



**ICT 4 E2B Forum - European stakeholders' forum crossing value and innovation chains to explore needs, challenges and opportunities in further research and integration of ICT systems for Energy Efficiency in Buildings**

**Deliverable D4.8: Dissemination activities report**

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Prepared by:	Andrea Cavallaro (DAPP) Francesco Cricchio (DAPP)
Verified by:	Christian Mastrodonato (DAPP)

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# 1 Introduction

ICT4E2B Forum is a European Project that brings together ICT and Building stakeholders to identify needs, challenges and opportunities in further research and integration of ICT systems for Energy Efficiency in Buildings.

ICT4E2B Forum fosters the cooperation between researchers, end-users/practitioners, building owners, technology-suppliers, and software developers concerning the use of ICT for an efficient use of energy at building and district level.

## 1.1 Purpose of this Document

This report is a document delivered in the context of WP4, Task 4.3: Forum activities management and interaction with stakeholders.

The document presents statistics and analytics regarding on the dissemination channels used by the project like website and on a dedicated collaborative platform, the real forum, accessible only by authenticated stakeholders.

## 1.2 Main Tools of ICT4E2B Forum

The main objective of ICT4E2B Forum is to create a community of stakeholders which are sharing future challenges and research priorities in the area of energy efficient buildings and beyond. To allow for effective engagement and communication among stakeholders, the following tools are used:

- **Project main website**, available at [www.ict4e2b.eu](http://www.ict4e2b.eu) (and updated in content and structure), should be considered as a window on Europe, where visitors, stakeholders and selected experts on energy, construction and ICT domain could find any information about ICT4E2B news by using dedicated newsletters, workshops, events, and EU commission project announcements
- **Workshops and events** organized at different locations in Europe. Workshops were performed mainly from month 6 to 22 of the project duration and an executive summary of their outputs is described in D4.6. Huge efforts have been also concentrated on the participation to the CEBIT events, in order to fully involve ICT stakeholders in the ICT4E2B Forum community, First versions of roadmap have been presented in 2012 in several events including E2BA Roadmap Workshops in Paris and ICT for Energy Efficiency in Buildings and Communities in Brussels. Draft of the roadmap has been also validated by surveys distributed among participants of the Clean Energy conference in Warsaw and at CEBIT Fair. Finally the evolving draft roadmap has been presented and discussed in different events (Innovative City Convention in Nice, EUSEW in Brussels, Smart City Event in Amsterdam and ECPPM in Reykjavik) where in dedicated session it has been possible to discuss with relevant stakeholders about possible improvements and relevant sections.



- **Project online forum.** This web platform contained mostly discussions on various relevant topics. Moreover there is the possibility to interact among stakeholders in order to retrieve contributions useful to improve and to enhance the expected roadmap. From October 2010 to April 2012 the forum has been hosted at <http://forum.ict4e2b.eu/share/>, while from April 2012 the forum has been migrated to within European Commission Collaborative Environment [7,8].

This Collaborative platform has been made also available for other discussion sites in collaboration with EC on the following topics:

- EEB Data Models;
  - EEB Validation Methodologies and Metrics,
  - ICT for Energy Efficiency: Local and Regional Initiatives.
- **Social network** presence on LinkedIn and Twitter. Fulfilling the suggestions after the first review, the online forum has been moved from a dedicated website to a public available website (LinkedIn), where the expected impact and rise of interest among user is much higher. The forum is available at <http://www.linkedin.com/groups/ICT4E2B-Forum-3744557> , moreover also a Twitter channel has been founded and it is available at <https://twitter.com/#!/ICT4E2BForum>.

Thanks to these tools the project has leveraged direct involvement from more than 400 different stakeholders.

## 2 ICT4E2B Forum Public Website Activity

The main web site of ICT4E2B Forum is being analysed in AWStats tool, which is a free tool that generates advanced web, streaming, ftp or mail server statistics.

Table 1 shows a summary of most important statistics of the website for the period going from 1<sup>st</sup> December 2010 to 30<sup>th</sup> November 2012.

This period has been divided in four sub-periods:

- Period 1: from 1<sup>st</sup> December 2010 to 31<sup>st</sup> March 2011
- Period 2: from 1<sup>st</sup> April 2011 to 30<sup>th</sup> September 2011
- Period 3: from 1<sup>st</sup> October 2011 to 31<sup>st</sup> March 2012
- Period 4: from 1<sup>st</sup> April 2012 to 30<sup>th</sup> November 2012

A note, during the first three months of the project, from 1<sup>st</sup> September to 30<sup>th</sup> November, there was the start-up phase and many tests activities were done in order to provide a stable and useful website. These activities could have produced misleading statistical data.

**Table 1. Summary of most important statistics.**

Period Number	Period	Unique Visitors	Number of visits	Pages	Hits	Bandwidth [MB]
1	1st December 2010 - 31st March 2011	1092	1891	17073	162802	1134.95
2	1st April 2011 - 30th September 2011	3663	5904	32986	191725	1947.88
3	1st October 2011 - 31st March 2012	5652	16634	133392	265448	3131.12
4	1st April 2012 - 30th November 2012	5833	22489	167173	287578	8394.35

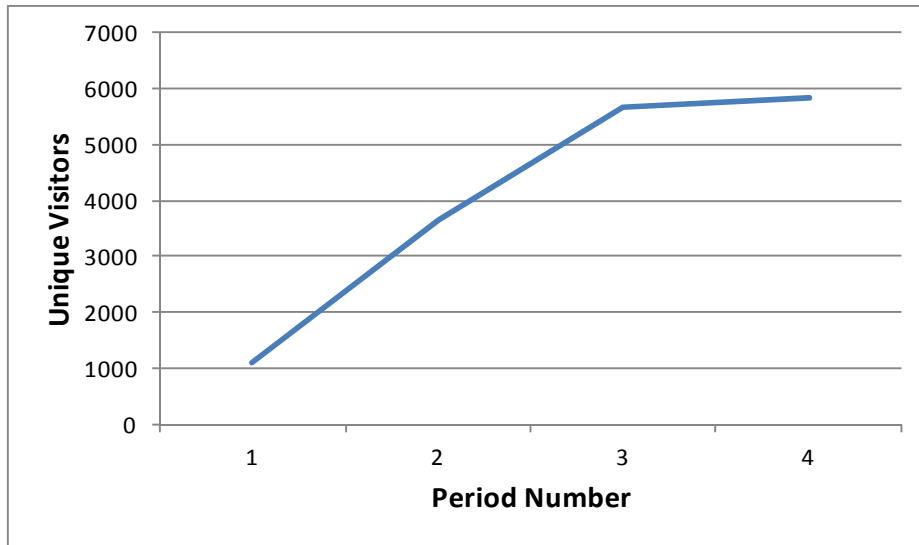
The data of Table 1 are represented in the following graphs in order to better analyze the trends.

Figure 1 and Figure 2 shows, respectively, the number of unique visitors and corresponding number of visits over the four considered periods. For the first 3 periods the number of visitors increases in a linear manner going from about 1000 unique visitors at the end of March 2011 to about 5500 unique visitors at the end of March 2012, and within this period the corresponding number of visits increases from 1891 to 16634. In the last period (April – November 2012) the growth in number of unique visitors is lower, going from 5500 to about 5800 visitors, however there is still a large growth in number of visits; these increase from about 16600 to about 22500 at the end of November 2012. The number of visited pages ( Figure 3) and number of hits (

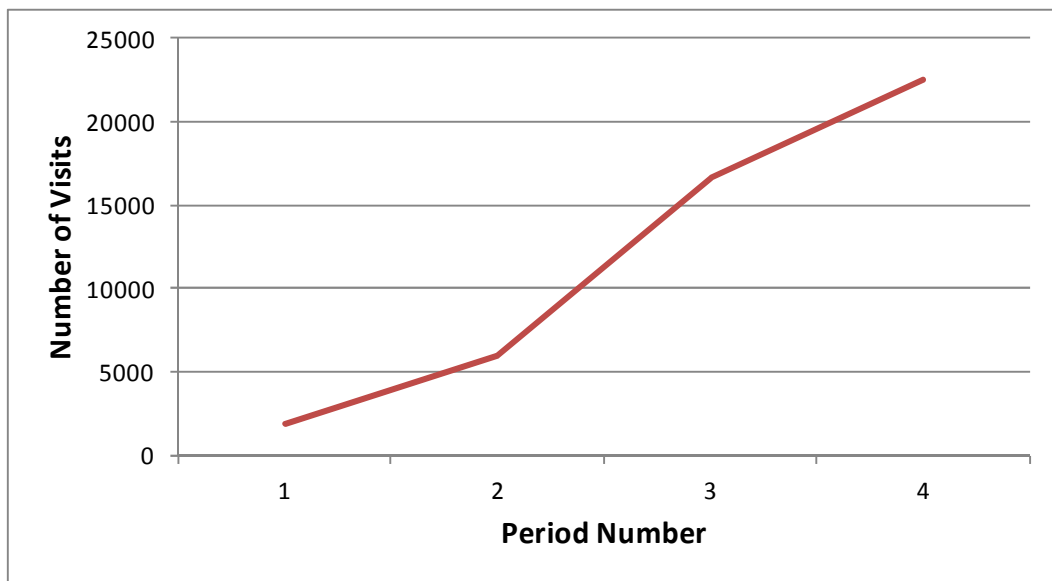
Figure 4) show a trend similar to the number of visits; the largest increase is concentrated in period 2 and 3, while in period 4 the growth is slightly slower.

Finally the bandwidth (Figure 5) increases in a parabolic way over the considered four periods increasing from about 1150 MB at the end of March 2012 to almost 8400 MB at the end of November 2012.

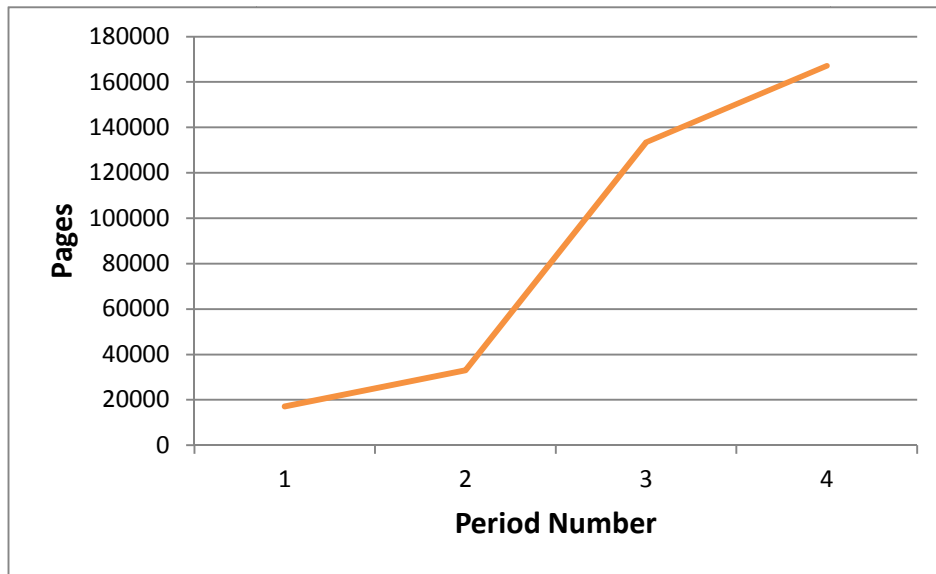
A set of statistical data located further in the document will show the activity on the website in more detail.



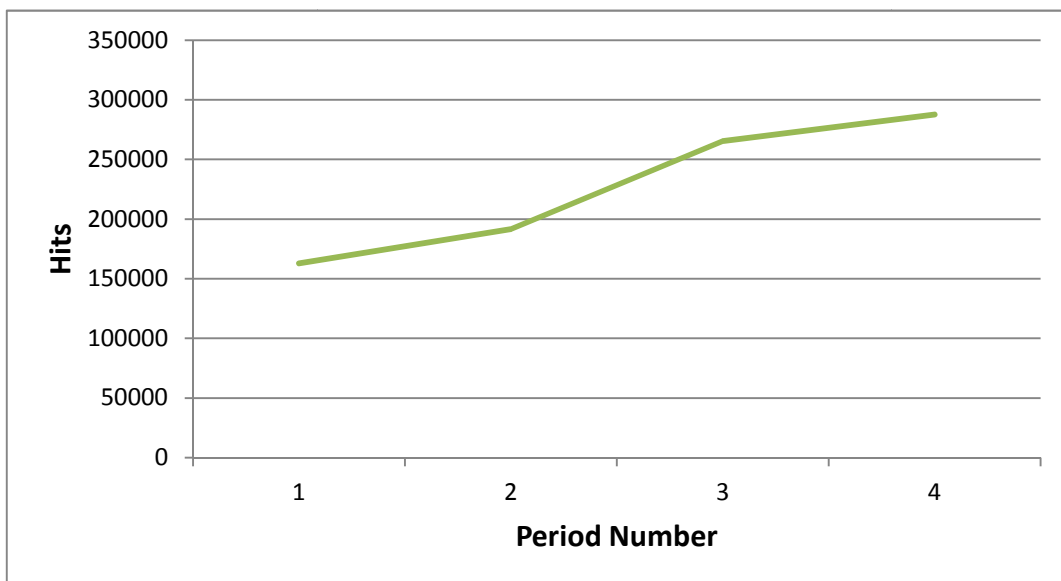
**Figure 1: The number of unique visitors over the four considered periods from 1<sup>st</sup> December 2010 to 30<sup>th</sup> November 2012.**



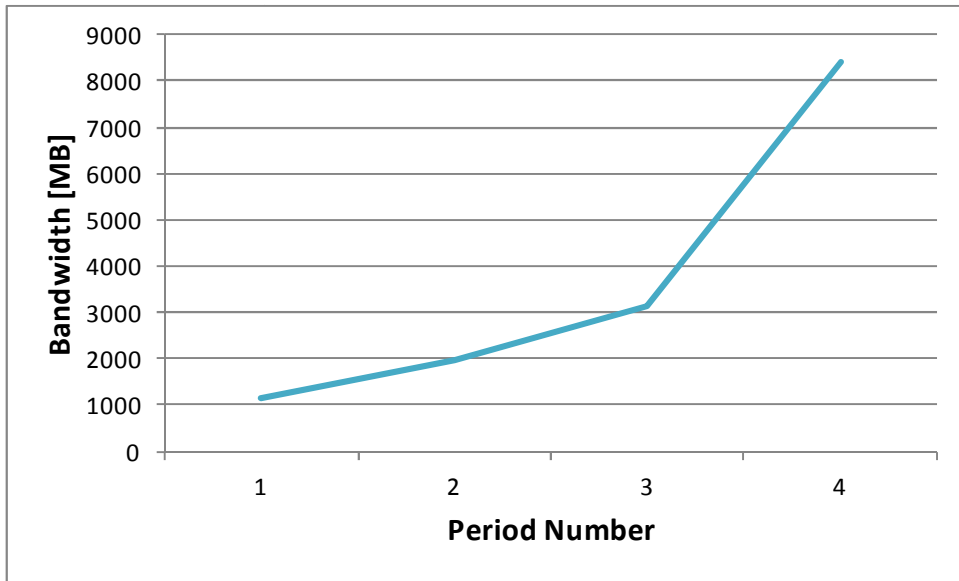
**Figure 2: The number of unique visits over the four considered periods from 1<sup>st</sup> December 2010 to 30<sup>th</sup> November 2012.**



**Figure 3: The number of visited pages over the four considered periods from 1<sup>st</sup> December 2010 to 30<sup>th</sup> November 2012.**



**Figure 4: The number of hits over the four considered periods from 1st December 2010 to 30th November 2012.**



**Figure 5: The bandwidth in MB over the four considered periods from 1<sup>st</sup> December 2010 to 30<sup>th</sup> November 2012.**



## 2.1 History

The figures in this section give more detailed information on the number of visits on the ICT4E2B Forum website from 1<sup>st</sup> December 2010 until 30<sup>th</sup> November 2012.

**Table 2. Statistics from December 2010 to December 2012**

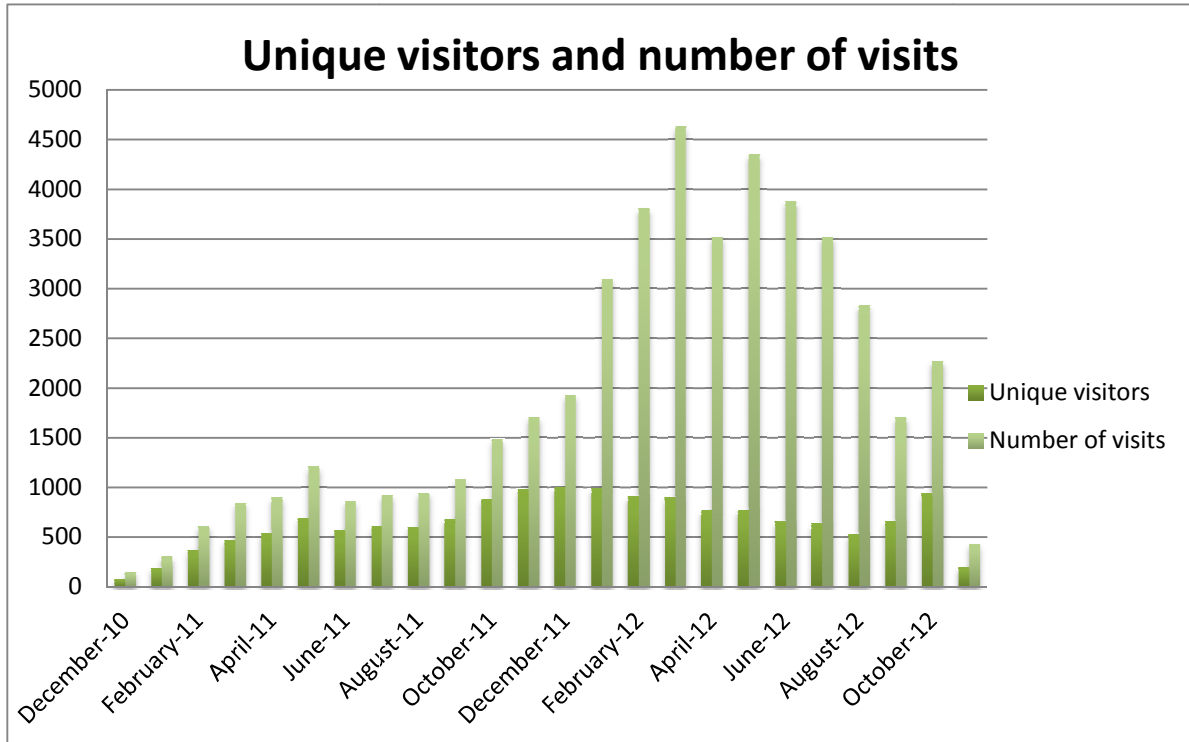
Month	Unique visitors	Number of visits	Pages	Hits	Bandwidth
Dec-10	74	142	2705	20838	242.38 MB
Jan-11	187	300	5677	72466	426.38 MB
Feb-11	367	610	4134	38982	256.77 MB
Mar-11	464	839	4557	30516	209.42 MB
Apr-11	535	898	5371	28125	199,52 MB
May-11	686	1207	6140	46343	282,81 MB
Jun-11	561	858	4548	31320	251,25 MB
Jul-11	604	923	5742	34230	593,09 MB
Aug-11	596	942	5732	26114	314,58 MB
Sep-11	681	1076	5453	25593	306,53 MB
Oct-11	880	1480	10413	38148	575,29 MB
Nov-11	982	1701	12705	40981	497,28 MB
Dec-11	999	1924	14722	33120	384,67 MB
Jan-12	987	3092	24761	48011	579,54 MB
Feb-12	907	3809	33954	52568	562,36 MB
Mar-12	897	4628	36837	52620	531,98 MB
Apr-12	764	3518	23757	53099	979.13 MB
May-12	768	4346	29396	4844	1030.00 MB
June-12	656	3875	30659	49103	1120 MB
July-12	631	3517	31172	47323	1380 MB
Aug-12	527	2828	20815	29888	816.86 MB
Sep-12	654	1702	12781	25972	1340 MB
Oct-12	937	2273	14764	27405	1270 MB
Nov-12	196	430	3829	6348	428.36 MB

From this table one evident conclusion is that the number of unique visitors is rather constant and equal to a relevant number of interested stakeholders. The number of visits is continuously increasing with an high jump in March 2012. An explanation might be that the visitors are coming back more and more often for news, information, deliverables, etc.

Figure 6 below presents the numbers from the previous table in graphical form focusing on “Unique visitors” and “Number of visits”. It is evident from the figure that after the peak number of visits in March 2012, until November 2012 there is a slight decrease in number of visits but the number of unique visitors remains quite constant (a note; the data for November are partial).

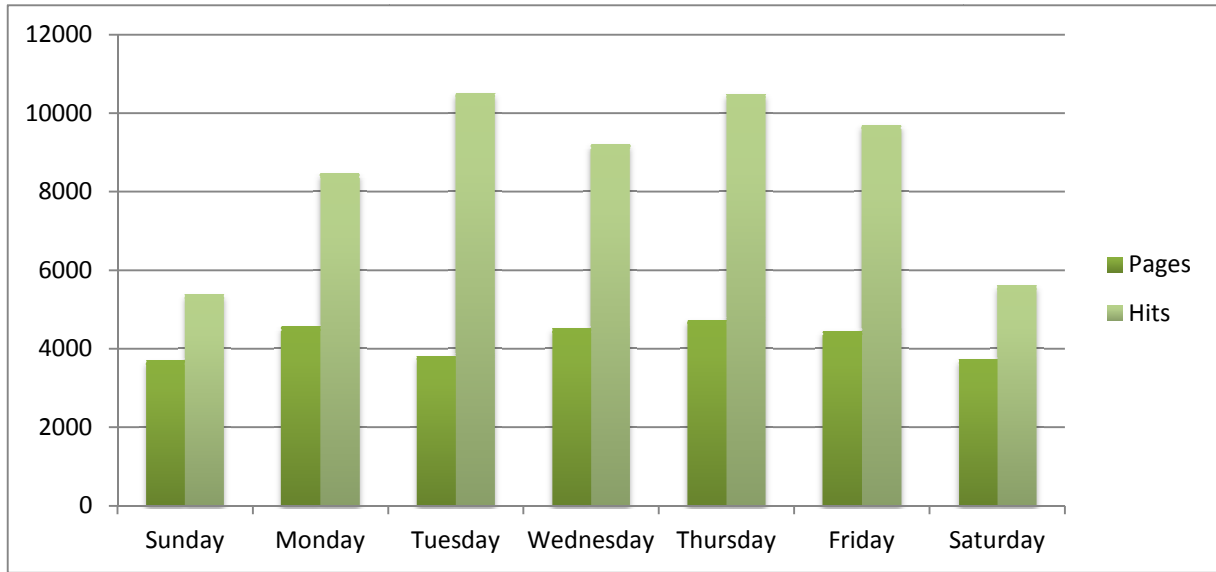
To summarize the majority of visits corresponds to 2012 when first versions of roadmap have been presented in several events including E2BA Roadmap Workshops in Paris and ICT for Energy Efficiency in Buildings and Communities in Brussels. Draft of the roadmap was also validated by surveys distributed among participants of the Clean Energy conference in

Warsaw, where ICT4E2B Forum had a booth. These events contributed to the promotion of the project website and to the increase in number of visits.



**Figure 6: Unique visitors and number of visits on [www.ict4e2b.eu](http://www.ict4e2b.eu) site from December 2010 to November 2012**

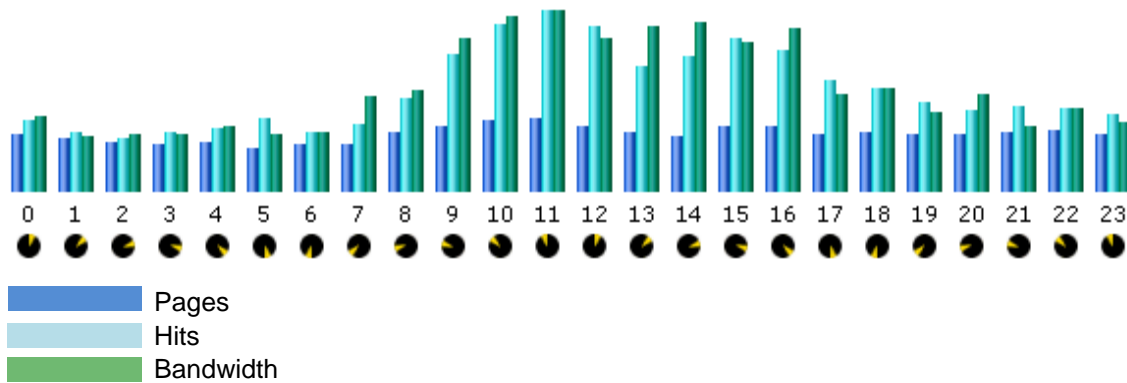
The next figure presents the distribution of visits in the described period in terms of days of the week.



**Figure 7: Daily distribution of visits in the analyzed period**

The largest numbers of visits were on working days, especially on Tuesday, Thursday and Friday.

Figure 3 shows the distribution of visits in terms of the hour of the day in the analyzed period (October 2011 – December 2012). The largest number of visits were recorded in the hour interval from 9 to 12.



**Figure 8: Hourly distribution of visits in the analyzed period**

From the figures above it is possible to conclude that the users visited ICT4E2B Forum web site mostly during working hours and working days. Since the Forum is mostly visited by professional stakeholders, they browse the website at office hours; only a minority checks the website in the weekend and out of regular office hours.

## 2.2 Navigation and visit duration

In this section it is analyzed the time spent on the website between the period of 1<sup>st</sup> December 2010 and 30<sup>th</sup> November 2012.

Table 3 reports the data for the period 1<sup>st</sup> December 2010 to 31<sup>st</sup> December 2011; the number of visits was 15635, with the average time 1200 seconds spent on the website. Most of the visits (9321) lasted no longer than 30 seconds.

**Table 3: Visit duration in the period December 2010-December 2011**

Visit duration	Number of visits	Percent
0s-30s	9321	59,6%
30s-2mn	1316	8,4%
2mn-5mn	565	3,6%
5mn-15mn	734	4,7%
15mn-30mn	774	5,0%
30mn-1h	1336	8,5%
1h+	1589	10,2%

The data from January 2012 to November 2012 are reported in Table 4

**Table 4: Visit duration in the period January 2012-November 2012**

Visit duration	Number of visits	Percent
0s-30s	20868	53.3%
30s-2mn	2176	5.6%
2mn-5mn	1077	2.8%
5mn-15mn	1878	4.8%
15mn-30mn	2249	5.7%
30mn-1h	3870	9.9%
1h+	7005	17.9%

We measure a really high increase in the number of visits (39123) and in the average time spent on the website (1822 seconds). In 2012 the first versions of roadmap have been presented in several events including E2BA Roadmap Workshops in Paris and ICT for Energy Efficiency in Buildings and Communities in Brussels and a Draft of the roadmap was also validated by surveys distributed among participants of the Clean Energy conference in Warsaw, where ICT4E2B Forum had a booth. These events clearly contributed to the promotion of the project website and consequently to the measured increase in number of visits.

Also in year 2012 most of the visits (20868) lasted no longer than 30 seconds, this represents about the 60% of the total number of visits. A possible interpretation of the predominance of short visits data reported is that very many users came to the home page considering it a one-stop-shop and they are soon redirected to the very many different activities launched by the projects (Project Forum, LinkedIn group and events posts).

## 2.3 Referrers

This section describes the most popular key words and key phrases that have been used to find ICT4E2B forum website. The search engine used to find the web site was in most of the cases *Google*.

As shown in Table 5, considering the analyzed period, most of the words are directly related to the forum or the project name. There is a very large group of other – not defined words.

**Table 5: List of most popular key words analyzed period**

Keywords	Percent
ict	12,7 %
what	10,7 %
is	10,7 %
ict4e2b	7,1 %
forum	4,3 %
for	2,2 %
e2b	1,5 %
call	1,5 %
smart	1,4 %
energy	1,3 %
Other words	46%

The next table presents a list of the different key phrases that were leading the users to the ICT4E2B Forum website. These phrases consist of single words, couple of words, or they are made of whole statements.

In the analyzed period the most popular key phrase was the question “what is ict”. Other popular phrases were then related to the project name or to the website address. Finally the highest percentage of inquiries is classified as “other phrases”.

**Table 6: List of most popular key phrases in the analyzed period**

Key phrases	Percent
what is ict	24,1 %
ict4e2b	12%
ict4e2b forum	6,1 %
what is ict?	2,7 %
call for experts	1,7 %
what is i c t	1,6 %
call for expert	1,4 %
ict4e2b.eu	1,3 %
ict 4 e2b forum	1,1 %
objectives of ict	0,6 %
Other phrases	46,8 %

### 3 ICT4E2B Forum Collaborative Website Activity

The core of the ICT4E2B Forum project is the creation of a useful common space that should be used by stakeholders to discuss, exchange and retrieve contributions and suggestions about the impact of ICT in Energy Efficiency in Buildings, in order to improve and to enhance the ICT4E2B Forum roadmap.

#### 3.1 Alfresco Platform (October 2011 – March 2012)

From the beginning of the project to March 2012 the collaborative platform was based on the Alfresco system that is an open source enterprise content management system, which in community edition is a free software, LGPL licensed open source and open standards.

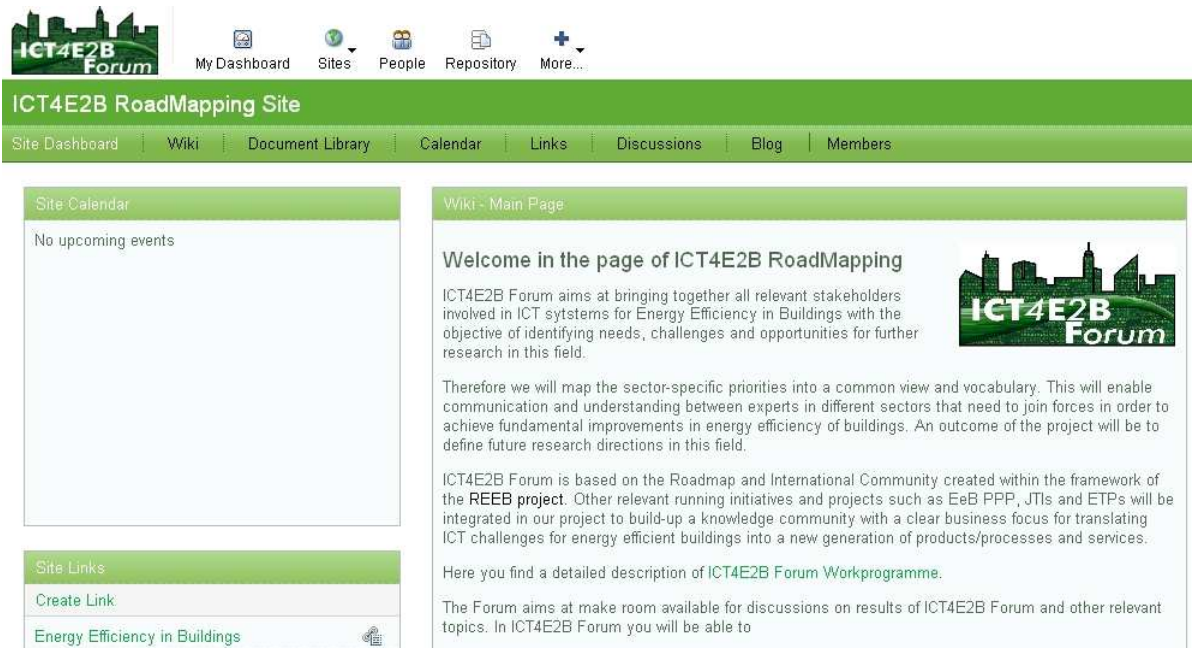
Alfresco includes a content repository, an out-of-the-box web portal framework for managing and using standard portal content, a Common Internet File System interface that provides file system compatibility on Microsoft Windows and Unix-like operating systems, wiki websites, blog pages, calendar pages, links pages, discussion pages and other.

Joining the forum requires invitation and each user has to create a profile with contact data and an attributed role in the forum. Each user can create his own dashboard, where the discussion and the document exchange can take place. The total number of users is above 320 persons. So far, four collaborative sites are available on the platform:

- Technology Roadmap in ICT4E2B (set up and managed by ICT4E2B project),
- EE Data Models (set up and managed by EC),
- EEB Validation Methodologies and Metrics (set up and managed by the EC),
- ICT for Energy Efficiency: local and regional Initiatives (set up and managed by the EC)

It is important to underline that, the three collaborative sites managed by the EC can provide interesting and meaningful content for the RoadMapping activities. Furthermore, the active users from these three sites can participate in ICT4E2B technology RoadMapping activities as well.

The Figure 4 below is a screenshot from the ICT4E2B RoadMapping main page.



The screenshot shows the ICT4E2B RoadMapping page in the internal forum. The page has a green header with the site name and navigation tabs. The main content area is divided into two columns: 'Site-Calendar' and 'Wiki - Main Page'. The 'Wiki - Main Page' contains a welcome message, a description of the forum's purpose, and a link to the work programme.

**Figure 9: Screenshot of ICT4E2B RoadMapping page in the internal forum**

In the next tabs, different functionalities appear. For example in the document library it is possible to share documents, assign them to specific folders, attribute tags and edit them. The platform Alfresco, presented in this document, is an efficient and easy-to-use tool for all the stakeholders since it allows an efficient management of the project resources. At the beginning of the project there were few problems regarding the choice and the management of the platform. Since February 2011 the Forum has been operating continuously with minor maintenance troubles that were promptly fixed.

### **3.2 Building and Management of Collaborative Platform on Alfresco (October 2011 – March 2012)**

Since the beginning of 2011 the number of active members of the entire platform has grown up constantly. Using as baseline the 268 authorized members retrieved from the survey performed last October 2011, it is possible to highlight how the community has recently reached the current number of 302 authorized members.



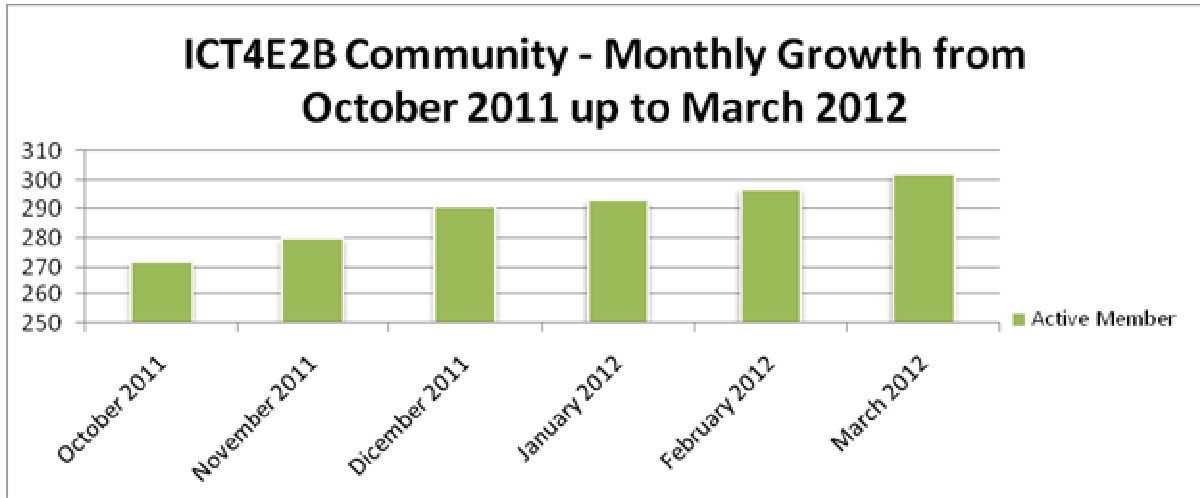


Figure 10: Monthly Growth from October 2011 up to March 2012

The access to the collaborative space of ICT4E2B is free. To become part of the ICT4E2B Forum platform the potential forum participants submit their voluntary candidature. So far, 535 request of invitations has been sent to ICT4E2B team (479 till October 2011), 303 is the current number of authorised members, 165 requests have been deleted by the system administrator since they reached the invitation expiring date and, finally, 67 request are still pending. The rate of acknowledgment has grown up from the 56% registered last October 2011 to the 58% registered at the beginning of March 2012. Performing this analysis between the period of 28<sup>th</sup> January 2011 and 31<sup>st</sup> March 2012, the number of requested invitations and the number of accepted requests are represented divided by week in Figure 6 reported below.

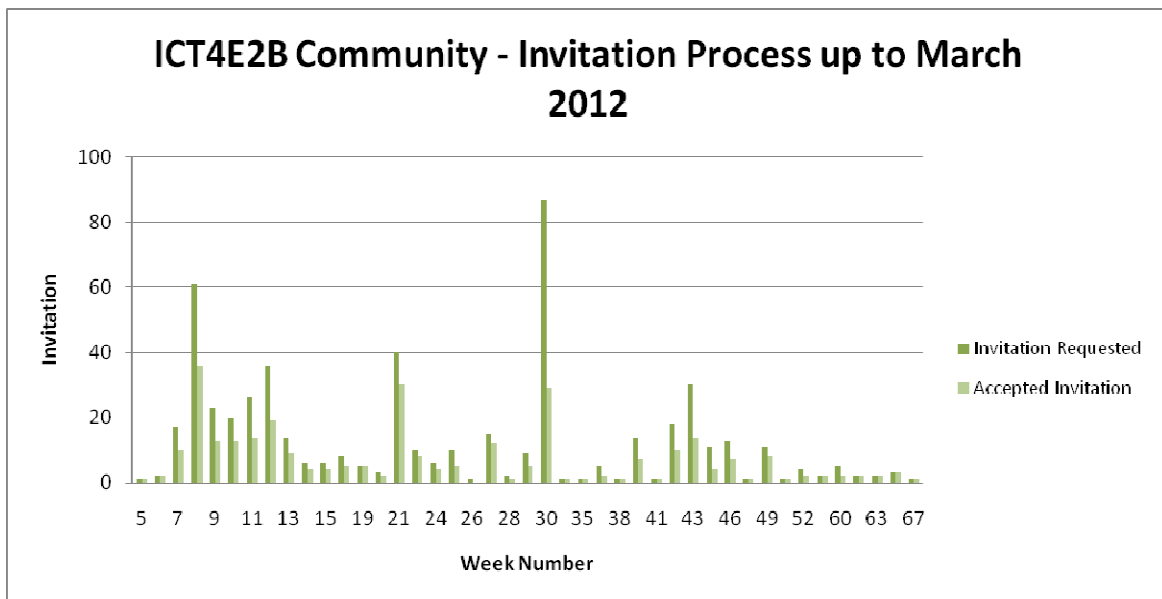


Figure 11: ICT4E2B Invitation Process



Beside these data, the distinction of various types of registered user, showed in Table 6 below, is useful to understand which stakeholder categories (researcher, end users, building owner, technology provider, consultancy) are mainly active within the platform discussion and dialogue.

**Table 7: ICT4E2B Platform Members Categorisation**

Typification		Number of active Member
Sector	Research	102
	Industry	77
Type of Company	SME	66
	LE	39
	No-profit	81
Role in the value chain	ICT technology provider	63
	ICT consultancy	44
	End-user	15
	Construction technology provider	55
	Construction consultancy	27

After having performed this analysis it is possible to confirm that user members belong quite homogeneously to both “research” and “industry” sectors with a main involvement of stakeholders from “no-profit” companies (universities and research centers), SMEs and last at LEs. “ICT technology provider” and “construction technology provider” are the predominant roles of the value chain of the ICT for Energy Efficiency in Buildings domain addressed to ICT4E2B member users.

### 3.3 Migration of Collaborative Platform to EC Collaborative Platform

From April 2012 the collaborative platform has been migrated on the EC Collaborative Platform services that makes use of Confluence services

- The Wiki-Blog on Local and Regional initiatives [6]
- The Wiki-Blog on the Research Roadmap on ICT for energy efficiency in Buildings and Construction [7]
- The Forum on Local and Regional initiatives [8]
- The Forum on the Research Roadmap on ICT for energy efficiency in Buildings and Construction [9]



Home

Edit Share Add Tools

1 Added by Francesco CRICCHIO, last edited by Francesco CRICCHIO on Jun 07, 2012 (view change) show comment

## Welcome in the Wiki of ICT4E2B RoadMapping

The RTDRmap Forum and Wiki allow to all interested stakeholders to contribute to the ICT for Energy-efficiency Buildings Research and Innovation Roadmap. Stakeholders will identify and review the needs in terms of research and systems integration. The starting point is the [REEB research roadmap](#). Sector-specific priorities will be mapped into a common view and vocabulary, thereby enabling communication and understanding between experts in the different sectors that need to join forces in order that fundamental improvements in energy efficient buildings can be achieved.

On the ICT4E2B Roadmapping Wiki you will be able to

- contribute to the definition of the ICT4E2B roadmap
- present results and news on your project
- increase visibility and dissemination opportunities
- get networked in our Community by taking part to discussions, asking for hints and suggestions, giving advices, contributing to our roadmap highlighting future needs and challenges.

All users are invited to participate to the Wiki by adding content in form of pages and comments, here [a list of guidelines to follow](#).

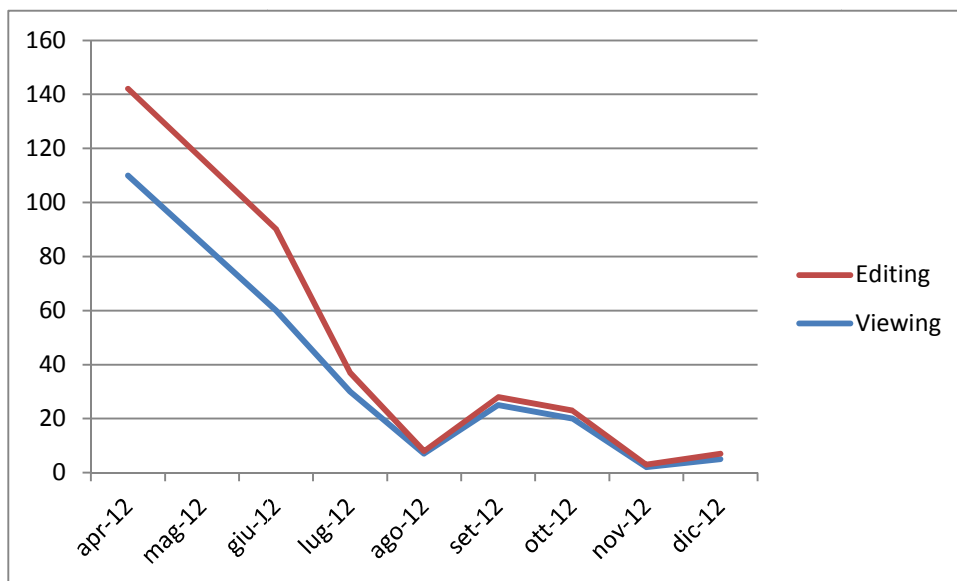
A good point to start is from the [Introduction to the ICT4E2B roadmap](#), while you can explore directly a specific research area by the following links:

- [1. Tools for Energy Efficient Design and Production Management](#)
- [2. Intelligent Control](#)
- [3. User Awareness and Decision Support](#)
- [4. Energy Management and Trading](#)
- [5. Integration Technologies](#)

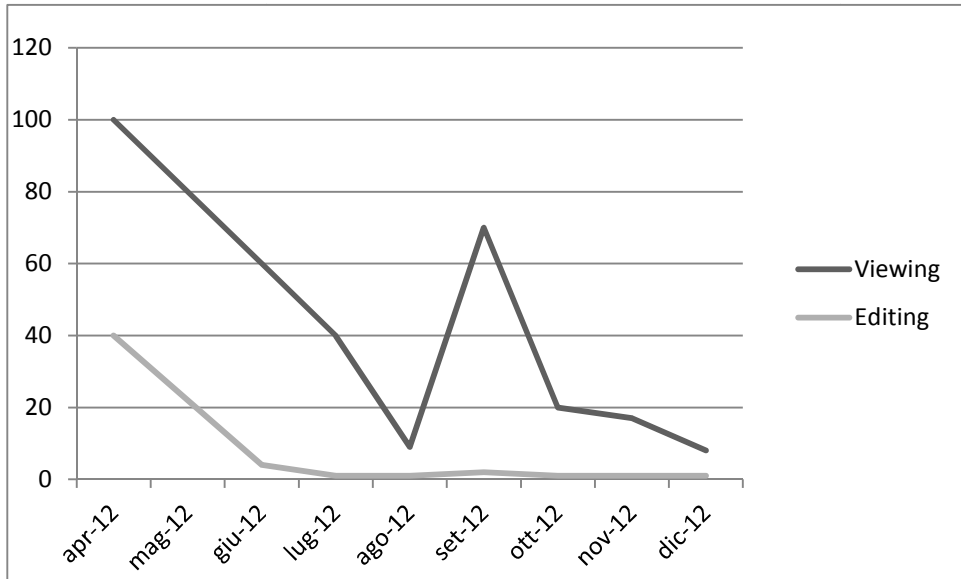
**Figure 12: Screenshot of the The Wiki-Blog on the Research Roadmap on ICT for energy efficiency in Buildings and Construction [7]**

In order to be able to participate to the discussion on the Wiki and Blog the user needs to register with an ECAS account. After this the user needs to be registered as editor of the content by the administrators.

Because of the more complicate registration procedure we observed an evident decrease in the activity by the stakeholders on the collaborative platform by respect to Alfresco platform (see previous section) as documented in the following graphs (Figure 13 and Figure 14) where the viewing and editing events of the Wiki “Local and Regional initiatives” and “Research Roadmap on ICT for energy efficiency in Buildings and Construction” are shown. The numbers in both cases are extremely low for a community that when hosted on the Alfresco platform (see previous section) reached about 400 members.



**Figure 13: Number of Editing and Viewing for the Wiki “Research Roadmap on ICT for energy efficiency in Buildings and Construction”**



**Figure 14: Number of Editing and Viewing for the Wiki “Local and Regional initiatives”**

## 4 ICT4E2B Forum LinkedIn group

The core of the ICT4E2B Forum project is the creation of a useful common space that should be used by stakeholders to discuss exchange and retrieve contributions and suggestions about the impact of ICT in Energy Efficiency in Buildings, in order to improve and to enhance the ICT4E2B Forum roadmap.

In order to achieve this goal a collaborative discussion group has been opened on LinkedIn. LinkedIn is a well known social networking website for professionals with an active community of 150 millions of users. The LinkedIn platform can be exploited to reach the ICT4E2B forum stakeholders in an efficient way and it provides a friendly platform to update the members with the performed activities. Finally, the maintenance of a LinkedIn forum is definitely less costly than the maintenance of a specific forum on dedicated servers. The figure below is a screenshot from the main page of the group.

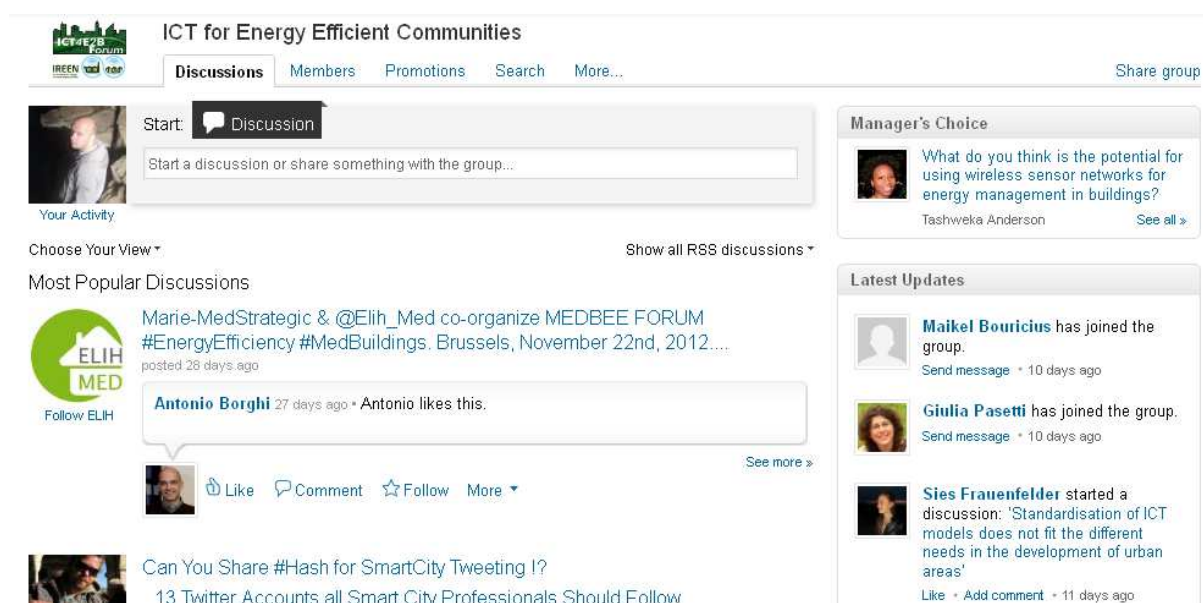


Figure 15. View on the LinkedIn ICT4E2B Forum group.

### 4.1 Collaborative Platform Community Building and Management

Since the beginning of 2011 the number of active members of the Alfresco platform has been growing up constantly, reaching the number of around 300 authorized members. The access to the collaborative space of ICT4E2B is free. To become part of the ICT4E2B Forum platform the potential forum members should apply for permission of joining.

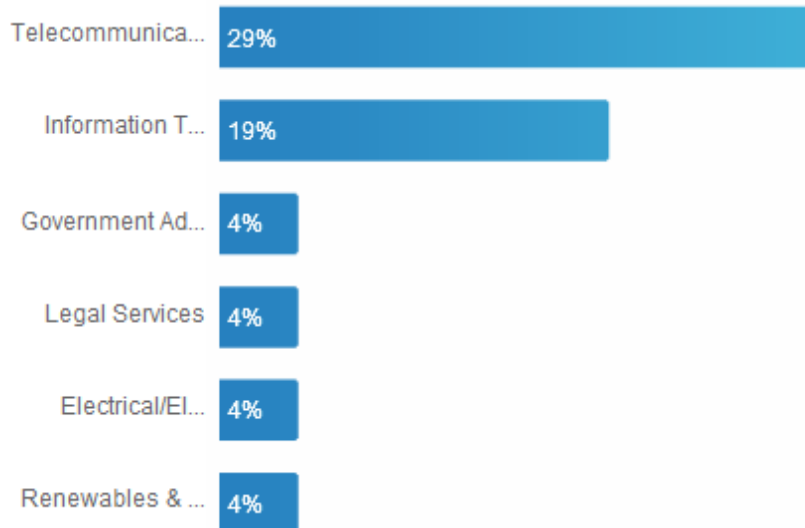
Currently, as the Forum was moved to LinkedIn platform, 240 members are registered. The figure below shows the growth of the number of members.



**Figure 16: Growth of ICT4E2B Forum group on LinkedIn.**

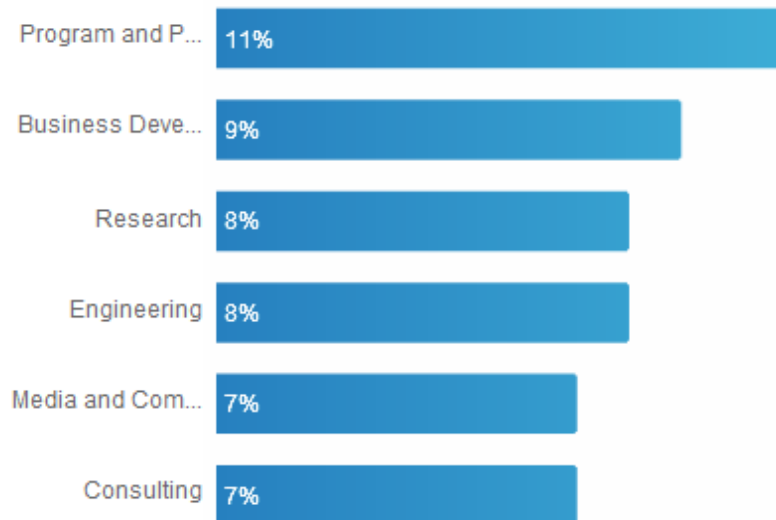
The categorization of industry type and functions of registered user, showed below, is useful for understanding which category of stakeholder (researcher, end users, building owner, technology provider, consultancy) are mainly active within the platform discussion and dialogue.

The figure below presents the most popular industry types represented in the Forum. The two most represented industry types are “Telecommunications” (29%) followed by “Information Technology” (19%).



**Figure 17: Industry types represented in ICT4E2B Forum on LinkedIn.**

Next figure presents the functions represented in the Forum. The most represented functions is “Program and Project Management” (11%), followed by “Business Development” (9%) then “Research” and “Engineering” (8%) and, finally, “Media and Communication” and “Consulting” (7%).



**Figure 18: Function type represented in ICT4E2B Forum on LinkedIn**

Discussions within the LinkedIn group are not focused on a specific project (the group is called ICT for Energy Efficient Communities), but most of them are related to the main issues raised in the project, while a minority are related to topics beyond the project scope. Finally many activities are focused on smart cities and energy efficiency in buildings.

## 5 ICT4E2B Forum presence on Twitter

An ICT4E2B Forum community on Twitter has been set up in order to provide to the stakeholders a direct link and to allow them to follow the relevant news on the project activities and finally to complete the project web dissemination channels. This channel will constantly update the stakeholders on the activities performed by the forum and foster their participation to the discussions by sharing ideas and expertise.

Figure 11 reported below is a screenshot of ICT4E2B Forum on Twitter.



Figure 19. ICT4E2B Forum on Twitter

Latest “Tweets” concern information about events, workshops and possible participation, news from the area of sustainable buildings and cities as well as information on discussions that showed up on LinkedIn. Contrary to LinkedIn group, Twitter profile is more adjusted for the project directly and informs also on the project progress.



## 6 Summary of Workshops and Events

One of the tools to engage stakeholders and create discussion around future challenges has been dedicated workshops, where construction companies, ICT experts and energy stakeholders have been invited, together with local authorities in their role of planners and promoters leveraging on the political side and the local implementation of directives. ICT4E2B Forum has organized, alone or together greater events, during the project duration more than 10 events, including valuable workshops on Application Scenarios and Prioritization.

These actions belonged to the core of Project activities. Events were organized in different locations around Europe to ensure that the roadmap takes into account the needs from stakeholders in the ICT community.

ICT4E2B Forum events included workshops, presentation, speeches on conferences, booths on fairs and less formal meetings where people were encourage to join the on-line forum. . Different workshops allowed bringing physically together more than 300 different stakeholders, fostering the discussion on ICT for Energy Efficient Buildings theme. In particular to identify the Future Application Scenarios (workshops held in Helsinki, Nice and London) and Thematic Areas Prioritization (workshops held in Genoa and Brussels) to build first drat roadmap, and, in the following, to improve and validate the ICT4E2B Forum Roadmap (Warsaw, Nice, Brussels, Amsterdam, Reykjavik). During these workshops it has been relevant how the different visions on the topic brought very different approaches on how the priority areas already defined in REEB and further refined during ICT4E2B Forum project can evolve. Within this framework, these visions were integrated in the roadmapping process, allowing a clear synthesis of the different perspectives.

Workshops were usually divided into sessions in which participants had to cooperate which each other and present visions, ideas, on different, but related topics. Outcome was usually a poster with brainstormed key words and statements. Picture below presents a poster from the workshop in London, where two sessions were held: Intelligent and integrated control, Integration Technologies and User awareness, decision support and Integration Technologies.





**Figure 20: Brainstorm outcome from workshop in London.**

Similar posters were produced in other workshops, then analyzed, described and visions were translated into input for a roadmap.

First versions of roadmap have been presented in 2012 in several events including E2BA Roadmap Workshops in Paris and ICT for Energy Efficiency in Buildings and Communities in Brussels. Draft of the roadmap was also validated by surveys distributed among participants of the Clean Energy conference in Warsaw and at CEBIT Fair (see section below), Finally the evolving draft roadmap has been presented and discussed in different events (Innovative City Convention in Nice, EUSEW in Brussels, Smart City Event in Amsterdam and ECPPM in Reykjavik) where in dedicated session it has been possible to discuss with relevant stakeholders about possible improvements and relevant sections.

These events, besides promoting the forum and encouraging people to join community had an objective to present brief outcomes of the project and already prepare stakeholders for the period beyond the project duration.

A Final event to present project results and discuss them with relevant European Stakeholders has been organized at European Parliament on 28<sup>th</sup> February 2013.

## 6.1 CEBIT Participation

A fundamental part of project activities is the stakeholder involvement through physical interaction and not only through digital media. In particular during this period the consortium concentrated its efforts in the organization and coordination of a stand at CEBIT trade fair presenting European Commission activities in the context of ICT for Energy Efficient Buildings.



**Figure 21: European Commission Stand at CEBIT**

ICT4E2B Forum project coordinated the presentation of demonstration set-ups by 3 different collaborative projects, namely: eSeSH, PEEBLE and SmartCode (see pictures below) but also had the opportunity to present its results and to discuss them face to face with hundreds of stakeholders met during the event.



**Figure 22: Pictures of the 3 different demonstration set-ups (left: PEEBLE, center: SmartCode, right: eSeSH)**

In particular during the event ICT4E2B Forum presented a poster showing its interim result (see figure below when the poster was presented to Commissioner Neelie Kroes) and distributed a specific questionnaire that allowed to collect specific feedbacks from more than 100 stakeholders, but had also the opportunity to discuss project results with hundreds of people asking information in our stand.



**Figure 23: ICT4E2B Forum Interim roadmap presented to Neelie Kroes**



## 6.2 Final Event

On 28<sup>th</sup> February, at the European Parliament in Brussels, ICT4E2B Forum partners presented their project's final results about the role of ICT for Energy efficient buildings to an audience of over 120 attendees.

**The final event with more than 120 participants, organized by D'Appolonia (RINA group) as project coordinator**, in collaboration with the member of European Parliament Francesco De Angelis and Mrs Mercè Grieria, project officer from DG CONNECT, has launched the debate about the potential contribution of ICT4EEB to Horizon 2020.


*"ICT for Energy Efficient Buildings is a key priority for Europe – said Mrs Patrizia Toia, Vice President of ITRE Committee at European Parliament - and such roadmap can be a relevant instrument to help legislators on developing the content of Horizon 2020 in line with successful experiences so far in engaging the all value chain around European key challenges, as energy efficiency in our built environment".*

**The debate about shaping and aligning European research and innovation agendas in the field of energy efficient buildings and their integration in districts and smart cities towards Horizon 2020** focused on the efforts required by different stakeholders at different level. The city perspective was presented by Francesco Oddone, Smart City Councillor of Municipality of Genoa, the regional and national viewpoints were described by Renaud Layadi, Regional Council of Bretagne and Reijo Kangas, TEKES – The Finnish Funding Agency for Technology and Innovation. These viewpoints were complemented with the European Commission perspectives, presented by representatives of three different services, namely Mr Rogelio Segovia from DG CONNECT, Mr Lorenzo Valles from DG RTD and Mr. Georg Houben from DG ENER.

**Conclusions by the member of European Parliament Francesco De Angelis** focused on the potential that research and new technology development on ICT for energy efficient buildings will have as a "key instrument to help Institutions (not only at European but also at local, regional and national level) to create cost-effective sustainable solutions able to help European society. Such impact is guaranteed not only by the high technical level of such roadmap, but also by the shared consensus around it, considering it has been built with the involvement of the entire value chain in an open and constructive dialogue".

A press release is available at the following link: <http://pr.euractiv.com/pr/research-and-innovation-energy-efficient-buildings-towards-horizon-2020-93932>


ICT4E2B Forum partners are pleased to invite you to the final conference



## The Role of ICT for Energy Efficient Buildings A Contribution to Horizon 2020

28 February 2013  
9.00 a.m. - 12.00 p.m.  
European Parliament, Bât. Altiero Spinelli  
60 rue Wiertz / Wiertzstraat 60  
Brussels, Belgium

- The debate about the role of ICT for Energy Efficiency in Horizon 2020 is opened up by Francesco De Angelis - member of European Parliament.
- Roundtable about final Roadmap of ICT4E2B Forum, identifying challenges and Innovation priorities of ICT for Energy Efficient Buildings.
- Shaping and aligning European Innovation agendas with industrial stakeholders and public authorities at local, national and European level.
- Relevant European initiatives to build an Innovation Eco-system.



Participation is free upon registration on <http://ict4e2b.eventbrite.com>  
Participation is subject to room capacity.

The research leading to these results has received funding from the European Union Seventh Framework Program FP7/2007/2013 under grant agreement n° 260156



Figure 24: Poster and Images from the Event



## 7 Summary of Dissemination Activities

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 <sup>1</sup> (if available)	Is/Will open access <sup>2</sup> provided to this publication?
1	<i>Ict for Energy Efficient buildings: proposed approach for a stakeholders-based strategic roadmap</i>	<i>Christian Mastrodonato</i>	<i>Proceedings of the CIB W78-W102 2011: International Conference –Sophia Antipolis, France, 26-28 October</i>		<i>CSTB – France</i>	<i>Paris</i>	<i>2011</i>		<a href="http://www.linkedin.com/redirect?url=http%3A%2F%2F2011-cibw078-w102%2Ecstb%2Efr%2Fpapers%2Fpaper-119%2Epdf&amp;urlhash=F-fX&amp;trk=prof-publication-title-link">http://www.linkedin.com/redirect?url=http%3A%2F%2F2011-cibw078-w102%2Ecstb%2Efr%2Fpapers%2Fpaper-119%2Epdf&amp;urlhash=F-fX&amp;trk=prof-publication-title-link</a>	yes
2	<i>ICT for energy efficient buildings: stakeholder-based strategic roadmap</i>	<i>Matti Hannus</i>	<i>eWork and eBusiness in Architecture</i>		<i>Taylor &amp; Francis Group</i>	<i>London</i>	<i>2012</i>	<i>783-790</i>		No

<sup>1</sup> 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).

<sup>2</sup> 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.

			Engineering and Construction – Gudnason & Scherer (Eds)						
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**LIST OF DISSEMINATION ACTIVITIES**

NO.	Type of activities <sup>3</sup>	Main leader	Title	Date/Period	Place	Type of audience <sup>4</sup>	Size of audience	Countries addressed
1	Workshop	ATOS	EEB Data Models Community	24 January 2011	Brussels	Scientific Community	13	EU wide
2	Workshop	VTT	Scenario Definition Workshop	4 May 2011	Helsinki	Scientific Community, Industry	9	Finland, Sweden, Norway
3	Workshop	DAPP	Scenario Definition Workshop	25 May 2011	Sophia Antipolis	Scientific Community, Industry	9	France, Italy, Spain

<sup>3</sup> 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.

<sup>4</sup> 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).



4	Workshop	DAPP	Scenario Definition Workshop	25 May 2011	London	Scientific Community, Industry	16	UK, Ireland, France
5	Pens	DAPP, MOST	ICT4E2B Forum pens	July 2011				
6	Leaflets	MOST	ICT4E2B Forum	July 2012				
7	Workshop	DAPP	Prioritization Workshop	4 July 2011	Genoa	Scientific Community, Industry, Policy Makers	33	Italy
8	Workshop/Event	DAPP	Prioritization Workshop	12 July 2011	Brussels	Scientific Community, Industry, Policy Makers	74	EU wide
9	Conference	DAPP,VTT	CIB W78-W102 2011	26-28 October 2011	Sophia Antipolis	Scientific Community, Industry	50	Worldwide
10	Conference	SAP	"Enterprise applications in the era of SmartHouses and SmartGrid", Smart Grids Panel, 37 <sup>th</sup> Annual Conference of the IEEE Industrial Electronics	10 November 2011	Melbourne, Australia	Scientific Community, Industry		Australia and Oceania

			Society (IECON 2011)					
11	Conference	SAP	Challenges and Opportunities for Energy Efficient Buildings and Cities”, Smart Lighting	31 January – 1 February 2012	Düsseldorf	Scientific Community, Industry		Germany
12	Poster	MOST	Poster with presented activities, methodology and vision of the project	February 2012				
13	Leaflets	MOST	New revision of ICT4E2B Forum leaflets	February 2012				
14	Workshop	DAPP	GridPlus workshop	22 February 2012	Brussels	Scientific Community, Industry	20	EU wide
15	Fair	DAPP	CEBIT	6-10 March 2012	Hannover	Industry, Media	160	Worldwide
16	Conference	MOST	CEP Clean Energy Partnership	17-18 April 2012	Warsaw	Scientific Community, Industry, Policy Makers	60	Poland and Central Europe
17	Workshop	VTT,MOST	E2BA Roadmap workshop	24-26 April 2012	Paris	Scientific Community, Industry	30	EU wide





18	Booklet	MOST	Comparative analysis: National research & technological development (RTD) Frameworks in the context of ICT for energy efficient buildings	June 2012				
19	Conference	DAPP	Innovative City Convention	5-6 June 2012	Nice	Scientific Community, Industry, Policy Makers, Media	21	France, Italy, Spain and EU wide
20	Workshop	SAP	EEGI Roadmap workshop	13-14 June 2012	Brussels	Scientific Community, Industry, Policy Makers	20	EU wide
21	Conference	DAPP	Smart City Event	27 June 2012	Amsterdam	Scientific Community, Industry, Policy Makers, Media	40	EU wide
22	Conference	DAPP	ECPPM	25-27 July 2012	Reykjavik	Scientific Community, Industry	35	EU wide and Worldwide
23	Conference	SAP	“European SmartGrid Research and	3-4 Sept 2012	Evora, Portugal	Scientific Community, Industry		EU and US wide



			Challenges”, Symposium on Microgrids					
24	Workshop	SAP	EU-US joint open workshop on cyber security of ICS and Smart Grids, organized by the European Commission and US Dept. Of Homeland Security	15 October 2012	Amsterdam	Scientific Community, Industry		EU and US
25	Conference	SAP	Panel on “What is the Horizon Ahead of Smart- Grids?”, IEEE IECON 2012,	26 October 2012	Montreal, Canada	Scientific Community, Industry		Worldwide
26	Book	DAPP	ICT Roadmap for Energy-Efficient Buildings Research and Actions	February 2013				
27	Event	DAPP	ICT4e2B Forum Final Event	28 February 2013	Brussels	Scientific Community, Industry, Policy Makers	120	
28	Press Release	DAPP	ICT4e2B Forum Final Event Press	1 <sup>st</sup> March 2013		Media		EU Wide



Deliverable D4.8

			Release on EurActive					
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## 8 Conclusions

One of the main objectives of ICT4E2B Forum was to create a community of stakeholders which are sharing future challenges and research priorities in the area of energy efficient buildings. The project website and the project online forum as well as a number of workshops organized in different European locations are the main tools to allow an effective engagement and communication among the stakeholders. These tools have been used not only to inform about the project itself, but especially to engage the different stakeholders, in order to collect their inputs for the progress of the Roadmapping activities.

In this sense the project website should be considered as a window on Europe, where visitors, stakeholders and selected experts on energy, construction and ICT domain have the possibility to find information on ICT4E2B themes by using dedicated newsletters, workshops, events. It is relevant to underline the increasing interest on the project activities, with an average number of unique visitors equal to 900 per month and still growing.

In addition to the physical discussions, it has been set up, at the beginning of 2011, the collaborative ICT4E2B Forum platform, based on Alfresco technology, that allows stakeholders to continue the discussion in virtual space. Since its set-up, the platform has reached about 300 authorised members. It is worth to say that this collaborative platform contains mostly discussions on different relevant topics arguments.

In April 2012 this community has been migrated on ECAS website hosted by the Commission services. However the complicate registration procedure through an ECAS account and a request of editing rights, caused an evident decrease of activity on the platform in comparison to the previous solution.

In any case such situation didn't affect too much community activity since, following the suggestions of reviewers after 1<sup>st</sup> review meeting at the end of 2011, a discussion group was activated within LinkedIn open platform. By using LinkedIn it has been possible to reach a wider group of users and it is easier to start new discussions. LinkedIn does not have the same potential in terms of creating wiki pages, storing files or personalizing sub-sites however it provides a friendly interface to monitor the activities of registered users. Maintenance costs of forum on LinkedIn is lower since the server and the disk space is provided by the external company.

In addition, in order to increase the level of participation inside the platform and to encourage the users to take part in discussions, short news and tweets are published on ICT4E2B Forum Twitter account, and e-mails with detailed information are being sent to the recipients from the mailing list. These have been main activities in the last months and the outcomes are very valuable for further work on the final road map. Full summaries from these events, including stakeholders lists, workshop courses, pictures, analysis and conclusions are available on the Forum website.

Taking into account the Forum activities performed at physical and virtual level, it is important to underline that there has been so far involved more than 300 different stakeholders, that can be considered as active users (more than 100 compared to the ones expected by DoW). These users are defined "active" with the meaning that they actively provide inputs to our project.

The main outcome of the dissemination activities performed during the overall of the project is to establish, develop and incentivize bilateral communication with the help of widely known services (like LinkedIn), where users are already registered. In current situation controlled by



mobile devices, short messages and dynamic environment, users have little willingness to “sacrifice” their free time for registering on dedicated forums and scroll over long topics. Existence on the open and popular platform already excludes problem of inviting people and their registration. Users are already registered, usually some information about them can be read from their profiles and it is easier to contact with them if necessary. Moreover managing of the group is easier and less time consuming. There are some disadvantages of this solution (functionality depends on the general provider of the service), however there is always backup in the form of website or email.

Finally, another important outcome from the project is that nothing will replace personal meetings and real events as a workshop is core of the process of communication and information collection. At workshops, even short, participants are fully dedicated to the presented problems and definitely more productive than via web tools. Events should be planned prudently, but they cannot be missing in the timeline of the project.



## 9 References

- [1] Annex I Grant Agreement – Description of Work
- [2] AWStats Tool
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- [6] The Wiki-Blog on Local and Regional initiatives:  
<https://webgate.ec.europa.eu/fpfis/wikis/pages/recentlyupdated.action?key=eeRegio>
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