e-ScienceTalk

PROJECT FINAL REPORT

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Name of the scientific representative of the project's co-ordinator[1], Title and Organisation: EGI.eu, Catherine Gater, Deputy Director

Tel: +31 (0)6 30372738

Fax: N/A

E-mail: catherine.gater@egi.eu

Project website address: http://www.e-sciencetalk.eu

[1] Usually the contact person of the coordinator as specified in Art. 8.1. of the Grant Agreement.

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1.1 Executive summary

Over the last 10 years, the European Commission and governments have invested substantial funds in distributed computing infrastructures. Scientists have access to state-of-the-art computational and data resources located around the world, putting European research into a leading position to address the greatest challenges facing us today, such as climate change, pandemics and sustainable energy. The blurring of boundaries between grids, clouds, supercomputing networks and volunteer grids means that a clear consistent source of information aimed at non-experts is now more important than ever, through dissemination projects that cross national boundaries.

The aims of e-ScienceTalk are to build on the achievements of the GridTalk project, work with EGI-InSPIRE and other collaborating projects, explore options for the sustainability of e-ScienceTalk's products, produce a series of reports aimed at policy makers and coordinate e-concertation activities. The GridCafé, GridCast and GridGuide suite of websites cover new topics, explore novel web technologies and integrate closely with the Real Time Monitor, combining live views of grid activity with the human aspects of computing. The weekly online publication, International Science Grid This Week (iSGTW) brings news and events to the existing and potential e-Science community.

E-ScienceTalk's impact has been measured by quantitative analyses based on key metrics. Assessment of the project's impact and reach has also been collected from surveys, focus groups, expert advisory panels and from anecdotal reports. Overall, the project has been successful in reaching a wide audience through its social media channels, amassing 4,000 followers. E-ScienceTalk has signed Memoranda of Understanding with 19 other European projects. The project team developed spin-off training and consultancy in areas such as blogging, science writing, event logistics, media outreach and newsletters. The project has successfully coordinated three e-Infrastructure concertation meetings in collaboration with the European Commission in Geneva, Lyon and Brussels. The team developed a *Guide to Dissemination* for European projects, and published a peer-reviewed paper on measuring the impact of e-science and e-infrastructure outreach.

E-ScienceBriefings widened coverage of e-infrastructure and e-science policy-related issues and have seen 17,000 downloads. The GridCafé has been expanded by integrating it within a larger 'e-Science City' website covering HPC, volunteer computing, data and cloud technologies. GridCast continues to build a sense of community for participants in e-infrastructure and distributed computing across the globe, with traffic increasing year on year. GridCast has built up a team of 100 bloggers, and attracted many more readers with the highest views taking place in May 2013. GridGuide has expanded to 102 sites around the world and has been integrated into e-ScienceCity as GridPort. The Real Time Monitor is increasingly being used as a visual tool for educators explaining the potential of the grid. During e-ScienceTalk, approximately 30,000 people have viewed the RTM at conferences. International Science Grid This Week has seen its readership increase to over 3,000 followers on social media and 8,770 subscribers. Traffic to the website has quadrupled during the project. The project has also successfully negotiated funding for the iSGTW Editor at CERN in Geneva and a US Desk Editor at Indiana University to continue after the close of e-ScienceTalk.

E-ScienceTalk has been successful in establishing individual product brands for its products and in building an ongoing commitment from the project consortium, in addition to establishing a wide-ranging network of support partners through its MoUs.

1.2 Project context and objectives

Over the last 10 years, the European Commission and governments have invested substantial funds in distributed computing infrastructures. Scientists have access to state-of-the-art computational and data resources located around the world, putting European research into a leading position to address the greatest challenges facing us today, such as climate change, pandemics and sustainable energy. The advent of the European Grid Infrastructure, combined with the blurring of boundaries between grids, clouds, supercomputing networks and volunteer grids, means that a clear consistent source of information aimed at non-experts is now more important than ever, through dissemination projects that cross national boundaries.

The objectives for e-ScienceTalk are:

- e-ScienceTalk will build on the achievements of the GridTalk project in bringing the success stories of Europe's e-Infrastructure to policy makers in government and business, to the scientific community and to the general public.
- e-ScienceTalk will work with EGI-InSPIRE and other collaborating projects to expand the scope of the existing GridTalk outputs, and to report on the interactions of grids with e-Infrastructures such as cloud computing and supercomputing.
- The project will explore options for the sustainability of e-ScienceTalk's products.
- e-ScienceTalk will produce a series of reports aimed at policy makers to disseminate key policy issues underpinning grid and e-Infrastructure development in Europe. The project will also coordinate e-concertation activities.
- The GridCafé, GridCast and GridGuide suite of websites will cover new topics and explore novel web technologies; they will integrate closely with the Real Time Monitor, combining live views of grid activity with the human aspects of computing.
- The growing weekly publication, *International Science Grid This Week* (iSGTW) will bring news and events to the existing and potential e-Science community.

E-ScienceTalk disseminates the success stories and impact of grid computing and e-Infrastructures. These stories come from the e-Infrastructure's flagship pan-European projects but also from a whole host of smaller and emerging projects. By giving these projects access to e-ScienceTalk's wide variety of dissemination channels, including websites, blogs, social media sites, weekly publications, events, conference booths and printed materials, their results can be disseminated far more widely and to a greater range of audiences than would otherwise be possible. This audience reaches beyond Europe to the US, to Asia and to Latin America.

e-ScienceTalk forms a key element in a network of dissemination hubs serving the user communities, including the dissemination teams of EGI.eu, ESFRI projects, the National Grid Initiatives and others. Each of these hubs target different audiences, whether users from a virtual research community, users located in a particular country or region, middleware developers or owners and managers of the grid resources. As a dissemination project with international scope, e-ScienceTalk is well placed to distribute its products via the hubs for these specialist networks and hence reach a much wider audience.

In turn, e-ScienceTalk is able to offer its well-established channels to feature success stories from the various communities, including its networks of media contacts, policy makers and its general public-focused products. For example, the GridCafé and e-ScienceCity websites provide an authoritative and unbiased introduction to grids and e-science for the general public, while iSGTW reaches 8700 subscribers from across a wide range of science communities. The community contributions encouraged during GridTalk have been extended during e-ScienceTalk to include blogging through the GridCast and iSGTW websites, and coordination of e-concertation activities in the e-Infrastructure area.

e-ScienceTalk is working with other projects such as GÉANT, DANTE and PRACE to disseminate the interdependencies of Europe's e-Infrastructures through the e-ScienceBriefings, articles in iSGTW and by expanding the content of the e-ScienceCity. e-ScienceTalk is also working closely with e-Infrastructures Reflection Group and the European Strategy Forum on Research Infrastructures (ESFRI) projects who are involved in building a united roadmap for the development of e-Infrastructures in Europe. e-ScienceTalk aims to bring the progress of this roadmap to all its audiences in Europe and beyond. Reaching beyond Europe, the e-ScienceBriefings are circulated to an international audience, including to the US, the GridGuide features an increasing number of sites outside Europe and GridCast blogs from at least one non-European

event per year. As a joint EU-US initiative, iSGTW is by nature an international publication, covering projects from Europe and the US, as well as increasingly from Asia, Latin America and Africa.

1.3 Main results and foreground

1.2.2.1 WP1: Policy, impact and sustainability

The main outputs from the policy, impact and sustainability work package have been in the areas of events, e-ScienceBriefings and policy related GridCasts. The work package leader also worked to consolidate the framework within which policy consultation takes place, liaising with the policy advisory group. This consists of the e-IRG Board, with additional advisors, for example from the EGI-InSPIRE project, from the European Middleware Initiative and others. The collaboration with e-IRG is formalised in a Memorandum of Understanding signed between e-ScienceTalk and e-IRGSP2/3 during PY1.

Distribution of the e-Sciencebriefings

The e-ScienceBriefings are mostly available in both printable pdf and html format, which improves the likelihood of them being indexed by search engines and facilitates additional links and multimedia resources. The briefings are disseminated through iSGTW, GridCast, Twitter, selected briefings in GridCafé and e-IRG newsletters. They are also distributed by email to all contributing organisation and the EGI mailing lists. Printed versions of the reports have also been distributed through booths at several events during the project, including the Euro-Africa e-Infrastructures Conference, e-IRG workshops, eChallenges events, ICT2010, TERENA Networking Conferences, EGI Community Forums, ERF Workshop on Socioeconomic impact of research infrastructures, EGI Technical Forums, Digital Agenda Assembly 2012, the 'Science: It's a Girl Thing' launch, Research in Future Cloud Computing, XSEDE conferences and CloudScape events. An RSS feed has been set up to allow readers to subscribe to e-ScienceBriefings[2]. This feed is displayed on the EGI.eu website[3] and the release of the briefings is announced on the news feed[4]. In PM13, a self-subscription mailing list was set up to allow people to sign up to receive the latest briefings and by 31 July 2013 has 164 subscribers.

The briefings produced are:

1. Mapping the e-Infrastructure Landscape – Nov 2010

The World Wide Web provides information on a global scale but no single networked system provides a similar service for researchers. The briefing draws from a number of key reports outlining the current landscape for e-Infrastructures in Europe including the Riding the Wave report, the DCI Collaborative Roadmap and an e-IRG Blue Paper. The report was launched at the 8th e-Infrastructure Concertation meeting at CERN.

2. Supercomputing: Empowering Research – Feb 2011

[2] http://www.e-sciencetalk.org/rss/briefings.xml
[3] http://www.egi.eu/results/articles/
[4] http://www.egi.eu/about/news/news.rss

Supercomputing has simulated rat brains, tested engineering structures and modelled global warming. The briefing describes how investment in HPC technologies can ensure researchers remain internationally competitive.

3. Cloud Computing: What's on the horizon? – Mar 2011

Cloud computing is making today's European e-Infrastructure more broadly accessible and applicable and this report described how clouds can complement existing e-Infrastructures. It was released and distributed at ISGC2011 at the end of March in Taipei.

4. Asia-Pacific Special Issue – Jun 2011

Exploring how global e-Infrastructures, such as networks and grids, are helping scientists in the Asia-Pacific contribute to world-wide science, in areas such as natural disaster modelling and life sciences. This was based on e-ScienceTalk's attendance at ISGC11. In addition, two press releases were issued during the ISGC meeting, "Help detect earthquakes with your PC – Academia Sinica leads the way in South East Asia" and "Researchers in Taiwan to use volunteer computing to visualise earthquakes" and press cuttings appeared in *HPCwire* and *Le Scienze*.

5. Desktop Grids – Sep 2011

Volunteer computing through services such as BOINC means that citizen scientists can donate their spare computing cycles for projects requiring large scale effort.

6. Research Networks – Feb 2012

Today's global science project requires substantial investment in e-infrastructrues to allow researchers to transfer data quickly and reliably. The European research network GÉANT is extending its reach beyond Europe to the Americas, Africa and Asia.

7. Visualisation – Apr 2012

Powerful computers can produce graphics that elucidate patterns in complex data, helping scientists see further and across traditional disciplinary boundaries. There is an art to the visual display of quantitative information, making this an ever-evolving area of interest.

8. Open Data, Open Science – Jul 2012

Open Access publishing has grown to meet the different market landscape of the Web, but concerted effort is needed to make data sharable and accessible to meet the challenges of the 21st Century

9. Transferring Technology and Knowledge – Oct 2012

Transfer of people, of ideas and of technologies continues to feed into and out of the e-science ecosystem. There are sometimes challenges in commercialising ideas coming out of academia, but scientists are becoming more adept at doing so as larger cultural changes take hold. Commercial models like cloud equally finding a place in public research settings.

10. Big Data – Nov 2012

Big Data in science is a challenge requiring input across and between disciplines, and even outside the realms of academic science towards the citizen scientist. But there are tremendous benefits to having so much data available to science: for one, it allows us to test and modify theories as never before, with greater accuracy.

11. The Security Issue – Feb 2013

E-Science faces the same challenges of authentication, universal identity management, and authorisation as many other web services. But with the number of researchers using such services in light of the growing importance placed on Big Data for life sciences and e-Health, for example, it is important that access to them is properly and securely controlled.

12. Horizon2020 – Apr 2013

This briefing covers how Horizon 2020 affects e-infrastructures, virtual research environments and coordinating activities, and the opportunities it brings in allowing science to work more closely with industry and wider society.

The e-ScienceBriefings have included case studies, quotes and information from more than 170 projects. A compendium of all 12 e-ScienceBriefings (pictured left) was published in August 2013, featuring a foreword from Thierry van der Pyl, DG Communications Networks. The compendium was mailed to policy makers, distributed at events and made available online[5]. On 31st August 2013, the number of total downloads stood at 17,300. Although maintaining a wide circulation of printed briefings is important, many more people download copies, and feedback from surveys reveals that people often forward the PDFs to colleagues. Data from the final *Annual Impact and Sustainability Report (D1.5)*[6] revealed that the briefings are shared on a regular basis through a variety of ways. Unfortunately, if a briefing is forwarded via email, it cannot be tracked. Since implementing AddThis Share information on the e-ScienceBriefings page in April 2012, 26 people have tweeted the main e-ScienceBriefings page and 10 people have shared the page with others, with 550 views via v.gd link shortening.

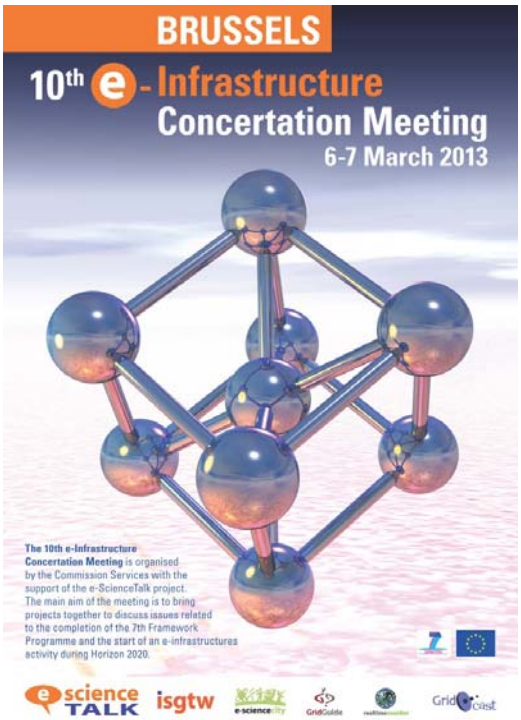
Events organisation and attendance

The team has organised three policy events, the 8th, 9th and 10th e-Infrastructure Concertation meetings. The 8th meeting was held at CERN in Geneva in November 2010, the 9th meeting took place in Lyon on September 2011 as part of the EGI Technical Forum and the 10th event was held in Brussels in March 2013. In total, these events welcomed 400 delegates from many countries across Europe. WP1 and WP4 coordinated the logistics for the meeting. The two-day events attracted policy makers and funding agencies, representing up to 80 projects at each event.

The policy and impact team also attended several policy oriented events during the project, to report on them for the GridCast blog, to research information for the briefings, to gather feedback on the briefings and to distribute the briefings.

[5] http://www.e-sciencetalk.org/download.php?ch=./briefings/&f=eScienceBriefings_compendium_web.pdf
[6] https://documents.egi.eu/document/1874

- **Euro-Africa e-Infrastructures Conference:** e-ScienceTalk reported on the event in Helsinki on GridCast and iSGTW.
- **e-IRG workshops**: in Brussel, Budapest, Copenhagen and Dublin
- **eChallenges**: in Warsaw (2010), sharing a stand with EGI, the event attracting 250 delegates, including projects from Africa.
- **ICT2010:** exhibited on a stand with EGI and infrastructures on climate change, at an event that brought together 10,000 delegates.
- **TERENA Task Force on Communications and Public Relations**: the policy team presented at the meeting in Utrecht in February 2011 to build e-ScienceTalk's visibility with the NRENs.
- **TNC'11:** WP1 also attending this event in Prague in March to reach out to the NRENs.
- **Presentation of the Report of the High-Level Group on Scientific Data:** the policy team reported on the presentation of "Riding the wave: How Europe can gain from the rising tide of scientific data" to Neelie Kroes, the European Digital Agenda Commissionor in iSGTW[7] by invitation of the EC.



- **EGI Community Forum 2012, Munich** – including participating in media training
- **ERF Workshop on Socioeconomic impact of research infrastructures, Hamburg**
- **EGI Technical Forum 2012, Prague –** including running a major GridCast
- **Digital Agenda Assembly 2012, Brussels –** as an invited social media expert
- **'Science: It's a Girl Thing' launch**
- **Research in Future Cloud Computing, Brussels**
- **XSEDE'12, Chicago –** to meet with iSGTW Advisory Board members and promote e-ScienceTalk
- **EGI Community Forum 2013, Manchester**
- **CloudScape V, Brussels**
- **XSEDE'13, San Diego –** to establish future collaboration with Indiana University for iSGTW

Impact and sustainability

In response to the reviewers' comments at the PY1 and PY2 Reviews for e-ScienceTalk, WP1 has investigated the impact of its products and explored options for sustainability through a series of annual reports. This work concludes that the impact of most ScienceTalk products is significant and each product is reaching its intended audiences.

E-ScienceTalk's impact has been measured by quantitative analyses using key metrics set out during the project's initiation in September 2010, then updated at the end of PY1 in response to the reviewers comments at the 1st Periodic Review. Qualitative assessment of the project's impact and reach has also been collected from surveys, focus groups, expert advisory panels and from anecdotal reports from individuals working in scientific research and science policy. Quantitative research has been carried out using surveys, web analytics, webometric tools and social media measurement tools.

[7] http://www.isgtw.org/?pid=1002779

The project has been successful in reaching a wide audience through its social media channels (@isgtw and @e_scitalk). It has amassed 4,000 followers, and the quality of followers is also high with a large number of influential followers with wide spheres of influence. E-ScienceTalk has signed a Memorandum of Understanding with 19 European funded projects. The project team has also developed spin-off training and consultancy in a number of different areas, which was beyond the scope of the original project (e.g. blogging, science writing, event logistics, media outreach and newsletters). The project has also successfully coordinated three e-Infrastructure concertation meetings. The team has developed a *Guide to Dissemination*[8] for the EC, and has also written a peer-reviewed academic paper for the eChallenges 2012[9] event on measuring the impact of e-science/e-infrastructure outreach.

Strategies for sustainability rely heavily on the success the project has experienced in establishing individual product brands and the ongoing commitment of the project consortium, in addition to the network of support partners with whom MoUs have been established (BlogForever, CHAIN, CRISP, EDGI, EGI, e-IRGSP3, EMI, ERINA+, EU-IndiaGrid, EUDAT, GISELA, Global Excursion, iMENTORS, LINKSCEEM, N4U, SHIWA, Ubuntunet, Virtus and WeNMR). For the e-ScienceBriefings, time and effort is needed to curate future issues and a sponsor would need to have overarching policy aims in a European context. The GridCast site requires some funded effort for moderation and coordination of the volunteer blogger contributions, plus the video posts are a major draw and again require professional production and travel. Contributions could be funded on a per event basis, perhaps through media partnerships. Maintenance of e-ScienceCity now all areas are complete is expected to be low – however new partners would be needed to develop content for new sections. For the RTM, development work is needed to sustain and update the underlying WorldWind platform, and to introduce new datasets. GridGuide is now sustained through incorporation into the e-ScienceCity. ISGTW continues to nurture a network of unfunded contributors from a wide range of projects in all its contributing regions. iSGTW is now a preferred channel for the research community and major e-Infrastructures in Europe. US funds have been secured for the US Editor for the next 3 years and funding is needed to support the EU Editor role beyond e-ScienceTalk.

Feedback and metrics

A number of quantitive and qualitative methods have been used to measure the impact of e-ScienceTalk products. Tables summarising these methods are listed below:

[8] https://documents.egi.eu/document/1846
[9] http://www.echallenges.org/e2012/default.asp?page=paper-repository

Table 1: Overview Perspective on Programme Activities for Measuring Impact using quantitative analysis

e-ScienceTalk product	Metric
e-ScienceTalk	• *Google analytics* – page views/unique visitors, referrals from the e- ScienceTalk website to other e- ScienceTalk sites • *Twitter* – number of followers, mentions and numbers and types of tweets • *Klout* – monthly scores • *Email*- Deliverables submitted, milestones agreed, late Deliverable and Milestones • *Production*- e-ScienceTalk materials produced • *Alphagalileo*-Media releases issued • *Google Alerts*- Press cuttings • *Counting*- Events attended, media partnerships at events, number of MoUs signed • *Twitter/Facebook*-Social media subscribers
e-ScienceBriefings	• *Counting* – projects covered, reports and briefings published, countries where reports or briefings are distributed, policy articles published, printed policy reports circulated per briefing, policy events organised, attendees at e-ScienceTalk organised policy events, policy events attended by e-ScienceTalk
GridCafe/e-ScienceCity	• *Google analytics* – page views/unique visitors, demographics • *Calculations* – Change in unique visitors to the GridCafé website, ratio of page views to visitors for the GridCafé website, • *Counting*-sites on GridGuide, areas of GridCafé
GridCast	• *Google analytics* – page views/unique visitors, demographics, unique visitors to the GridCast (% new), length of time spent on the GridCast • *Counting*-bloggers on GridCast, GridCasts per year, total blog entries, podcasts, • *YouTube* number of subscribers and viewers
GridGuide	• *Google analytics* – page views/unique visitors • *Counting*-sites on GridGuide (EU and US), GridGuide sites on RTM
Real Time Real RTM	• *Google analytics* – page views/unique visitors • *Counting*-countries on the RTM, numbers of delegates at events demo-ing the RTM

iSGTW	• *Counting* – iSGTW subscribers, articles on European projects, projects in the iSGTW/GridCafé resources section, iSGTW printed materials distributed, issues published, US articles published, worldwide articles published, marketing materials distributed • *Google analytics* – page views/unique visitors, demographics, social engagement (shares, G+), countries or territories visiting the iSGTW website, time spent on the site per visit • *Klout* – monthly scores • *Social mention* – comparison with competitors etc. • *Facebook analytics* – numbers 'Likes'/followers, growth rate • *Zoomerang*-survey responses • Twitter/Facebook, Google+- Social media subscribers, stories shared on social media

Table 2: Qualitative methods for capturing intended and unintended impacts

		Year 1	**Year 2**	**Year 3**
	e-ScienceBriefings			
	How do briefings aid policy makers in European science, government and business?	**Face-to-face at meetings**		**Final year survey to policymakers (email)**
	To what extent respondents are aware of e-ScienceTalk's policy documents. How do readers use the briefings?	**Canvassing at meetings**	**Canvassing at meetings/ mailing list survey**	**Final year survey to policymakers (email) /In-depth interviews**
	Do the briefings increase visibility for projects? How has it helped the projects?			**Survey of featured case studies**
	GridCast/@e_scitalk			
	Is the blog/twitter helping to build a sense of community? In what ways is the blog helping the e-science community?	**Unsolicited/Solicited feedback**	**Survey (June)/EGI Community Forum focus group**	**Focus groups/Survey (March)**
	RTM and GridGuide			

	Is the GridGuide helping to foster cross-pollination of expertise?	**Unsolicited feedback**	**Solicited feedback**	**GridGuide survey/feedback**
	How is the RTM helping with outreach?		**RTM user analysis**	**RTM User Interviews/Surveys at meetings**
	e-ScienceCity/GridCafe			
	Are our products deepening the understanding of grid and cloud technologies amongst researcher?	**Feedback scientists/science communicators**		**Grounded user test**
	Do people find the website(s) useful?		**Volunteer Garage/GridCafe online surveys**	**Focus groups**
	iSGTW			
	Journalists from mainstream media will have established relationships with those within e-science through iSGTW		**iSGTW media 'pick' up analysis**	**Interviews with media sources**
	Centralises the communication effort and increase the visibility of e-science		**MoU Thanks you emails**	**MoU interviews**
	Does iSGTW provide assistance to the community in finding future partners /collaboration?		**iSGTW Survey**	**Interviews with authors (Top 10)**
	Does iSGTW help scientists keep informed of the latest technologies in e-science?		**iSGTW Survey**	**Interviews with readership**

A summary of the overall project metrics for Years 1–3 of e-ScienceTalk is listed below.

Table 3: Table of project level metrics for PY1-3 of e-ScienceTalk

Work Package	Metric no.	Description	Target Metric PY3	PY1 Achieved	PY2 Achieved	PY3 Achieved
WP1	1.1	Projects covered	40 per year	38 (190%)	76 (250%)	59 (148%)
	1.2	Reports and briefings circulated	4 per year	3 (75%)	4 (100%)	4 (100%)
	1.3	Countries where reports or briefings are distributed	40 per year	36 (120%)	32 (107%)	37 (123%)
WP2	2.1	Sites on GridGuide	100	38 (50%)	59 (78%)	102 (102%)
	2.2	Bloggers contributing to GridCasts	5 per GridCast	5 (100%)	6 (120%)	6 (120%)
	2.3	GridCasts per year	4 in Europe per year, 1 outside Europe	16 (533%)	16 (250%)	16 (250%)
	2.4	New areas in GridCafé	3, one new area per year	1 (100%)	2 (200%)	1 (100%)
WP3	3.1	iSGTW subscribers	30% increase	21% (70%)	28% (95%)	30% (100%)
	3.2	Articles on European projects	50 per year	108 (216%)	131 (261%)	71 (142%)
	3.3	Projects in the iSGTW/e-ScienceCity resources section	150 in total	194 (194%)	134 (89%)	64 (43%)
	3.4	iSGTW printed materials distributed	1000 in total	330 (33%)	610 (61%)	616 (62%)

Overall, e-ScienceTalk has largely either achieved or exceeded its targets in each year, with some targets being adjusted higher at the end of PY1. For WP1, fewer projects were covered in the e-ScienceBriefings in PY3 than PY2, but if this is the sign of a significant and continual 'slowing down', it can be explained by the fact that bulk of important e-science projects have already been covered in PY1 and PY2, or that fewer new projects are starting due to move from FP7 to Horizon 2020. E-ScienceBriefings have been downloaded in 48 countries in the final year, indicating a significant increase on PY2. This may be due to having covered topics with a broader appeal, better marketing through social media, or increased subscription numbers and new contacts.

In PY3 GridGuide achieved its target of 100 sites, eventually reaching 102 in May 2013. Visits to the site have

remained low, however, averaging 200 per month since the project start. In April 2013, GridGuide was mirrored in the e-ScienceCity website, with the addition of GridPort[10] which has led to an improvement in web traffic.

The GridCast blog has proven to be a continuing success, featuring 15 events (GridCasts and mini-GridCasts) in PY3, in contrast to 16 events in PY2. Some of the highest viewing figures from the three years of e-ScienceTalk occurred since September 2012, and the highest of the project overall occurring in May 2013, thanks to Beatrice Bressan's post on the European Middleware Initiative.[11] The platform used, Blogger, also lists Google+ shares in its statistics page. Posts from PY3 had 43 '+s' (equivalent to shares) out of 131 posts, the same number as from PY2 but out of fewer posts (187 in PY2). It should be noted that the total of +s is cumulative over time. This, combined with the shorter reporting period for PY3 indicates a slight increase in positive response rates using the platform.

In PM29 (January 2013) the final new content area of e-ScienceCity, Data Park, was added. In total, four new areas have been developed and deployed over the course of the project, more than the target of three new areas. In addition, Communications Centre, a news aggregator for all of the e-ScienceTalk channels has been added, and GridCafé and GridGuide are now fully integrated into e-ScienceCity – the latter being split into People Bay (the faces from GridGuide) and GridPort (the places and people from GridGuide).

In PY2, iSGTW had reached a plateau in new subscribers, but was experiencing a growth in page views largely due to social media. This trend largely continued in PY3. While a growth in subscribers was observed towards the end of the project (with numbers almost reaching 8900 by the project close due to attendance at US events), this does not account for the threefold increase in monthly page views: from 30,000 to 90,000. From the start of PY2 onwards, the number of Twitter followers has quadrupled, from 400 to over 1600, and the number of Facebook followers has tripled, from 400 to over 1200. The number of unique visitors to the site, meanwhile, has increased from just over 12,000 to just over 21,000 over the 3 years, with a monthly new visitor proportion of between 75%-65%. Taken together, it can be said that iSGTW readership is growing; the number of readers finding iSGTW stories through social media is increasing; and iSGTW readers are becoming more loyal – reading more articles in any month, which accounts for the increase in page views. Fewer printed materials than originally planned were produced, but this is because iSGTW's strengths lie in its format as a web-based publication, and so strategically it is better to focus on web marketing rather than bulk printed materials.

1.2.2.2 WP2: GridCafé, GridGuide, GridCast

WP2 is responsible for e-ScienceTalk's suite of interactive websites, Gridcafé[12], GridCast[13] and GridGuide[14], as well as the main project website[15] and the Real Time Monitor[16]. The work package also produced

[10] www.e-sciencecity.org/EN/gridport
[11] http://gridtalk-project.blogspot.co.uk/2013/04/a-new-era-for-post-emi-all-together-for.html
[12] www.gridcafe.org
[13] www.gridcast.org
[14] www.gridguide.org
[15] www.e-sciencetalk.org
[16] http://rtm.hep.ph.ac.ac.uk

promotional materials, such as posters to advertise the e-ScienceCity[17], GridCasts and iSGTW at a number of events, as described below.

A summary of web statistics for PY3 for each site is listed below:

	e-Science Talk	e-Con certa-tion	e-Science City	Grid Café esc	Grid Café cern	Cloud Lounge	Volunteer Garage	Grid Guide	Grid Cast	Grid Cast Blog	iSGTW
Unique visitors	1,482 1,972 1,339	634 - -	4,072 1,869 -	2,864* 8,761 13,852	524 1,590 2,352	11,121 516 -	1,284 358 -	705 1,470 1,549	980 1,156 8,293	9,665 9,625 -	191,257 161,624 125,539
Pages viewed	3,954 5,741 450	2,519 - -	14,317 7,695 -	5,009 46,381 26,748	1,558 21,065 138,843	21,895 1388 -	3,136 1,298 -	1,191 2,352 2,685	1,966 2,282 20,373	17,969 19,643 - -	529,582 316,352 265,539
Duration of visit in mn	01:22 01:32 01:30	01:21 - -	04:10 02:55 -	01:09 09:51 01:24	2:03 10:08 00:04	01:33 01:53 -	01:41 02:37 -	00:55 00:55 00:57	00:40 00:40 02:23	01:18 01:24 -	02:22 01:37 01:36
Bounce rate	68% 56 69% 72%	44% 41 - -	65% 36 60% -	73% 70 64% 72%	58% 75% 98%	78% 57 69% -	67% 50 62% -	83% 81% 79%	83% 86% 73%	74% 67 73% -	66% 71% 73%
New visits	65% 59% 48%	60% - -	77% 67% -	80% 36% 76%	86% 25% 2%	89% 80% -	80% 68% -	76% 80% 75%	57% 59% 65%	79% 73% -	75% 76% 71%
	2116 uv			* 6 months					19935 pv / 10645 uv		

Y3 e-Sci. City unique visitors : 20,570 (+ 7,476)
Y2 e-Sci. City unique visitors : 13,094 (- 3,110)
Y1 e-Sci. City unique visitors : 16,204

Y3 Total unique visitors : 33,435 (+ 6014)
Y2 Total unique visitors : 27,317 (- 92)
Y1 Total unique visitors : 27,409

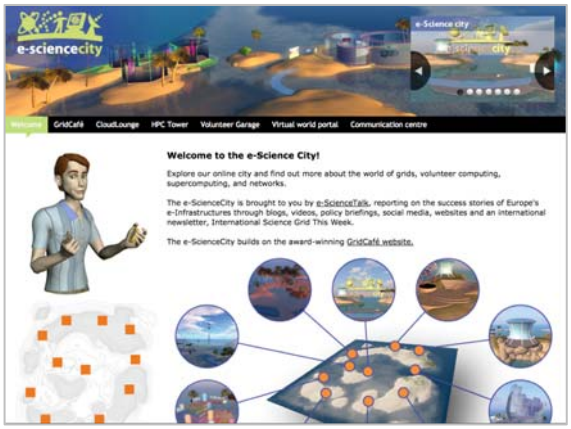
E-ScienceCity and GridCafé

When the GridCafé website (shown left) was first developed, it was a novel form of science communication that was nominated for awards. However, in order to fulfill the objective of keeping the GridCafé at the cutting edge WP2 needed to explore interactive environments and new web tools. The aim at the start of the project was to create a simple virtual 3D on the OpenSim platform. Standard 3D tools would be used to create the content, so that it could be transferred to a different platform if OpenSim proved not to be a sustainable solution.

A second aim was to develop new content areas of the website that covered other areas of e-infrastructures and distributed computing. Development of parallel GridCafé and other websites, such as CloudLounge proved to be impractical and went counter to the feedback from the audiences who prefer integrated websites, so a home website called the e-ScienceCity was developed in PY1. This involved the creation of a new concept of website, with new ways to navigate through the different zones of the virtual city. The structure and navigation for the 2D website ties in closely with the structure of the associated 3D virtual world and uses a hybrid technology: a unique dynamic menu, with static html content, in order to be able to

[17] www.e-sciencecity.org

update content with standard tools, avoid technologic problems like the use of Cyrillic alphabet and allow simple maintenance for the future.



The GridCafé website main content areas were migrated to the e-ScienceCity template at the end of PY1 (shown right). The formal launch of the e-ScienceCity[18] and the CloudLounge[19] was in PM13. Areas on volunteer computing (Volunteer Garage[20]), supercomputing (HPC Tower[21]) and data (Data Park[22]) have also been published live. Central areas cutting across the different subject sites are available, including the Communications Centre for news and briefings[23], People Bay which includes profiles from people working in grid[24], and GridPort[25] which includes the GridGuide sites. A marketing plan has been followed to drive traffic to the new site including the use of wikipedia, social media, iSGTW links, internal linking, an offline schools pack, and promotion at conference. Web statistics for the e-ScienceCity are gradually improving, particularly for longer running sites such as Cloud Lounge.

Virtual worlds are increasingly popular for social networking, gaming and learning. In developing a pilot 3D site, e-ScienceTalk has partnered with Virtus, a non-profit association and New World Grid. The e-ScienceTalk team benefitted from technical help from the NWG team, and from the team and community spirit of the users, and signed an MoU with the umbrella Virtus organization. The virtual world version of the site was launched in early PY2, and experienced good levels of visits throughout each year of the project. The e-ScienceTalk team also attended a number of in-world events on New World Grid, to promote e-ScienceCity. These included Pédagogie, Universités et Mondes Virtuels in Lyon in May 2013 and EJournée du e-Learning, in Lyon, in June 2013 There are also possible future collaborations with a project of Virtual University such as an open course, MOOC or serious game. A screenshot of the virtual world is shown below:

[18] http://www.e-sciencecity.org/
[19] http://www.cloud-lounge.org/
[20] http://www.volunteer-computing.org/
[21] http://www.e-sciencecity.org/HPC-tower
[22] http://www.e-sciencecity.org/data-park
[23] http://www.e-sciencecity.org/communication-centre
[24] http://www.e-sciencecity.org/people-bay
[25] http://www.e-sciencecity.org/gridport

GridCast

In total, 16 mini or major GridCasts have been held during each year of e-ScienceTalk, four times the original target. At most GridCasts, one or more members of the e-ScienceTalk team attended the event, blogging and in some cases recording video at the event. Some of the GridCasts have been organised remotely, such as the GISELSA-CHAIN, ENVRI and Helix-Nebula meetings. At most events, the e-ScienceTalk team was supplemented by bloggers from other projects and organisations, such as EGI-InSPIRE, the Oxford e-Research Centre, the Software Sustainability Institute, CERN and the University of Melbourne. The details of some of the most recent GridCasts are listed below.

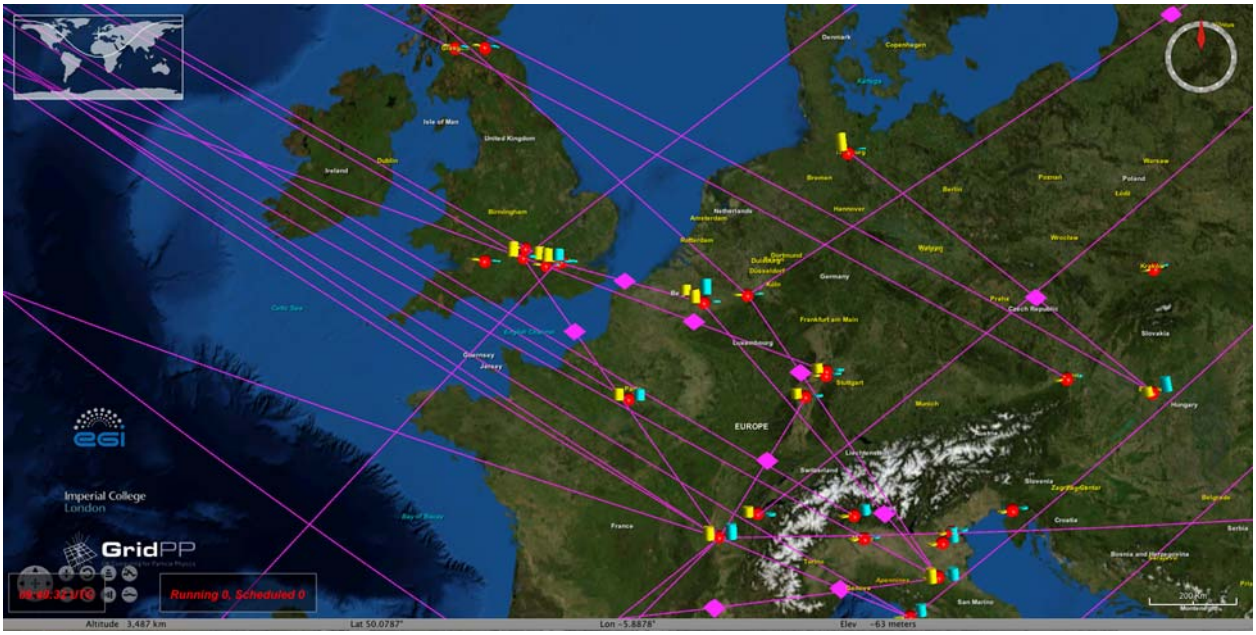
- **EGI Technical Forum 2012, Prague**
- **eChallenges 2012, Lisbon**
- **EUDAT Annual meeting, Barcelona**
- **eIRG meeting, Amsterdam**
- **CloudScape V, Brusssels**
- **10th e-Infrastructure Concertation meeting, Brussels**
- **International Symposium on Grids and Cloud 2013, Taipei**
- **EGI Community Forum 2013, Manchester**
- **5th CAPRI Evaluation Meeting, Utrecht**
- **e-IRG workshop, Dublin**
- **ISC'13, Leipzig**
- **XSEDE'13, San Diego**

e-ScienceTalk has the maximum number of bloggers on the Blogger platform, over 100. In total, there have been over 550 blog posts and more than 125 webcasts on GridCast. On average, there have been 6 bloggers for all major GridCasts. In the final year, the number of unique visitors increased by 78%. The videos produced at GridCasts over the years have been viewed nearly 250,000 times in YouTube.

The aim for GridCast during e-ScienceTalk, in comparison to GridTalk, has been to develop new types of blog post, such as editorial-style posts and to feature guest bloggers from outside the usual community, such as from industry. Longer videos, such as conference overviews and on-camera face-to-face interviews, in a change to the more common off camera demo style videos, have also been produced.

GridGuide / Real Time Monitor

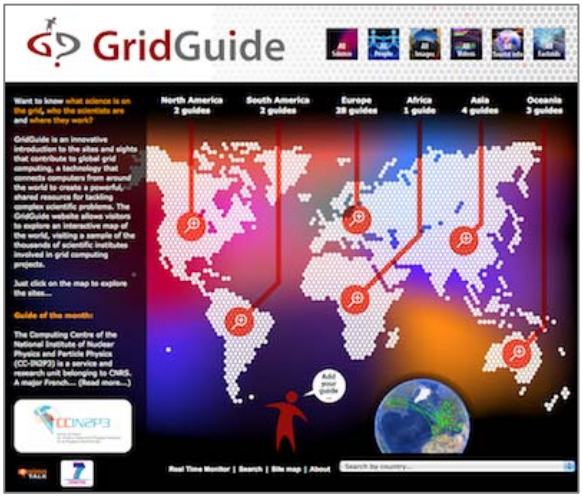
The current version of the GridGuide is available at http://www.gridguide.org and the Real Time Monitor can be downloaded as a standalone application from http://rtm.hep.ph.ic.ac.uk/ or launched as a Java Webstart version.



A screenshot of the Real Time Monitor

By PY3, 54 countries were included in the RTM. During the project, the team visited several events where the RTM has been demonstrated, reaching up to 30,000 delegates. These included Supercomputing '12, EGI Technical Forum 2012 and EGI Community Forum 2013, ISC 2013, the European Conference on Computational Biology and the 9th European Biophysics Congress. Additionally, the RTM was shown at multiple locations for the UK Particle Physics Masterclass series of events.

In the final project year, the team worked to increase the number of sites within the GridGuide to the target of 100 (shown right). In Q11, a number of new sites were added from both grid-only and grid/e-science resource providers from around the world, bringing the final total to 102.



The total includes 21 sites in North America, 5 in South America, 53 in Europe, 7 in Africa, 9 in Asia and 7 in Oceania. This represents an additional 72 sites since the start of the project. Of these, 59 of the biggest grid sites (in terms of number grid jobs sent, received and processed) are also currently included in the Real Time Monitor, ensuring that the system focuses on those sites that are most involved in the global grid community.

Prior to the start of the e-ScienceTalk project the RTM was upgraded to the latest version of the WorldWind software. Since the start of e-ScienceTalk the RTM has kept abreast of developments of WorldWind and the move to the next full version has been completed. Efforts have been made to develop better communications channels with system admins at grid sites, to ensure that new and existing sites on the RTM have the correct data and to prevent sites disappearing.

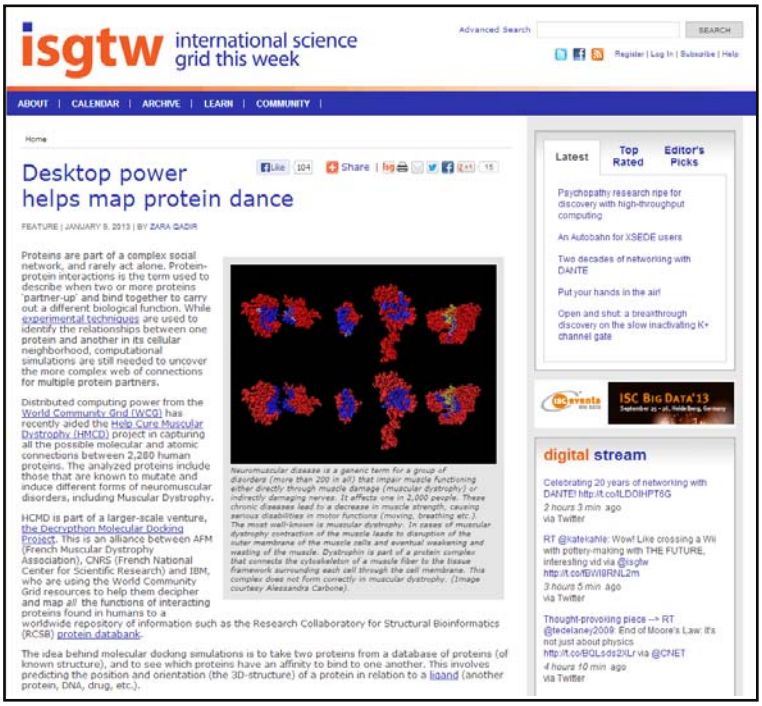
During PY1 the ATLAS job submission system PANDA was added to the RTM. Throughout PY2 the RTM team worked on implementing file transfers for the CMS experiment. CMS is based at the Large Hadron Collider at CERN and uses a system called PhEDEx to monitor and manage data movements. The visualisations used are slightly different to the grid traffic layer. Data is presented in a form of pulsating 3D cylinders, two per site, one for incoming data and a second for outgoing traffic. The aim at the close of the project has been to complete the transfer to the latest version of WorldWind, fully integrate the CMS data transfers, continue to ensure that the application displays up-to-date and accurate information and investigate displaying data from new sources and infrastructures.

During PY3, the UK Science Museum expressed an interest in including the Real Time Monitor in their LHC exhibition, *Collider*. *Collider* will open on 13 of November 2013 and run for six months. The developer has worked on a number of features that will make the RTM more accessible and visually appealing to the tens of thousands of visitors that will visit the exhibition.

1.2.2.3 WP3: iSGTW

During e-ScienceTalk, the weekly online newsletter, *International Science Grid This Week* (www.isgtw.org) has broadened its scope significantly to cover e-Infrastructures such as supercomputing, distributed computing, networks, data, cloud and volunteer computing, as well as other forms of distributed computing and their impact on grid development. The newsletter now covers a broad range of international, national and regional grid projects, as well as related developments in the wider world of modern science and research. Throughout the project, the publication has continued to send out a high quality issues with a spread of articles from across the globe, including the US, Europe, Asia Pacific region, Latin America and Africa. In total, ISGTW has published 146 issues during the project. One of the most popular articles is shown below.

The content and strategic direction of iSGTW is overseen by the iSGTW Advisory Board, which includes representatives from CERN, Fermilab, EGI.eu, Open Science Grid, Academia Sinica Grid Computing and QMUL. The EU Editor in Chief is based at CERN, and there have been three editors for the publication during the project, Dan Drollette, Jacqui Hayes and Andrew Purcell, supported by Science Writer Adrian Giordani. The publication is produced jointly by the EU Editor and a US Desk Editor, giving a broader geographical scope for the publication, and producing live social media coverage across many time zones. At the start of the project, the US based role was funded by Open Science



Grid and was based at Fermilab. Editors included Anne Heavey and Miriam Boon. In PM27, a new US Desk Editor was hired and funded through the National Science Foundation, based at the University of Indiana. iSGTW has managed these changes during the project to deliver a consistently high-quality publication.

From 29th May 2013, iSGTW produced issues with 2 rather than 3 feature articles, together with a spotlight article and a 'visual', an article focusing on an iconic image or video. The total number of articles published has therefore decreased in PY3 compared to PY2. This however places the magazine at a sustainable level of content for the reduced post-project effort levels, meaning that the magazine will continue to be issued weekly by the EU and US editors after the end of July 2013. A number of content sharing agreements are in place, or are being negotiated, including with NUANCE published by Ubuntunet and MyScienceWorks, aimed to increase the range and geographical coverage of the publication.

The relaunch of iSGTW

The principle aim in PY1 for iSGTW was to relaunch the publication on a new CMS. During Q1, US web design company Xenomedia worked on building the website using OpenPublish Drupal, in consultation with working groups and strategy groups that included Board and e-ScienceTalk members. This included producing a new navigational structure for the site, a refreshed look and feel to reflect the new branding and additional interactive elements such as polls, surveys and the facility to comment on and share articles through social media channels.

A number of promotional posters were produced in collaboration with WP2 for display at events, including a teaser poster displayed at the 8th e-Infrastructure Concertation Meeting at CERN in November 2011. A screenshot of the website was unveiled at the Fermilab booth at Supercomputing SC10, with an invitation to subscribe to the new publication. A working beta version of the site was submitted as D3.2 in PM3, and this was fully launched with the first issue on 12 January 2011 after extensive beta testing by the Advisory Board. The final issue of iSGTW was published on 22 December as a short issue, signing off the publication and introducing the new one.

The version of the website launched in January 2011 includes a number of additional functionalities:

- Web site with new design and navigational layout
- All legacy content ported across to the new site from the previous iSGTW site
- Site taxonomies (types of content) defined
- Search and advanced search capabilities
- Content tagging (legacy and new)
- Contextual search, simple and advanced
- Registration to the site, enabling readers to comment on and rate articles
- Reader blog section, allowing readers to publish blogs within the site
- Slide show and video galleries
- Reader polls
- Calendar including events
- ShareThis function, enabling easy sharing of the content on social media sites
- Smart phone friendly template compatible with iPhone and Android and other major platforms

In order to formally protect the iSGTW name itself, the name was trademarked in Switzerland under the Madrid protocol after legal searches in France, Benelux, US and the UK.

Marketing iSGTW to a wider audience

In May 2011, iSGTW started a more aggressive campaign to promote iSGTW through branded social media and news aggregators. The suggested plan of action was summarised in a *Marketing strategy for iSGTW*[26]. This marketing strategy comprised five methods for increasing iSGTW's impact: (1) conferences and events; (2) media partnerships; (3) collaborating projects; (4) online promotion, including the newsletter, search engines and social media; and (5) setting up iSGTW as a social media site itself. Social media has provided the advantage of giving iSGTW a voice in real-time and an opportunity to share content from other industry sources. In addition, more people can discover iSGTW content (@isgtw and iSGTW Facebook), and this therefore increases the exposure and reach of the project. iSGTW regularly tweets its articles daily, as well as stories around distributed computing and the science it enables, as well as e-ScienceTalk project and MoU partner events and announcements.

During the e-ScienceTalk project, iSGTW has been effective in achieving its aims of driving up its subscriptions and social media activity. Thanks to the proactive marketing strategy, iSGTW has been able to increase subscriber numbers by 30% during the project, as well as significantly increasing the number of number of social media followers (1,726 Twitter followers, 68 Google pluses and 1,167 Facebook).

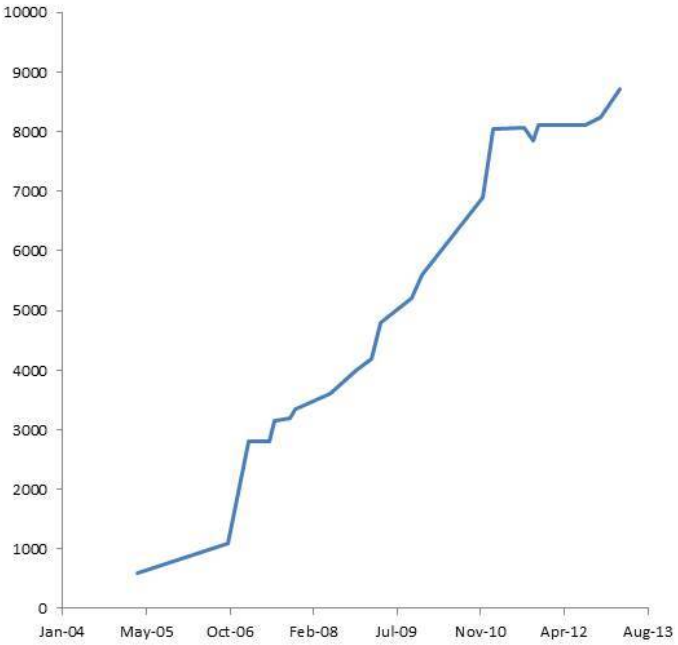
During the second project year, iSGTW started to see a trend for more rapid social media growth and more modest growth in weekly subscriptions. This continued in the final project year, reflecting a change in the habits of the readership that were largely in line with trends reported by other online news sources. A greater proportion of the audience arrived at iSGTW articles through links from Twitter and blog posts. While readers are now reaching iSGTW in a more piecemeal fashion, the audience is very likely to be broader and more diverse than at the start of the project. So while the rate of increase in subscriber numbers has slowed during PY3, with a slight upturn towards the end of the project, this has been compensated for by a rapid increase in the number of people who follow the publication through its social media channels. In fact, Q11 saw peak unique visitor numbers, page views and visit duration for the entire project. iSGTW's audience is not only much larger than at the start of the project, but readers are also more engaged (spending longer on visits, and reading more pages per visit).

The media form an increasing proportion of iSGTW's readers, as shown by the annual readership survey. As a result, iSGTW's stories are increasing being 'picked up' by other media including Symmetry, HPCwire, Discovery News and Wired US and UK, increasing traffic to the publication and widening the audience.

iSGTW web statistics, events and social media

There have been 440,164 unique visitors visiting the iSGTW website and 1,038,455 page views since the start of the e-Science talk project. This is considerably more traffic than during the previous project, GridTalk. Generally, the website attracts between round 10,000 and 18,000 unique visitors a month, and numbers have climbed further towards the end of the project.

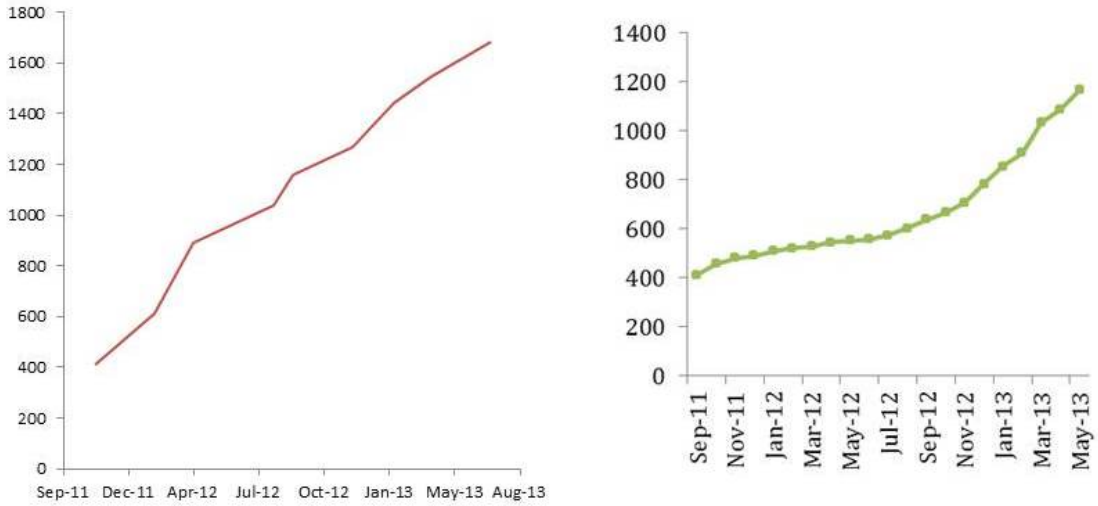
[26] https://documents.egi.eu/document/533



Growth in iSGTW subscriber numbers

As well as being a highly valuable source of article leads, conferences have proved an effective way to increase exposure and reach out to new communities. The Twitter hashtag from events can be used to promote stories and to respond to news and developments at the conference. Media partnerships give iSGTW a chance to offer delegates at the events the opportunity to sign up to the newsletter. Partnerships with other projects have helped iSGTW to increase subscriber numbers further.

The key to a successful social media strategy has been an increased regularity and frequency of posting. For this, as well as tracking the reach of posts, there are various useful online tools available. In addition to well-known social media outlets, such as Twitter, Facebook, and Google+, academic and professional social networks have been of use, such as LinkedIn, MyScienceWork, and ResearchGate. Other blogging and content aggregator sites, such as Reddit, StumbleUpon, Slashdot, Nature Networks, and Digg, have also been key tools in enabling iSGTW to successfully expand its audience.



Increase in Twitter followers (left) and Facebook 'likes' (right) for iSGTW

Annual readership survey

iSGTW has surveyed its readership annually using an online tool called Zoomerang[27] . The final survey in 2013 had 17 questions in total and was completed by 113 respondents. The surveys in previous years had 137 (PY1) and 236 (PY2) respondents. Many of the questions remain the same each year in order to help compare the results. In the final year, however, a number of the questions were directly related to short and long-term impacts of iSGTW.

The final survey results suggest that iSGTW has quite a dedicated audience, with a comfortable majority of respondents reporting that they read at least three out of every four issues. Meanwhile, a further third report that they read at least half of the issues.

The surveys give the impression of a highly engaged readership, with typically 80 per cent of respondents saying that they have 'discussed or forwarded an article or issue'. Well over half of respondents also reported that they had saved or bookmarked an article or issue. Significant numbers of respondents report that they have attended an event based on information they have found on our site, or have themselves submitted an event or job announcement to our site. Around 15% of respondents also said that they had contributed in some way to the newsletter at some point and a similar percentage said they had used iSGTW to source an image. In addition, around 13% of respondents reported that they had either cited or linked to iSGTW in a blog, paper, poster or talk.

Respondents in each survey reported that iSGTW is pitched at roughly the right technical level, is relatively easy to navigate, covers a good spread of topics and regions, and is a useful and informative resource for readers. Readers were also asked to tell us which topics they most like to read about. The most popular topics were broadly the same each year. As far as academic subjects are concerned, 'physics and astronomy' proved to be the most popular choice and 'future computing technology' came out on top in terms of the infrastructure related topics. The consistency of the responses to this survey question over the last three years suggests that these results accurately reflect the readers' tastes.

Over two thirds of people felt that iSGTW has raised awareness of particular e-science tools, services, resources, projects, initiatives, and/or potential collaborators. Over a third of respondents reported that iSGTW has helped them with their research work and others reported that iSGTW had helped improve the exposure of their work and that iSGTW is a useful resource in terms of establishing new research collaborations. Only around half of respondents reported that they 'agree' or 'strongly agree' with the statement and "I use iSGTW to keep informed about events and announcements".

In PY2 and PY3, around 10% of respondents reported that they work in the media. This suggests that iSGTW has significant 'second order impact' through the articles that are inspired as a result of journalists and other communications workers reading iSGTW. Despite a reasonably high number of people reporting that they are involved in grid computing, only around half reported that they like to read about this topic. This suggests that the decision to broaden the range of computing topics covered by iSGTW was a good one. Volunteer and cloud computing came out on top as the subjects respondents most like to read about. Despite the large number of respondents reporting that they like to read about volunteer computing, only one fifth reported that they are currently involved with such projects. As such, our coverage of volunteer

[27] www.zoomerang.com

computing has the potential to act as a way of mobilising people to become involved with these projects themselves.

In terms of the age demographic of the readership, the results have been almost identical in each survey. Consistently, 31-40 is the largest category and there has been a growth in readers aged 51-60. However, iSGTW does not yet target younger, typical university-aged students successfully, with just 10% of respondents saying that they are under 30.

Also, while the vast majority of the audience is male, the proportion of the audience which is female has held steady (at just under a quarter) from PY2. This is up from just 15% in 2008 and 18% in 2011. iSGTW has been publishing articles which are specifically targeted at women in science and there is also a special section on women in the grid on the site, which iSGTW has promoted on suitable occasions using the social media accounts.

Finally, almost 90% of respondents say that they would recommend iSGTW. This suggests that the vast majority of readers believe iSGTW to be a good quality publication.

WP4: Management and International Collaboration

The management team produced annual reports on feedback and metrics with WP1. E-ScienceTalk chairs the iSGTW Advisory Board and has participated as part of the Programme Committee for the 10th, 11th and 12th International Symposium on Grids and Clouds in Taipei.

Project governance

The Project Management Board met 12 times during the project under the Chairmanship of Prof Steve Lloyd of QMUL, including face to face on two occasions, to review the progress of the project and to monitor the risk register, meeting milestones MS10.1-12. The PMB has also reviewed and approved all the Deliverables and Milestones produced during the project, after an internal review by the rest of the project team. The timetable for the review process is as follows:

- Internal draft ready by day 1 of the PM the report is due
- Document internally reviewed by the e-ScienceTalk team – *2 weeks*
- Document reviewed by the PMB – *1 week*
- Document submitted at the end of the PM the report is due

The majority of Deliverables and Milestones have been submitted to the EC on time or in advance of the deadline.

The Project Coordinator has managing the team through weekly project meetings by telcon, which included all members of the project team. During these meetings, the Work Package Leaders presented the progress achieved during that week by their team, actions were reviewed and discussed, and further actions agreed. Face-to-face meetings with the team were held at CERN and at events attended by the team, such as the EGI Community and Technical Forums.

In addition to the agreed Deliverables and Milestones for the project, WP4 also produced quarterly reports which included progress updates for each work package, the Deliverables and Milestones issued, an estimate of resources consumed and the project and work package metrics. WP4 coordinated a special report on the CRISP website and social media feeds, part of the agreed activity plan described in the MoU with the CRISP ESFRI cluster project.

Effort reporting was completed by each project team member through an online tool called EasyTimeSheet, hosted by ERCIM. Tracking of project related travels, and also unfunded effort has been achieved using this tool throughout the project and the estimated expenditure for each work package and partner was derived from the online timesheets.

WP4 has worked with the former BELIEF-II team to align the Digital Library[28] content with e-ScienceTalk products. An RSS feed of news from iSGTW was exported into the Digital Library website and e-ScienceTalk content has been uploaded to the Digital Library. The team was also working with the system administrators of the Digital Library to explore enabling upload of documents via the e-ScienceTalk website, but support for the Digital Library from the former BELIEF-II team ended in May 2012.

Events attendance and organisation

In addition, WP4 assisted with logistics for the 8th, 9th and 10th e-Infrastructure Concertation events in Geneva in 2010, Lyon in 2011 and Brussels in 2013, including preparation of event budgets, set up of registration, commissioning event websites (shown right) and invoicing for project booths in Lyon. A live video feed of sessions was provided for the Lyon event in collaboration with GRDI20.

At the 10th e-Infrastructure Concertation event in Brussels in March, WP4 also ran an FP7 Success Story competition which awarded prizes to success stories from e-Infrastructure projects that were funded under the 7th Framework Programme FP7. Prizes were awarded in 3 categories: Excellent Science, Competitive Industries and Better Societies and were judged by a panel from iSGTW, e-ScienceTalk and the EC. There were 15 entries, and the results were announced through the e-ScienceTalk channels, with prizes awarded at the event by the iSGTW EU Editor. The success stories submitted have formed the basis of feature articles in iSGTW during PY3 and beyond. The final event was attended by over 130 participants, who focussed on the issues related to the completion of the FP7 programme, and the start of an e-Infrastructure activity during Horizon2020.

International collaborations

In total, 19 additional Memoranda of Understanding have been signed with collaborating projects, outlining how the projects and e-ScienceTalk would work together to maximise mutual dissemination activities.

[28] http://belief-dl.research-infrastructures.eu/

MoUs signed in PY1 were:

- **Policy**: e-IRGSP2/3
- **Collaborations outside Europe**: EUIndiaGrid2, LinkSCEEM2, CHAIN
- **User community & infrastructures**: WeNMR, EMI, EGI-InSPIRE, DEGISCO

MoUs signed in PY2 were:

- **Outreach**: GlobalExcursion, Virtus
- **User community & infrastructures**: EGI, EUDAT, N4U, SHIWA
- **ESFRI cluster projects**: CRISP
- **Policy**: ERINA+

MoUs signed in PY3 were:

- **Outreach**: iMENTORS
- **Regional infrastructures**: Ubuntunet
- **Policy**: BlogForever

Ongoing collaborations with NUANCE, Ubuntunet and MyScienceWorks will provide a wider geographical reach and audience range for iSGTW beyond e-ScienceTalk. In addition, there is a networking session on Big Data taking place at ICT'13 in November 2013, led by e-ScienceTalk in collaboration with EGI-InSPIRE, CHAIN-REDS, ProiBiosphere and EI4Africa. The networking session will bring together researchers, resource providers and data owners to discuss the future for e-science and big data in Europe.

1.4 Impact, dissemination and exploitation of foreground

The important scientific and social impacts of dissemination projects that span national and international borders were outlined by Kostas Glinos, Head of Unit "GÉANT & e-Infrastructures, Directorate General for Information Society and Media, European Commission" in the GridBriefing Annual Report 2008-2009[29], produced by GridTalk:

> "Today, grid e-Infrastructures are facing significant challenges such as sustainability and the transition to a more user-driven and service-centric model. Grid computing has already engaged in the process of transitioning to a sustainable model of operation that would integrate at European level the corresponding national operations. This new pan-European organisation model will open grid e-Infrastructures to all scientific disciplines and complement national funding strategies in support of e-Science. Thanks to grid computing many prominent results have been achieved that directly affect people's lives.
>
> It is essential to show the world and especially European citizens how European-funded research e-Infrastructures are working for them. Responsible and open communication plays an important role in ensuring public support of the European grid e-Infrastructures activities. This is where projects like GridTalk, disseminating the benefits, success stories and challenges of grid computing to a wider audience, play an important role. The effective communication of complex technical or scientific matters to a wider audience not only increases the public appreciation and support to scientific progress but also inspires the younger generations to get involved in the research process."

The need for dissemination projects to communicate the success stories and societal impact of grid computing and other EC funded e-Infrastructures has not diminished since GridTalk started in April 2008. In fact with the transition to a new model for distributed computing in Europe expected under Horizon2020, this is more important than ever. Thierry van der Pyl, Director European Commission, DG Communications Networks, wrote in the e-ScienceBriefings Compendium, 2010-2013[30]:

> "The opportunities and challenges associated with e-infrastructures are now very much aligned with those of mainstream research, as more and more research disciplines employ extensive computational methods to cope with the data deluge. Digital science has grown well beyond its origins in the high energy physics domain. Now the astronomical, life- and environmental-sciences communities have established a firm foothold in the world of e-infrastructures and increasingly find themselves working alongside researchers from the social sciences and humanities."
>
> "Together these e-science briefings show that e-Science in Europe is reaching a real maturity and delivering tangible results, which are in turn promoted and disseminated by projects such as e-ScienceTalk. We can look forward to a bright future on the horizon for European science and society."

[29] GridBriefing Annual Report 2008-2009, GridTalk
[30] http://www.e-sciencetalk.org/download.php?ch=./briefings/&f=eScienceBriefings_compendium_web.pdf

E-ScienceTalk has been ideally placed to communicate this overview and its global context to the wide-ranging audiences already established for its products through the GridTalk project, and earlier in the case of the GridCafé and iSGTW, which have built up a loyal following over a number of years. The ability to reach out to these audiences has been enhanced during e-ScienceTalk by co-development with the Real Time Monitor of Imperial College, London, which has proved to be an essential tool for communicating the global spread and complexity of the grid computing network to the general public and to key policy makers.

As mentioned by Kostas Glinos, it is not only important to increase public appreciation and support for scientific progress but also to inspire the younger generations to get involved. Communicating to university students and final year high school students has been an objective for e-ScienceTalk, which is again ideally placed to reach out to scientists and the consumers and providers of e-Infrastructures of the future. E-ScienceCity is already seen as an important source of information for educators, with a growing audience online and through the 3D virtual world, NewWorldGrid. Adding more information about the human face of grid computing to the global GridGuide offers useful careers-based information to students thinking of a career in science, using profiles of people already working in grid computing and e-Infrastructures to answer questions such as: what qualifications do you need, what sort of careers are possible and where are the best places to work? Similarly, by marketing the e-ScienceTalk products on specialist and social media sites such as Slashdot, Facebook, Nature Networks, Twitter and BoingBoing, e-ScienceTalk reaches a younger audience, who are significant users of these technologies. The development of the 3D e-ScienceCity in collaboration with NewWorldGrid is also an ideal way to bring e-science to a new and younger audience, and e-ScienceCity is also available to school pupils through a teachers' pack.

Objectives summary table

Key objectives of the Capacities Research Infrastructures Work Programme call INFRA-2010-3.3	**E-ScienceTalk's relevance to these objectives**
Proposals will aim at providing support for e-Infrastructures, including the coordination between national and pan-European e-Infrastructure initiatives and programmes…	E-ScienceTalk will act as a key communication channel between the National Grid Initiatives, EGI.eu and dissemination teams in other e-Infrastructure projects, helping to coordinate their dissemination activities to deliver a clear message about the evolution of Europe's grid computing and e-Infrastructure services during the transition to EGI. GridTalk established a wide range of contacts across more than 60 European projects and will bring this high level of collaboration to e-ScienceTalk. The project received Letters of Support from a number of European projects covering countries across Europe and beyond, and e-ScienceTalk will work particularly closely with EGI, DEISA, PRACE, GÉANT, OpenAIRE, OSG and others. E-ScienceTalk will form a key element in a network of dissemination hubs, including the dissemination teams of EGI.eu, EMI, the NGIs and others. Each of these hubs will target different audiences, whether users from a particular scientific community, users located in a particular country or region, middleware developers or owners and managers of the grid

	resources. As a dissemination project with international scope, e-ScienceTalk will be well placed to distribute its products via the hubs for these specialist networks and hence reach a much wider audience. In turn, e-ScienceTalk will be able to offer its well established networks of media contacts, policy makers and its general public-focused products as channels for success stories from the various communities. E-ScienceTalk will focus on collaboration with the dissemination teams of EGI.eu and DANTE. According to the EGI Blueprint[31], the dissemination team for EGI.eu will "focus on content production and coordinating activities" and "support and coordinate the publication work of EGI". E-ScienceTalk's products will provide ideal channels for disseminating the outputs from these teams. For example, the GridCafé and e-ScienceCity websites are a standard resource for an authoritative and unbiased introduction to grids and e-science for the general public. ISGTW reaches over 8700 subscribers from across a wide range of science communities, and e-ScienceTalk aims to increase this further This anticipated growth in readership will be coupled to an increasingly community-based dimension to iSGTW. This will be achieved through its contributions on grid computing and e-Infrastructures to the Nature Networks forum, the introduction of a reader comment facility on articles that will be available in the relaunched iSGTW, as well as reader polls and the ability to share stories through social media sites. The community contributions encouraged during GridTalk will be extended during e-ScienceTalk to include blogging through the GridCast website, and coordination of e-concertation activities in the e-Infrastructure area.
..specific studies on e-Infrastructure related topics, in particular to evaluate the impact of the e-Infrastructure programme including the establishment of appropriate indicators…	Responding to the review comments for GridTalk, the e-ScienceTalk project will seek to evaluate more closely the impact of long running products such as GridCafé and iSGTW on their audiences, as well as the impact of the younger products. In turn, this will shed light on the impact of the e-Infrastructure programme itself on policy makers, innovators, the e-Science community and the general public. E-ScienceTalk will gather and analyse metrics relating to the e-ScienceTalk products, such as the readership figures for iSGTW and the profile of this readership by conducting annual readership surveys. Through web and social media statistics, it is also possible to assess which types of stories gain the most attention from the community and to follow this up with more in-depth one-to-one interviews. The general and trade press also pick up certain iSGTW stories and redistribute them to their own readership, for example a feature on tracking down pirates off the Horn of Africa, and another on resurrecting an ancient Greek musical instrument using the grid. By evaluating which stories gain a wider a readership, it will also be possible to understand the impact the research has had on the general public.

[31] EGI Blueprint, EU Deliverable: D5.3, 22 December 2008

	By monitoring which areas of GridCafé and e-ScienceCity websites are most frequented, this will also add to our knowledge of where gaps in understanding still exist among the general public regarding e-Infrastructures and build up a fuller picture of where future dissemination projects should focus their efforts. Tracking the usage of the e-ScienceTalk products through readership surveys, questionnaires and interviews with delegates at key conferences will all help to extend our insight. By making the results of these studies available to other EC-funded projects through open access channels such as the BELIEF Digital Library and OpenAIRE, e-ScienceTalk will also contribute to the sustainability of the e-ScienceTalk products. E-ScienceTalk will also draw together the final deliverables from each of the work packages to produce an overall guide to dissemination for EC-funded projects, based on the experience gained and lessons learnt during both phases of the project.
...support actions for the dissemination of information on the e-Infrastructure programme and project results as well as for project concertation.	The principle aim of e-ScienceTalk's work packages will be to disseminate the success stories and impact of grid computing and e-Infrastructures. These stories will come from the e-Infrastructure's flagship pan-European projects but also from a whole host of smaller and emerging projects, who have limited effort available for dissemination and limited networks of contacts and collaborating partners. By giving these projects access to e-ScienceTalk's wide variety of dissemination channels, including websites, blogs, social media sites, weekly publications, events, conference booths and printed materials, their results can be disseminated far more widely and to a greater range of audiences than would otherwise be possible. This audience reaches beyond Europe to the US through the US editor for iSGTW and the collaboration with OSG, to Asia through partnership with ASGC and EUAsiaGrid and to Latin America through REUNA. Collaborating with projects with an international scope such as SIENA and others opens up an even wider global audience for the European e-Infrastructure programme project results.
…international cooperation including promotion of the interoperation between similar infrastructures on the global scale with the aim of reinforcing global relevance and impact of European e-Infrastructures.	E-ScienceTalk will work with the other projects such as GÉANT, DANTE and DEISA/PRACE to disseminate the interdependencies of Europe's e-Infrastructures through the eScienceBriefings, articles in iSGTW and by expanding the content of the GridCafé through e-ScienceCity. Through the policy impact work package, e-ScienceTalk will also work closely with e-IRG and the European Strategy Forum on Research Infrastructures (ESFRI) projects who are currently involved in building a united roadmap for the development of e-Infrastructures in Europe that are user relevant and appeal to a wide variety of disciplines including social science and the humanities. E-ScienceTalk will aim to bring the progress of this roadmap to all its audiences in Europe and beyond. For example, the e-ScienceBriefings produced by WP1 will be circulated to a wider audience beyond Europe, including the US, Asia and Latin America. The e-ScienceCity will feature

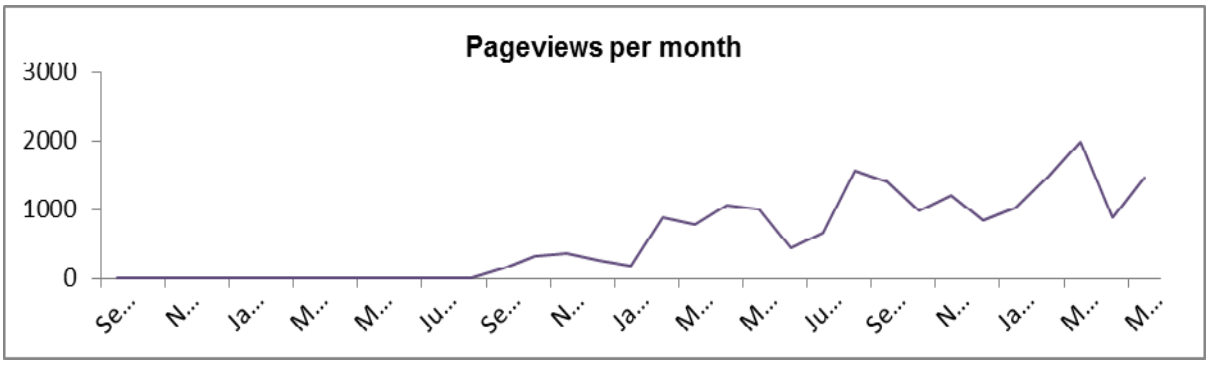
	success stories from beyond Europe contributed by collaborating projects such as ASGC, REUNA and EUAsiaGrid. The GridGuide will also feature an increasing number of sites outside Europe, and GridCast will blog from at least one non-European event per year. ISGTW is by nature an international publication as it is a joint EU-US initiative, covering projects from Europe and the US, as well as increasingly from Asia, Latin America and Africa.

Impact assessment and outcomes in e-ScienceTalk

In response to the reviewers' comments at the PY1 and PY2 Reviews for e-ScienceTalk, WP1 has investigated the impact of its products and explored options for sustainability through a series of annual reports such as D1.5 *Annual Impact and Sustainability Report*[32] and D4.5 *Annual Report on Feedback and Metrics*[33]. These reports conclude that the impact of most ScienceTalk products is significant and each product is reaching its intended audiences.

E-ScienceTalk's impact has been measured by quantitative analyses using key metrics adjusted throughout the project. Qualitative assessment of the project's impact and reach has also been collected from surveys, focus groups, expert advisory panels and from anecdotal reports from individuals working in scientific research and science policy. Quantitative research has been carried out using surveys, web analytics, webometric tools and social media measurement tools.

The project has been successful in reaching a wide audience through its social media channels (@isgtw and @e_scitalk), building up 4,000 followers. The quality of followers is also high with a large number of influential followers with wide spheres of influence. The project team has also developed spin-off training and consultancy in a number of different areas, including blogging, science writing, event logistics, media outreach and newsletters. The project has also successfully coordinated three e-Infrastructure concertation meetings and developed a *Guide to Dissemination* for EC funded project. It has published a peer-reviewed academic paper on measuring the impact of e-science/e-infrastructure outreach.

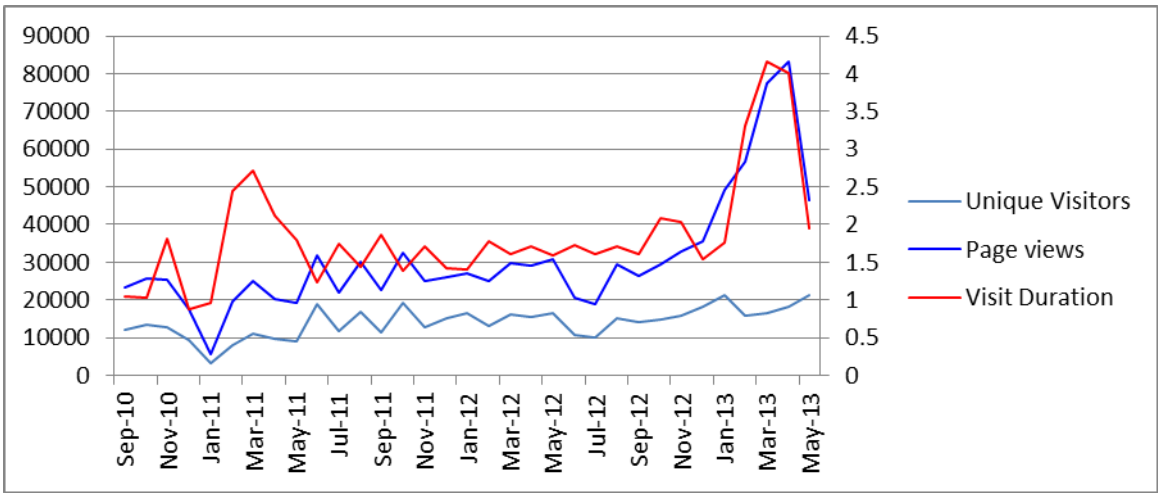


e-ScienceCity Traffic

In the last year and a half, there have been 17,000 downloads of e-ScienceBriefing policy documents. The GridCafé has been expanded by integrating it within a larger 'e-Science City', covering HPC, volunteer

[32] https://documents.egi.eu/document/1874
[33] https://documents.egi.eu/document/1875

computing, data and cloud technologies, with CloudLounge seeing over 17,000 page views. GridCast continues to support the sense of community for participants in e-infrastructure and distributed computing across the globe, with traffic increasing year on year. There is evidence to show that the blog is also regularly read by the mainstream computer science press, including blog posts that have been republished in HPCwire. GridGuide has seen an increase in the number of sites to 102 sites, and has now been integrated into e-ScienceCity as GridPort, where online traffic is increasing. The Real Time Monitor is increasingly being used as a visual tool for educators explaining the potential of the grid. During e-ScienceTalk, approximately 30,000 people have viewed the RTM at conferences. Towards the end of 2013, the RTM will be adopted by the London Science Museum for its LHC *Collider* exhibition. International Science Grid This Week has seen its readership increase to over 3,000 followers on social media and 8,770 subscribers. Traffic to the site has quadrupled during the project.



iSGTW Traffic and Visitor Behaviour

Dissemination of foreground

The management team produced annual reports on feedback and metrics with WP1. In total, 19 Memoranda of Understanding have been signed with collaborating projects, outlining how the projects and e-ScienceTalk would work together to maximise mutual dissemination activities and ensure sustainability. E-ScienceTalk also chairs the iSGTW Advisory Board and has participated as part of the Programme Committee for the 10th, 11th and 12th International Symposium on Grids and Clouds in Taipei. Eight press releases have been issued by e-ScienceTalk to 19,000 journalists, through AlphaGalileo[34], iSGTW, ISGC events and EGI events. In total, 30 press cuttings, articles and radio clips have been published about e-ScienceTalk or e-ScienceTalk products, in publications such as Discovery News, Projects Magazine, the BBC's Digital Planet, Wired UK and US, Symmetry and HPCwire. Posters have been produced promoting GridCasts and iSGTW for display at events attended by around 50,000 participants, as well as flyers, briefings, postcards and promotional branded materials.

A general presentation about the project is available online[35]. In PY1, presentations about the project have been given by the Project Coordinator or by e-ScienceTalk team members at the EGI Technical Forum 2010 in Amsterdam, at eChallenges 2010 in Warsaw and at the 8th e-Infrastructure Concertation Meeting at CERN

[34] www.alphagalileo.org
[35] https://documents.egi.eu/document/153

in November 2010. The Project Coordinator attended the CHAIN Launch Event in Rome in December 2010, which helped to progress a number of MoU discussions with CHAIN, GISELA, WeNMR, EMI and EUIndiaGrid. E-ScienceTalk also presented by invitation at the ASSYST Cloud and Complex Systems event in Paris 2011 and chaired a session at the BSA Science Communication Conference in May 2011, after being accepted through a competitive proposal submission process.

During PY2, presentations about the project have been given by the Project Coordinator or by e-ScienceTalk team members at the EGI Community Forum 2012 in Munich, at the 9th e-Infrastructure Concertation Meeting in Lyon in September 2011 and at ISGC'12 in Taipei. During PY3, presentations about the project were given at the eChallenges event, at the 10th e-Infrastructure Concertation Meeting in Brussels and at ISGC'13 in Taipei. A paper on e-ScienceTalk's impact measurement activities was published as a result of the eChallenges event in Lisbon in October 2012[36].

The e-ScienceBriefings are mostly available in both printable pdf and html format, which improves the likelihood of them being indexed by search engines. The briefings are disseminated through iSGTW, GridCast, Twitter, selected briefings in GridCafé and e-IRG newsletters. They are also distributed by email to all contributing organisation and the EGI mailing lists. Printed versions of the reports have also been distributed through booths at several events during the project. An RSS feed has been set up to allow readers to subscribe to e-ScienceBriefings[37]. This feed is displayed on the EGI.eu website[38] and the release of the briefings is announced on the news feed[39]. A self-subscription mailing list has 164 subscribers.

The formal launch of the e-ScienceCity[40] and the CloudLounge[41] took place at the 9th e-Infrastructure Concertation meeting in Lyon. Areas on volunteer computing (Volunteer Garage[42]), supercomputing (HPC Tower[43]) and data (Data Park[44]) have also been publicised at events such as the EGI Community Forum, and the Citizen CyberScience events. A marketing plan has been followed to drive traffic to the new sites including wikipedia, social media, iSGTW links, internal linking, an offline schools pack, and promotion at conferences.

E-ScienceTalk has the maximum number of bloggers on the Blogger platform for its GridCast blog, over 100. In total, there have been over 550 blog posts and more than 125 webcasts on GridCast, promoting e-ScienceTalk and related projects. In the final year, the number of unique visitors to GridCast increased by 78% and the videos produced at GridCasts have been viewed nearly 250,000 times in YouTube. GridCast and YouTube have therefore attracted a large audience to e-ScienceTalk and e-ScienceTalk products.

During the project, the team visited several events where the RTM has been demonstrated, reaching up to 30,000 delegates. These included Supercomputing '12, EGI Technical Forum 2012 and EGI Community Forum 2013, ISC 2013, the European Conference on Computational Biology and the 9th European Biophysics Congress. During PY3, the UK Science Museum expressed an interest in including the Real Time Monitor in their LHC exhibition, *Collider*. *Collider* will open on 13 of November 2013 and will be open for six months for

[36] http://www.echallenges.org/e2012/default.asp?page=paper-repository
[37] http://www.e-sciencetalk.org/rss/briefings.xml
[38] http://www.egi.eu/results/articles/
[39] http://www.egi.eu/about/news/news.rss
[40] http://www.e-sciencecity.org/
[41] http://www.cloud-lounge.org/
[42] http://www.volunteer-computing.org/
[43] http://www.e-sciencecity.org/HPC-tower
[44] http://www.e-sciencecity.org/data-park

the museum's tens of thousands of visitors, potentially exposing a large new audience to the RTM and e-ScienceTalk.

In May 2011, iSGTW launched a marketing campaign to promote iSGTW through branded social media and news aggregators. This marketing strategy included conferences and events, media partnerships, collaborating projects and online promotion, including the newsletter, search engines and social media iSGTW was also set up as a social media site itself. Social media has provided the advantage of giving iSGTW a voice in real-time and an opportunity to share content from other industry sources so that more people can discover iSGTW content. This therefore increases the exposure and reach of the project. iSGTW regularly tweets its articles daily and has been retweeted by large accounts such as @CERN, with 845,000 followers. The Twitter hashtag from events has been used to promote stories and to respond to news and developments. Media partnerships with ISC, XSEDE and EGI events have given iSGTW a chance to offer delegates at the events the opportunity to sign up to the newsletter. Partnerships with other projects have helped to increase subscriber numbers further. In addition to Twitter, Facebook, and Google+, LinkedIn, MyScienceWork, and ResearchGate, other blogging and content aggregator sites, such as Reddit, StumbleUpon, Slashdot, Nature Networks, and Digg, have also been key tools in enabling iSGTW to successfully expand its audience and disseminate e-ScienceTalk's foreground.

1.5 Project web addresses

The web addresses for the e-ScienceTalk project are:

www.e-sciencetalk.eu – project website

www.gridcafe.org – the GridCafé website

www.e-sciencecity.org – the e-ScienceCity website

www.gridcast.org – the GridCast blog

www.gridguide.org – the GridGuide website

www.isgtw.org – the International Science Grid This Week website

http://rtm.hep.ph.ic.ac.uk/ - the Real Time Monitor website

1.6 Project logos

2 Use and dissemination of foreground

Dissemination of foreground

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[48] http://www.e-sciencetalk.org/rss/briefings.xml
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[50] http://www.egi.eu/about/news/news.rss

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[51] http://www.e-sciencecity.org/
[52] http://www.cloud-lounge.org/
[53] http://www.volunteer-computing.org/
[54] http://www.e-sciencecity.org/HPC-tower
[55] http://www.e-sciencecity.org/data-park

Section A (public)

TEMPLATE A1: LIST OF SCIENTIFIC (PEER REVIEWED) PUBLICATIONS, STARTING WITH THE MOST IMPORTANT ONES										
NO.	Title	Main author	Title of the periodical or the series	Number, date or frequency	Publisher	Place of publication	Year of publication	Relevant pages	Permanent identifiers[56] (if available)	Is/Will open access[57] provided to this publication?
1	*e-ScienceTalk: Measuring the impact of online outreach for e-Infrastructures*	*Catherine Gater*	*eChallenges e-2012 Conference Proceedings*	*2012 ISBN 978-1-905824-35-9, ISBN: 978-1-905824-35-9*	*IIMC International Information Management Corporation Ltd*		*2012*		http://www.echallenges.org/e2012/default.asp?page=paper-repository	yes
2										
3										

[56] A permanent identifier should be a persistent link to the published version full text if open access or abstract if article is pay per view) or to the final manuscript accepted for publication (link to article in repository).
[57] Open Access is defined as free of charge access for anyone via Internet. Please answer "yes" if the open access to the publication is already established and also if the embargo period for open access is not yet over but you intend to establish open access afterwards.

TEMPLATE A2: LIST OF DISSEMINATION ACTIVITIES								
NO.	Type of activities[58]	Main leader	Title	Date/Period	Place	Type of audience[59]	Size of audience	Countries addressed
1	*Conference*	*EGI.eu*	*8th e-Infrastructure Concertation Meeting*	*4-5 November 2010*	*Geneva, Switzerland*	*Policy makers*	*120*	Europe
2	*Conference*	*EGI.eu*	*9th e-Infrastructure Concertation Meeting*	*22-23 September 2011*	*Lyon, France*	*Policy makers*	*150*	Europe
3	*Conference*	*EGI.eu*	*10th e-Infrastructure Concertation Meeting*	*6-7 March 2013*	*Brussels, Belgium*	*Policy makers*	*130*	Europe
4	*Web*	*APO*	*www.e-sciencetalk.eu*	*2010-2013 and beyond*	*Numerous*	*All*	*1500*	Europe, International
5	*Web*	*APO*	*www.gridcafe.org*	*2010-2013 and beyond*	*Numerous*	*All*	*3500*	Europe, International
6	*Web*	*APO*	*www.e-sciencecity.org*	*2010-2013 and beyond*	*Numerous*	*All*	*4000*	Europe, International
7	*Web*	*APO*	*www.gridcast.org*	*2010-2013 and beyond*	*Numerous*	*All*	*10,000*	Europe, International
8	*Web*	*APO*	*www.gridguide.org*	*2010-2013 and beyond*	*Numerous*	*All*	*1000*	Europe, International
9	*Web*	*CERN*	*www.isgtw.org*	*2010-2013 and beyond*	*Numerous*	*All*	*200,000*	Europe, International
10	*Web*	*Imperial*	*http://rtm.hep.ph.ic.ac.uk/*	*2010-2013 and beyond*	*Numerous*	*All*	*9,000*	Europe, International
11	*Posters*	*APO*	*GridCast*	*2010-2013*	*Numerous*	*Scientific Community*	*30-50,000*	Europe, International
12	*Posters*	*APO*	*iSGTW*	*2010-2013*	*Numerous*	*Scientific Community*	*30-50,000*	Europe, International

[58] A drop down list allows choosing the dissemination activity: publications, conferences, workshops, web, press releases, flyers, articles published in the popular press, videos, media briefings, presentations, exhibitions, thesis, interviews, films, TV clips, posters, Other.

[59] A drop down list allows choosing the type of public: Scientific Community (higher education, Research), Industry, Civil Society, Policy makers, Medias, Other ('multiple choices' is possible).

13	*Poster*	*APO*	*8th e-Infrastructure Concertation meeting*	*11 November 2010*	*Geneva, Switzerland*	*Scientific Community*	*120*	Europe, International
14	*Poster*	*APO*	*e-ScienceCity*	*2011*	*Numerous*	*Scientific Community*	*500*	Europe
15	*Poster*	*APO*	*e-ScienceCafe Hungary*	*14 November 2011*	*Budapest, Hungary*	*Scientific Community*	*50-100*	Hungary
16	*Poster*	*APO*	*10th e-Infrastructure Concertation meeting*	*6-7 Marchr 2013*	*Brussels, Belgium*	*Policy Makers*	*120*	Europe, International
17	*Flyer*	*APO*	*e-ScienceCafe Hungary*	*14 November 2011*	*Budapest, Hungary*	*Scientific Community*	*50*	Hungary
18	*Flyer*	*APO*	*Hungrid*	*November 2011*	*Hungary*	*Scientific Community*	*100-200*	Hungary
19	*Flyer*	*APO*	*e-ScienceTalk postcard*	*December 2011*	*Numerous*	*Scientific Community*	*500*	Europe
20	*Flyer*	*APO*	*e-ScienceTalk services*	*2012*	*Numerous*	*Scientific Community*	*500*	Europe
21	*Media release*	*EGI.eu*	*e-ScienceTalk brings the success stories of European e-Infrastructures to the fore*	*10 September 2010*	*Amsterdam, Netherlands*	*Media*	*Sent to 4398, hits 696*	Europe
22	*Media release*	*EGI.eu*	*Asian scientists shake up earthquake research*	*11 March 2010*	*Numerous*	*Media*	*500*	Europe, Asia-Pacific
23	*Media release*	*EGI.eu*	*Asian health research gets the grid treatment*	*11 March 2010*	*Numerous*	*Media*	*500*	Europe, Asia-Pacific
24	*Media release*	*EGI.eu*	*Researchers in Taiwan to use volunteer computing to visualise earthquakes*	*28 March 2011*	*Numerous*	*Media*	*Sent to 4345, hits 2229*	Europe, Asia-Pacific
25	*Media release*	*EGI.eu*	*Help detect earthquakes with your PC – Academia Sinica leads the way in South East Asia*	*28 March 2011*	*Numerous*	*Media*	*Sent to 3940, hits 1398*	Europe, Asia-Pacific
26	*Media release*	*EGI.eu*	*Announcing the EGI Writing prize2013 in association with iSGTW*	*6 October 2012*	*Numerous*	*Media*	*Sent to 2762, hits 664*	Europe
27	*Media release*	*EGI.eu*	*E-infrastructure project success story winners announced*	*6 March 2013*	*Numerous*	*Media*	*Sent to 3906; hits 811*	Europe
28	*Press cutting*	*EGI.eu*	*e-ScienceTalk brings the success stories of e-*	*3 September 2010*	*US*	*Scientific Community*	*10,000*	International

			Infrastructures to the fore, HPCwire					
29	*Press cutting*	*CERN*	*Interview - Kostas Glinos peers into his crystal ball, iSGTW*	*29 September 2010*	*Geneva, Switzerland*	*Scientific Community*	*6500*	International
30	*Press cutting*	*QMUL*	*Feature - Data is big news, iSGTW*	*13 October 2010*	*Geneva, Switzerland*	*Scientific Community*	*6500*	International
31	*Press cutting*	*CERN*	*8th e-Infrastructure Concertation Meeting, CERN Courier*	*12 November 2010*	*Geneva, Switzerland*	*Scientific Community*	*2000+*	International
32	*Press cutting*	*CERN*	*Feature - Back to Basics: Supercomputing, iSGTW*	*16 February 2011*	*Geneva, Switzerland*	*Scientific Community*	*7000*	International
33	*Press cutting*	*CERN*	*Spotlight - Blogging live from Taipei, iSGTW*	*16 March 2011*	*Geneva, Switzerland*	*Scientific Community*	*7000*	International
34	*Press cutting*	*CERN*	*CERN Centers Origin of Life Research, HPCWire*	*13 June 2011*	*US*	*Scientific Community*	*10,000*	International
35	*Press cutting*	*CERN*	*Biologists visit CERN for help with the origins of life, WIRED UK*	*13 June 2011*	*UK*	*Civil Society*	*50,000*	International
36	*Press cutting*	*QMUL*	*Feature - A guide to the Asia Pacific, iSGTW*	*6 July 2011*	*Geneva, Switzerland*	*Scientific Community*	*7000*	International
37	*Press cutting*	*CERN*	*Scientific Visualization: From sight to insight, Vizworld*	*22 August 2011*	*US*	*Scientific Community*	*5000*	International
38	*Press cutting*	*CERN*	*Grid Computing Aids Cell Stress Research, Genome Web*	*31 August 2011*	*US*	*Scientific Community*	*5000*	International
39	*Press cutting*	*QMUL*	*Feature - Desktop grids: Connecting everyone to science, iSGTW*	*21 September 2011*	*Geneva, Switzerland*	*Scientific Community*	*7000*	International
40	*Press cutting*	*CERN*	*Feature - Asia Pacific Editor joins iSGTW*	*18 January 2012*	*Geneva, Switzerland*	*Scientific Community*	*7500*	International
41	*Press cutting*	*CERN*	*Feature - Solving Alzheimer's and related disorders globally, iSGTW*	*28 March 2012*	*Geneva, Switzerland*	*Scientific Community*	*8000*	International
42	*Press cutting*	*CERN*	*Spotlight - Open Software for Open Science, iSGTW*	*4 April 2012*	*Geneva, Switzerland*	*Scientific Community*	*8000*	International
43	*Press cutting*	*CERN*	*Listening for the sound*	*18 April 2012*	*US*	*Scientific*	*5000*	International

			of science, Symmetry Magazine			*Community*		
44	*Press cutting*	*CERN*	*Making Music with the Sounds of Symmetry, Discovery News*	*19 April 2012*	*US*	*Civil Society*	*500,000*	International
45	*Press cutting*	*CERN*	*Composer Makes Music From Positron Trails in Cloud Chambers, Wired UK*	*19 April 2012*	*UK*	*Civil Society*	*50,000*	International
46	*Press cutting*	*CERN*	*Composer Makes Music From Positron Trails in Cloud Chambers, Wired US*	*19 April 2012*	*US*	*Civil Society*	*800,000*	International
47	*Press cutting*	*CERN*	*Go on a Particle Quest at the First CERN Webfest, CERN Bulletin*	*August 2012*	*Geneva, Switzerland*	*Scientific Community*	*2000+*	International
48	*Press cutting*	*CERN*	*How to grow a universe – just add a supercomputer, Symmetry Magazine*	*23 August 2012*	*US*	*Scientific Community*	*5000*	International
49	*Press cutting*	*CERN*	*Globus and Grid: Blazing Trails for Future Discovery, HPC in the Cloud*	*13 September 2012*	*US*	*Scientific Community*	*5000*	International
50	*Press cutting*	*CERN*	*7 reasons why Europe really matters to cloud computing, Gigaom*	*5 October 2012*	*US*	*Scientific Community*	*13,000*	International
51	*Press cutting*	*CERN*	*Spotlight - E-infrastructure success stories, iSGTW*	*6 March 2013*	*Geneva, Switzerland*	*Scientific Community*	*8000*	International
52	*Press cutting*	*CERN*	*Feature - Measuring the success of European e-infrastructures*	*13 March 2013*	*Geneva, Switzerland*	*Scientific Community*	*8000*	International
53	*Press cutting*	*CERN*	*Spotlight - Mapping ICT across Sub-Saharan Africa: iMentors*	*5 June 2013*	*Geneva, Switzerland*	*Scientific Community*	*8700*	International
54	*Press cutting*	*CERN*	*Spotlight - 400th issue!*	*26 June 2013*	*Geneva, Switzerland*	*Scientific Community*	*8700*	International
55	*Radio clip*	*EGI.eu*	*Digital Planet from the Citizen Cyberscience*	*22 September 2010*	*UK*	*Civil Society*		International

			Summit in London					
56	*Videos*	*QMUL*	*GridCast videos on YouTube*	*2010-2013*	*Numerous*	*Scientific Community*	*244,862*	International
57	*Blog posts*	*QMUL*	*Blog posts on GridCast*	*2010-2013*	*Numerous*	*Scientific Community*	*10,000*	International
58	*Training events*	*EGI.eu, QMUL*	*EUDAT 1st Conference*	*23 October 2012*	*Barcelona, Spain*	*Scientific Community*	*6*	Europe
59	*Training event*	*EGI.eu, QMUL*	*EPN Campus Training*	*27 November 2012*	*Grenoble, France*	*Scientific Community*	*6*	Europe
60	*Training event*	*EGI.eu, CERN*	*CRISP 2nd Annual Event*	*20 March 2013*	*Villagen, Switzerland*	*Scientific Community*	*5*	Europe
61	*Article*	*EGI.eu*	*Communicating the successes of eu e-science research, Proiects Magazine*	*September 2013*	*UK*	*Policy Makers*	*130,000*	Europe

Section B (Confidential[60] or public: confidential information to be marked clearly)
Part B1

TEMPLATE B1: LIST OF APPLICATIONS FOR PATENTS, TRADEMARKS, REGISTERED DESIGNS, ETC.					
Type of IP Rights[61]:	Confidential Click on YES/NO	Foreseen embargo date dd/mm/yyyy	Application reference(s) (e.g. EP123456)	Subject or title of application	Applicant (s) (as on the application)
Trademark	NO	None	None	iSGTW	CERN

[60] Note to be confused with the "EU CONFIDENTIAL" classification for some security research projects.

[61] A drop down list allows choosing the type of IP rights: Patents, Trademarks, Registered designs, Utility models, Others.

Part B2

Type of Exploitable Foreground[62]	Description of exploitable foreground	Confidential Click on YES/NO	Foreseen embargo date dd/mm/yyyy	Exploitable product(s) or measure(s)	Sector(s) of application[63]	Timetable, commercial or any other use	Patents or other IPR exploitation (licences)	Owner & Other Beneficiary(s) involved

[19] A drop down list allows choosing the type of foreground: General advancement of knowledge, Commercial exploitation of R&D results, Exploitation of R&D results via standards, exploitation of results through EU policies, exploitation of results through (social) innovation.

[63] A drop down list allows choosing the type sector (NACE nomenclature) : http://ec.europa.eu/competition/mergers/cases/index/nace_all.html

3 Report on societal implications

Replies to the following questions will assist the Commission to obtain statistics and indicators on societal and socio-economic issues addressed by projects. The questions are arranged in a number of key themes. As well as producing certain statistics, the replies will also help identify those projects that have shown a real engagement with wider societal issues, and thereby identify interesting approaches to these issues and best practices. The replies for individual projects will not be made public.

A General Information *(completed automatically when **Grant Agreement number** is entered.*

Grant Agreement Number:	**260733**
Title of Project:	e-ScienceTalk
Name and Title of Coordinator:	Catherine Gater, EGI.eu Deputy Director

B Ethics

1. Did your project undergo an Ethics Review (and/or Screening)? • If Yes: have you described the progress of compliance with the relevant Ethics Review/Screening Requirements in the frame of the periodic/final project reports? Special Reminder: the progress of compliance with the Ethics Review/Screening Requirements should be described in the Period/Final Project Reports under the Section 3.2.2 *'Work Progress and Achievements'*	***No***
2. Please indicate whether your project involved any of the following issues (tick box) :	***YES***
RESEARCH ON HUMANS	
• Did the project involve children?	
• Did the project involve patients?	
• Did the project involve persons not able to give consent?	
• Did the project involve adult healthy volunteers?	
• Did the project involve Human genetic material?	
• Did the project involve Human biological samples?	
• Did the project involve Human data collection?	
RESEARCH ON HUMAN EMBRYO/FOETUS	
• Did the project involve Human Embryos?	
• Did the project involve Human Foetal Tissue / Cells?	
• Did the project involve Human Embryonic Stem Cells (hESCs)?	
• Did the project on human Embryonic Stem Cells involve cells in culture?	
• Did the project on human Embryonic Stem Cells involve the derivation of cells from Embryos?	
PRIVACY	
• Did the project involve processing of genetic information or personal data (eg. health, sexual lifestyle, ethnicity, political opinion, religious or philosophical conviction)?	
• Did the project involve tracking the location or observation of people?	
RESEARCH ON ANIMALS	
• Did the project involve research on animals?	
• Were those animals transgenic small laboratory animals?	
• Were those animals transgenic farm animals?	

• Were those animals cloned farm animals?	
• Were those animals non-human primates?	
RESEARCH INVOLVING DEVELOPING COUNTRIES	
• Did the project involve the use of local resources (genetic, animal, plant etc)?	
• Was the project of benefit to local community (capacity building, access to healthcare, education etc)?	
DUAL USE	
• Research having direct military use	0 Yes 0 No
• Research having the potential for terrorist abuse	

C Workforce Statistics

3. Workforce statistics for the project: Please indicate in the table below the number of people who worked on the project (on a headcount basis).

Type of Position	Number of Women	Number of Men
Scientific Coordinator	1	0
Work package leaders	3	4
Experienced researchers (i.e. PhD holders)	3	3
PhD Students	0	0
Other	1	2

4. How many additional researchers (in companies and universities) were recruited specifically for this project?	**2**
Of which, indicate the number of men:	1

D Gender Aspects

5. Did you carry out specific Gender Equality Actions under the project?

● Yes
○ No

6. Which of the following actions did you carry out and how effective were they?

	Not at all effective				Very effective
❑ Design and implement an equal opportunity policy	○	○	○	○	○
❑ Set targets to achieve a gender balance in the workforce	○	○	○	○	○
❑ Organise conferences and workshops on gender	○	○	●	○	○
❑ Actions to improve work-life balance	○	○	○	○	○

○ Other: Promoted the work of female scientists in iSGTW and GridCast

7. Was there a gender dimension associated with the research content – i.e. wherever people were the focus of the research as, for example, consumers, users, patients or in trials, was the issue of gender considered and addressed?

○ Yes- please specify

● No

E Synergies with Science Education

8. Did your project involve working with students and/or school pupils (e.g. open days, participation in science festivals and events, prizes/competitions or joint projects)?

● Yes- please specify: Focus groups, 6th form open days, materials targeted at school pupils.

○ No

9. Did the project generate any science education material (e.g. kits, websites, explanatory booklets, DVDs)?

● Yes- please specify: Schools pack based on e-ScienceCity with a USB key standalone site.

○ No

F Interdisciplinarity

10. Which disciplines (see list below) are involved in your project?

● Main discipline[64]: ICT

○ Associated discipline[64]:

○ Associated discipline[64]:

G Engaging with Civil society and policy makers

11a Did your project engage with societal actors beyond the research community? *(if 'No', go to Question 14)*

● Yes
○ No

11b If yes, did you engage with citizens (citizens' panels / juries) or organised civil society (NGOs, patients' groups etc.)?

○ No
○ Yes- in determining what research should be performed
○ Yes - in implementing the research
● Yes, in communicating /disseminating / using the results of the project

[64] Insert number from list below (Frascati Manual).

11c In doing so, did your project involve actors whose role is mainly to organise the dialogue with citizens and organised civil society (e.g. professional mediator; communication company, science museums)?	●	Yes
	○	No

12. Did you engage with government / public bodies or policy makers (including international organisations)

- ○ No
- ○ Yes- in framing the research agenda
- ○ Yes - in implementing the research agenda
- ● Yes, in communicating /disseminating / using the results of the project

13a Will the project generate outputs (expertise or scientific advice) which could be used by policy makers?

- ● Yes – as a **primary** objective (please indicate areas below- multiple answers possible)
- ○ Yes – as a **secondary** objective (please indicate areas below - multiple answer possible)
- ○ No

13b If Yes, in which fields?

Agriculture		Energy		Human rights	
Audiovisual and Media		Enlargement		Information Society	
Budget	●	Enterprise		Institutional affairs	●
Competition	●	Environment	●	Internal Market	
Consumers		External Relations		Justice, freedom and security	
Culture		External Trade		Public Health	
Customs		Fisheries and Maritime Affairs		Regional Policy	
Development Economic and Monetary Affairs		Food Safety		Research and Innovation	
		Foreign and Security Policy		Space	
Education, Training, Youth		Fraud		Taxation	
Employment and Social Affairs		Humanitarian aid		Transport	

13c If Yes, at which level?

- ○ Local / regional levels
- ○ National level
- ○ European level
- ● International level

H Use and dissemination

14. How many Articles were published/accepted for publication in peer-reviewed journals?	**1**
To how many of these is open access[65] provided?	
How many of these are published in open access journals?	**1**
How many of these are published in open repositories?	
To how many of these is open access not provided?	**0**
Please check all applicable reasons for not providing open access:	
❑ publisher's licensing agreement would not permit publishing in a repository ❑ no suitable repository available ❑ no suitable open access journal available ❑ no funds available to publish in an open access journal ❑ lack of time and resources ❑ lack of information on open access ❑ other[66]: ……	

15. How many new patent applications ('priority filings') have been made? *("Technologically unique": multiple applications for the same invention in different jurisdictions should be counted as just one application of grant).*		**0**
16. Indicate how many of the following Intellectual Property Rights were applied for (give number in each box).	Trademark	**1**
	Registered design	**0**
	Other	**0**
17. How many spin-off companies were created / are planned as a direct result of the project?		**0**
Indicate the approximate number of additional jobs in these companies:		

18. Please indicate whether your project has a potential impact on employment, in comparison with the situation before your project:

❑ Increase in employment, or	❑ In small & medium-sized enterprises
❑ Safeguard employment, or	❑ In large companies
❑ Decrease in employment,	■ None of the above / not relevant to the project
■ Difficult to estimate / not possible to quantify	

19. For your project partnership please estimate the employment effect resulting directly from your participation in Full Time Equivalent (*FTE = one person working fulltime for a year*) jobs:	*Indicate figure:* *0*

[65] Open Access is defined as free of charge access for anyone via Internet.
[66] For instance: classification for security project.

Difficult to estimate / not possible to quantify	❑

I Media and Communication to the general public

20. As part of the project, were any of the beneficiaries professionals in communication or media relations?

● Yes ○ No

21. As part of the project, have any beneficiaries received professional media / communication training / advice to improve communication with the general public?

● Yes ○ No

22 Which of the following have been used to communicate information about your project to the general public, or have resulted from your project?

■	Press Release	■	Coverage in specialist press
■	Media briefing	■	Coverage in general (non-specialist) press
❑	TV coverage / report	■	Coverage in national press
❑	Radio coverage / report	■	Coverage in international press
■	Brochures /posters / flyers	■	Website for the general public / internet
■	DVD /Film /Multimedia	❑	Event targeting general public (festival, conference, exhibition, science café)

23 In which languages are the information products for the general public produced?

❑	Language of the coordinator	■	English
■	Other language(s)		

***Question F-10*:** Classification of Scientific Disciplines according to the Frascati Manual 2002 (Proposed Standard Practice for Surveys on Research and Experimental Development, OECD 2002):

FIELDS OF SCIENCE AND TECHNOLOGY

1. NATURAL SCIENCES

1.1 Mathematics and computer sciences [mathematics and other allied fields: computer sciences and other allied subjects (software development only; hardware development should be classified in the engineering fields)]

1.2 Physical sciences (astronomy and space sciences, physics and other allied subjects)

1.3 Chemical sciences (chemistry, other allied subjects)

1.4 Earth and related environmental sciences (geology, geophysics, mineralogy, physical geography and other geosciences, meteorology and other atmospheric sciences including climatic research, oceanography, vulcanology, palaeoecology, other allied sciences)

1.5 Biological sciences (biology, botany, bacteriology, microbiology, zoology, entomology, genetics, biochemistry, biophysics, other allied sciences, excluding clinical and veterinary sciences)

2 ENGINEERING AND TECHNOLOGY

2.1 Civil engineering (architecture engineering, building science and engineering, construction engineering, municipal and structural engineering and other allied subjects)

2.2 Electrical engineering, electronics [electrical engineering, electronics, communication engineering and systems, computer engineering (hardware only) and other allied subjects]

2.3. Other engineering sciences (such as chemical, aeronautical and space, mechanical, metallurgical and materials engineering, and their specialised subdivisions; forest products; applied sciences such as

geodesy, industrial chemistry, etc.; the science and technology of food production; specialised technologies of interdisciplinary fields, e.g. systems analysis, metallurgy, mining, textile technology and other applied subjects)

3. MEDICAL SCIENCES

3.1 Basic medicine (anatomy, cytology, physiology, genetics, pharmacy, pharmacology, toxicology, immunology and immunohaematology, clinical chemistry, clinical microbiology, pathology)

3.2 Clinical medicine (anaesthesiology, paediatrics, obstetrics and gynaecology, internal medicine, surgery, dentistry, neurology, psychiatry, radiology, therapeutics, otorhinolaryngology, ophthalmology)

3.3 Health sciences (public health services, social medicine, hygiene, nursing, epidemiology)

4. AGRICULTURAL SCIENCES

4.1 Agriculture, forestry, fisheries and allied sciences (agronomy, animal husbandry, fisheries, forestry, horticulture, other allied subjects)

4.2 Veterinary medicine

5. SOCIAL SCIENCES

5.1 Psychology

5.2 Economics

5.3 Educational sciences (education and training and other allied subjects)

5.4 Other social sciences [anthropology (social and cultural) and ethnology, demography, geography (human, economic and social), town and country planning, management, law, linguistics, political sciences, sociology, organisation and methods, miscellaneous social sciences and interdisciplinary , methodological and historical S1T activities relating to subjects in this group. Physical anthropology, physical geography and psychophysiology should normally be classified with the natural sciences].

6. HUMANITIES

6.1 History (history, prehistory and history, together with auxiliary historical disciplines such as archaeology, numismatics, palaeography, genealogy, etc.)

6.2 Languages and literature (ancient and modern)

6.3 Other humanities [philosophy (including the history of science and technology) arts, history of art, art criticism, painting, sculpture, musicology, dramatic art excluding artistic "research" of any kind, religion, theology, other fields and subjects pertaining to the humanities, methodological, historical and other S1T activities relating to the subjects in this group]

FINAL REPORT ON THE DISTRIBUTION OF THE EUROPEAN UNION FINANCIAL CONTRIBUTION

This report shall be submitted to the Commission within 30 days after receipt of the final payment of the European Union financial contribution.

Report on the distribution of the European Union financial contribution between beneficiaries

Name of beneficiary	Final amount of EU contribution per beneficiary in Euros (ESTIMATED)
1. EGI.eu	*220,525*
2. QMUL	*262,341*
3. APO	*196,634*
4. Imperial	*104,603*
5. CERN	*483,554*
Total	*1,267,657*