and its implementation. Full Open Access and self-paced. Full Open Science Centre and Public Engagement, which include interactive seminars and multimedia content, to support researchers in their efforts to gain expertise on the topic.
- **Train the trainer course:** Designed to help Open Science advocates and stakeholders learn from ORION training and gain the skills to run their own training. The course is divided into two modules: a theory module focusing on conveying the principles of Adult Education (e.g. 80% individual and participant-participatory) models. A second module on methods.

**PROJECT RESULT 2: Social skills training stories**

**Stories with inspiring stories from the ORION project on how to engage the public in science through co-creation, gaming, art, public dialogue and citizen science to embed open science and RRI.**

**PROJECT RESULT 3: Science games**

- **Variant Fighter:** Online game to engage younger members of the public with the social factors of infection, immunity and restrictions through simulating viral outbreaks.

**ORION Impact at Barbraham Institute**

Four years of experimenting with open science and learning about the topic have materialised in a customised action plan to embed open science at the Barbraham Institute. The action plan is available in the newly developed open science section on the Institute website. [barbrahaminstitute.com/research/open-science/](https://www.barbrahaminstitute.com/research/open-science/)

ORION Barbraham Institute Project Poster

In addition to the above, **two promotion films** about the ORION project have been created and are available via the [ORION YouTube-channel](#). The first one was produced inhouse by VA for the [Future of SciComm conference](#) on 25 June 2021. The [second promotion film](#) was created and designed at the very end of the ORION project together with the artist Bob Banks. The video was shown as an introduction to the ORION project at the final conference on 27-28 September 2021.

ORION OPEN SCIENCE - Let's put Open Science into practice!

ORION

find out more at <https://www.orion-project.eu/>

ORION Promotion video on YouTube by the artist Bob Banks

A specific movie on the [MELTIC-project](#) and videos on the [RRI Health Awards](#) were also produced together with ISCIII to highlight these project activities. The shift to virtual events has also facilitated the possibility to record and reshare presentations, workshops and conferences to delegates and new audiences. The recordings from the major ORION events as the Public dialogue presentation, final international workshops can also be found on the YouTube-channel.



ORION has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 741527.

## Task 6.4 Reviews, publications, reports, white paper and action plans

### Reports and publications

To inform Research funding and performing organisations on how to embed and implement Open Science practices, several publications have been produced:

- A comprehensive report on [public attitudes towards life sciences](#)
- A comprehensive report on [public dialogues on genome editing](#).
- A comprehensive report [on public dialogue on research strategy](#), including an infographic summary.
- The [co-creation menu](#) and “how to guides” (e.g. on public dialogues), intended as practical protocols on the methodologies used in ORION Open Science for others to reproduce.
- The [inspiring stories](#) (previously described).
- The public ORION [deliverables](#).

The produced publications have been disseminated to all relevant national and international stakeholders through the ORION communication channels. The published documents can be found under the Publications section on the ORION website.

Scientific publications take time, and some papers will be published beyond the lifetime of the project. The first publication: "[The motivation for citizens' involvement in life sciences research is predicted by age and gender](#)" by the ORION partners [CEITEC](#), [CRG](#) and [VA](#) was published on 3 August 2020 in [PLOS ONE](#). The findings are based on the ORION study "[Public attitudes to life sciences research in six European countries](#)" which was designed to map citizens' expectations on science to inform and support research organisations regarding how to engage with the general public. The underlining data has been made available in Zenodo.

The second article “Involving society in science” is expected to be published in November 2021 in the EMBO Report journal. The article is a collaboration between ORION, the associated partner EU-LIFE and the Lifetime initiative and include examples of stakeholder engagement activities as well as reflections and lessons learnt to share with other institutions and researchers who aim to promote the engagement of citizens in life sciences research.

The MELTIC project at ISCIII has also prepared a scientific paper with the results of the systematic literature review (MELTIC D2, May 2020). The manuscript entitled “Co-creation methodology with smart technologies in health and well-being to enable communication between isolated and disperse small communities: a literature review”, has been submitted to the British Medical Journal Open during summer 2021.

We expect at least two more publications after the end of the project, one focusing on the evaluation work carried out by CRECIM and one on how funding agencies can promote Open Science and RRI, under the leadership of ISCIII and in collaboration with other European funders, beyond ORION.



## Institutional action plans

One key objective of the ORION project is to foster institutional changes in Open Science at RFPOs through co-creation experiments with multiple stakeholders, that can last beyond the ORION lifetime. The six participating RFPOs (BI, CEITEC, CRG, MDC, ISCIII and JCMM) have prepared tailored action plans to embed Open Science and RRI in their organisations. The plans have been elaborated engaging high management in the organisations to ensure institutional commitment and resources for their implementation. Most of the OS action plans are also embedded or linked to the institution's Strategic Plans, reinforcing the organisations' commitment to implement OS in the next years.

The plans focus on different dimensions on Open Science, depending on the institutional priorities – from Open Access to publications, to Open Data, research integrity, EDI (equality, diversity and inclusion) aspects, to stakeholder and public engagement, incorporating the lessons learnt in ORION. Some of the plans are openly available on the institutional RFPO websites (see below), and the others will be shared with the research community and beyond, following the ORION spirit of openness and transparency. More information is available in the project report D6.4 Action Plans to embed Open Science.

**ACTION PLAN TO EMBED OPEN SCIENCE  
IN THE BABRAHAM INSTITUTE**

Final Version, 22 July 2021

RESPONSIBILITY		TIMEFRAME		
RIC	Research Integrity Committee	Short	< 6 months	Q4 2021
HR	Human Resources	Medium	6 – 12 months	Q4 2021 – Q1 2022
GL	Group Leaders	Long	12 – 36 months	Up to 2024
OSIL	Open Science Institutional Lead			
WGOS	Working Group on Open Science			
GCA&ST	Graduate Committee and Graduate Studies Tutor			
HoRO	Head of Research Operations			
HoSF	Heads of Science Facilities			
Comms	Communication Team			
PE	Public Engagement Team			
WM	Website Manager			
ORION-PO	ORION Project Officer			
CIO	Chief Information Officer			

**Areas actions fall into:** Communication (C), Leadership (L), Skills (S)

**ORION Evidence** – Makes reference to the evidence where this action is based on

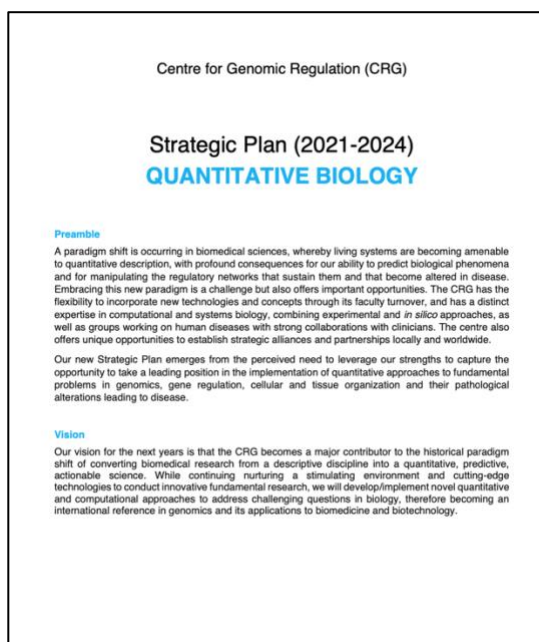
**Linked to** – Makes reference to where an action is related to other initiatives in ORION, the Institute or beyond



Screenshots of the [Babraham Institute Action Plan on Open Science](#) and ISCIII's *Plan Estratégico*







Screenshots of the CEITEC [Action Plan 2022-2023 of Implementation of Open Science principles at CEITEC MU](https://www.ceitec.eu/sites/default/files/ceitec_action_plan_2022-2023_of_implementation_of_open_science_principles_at_ceitec_mu.pdf) and the CRG Strategic Plan 2021-2024 [https://www.crg.eu/sites/default/files/crg/crg\\_strategy\\_plan\\_2021-2024\\_summary.pdf](https://www.crg.eu/sites/default/files/crg/crg_strategy_plan_2021-2024_summary.pdf)

More information on the action plans are included in the deliverable D6.4 'Action Plans to embed Open Science' of the ORION project.





## Conclusion

The open communication approach of the ORION project, involving and encouraging all partners to communicate about the project, has resulted in extensive communication activity in social media, a good number of visitors to the website, and participation in a large number of conferences and workshops. This is also reflected in the statistics of the different communication channels.

The outbreak of the Covid-19 pandemic at the latter part of the project did not affect the communication and dissemination efforts negatively. On the contrary, by going online and running virtual workshops, trainings, and events the project succeeded in attracting more participants from across the globe and reaching out to new audiences. The transfer to virtual meetings, workshops and events has also facilitated for ORION partners to participate and present the project at several events that might not have been feasible under normal circumstances.

The outreach and embedding work package, WP6, has contributed to the overall project impact by setting the communication framework through the Dissemination and Communication Plan, by giving communication support to the other WPs, promoting the project to the different stakeholders, communicating and disseminating project information through a variety of channels and thus reaching and engaging with a multitude of stakeholders.

The ORION Open Science project now leaves behind a legacy of tools, resources, inspiring projects, activities and training materials on how to embed Open Science and RRI in research performing and funding institutions. All the resources produced within the project are open for anyone to use, to be inspired by and are made freely available on different open-source platforms as [Zenodo](#) and on European collaborative platforms as [RRI Tools](#), [EU-Citizen.Science](#) and [FOSTER](#) to ensure maximum uptake and reuse of the ORION Open Science project achievements.

**Let's put Open Science into practice!**

