SEVENTH FRAMEWORK PROGRAMME

Networked Media

Specific Targeted Research Project

SMART

(FP7-287583)

Search engine for MultimediA environment generated contenT

D7.1.1 Report on Dissemination and Standardization Activities M18

Due date of deliverable: 30-04-2013

Actual submission date: 12-06-2013

Start date of project: 01-11-2011 Duration: 36 months

Summary of the document

Code:	**D7.1.1 Report on Dissemination and Standardization Activities (M18)**
Last modification: **State:**	12/06/2013 Final
Author(s):	Arta Babaee (Imperial College), Aristodemos Pnevmatikakis, John Soldatos (AIT) Jim Ahtes, Daniel Field, Irene Schmidt, Jose Miguel Garrido Gonzalez (ATOS) Antonis Litke (Telesto) Craig Macdonald, Iadh Ounis (GLA) Massimiliano Tarquini (S3LOG) Tomás García Fresno (City of Santander) Karim Moumene (Prisa Digital) Zvi Kons (IBM)
Audience:	☒ public ☐ restricted ☐ internal
Abstract:	*This deliverable is a living document (report), which documents the planned and accomplished dissemination activities of the SMART project (including both the activities carried out by individual partners and by the project as a whole). It will be delivered to the EC in three releases (periodically).*
Keywords:	• Dissemination • Outreach
References:	DoW, D7.3 Project Website and D7.5 Exploitation Activities and Plans

Table of Contents

Table of Figures

Table of Tables:

1 Executive Summary

The SMART Deliverable D7.1 series describes the dissemination strategy and activities intended and performed by the SMART consortium. This represents the Month 18 (M18) iteration, half-way through the project's workplan. The period represents an overlap between phases of its dissemination and outreach campaign; an initial one of general presence and awareness, and a new phase focusing on scientific dissemination and stakeholder promotion, use and adoption - leveraging SMART's new tangible technical releases.

Following the strategy, the document then presents the actions which have been taken by the partners in line with the initial dissemination directives proposed in the workplan and previous iterations of this deliverable series. It also sets the context of how the project will continue and evolve these actions in its more stakeholder-oriented second half.

This deliverable will be maintained as a "living" document for the SMART dissemination activities throughout the project. The final update will be made in Month 30 of the project.

2 Introduction

The main outcome of SMART in terms of a product is the SMART multimedia search engine. The engine and its development constitute a significant size of research and innovation work. Therefore, one project objective is to ensure the proper dissemination of the project results both as a complete SMART search engine as well as the individual pieces of research work that make an inherent basis for the proper functioning of the SMART multimedia search engine.

SMART provides an opportunity for cooperation among a wide range of partners from the industrial sector as well as R&D institutions and Universities. In conjunction, the efforts of the project partners in promoting the project visibility and the wide dissemination of its outcomes will ensure a diverse and wide outreach. In particular, the impact of the SMART project will be realized in a wide and varying business and academic landscape represented by the partners.

The main purpose of this deliverable is two-fold. Firstly, it serves to present the dissemination and outreach activities executed by the SMART project partners. Secondly, it demonstrates the overall approach taken to coordinating dissemination, analysis of current success and plans for the future. Dissemination is an important element of the project strategy as ultimately (i) the exploitation success of the project is related to the number of users, developers and providers which can be recruited, and (ii) the impact in the research and academic arena is related to the extent of distribution and interest in the components and findings of the project. Furthermore dissemination efforts will lead to collaboration with other projects, both FP7 and or otherwise, and is in the interests of other stakeholders (promoting the innovation capability of the involved partners and the European Commission's commitment to R&D).

This deliverable will be maintained as a "living" document for the SMART dissemination activities. The final update will be made in Month 30 of the project.

The remainder of this document is structured as follows: In Section 3, the flexible dissemination strategic framework is discussed and the overall objectives are divided with respect to targeted communities, activities and time frames, as well as a set of directives is laid out to guide partners towards achieving these objectives. In Section 4, dissemination activities achieved so far (Month 18) are described and analyzed, as well as the future plans for each partner of how these will evolve in the second half of the project.

3 Dissemination Strategy and Directives

The dissemination strategy is designed to make the results of our up to date research and technology development available to targeted communities.

Instead of a rigid and detailed strategic plan for the project, a lightweight agile strategic framework is assumed: the overall objectives are divided with respect to targeted communities, activities and time frames, then a set of directives are given to guide partners into the activities meant to achieve these objectives. This agile framework is meant to enable partners to move quickly and easily with respect to opportunities of dissemination while guiding their activities and leveraging their autonomy.

Table 1: SMART's Dual-Phase Dissemination Campaign

Phase	Targeted Communities	Focus	Actions/activities	Time Frame (approx.)
Phase 1 Presence & Awareness	Researchers: Search Engines, Internet Of Things, Information Fusion, and more.	Presence	SMART Website Social Media (e.g. Twitter), etc.	M1
		Awareness	Scientific Publications Conferences, etc.	M12
Phase 2 Exploitation & Promotion	Actors: Application developers in Smart City and IoT domains, data providers, integrators, A/V search providers, etc.	Demonstration of Exploitation	Test and demonstration of SMART assets, promoting exploitation potential	M24
		Promotion	Participation to, demonstration in and organization of events and meetings.	M36

Currently we are at the transition between the two phases reflected above in Table 1. While the partners continue publishing their research endeavors in different conferences, SMART is also beginning to provide tangible demonstrations and promoting availability of the initial version of its open source assets.

3.1 Phase 1: Presence & Awareness: Achieved

During the first half of the project, the SMART dissemination campaign focused on presence and awareness: a) identifying and liaising with concurrent research efforts with an eye for future collaboration; b) initial outreach to early innovators on the potential user or provider side which can assist in developing an exploitation path.

In additional to raising awareness and collaboration among researchers, the initial objectives of SMART's dissemination campaign have been focused on promoting the general context of the project and initial community outreach to establish a network of interested parties for the results and adoption-driven second half of the project.

Activities have included:

- publications and conference attendance to disseminate initial results and findings
- project website for a consolidated online hub for SMART-related content
- social media for generating online awareness
- publicity and media channel connections to create initial awareness among wider audience
- hosted workshops to foster collaboration among related research

The initial dissemination actions have not only served to establish SMART presence and awareness within the research area, but they also reach a wider, worldwide public. As the results materialize, the focus shifts to include a set of stakeholders encompassing future developers, providers and users.

Section 3.3 provides a quick glance of activity so far, while Section 4 summarizes activity in detail, along with the crossover objectives to the next phase.

3.2 Phase 2: Exploitation & Promotion: Planned

At Month 18, SMART is now in a transition towards the technical demonstration and exploitation phase: a) demonstrating the potential academic or commercial exploitation of SMART technical frameworks; b) attracting a large and active user community that might consider the developed technologies in their projects; c) preparing the way for future research efforts in the relevant fields; and d) preparing for possible future adoption in any application domain.

Stakeholders in this context refer to the 3rd-party organizations that can adopt SMART's open-source framework and tools for added-value benefits and profit: application developers in Smart City and IoT domains, data providers, integrators, A/V search providers, etc. (See parallel deliverable series "D7.5.X Exploitation Activities and Plans".)

3.2.1 Facilitating Stakeholder Feedback

SMART's outreach is not only oriented to amassing an awareness and network around the project output, but also to facilitate a channel to provide stakeholder input to the rest of the project. The primary links for this collaboration is between the requirements (WP2) and validation activities (WP6).

The dissemination campaign leverages its conference participation, its hosted workshops and online outreach to help establish a stakeholder network, as well as collaborates with SMART's requirements, development and validation work packages to create tools and opportunities to feed into the project's development release cycles, reflected in Figure 1.

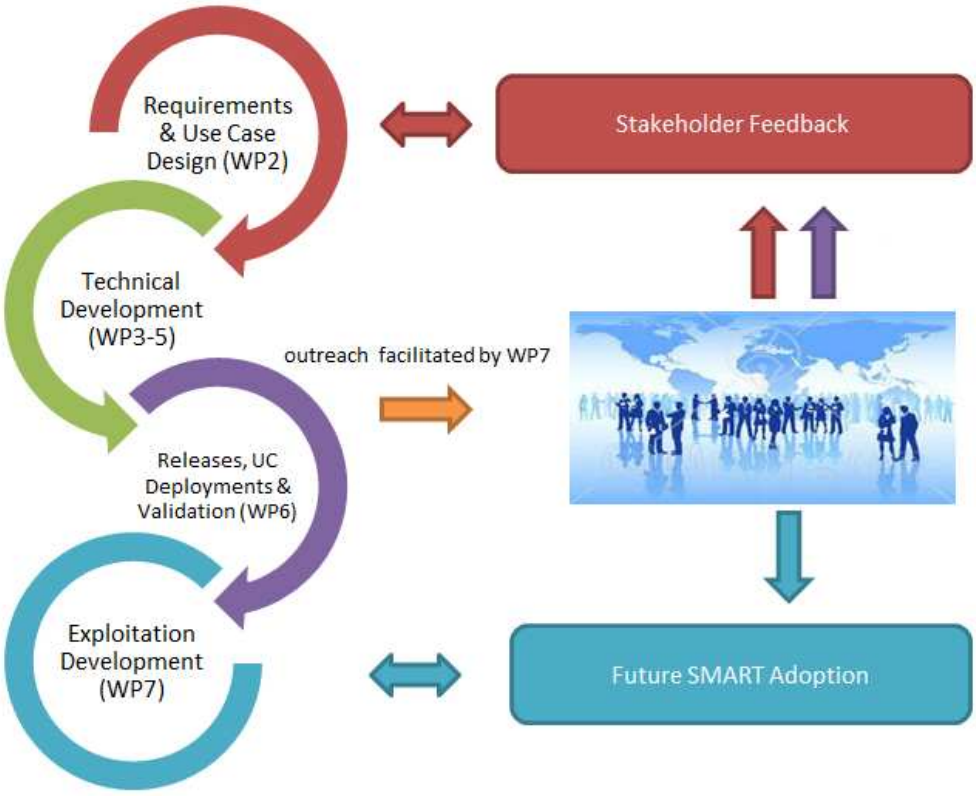


Figure 1: SMART's Stakeholder Outreach and Feedback

An example of this is a survey exercise launched at SMART's FIA Workshop in Dublin, May 2013. By interacting with fellow researchers in the IoT and Smart City domains, the project was able to pool together a sample of consolidated requirements and experience from multiple initiatives.

This type of external feedback will be amplified towards the end of Year 2 (with first release) and throughout Year 3 (second release), timed with the SMART release schedules and development cycles, reaching external developers and data providers that can leverage the system. Increased external participation to the project's early releases will increase adoption potential at the end of the project.

3.2.2 Open Source Communities

A fundamental aspect of our dissemination plan is to release many of the built software tools as open source licensed, building on the Terrier open source framework. In particular, SMART will continue advertising widely the releases of Terrier, through mailing lists of information, retrieval and related-fields, as well as widely known open source software portals and forums such as Freecode.

Special emphasis will be given to building of an open source community for the SMART results. This is essential; given that open source will be a primary exploitation modality/channel towards achieving the project's impacts. Such strategy is becoming very relevant now in the workplan, following the availability of the first open-source release.

3.2.3 Project Demonstration

Understanding that supporting early releases in real-life scenarios is the most impactful stakeholder outreach, SMART will showcase its use cases and Santander deployment in order to add a practical and tangible marketing value to highlight its potential within Smart City and Internet of Things related arenas.

Stakeholders relating to the project application domains (e.g., security/surveillance, on-line collaboration) will be pursued, as well, with intention of future investment in Smart City scenarios utilizing the SMART framework.

A number of demonstrations relating to SMART middleware platforms and related applications/trials are planned as the project progresses. These demonstrations will be used to present the project in prominent business and academic events relating to interactive multimedia content, multimedia systems and search engine solutions.

3.2.4 Standards Impact

SMART's open-source sensor-based search has potential to influence standards towards the end of the project development.

In terms of other standard, SMART will adopt the MPEG family of standards, W3C OWL Ontologies, as well as W3C Web Services as umbrella technologies that:

- Drive the development of the SMART software, middleware and data interfaces.
- Ensure the interoperability across stakeholders (content providers, application service providers, end-users, third-party application developers and ISVs).

Partners' membership and standardization in the respective bodies is a prerequisite for the successful contribution into standards.

ATOS is very active in the IPTC (International Press Telecommunication Council), where it can contribute (together with PRISA) standardized information on A/V based search on news. Moreover, ATOS is active in the formulation of the SportML standard, which could be used for sports-related news information exchange in the scope of the SMART use case.

IBM is member of many organizations dealing with standardization, including W3C, ETSI and may contribute to exploiting the SMART results in the form of industry standards as well as provide liaison for the respective standardization processes.

To a lesser extend the project will attempt contributions in other standardization bodies (e.g., MPEG, W3C), where potential contributions may arise, yet the partners do not maintain memberships.

SMART intends also to play a role in the specification of Future Internet standards, given that it is a project that manifests the potential of the Sensor Web and the "Internet of things" concepts. To this end, SMART will participate in concentration and standards mechanisms that are or will be established at the FP7/ICT level.

Last but not least, SMART depends on the evolution and wide adoption of widely accepted royalty-free standards. Vendor efforts for locking-in corporations to proprietary solutions may become a serious external set-back to the SMART envisaged impact. This is particularly important given the open source nature of the project, which will be boosted by open royalty-free standards.

3.3 Overview of Dissemination Campaign Progress

In this iteration of the series (M18), the project is evolving some of its methods for dissemination, particularly as the workplan adjusts between awareness to an adoption-oriented campaign. This natural transition in the 3-year project allows the project to adapt and foster a bridge between results and impact.

With the context and focus of the two campaign phases, Table 2 below represents current success metrics for dissemination in this transition, along with notes to signify areas where the SMART campaign is evolving.

The term "Adoption Stakeholder" refers to the 3rd-party organizations that can adopt SMART's open-source framework and tools for added-value benefit and profit: application developers in Smart City and IoT domains, data providers, integrators, A/V search providers, etc. (See parallel deliverable series "D7.5.X Exploitation Activities and Plans".)

Table 2: Dissemination Progress Quantitative Overview

Dissemination Activity	Target Values (Current/ Planned)	Target Community	Notes
Publications and Presentations in International Conferences (including open source conferences)	12/12	Research/Academic Community Open Source Community	The project has been very successful in conferences and publications. Given the range of research topics within the project,
Journal Publications (International Referred Journals)	2/8	Research/Academic Community	
Articles in Journals/Magazines about Open Source Software	0/3	Open Source Community	
Press Coverage (formerly "Press Releases")	50+ (new metric)	Adoption Stakeholders Open Source Community Research/Academic Community General Public	Originally measured by amount of press releases, the project is now measuring in terms of coverage. Media is less likely to run several press releases over a short period of time (i.e. incremental progress); as such, the project will consolidate its effort and reach its media channels strategically to bolster its awareness, outreach and adoption.

Dissemination Activity	Target Values (Current/ Planned)	Target Community	Notes
SMART Newsletter Issues	2/4	Adoption Stakeholders Open Source Community Research/Academic Community General Public	
Participation in Public Exhibitions and Demonstrations	1/3	Adoption Stakeholders Open Source Community	
SMART Workshops and/or Conferences	1/3	Adoption Stakeholders Open Source Community Research/Academic Community	
Flash studies (White Papers)	0/2	Adoption Stakeholders	
Production of SMART material (formerly “leaflet”)	1/2	Adoption Stakeholders Research/Academic Community	We have expanded the material publication to include posters, flyers, etc., to adapt to the larger conference attendance than originally planned.
Participation in major SMART-related events outside Europe	1/1	Adoption Stakeholders Research/Academic Community	

4 Dissemination Activities and Stakeholder Engagement

To engage in these overlapping phases of SMART's dissemination campaign, the project utilizes a wide range of methods to increase awareness, circulate results and incorporate stakeholders.

4.1 Publications and Conferences

Over the first 18 months of the project, an awareness campaign focused on scientific papers, conferences and related workshops allowed SMART to reach an early following of the project's initial results and findings (see Table 3 below). This effort will continue throughout the project, supporting the scientific dissemination of SMART as results mature.

Table 3: Conferences, Events and Publications

Title	Authors / Presenters	Type	Venue	Date	Location	Description
Multimedia Search over Integrated Social and Sensor Networks	John Soldatos, Moez Draief, Craig Macdonald and Iadh Ounis	conference paper	WWW2012, conference (EU Projects Track)	16-Apr-12	Lyon, France	Covers the motivations and the gap in existing technologies that gave rise to the SMART project, as well as describing the overall architecture of the SMART search engine product, and plausible use cases.
Norms and Learning in Probabilistic Logic-Based Agents	Régis Riveret, Antonino Rotolo, Giovanni Sartor	conference paper	DEON 2012 (Deontic Logic in Computer Science)	16-Jul-12	Bergen, Norway	Investigates formalisms and algorithms for Probabilistic Rule-based Argumentation for inference and learning. Within the SMART project, this work prepares the construction of a probabilistic rule-based engine as an alternative to Markov Logic Networks. (Imperial)

Title	Authors / Presenters	Type	Venue	Date	Location	Description
SMART: An open source framework for searching the physical world	M-Dyaa Albakour, Craig Macdonald, Iadh Ounis, Aristodemos Pnevmatikakis and John Soldatos	conference paper	SIGIR (Special Interest Group of Informational Retrieval) Workshop in Open Source Information Retrieval	16-Aug-12	Portland, Oregon, USA	Feedback was in general very positive with respect to the tackled application (combining sensor and local search) and many delegates commended the introduction of a new ranking paradigm. Most other feedback was related to the efficiency of the framework: i.e. the necessary architecture to handle a large number of edge nodes, in addition to handling the social networks, which are themselves very problematic to process in real-time during busy peaks.
Learning to Predict Response Times for Online Query Scheduling	Craig Macdonald, Nicola Tonellotto and Iadh Ounis	conference paper	SIGIR 2012 (Special Interest Group of Informational Retrieval)	16-Aug-12	Portland, Oregon, USA	Proposes a new technique of query efficiency prediction, which facilitates the more accurate scheduling of queries within a replicated/distributed search engine. Learning to rank techniques will feature within the effective SMART search engine, while efficiency prediction can be used for large distributed instances of the SMART search engine. (GLA)
The Whens and Hows of Learning to Rank	Craig Macdonald, Rodrygo Santos and Iadh Ounis	journal paper	Information Retrieval	2-Sep-12	n/a	Investigates several practical research questions about how to deploy the latest generation of learning to rank techniques. (GLA)
Multimedia Search and Retrieval over Integrated Social and Sensor Networks	Irene Schmidt, John Soldatos and Paul Moore	conference paper	Third International Conference on Computational Aspects of Social Networks (CASoN 2011)	19-Oct-12	Salamanca, Spain	Cover the motivations and the gap in existing technologies that gave rise to the SMART project, as well as describing the overall architecture of the SMART search engine product, and plausible use cases.

Title	Authors / Presenters	Type	Venue	Date	Location	Description
Probabilistic Rule-base Argumentation for Norm-Governed Learning Agents	Régis Riveret, Antonino Rotolo, Giovanni Sartor	journal paper	Journal of Artificial Intelligence and Law	1-Nov-12	n/a	Investigates formalisms and algorithms for Probabilistic Rule-based Argumentation for inference and learning. Within the SMART project, this work prepares the construction of a probabilistic rule-based engine as an alternative to Markov Logic Networks. (Imperial)
University of Glasgow at TREC 2012: Experiments with Terrier in Medical Records, Microblog, and Web tracks	Nut Limsopatham, Richard McCreadie, M-Dyaa Albakour, Craig Mac-donald, Rodrygo L. T. Santos, and Iadh Ounis	conference paper	21st Text REtrieval Conference (TREC)	6-Nov-12	Gaithersburg, Maryland, USA	Evaluated new adaptive filtering models for microblogs streams.
SMART Networking at Mobile World Congress	Dimitris Drakoulis, Dimitris Dres	networking opportunity	Mobile World Congress 2013 (Barcelona), B2B matchmaking event	28-Feb-13	Barcelona, Spain	(see below table)
Use of Data Streams Management and Search Capabilities for Smart City Services (Translation from Greek)	Aristodemos Pnevmatikakis, Nikolaos Katsarakis, Thanos Alexiou	project presentation	Cloud & Green InfoCom	10-Apr-13	Athens, Greece	Demonstrated the SMART edge node as the centre for collection of local information. Presented the concept but focused on the software implementation and accompanying documentation.
Identifying Local Events by Using Microblogs as Social Sensors	M-Dyaa Albakour, Craig Macdonald, Iadh Ounis	conference paper	International Conference on Open research Areas in Information Retrieval (OAIR 2013)	22-May-13	Lisbon, Portugal	Describing a novel event retrieval framework that can identify and rank local events in a response to a user query by using evidence from geo-located social media content.

Title	Authors / Presenters	Type	Venue	Date	Location	Description
Diffusion Maps for PLDA-based Speaker Verification	Oren Barkan, Hagai Aronowitz	conference paper	The 38th International Conference on Acoustics, Speech, and Signal Processing (ICASSP)	27-May-13	Vancuver, Canada	The paper proposed a non-linear method for representing speech sessions as a front-end for speaker verification.
Visual Measurement Cues for Face Tracking	A. Pnevmatikakis, A. Stergiou and N. Katsarakis	conference paper	18th International Conference on Digital Signal Processing (DSP 2013)	1-Jul-13	Santorini, Greece	Details the face tracker used in SMART, focusing on the three different measurement cues employed, and how they are modeled under a common framework. (AIT)
Cascaded Dynamic Noise Reduction utilizing VAD to improve residual suppression	Theodoros Petsatodis, Christos Boukis,,Fotios Talantzis and Lazaros Polymenakos	conference paper	18th International Conference on Digital Signal Processing (DSP 2013)	1-Jul-13	Santorini, Greece	Details an audio denoising system that employs voice activity detection which characterises an audio frame as speech or non-speech. (AIT)
Audio Event Classification Using Deep Neural Networks	Zvi Kons, Orith Toledo-Ronen	conference paper	14th Annual Conference of the International Speech Communication Association (Interspeech)	25-Aug-13	Lyon, Frence	This paper presents audio event classification for different outdoor events using deep neural networks and compares this to other classifiers.
On Leveraging Conversational Data for Building a Text Dependent Speaker Verification System	Hagai Aronowitz, Oren Barkan	conference paper	14th Annual Conference of the International Speech Communication Association (Interspeech)	25-Aug-13	Lyon, Frence	The paper proposed methods for leveraging commercial corpora (NIST) for training a speaker verification system in a different domain.

SMART's presence at the Mobile World Congress (25-28 February 2013, Barcelona) is an example of a stakeholder venue where the project was able to receive initial feedback following its initial requirements exercises.

Several private meetings were either a request by Telesto or a request by the other company or organization. In the latter case, out of the total 7 meetings that actually took place, there were 4 that brought feedback to SMART. The SMART project was published in the meetings portal as "*SMART - intelligent collection and combination of sensor generated multimedia data*" and a short description was also provided.

The following is a description of the 4 meetings whose interest involved SMART, as well as the feedback received:

Infinit (InfinIT - Innovation Network for IT) is an alliance of private organizations and University start-ups in Denmark. The focus of the meeting with InfiniT's R.Koch, was on the potential use cases of the system for the private sector. Both the use cases were presented (1. live news and 2. security), and the feedback was positive especially on the potential for commercial exploitation of live news by the network's start-ups for combining feeds from social media and from the real world (audiovisual). In the follow-up we pursued, the primary opportunity was indicated to be a company organizing the concerts and art events in Denmark and Norway.

SADE GROUP (Turkey) develops products and services that utilize wireless networks to provide connectivity for machine-to-machine (M2M) applications. SADE was not present directly but through their representative (part of the Turkish national presence in MWC), they asked to know more about the opportunity of SMART to connect heterogeneous devices, so I directed them to the respective web page in our website, where the Sensor Edge Server was presented as demo. They were very much focused in the opportunities for offering the SMART services as part of the mobile operators' ecosystem (they are the main service provider for TurkCell in Turkey).

Our meeting with the **CENTRE FOR AMBIENT INTELLIGENCE AND ACCESIBILITY OF CATALONIA** (Spain), which works in the UAB premises in Barcelona, was very interested in opportunities for using the M2M technologies in combination with SMART, to be exploited by municipalities in Spain. The main interest was in the interoperability of the system with several communication protocols for Automated Meter Reading, to be applied in Water Resource Management.

Arctic Crossing Consulting (Finland) is a company interested in Partnership and Sales, whose primary interest was in Co-operation projects on Wireless ICT sector including telecom and Health Care, to be performed in the Scandinavian countries' market. The motivation for the meeting was to research the potential of SMART to offer such services and was not convinced that the Telecom market and especially the mobile services could exploit the results of SMART within a short-to-medium timeframe.

The above interested contacts, and others made, form a growing project network during SMART's release cycles.

4.2 SMART Workshops

In addition to conference and event participation, SMART hosts its own workshops for increased stakeholder engagement.

The first of the series was at the Future Internet Assembly in Dublin on May 7th, 2013. Titled "Sensing Smart Cities", the workshop brought together a variety of projects in the IoT and Smart Cities domains, discussing requirements and strategies to foster developer demand for SMART and related solutions.

Figure 2: FIA Dublin Workshop - Participating Projects

Collaborating projects joining SMART included iCore, SocialSensor, Smart Santander and Radical. The workshop began with plenary presentations outlining their approach, and concluding with a panel roundtable focusing on both technological trends and sustainable business solutions stemming from the Smart City context. The agenda is summarized below in Figure 3.

Sessions	***Welcome and scope of workshop*** **Chairman:** Paul Moore, Atos
	Sensing Smart City - Enabling Technologies
	SMART – Web-scale Multimedia Search and Social Networking as sensing smart city enablers. **Speaker**: John Soldatos, Athens Information Technology (AIT) & Craig MacDonald (University of Glasgow)
	iCore: Internet Connected Objects for Reconfigurable Eco-systems. Cognition as sensing smart city enabler. **Speaker**: Raffaele Giaffreda, CREATE-NET
	FP7 SocialSensor **Speaker:** Sotiris Diplaris, CERTH
	Combining Cloud, Sensing & Cognition for making the Smart City happens. **Speaker:** Abdur Rahim Biswas, CREATE-NET
	Smart Santander ***Speaker:*** Jose Antonio Galache López, University of Cantabria
	FP7 RADICAL **Speaker:** Paul Moore, Atos

Panel Discussion	
Panels	Topic 1: Technological trends in combining media, sensing, cognition, big data and cloud for creating smart cities ICT infrastructure.
	Topic 2: Business Ecosystem in the Smart City. Applications and Business Models. End user and Business Requirements.
Wrap up (10 min)	
	Wrap up and conclusions Paul Moore (Atos)

Figure 3: FIA Dublin Workshop - Agenda

The concluding roundtable offered several thoughts on challenges, opportunities and sustainability.

Challenges:

- fragmentation: IoT and Smart City domains have fragmented approaches and a long way from standards; while media has established standards (i.e. formats) we are still hindered in a mashup scenario of all three
- interoperability: is a priority, particularly in the access of data - a RESTful API would be a step forward in this direction
- data filtering: a challenge and priority is to filter data; by doing so we can advance before established, low-level standards and specifications

Opportunities:

- open-source: important to have a SMART-like framework open-source, not only for the flexibility and integration to applications and services, but also to be able to extend the search engine to place on top of other layers, other projects, etc.
- mobiles: should be leveraged as both a sensor and device; it's a dynamic where the end-user is also providing the data in the value chain

Sustainability:

- stronger collaboration: a sustainability model has to derive from increased collaboration between communities, e.g. census + web community
- developer incentives: win-win partnership needed for smart cities applications, where developers have access to open data and can profit from citizen/consumer oriented services
- austerity environment: cuts in local funding creates difficulties for municipality (data providers) to provide and curate the data needs for added-value applications; public-private partnerships need to adapt and foster to not only support third-party development, but the investment of sensors and data management infrastructure

These points have helped catalyze additional discussion in the project in both the technical roadmap and exploitation/sustainability development, also forming further discussion for a wider stakeholder engagement leading up to the third year. For the M24 update, SMART will include a further summary that includes such follow-up in September and October 2013.

4.3 Project Website

The public website of the project is www.smartfp7.eu. It is continually updated so that project stakeholders can visualize the main features of future SMART based products, including interactive demos.

The content of the SMART site includes a dedicated page on the SMART system, demos, a newsroom, a public report repository and a consortium section. With the release of SMART's first open-source framework, the website also brings tangible results as a technology preview for developers. A screenshot of the primary homepage can be seen below in Figure 4.

Figure 4: Project Website - Homepage

- The SMART system reflects the chosen 3-layer architecture. Extensive information is included in these subsections, as the technologies become available. Similar information is to be found in the public versions of the various deliverables.
- The Demonstration section includes pre-recorded or on-line SMART technology demonstrations, seen below in Figure 5.
- The Downloads section features SMART releases, such as the first open-source framework released in the project's second year.
- The Newsroom serves for news on meetings and other important events like publications. It also serves as image gallery for those events.
- The publication section groups the publications of the project and offers pre-final versions of some of them.
- The public reports section contains links for the public documents, to be updated as they become available. The expected date of publication of all of them is also listed.
- The consortium section gives information on the partners and the key people of the project.

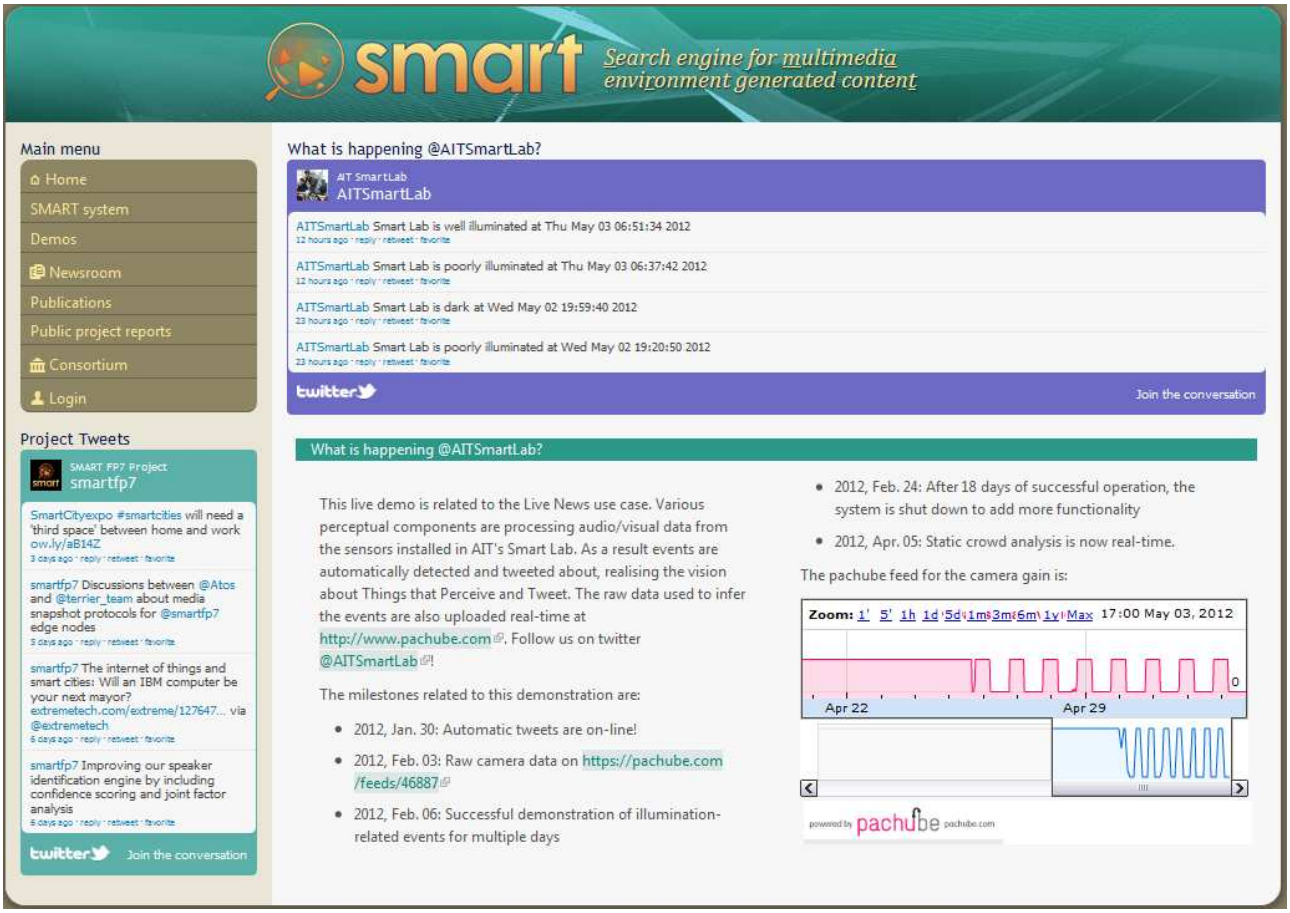


Figure 5: Project Website - Use Cases & Demos

Effort will be invested into the website as the project continues its transition towards a dissemination campaign focused around its tangible results. For example, the project's evolving use cases in security and live news offer practical examples and marketing for stakeholder adoption by data providers and developers who can leverage added-value applications and services from the framework. As well, easy links between SMART's open-source hosting page and the primary website will be improved.

The number of visitors through the first 18 months of the project is modest (see Figure 6), though this is expected due to the early stage of the project and lack of tangible results for download.

We can identify two peaks that occurred during the summer 2012: they are related to the interviews given by the University of Glasgow (GLA) to the BBC and proceeding press coverage.

Website traffic and visit duration is expected to rise towards Year 3 to reflect increased engagement with SMART releases.

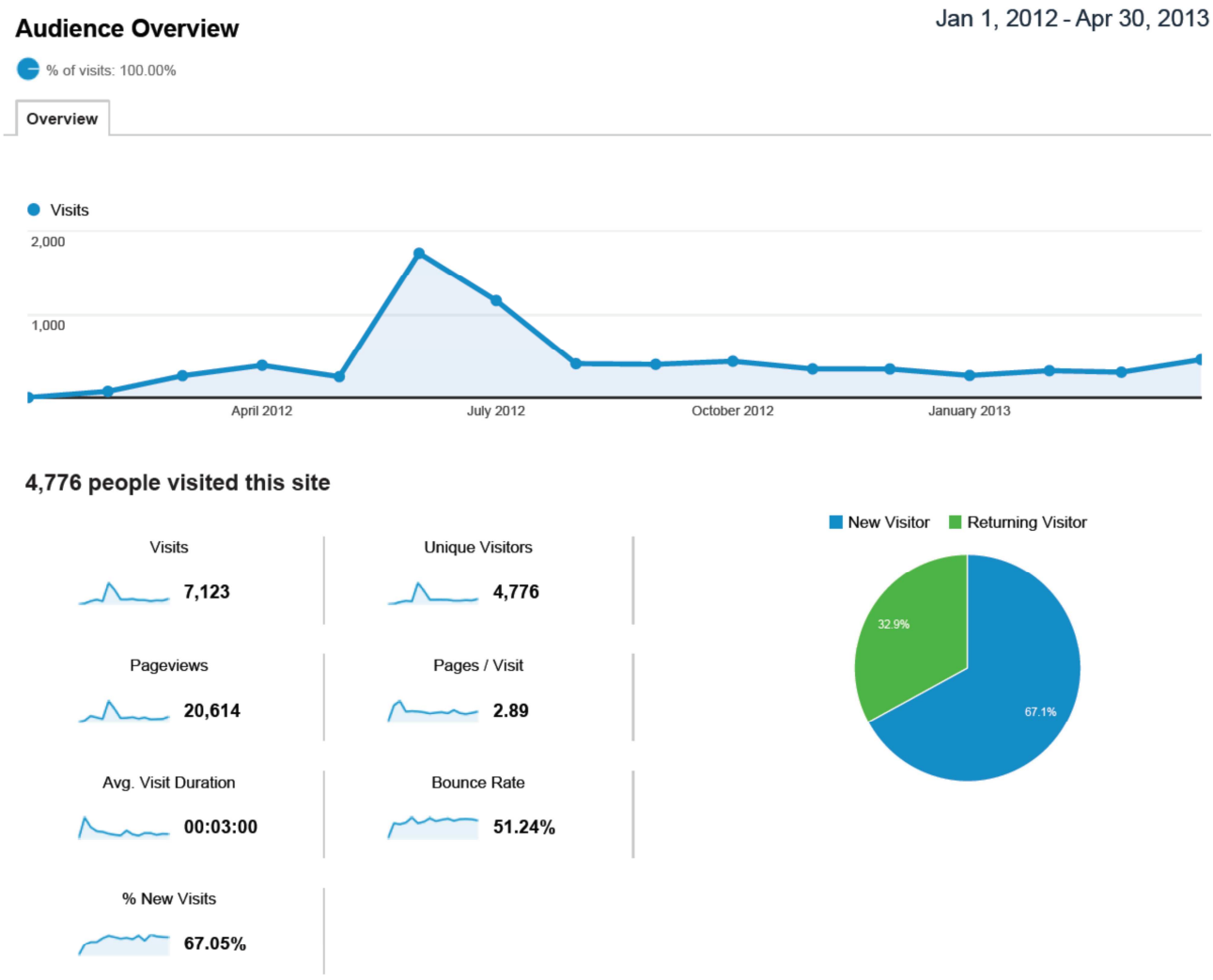


Figure 6: Project Website - Statistics per Visits

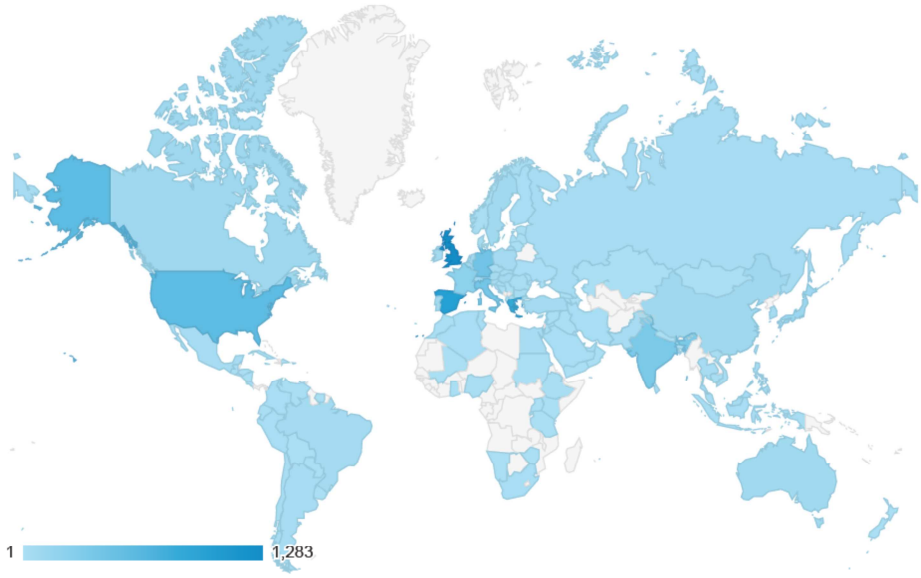
European-based traffic reflects the project's initial dissemination campaign of conferences and networking in the UK, Spain and Greece, seen below in Figure 7. Beyond the other EU Member States, SMART website visits is seeing traffic from countries also leading in research, such as the USA, India and Japan.

Location Jan 1, 2012 - Apr 30, 2013

% of visits: 100.00%

Map Overlay

Site Usage



Country / Territory	Visits	Pages / Visit	Avg. Visit Duration	% New Visits	Bounce Rate
	7,123 % of Total: 100.00% (7,123)	**2.89** Site Avg: 2.89 (0.00%)	**00:03:00** Site Avg: 00:03:00 (0.00%)	**67.08%** Site Avg: 67.05% (0.04%)	**51.24%** Site Avg: 51.24% (0.00%)
1. United Kingdom	**1,283**	3.11	00:03:32	50.90%	41.00%
2. Spain	**996**	4.01	00:03:35	60.24%	49.80%
3. Greece	**836**	3.45	00:05:06	37.56%	41.87%
4. United States	**573**	2.20	00:02:49	87.26%	60.56%
5. Germany	**438**	2.40	00:01:56	68.49%	52.51%
6. Italy	**405**	2.61	00:01:58	67.90%	54.07%
7. India	**341**	1.68	00:01:13	90.03%	71.26%
8. France	**222**	2.93	00:01:55	89.19%	46.85%
9. (not set)	**112**	2.90	00:02:41	80.36%	56.25%
10. Japan	**105**	3.23	00:03:15	67.62%	59.05%

Figure 7: Project Website - Statistics per Geography

4.4 Open-Source Portal and Documentation on Trac

SMART's open-source public documentation is online at http://opensoftware.smartfp7.eu/projects/smart utilizing Trac. It is split into two sections (SMART system and Developer tools) and a legacy section (old versions). Our users should be using this documentation as their source of information about:

- What SMART is,
- How to get information from the existing SMART system,
- How to work with existing installations (our sandboxes),
- How to install their own elements of SMART, and
- How to use our source code.

The homepage of the online documentation is shown below in Figure 8.

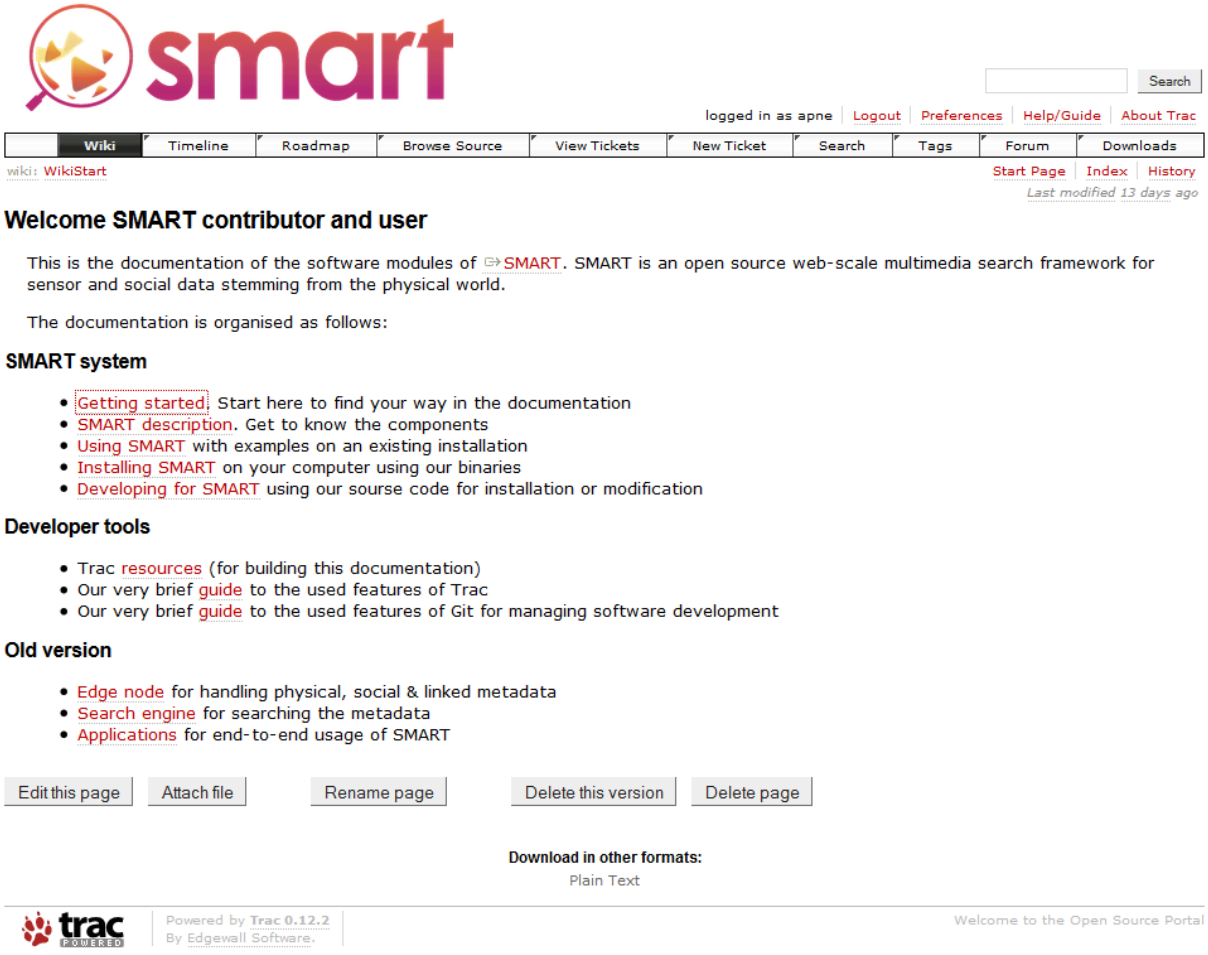


Figure 8: Open-Source Trac Portal

This site and its updates will be increasingly important as SMART continues its release cycles. The initial open-source release in Spring 2013 has prioritized a direct channel of collaboration between WP6 and WP7 goals, where stakeholder outreach focuses on the tangible assets of the project for early adoption interest and trials.

4.5 Social Media

As with all modern communication campaigns, SMART leverages social media to ensure a wide online presence and awareness.

4.5.1 Twitter

The project has a Twitter account @smartfp7 for manual tweets, and a related account, @AITSmartLab, for automatic tweets generated by the SMART system.

Figure 9: Twitter - Overview

SMART has a growing presence on Twitter. Since the establishment of our project's account, @smartfp7 in January, 2012, the project is consistently using the service to spread awareness among five categories:

- Technology & demos: These are the majority of the tweets, which describe the evolution of the SMART technology. In some cases links to the public versions and demos in the site are provided.
- Dissemination: These are tweets about publications of the project, or closely related to the project.
- Code & Open source: These are announcements of the parts of SMART code that is in the repository and about the open source community around the project.
- Project news: These tweets are mainly about SMART in the media and consortium meetings.
- Various: External information and @smartfp7 re-tweets about smart living and anything we like.

The SMART tweets are distributed in these categories as shown in Figure 10 below: totaling 119 tweets, 124 followers and we follow 60 tweeters.

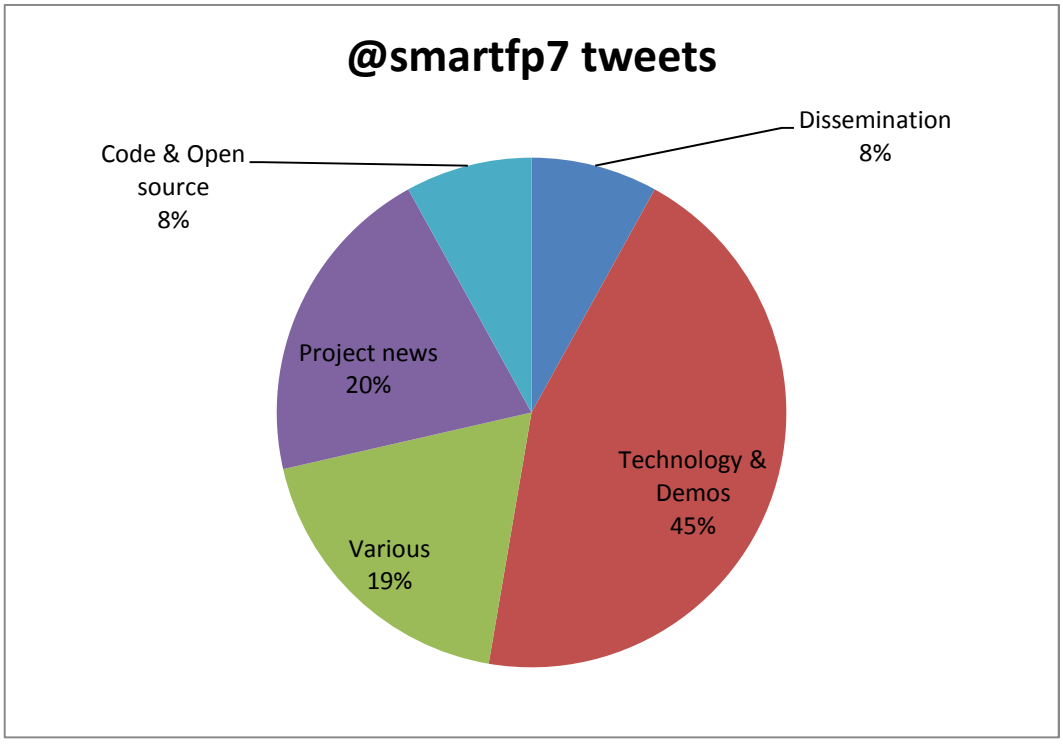


Figure 10: Twitter - Distribution of "Tweets" per Topic

@AITSmartLab provides a second Twitter account related to the project. All the tweets here are automatically generated by our demos that employ Twitter as an information sink. This Twitter feed is accessible from the "What is happening @AITSmartLab?" demo page, available at http://www.smartfp7.eu/content/what-happening-aitsmartlab.

Twitter will be continued to be used as a primary online dissemination channel for adding activity awareness as SMART begins a larger online engagement with project releases during its workplan's second half.

4.5.2 LinkedIn

In anticipation of a community building objectives for the project's second half, SMART is coordinating a LinkedIn group dedicated to the project. Just as Twitter is a form of online outreach, the project's LinkedIn group will serve to consolidate and maintain contacts, allowing an easy channel for follow-up in particular for those trialing the project's early releases.

At the time of this deliverable's current iteration, the group has just begun, and will be a focus for growing its network during SMART's online and event outreach in Autumn 2013.

Figure 11: LinkedIn Group

4.6 Newsletter Series

As a consolidated SMART news source for interested stakeholders, the project publishes a newsletter highlighting recent activity and progress.

The latest Spring 2013 issue[1] focused on the open-source release of the SMART framework, advances in audio and video processing, and the reasoning & search layers of the architecture.

Circulation of the publication reaches the SMART stakeholder network: including Twitter followers, developers trying out the open-source releases, LinkedIn group members, event networking contacts and individual project partner commercial and academic channels.

4.7 Media Coverage

SMART engages media for its outreach, as well. In the project's initial awareness stage of dissemination, the project successfully tapped initial media channels, highlighted by a BBC World interview of GLA on 11 June, 2012. Coupled with supporting networking, this in turn helped the project receive a viral coverage from other media outlets, reflected below in Figure 12 and Table 4.

This wide initial coverage in SMART's awareness phase will help the project's outreach for early trials and future adoption, particularly for reconnecting with those sources to publicize the second release at the beginning of Year 3.

[1] SMART Newsletter - Spring 2013: http://www.smartfp7.eu/newsletter-spring2013

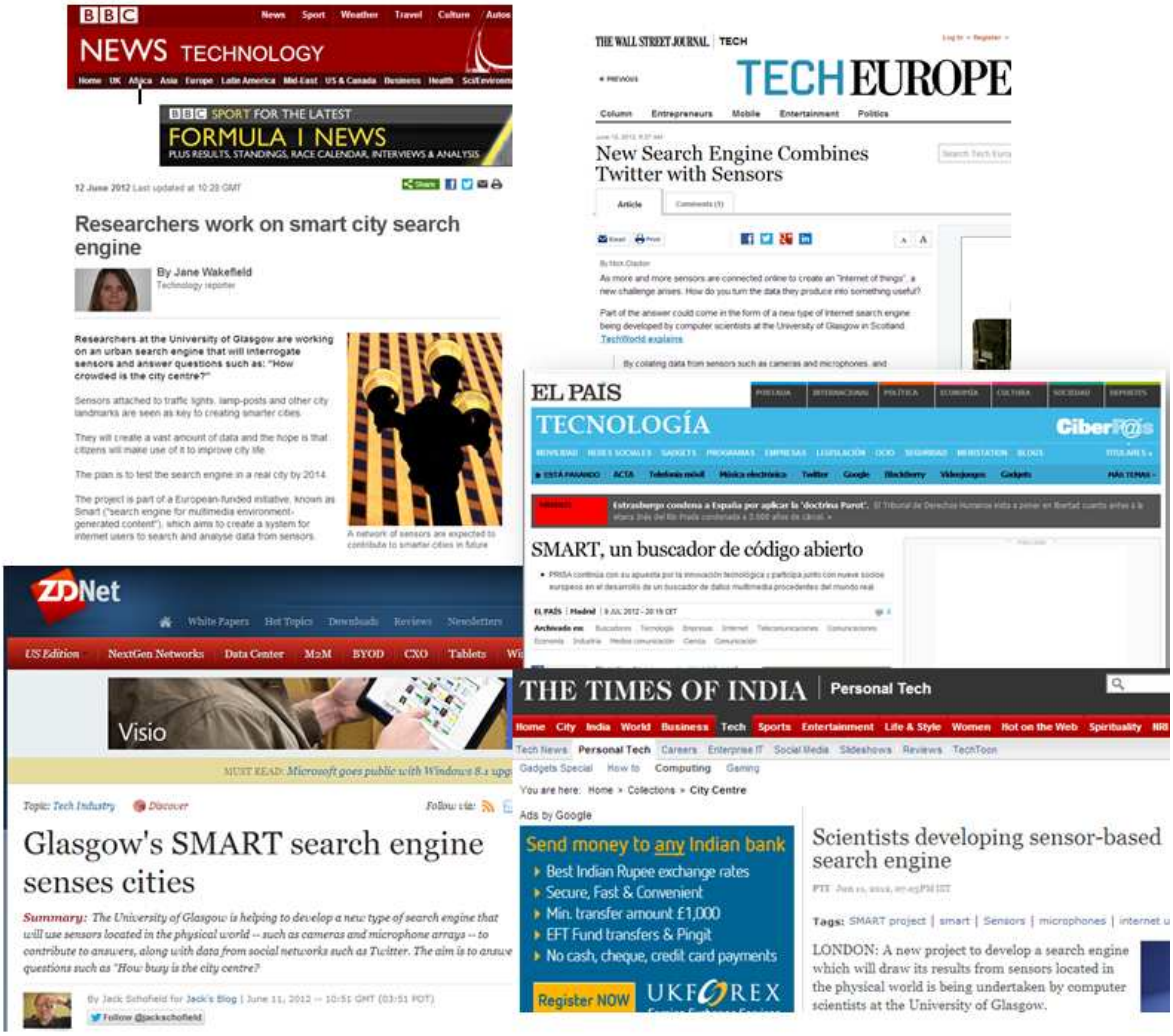


Figure 12: Media Coverage - Samples

Table 4: Media Coverage - Listings

Media Channel	Article
BBC News	Glasgow University pioneers internet sensory search engine
STV.tv	Computer scientists on brink of inventing 'sensory search engine'
Glasgow University News	University of Glasgow developing new type of internet search engine
Scotsman.com	Sensor search engine developed
Techworld.com	Scottish scientists build search engine for 'Internet of Things'
ZDnet.co.uk	Glasgow's SMART search engine senses cities
Evening Times	Boffins make a SMART move to rival Google

Media Channel	Article
Herald Scotland	Scots work on new web search engine
IBN Live	New sensor-based search engine to be developed
The Times of India	Scientists developing sensor-based search engine
The Telegraph	New search engine aims to Google the real world
BBC, Technology Section, Featured Article	Researchers work on smart city search engine
TechWeek europe	Smart City Search Engine Uses Sensors: University of Glasgow search engine project will use social media and sensors to take the pulse of a city.
Digital Spy	SMART search engine lets users search real world
SmartPlanet	A search engine for smart cities
Irish Independent	New search engine aims to Google the real world
Economics Times	New sensor-based search engine to be developed
The Telegraph	SMART searching
Westend TV	New search engine aims to Google the real world
Techeye	Scientists create real-time smart city search engine: "SMART" provides live local updates
New Electronics	Researchers developing 'smart city' search engine
IT Pro	Researchers outline real-time search engine plans
ITProPortal	University of Glasgow researchers working on new search engine to answer queries Google can't
Wall Street Journal (blog)	New Search Engine Combines Twitter with Sensors
The Cutting Edge (Feature Article)	Search Engine Aims to Quiz Sensor Networks
ComputerWorld (Feature Article / long interview)	Scots develop search engine which uses social media data: A new search engine is in development which will tell users what their friends are up to
DANIWEB	Can Scottish students fill the Google gap with a SMART search engine?
meshcities.com	The City as Media Database
techthefuture.com	Search Engine Queries Physical World In Real Time
BUZZOOM	Scientists to develop a Sensor-based search engine
TECHLI	Get Ready For A Search Engine Right Out Of George Orwell's 1984
Top Internet Providers in Philadelphia	New SMART Search Engine to Draw Results from Sensors in Physical World
PCWorld New Zealand	Scottish scientists build search engine for 'Internet of Things'
IDM Magazine	University researchers sense a new type of Internet search
Urban Systems Collaborative	Researchers work on smart city search engine

Media Channel	Article
R&D Magazine	A new type of Internet search engine
The Times of India	In search of real-world data
Computer World UK	Scottish scientists build search engine for 'Internet of Things'
secuLinx	What if? Online Real-Time Searchable Sensor Data
Nano Patents and Innovations	New Search Engine Will Get Results From Sensors Located In Physical World
Computer World NZ	Scottish scientists build search engine for 'Internet of Things'
Digital Crunch	Scientists working on sensor-based search engine
Bottom Line	Euro Researchers Get SMART
EE Times	Search engine aims to quiz sensor networks
EE Times Asia	Search engine aims to utilize "Smart City" concept
ELPort.News	Search engine aims to utilize "Smart City" concept
futura-sciences.com (French)	Smart, le moteur de recherche qui interroge des capteurs en ville (SMART: the search engine that queries the sensors in town)
SG.hu (Hungarian)	Szenzoradatok az online keresésekben (Sensor data in the online search)
IDGNOW! (Portuguese/Brazil):	Cientistas criam busca baseada em sensores reais (Scientists develop sensors based on actual search)
computersweden.idg.se (Sweedish)	Sökmotorn som hör en trafikstockning (The search engine that includes a traffic jam)
computerworld.com.pt (Portuguese)	Motor de busca para a “Internet das Coisas” (Search engine for the "Internet of Things")
golem.de (German)	Europäische Suchmaschine Smart bezieht Sensorendaten ein (European search engine incorporates data from smart sensors)
20 minutes online (French/Switzerland)	Terrier denichera du son et des videos (Terrier searches for sound and video)
EE Times Taiwan (Chinese/Taiwan)	新式搜尋引擎利用感測器網路答疑解惑 (The new search engine to use a sensor network FAQ)
Laoyaoba.com (Chinese)	新式搜索引擎利用传感器网络答疑解惑 (The new search engine sensor networks answering questions)
Η Καθημερινή (Greek)	Μία... ζωντανή μηχανή αναζήτησης (A live search engine)
EL PAIS – (web) Technology section (Spanish)	SMART, un buscador de código abierto (SMART, an open source search engine)
CINCO DÍAS.com (Spanish)	PRISA participa en el proyecto europeo de innovación tecnológica Smart (PRISA involved in the European technological innovation project Smart)

4.8 Supporting Material

In order to support SMART's dissemination campaign at scientific conferences and stakeholder events, a variety of booklets, fliers and posters are published in a mix of research results and marketing oriented towards future adoption. In the project's awareness campaign in the first half of the project, the design and circulation of this material has already begun, including an initial tri-fold brochure and a poster summarizing the project's overview.

As the project enters its second half, results-specific material will also be published, including focus on the SMART open-source releases, project use cases in live-news and security, real-life implementation and scientific results.

Figure 13: Tri-Fold Brochure

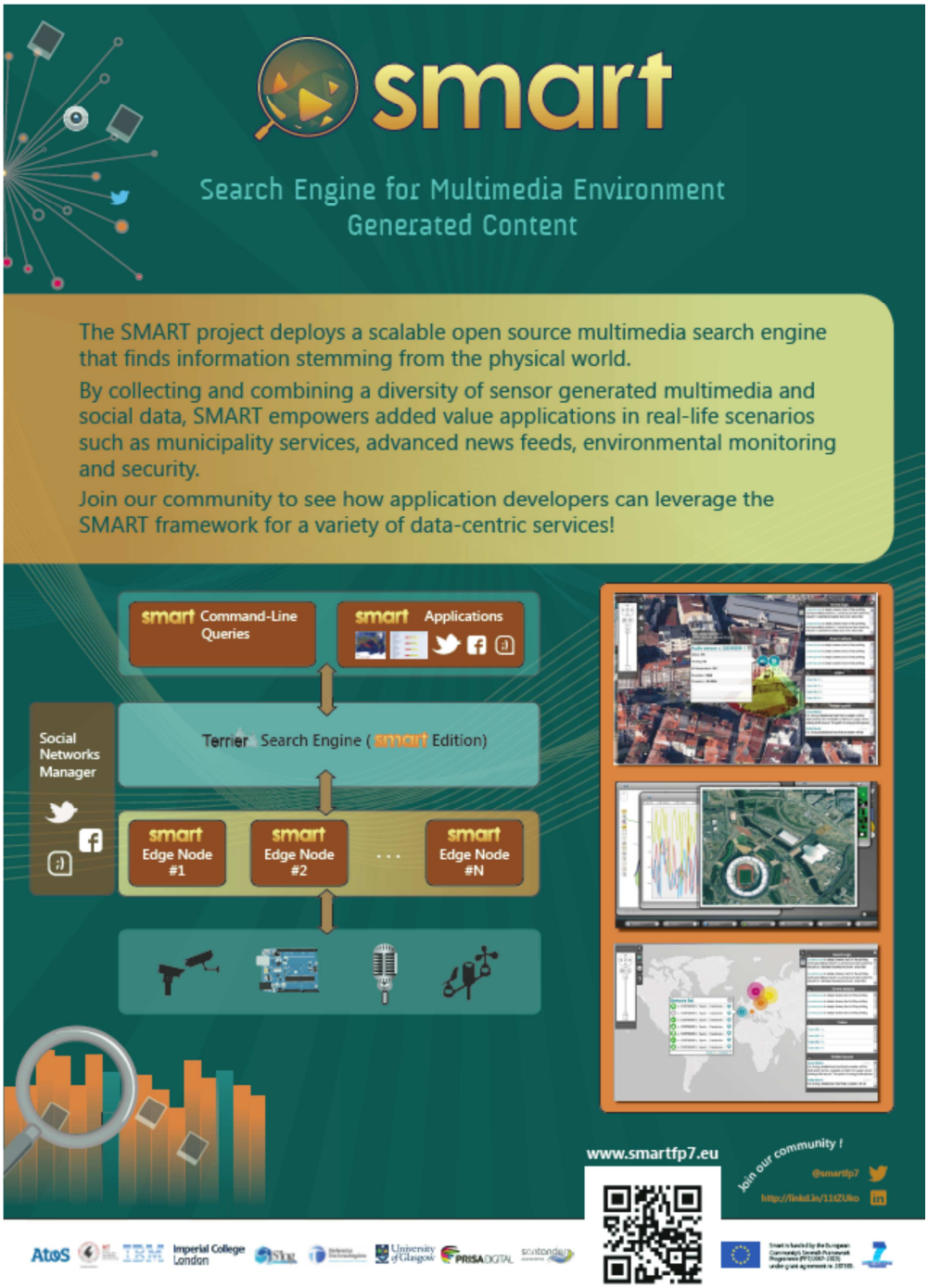


Figure 14: Poster

5 Conclusion

In this document, an agile strategic dissemination framework tailored for the SMART project has been presented. This lightweight approach is demonstrated appropriate in light of the results of dissemination achieved so far (Month 18). Cumulating the variety of papers, conferences, website hits, project workshops and media coverage, SMART coverage has reached thousands of people.

This successful first half has also set a momentum and network for the project's transition into a more engaging and adoption-oriented campaign, reflecting the recently released first open-source results of the project.

Currently the project is moving towards developing relationships with stakeholders which can offer feedback and collaboration potential, including fellow researchers in the Smart City, IoT, Search and Media context, application developers of these domains, data providers (such as municipalities) and integrators of such sensor/device/software systems. A dynamic collaboration between the dissemination campaign, validation activities, requirements/design work and exploitation development is ensuring that stakeholder engagement is a two-way channel that influences the project and leverages its initial results.

The next official update of the document will be made at Month 30 of the project, showing the progress of this second phase of dissemination as the project nears the conclusion of its workplan.