D6.2 Initial Communication and Dissemination Report

Version 1.0

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Change Log

Version	Author	Description of Change
V0.1	Edaimon De Juan	Initial Draft
V0.2	Renata Giménez	Second draft with internal review
V0.3	Ana Belén González	Third draft with internal review
V0.4	Edaimon De Juan	First version with changes accepted
V0.5	Francesco Guaraldi	First version peer review
V1.0	Edaimon De Juan	Final version with changes accepted

Table of contents

1 Executive Summary

This report summarises the dissemination activities carried out by the CLASS project from January to December 2018.

This report includes a complete list of publications and conferences as well as of presentations made at various events and workshops related to the project. Furthermore, additional coverage of the project in press and social media is also presented in this document, as well as other dissemination activities such as collaborations with other projects.

Over the first year of the project, the consortium participated in a total of 10 conferences, workshops or seminars disseminating the project. With the aim of building a community around the project, the dissemination team posted regular updates on the project's dedicated LinkedIn and Twitter channels.

The dissemination team has successfully carried out the dissemination plan (D6.1).

2 Introduction

The objective of this report is to present a detailed list of dissemination activities, which took place during the 12-month initial period, as planned in deliverable D 6.1. The activities were carried out to build a community around the project and establish the CLASS brand.

3 General objectives

The main purpose of the Dissemination and Exploitation work package (WP6) is to maximise the visibility of the project to multiple target audiences in order to foster possible uptake and support CLASS partners in the exploitation of the project results.

For that purpose, the general objectives of WP6 are:

1. Identify and perform communication and dissemination activities in order to maximise the impact of the project, in collaboration with other EU research activities, scientific audiences, and industry forums.
2. Identify the exploitable results of the project and define the potential commercial products and commercial strategies for these results (target market, business model(s), distribution channels and promotional strategy) to reach the market.

The present report will only consider the point 1, described above, and related to communication and dissemination.

The exploitation strategy, including IPR (point 2), will be described in a separate deliverable D6.3 Initial exploitation report, which will be updated in yearly reports D6.5 Intermediate exploitation report and D6.7 Final exploitation report.

4 Corporate image

In accordance with deliverable D6.1 Communication and Dissemination Plan, the first step was to define a common graphic identity. The brand of CLASS project (including brand and style, Barlow font chosen, project templates defined for presentation, poster, etc.) was established and its guidelines have been correctly implemented by all partners in this first year.

5 Dissemination tools

During the first year of the project, the dissemination tools have consolidated as the visible part of CLASS. The main dissemination activity is the creation of the website, as the main scenario for all CLASS dissemination activities.

5.1 CLASS website

In this first project year, the overall performance of the website has been satisfactory. The website, build in Drupal (open source CMS), satisfied the technical requirements of performance and security. In addition, the website is prepared to host the intranet and several members, allowing an effective management by the dissemination team and a seamless access by all consortium members.

Summary

Sessions	Users	Page Views	Bounce Rate	Avg. Session Duration
1,747	907	6,108	50.31%	00:03:31

Figure 1: Main indicators of the CLASS website for 2018. Source: Google Analytics

The main indicators of CLASS show that the website is attaining the main objectives. The total sessions are 1,747 since the launching of the website, in March 2018 (as shown in Fig. 1). The established KPI in the D6.1 Communication and Dissemination Plan for this metric is 1,000 sessions per year.

The total users are 907, who fulfilled 6,108 page views. The bounce rate (50.31%) is in a correct range: over 60% would indicate that the website is not sufficiently engaging the audience. The average duration, 3:31 min., reinforces this idea, with long sessions in the CLASS website (Fig. 1).

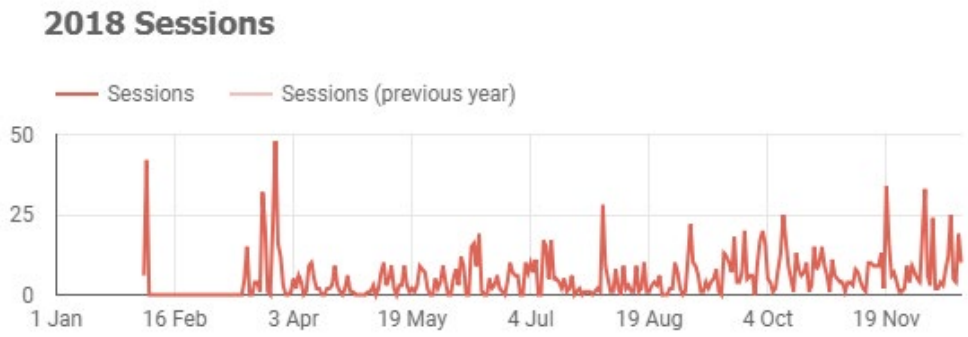

Figure 2: Sessions on the CLASS website for 2018. Source: Google Analytics

To understand the flow of sessions, Figure 2 states the progression of session's total number along 2018. The peaks are related to specific disseminations activities such as a press release (launched 26-27 March 2018) or the participation in particular events such as the Smart City Expo, 18-19 November 2018.

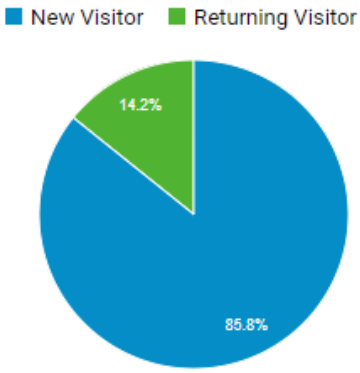

Figure 3: New visitors vs Returning visitors to the CLASS website for 2018. Source: Google Analytics

CLASS sessions show a very high number of new visitors (Fig. 3). However, the trend in the acquisition of visitors is turning from over the 50% direct source visits to a balanced flow with increasing indicators such as organic search and referral. This performance shows the settlement of the project, with a growing number of links pointing to the CLASS website and increasing hits from search engines (Fig. 4).

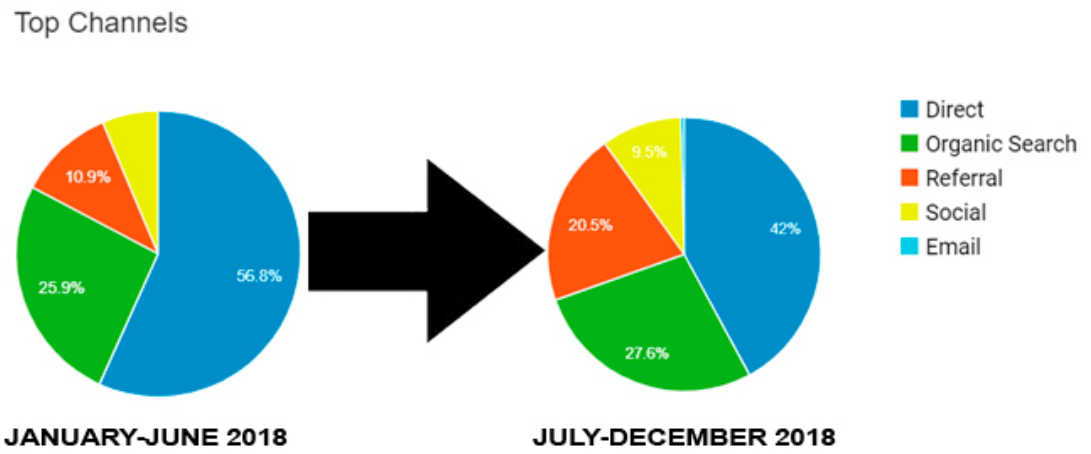

Figure 4: Traffic source channels for the CLASS website. Comparison January to June vs July to December 2018. Source: Google Analytics.

Social media is also increasing as traffic source. Nevertheless, the indicator stays under 10% of total sessions (Fig. 4), a low value but with a high quality of sessions, with only a 38.18% of bounce rate (Fig. 5).

	Acquisition			Behaviour		
	Users ↓	New Users	Sessions	Bounce Rate	Pages/Session	Avg. Session Duration
	887	887	1,725	50.26%	3.52	00:03:31
1 Direct	430			54.31%		
2 Organic Search	221			53.92%		
3 Referral	193			49.12%		
4 Social	81			38.18%		
5 Email	3			50.00%		

Figure 5: Traffic source channels and bounce rate for the CLASS website in 2018. Source: Google Analytics

The most engaging pages are the ‘News’ section, followed by ‘Partners’ and ‘About’, both generating similar interest (Fig. 6).

Content performance (Total 2018)

	Page Title	Page	Page Views	Unique Page Views	Avg. Time on Page
1.	CLASS: Edge and Cloud Computation: A Highly Distributed Software for Big Data Analytics	/	1.3K	950	00:01:54
2.	News & Press releases | CLASS: Edge and Cloud Computation: A Highly Distributed Software for Big Data Analytics	/media/news	294	180	00:00:53
3.	Partners | CLASS: Edge and Cloud Computation: A Highly Distributed Software for Big Data Analytics	/partners	274	205	00:00:49
4.	About | CLASS: Edge and Cloud Computation: A Highly Distributed Software for Big Data Analytics	/about	271	203	00:01:30
5.	Events | CLASS: Edge and Cloud Computation: A Highly Distributed Software for Big Data Analytics	/events	234	142	00:00:42
6.	Developing the technology for future smart cities and autonomous cars | CLASS: Edge and Cloud Computation: A ...	/news/developing-technol...	184	149	00:03:06
7.	The road towards edge recognition | CLASS: Edge and Cloud Computation: A Highly Distributed Software for Big D...	/news/road-towards-edge...	170	136	00:03:43
8.	Publications | CLASS: Edge and Cloud Computation: A Highly Distributed Software for Big Data Analytics	/publications	154	133	00:00:25
9.	Branding | CLASS: Edge and Cloud Computation: A Highly Distributed Software for Big Data Analytics	/media/branding	142	95	00:01:30
10.	Cloud Computing QoS for Real-Time Data Applications | CLASS: Edge and Cloud Computation: A Highly Distribute...	/news/cloud-computing-q...	136	100	00:03:31
		Grand total	**5.6K**	**4K**	**00:01:25**

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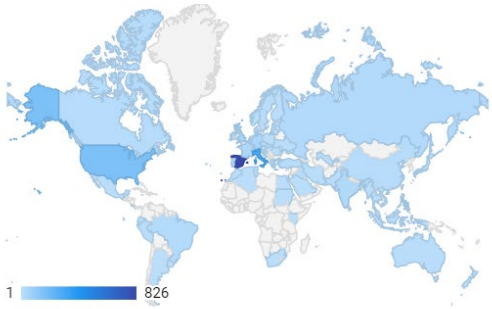
Figure 6: Views and average time on the CLASS website content in 2018. Source: Google Analytics

Regarding visits by country, most of sessions originate in Spain and Italy (Fig. 7), where most of CLASS partners are located (BSC, ATOS, City of Modena, Maserati and UNIMORE).

Sessions by country



	Country	Sessions	Page Views
1.	Spain	826	
2.	Italy	309	
3.	United States	166	
4.	Israel	47	
5.	Germany	41	
6.	United Kingdom	37	
7.	France	36	
8.	Belgium	30	

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Figure 7: Visits to the CLASS website by countries in 2018. Source: Google Analytics

CLASS home page has been updated to display the CLASS dissemination video (see section 5.4.4). Videos from YouTube can now be played directly on the home page, increasing its visibility and enhancing the multimedia capabilities of the website.

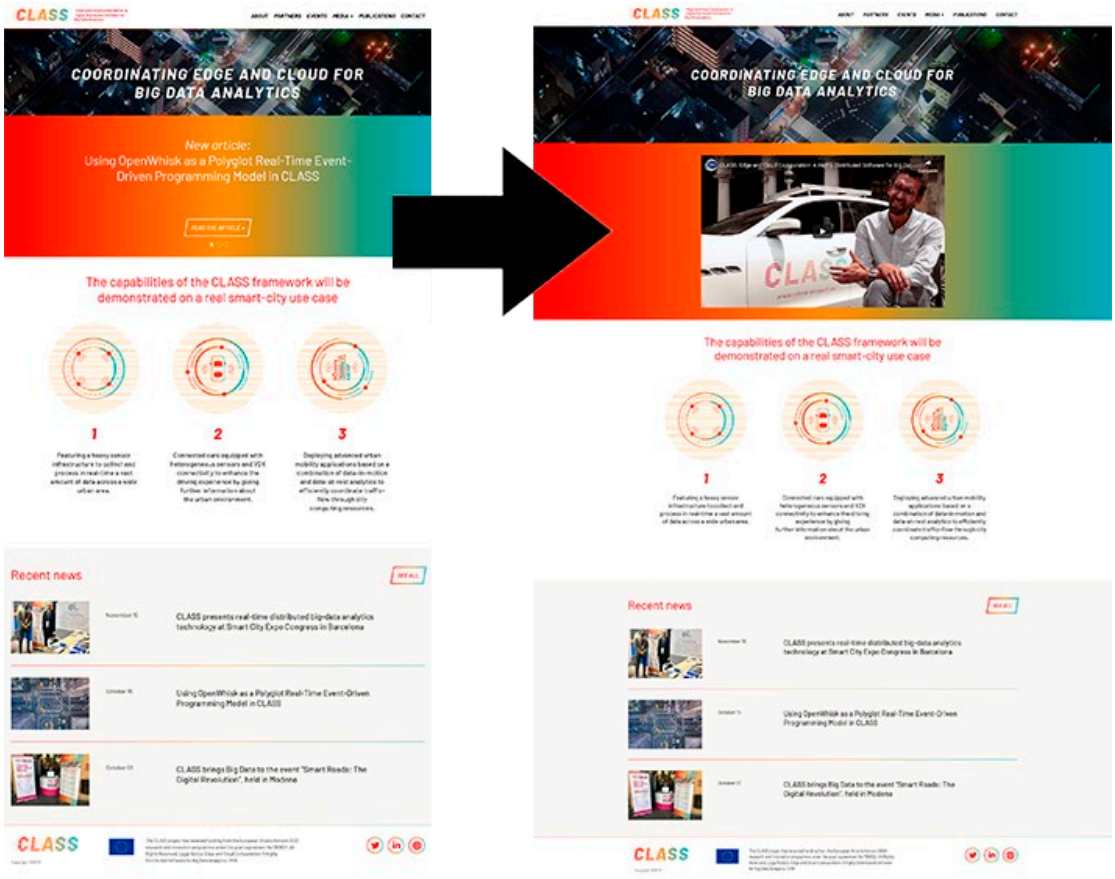

Figure 8: Home page of the CLASS website redesigned to display video

5.2 Social media

As shown in Fig. 4, social media channels provide nearly 10% of the website sessions. Twitter account generates 66.10% of the traffic to the website. The LinkedIn group provides a 26.50% of the traffic. (Fig. 9)

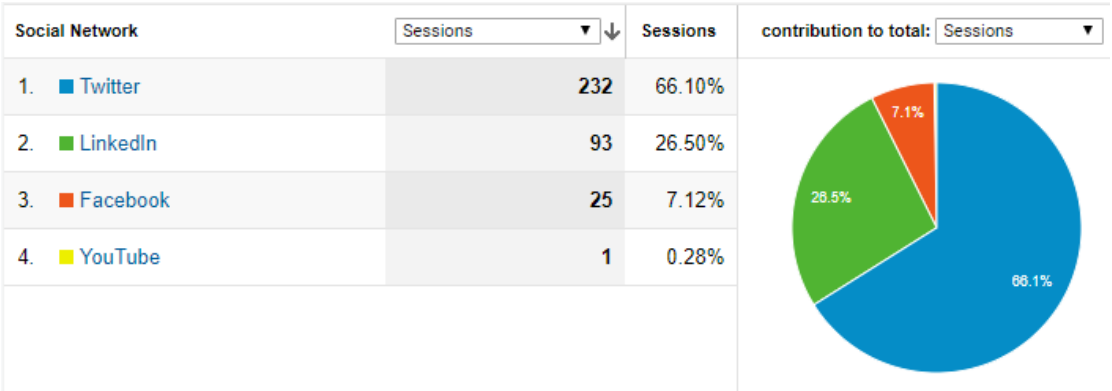

Figure 9: Traffic to the CLASS website referred from social media. Source: Google Analytics

5.2.1 Twitter

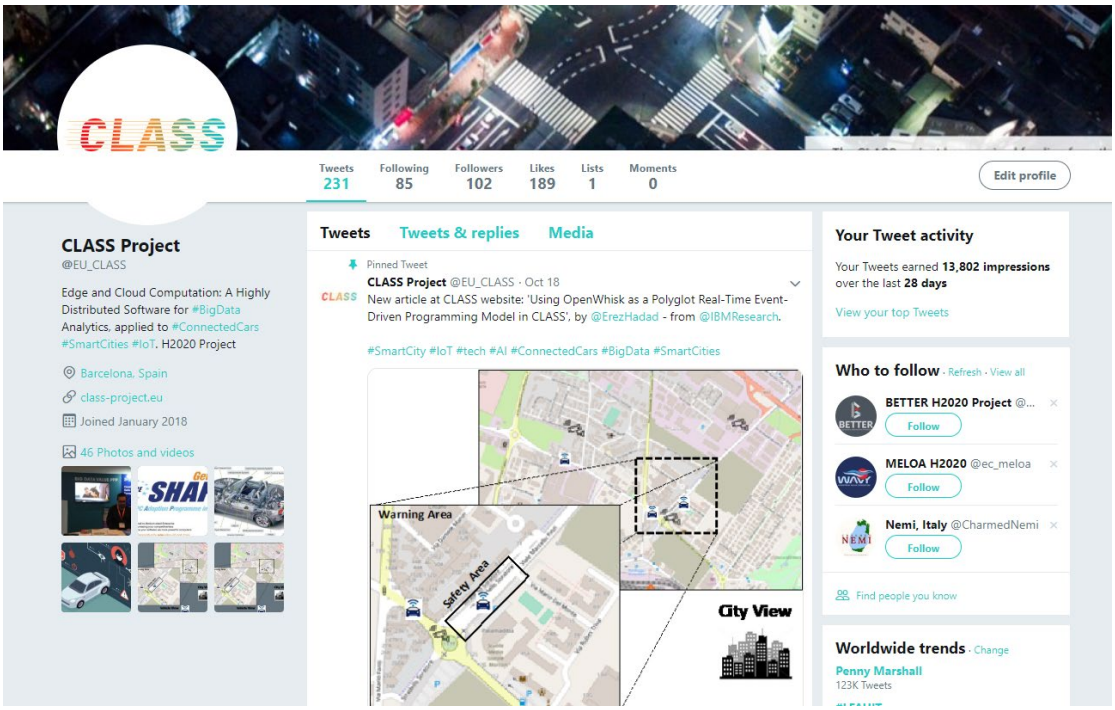

Figure 10: CLASS Twitter account

Originally, the strategy in Twitter targets academia and industry. During the development of CLASS, the audience has been broaden to general public by including informative tweets about more general subjects, such as #ConnectedCars (Fig. 11). As result, we see a steady increasing in followers (total: 102, see Fig. 10) and more impressions in the tweets related to connected cars (Fig. 12), strategically positioning CLASS in this knowledge area.

Figure 11: Hashtags used by CLASS. Source: Twitter API

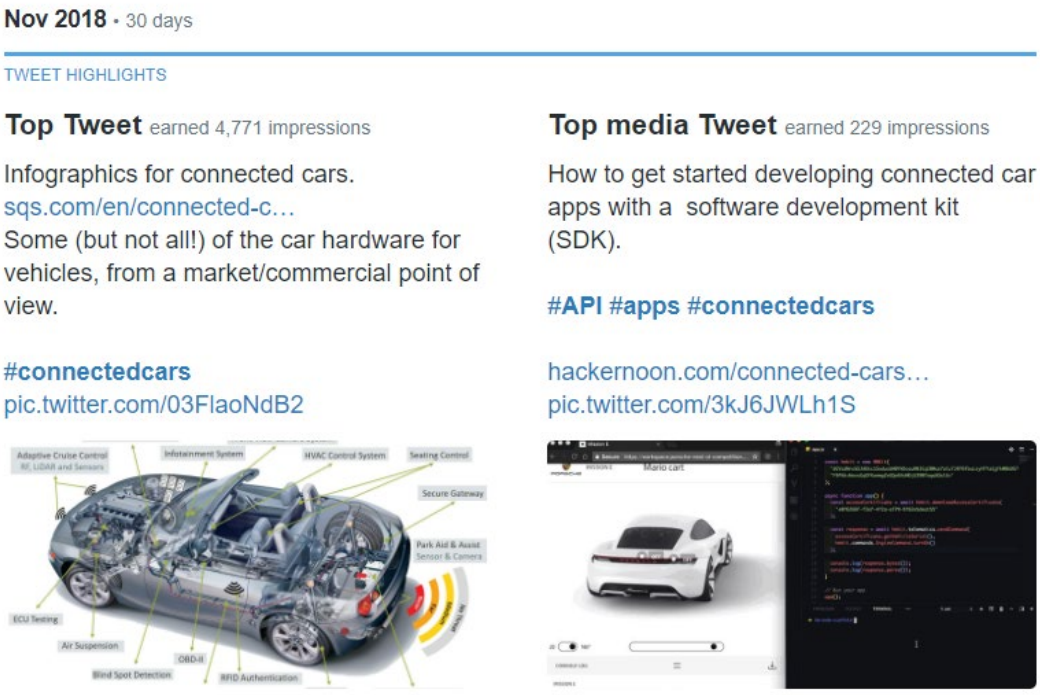

Figure 12: Examples of top tweets in November 2018. Source: Twitter Analytics

5.2.2 LinkedIn

The LinkedIn group consists in a group of 27 people strongly related to the project, as LinkedIn is by definition a social network targeting professional audience. Currently, LinkedIn groups do not support analytics, but we know from the CLASS website analytics that is the second social media network directing traffic (Fig. 9).

5.2.3 Social media KPIs

The overall view on social media channels show a satisfactory progress of Twitter and LinkedIn trough the KPIs (Table 1).

CLASS social media key performance indicators	First year	Target for project
Number of Twitter followers	102	250
Number of new LinkedIn group members	27	150

Table 1: CLASS social media indicators. Source: Twitter Analytics and LinkedIn

5.3 Events

All consortium partners attended events, workshops, conferences, etc. to disseminate the project. The full list of all dissemination activities is included below. The consortium attended a total of 10 events and disseminated the project at national and international events, which are key for CLASS targeted audiences (see Table 2).

Type of event	Title	Date	Audience type	Audience size
Participation to an event other than conference / workshop	CLASS presentation at SEAT headquarters	09/07/2018	Scientific Community (higher education / research)	20
Participation in activities organised jointly with other H2020	CLASS presentation in a MOVECIT meeting	03/09/2018	Big Data Practitioners	n/a
Participation to an event other than conference / workshop	CLASS presentation at IBM Haifa (two different days)	08/11/2018	Big Data Practitioners	n/a
Participation to an event other than conference / workshop	CLASS presentation at Cellnex	10/01/2018	Scientific Community (higher education / research)	20
Participation to a conference	Oral presentation at DATE18 Conference	12/02/2018	Scientific Community (higher education / research)	30
Participation in activities organised jointly with other H2020	CLASS presentation at BDEC meeting	14/02/2018	Industry	20
Participation to a conference	CLASS poster at SYSTOR 2018	23/03/2018	Scientific Community (higher education / research)	50
Participation to a conference	CLASS poster at Smart Agrifood Summit	28/03/2018	General Public	n/a
Organisation of a Workshop	Organisation of a panel together with BDVA at IoT Week 2018	07/06/2018	Scientific Community (higher education / research)	n/a
Participation to a conference	CLASS presentation at MASA conference	27/09/2018	Scientific Community (higher education / research)	300

Table 2: CLASS events during its first year

5.4 Dissemination pack

5.4.1 Brochure

The general brochure provides information about CLASS: its objectives, features and use cases. The format of the brochure is a double-sided A4 sheet and folds in three parts, so that interested project partners can easily download and print for their own dissemination activities. It has been printed to distribute in events or local actions defined by each partner. It is also available on the MEDIA > BRANDING page of the CLASS website.

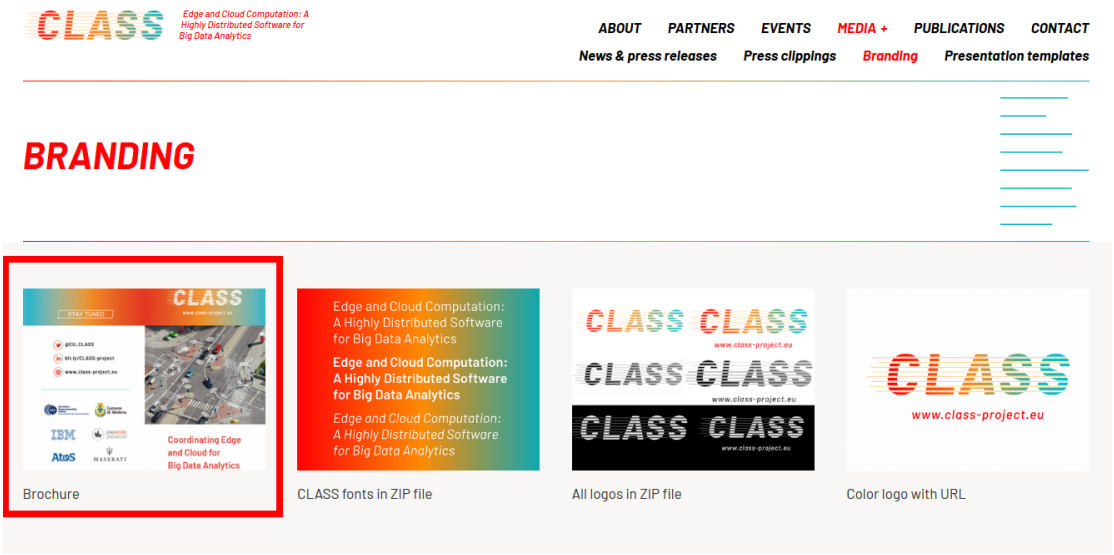

Figure 13: Screenshot of CLASS the website with downloadable Brochure (highlighted in red)

Figure 14: Front side of CLASS brochure

The brochure have been printed for several events (Table 1), such as MASA exhibition (300 brochures) or Smart City Expo (200) – see Table 2.

Figure 15: CLASS brochure printed

5.4.2 Poster

The poster of CLASS, agreed by the consortium, can be downloaded and printed out from the Internet repository and SVN, as well as the template to produce further posters.

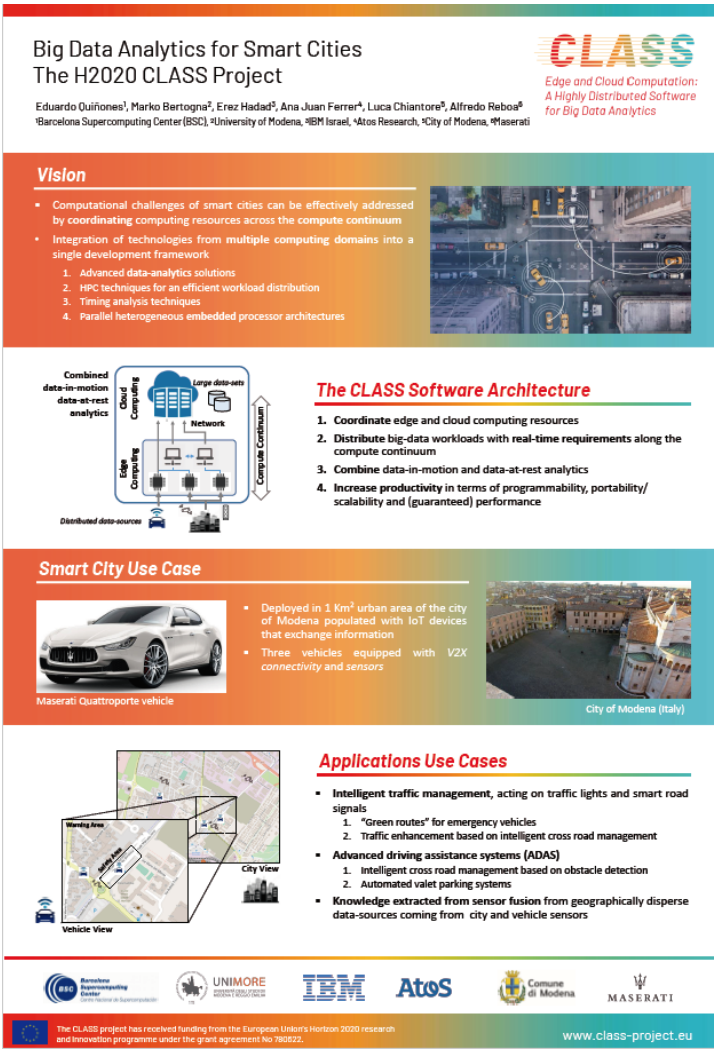

Figure 16: CLASS poster

5.4.3 Presentation

The project presentation has also been distributed among the partners and is available to download on the Intranet and SVN. The templates are also available to elaborate new presentations. The aim of this presentation is for all partners to present the CLASS project in a similar way and align key project messages.

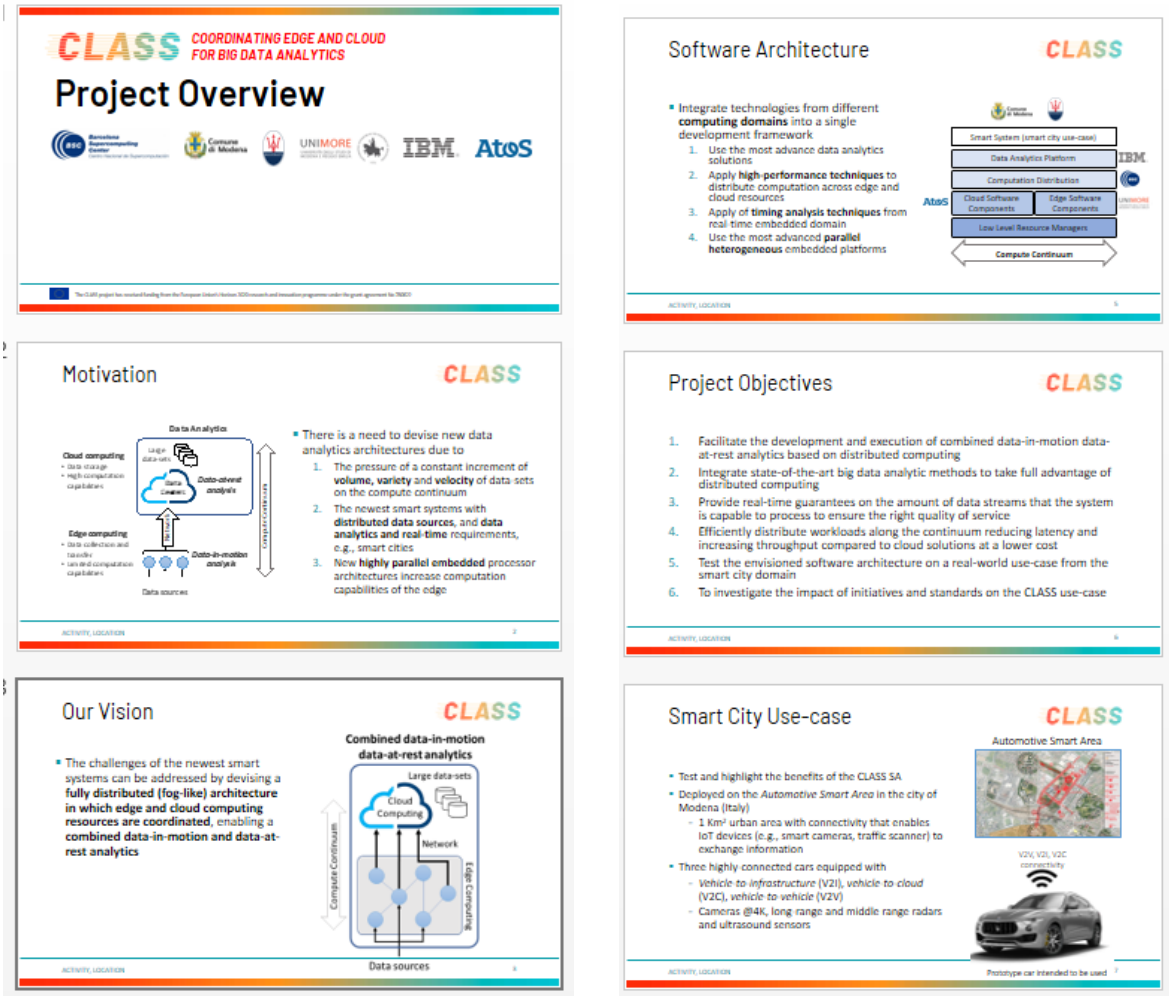

Figure 17: CLASS project presentation

5.4.4 YouTube video

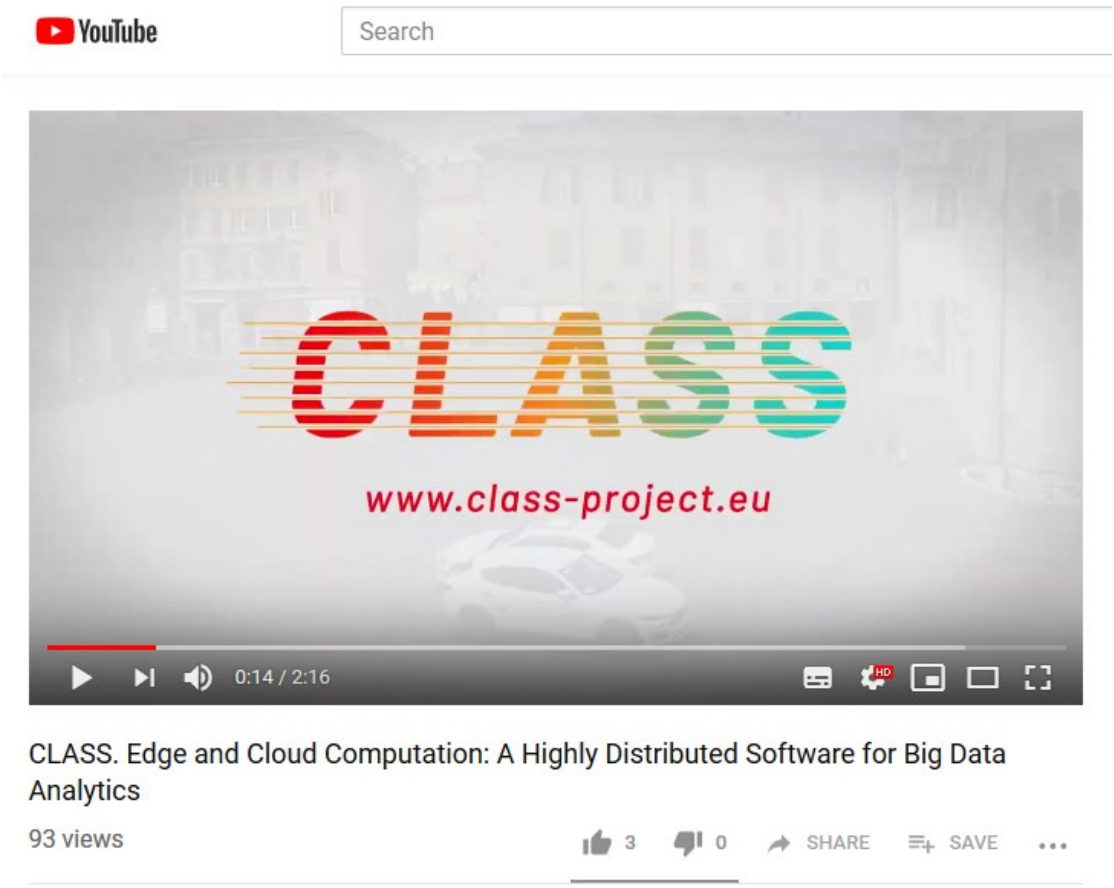

Figure 18: CLASS YouTube video

The first CLASS video (Fig. 18) was posted on 16/12/2018 at the BSC YouTube channel. This first CLASS video aims to present in 2 minutes the project with the major key facts so that the targeted audiences gets a broad idea of CLASS project. It is a dissemination material that can be used for the website, social media, exhibitions and presentations. The main audience of this video are addressed to scientific audiences as well as industry, to raise the awareness of the CLASS project. The video has a voice over, as well as some key words appearing on screen and animation that helps reflecting the CLASS use case of connected car.

The following communications actions will be implemented at the beginning of 2019:

- Press release to technical media
- Promotion of this press release on partner's websites with link to the video
- Dissemination on CLASS social media channels

After this campaign, the views on YouTube will be higher, and the CLASS project will also reach a wider audience.

5.4.5 Roll Up

A roll up has been created and displayed in events where CLASS had a presence. Its aim is to present the CLASS project. The roll up was has been used in two major events so far (see figure 19):

- Smart Roads: The Digital Revolution (Modena)
- Smart City Expo (Barcelona)

Figure 19: CLASS roll up in 'Smart Roads: The Digital Revolution' (left) and Smart City Expo (right)

6 Press strategy

In March 2018, a first press release titled "Developing the technology for future smart cities and connected cars" was sent to technical media to emphasize the need of HPC for smart cities and connected cars. This press release was approved by all partners. The dissemination leader encouraged the CLASS partners to replicate this on their own partners channels, as well as the press release was sent to the CLASS Project Officer to disseminate it among its own channels. In addition, BDVA also included it on its newsletter for big data experts, due to our close collaboration. In total, 11 press impacts in technical media have been documented

Media	Date	Link
CORDIS News	Nov-18	Using OpenWhisk as a Polyglot Real-Time Event-Driven Programming Model in CLASS
Big Data Value	Oct-18	BDVA Newsletter September 2018
CORDIS News	Oct-18	Cloud Computing QoS for Real-Time Data Applications
Big Data Value Website	Sep-18	Class Project: Big Data Analytics Software Solutions for Smart Cities
Big Data Value	Apr-18	BDVA Newsletter March 2018
HiPEAC Magazine	May-18	A CLASS act

Big Data Value Website	Mar-18	CLASS Project – Developing the technology for future smart cities and autonomous cars
Primeur Magazine	Mar-18	Developing the technology for future smart cities and autonomous cars
BSC Newsletter	Mar-18	Developing the technology for future smart cities and autonomous cars
Modena Today	Jan-18	Smart Area per l'automotive, Modena testerà le vetture senza conducente
BSC website	Jan-18	CLASS to develop a novel distributed software architecture for advanced urban mobility applications and connected cars

Table 3: CLASS news clipping

7 Related projects and organisations

7.1 HiPEAC

CLASS is part of the HiPEAC network (Fig. 20) and they have published a presentation of the project both in its website and in its magazine, May 2018 issue (see Table 3 and Fig. 21).

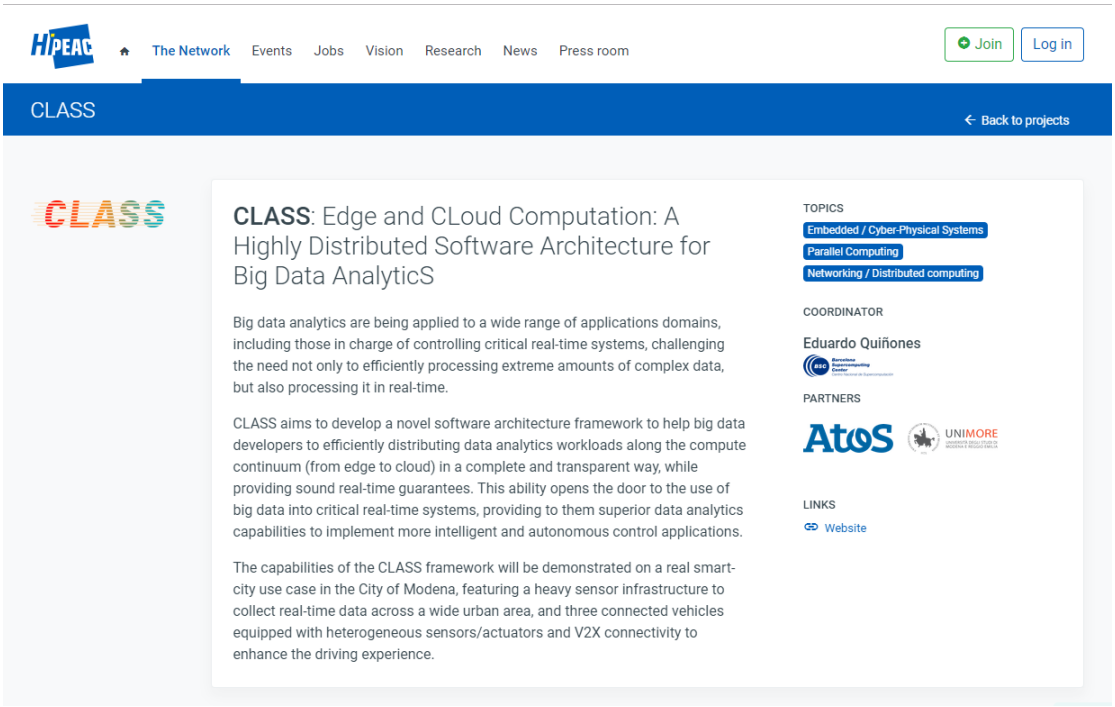

Figure 20: CLASS page on the HiPEAC website

This edition features a software framework for better big data systems for the smart city domain, automatic optimization during software development, a mega project for model-driven engineering and an update on the Heterogeneity Alliance.

Innovation Europe

A CLASS ACT

Smart cities and autonomous vehicles are the near future. CLASS, coordinated by Barcelona Supercomputing Center (BSC), aims to develop a novel software architecture to help software developers to design and efficiently execute big-data analytics workloads with real-time constraints in distributed environments such as those deployed in smart cities.

To do so, CLASS aims to converge and evolve high-performance, low-power embedded and big data analytics computing technologies into a unified software architecture capable of efficiently coordinating and distributing computation resources along the compute continuum (from edge to cloud), while providing real-time guarantees.

The software architecture will be based on COMPSs, the software framework developed at BSC to design and execute high-performance applications in distributed cloud environments. COMPSs will be enhanced to support the distribution of computation among both cloud and edge computing resources, while providing real-time guarantees to the overall work-flow execution, as required by automotive systems.

This technology will be tested in a real urban area of one square kilometre in the city of Modena, using three prototype vehicles provided by Maserati and equipped with the necessary sensors and connectivity.

The project will pave the way towards better big-data systems for the smart city domain that will improve sustainability, services and safe mobility. In addition, the project will prepare the technological background for the advent of trustworthy connected vehicles.

'CLASS will develop a novel software framework for a new generation of highly distributed computing systems with data analytics and real-time requirements, capable of coordinating computing resources along the compute continuum. HiPEAC members are at the heart of this innovative project, whose technology will help bring about the smart cities of tomorrow,' says Eduardo Quiñones, CLASS project coordinator and BSC Computer Sciences researcher.

NAME: CLASS: Edge and Cloud Computation: a Highly Distributed Software for Big Data Analytics
START/END DATE: 01/01/2018 – 31/12/2020
KEY THEMES: Smart cities, connected vehicles, data analytics, big data
PARTNERS: Spain: Barcelona Supercomputing Center (BSC); France: Atos; Italy: Università degli studi di Modena e Reggio Emilia, Comune di Modena, Maserati; Israel: IBM Research – Haifa
BUDGET: €3.9 million
WEBSITE: class-project.eu

CLASS has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement no. 780622

Figure 21: CLASS article in the HiPEAC magazine

7.2 BDVA

CLASS is a member of Big Data Value Association, and participates regularly in the BDVA newsletter and in events and conferences organised by them (see Table 2 and 3 for detailed information).

7.3 MASA

CLASS automotive tests take place on the Modena Automotive Smart Area (MASA, see Fig. 22), a testing urban area of one square kilometer with features such as 5G connectivity, big data and data analytics techniques. MASA is a Public Private Partnership created by UNIMORE-Modena Municipality, Maserati and other private companies.

CLASS also participated in the event Smart Roads: The Digital Revolution, held in September 2018 in MASA (See Table 2 and Fig. 19).

The Italian Minister of Transports formally showed interest in MASA, being this public-private partnership in line with the recent "Smart Road" legislative decree that will manage automated driving testing activities in highways, motorways and urban roads.

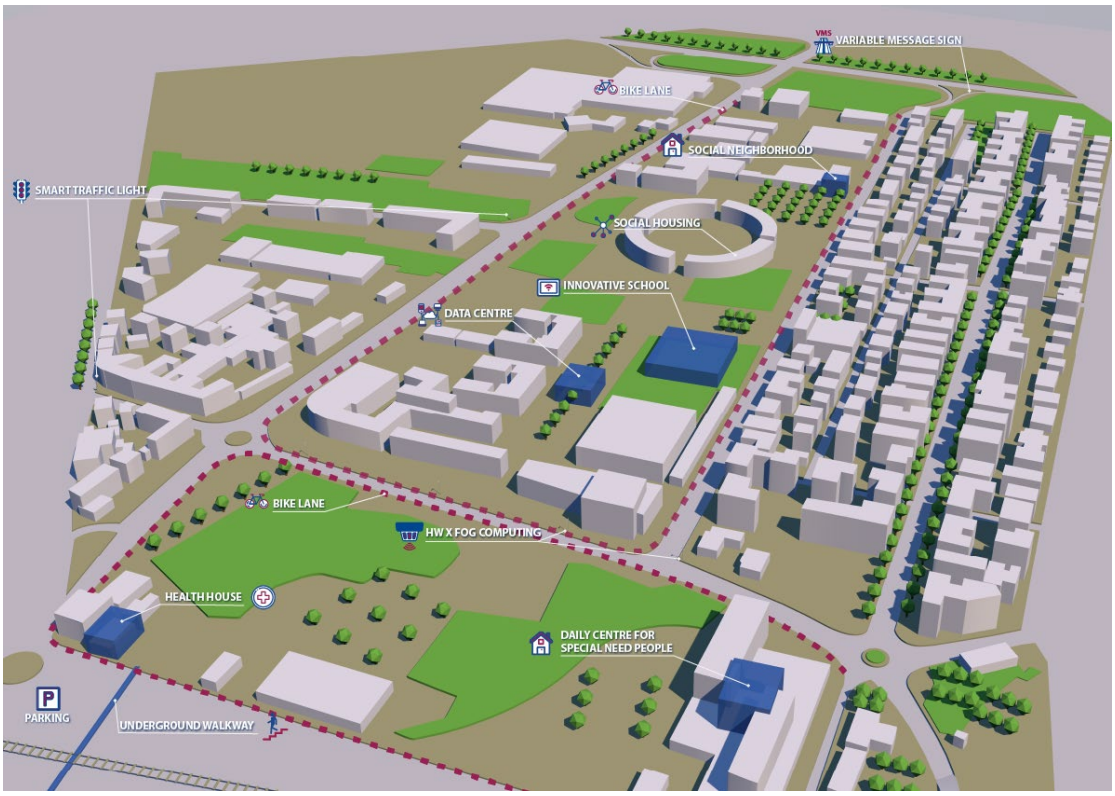

Figure 22: Map of Modena Automotive Smart Area (MASA). Source: UNIMORE

8 Publications

CLASS has not published any article during its first year, as no scientific results are still available in the project. The CLASS website is already prepared with a "Publications" section to display its publications (see Fig. 23) as soon as they are published.

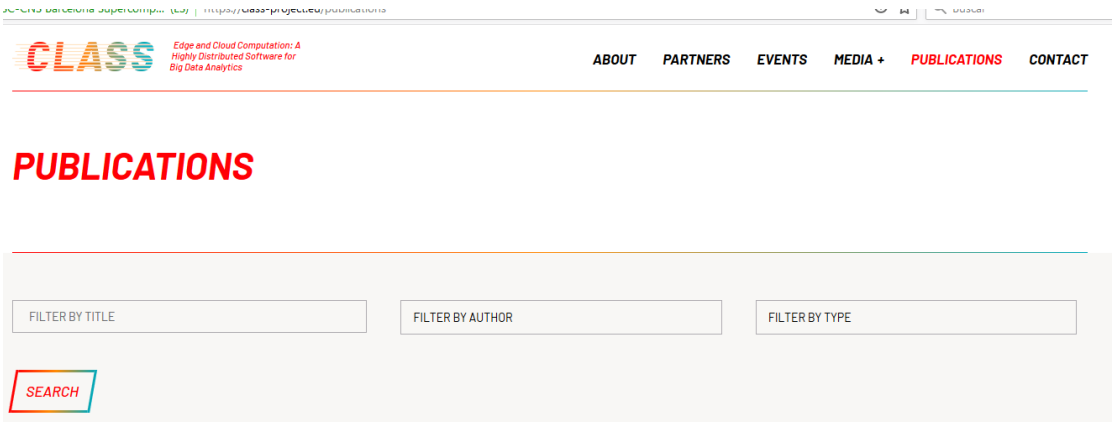

Figure 23: 'Publications' section in the CLASS website

In addition, a document containing the publication procedures has been distributed internally to all partners in order to accommodate the H2020 Publications rules.

9 KPIs

All dissemination activities and tasks are carefully monitored. The metrics defined in D6.1 Communication and Dissemination Plan show the progress of the project.

KPI	Explanation	Total first year	Total Target (M36)
Press releases	At least 1 in a year	1	3
Media clippings	Articles appearing in the press about CLASS	11	50
Whitepaper and factsheets	Number of business and scientific whitepapers or factsheets published	0	1 business and 1 scientific whitepaper/factsheet
Project presentation	General overview presentation regularly updated	1	1
Project posters	Number of posters	1	2
Project videos	Number of project videos	1	3
Website sessions	Number of sessions registered by Google Analytics	1,747	1,000 sessions / year
Events and conferences attended	Keynotes and events organized, including conferences booths, tutorials and workshops (with significant attendance, i.e. above 30 people)	5	2 keynotes 1 event organized/year 2 booths in conferences

Scientific publications	Peer-reviewed journals, conference proceedings, etc. – in green open access. At least 4 per year.	0	12
Twitter	Number of followers	101	250
LinkedIn group	Number of group members	27	150

Table 4: List of KPIs. Source: CLASS D6.1 Dissemination and Communication Plan

The monitorisation and contingency plan for the activities measured by KPIs (Table 4) comprises the next actions:

- **Press releases**
  One press release (out of 3 for the whole project) was sent in the beginning of the project. Once the project starts generating results, more press releases will be prepared accordingly.
- **Media clippings**
  7 press impacts (out of 50) have been documented. The action plan to increase the KPIs includes more frequency in sending press releases, inviting personalised interviews and news to specialised media.
- **Whitepaper and factsheets**
  As there are not public scientific results yet, no whitepaper or factsheet has been produced to date. The idea is to produce a final factsheet summarizing all scientific results towards the end of the project.
- **Project presentation**
  The project presentation (1 out of 1) has been already distributed to all partners and will be updated along with the project unfolding.
- **Project posters**
  Another project poster (1 out of 2 has been created to date) will be elaborated showing the first scientific results of the project
- **Project videos**
  The first video of the project (1 out of 3) has recently been released. This video will involve its own dissemination actions, as explained in section 5.4.4, and will disseminate the key messages of CLASS to a general audience.
- **Website sessions**
  The website sessions are attaining the expected outcome (Table 4). However, dissemination actions such as the project video campaign, tweets and press releases will be distributed to drive traffic into the CLASS website.
- **Events and conferences attended**
  The project has been presented in five events so far (out of 5 of "significant attendance", as stated in the CLASS document D6.1 Communication and Dissemination Plan. CLASS will participate in events scheduled for 2019, such as DATE 2019 in Firenze, Italy or Smart City Expo Barcelona (still in preparation). CLASS plans to organise a stand or cubicle to display posters, demos and other disseminations materials. Also, CLASS will continue collaborating with BDVA in congresses.

- **Scientific publications**
  As explained in the section 8, no publications have been done up to date. As the scientific results of CLASS are available, the number of publications will rise.
- **Twitter**
  Twitter followers (101 out of the 250 expected at the end of the project) are increasing in a steady manner. As seen in Table 1, Twitter works for a general audience as well as for specialised audience. For that reason, the next steps in Twitter will include broader information about big data, connected cars, Internet of Things to disseminate CLASS among a wider public.
- **LinkedIn**
  The LinkedIn group is slowly attracting new members, and the current ones strongly relate to CLASS, mainly individual partners of the project. To address this, a change from LinkedIn Groups (which are closed) to LinkedIn Organisations (open and visible to everyone) is being considered for early 2019. LinkedIn social media channel is especially suitable to target a professional and industrial target, which is strategic to the dissemination and exploitation plan.

10 Next actions

CLASS shows a satisfactory progress in its first year whose aim was to launch the project and built a community around the project. The exploitation activities also started in this first year, and will be analysed in the D6.3 Initial exploitation report.

The main dissemination tasks in this first year has been the definition of the brand, creation of the main communication channels such as website, social media channels, launch of a first press release, participation in key scientific events, and collaboration with BDVA and other European projects.

The second year of the project will bring specific results after one year of research. These results will be conveniently disseminated and strategically presented in events such as DATE 2019 (Firenze, Italy), EUCAD 2019 (Brussels, Belgium), Motor Show Festival (Modena, Italy) and Smart City Expo Congress (Barcelona, Spain).

CLASS also will have liaison with projects that are hosted in the same Modena Automotive Smart Area: PRYSTINE (ECSEL 2017), NEW CONTROL (ECSEL 2018) and TRAFAIR (CEF 2018). Also, CLASS will collaborate with other related European H2020 projects such as ELASTIC, that started in December 2018.

In addition of KPIs further actions (detailed in the section 9), the main key message is that CLASS is attaining a stage of maturity during its second year of existence. Consequently, the communications efforts will be focused in increasing the visibility and engagement of the project.

The project impact after the initial phase is an optimal opportunity to disseminate the first project findings and the early scientific production, preparing the background to a next phase focused in transferring and exploiting the results of CLASS.