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D4.5 Final community engagement and networking report

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0.1	12/12/2017	Huw Fryer	Generated skeleton document
0.2	11/01/2018	Huw Fryer	Full draft version
0.3	24/01/2018	Huw Fryer	Responding to reviewer feedback
0.4	25/01/2018	Huw Fryer	Version for final review
0.5	26/01/2018	Huw Fryer	Corrected template
1.0	30/01/2018	Alexander Mikroyannidis	Final QA

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1. Executive Summary

This deliverable reports on the online and community engagement plan, in the 18 months after the initial report on this in D4.4. These are discussed within the context of the change in focus of the project towards curation rather than creation following the Commission review in M18. Of the channels which are used, online and offline, it is shown that there remains a considerable amount of engagement with EDSA with the website and social media channels, although with less growth than the first 18 months. In addition, the performance of the past 18 months is analysed, and the project targets compared with the actual outcomes. Finally, our conclusions are presented.

2. Background

In D4.3 a real-world and online community engagement plan was presented, detailing the initial data regarding the communications and dissemination channels current at the time of writing the report. The aim of the plan was to outline a set of engagement tools and practices that the project could utilize in order to engage the community. These included a combination of both real-world events (such as offline, face-to-face meetings) and online communication and dissemination activities. Online activities were separated based on those that were broadcast-oriented and were primarily aimed to use to disseminate information, and those that were responsive and conversation-oriented and targeted at increasing communication and collaboration amongst the community.

D4.4 presented a report after 18 months of the project of the community engagement plan, presenting some of the changes which had been implemented as a result of changing circumstances within the project, in particular that learning resources and course materials have since been launched and been engaged with by a large number of learners across the EU. SEO was used more extensively to attract visitors to the website, and Twitter was used, as well as the newsletter, to continue to engage with the community.

The recommendations from the commission after M18 of the project were that EDSA should change direction and increase the focus on curation of courses rather than delivery of material. To that end, the courses dashboard has been enhanced, and learning pathways have been developed to assist users interested in learning data science. Other channels with minimal engagement have been left dormant, since there were no additional materials related to the course being produced, such as the SlideShare and Vimeo channels.

This report is structured as follows. In Section 3 we compare the performance of the different dissemination and community building channels within EDSA over the last 18 months, with how they were described in D4.4, in M18. Section 5 will outline the difference between the planned community building and what actually happened, before Section 5 will discuss insights and reflections gleaned from the project. Section 6 will present our conclusions from this report.

3. Channels and Activities

3.1 Website

The EDSA website (http://edsa-project.eu/) provides a centralized location for all of the project's activities. It offers a comprehensive overview of the main activities taken by project partners, along with details about the project and any activities planned for the future (Figure 1). Its design and structure were discussed in more detail in D2.1, when the website was setup for the project. Since then, we have added Google Analytics to the website, which allows us to measure statistics associated with the website usage, providing an insight into specific topics, features and functions that the community is particularly interested in.

Figure 1 – EDSA project website homepage

3.1.1 Google Analytics and Traffic Data

As discussed in D4.4, Google Analytics was added to the website in November 2015 to track website visitor statistics, as opposed to analysing server logs which were less accurate. In D4.4, the following statistics from Google Analytics were presented in Table 1:

Table 1- Website Visitor Statistics (Reporting Period: 16th April 2016 – 16th May 2016)

Metric	Total	Avg./Day
Sessions	1,335	45
Visitors	946	31
Page Views	3,317	110
Bounce Rate	56.63%	N/A
New Sessions	63.30%	N/A
Avg. Session Duration	2:22	N/A
New Visitors	63.4%	N/A
Returning Visitors	36.6%	N/A

This is contrasted by the statistics at the end of the project, with the following data collected in November 2017:

Table 2 - Website Visitor Statistics (Reporting Period: 16th October 2017 – 15th Nov 2017)

Metric	Total	Avg./Day
Sessions	1,000	32.26
Visitors	706	22.77
Page Views	2,019	110
Bounce Rate	65.67%	N/A
New Sessions	62.90%	N/A
Avg. Session Duration	1:40	N/A
New Visitors	63%	N/A
Returning Visitors	37%	N/A

Table 1 lists a number of general statistics for the website from May 2016, and Table 2 from November 2017. The website is not performing as well as in the previous report, with a decline in visitors, an increase in bounce rate, and a reduction in the session time. On the other hand, the session time, although lower, is still a creditable 1:40, indicating that the visitors are still engaging with the content.

Table 3 - Website Visitor Country Statistics (1st Feb 2015 - 10th Jun 2015)

Country	Hits	Percentage of Total (Hits)
United Kingdom	317	23.75
Spain	115	8.61
Germany	87	6.52
Netherlands	73	5.47
Belgium	57	4.27
Brazil	53	3.97
United States of America	51	3.82
Italy	50	3.75
France	48	3.6
Portugal	47	3.52

Table 3 helps to reveal the international audience that the website is receiving. While at the moment the UK provides the highest number of hits to the website, there is also a substantial amount of visits being recorded from other EU member states including Germany, The Netherlands and Spain.

In Table 4, we include the geographic distribution of the sessions between October and November 2017. The figures are relatively similar to those from the start of the project, which continue to show a reasonable geographic distribution, although it remains clustered around Western Europe.

Table 4 – Website Visitor Country Statistics 16 June – 16 November 2017

Country	Sessions	Percentage of Total (Sessions)

United Kingdom	1,144	20.37%
Germany	573	10.20%
Spain	399	7.11%
United States	340	6.06%
Netherlands	267	4.76%
Portugal	264	4.70%
Italy	181	3.22%
India	178	3.17%
France	167	2.97%
Belgium	120	2.14%

The website continues to perform well, but for the most part has not reached the figures demonstrated in D4.4. There has been a small but noticeable drop in the amount of user sessions in the time since the start of 2016 evident in the Google Analytics dashboard. Figure 2 shows the user sessions for the past 18 months, with the previous six months for context, which shows this drop clearly from around the time of the last report. That said, from the summer of 2017, the viewing figures picked up to be comparable to the previous results, possibly due to the full launch of the dashboard, and is promising for the future performance of the website[1].

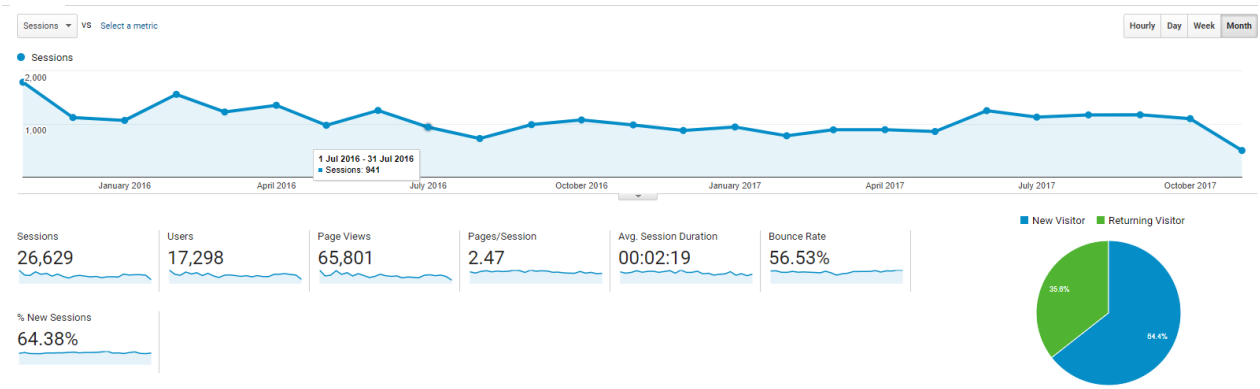

Figure 2- Timeline of user sessions for EDSA website from November 2015 - November 2017

3.1.2 EDSA Dashboard

As part of the project, and in order to disseminate the work completed in WP1, we have developed a number of visualisations through the dashboard section of the EDSA website (http://edsa-project.eu/resources/dashboard/) to present and disseminate information about EDSA, and the current market associated with data science in the EU. The EDSA dashboard enables visual discovery using different perspectives on a dataset containing about 300,000 job postings in Data Science across the EU, highlighting skills required of each role. The data was generated based upon new job positions posted online on selected channels, enriched and annotated to aid visual browsing and querying. In addition, the "learning pathways" added in the courses portal is also included, so that a query for a particular job will show recommended skills and courses that the learner might wish to take in order to be qualified for the jobs advertised.

[1] November 2017 on the graph is not a full month, since figures are only available up to 14th November

The dashboard is a part of the main website and has continued to generate a considerable amount of traffic, with 5.91% of the total page views (2,236) from July 2016 – November 2017. Although publicly visible, the dashboard was under development throughout project until July 2017. The peak on the graph in Figure 3 - Page views of dashboard May 2016 - November 2017 in July 2017 coincides with the launch of the full version, advertised in the EDSA newsletter, indicating the success of this element of this marketing channel (See Section 3.2 for more details about the newsletter).

Figure 3 - Page views of dashboard May 2016 - November 2017

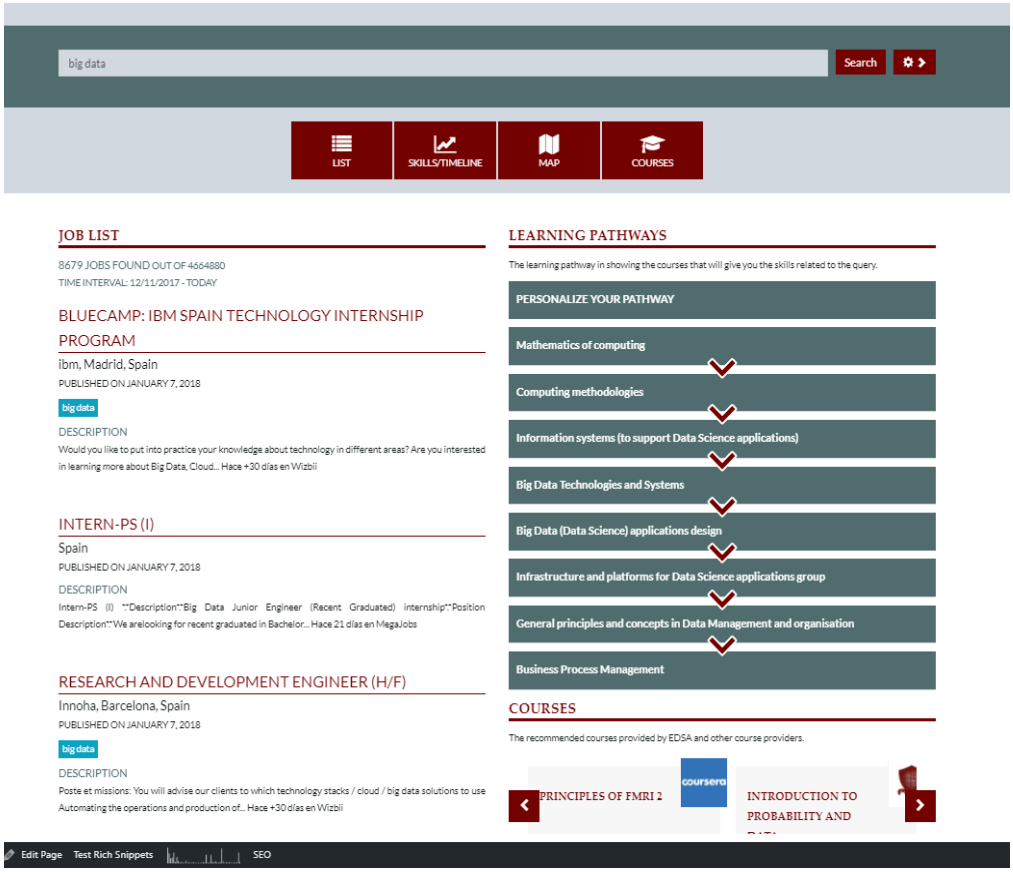

Figure 4- Learning pathway for job search on the dashboard

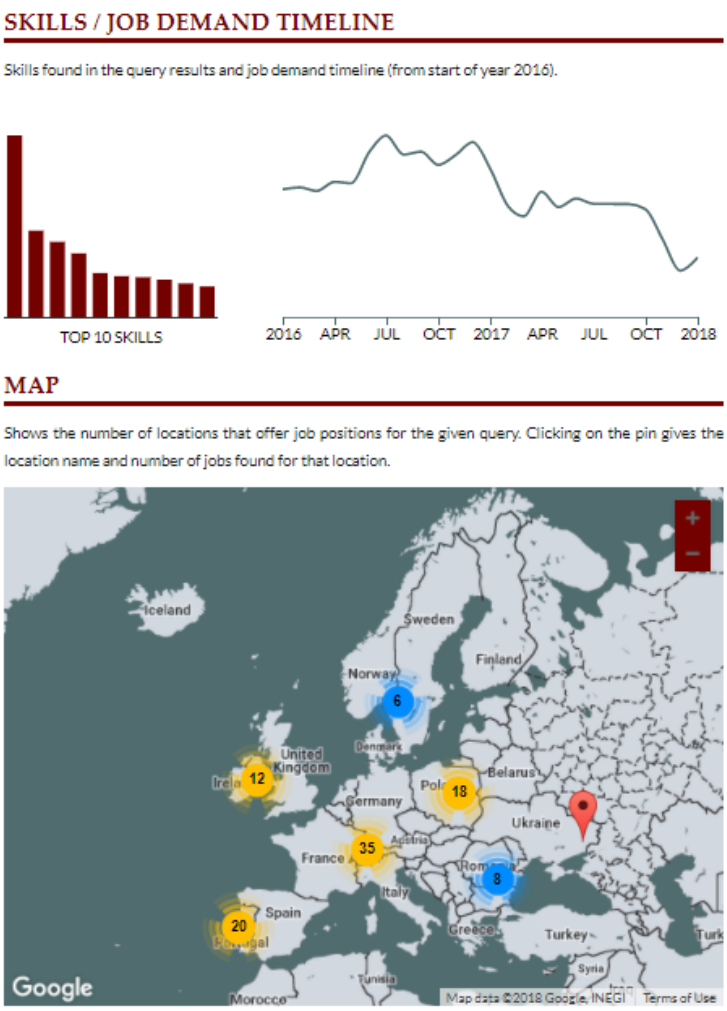

Figure 5 Skills timeline and job locations on the dashboard

3.1.3 Additional results from WordPress stats

In November 2017, Google Analytics stopped recording page views, which was discovered in January 2018. Discussions of comparisons in the previous section have gone up to November 14 2017, the last day for which full data are available. In order to provide up to date statistics, the "Jetpack" plugin for WordPress was used to obtain additional page view results, from November 14 2017 – January 24 2018. The results here are less granular, and do not provide information about the dashboard.

A total page views for the website amount to a total of 3,816 page views between week commencing 13 November 2017 and week commencing January 22 2018. These can be seen in the context of the remainder of the website through the monthly statistics in Figure 6.

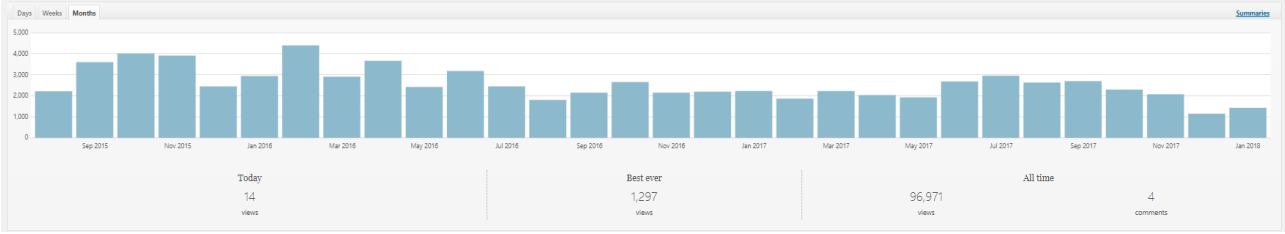

Figure 6 - Page views by month from August 2015 - January 2018 from WordPress dashboard

3.1.4 Search Engine Optimisation for Google and Bing

As part of D4.4, extensive Search Engine Optimisation (SEO) was conducted to optimize the search rankings of the website and obtain a higher level of organic traffic from Google and Bing. A plugin installed into the WordPress website named All In One SEO, which enables the simpler implementation of on-page SEO, rich snippets, increased load speeds, keyword and keyphrase targeting, and content metadata. As a result of this optimization strategy, and the respective SEO methods, 36.3% of the traffic is now obtained from Organic Search traffic (Figure 7). SEO changes on a daily basis, and the rankings detailed below are subject to change due to the competitive nature of the keywords and keyphrases aimed for. With many organisations being founded that offer data science training, education and educational material, it is becoming increasingly competitive within the SEO space. The aims of the SEO are to continue to adapt, update and create content that enables the EDSA project to sustain a high ranking for the respective target keywords and keyphrases.

The success of the SEO strategy can be seen from Figure 7 (R) as the amount of users navigating to the EDSA website from organic search increased by 8.4% in the second half of the project.

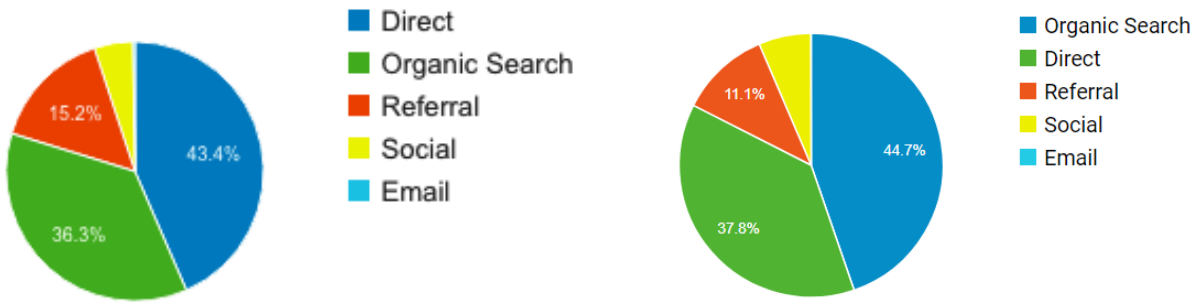

Figure 7 – Sources of Website Traffic up to May 2016 (L) and May 2016 – Nov 2016 (R)

Table 5 - Google ranking of keywords over time

Keyphrase	D4.4	Nov-16	Jun-17	Nov-17	Jan-18
Data Science Education	*2*	5	1	2	1
Data Science Training	4	-	4	6	5
Data Science Training Europe		1	1	1	1
Data Science Education Europe	1	3	1	1	1
Data Science Europe	3	4	4	2	4

Table 6 - Bing ranking of keywords over time

Keyphrase	D4.4	Nov-16	Jun-17	Nov-17	Jan-18
Data Science Education	5	2	24	12	7
Data Science Training	-	-	-	-	25
Data Science Training Europe	1	2	3	3	1
Data Science Education Europe	-	1	2	1	1
Data Science Europe	5	2	2	3	4

Furthermore, the keyphrases shown in Table 5 and Table 6 are the performance of the target keywords for Google and Bing searches respectively. The tables indicate the performance at approximately six month intervals, when the position was recorded at EDSA plenary meetings, or for D4.4 in the first

instance. Given the highly competitive nature of the space, the rankings fluctuate, as can be seen for the phrase *Data Science Education* on Bing, for example.

The keywords were optimized for Google as opposed to Bing, given the higher market share, which is borne out by the comparatively better results for the terms on Google. In any event, EDSA has a healthy position in the rankings for key EDSA target phrases at the end of the project.

3.1.5 Videolectures

Lectures from www.videolectures.net have been embedded into the http://edsa-project.eu/video-lectures/ page of the website, which enables visitors to watch extended video lectures of experts in the field of data science and other related fields. These were added on a regular basis, when there was appropriate content to include. There are currently 24 video lectures selected by partners of the EDSA project. All credit for the recording and creation of the video lectures goes to videolectures.net.

3.2 News and Newsletter

The website has been the central channel through which to disseminate and distribute news associated with the EDSA project. The news feature on the website notes, on average, 2/3 news articles a month associated with the developments of the project, stories written by the EDSA ambassadors, new courses and other related news in the data science industry. This primary source supports the Search Engine Optimisation of the website, through utilizing the planned keyphrases and keywords.

Figure 8 - Machine Learning for Data Scientists Workshop

The news stories are distributed to all subscribers on the website mailing list through an email newsletter, and also via the respective Twitter channel detailed below. The email newsletter is sent out every quarter starting January 1st. Table 7 shows the number of subscribers to the email newsletter and the relative newsletter open and click-through percentages. As is evident, between the initiation of the newsletter in January 2016, subscription has grown steadily from 140 at the time of D4.4 to 327 at the time of writing this deliverable. A final newsletter is planned at the conclusion of the project.

Table 7 - Newsletter Subscriptions

Newsletter Distribution Date	Subscribers	Opens	Clicks

1st January 2016	100	66%	18%
1st April 2016	119	50.8%	15.3%
1st July 2016	151	41.3%	11.2%
3rd October 2016	179	45.40%	16.40%
16th Jan 2017	210	44.40%	21.40%
7th Apr 2017	219	38.80%	14.20%
26th Jun 2017	260	35.00%	12.00%
6th Oct 2017	327	36.00%	10.70%

3.3 Twitter

The EDSA Twitter account (@edsa_project) has been, and continues to be, actively used throughout the project. The audience of the account has grown steadily through 2017 (Figure 9) and now stands at 1153 followers as of January 2018. Using the same Twitter Analytics feature, we can also see the resulting engagement with tweets from the EDSA account (Figure 10) to get an idea about the size of the audience they reach, and how many people go on to interact with the message further.

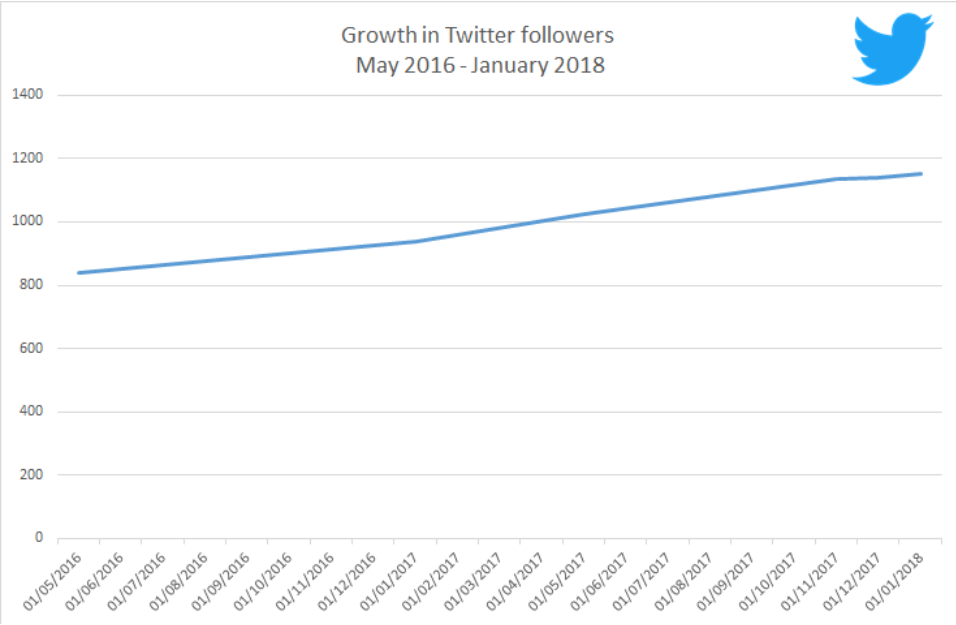

Figure 9 - Twitter followers graph up to October 2017

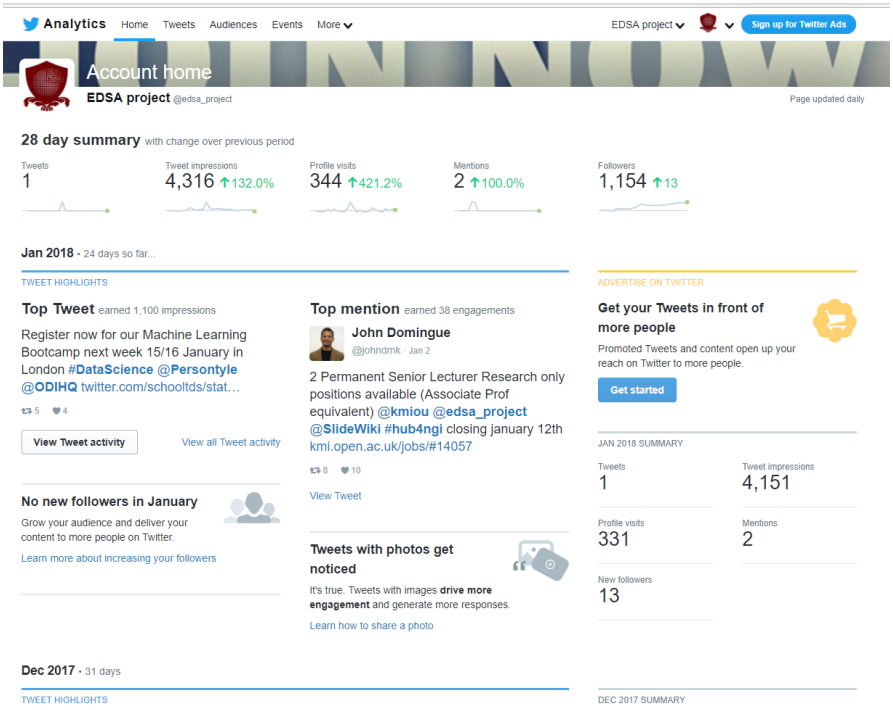

Figure 10 – Summary of Twitter activity for January 2018

The top tweet since the set-up of the Twitter account earned a total of 2,464 impressions, which promoted a course in machine learning due to be hosted by one of EDSA's key partners, Persontyle. This also received a total of 7 retweets and 2 likes.

The most popular Tweets were for the EDSA courses advertised, continuing the trend from the previous report. These and similar courses were the key reports from the Twitter account, although data science news and reports were also included as a means of increasing followers.

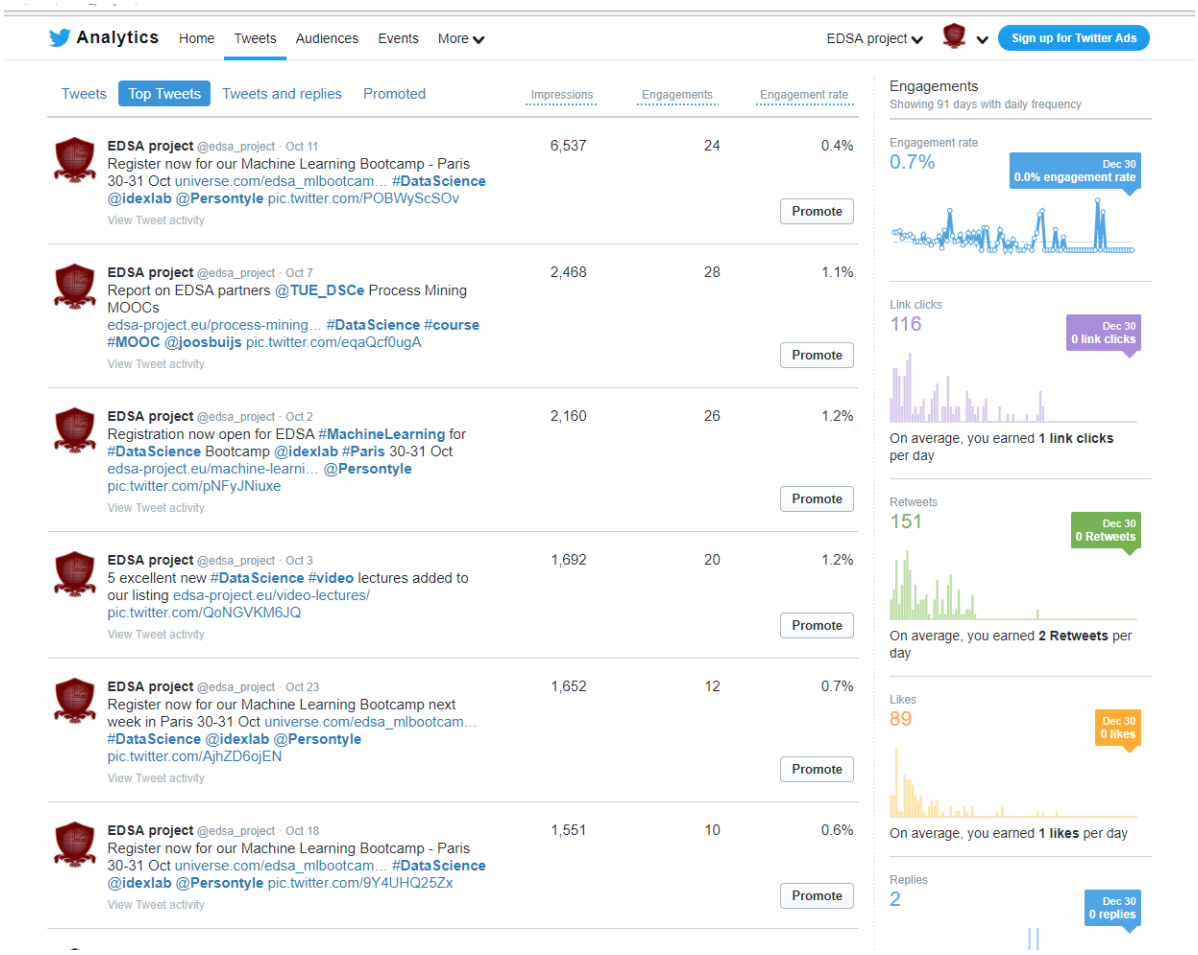

Figure 11 - Engagement with Twitter Account December 2017 - January 2018

3.4 Courses Portal

The EDSA courses portal (http://courses.edsa-project.eu) was set up to provide a centralized location for all of the courses offered by the EDSA project, including courses developed by the EDSA project and courses owned and managed by affiliated institutions. Website visitors were able to enroll on courses and for the EDSA partners to check the progress of the learners, using Google Analytics to track the visitors to the website and the Moodle platform to gather learner progression data for learning analytics.

As a result of the review in M18, the nature of the courses portal changed. The focus instead went towards curation of courses, as opposed to creation, and so the courses on the portal are generally references to external courses. There is now a "learning pathways" feature, related to the EDSA dashboard (see below), which allows users to select topics in courses to obtain the skills they require. The learning pathways is discussed in more detail in D2.6, and the dashboard in D1.5.

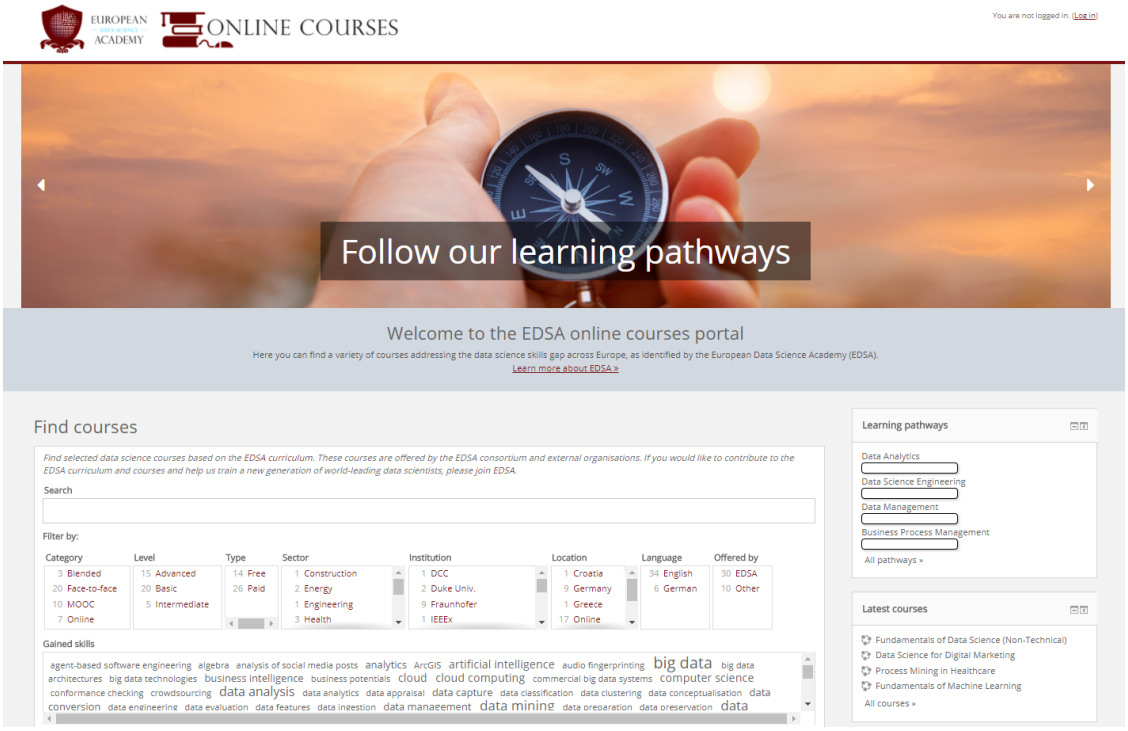

Figure 12 - EDSA Courses Portal Homepage

3.4.1 Courses Portal Google Analytics and Traffic Data

Table 8 shows a representative month of traffic, of June – July 2016 which was presented in D4.4. Although this portal comparatively had a lower amount of users and a higher bounce rate than that of the main website, the average session duration was longer by 1 minute and 4 seconds. This shows that the learners were having an extended amount of interaction with the portal itself, and the associated course material.

Table 8 - EDSA Courses Portal Analytics Traffic Data (17 June – 17 July 2016)

Metric	Total	Avg./Day
Sessions	893	29
Visitors	599	20
Page Views	4,382	146
Bounce Rate	63.49%	N/A
New Sessions	63.30%	N/A
Avg. Session Duration	3:26	N/A
New Visitors	61.59%	N/A
Returning Visitors	38.4%	N/A

Table 9 shows the statistics for the courses portal for the subsequent 18 months since those reported in D4.4. These statistics are mixed, since they show a decline in visits to the website, but show a significantly improved bounce rate (from 63.49% to 55.2%), and a session duration of 3:47, which indicates that the content on the portal retains the interest of the users.

Table 9 - EDSA Courses Portal Analytics Traffic Data (18 July 2016 – 17 January 2018)

Metric	Total	Avg./Day
Sessions	8,140	14.03
Visitors	4,905	8.45
Page Views	38,893	146
Bounce Rate	55.20%	N/A
New Sessions	59.57%	N/A
Avg. Session Duration	3:47	N/A
New Visitors	59.6%	N/A
Returning Visitors	40.4%	N/A

Table 10 shows the distribution of visitors from July 2016 – January 2018. This is dominated by EU countries, with the most common being the UK, with nearly twice as many website viewers as the second placed Russia. Of the top 10 countries, seven are EU member states, the other three being Russia, USA and India.

Table 10 – Courses Portal Visitor Country Statistics (18 Jul 2016 – 17 Jan 2017)

Country	Hits	Percentage of Total (Hits)
United Kingdom	2,965	22.63
Russia	1,991	12.04
Germany	1,239	10.87
Spain	1,230	8.59
USA	654	6.24
Netherlands	595	4.24
France	372	2.91
India	348	2.85
Belgium	309	1.99
Italy	246	1.86

3.5 Course Material

In D4.4, a section was included concerning the course material developed by EDSA partners, which provided details of the EDSA branded courses. Although we have continued to deliver online, f2f and blended courses, these are no longer part of our community building and dissemination strategy owing to the change in focus of the project towards curation rather than creation of content.

The focus of the dissemination strategy has been the website, as a central repository for all information about the project. Nevertheless, some materials remain online, in particular in Slideshare, Vimeo, and YouTube channels, but these are less actively maintained than before owing to their limited effectiveness and the reduction of EDSA created content. In this section, we briefly provide an overview of these supplemental channels.

3.5.1 YouTube channel

A YouTube channel was created in 2017, with the intention of being a channel with a high amount of potential viewers, containing largely videos sourced from EDSA partners, or videos related to data science on a playlist. The channel has a total of 28 subscribers, with a total of 574 views of videos uploaded by EDSA.

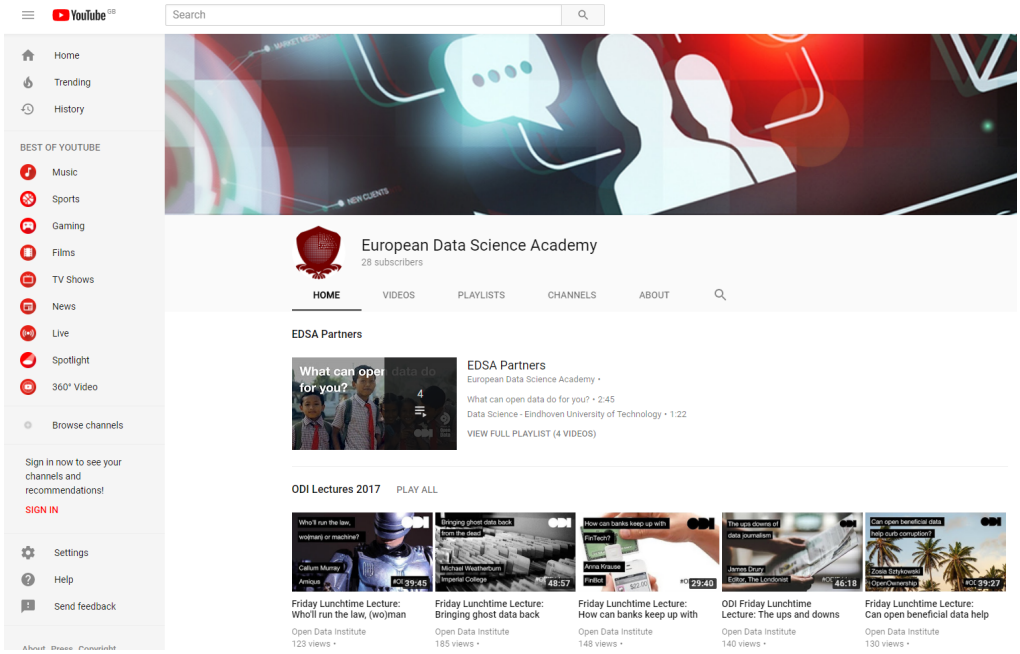

Figure 13 - Screenshot of YouTube channel

3.5.2 Slideshare Materials

In addition to the online courses, presentation files are placed within the EDSA Slideshare account (http://www.slideshare.net/edsa-project/) in order for presentation materials to be accessed publicly. Slideshare analytics only allows 12 months of viewing information to be viewed, so for this we compare the 12 months prior to D4.4 (June 2016), and the 12 months to the current deliverable (January 2018).

The summary of the Slideshare activity can be seen below in Figure 14, showing a total of 604 views of a total of 9 uploads, and 25 followers. This compares with the situation in D4.4, where the account had a total of 1,808 views over 12 months, 22 followers, and 12 downloads.

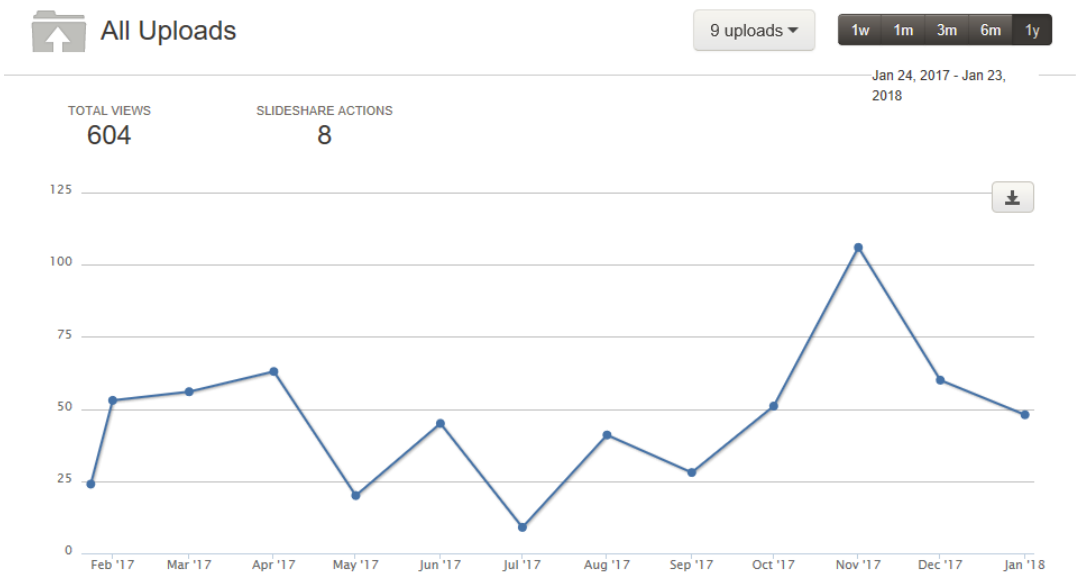

Figure 14 - Slideshare View Analytics

3.5.3 Vimeo

The EDSA project has developed a Vimeo account (https://vimeo.com/edsa) through which to disseminate video content to users and learners. As of November, the Vimeo account has 18 videos about data science-related topics including Agent Coordination and Agent-Orientated Software Engineering. Since creation of the Vimeo account, the videos have had a total of 271 plays.

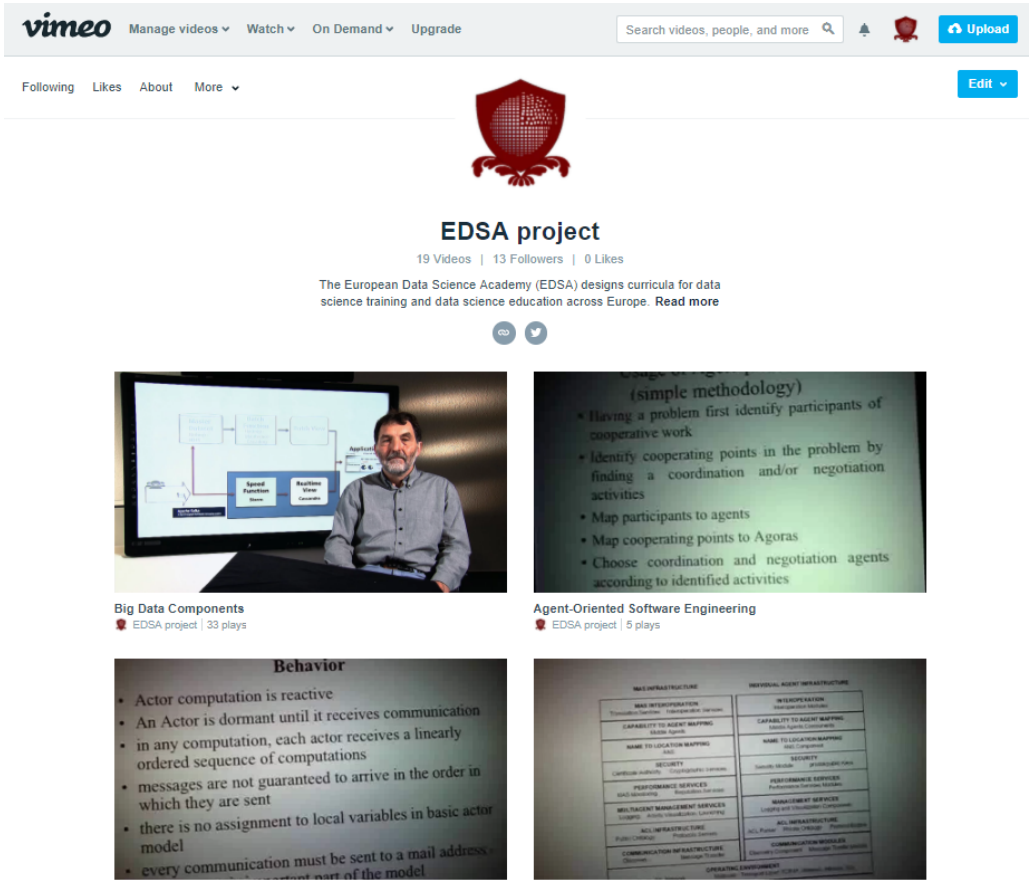

Figure 15 - EDSA Vimeo Homepage

3.6 Real-World Events

As described in D4.3's real-world and online community engagement plan was an emphasis on promoting EDSA through a combination of online communication and real-world event attendance.

Partners from across the consortium have been attending such events since the start of the project, speaking about and promoting the work that EDSA is carrying out. Details of these events are shown in Table 11. As discussed in the real-world and online community engagement plan (D4.3), these events cover two important areas related to the project: data-science themed events, and e-Learning themed events. Therefore, this categorization is continued within Table 12 to demonstrate the variety of events that the consortium has been participating in, in the 18 months since D.4.

Table 11 – EDSA Real-World Event Participation

Event	Date	Location	Event Type	Attended By	Interaction With Event	Number of Attendees	Link
EDISON Data Science Champions Conference	Jul 2016	Brockenhurst, UK	Conference (data science)	UoS	Keynote	50	N/A
Essex Big Data and Analytics Summer School	Sep 2016	Essex, UK	Summer School	ODI	Organised event		N/A
ODI Pre-Summit Training	Oct 2016	London, UK	Training	ODI	Ran event		N/A
ODI Summit	Nov 2016	London, UK	Summit – open data	ODI	Organised event		N/A
Nordic AI	Mar 2017	Copenhagen	1 day workshop	Persontyle		50	
The Open Education Global 2017 conference	Mar 2017	Cape Town, South Africa	Conference	OU	Presented paper	**60**	http://edsa-project.eu/edsa-at-the-open-education-global-conference/
Data scientist: a key qualification in the age of digitalization	Jun 2017	Germany	Workshop	Fraunhofer	Invited talk	50	http://www.fz-juelich.de/SharedDocs/Downloads/UE/DE/17-05-05_Flyer_WS.pdf;jsessionid=828503DB5F2E78A19FAF02F7C1CA0A2D?__blob=publicationFile (German)
ML Bootcamp	Jun 2017	London	2 day workshop	Persontyle/Open Data Institute	Ran workshop	**9**	https://www.universe.com/events/edsa-bootcamp-london-machine-learning-for-data-scientists-tickets-M1JLZQ

ML Bootcamp	Aug 2017	Sankt Augustin	2 day workshop	Persontyle/Fraunhofer	Ran workshop	**11**	https://www.universe.com/events/edsa-bootcamp-germany-machine-learning-for-data-scientists-tickets-M1JLZQ
OER Congress	Sep 2017	Ljubljana, Slovenia	Presentations	JSI		30	http://www.oercongress.org/event/european-commission-open-education-projects/
The 20th International Conference on Interactive Collaborative Learning (ICL 2017)	Sep 2017	Budapest, Hungary	Conference	OU	Presented paper	50	http://edsa-project.eu/icl2017-teaching-and-learning-in-a-digital-world/
Semantics Conference	Sep 2017	Amsterdam, Netherlands	Conference	Fraunhofer	Presentations	40	https://2017.semantics.cc/programme
BBC Data Science Research Partnership Event	Oct 2017	London, UK	Networking event	JSI, ODI, Persontyle	Presentation	212	http://www.bbc.co.uk/rd/projects/data-science-research-partnership
ODI Pre-Summit Training	Oct 2017	London, UK	Training	ODI	Ran event		N/A
Big Data Congress	Nov 2017	Halifax, Canada	Conference	Fraunhofer	Panel member	100	http://www.bigdatacongress.net/wp-content/uploads/2017/11/Scerri_Skills.pdf
ODI Summit	Nov 2017	London, UK	Summit – open data	ODI	Organised event		N/A
Conférence Erasme-Descartes - Big Data	Nov 2017	Amsterdam, NL	Conference	TU/e	Presentation	150	https://nl.ambafrance.org/15e-Erasmus-Descartesconferentie-Big-Data-toepassingen-en-uitdagingen-10

European Big Data Value Forum 2017	Nov 2017	Paris, France	Conference	U	Panel member	50	http://edsa-project.eu/data-and-computing-skills-for-digital-science-and-society/

3.7 Ambassadors

Since the previous report associated with the dissemination and engagement activities in the EDSA project, the partners within the project have recruited a set of 'EDSA Ambassadors' who are professionals, experts and academics within the field of data science in the EU. They are situated within a wide spectrum of EU countries and enable better positioning and promotion of the EDSA project in that respective country. As such, encouraging a set of data science experts in different locations across the EU to become ambassadors enables the EDSA project to extend its reach and target untapped markets of data science professionals within that particular country. The list of current ambassadors can be seen in Table 13.

The ambassadors are promoted on our website through the Ambassadors section which will detail their respective experience and expertise in the field of data science, and other fields. Although not all ambassadors are currently found on the website, the initial set of ambassadors can be found at http://edsa-project.eu/members/ambassadors/.

Table 13 - Ambassadors

Ambassador Name	Role/Experience	Constituent Country
Mariana Damova	CEO of Mozaika Ltd (Data Science SME)	Bulgaria
Joseph Dureau	Data Scientists at Snips and Co-Founder of Standard Analytics	France
Martin Lochman/Milena Dobreva	Researcher/Professor of Data Analysis	Malta
Hugo Silveira Da Cunha	Founder and CEO of BIN	Portugal
Rosa Maria Martin	IT Technical Director of inLab FIB	Spain
Stefano Pagnano	IT Project Manager in Business Intelligence and Analytics	Italy
Ali Khan	Data Analysist for American Express	United Kingdom
Steve Brewer	Lead Project Partner at EDISON	United Kingdom
Gyorgy Szabo	Founder Open Data Portal, Debrecen Hungary	Hungary
Rodrigo Sosa	BeNeLux Regional Manager for Volt	Belgium
Christian Junker	Fanlens.io	Austria

4. Planned vs actual reach of EDSA communication and dissemination

In this section, we compare the planned and actual communication reach across different areas of the project. These will be discussed in Section 5, as part of the broader insights and reflections of the communication and dissemination of the project.

4.1 Project Website

Planned (edsa-project.eu): A central hub for all communication efforts, the website will aggregate the diverse EDSA communication into one comprehensive online presence. 100,000 views for the project website for the full duration of the project.

Actual: As discussed in D4.4, Google Analytics was not installed at the start of the project, but since its introduction there were a total of 81,765 website page views (to November 2017). According to the WordPress statistics, there were a total of 96,971 page views.

4.2 LinkedIn

Planned: We will set up a group on data science training on LinkedIn to promote training activities in this space. As a starting point we will use the networks of the partners to identify the most suitable individuals to invite to the group. In particular, who would be interested in keeping up to date with the project or could act as a multiplier. >3,000 members

Actual: 104 followers (4th Jan 2018)

4.3 Twitter

Planned: Multiplying communication efforts by using social media. >4,000 Twitter followers

Actual: 1,153 twitter followers (as of 24th Jan 2018)

4.4 Advertorials/Publications

Planned: Booking advertorials in selected magazines and online media reaching the target group. 10 advertorials in different magazines and online media.

Actual: Since the start of the EDSA project, 16 articles have been released to the press detailing the project's scope, aims and ambitions. These initially began with press releases from partners regarding the start of the project, along with news articles explaining what the funding was going towards. More recently, our lead partner of EDSA, the Open University, contributed to a policy report on the use of data in higher education.

4.5 E-Learning channels

Planned: Task and media-specific channels such as Videolectures, SlideShare, YouTube and iTunes U. All figures are cumulative: 10,000 downloads and 150,000 views of the video recordings/webinars produced by the project; 50,000 views on SlideShare, 50,000 views on iTunes U.

Actual: As detailed in report D4.5 Final community engagement and networking report, the project has focussed on identifying, rather than creating, and establishing a large number of videos on the Videlectures site, resulting in 271,333 views of the data science videolectures (from 2015-2017). As discussed in Section 3.5.2, a Slideshare account was created, and had a total of 3024 views.

In addition to the online courses, presentation files are placed within the EDSA Slideshare account (http://www.slideshare.net/edsa-project/) in order for presentation materials to be accessed publicly.

4.6 Collaborations

Planned: Collaborate with data science organizations and partner with other Data Science events, such as Big Data hackathons. Collaborate with 20 institutions outside the consortium. Organize at least 10 joint training events and 2 Big Data hackathon events during the project.

Actual: This report has detailed the overall community building, and collaboration with other institutions, which emphasised promoting EDSA through a combination of online communication and event attendance. Partners from across the consortium have been attending such events since the start of the project, speaking about and promoting the work that EDSA is carrying out. As discussed in the real-world and online community engagement plan (D4.3), these events cover two important areas related to the project: data-science themed events, and e-Learning themed events.

Workshops and training events have been delivered at high profile events such as ESWC, in addition to the series of machine learning bootcamps organised by Persontyle. Engagement with many institutions has taken place, as indicated by the 12 EDSA ambassadors, and the wide array of events with EDSA attendance (54 recorded over the duration of the project).

5. Insights and Reflections to the Engagement Plan

The statistics, data and visualisations within this report show a summary of the current array of tools and channels which were used in order to support the engagement and dissemination WP within the EDSA project, and how they have performed since the previous report in M18 of the project. The statistics and data collected from each of the channels have been reviewed since the initial plan and adapted accordingly. This section of the report details a summary of the insights obtained from this data collection and analysis, reflections on the levels of engagement with each of the aforementioned channels, and a summary of the revisions that have thus far been conducted. It also reports on how the engagement channels may be adapted in order to further develop the engagement and dissemination activity. Furthermore, this section also briefly considers the overall performance of the marketing and dissemination against those which were initially planned (See Section 4).

The high amount of views on the website, was very close to the initial target of 100,000. Since the primary focus for project outputs has been the website, and has had the greatest amount of effort, this is positive. Different parts of the website, such as the dashboard and courses portal have continued to perform well, and regularly updating the website with news has contributed to keeping viewers returning.

The high ranking for certain keywords depicted in Table 5 and Table 6, and the high amount of traffic from organic search (44.7% of the total traffic), depicts the effectiveness of the SEO campaign that is being run in parallel to the planned dissemination activities. Although the UK had comfortably the highest number of visitors, it was not excessive, and visitors from other EU countries were represented. It is possible that the high ranking of UK, and the presence of the USA, is as a result of the fact that the website is in the English language, as well as the choice of keyphrases for the SEO campaign.

Additionally, from reviewing the keyword/keyphrase visibility on the primary search engines of Bing and Google, it is evident that the keyword visibility is subject to change very often. This is largely due to the competitive nature of the keywords within this particular topic. For instance, achieving high rankings for keyphrases such as “data science courses” is very difficult as longer-established websites (e.g. university websites) have the advantage of being established before the EDSA project. Despite these challenges, the keyphrases continued to perform well through the second half of the project with the majority consistently remaining in the top 10 of Google and Bing search results.

This previous report saw the introduction of the videolectures and newsletter to the dissemination and engagement marketing mix. These continued to grow over the course of the project and appeared to provide good levels of engagement with users. Other channels were less effective, including LinkedIn, Vimeo, and Slideshare. This can be attributed to the fact that the outputs from the second half of the project were not suitable for those sorts of platform.

On the other hand, a channel that has been consistently growing throughout the project, Twitter, is understood as being a powerful and engaging tool for a wide spectrum of data science professionals, researchers and educators. All news is distributed through this channel to encourage readership of the news stories and subscription to the newsletter. The level of growth of the Twitter channel was steady throughout, growing to a total of 1,153 followers. Although this may be considered a slow rate, it is argued that the EDSA project account does not use ‘black hat’ techniques to boost the followers; instead followers are obtained by producing original, creative and valuable content that the audience wishes to keep abreast of. Thus, it is understood that the followers within Twitter are an engaged and interested audience appropriate for the aims of the engagement and dissemination plans.

The performance of Twitter, the newsletter, and SEO is in contrast to interest shown to the materials on the website and dashboard. Although they continued to perform satisfactorily, there was a small, although noticeable decrease in the page views on the website. This could be attributed to the change of direction of the project, in that fewer consumable deliverables were added to the website, and that it focused more on curation of content. This is supported by the fact that the Twitter posts which generated the most engagement were those advertising the machine learning bootcamps (See Figure 11). Alternatively, a possible explanation is that the market is saturated with an excess of data science material and services without a corresponding rise in demand.

6. Conclusion

This report provides an extensive overview of the channels, tools and data which was leveraged for the development of the engagement and dissemination activities, and a comparison with the previous report D4.4. In Section 3.1, summaries of the engagement and dissemination activity is provided, detailing the specific statistics collected based upon the EDSA project website, its related analytics and SEO visibility, videolectures, news and newsletters, and Twitter. Following this, an overview of the audiences for the EDSA-branded courses was presented, accompanied by statistics relating to the EDSA Slideshare account. Finally, this report details an overview of the real-world events attended, organised and run by the EDSA project partners, the press coverage that has been conducted both before and since the previous report, and an introduction to the data science ambassadors, their respective experience with data science and their constituent country. The dissemination activities continued to perform solidly for the second half of the project, but there was a reduction in engagement with the website, for which we do not have a definitive explanation.