SEVENTH FRAMEWORK PROGRAMME

"Information Society Technologies"

SEVENTH FRAMEWORK PROGRAMME

D8.1.3
Last Annual Project Management Report

Project acronym: +Spaces

Project full title: Policy Simulation in Virtual Spaces

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Executive Summary

This document lists the main activities performed during the third reporting period of the project (January 1st, 2012 – September 30th, 2012).

By the end of the second reporting period (December 31st 2011), the second version of the +Spaces platform – for supporting debates – was fully functional and ready to be piloted. The components of the third version – for supporting role-playing simulation – were also complete, and integration was completed ahead of time to adhere to the recommendation of the reviewers. In order to ensure a proper duration of the remaining two pilots, it was advised during the 2nd annual review (March 21st 2012), to extend the project by three months, till September 30th 2012.

The majority of the third reporting period was dedicated to running two pilots: one pilot that focused on the debates functionality, deploying policy debates in Facebook, Blogger, and OpenWonderland and following the dynamics of debates and moderation. The other pilot was a more extensive pilot, coming to evaluate the innovative role-playing engagement, while also examining the platform as a whole, with simultaneous experiments of various types of multiple policies.

In parallel to running the pilots and evaluating their results, work was also done on fixing technical issues (lessons learned between the 2nd and 3rd pilot); improving some deliverables based on the 2nd annual review; and mostly on the market analysis and exploitation plan deliverables, based on reviewers comments.

By the end of the third reporting period, the +Spaces consortium completed its goals, with a complete implementation of the platform and its adapters and services; running three pilots for evaluating the platform; and a complete exploitation plan.

The following milestones were completed during this period:

- ***Milestone 5****: +Spaces framework to support (role-playing) simulation application*

- ***Project Milestone 2****: Debating application successfully tested*

- ***Project Milestone 3****: (Role-Playing) Simulation application successfully tested*

During the third reporting period, project management procedures with reporting instruments and collaboration tools continued on course. +Spaces consortium dedicated significant amount of time and efforts to carrying out the two pilots. ATC (responsible for the pilot) with HeP (end-user) gathered a set of interesting policies and prepared the relevant content for running the pilots with these policies in different engagement types. All partners were involved in the dissemination of the pilot experiments and in brainstorm sessions for constantly increasing the level of participation.

Different project meetings were organized to discuss management and technical issues and take decisions on next steps:

- *Rehearsal for 2nd annual review (hosted by NTUA) on January 31 – February 2 2012*
- *General rehearsal for 2nd annual review (hosted by KULeuven) on March 20 2012*

- *2nd Annual Review (Brussels) on March 21 2012*
- *+Spaces Conference and Plenary Meeting (hosted by HeP) on June 6-7 2012*
- *+Spaces and WeGov Workshop on Legal challenges for FP7 projects on July 4 2012*
- *Plenary meeting (hosted by Atos) on September 12-14 2012, to finalize the 3rd pilot and exploitation plans and prepare for the final review*

During meetings many +Spaces-related topics have been discussed in an atmosphere of collaboration and professionalism where the entire consortium contributed actively with presentations, software demonstrations and open discussions. The business and scientific view of the project continued to evolve into a unique structured and shared view.

Conference calls have been set up to track the project evolution and address the existing problems and define some future actions related to +Spaces milestones. The technical partners conducted various conference or bipartite calls during integration phases and pilot execution, in order to discuss various technical issues.

The major results of the project scientific activities have been reported in the project deliverables which have been provided to the European Commission:

- *D7.2.2 Exploitation plans and Business Evaluation (resubmission)*
- *D6.1b Pilot Scenario (resubmission of D6.1)*
- *D1.1.3 Technical Achievements and Progress Report including summary of research accomplishments and evaluation*
- *D3.2.2 +Spaces platform overall Architecture final version*
- *D6.2.2 Pilot Prototype*
- *D6.2.3 Pilot Results and Impact Analysis*
- *D7.2.3 Exploitation plans and Business Evaluation*
- *D7.4 Legal Evaluation Report*
- *D8.1.3 Last Annual Project Management Report (this report)*

Two additional documents were submitted to your review:

- *+Spaces Outline Plan in Response to Review*
- *+Spaces-WeGov Legal Workshop Final Report*

The recommendations raised by reviewers during the 2nd annual review have been addressed during this reporting period. The actions implementing the recommendations are described in section 4 of this document. Specifically, this addresses the running of the two remaining pilots and the improvements on the exploitation plans.

This document is structured as follows: It opens with a publishable description of the project that may be used as a press release or posted on the EC website. It continues with a detailed description of the project objectives and achievements, organized by WPs. Next, it describes the project management, including deliverables, milestones, project meetings, and finally detailed reporting of the use of resources and other expenditures. The document ends with a summarized response to reviewers' comments from the previous annual review.

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<+Spaces Public>

1 PUBLISHABLE SUMMARY OF +SPACES

Short for "policy simulation in virtual spaces," Positive Spaces (+Spaces) leverages social media to help policy makers tap into the thoughts and insights of their citizens. +Spaces is a research project funded by the European Union in the Governance and Policy Modeling area. Eight organizations from across Europe participate in the consortium.

Social networking sites and 3D worlds are spaces in which many people "virtually" live. These virtual spaces are microcosms of society where we can examine real world behavior. Today, policy makers often invite citizens to participate in discussions on eGov or openGov websites. We prefer to go to the people – in their virtual spaces. Using the tools and methods developed by the +Spaces consortium, policy makers can ask questions, foster debates, and conduct role-playing sessions across a range of social media.

1.1 Three Types of End-Users

+Spaces is directed at three types of end-users

- Policy makers

- Citizens

- Application developers

1.1.1 Addressing the needs of Policy Makers

+Spaces helps policy makers reach their citizens and understand them better. The +Spaces tools allow policy makers to easily define polls, conduct debates, and even define role-playing simulation sessions in multiple social spaces at the same time – in Facebook, and Twitter, and even in a 3D virtual world. This allows policy makers to tap into citizens' thoughts and opinions, "meet" them in a virtual world, and gain new insight.

1.1.2 Addressing the needs of Citizens

+Spaces provides an easy way for citizens to make their voices heard and express opinions about public policy. +Spaces uses a variety of social media to let people express their opinions and influence policy makers, while maintaining their privacy.

1.1.3 Addressing the needs of Application Developers

Finally, +Spaces addresses the needs of eGov application developers as well, helping them reach a wider audience and easily deploy applications in multiple virtual spaces simultaneously.

The +Spaces API allows application developers to create a front-end that easily communicates with the +Spaces platform. Application developers can use the +Spaces recommendation, reputation, and data analysis services or implement additional services. The +Spaces API also allows application developers to easily attach additional virtual spaces to the platform.

1.2 Three Types of Engagement

+Spaces offers three types of citizen engagements:

- Polls

- Debates

- Role-playing simulations

1.2.1 Engaging Citizens through Polls

The first and simplest type of engagement is a poll or survey. +Spaces supports complex polls, with multiple choice questions, true or false queries, and more. Citizens can take polls in a 3D polling booth, or use the more familiar forms on Facebook or Twitter.

1.2.2 Engaging Citizens through Debates

The second type of civil participation is a debate. Policy makers can easily initiate debates with their citizens by providing a title, statement, and a URL for more background information. Policy makers can also "meet" citizen avatars in a 3D world, or take part in debates in either Facebook or Blogger.

1.2.3 Engaging Citizens through Role-Playing Sessions

The third type of engagement is the most innovative and involves role-playing simulations. In this activity, participants are assigned specific roles, which can be very different from their roles and opinions in real-life.

Simple roles could be "pretend to be an extreme optimist and express your opinion about a policy". More complex roles are unique to specific policies. For instance, in connection with a policy banning smoking in public places, roles could include smoker, non-smoker, police officer, and restaurant owner. In this type of complex scenario, half the people are guided to act as if they are in a utopian world, and the other half as if they are in a dystopian world.

By playing different roles, people gain different perspectives and new insight. This benefits both policy makers and regular citizens.

1.3 Three Types of Innovation

+Spaces has three main contributions:

- New engagements

- Interoperability between spaces

- Role-playing simulations in online spaces

1.3.1 New Engagments

+Spaces engages people where they are – whether on Facebook, Twitter, Blogger, or "in-world" in a 3D virtual environment. Its supports various types of engagements, allowing the

choice of the most appropriate set of spaces and engagement types for a policy and a policy maker.

1.3.2 Interoperability

+Spaces supports two flavors of interoperability: One is "Define once, run everywhere" in which the policy maker uses a simple front-end and fills in the details just once. +Spaces then deploys the engagement experiments on multiple spaces at once.

+Spaces also supports interoperability BETWEEN the spaces. People in the 3D world can learn about and participate in discussions taking place in Blogger, people in Blogger can become aware of discussions in Facebook, and so on. In this way, ideas and thoughts flow back and forth between the spaces, igniting and enriching the discussion.

1.3.3 Role-Playing Simulation

We see the implementation of role-playing sessions in online spaces as one of the main contributions of +Spaces. Role-playing sessions are implemented in both 3D virtual worlds and as a web application, allowing users to pick their space of choice.

These simulations expose policy makers to citizens' input, while allowing participants to come up with new insights.

2 PROJECT OBJECTIVES AND ACHIEVEMENTS

2.1 Objectives and Achievements of WP1: Research Coordination

The purpose of this WP is to provide an oversight of all the WPs and coordinate scientific and technical development across WPs according to the +Spaces time schedule and expected results aiming at the technical cohesion of the project. It undertakes initiatives to propose technical solutions and fine-tune technical and scientific orientations whenever necessary. Also this task controls the technical work carried out in the related tasks and proposes technical modifications and reallocation of resources as necessary for achieving the project objectives. Finally, it reports about technical and scientific deviations from the project workplan and liaises between the technical partners and the project's administrative and financial management.

The work in this WP incorporates the tasks of the technical manager (scientific coordinator).

Table 1. Partner Involvement in WP1

Deliverable	L=Lead, i=involved							
	IBM	NTUA	Fraunhofer	UEssex	ATOS	KULeuven	ATC	HeP
D1.1.3	i	L	i	i		i		

Technical Progress and Achievements

WP1 is a workpackage that remains active during the complete duration of the project. Its purpose is to monitor and steer the research work of +Spaces. Even though only one partner is involved in this workpackage, the contribution of all the research-oriented partners is required, as each one displays expertise on a different scientific field. This is enlarged by the interdisciplinary nature of +Spaces research which can be considered a blend of social- and ICT-oriented research. Even though the distinction is a bit blurred, it aims to depict that in Research and Development projects some tasks are indeed stemming from computer-based research while others come from other scientific areas closer to social sciences. In order to analyze these two parallel threads and to ensure that the project research challenges will be met, WP1 devised a plan to monitor their progress. The plan was sketched in "D1.2:Open Research Problems Identified in +Spaces" and then updated in D1.1.x "Technical Achievements and Progress Reports".

D1.1.1 serves as a first summary report that +Spaces produced leading to a need to resemble more a project overview report rather than a technical achievements report. D1.1.2 in turn focused on the actual technical work that is worth to be reported based on milestones set internally to the project consortium and reported in D1.2. Similarly to D1.1.2,

D1.1.3 focuses on analyzing the achievements based on the research challenges/goals that were set, rather than based on the various WPs.

An overview of the research activity and the research lifecycle is provided in the following figure.
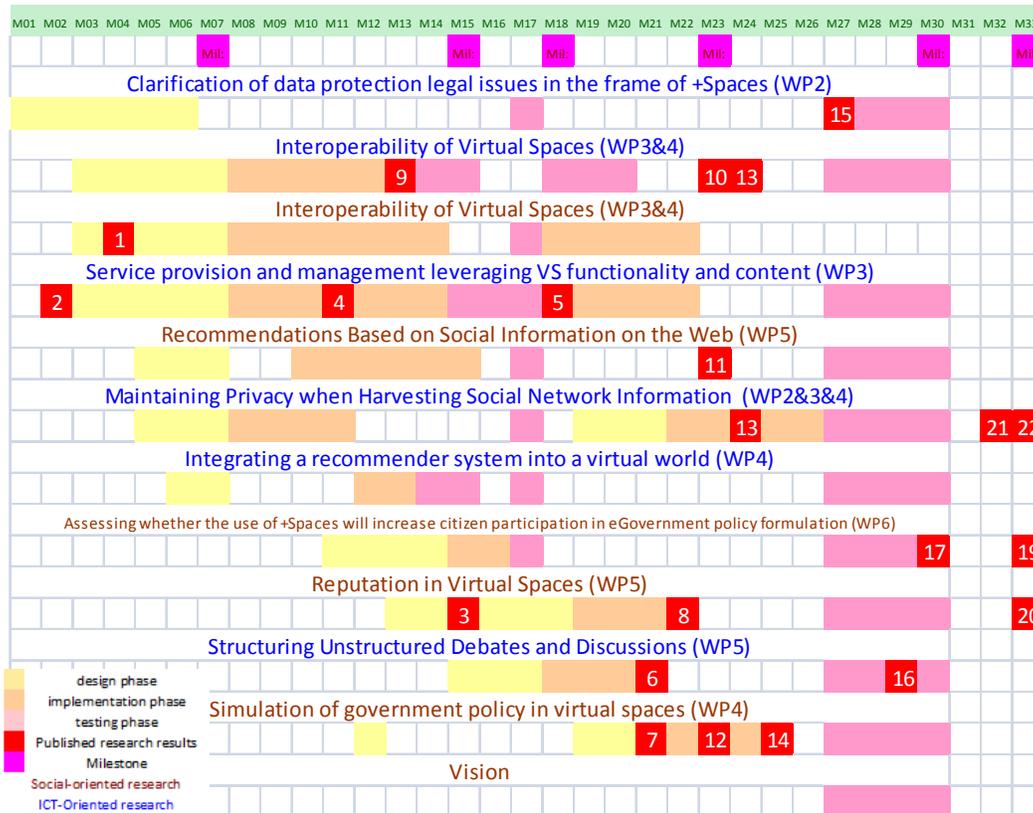
Figure 1. Research items lifecycle and progress

Figure 1 illustrates the progress of each of the research items in the course of the project. It depicts their lifecycle using a different colour for design, implementation and evaluation phase as mentioned above. The research challenges remain active during their whole lifetime but they deliver outputs on certain periods based on the type of research challenge and solution maturity. There are 22 outputs that are indicated on the table:

1. Gardner M., MIRTLE, SIMILLE and +Spaces, Immersive Education Initiative, Boston Summit, 23-25th April 2010
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4. Kardara M., Fuchs O., Aisopos F., Papaoikonomou A., Tserpes K., Varvarigou T., A Service Oriented Architecture Enabling Policy Simulation in Virtual Spaces, 3rd IEEE

International Conference in Games and Virtual Worlds for Serious Applications- VS Games 2011, Athens, 4-5th May 2011

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6. Klinger R., Riedel S., McCallum A.: Inter-Event Dependencies support Event Extraction from Biomedical Literature. In: Mining Complex Entities from Network and Biomedical Data (MIND), European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases (ECML PKDD), 2011.

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8. Jacovi M., Guy I., Ronen I., Perer A., Uziel E., Michael Maslenko: Digital Traces of Interest: Deriving Interest Relationships from Social Media Interactions. ECSCW 2011: 21-40

9. Aisopos F., Kardara M., Klinger R., Senger P., Papaoikonomou A., Tserpes K., Gardner M., Varvarigou T.: e-Government and Policy Simulation in Intelligent Virtual Environments In: International Conference on Web Information Systems and Technologies, WEBIST 2012, 18-21 April, Porto, Portugal

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12. Gardner M., Horan B., Using virtual worlds for online role-play, 1st European Immersive Education Summit (iED Summit), 28th and 29th November 2011, Madrid

13. Kardara M., Fuchs O. , Kosta E., Aisopos F., Spais I., Varvarigou T., Policy testing in virtual environments: addressing technical and legal challenges, International Journal of Electronic Government Research (IJEGR), , Volume 8, Issue 3, 2012

14. Gardner M & Horan B (2012). '+SPACES: Serious Games for Role-Playing Government Policies'. To be published as a chapter in the book 'Understanding Learning in Virtual Worlds', by Springer.

15. E. Kosta, Do Not Track initiatives: myths and reality around the lost user consent, BILETA 2012: 'Too many laws, too few examples' Regulation, technology, law & legal education, 29-30 March 2012, Newcastle

16. Klinger R., Senger P., Madan S. and Jacovi M., Online Communities support Policy-making: The Need for Data Analysis, In: Proceedings of the Third International Conference on eParticipation (ePart 2012), Kristiansand, Norway, Springer-Verlag 2012

17. Gardner M & Horan B (2012). 'Using virtual worlds for creative role-play: lessons learnt'. To be submitted to the Immersive Education Summit, 2012 Boston Summit, 14-16 June 2012.

18. T. Varvarigou, K. Tserpes, M. Jacovi, M. Kardara, IEEE Workshop on Leveraging the Potential of Virtual Worlds, 3rd IEEE VS Games 2011, May 4-6 2011, Athens

19. Gardner, M., Horan, B., & Joshi, N. (2012). 'Structured learning activities in virtual worlds'. Journal of Universal Computer Science. To be published.
20. M. Jacovi, I. Guy, S. Kremer-Davidson, S. Porat, N. Aizendud-Reshef. The Perception of Others: Inferring Reputation from Social Media. Submitted to CHI'2013.
21. Kosta E., Mifsud Bonnici J.P., Revisiting consent in the information society, 2012 Amsterdam Privacy Conference (APC 2012), Amsterdam-The Netherlands, 7-10 October 2012
22. Kosta E., "Legal Issues while researching users' behaviour in virtual spaces", Workshop on "Legal challenges for FP7 projects: a +Spaces and WeGov Workshop" in the frame of the Samos Summit 2012, Samos,Greece

Deliverables

Table 2. WP1 M25-M33 deliverables

Del. #	Deliverable Name	Resp.	Contrib.	Nature	Delivery Date	Available at
D1.1.3	Technical Achievements and Progress Report including summary of research acomplishments and evaluation	NTUA	IBM, Fraunhofer, UEssex, KULeuven	R (PU)	M33	BSCW

Milestones

None for WP1.

Deviations from the DoW

None.

2.2 Objectives and Achievements of WP2: User and Legal Requirements

Workpackage 2 had a 6-month duration and was actually formally completed on M06. Its objective was to precisely determine and document the user and system requirements, and then, on their basis, to define the high level specifications. The work conducted during this period corresponded to the first phase of a typical system development cycle, with the identification and the analysis of the user requirements leading to the definition of the functional specifications. These specifications acted as the intermediate layer that assisted the design of the +Spaces architecture that implements the system while satisfying user requirements.

Technical Progress and Achievements

No work was conducted on this WP in the third reporting period.

Milestones

Milestone 1 "Completion of Requirements and Legal analysis" was reached already on M06.

2.3 Objectives and Achievements of WP3: Universal eGov Platform

This work package is responsible for the definition of the +Spaces API and the design of the complete architecture of the +Spaces platform, in order to ensure smooth communication among all components, and easy integration. It is also responsible for carrying out the research and development of the middleware components of the +Spaces platform. This includes scientific innovation to solve the challenges posed by each component's objectives, as well as the implementation work required for the delivery of a concrete, functional middleware system. The middleware will provide the underlying infrastructure on top of which the software components will be deployed.

Table 3. Partner Involvement in WP3

Deliverable	L=Lead, i=involved							
	IBM	NTUA	Fraunhofer	UEssex	ATOS	KULeuven	ATC	HeP
D3.2.2	i	L	i	i		i	i	

Technical Progress and Achievements

The work on WP3 was intense during the first two years of the project. Already during the first six month of the project, WP3 created a draft sketch of the architecture. The first deliverable of this WP: D3.2.1 +Spaces platform overall Architecture was submitted as planned on M7.

WP3 implementation was complete by the end of the 2nd reporting period, leaving only adjustments and fixes for the third reporting period. The +Spaces middleware is composed of the following components:

- Experiment Manager (IBM) – the main component that interacts with the system's front end and UI. All of the user functions are concentrated and managed in the experiment manager. The experiment manager operates as an orchestrator of the various platform components.

- Service Manager (NTUA) – the component responsible for managing the analysis services as well as managing and coordinating all communication between them and other middleware services. The middleware connection to the data analysis and recommendations was reviewed. The communications with the reputation service was implemented and tested.

- Notification Manager (NTUA) – responsible for notifying the analysis services of new experiments as well as actions taking place in the Virtual Spaces.

- Data Manager (NTUA) – provides the analysis services with an access point to the +Spaces database, allowing them to recover older data that they have lost due to failure.

- SLA Manager (NTUA) – creates, monitors and evaluates Service Level Agreements between analysis services and government organisations.

- Configuration Manager (IBM) – All of the +Spaces middleware components are configurable, and operate differently with different configuration parameters. The configuration manager is the focal point for system configuration. It contains and exposes all of the configuration parameters for the middleware components. It is an internal component.

Platform capabilities: Polling, Debating and Role-Playing Simulation in Virtual Spaces, Virtual Spaces Interoperability, Data Aggregation and Distribution, Data Analysis, Recommendation and Reputation, Data de-identification, Data Recovery, SLA Management, Trust and Security.

Throughout the projects, discussions were conducted with KULeuven in order to ensure the implementation of the privacy requirements into the platform as well as to meet the conditions stemming from the terms and conditions (T&Cs) of the various virtual spaces utilized in +Spaces. These requirements were taken into consideration in the implementation process and further adjustments.

Most of the software was produced in Java and the container that was used to "glue" the various components together was the Open Source Edition of the Glassfish application server. For the purpose of collaborative development, a GForge server was made available at: http://gforge.grid.ece.ntua.gr/gf. The purpose of the GForge server is to act as a source code repository with subversioning and documentation facilities.

The front-end of the +Spaces platform was developed by ATC. Based on the architecture, and considering the requested features, a core decision has been made to use the DotNetNuke open source platform for the development of the front-end. For each type of experiment, different information is required from the policy maker (a poll requires a set of questions, while a debate requires background information, and a role-playing simulation is even more complex and requires role-definitions and more). For this reason, a different set of front-end dialogs was developed for each phase. The front-end of all phases kept evolving as the pilot outcomes as well as the project internal workshops produced new requirements and specifications.

The implementation of the first versions of all components as well as the front-end was completed during December 2010, on time to start integration during the first months of 2011. Integration elapsed, as planned, until April 2011, and the platform was formally tested during the first pilot on May 2011.

During the first annual review, reviewers asked that we complete implementation of the third phase three months ahead of schedule (M24 rather than M27). For this reason, we

worked on the implementation of the second phase while also dedicating time to design of the third phase. This caused a slight delay in the implementation of the second phase (by one month).

The implementation of the second version of all components as well as the front-end was completed during July 2011. Integration started immediately and the second phase (debates) was ready to be piloted during October 2011, as planned.

Unfortunately, that was the time in which we started realizing the legal issues stemming from the T&Cs of the SNSs. The time spent on understanding, discussing, and resolving these issues (which were not part of our plan) lasted from July 2011 (to the first partners who encountered them) and until February 2012 (when the final issue was ironed). For this reason, the second pilot could not be run as planned.

Nevertheless, implementation of the third versions was not put on hold. While we were resolving legal issues for this and the previous versions, implementation continued. The delay caused by the legal issues, along with the change of plan in aim to complete three months ahead of time, resulted in the third versions of all components to be completed by the end of February 2012 (one month ahead of time).

As a result of the work conducted alongside WP2 as well as the actual development of the middleware components, the +Spaces API was evolved, and finally summarized in D3.1 +Spaces API (M24). The +Spaces API is a set of methods exposed as web services that allow three types of utilization and communication with the +Spaces platform, to enable PMs and public servant to initiate, define activate and monitor experiments:

1) A set of methods of the Experiment Manager, allowing application developers to develop various front-ends as required by policy makers

2) A set of methods and API definitions of the Service Manager, Notification Manager, and Data Manager, for services to subscribe to the +Spaces platform, follow experiment, and perform various analyses

3) A set of methods and API definitions of the VS Management Layer, for virtual space owners or other users to connect additional virtual spaces to the platform

Towards the end of the project, D3.2.1 was updated to include all architectural decisions made throughout the project. The results is the public deliverable D3.2.2 +Spaces platform overall Architecture final version.

D3.2.2 iterates the design principles of the +Spaces SOA-based platform, emphasizing on the driving force, which are the requirements. The latter are enhanced by a thorough legal analysis which yielded a number of functional specifications that the system obeys in order to ensure legal compliance. The deliverable provides a detailed description of the components layout, their internal architecture as well as of the interactions among them. It also includes the data schemata that are used for the representation of the generic entities in the framework of the +Spaces platform.

Deliverables

Table 4. WP3 M25-M33 deliverables

Del. #	Deliverable Name	Resp.	Contrib.	Nature	Delivery Date	Available at
D3.2.2	+Spaces platform overall Architecture final version	NTUA	IBM, Fraunhofer, UEssex, ATC, KULeuven	P (PU)	M33	BSCW

Milestones

The following milestones were reached during 2012, as planned:

Milestone no.	Milestone name	WPs no's.	Lead beneficiary	Delivery date from Annex I [1]	*Comments*
Milestone 5	+Spaces framework to support (role-playing) simulation application	WP3, WP4, WP5	**ICCS/NTUA**	M28	The third and final version of complete +Spaces framework is complete. Simulation application and underlying infrastructure to support it are complete and have been integrated
Project Milestone 2	Debating application successfully tested	All WPs	**IBM**	M30	Second version of +Spaces platform capable of supporting debating end-to-end complete and tested
Project Milestone 3	Simulation application successfully tested	All WPs	**IBM ICCS/NTUA**	M33	Final version of +Spaces platform capable of supporting simulation end-to-end complete and tested

Deviations from the DoW

None.

2.4 Objectives and Achievements of WP4: Virtual Space Application and Integration

The objectives of this work package are to:

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[1]   Month in which the milestone will be achieved. Month 1 marking the start date of the project, and all delivery dates being relative to this start date.

- Produce an integrated solution that will comprise the +Spaces platform (technical integration, deployment of +Spaces applications in Virtual Spaces)

- Use the solution to develop the actual testbeds, preparing the work for WP6 where evaluation and testing during the pilots operation will take place.

- Virtual Spaces Management and connection to the +Spaces platform

Work in this WP includes the technical integration but also the actual development of adaptors for the deployment of e-Government applications in virtual spaces, and the mechanism that manages these adaptors.

The components developed in this WP take a generic action from the API (WP3) and translate it into a set of actions specific to each VS, and then translate the results back from each VS into a common uniform format. We establish a single environment where application creators "write once, run everywhere". By using the +Spaces API, the application interfaces transparently with a variety of disparate social network APIs. In lieu of a cross-world protocol or standard, such a method is implemented to interface with various VS environments, provided their APIs are open.

Table 5. Partner Involvement in WP4

Deliverable	L=Lead, i=involved							
	IBM	NTUA	Fraunhofer	UEssex	ATOS	KULeuven	ATC	HeP
D4.2.3	i	L	i	i			i	

Technical Progress and Achievements

The core part of this WP during 2010 included the work for the Virtual Space Management Layer (VSML). The VSML is the core component that stands between the middleware and the virtual spaces and its role is to aggregate and orchestrate data from the underlying virtual spaces. This process enables the timely deployment of the experiments and the monitoring of relevant actions that take place in the virtual spaces. The VSML is primarily constituted by a number of adaptors that serve into homogenizing the data acquired from the virtual spaces and as wrappers of the single API calls that +Spaces built and uses. The orchestrating component and three adaptors for polls (Wonderland, Facebook, Twitter) was ready by M12. 2011 was dedicated to improving the VSML capabilities as well as to the development of additional adaptors. 2012 was dedicated to finalizing the adaptors for role-playing simulation, integrating them, and supporting the 2nd and 3rd pilots.

The +Spaces consortium collaborates through a source code repository (GForge). The integration itself takes place in an application containers (Glassfish) deployment in which the various implemented services were developed, integrated and hosted. It also includes the

integration between the Middleware and external analysis services (Data Analysis, Recommendation, Reputation), as well as Middleware and Front-End integration.

As soon as the third phase components were ready, on February 2012, WP4 focused on the integration of these components into the third version of the +Spaces platform – supporting role-playing simulation, thus completing Milestone 5.

Deliverables

Table 6. WP4 M25-M33 deliverables

Del. #	Deliverable Name	Resp.	Contrib.	Nature	Delivery Date	Available at
D4.2.3	Integrated +Spaces Solution for Role-Playing Simulation	NTUA	IBM, Fraunhofer, UEssex, ATC	P (PU)	M27	BSCW

Milestones

The following milestones were reached during 2012, as planned:

Milestone no.	Milestone name	WPs no's.	Lead beneficiary	Delivery date from Annex I [2]	*Comments*
Milestone 5	+Spaces framework to support (role-playing) simulation application	WP3, WP4, WP5	**ICCS/NTUA**	M28	The third and final version of complete +Spaces framework is complete. Simulation application and underlying infrastructure to support it are complete and have been integrated
Project Milestone 2	Debating application successfully tested	All WPs	**IBM**	M30	Second version of +Spaces platform capable of supporting debating end-to-end complete and tested
Project Milestone 3	Simulation application successfully tested	All WPs	**IBM ICCS/NTUA**	M33	Final version of +Spaces platform capable of supporting simulation end-to-end complete and tested

Deviations from the DoW

None.

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[2]   Month in which the milestone will be achieved. Month 1 marking the start date of the project, and all delivery dates being relative to this start date.

2.5 Objectives and Achievements of WP5: Analysis Services

The objective of this work package is to provide analysis services that are required for the process of policy simulation. External services may be used as well, but the following three services are provided by the +Spaces platform:

1) Data Analysis Service, for providing policy makers with easy access to results of experiments, and to enable exploratory data analysis

2) Recommendation Service – for recommending potential participants for an experiment, and for recommending interesting experiments to users

3) Reputation Service – for identifying misusers

Table 7. Partner Involvement in WP5

Deliverable	L=Lead, i=involved							
	IBM	NTUA	Fraunhofer	UEssex	ATOS	KULeuven	ATC	HeP
None in 2012	L		i					

Technical Progress and Achievements

The data analysis and the recommendation service were designed during 2010 (D5.1, M12) and first versions of both services were implemented for supporting polls by the end of 2010 (D5.2.1, M12). The services API was designed along with the overall architecture, defining the specific methods to be called for providing the requirements of the platform.

All three +Spaces services are fed with information on activities by the NotificationManager. Each service, upon activation, subscribes to the notification manager in order to receive the relevant activity information that originates from the experiment manager (e.g., creation of an experiment) or the virtual spaces adaptors. The data analysis service monitors the activities related to +Spaces experiments, while the recommendation service and the reputation service monitor, in addition, various social activities in the virtual spaces (such as direct communication between users, etc.), for the purpose of social network analysis that is required for producing recommendations and reputation scores.

For the data analysis service, Fraunhofer worked on incremental development of a debate analysis component for the second phase of the project, as well as adding analysis capabilities for role-playing simulation, for the third phase of the project.

For the recommendation service, IBM continued its work that started in 2010. Each new type of experiment (debate, role-playing simulation) and each new adaptor introduced new opportunities for accessing additional social network information about +Spaces users.

For the reputation service, research was conducted in order to devise algorithms that make use of social network information for inferring how a person is perceived. Intensive work was done in order to identify the types of useful information that comes from the +Spaces platform, and to model them in order to calculate a reputation score. During our research we learned that trust is much more difficult to predict through social media indicators. Number of followers seems to be its strongest predictors, though the strength of this predictor is not high. Influence seems to be predicted best by the number of blog commenters. It turns out that the number of followers – which seems to be a basic indicator of the ability to reach out to more people – is not a good predictor of this reputation flavor.

Deliverables

No deliverables for this WP in 2012, though new features of the data analysis service, to support role-playing simulation, were implemented.

Milestones

The following milestones were reached during 2012, as planned:

Milestone no.	Milestone name	WPs no's.	Lead beneficiary	Delivery date from Annex I [3]	*Comments*
Milestone 5	+Spaces framework to support (role-playing) simulation application	WP3, WP4, WP5	**ICCS/NTUA**	M28	The third and final version of complete +Spaces framework is complete. Simulation application and underlying infrastructure to support it are complete and have been integrated
Project Milestone 2	Debating application successfully tested	All WPs	**IBM**	M30	Second version of +Spaces platform capable of supporting debating end-to-end complete and tested
Project Milestone 3	Simulation application successfully tested	All WPs	**IBM ICCS/NTUA**	M33	Final version of +Spaces platform capable of supporting simulation end-to-end complete and tested

Deviations from the DoW

None.

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3   Month in which the milestone will be achieved. Month 1 marking the start date of the project, and all delivery dates being relative to this start date.

2.6 Objectives and Achievements of WP6: Pilots Operation and Evaluation

The objectives of this work package are: a) to plan and set up the scenarios that the governmental agency wishes to test, b) to allow all the involved end-users to thoroughly evaluate the applications developed in WP4. The latter will constitute a first class opportunity to also test the +Spaces platform from a technological point of view. This feedback along with the designated evaluation report will be then used by the technical WPs so as to refine their work. It is also expected that this kind of execution will give some direct input to the business and legal evaluators of the project.

Table 8. Partner Involvement in WP6

Deliverable	L=Lead, i=involved							
	IBM	NTUA	Fraunhofer	UEssex	ATOS	KULeuven	ATC	HeP
D6.1b	i	i	i	i	i	i	L	i
D6.2.2	i	i	i	i			L	
D6.2.3							L	i

Technical Progress and Achievements

The deliverable that summarized the planned work on this WP is D6.1 Pilot Scenario. It was originally submitted right after the 1st annual review and contained detailed plans for the first +Spaces pilot – evaluating the polls application. Following reviewers recommendations during the 2nd annual review, this deliverable was resubmitted at the end of the project, this time containing much more elaborated details required for the execution of all three pilots. The document lists the +Spaces research challenges and how they are translated into pilot objectives; it describes the evaluation framework and roles of the various stakeholders; it brings the full details required for the running of all three pilots, including the choice of policies and the questions to be asked; and eventually it gives instructions for the actual execution of the pilots. While part of this deliverable was finalized "after the fact", we feel that it now serves as a good window into the evaluation process of +Spaces, and may serve as an example for future projects planning similar pilots.

Pilot Planning

The preparations for the pilot planning were led by ATC, with involvement of all partners, in brainstorms and discussions, and with extensive involvement of HeP in identifying interesting policies, defining the questions to be asked, and gathering relevant background. The pilot actors were involved, trial use cases were associated with research objectives and together with the outcome of WP2 (use cases and functional specifications) defined the pilot

objectives and the +Spaces components that were evaluated. In addition, a time plan was created for expected results.

In order to ensure a smooth running of the pilot while covering all the scenarios the governmental agency wishes to test, a meticulous plan for the entire pilot operation was drafted. The participating parties were defined along with their roles and obligations during the execution of the pilot. Specifically for the policy maker's engagement, HeP partner presented in details its operative structure in order for the consortium to decide which will be the most appropriate people to be mobilized.

In parallel, +Spaces evaluation framework was defined, prescribing the testing and evaluation indicators. It was the result of a thorough study of evaluation frameworks that have been utilized from other past EU-funded projects similar to +Spaces (e-Government projects). It adopts a certain attitude towards evaluation that stems from considering the following aspects,

- +Spaces pilot objectives

- Existing evaluation methods and frameworks

- Technology acceptance methodologies

- +Spaces advantages over competitions

and consists of the following elements,

- +Spaces evaluation perspectives and criteria

- Stakeholder's involvement – raising awareness mechanisms

- Tools for aggregating data

The governmental agency (HeP) provided the consortium with a set of current policies that are of interest to its parliamentarians and seem to be of interest to citizens, based on existing web conversations about them.

The policies that were picked are:

- Smoking banning in public places

- EU financial crisis - Roadmap to EU growth

- Education

- EU Corporate Political Governance

- Turkey accession in EU

- EU Energy Efficiency Plan

- Co-habitation contract

- Water is a human right (European initiative)

- Let me vote in my residence (European initiative)

- #Hellas version 2020

The use of these policies was planned in three phases:

- **First pilot: Validating the tools for supporting polls by running a closed group testing pilot**
  A poll was prepared around the first policy, for capturing citizens' opinions about the policy. The pilot plan illustrated the full details of the planned experiment, as they need to be input into the front-end of the +Spaces platform.

- **Second pilot: Validating the tools for supporting debates by running an open testing pilot**
  Background information about all policies was prepared, to be provided to debates participants before they actually state their thoughts. Clear debate questions were phrased.

- **Third pilot: Validating the tools for role-playing simulation by running an open testing pilot, as well as validating the platform as a whole by running multiple experiments of various types on multiple policies**
  In order to run a thorough pilot of all platform capabilities, polls were defined on all policies to serve as an ice-breaking poll in the role-playing sessions. This way, the platform capabilities are interchanged with each other. The goal is to run such polls for a whole week, allowing citizens to dedicate a minimal amount of time for their policies of interest. Following this first week, debates are to be launched about the most interesting five policies (based on poll participation). Finally, once debates run their course, role-playing sessions will take place on the three most interesting policies (based on debate participation).

Before actual execution of the pilot, participating actors (policy makers) were trained to use the system. This entails both the use of the +Spaces front-end and its required details, as we as maintaining the experiments – especially as moderators to debates and to role-playing sessions.

Pilot Execution

The first pilot (poll experiment on the "smoking banning" policy) was run during May 2011.

A focus group of HeP people was initiated, in which they used the +Spaces front-end in order to create the experiment. The poll prepared in advance was inserted into the system by one of the participants. Upon clicking "create", the poll was deployed in three spaces simultaneously: in OpenWonderland, in Facebook, and in Twitter. Email invitations were

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sent by the platform to a list of citizen emails provided by the users and by the consortium. A Twitter announcement invited Twitter followers to take part, and viral dissemination was used to attract more users.

The second pilot was run during June 2012. Debates were launched on different policies in both 3D (OpenWonderland) and social media (Facebook and Blogger). The consortium devoted a lot of thought, effort, and time in order to increase participation over the various debates. For each policy, dedicated searches were performed in order to identify the relevant communities who will find interest in the policy. Invitations were placed in the spaces of these communities – either as wall messages on Facebook or as a comment in a Blogger blog. Each policy had at least one dedicated moderator from the consortium (in addition to the HeP appointed moderators), and this moderator made efforts to increase the volume of participation.

All in all, as reviewers predicted, it was very difficult to reach a critical mass over the three weeks of the pilot. We learned that various communities (Facebook pages and Blogger blogs) that discuss the same or similar questions, receive hundreds responses. Politician Facebook pages often even receive thousands of responses. But we did not manage to convince those people to join the same debate on our +Spaces page.

We identify several reasons for our lack of success, and believe the value of +Spaces is intact:

- **It takes time to build a critical mass**. Other Facebook pages or Blogger blogs exist for a long time and already have a critical mass of followers with an interest on the focused topic, so it's easier for them to attract additional response to a new question.

- **Provocation is a good stimulator**. This was even a suggestion of the reviewers during the review, to ask provocative questions in order to get more answers. However, +Spaces as a consortium is composed of partner organizations, each of which is concerned about its reputation and can not risk being provocative. When +Spaces is installed by customers, they may opt to be provocative in their own field, and thus will gain more responses than +Spaces can gain as a consortium.

- **Participants wish to know they are heard**. Even when an interesting question is asked, people will give it the attention and answer it only if they are convinced that someone will receive their answer – be that specific politicians who turn to their constituents over the Facebook pages, or the rest of the community. When +Spaces poses a question as a project (rather than on behalf of a known politician), potential responders do not find it relevant to answer. We are convinced that once real policy maker use +Spaces to post questions on their behalf on their own existing spaces in which they already have a critical mass, participation levels will be high, and the policy maker will be able to gain from all the benefits of +Spaces (multiple deployment, interoperability, data analysis, etc.).

The third pilot ran during August and September. In this pilot was started with launching up to eleven preceding polls – to be later used as ice-breakers during role-playing sessions. We then launched five debates on the policies that received more poll responses. We finally ran role-playing sessions on three most interesting policies. The role-playing sessions took place during the project plenary meeting in Madrid on September 12-14.

<u>Pilot Evaluation</u>

The evaluation methodology of +Spaces makes use of both qualitative and quantitative criteria and indicators in order to end up to the final assessment of the platform and of the overall project implementation as well. Interrelations between these indicators are created, so as to provide an in-depth picture and analysis of the project outcomes. It takes advantage of a set of tools for gathering the appropriate and necessary data and approaching the various stakeholders which are external to the project team.

For evaluating the pilots execution, specific tools were utilized,

- Focus groups organized at the HeP premise, documenting policy makers suggestions and comments

- Interviews with senior developers and executives were organized

- Logs were analysis and usability tests over the platform were performed

- Questionnaires were distributed to participants

Minutes drafted from the focus group and interviews together with the analysis of platform's performance during the pilot execution, led to the evaluation of +Spaces prototype in three levels: a) policy making effectiveness, b) social acceptance, and c) impact assessment. In addition, the evaluation was accompanied with the technical assessment which is an internal procedure among the project's partners and focused on important conclusions concerning the success of the project in terms of results vs. initial objectives.

Deliverables

Table 9. WP6 M25-M33 deliverables

Del. #	Deliverable Name	Resp.	Contrib.	Nature	Delivery Date
D6.1b	Pilot Scenarios	ATC	All	R (PU)	M33
D6.2.3	Pilot Results and Impact Analysis	ATC	HeP	R (PU)	M34

Milestones

The following milestones were reached during 2012, as planned:

Milestone no.	Milestone name	WPs no's.	Lead beneficiary	Delivery date from Annex I [4]	Comments
Project Milestone 2	Debating application successfully tested	All WPs	**IBM**	M30	Second version of +Spaces platform capable of supporting debating end-to-end complete and tested
Project Milestone 3	Simulation application successfully tested	All WPs	**IBM** **ICCS/NTUA**	M33	Final version of +Spaces platform capable of supporting simulation end-to-end complete and tested

Deviations from the DoW

The second +Spaces pilot was expected to run during October 2011. Due to legal issues we had to delay it to June 2012. Similarly, the third pilot was delayed to August-September 2012 – during the period of three months extension. D6.2.3 Pilot Results and Impact Analysis was three weeks delayed to allow ATC to make a thorough evaluation.

2.7 Objectives and Achievements of WP7: Dissemination & Exploitation

The objectives of this work package are the following:

- To disseminate the results of the +Spaces concept and project using tools that are in alignment with the nature of the technology we are developing and the behaviour of the audience we are targeting.

- To analyse the virtual world and social networking sites market and involved communities from diverse angles (technology, sociology, e-Governance) in order to involve them in the most effective way.

- To ensure that we reach out to the virtual space users (the citizens) and government bodies, involving them in our work and communicating the results of this work to them in the most appropriate ways.

- To develop a sound exploitation plan that builds on the exploitable products and defines the future use of the technologies generated during the project.

- To lay concrete foundations for the commercial exploitation of its results, by exploiting the software to major advantage in the main lines of business of the industrial project partners.

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4   Month in which the milestone will be achieved. Month 1 marking the start date of the project, and all delivery dates being relative to this start date.

- To provide a continuous analysis from a business, legal and social viewpoint, so as to ensure to confirm that the platform architecture and design achievements, as well as the prototypes developments of the project are accurate and consistent with the planned objectives set out by the project.

Table 10. Partner Involvement in WP7

| Deliverable | L=Lead, i=involved | | | | | | | |
	IBM	NTUA	Fraunhofer	UEssex	ATOS	KULeuven	ATC	HeP
D7.2.2	i	i	i	i	L	i	i	i
D7.2.3	i	i	i	i	L	i	i	i
D7.4						L		

Technical Progress and Achievements

Dissemination

The dissemination activities carried out during the reporting period were mainly focused on raising awareness about the project and on strongly supporting the exploitation activities which have significantly increased during the last year of the project.

As part of the project's dissemination the following activities were carried out during the reporting period:

Preparation of new dissemination material

Based on the recommendations of the last project review the project partners have prepared new dissemination material which follows a more commercial approach. This has been achieved by using a clear and simple language, and by pointing out the benefits of using +Spaces for three different target groups. To this end, the partners created two types of new dissemination material which are in line with the new dissemination approach to support clearly the exploitation efforts:

- A new commercial leaflet which presents in one page the benefits for the three identified target groups "Citizens", "Application developers" and "Policy makers"

- Three different types of bookmarks, including short, simple, precise messages pointing out the +Spaces benefits for each target group.

- Preparation of a +Spaces poster carrying the main slogan "Engage citizens in the policy making process" and which was used in the HeP conference in June 2012

Successful organization of two +Spaces events to be pointed out as dissemination highlights

During the reporting period, the +Spaces partners have organized, either by themselves or in collaboration with other projects or initiatives, two successful events which should be mentioned at this point.

- 7th June 2012, Athens, +Spaces Final Conference in the Hellenic Parliament. Presentation of the project, demo session of the platform for +Spaces stakeholders.

- 4th July 2012, Samos summit_ Legal challenges for FP7 projects. A +Spaces and WeGov workshop.

Maintaining and update of the project's website (www.positivespaces.eu) which includes:

- Announcing project relevant events on the +Spaces homepage: the "HeP conference" in Athens organized by +Spaces ir the "Legal Challenges for FP7 projects workshop" organized by +Spaces in collaboration with the project WeGov. In order to increase the publicity about these events they were announced on the homepage of the +Spaces website.

- Uploading of diverse dissemination material, such as:

  o 4 different videos explaining the +Spaces platform functionalities under the section Public Material.

  o New publications issued by members of the consortium

  o New dissemination booklets and commercial leaflet tailored to the different target groups of CITIZENS, POLICY MAKERS and SOFTWARE DEVELOPERS

  o Upload of +Spaces poster

  o Upload of new newsletter issue

  o Updating of the sections "Liaisions" with other projects and "Projects of common Interests"

The registered visits (unique visits and total number) on the +Spaces website increased during the course of the last year, more details are shown in the graphic below. A total number of 5.378 unique visitors have accessed the portal during the reporting period.

Figure 2. Dissemination Website Access Statistics year 2012

	Unique visitors	Number of visits	Pages	Hits	Bandwidth
Viewed traffic *	<= 5378 Exact value not available in 'Year' view	7660 (1.42 visits/visitor)	17081 (2.22 Pages/Visit)	68706 (8.96 Hits/Visit)	4.33 GB (593.02 KB/Visit)
Not viewed traffic *			97565	100282	4.49 GB

* Not viewed traffic includes traffic generated by robots, worms, or replies with special HTTP status codes.

Monthly history

Month	Unique visitors	Number of visits	Pages	Hits	Bandwidth
Jan 2012	533	683	1448	7464	411.46 MB
Feb 2012	297	427	959	4270	255.64 MB
Mar 2012	448	677	2660	7915	653.08 MB
Apr 2012	467	607	1555	6364	352.86 MB
May 2012	824	1071	1902	12607	523.62 MB
Jun 2012	601	807	1528	8347	329.79 MB
Jul 2012	594	1025	2030	5419	261.46 MB
Aug 2012	574	860	1924	4605	729.88 MB
Sep 2012	617	854	1783	6712	679.27 MB
Oct 2012	360	570	1101	3912	184.89 MB
Nov 2012	63	79	191	1091	54.11 MB
Dec 2012	0	0	0	0	0
Total	5378	7660	17081	68706	4.33 GB

Furthermore, several new publications either scientific or for the popular press were prepared by the project partners and uploaded to the project's website.

Besides, additional efforts have been placed on intensifying the contact to other projects especially from the "ICT for Governance and Policy Modelling" (ICT-2009.7.3) unit. Pursuing this ambition, +Spaces has enriched its collaboration activities with three European projects during the reporting period. +Spaces has intensified its collaboration with the projects **Socios, WeGov and Rural Inclusion by organizing and celebrating several successful events, workshops in collaboration with these projects during 2012.** These activities are considered to increase common awareness about all participating projects and to attract potential customers for the +Spaces platform.

In terms of raising awareness via the Social Networks, it can be stated that the +Spaces partners have put increased efforts in disseminating the piloting activities via our +Spaces social network accounts. The project is active in Facebook, Twitter and Linked In.

Exploitation

The exploitation activities started on PM08 and continue after the project's end. The partners have made enormous progress in preparing feasible exploitation strategy for the project results and they have committed to establish solid **sustainability strategy.**

<+Spaces Public>

+Spaces has clearly identified the project results and classify them accordingly to their potential demand in order to define the future use of the knowledge, products and other results generated during the project. Consortium has proved the concept of +Spaces in different application environments (**Public Sector, Educational Sector and Business Sector**) to guarantee the sustainability of the project results. The offer of +Spaces is mainly addressed to policy makers, however the **educational sector** and **business sector** can also take advantage of the tools benefits. Therefore **three Business Models with real market validation have been developed** in +Spaces in order to maximise the market reach. +Spaces has evaluated several business scenarios to perfectly identify which are their needs and what are the benefits they can gain from this solution. The business validation, as part of the project evaluation carried out along with WP6, guarantees the acceptance of this products and the sustainability of the platform in the current market.

+Spaces partners have studied all possible alternatives to exploit project results. For this purpose, every partner has developed an **individual exploitation plan** to exploit its assess individually or in partnership with other organisations. However the aim of the project is to exploit +Spaces platform as integrative service in which all partners take part of this agreement. Concrete commercial strategies have been defined (**1. Selling of the entire platform; 2. Selling standalone components of the platform and 3. Foster an OpenSource Community over the +Spaces Platform and Build on It**) to exploit the +Spaces results. Each partner has explained it business intention and has describe which commercial strategies fit better with its interests. This exploitation analysis was concluded with a financial study needed to get realistic pricing scheme.

+Spaces has tried to transform existing users into customers on the one hand, as well as recruiting new ones on the other. +Spaces has been aggressive in marketing as they were taking advantage of all dissemination activities. Therefore +Spaces has developed an extensive **promotional campaign** with the objective of **creating awareness**, **educating the target group and promoting the active participation of stakeholders** in the project. The marketing material has been created accordingly.

One of the main objectives of +Spaces consortium has been to identify key contacts and approach them with **the intention of selling, offering +Spaces platform** and getting useful functionalities feedback. The consortium developed a common approaching plan to reach its potential customers based on its networking contacts. After several interactions with them, **Austrian, Serbian and French parliamentarians, The Polish Ministry of Administration and Digitalization among others** have shown significant interest in +Spaces. Consortium partners will keep in contact with these organisations to continue the relationship in order to mature the acquisition of +Spaces and guarantee the long term sustainability of the project outcomes.

Legal Evaluation

+Spaces has been a very successful project with regard to addressing privacy and ethical issues. In order to disseminate the research on these issues, +Spaces even organised and led

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a workshop for the education of other FP7 Research Projects in Objective 7.3, ICT for Governance and Policy Modelling on privacy and ethical issues in December 2010.

The +Spaces consortium -and specially KU Leuven and IBM- has dedicated significant amount of time and effort in carrying out a thorough analysis of the Terms and Conditions of the various spaces that are used by the project for the running of the +Spaces platform. In this way we carefully studied the potential implications for +Spaces and ensured full compliance of our system to the relevant European and national legal framework.

The compliance requirements in the terms and conditions of the spaces can be classified under four different categories:

1. **Posting content**

   - The +Spaces platform posts content onto the spaces on behalf of the policy maker – it deploys experiments, posts questions and background information for debates, and solicits participation through the use of its Twitter and Facebook accounts.

   - Posting content requires attention to issues such as intellectual property rights, , third party indemnification, the issuing of one sided press releases from various spaces on the +Spaces platform, and more.

2. **Deploying a UI**

   - The adaptors of +Spaces deploy user interfaces on the various spaces, in the form of applications that engage citizens in +Spaces experiments

   - Deploying applications requires attention to issues such as opting out buttons, "log out", customer support, export regulations, redirecting users to competitor sites, and more.

3. **Storing content**

   - The +Spaces platform stores information from the various spaces. Information has two forms: information posted by citizens as a response to a +Spaces invitation (poll response, debate participation); and additional information about citizens, such as demographics, social network, etc.

   - Storing data requires attention to issues such as privacy, personal data, the need to ask for consent, maintaining up-to-dateness of data, and more.

4. **Extracting content**

   - As stated above, the +Spaces platform extracts information from the various spaces. It then transfers the data to its various components (middleware, services) that may reside on servers of different partners, in different countries.

The information is analyzed, and some of the results (like recommendations) are sent back and presented on the spaces.

- Data extraction and analysis requires attention to issues such as transferring content to other contexts, taking into account copyright issues, and more.

The consortium spent efforts in understanding the different requirements of the different spaces, and in implementing these requirements in a legally compliant way into the +Spaces platform. Moreover, in order to ensure compliance with the relevant data protection legislation, KU Leuven made a thorough analysis of the data processing operations and the role of the various actors in +Spaces. The consortium partner ATC was specified as the "data controller" of the project and the relevant notification has been made to the Greek Data Protection Authority. In addition Controller-Processor agreements were drafted between ATC and the data processors: NTUA and Fraunhofer (the agreement is in final phrasing). A full report of these activities will be provided in D7.4 (M30).

Deliverables

Table 11. WP7 M25-M33 deliverables

Del. #	Deliverable Name	Resp.	Contrib.	Nature	Delivery Date	Available at
D7.2.2	Business Evaluation and Exploitation Plans (resubmission)	ATOS	All	R (CO)	M31	BSCW
D7.2.3	Exploitation plans and Business Evaluation	ATOS	All	R (CO)	M34	BSCW
D7.4	Legal Evaluation Report	KULeuven	-	R (PU)	M33	BSCW

Milestones

None for this WP.

Deviations from the DoW

D7.2.2 "Business Evaluation and Exploitation plans" was resubmitted per reviewers' request. D7.2.3 was three weeks delayed to allow Atos to make use of the pilot evaluation results.

2.8 Publications and Presentations

The publications are organized in the table below:

Table 12. +Spaces 2012 Publications

Publication Title	Type	Submitted to:	Date	Conf. Place	Authors

1	The Perception of Others: Inferring Reputation from Social Media	Paper	CHI'2013	April-May 2013	Paris	M. Jacovi, I. Guy, S. Kremer-Davidson, S. Porat, N. Aizendud-Reshef (IBM)
2	Do Not Track initiatives: myths and reality around the lost user consent	Paper	BILETA 2012: 'Too many laws, too few examples' Regulation, technology, law & legal education	29-30 March 2012	Newcastle	E. Kosta (KULeuven)
3	Online Communities support Policy-making: The Need for Data Analysis	Paper	Third International Conference on eParticipation (ePart 2012)	September 2012	Kristiansand, Norway	Klinger R., Senger P., Madan S. (Fraunhofer) and Jacovi M. (IBM)
4	e-Government and Policy Simulation in Intelligent Virtual Environments	Paper	International Conference on Web Information Systems and Technologies, WEBIST 2012	18-21 April	Porto, Portugal	Aisopos F., Kardara M., Papaoikonomou A., Tserpes K., Varvarigou T. (NTUA), Klinger R., Senger P. (Fraunhofer), Gardner M. (UEssex)
5	Policy testing in virtual environments: addressing technical and legal challenges	Paper	International Journal of Electronic Government Research (IJEGR), Volume 8, Issue 3			Kardara M., Aisopos F., Varvarigou T. (NTUA), Fuchs O. (IBM), Kosta E. (KULeuven), Spais I. (ATC)
6	+SPACES: Serious Games for Role-Playing Government Policies	Book chapter	Springer book 'Understanding Learning in Virtual Worlds'			Gardner M & Horan B (UEssex)

Table 13. +Spaces 2012 Presentations

	Description	Event/Action	Organizer	Participants
1	Pre-pilot execution of Wonderland debate experiment	Focus Group in Wonderland (20.02.2012)	UEssex	University students (Virtual space users), UEssex (technology providers), NTUA (moderators), HeP (policy makers/end users)
2	Focus Group with Policy Makers in order to initiate the 2nd +Spaces pilot execution	Focus Group (2.05.2012)	HeP	HeP, ATC, Policy makers
3	Focus Group with Policy Makers in order to evaluate the 2nd +Spaces pilot execution	Focus Group (30.05.2012)	HeP	HeP, ATC, NTUA, UEssex, Policy makers
4	Presentation by Uessex: Title: Virtual spaces for online role-play: combining 2D and 3D worlds	Immersive Education Summit, Boston, June 2012		
5	+Spaces presentations (Concept, Demos, Evaluation, Exploitation, End-user prespective)	+Spaces Conference, June 7 2012	HeP	HeP Officials and guests from other parliaments
6	Legal issues while researching users' behaviour in virtual spaces	Legal challenges for FP7 projects: a +Spaces and WeGov Workshop	KULeuven	Samos Summit participants
7	Selected project presentations on-line or through videos	Jun-Sep 2012	HeP	French Parliament, Serbian Parliament
8	F2F meetings with Youth Parliament Officials	Project presentation	HeP	HeP, Youth Parliament officials
9	F2F presentations to MPs, Candidates MPs, Scientific Associates participation	Role Playing, Pilot Evaluation	HeP	HeP, Policy Makers, Scientific Associates, MPs,

		(10-20/9/2012)		HeP Officials
10	Request and approval for project presentation to HeP R&D Standing Committee	Sep-12	HeP	25 MPs
11	F2F meetings and presentations with MEPs towards project liaison with PADGETS	Presentations and project exploitation (Sep 2012)	HeP	PADGETS representative, MEPs Scientific Associates, HeP
12	Focus Group with Policy Makers in order to evaluate the 3rd +Spaces pilot execution	Focus Group (24.9.2012)	HeP	HeP, Policy Makers, Scientific Associates
13	Project Presentation in Austrian Parliament- 3rd pilot presentation and evaluation	27/09/2012	HeP	Austian Parliament representatives, HeP

3 PROJECT MANAGEMENT, OBJECTIVES, ACHIEVEMENTS AND USE OF RESOURCES

3.1 WP8 – Project Management – Description and Objectives

It is the objective of Project Management to perform overall project government and to establish and maintain a communication and controlling infrastructure. This includes the following detailed objectives:

- Monitoring, tracking and controlling deviations due to progress, costs, financial and, scheduling, changes.
- Managing the project according to approved plans
- Ensuring that the required reporting is prepared and delivered in a timely manner
- Implementing procedures for quality management
- Implementing an administration and communication infrastructure to establish a basis for efficient and easy communication within the project. To also ensure that external communication (project web, dissemination and exploitation) is done and controlled by the project management
- Performing a procedure for updating and revising the plans every 12 months due to changes and new knowledge
- Overseeing the quality management and assurance of the research results, the various technical reports and deliverables

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• Preparing and distributing among partners of appropriate project document templates

Work in WP8 has been intense in order to set the foundations for work in the rest of the WPs. The Project Manager as the main exponent of this WP has dealt with numerous issues in order to coordinate, synchronize and simplify work for the consortium.

The following tasks were initiated in 2010 and maintained during the rest of the project:

• Bring all partners to a **shared vision** of the project. This has been achieved, in continuation to the work done on 2010, through correspondence and teleconferences, and face-to-face meetings.
• Set up and provision of **internal communication tools**. This has already been achieved during 2010, through mailing lists, phone conferences, a BSCW space for document sharing and discussions, and face-to-face meeting.
• Set up of **project instruments and committees** and nomination of specific members to play the particular roles. In addition to the Project Manager, +Spaces has a Technical Manager (lead of WP1), a Project Management Committee composed of one representative from each partner, and an Executive Committee composed of the WP leaders – this, too, was established during 2010.
• Set up of **reporting processes**. This has been achieved through detailed processes as part of D8.3 Project Quality Assurance Plan, and includes templates for deliverables, minutes, presentations, and internal progress reports; as well as an internal review process for deliverables.

Deliverables

One deliverable was submitted by WP8 during 2011:

Table 14. WP8 M25-M33 deliverables

Del. #	Deliverable Name	Resp.	Contrib.	Nature	Delivery Date	Available at
D8.1.3	Annual Project Management Reports	IBM		R (PU)	M33	This report

3.2 Deliverable List

Table 15. +Spaces 2012 Deliverables sorted by submission date

#	Deliverable	Lead	Nature	Delivery Date
D7.2.2	Exploitation plans and Business Evaluation (resubmission)	Atos	R(CO)	31/07/2012*
D6.1b	Pilot Scenario (resubmission of D6.1)	ATC	R(PU)	30/09/2012
D1.1.3	Technical Achievements and Progress Report including summary of research accomplishments and evaluation	NTUA	R(PU)	30/09/2012
D3.2.2	+Spaces platform overall Architecture final version	NTUA	R(PU)	30/09/2012

D6.2.2	Pilot Prototype	ATC	P(PU)	30/09/2012
D6.2.3	Pilot Results and Impact Analysis	ATC	R(CO)	24/10/12**
D7.2.3	Exploitation Plans and Business Evaluation	Atos	R(PU)	24/10/12**
D7.4	Legal Evaluation Report	KULeuven	R(PU)	30/09/12
D8.1.3	Last Annual Project Management Report (this report)	IBM	R(PU)	01/11/12***

* Submitted on 31/07/2012 per reviewers' request
** Submitted on 24/10/2012 after coordination with PO
*** Submitted on 01/11/2012 – annual report grace period

The +Spaces 2012 deliverables, organized by work package, with a direct link to the documents appear in Appendix I. +Spaces 2012 Deliverables.

3.3 Deliverable Abstracts

D7.2.2 Exploitation plans and Business Evaluation (resubmission)

The first chapter of this document addresses the importance of e-participation in the European framework as the engagement of citizens in policy discussion could introduce precision and clarity into the policy making process.

The second chapter tackles the exploitable results, the business concept and the value proposition of +Spaces detailing the benefits of +Spaces tools and the services offered by the toolkit. This section has been updated with the main contributions of innovation of +Spaces.

The third chapter has also been added in this update. The +Spaces stakeholders have been classified remarking the benefits they can obtain using this innovative solution. The stakeholders group is formed by citizens, application developers and policy makers. This chapter details the interests of this target group and the benefits received from +Spaces. This section also presents the potential customers of +Spaces and several business scenarios to evaluate the viability of this new tool.

The chapter four is a new contribution for the update. It gives a first approach to pricing analysis related to cost, market and strategic issues.

The sustainability strategy of +Spaces is based on fostering user engagement and community building. Chapter five describes the group of innovation adopters and explain how to encourage e-particiaption of this user group and the open source community.

In chapters six and seven, the business modelling mainly intends to explain all the details which concern business issues of +Spaces services, providing information about business models.

Chapter eight presents the individual exploitation plans that consortium partners are building up to guarantee the exploitation of the individual components of the platform.

This deliverable describes the approaching strategy to potential customers. It has been deeply developed and it is being undertaken by consortium partners. Consequently the

chapter nine presents the update of the pilot evaluation from business perspective and the expression of interest in +Spaces exploitation inside IBM. The evaluation chapter has been updated with the information gathered from the second pilot.

In overall this report is pretty comprehensive document that gathers deep +Spaces commercial analysis, the exploitation tasks carried out by the consortium partners and valuable information about the target group and the market demand (potential clients).

D6.1b Pilot Scenario (resubmission of D6.1)

The main purpose of this document is to define a concrete, feasible and sufficient pilot planning for the validation of +Spaces integrated prototype. The focus is given on

a. the evaluation framework that will be adopted in order to assess the platform. The +Spaces evaluation framework is based on an investigation carried out by the consortium, including relevant scientific evaluation methods and on respective cases of project evaluation in practical use,

b. the organization of the field trials and specifically on the mechanisms that will attract citizens in participating to the experiments,

c. the expected results,

d. the actors involved and specifically on the policy makers that will participate in all piloting activities. Being the main end-user of the project, HeP's role is crucial not only in recruiting people that will monitor and moderate the experiments, but in engaging the appropriate representatives of external governmental agencies/organizations that will evaluate the platform,

e. the description of the three (poll, debate, role-playing simulation) +Spaces experiments,

f. the description of all the policies/topics that will be issued during the piloting trials and

g. on the execution strategy that will be adopted

The +Spaces Platform provides the technological background for the validation of the project by deploying several eGovernment applications in different virtual spaces. As the DoW describes three phases for the project evolution (polls, debates, role-play simulation) with two intermediate integration prototypes before deploying the final platform; the +Spaces consortium decided to execute respective three pilots and subsequently to produce two intermediate evaluation reports before publishing the final evaluation report. For each pilot, the objectives to be met from both a business and technical perspective are defined and the test scenarios are described. In that respect, this document aims at offering an insight on the actual field trials to be executed for the evaluation of each pilot, as well as identifying the roles that will be involved in each trial test case.

The first pilot will deploy a +Spaces poll application in three different virtual spaces asking people to participate in a policy formulation (May 2011). The second pilot (May-June 2012) will deploy an integrated prototype that supports both polls and debates. The third pilot – the most crucial, (July-August 2012) will utilize a fully integrated +Spaces platform and will be a broader pilot with more policies, as many as possible stakeholders participating, more public authorities, etc.

This deliverable summarises the actions for the execution of the field trials, including the functionalities to be demonstrated, the allocation of the necessary resources and time plan. Finally, it defines the performance indicators to be monitored and reported during the execution of trials for the pilots, and presents the way that the achievement of the defined research objectives will be assessed.

Deliverable 6.1 was drafted in two versions. In order to elaborate more on the +Spaces pilot initial planning activities by reflecting the recommendations of the 2nd Annual Project Review Report, the first version was delayed, with the consent of the PO and was submitted on May the 30th of 2011. In that respect, it revised the pilot application scenarios to reflect the actual novelties of the +Spaces components and updates on the plans for assessing that the project has successfully demonstrated the +Spaces objectives.

In order to address the recommendations of the 2rd Annual Project Review Report, the second (current) was submitted at the end of the project, o September 30th of 2012. In that respect, it describes in details the way that the 2nd and 3rd +Spaces piloting trials will be organized and executed.

The following table summarises the actions undertaken by the +Spaces Consortium, in order to address the recommendations from the Annual Review Meeting Reports. The 1st version of the report describes the actions taken by the consortium to address the recommendations of the 1st Annual Review Meeting Report and the second (current) the actions taken to address the recommendations of the 2nd respectively

	Recommendations	Actions
1st version **Submitted on 30th of May 2011**	"*The evaluation framework is nominally complete, **but the targets and objectives to measure the scalability of the platform were unclear** – both in the IT capacity and the softer issues that affect results*"	The scalability of the platform was taken into consideration during the compilation of the evaluation framework (ref. Section **Error! Reference source not found.**)
	"*This meaningful pilot should be presentable by the end of 2011*"	As we adopt the reviewers' recommendation to complete the full integration earlier (December 31st 2011), we will conduct a broad pilot during the first months of 2012. We do plan to include multiple policies and even consider a pilot with parliaments other than the Greek. The final pilot should be much richer than the first two, including a full role-playing session.

	Recommendations	Actions
	"*The Hellenic Parliament, when pursuing its pilot for +Space, **should describe in detail whom the test users are and what participation they receive**, giving some profile background on their collaboration*"	Refer to Section **Error! Reference source not found.**
	"*Stakeholders (HEP and ATC) should think about **how to engage more users, regularly and recurrently. The consortium should present what are the mechanisms** needed to engage relevant users to +Spaces and keep them loyal*"	Refer to Section **Error! Reference source not found.** and Section **Error! Reference source not found.**
	"*Besides creating their own test group, the consortium might explore using existing Facebook User Groups**. There are many common interest groups in Facebook** (either local communities or particular activist groups such as Green Supporters) which are already setup and willing to participate in any initiative which might raise awareness to their cause*"	+Spaces consortium investigated and finally concluded in the citizens communities that can be engaged in +Spaces (ref Section **Error! Reference source not found.**)
	"*But if the +Spaces testing environment uses the **same user group during the trials for all three platforms, then the results might be skewed**. The consortium should consider this point and address the testing accordingly*"	Section **Error! Reference source not found.** mentions the target number of participants we expect per virtual space. In addition, when inviting people to participate, we stress that they are asked to pick ONE virtual environment by their liking, and participate only through it
	"*The consortium should try to attract relevant testers, who's view's the Public Administrator cares about, besides testing the technical functions of the platform. At this phase, the consortium could also be testing if the right participants are being targeted or are their irrelevant people who are participating?*"	The relevancy of the participants was incorporated in the evaluation framework as evaluation indicator (ref. Section **Error! Reference source not found.**

	Recommendations	Actions
	"*In general, throughout the report, the reviewers make quite a few comments and suggestions about the +Spaces pilots: <u>**the evaluation framework (page 2), the scope of the pilots (page 3 and 13), the right way to recruit participants (page 3), and the definition of the participant groups (pages 4 and 6)**</u>*"	Evaluation framework -> ref. Section **Error! Reference source not found.**, Scope of the pilots -> ref. Sections **Error! Reference source not found.**, **Error! Reference source not found.** Recruit participants -> ref. Sections **Error! Reference source not found.**, **Error! Reference source not found.** Participant groups -> ref. Sections **Error! Reference source not found.** and Section **Error! Reference source not found.**
2nd version **Submitted on 30th of September 2012**	"*The crucial three-part pilot consisting of polls, debates and a <u>**fully integrated platform with a broader range of policies and participants not ready for the review**</u>*"	"*The <u>**third and concluding pilot of the project**</u>) is expected to span a longer period and will demonstrate <u>**and evaluate the full capabilities of the platform – polls, debates, and role-playing simulation**</u>*". It will help us prove the usefulness of the +Spaces platform and study its effectiveness by creating a rich set of experiments on multiple policies and topics and of varying types. (Sections **Error! Reference source not found.**, **Error! Reference source not found.** and **Error! Reference source not found.**)
	"<u>**The Role-Playing Simulation is fundamental to the originality of +Spaces and as such needs to be highlighted as a true simulation module**</u>*, which is original in its conception and actually simulates potential scenarios realistically for users to appreciate the value of the platform*"	"*<u>**The focus of the 3rd pilot trial will be the role-playing simulation**</u>. Subsequently, we will focus on deploying the preceding polls and then transform some of them into debates (based on participation so we know which ones are more interesting), and finally use the debates in order to recruit participants for role-playing and run role-playing sessions for a subset of policies*" (Sections **Error! Reference source not found.** and **Error! Reference source not found.**)
	"*…..then regarding policy makers, here again the consortium should <u>**pinpoint which specific departments within public administrations**</u> deal with youth/ young adult initiatives and develop the pilot case in a way that is meaningful and useful for this particular interest group*"	"<u>**HeP**</u> will provide several policies that will be monitored/moderated from <u>**policy makers that belong to different sectors of HeP's organization chart**</u>" (Section **Error! Reference source not found.**)

Recommendations	Actions
"*The second set of recommendations concerns the pilots. **First, efforts need to be focused on completing and evaluating these pilots***"	"*More than one Focus Groups will be organized in order to evaluate the pilot execution – focusing on debate and role-playing experiment*" (Sections **Error! Reference source not found.**)
"*The aim **is to attract 200 users** for these pilots, but the numbers for the first pilot are well below this target*"	"*On each planned experiment, we devise plans **for reaching out to as many relevant citizens as possible**, to ensure a vibrant engagement that will help us prove the usefulness of the +Spaces platform and study its effectiveness.* *On top of the above, **we plan to manually search, for each experiment, for blogs, forums and Facebook groups relevant to the specific topic**. We will then invite their members to take part in the experiment. As debates and role-playing simulation evolve and new or specific topics arise in them, **we aim to search for additional relevant blogs, forums, and Facebook groups, and invite their members to join**.*" (Sections **Error! Reference source not found.** and **Error! Reference source not found.**)
"*….the consortium must first finish the current pilots, and ideally identify additional pilots **that provide a stronger case for using +Spaces because they involve larger and more heterogeneous groups of users***"	"*IBM, expressed an interest in using the +Spaces platform as part of its offerings in the public sector. **We aim to turn to the relevant executives in different countries world-wide and offer them the opportunity to use the +Spaces pilot for examining the platform for their relevant topics and for demonstrating it to potential customers**" (Section **Error! Reference source not found.**)
"*The current pilots involved essentially only the Hellenic Parliament. **The project has mentioned links with the Serbian and Austrian parliaments. We recommend that these links be pursued** with a view to extending the pilots to these other parliaments*"	"*HeP is in close contact with other EU parliaments such as the Austrian parliament and the Serbian parliament. These have already been presented with the +Spaces concept and expressed a strong interest in it. **We aim to turn to both these parliaments and offer them the opportunity to use the +Spaces pilot for running their own experiments**" (Section **Error! Reference source not found.**)

Recommendations	Actions
"_**Alternatively it may be possible to identify another useful pilot in another context**_, perhaps among younger people (20-30 yrs) who are more accustomed to using social media"	"_We will approach the existing community of the **European citizens' initiative**_" (Section **Error! Reference source not found.**)
"_**Alternatively, the project might look at other potential type of users besides parliamentarians**_, in particular groups which are already accustomed to and at ease with using social media"	Refer to Section **Error! Reference source not found.**

D1.1.3 Technical Achievements and Progress Report including summary of research accomplishments and evaluation

In order to highlight the research and technical challenges posed in +Spaces as well as the highly innovative nature of the project, D1.1.3 collects and reports the research goals, achievements and lessons' learned in +Spaces. Each partner that is engaged into research – namely IBM, NTUA, Fraunhofer, UEssex and KULeuven – has shared their research agenda and the conclusions are aggregated in this document.

The listed research challenges are split into two main categories: ICT-oriented research and social-oriented research. Even though the distinction is a bit blurred it aims to depict that +Spaces required a multidisciplinary approach with tasks stemming from computer-based research and others originating from other scientific areas such as sociology.

Overall, this document discusses the most prominent research themes which +Spaces tackles or plans to tackle and provides concrete plans about them. It is part of a series of deliverables on the technical achievements (D1.1.x) from WP1. It is assumed that the reader has obtained a certain familiarity with the +Spaces concepts by that time.

D3.2.2 +Spaces platform overall Architecture final version

This document presents the overall architecture of the +Spaces platform. It is the final version of a series of two reports, the first one submitted on M07. The deliverable iterates the design principles of the +Spaces SOA-based platform, emphasizing on the driving force, which are the requirements. The latter are enhanced by a thorough legal analysis which yielded a number of functional specifications that the system obeys in order to ensure legal compliance.

The platform capabilities are listed in the context of the system goals. Finally, the deliverable provides a detailed description of the components layout, their internal architecture as well as of the interactions among them. It also includes the data schemata that are used for the representation of the generic entities in the framework of the +Spaces platform.

D6.2.3 Pilot Results and Impact Analysis

This document is the final version of the user evaluation report that was compiled one month after the end of the 3rd and final pilot trial iteration. The aim of the "Pilot Results and Impact Analysis" is to document the evaluation process and its results as a way to enable dissemination of the data collected during the user evaluation rounds and offer the consortium the opportunity to properly analyse the user feedback data and use it as documentation not only for the ongoing improvement of functionality and usability aspects of the +Spaces system, but for the compilation of a concrete and efficient exploitation plan that will be viable even after the end of the project.

This report outlines a detailed analysis of the three cycles of user evaluation of the +Spaces system and describes the concrete steps taken during the user evaluation process. It follows the plan defined in Deliverable D6.1 "Pilot Scenarios focusing on complying with the principles of the evaluation framework established for the three rounds (iterations) of user evaluation of the system. It includes the overview and conclusions of the focus groups organized mainly by the core end-user of the project, namely Hellenic Parliament, the complete results of the evaluations of the first +Spaces prototype (1st iteration – deployment of the +Spaces poll application), the complete results of the user evaluations of the intermediate +Spaces prototype (2nd iteration – deployment of the +Spaces debate application), and the complete results of the user evaluations of the final prototype (3rd iteration – all the functionalities enabled). Although the final iteration included the deployment of all kinds of +Spaces experiments, the main focus was the most innovative one, the role-playing simulation.

User feedback on the final prototype was very rich in detail. A sufficient number of comments/suggestions/issues concerning usability, functionality aspects and errors were registered. The majority of the comments collected concerned usability issues. No functionality requests were registered, which could be interpreted as the users accepting the platform as an appropriate tool for the policy making process and useful for the eGovernance domain. A series of comments supported the 3D debates and role-playing simulations deployed in the Open Wonderland Platform and the 2D role-playing simulations deployed in Twitter. The areas that were most appreciated by the users were the engagement of the young people and the willingness of the policy makers and Members of the Parliament not only to participate again, but to utilize the platform in their personal social network sites. The areas that were most often indicated as needing improvement were the usability and attractiveness of the interfaces in some cases like for example in the Facebook pages, in Front-End screens, in role-playing chat boxes, etc.

D7.4 Legal Evaluation Report

This deliverable carries out an evaluation of the legal and ethical issues that were researched within the +Spaces project, steered by the legal developments within Europe, as well as by the actual needs of the project and pilots.

More specifically this deliverable presents the experiences of the +Spaces consortium from the analysis of the Terms and Conditions of virtual spaces, with which the +Spaces prototype had to be interoperable, i.e. Facebook, Twitter, Blogger and OpenWonderland. The analyses of the aforementioned documents influences technical choices and decisions that had to be made by the consortium in various areas relating to (a) posting content, (b) deploying user interface, (c) storing content and (d) extracting content.

As the privacy of the users and protection of their personal data is valued very high by the +Spaces consortium, +Spaces made an extensive analysis of the legal requirements stemming from the data protection legislation. This deliverable documents in detail the issues that were identified and the way how the +Spaces consortium chose to deal with them.

Finally, as the relevant national legislation to be applied to the +Spaces prototype is the

Greek one and as the partner that represented the end users in the +Spaces consortium was the Hellenic Parliament (HeP), the Greek legislative system is briefly presented and the possible use of +Spaces tools in the legislative procedure is discussed.

3.4 Milestone List

+Spaces reached its last milestone and two last project milestone during 2012.

Table 16. +Spaces milestones M25-M33

Milestone no.	Milestone name	WPs no's.	Lead	Delivery date from Annex I [5]	Comments
Milestone 5	+Spaces framework to support (role-playing) simulation application	WP3, WP4, WP5	**ICCS/N TUA**	M28	The third and final version of complete +Spaces framework is complete. Simulation application and underlying infrastructure to support it are complete and have been integrated
Project Milestone 2	Debating application successfully tested	All WPs	**IBM**	M30	Second version of +Spaces platform capable of supporting debating end-to-end complete and tested

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[5]   Month in which the milestone will be achieved. Month 1 marking the start date of the project, and all delivery dates being relative to this start date.

Project Milestone 3	Simulation application successfully tested	All WPs	IBM ICCS/N TUA	M33	Final version of +Spaces platform capable of supporting simulation end-to-end complete and tested

On M28 the Integration WP (WP4) completed the integration of the third version of components developed in the three technical WPs (WP3, WP4, and WP5) and submitted the third version of complete +Spaces framework, including support of all engagement applications (polling, debating, and role-playing).

Below is a list of all relevant deliverables:

- D3.3.3 Middleware and frontend Components

- D4.2.3 Integrated +Spaces Solution for Simulation

- D6.2.2 Pilot Prototype

On M30 the 2nd pilot was run, deploying debates on all spaces and engaging users. On M32-33 the 3rd pilot was run, deploying polls, debates and role-playing sessions on all spaces. The results of the engagements were analyzed, both through statistical measures and in focus groups with policy makers. The conclusions were summarized in the following two deliverables:

- D6.2.3 Pilot Results and Impact Analysis

- D7.2.3 Exploitation plans and Business Evaluation

3.5 Project Meetings

Six meetings were held by the +Spaces consortium during 2012 (including the 2nd annual review in March 2012 and its preparation meeting). One of the meetings was adjoined with the +Spaces Conference that was held by HeP in Athens on June. Another meeting, with a smaller set of partners, took place in Samos in July, along with the +Spaces and WeGov Workshop on Legal Challenges for FP7 projects.

The meetings are summarized in Table 17 below. The table also includes (in gray), the meetings that are already planned.

Table 17. +Spaces 2012 Meetings

#	Title	Purpose	Participants	Location / Date

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|				
1	Rehearsal for 2nd annual review	• Go over our achievements in all WPs • prepare for review • Integration meeting	All partners	NTUA, Athens, GR, January 31 – February 2 2012
2	General rehearsal for 2nd annual review	Final preparations for review	All partners	KULeuven, Leuven, BE, March 20 2012
3	2nd Annual Review	Annual Review	All partners	Brussels, BE, March 21 2012
4	+Spaces Conference and Plenary Meeting	• Introduction of +Spaces to HeP officials and guests from other parliaments • Presentation of liaison relevant projects • Workshop with the Rural Inclusion project on future collaboration	All partners	HeP, Athens, Greece, June 6-7 2012
5	+Spaces and WeGov Workshop on Legal challenges for FP7 projects	• Collaboration with WeGov • Educate EU projects on the legal challenges +Spaces faces • Learn from other projects about their lessons learned	KULeuven, HeP	Samos Summit, Greece, July 4 2012
6	Plenary Meeting	• Conduct several sessions of role-playing simulation as part of the 3rd pilot • Discuss exploitation plans • Preparations for project-end and final review	All partners	Atos, Madrid, Spain, September 12-14 2012
7	General rehearsal for final review	Final preparations for review	All partners	KULeuven, Leuven, BE, November 12 2012
8	Final Review	Final Review	All partners	Brussels, BE, November 13 2012

3.6 Summary of expenditures

The major costs incurred by +Spaces consortium in all the reporting periods are personnel costs, as can be seen in Table 18 below. The personnel costs are slightly exceeding the budget: 107% utilization of the budget, at the end of the project lifetime.

The accumulative utilization of the project as a whole is 99%.

Table 18. Summary of +Spaces Expenditures

TYPE OF EXPENDITURE (As defined by participants)	BUDGET (euro)	ACTUAL COSTS (euro)						Costs, accumulative	Utilization, accumulative	Remaining Budget (euro)
		RP1	Utilization RP1	RP2	Utilization RP2	RP3	Utilization RP3			
Total Person Months	330	126	38%	161	49%	90	27%	377	114%	-47
Personnel costs	2,004,616	708,549	35%	959,465	48%	475,601	24%	2,143,615	107%	-138,999
Audit certificate	6,500	0	0%	0	0%	7,087	109%	7,087	109%	-587
Travel	126,340	23,619	19%	28,613	23%	31,373	25%	83,605	66%	42,735
Equipment	11,484	3,601	31%	1,826	16%	1,536	13%	6,963	61%	4,521
Consumables	6,000	553	9%	512	9%	2,738	46%	3,803	63%	2,197
Other direct cost	0	600	0%	640		2,465		3,705		-3,705
Overhead	1,281,267	394,334	31%	500,618	39%	257,427	20%	1,152,379	90%	128,888
Total costs	3,436,207	1,131,256	33%	1,491,673	43%	778,227	23%	3,401,156	99%	35,051
Total EC Contribution	2,299,998	765,340	33%	972,104	42%	533,683	23%	2,271,127	99%	28,871
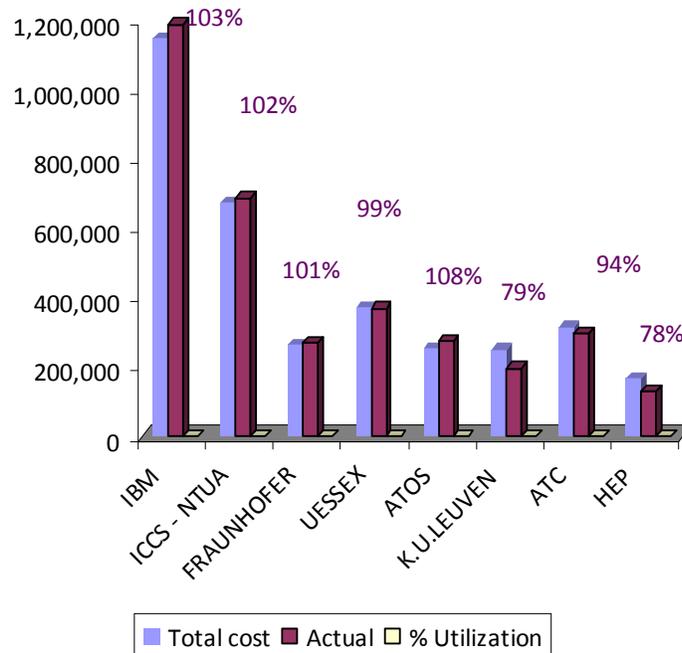
Figure 3. +Spaces Expenditure per Partner

The following sections provide detailed information about the various types of utilization.

3.7 Resources

3.7.1 Cumulative effort for the project as a whole

As stated above, the utilization of personnel costs in the project is slightly above the plan. In Figure 4 below, we show the utilization by PMs, per partner. As can be seen, all partners had exceeded their PMs utilization. The differences stem from different actual personnel costs.
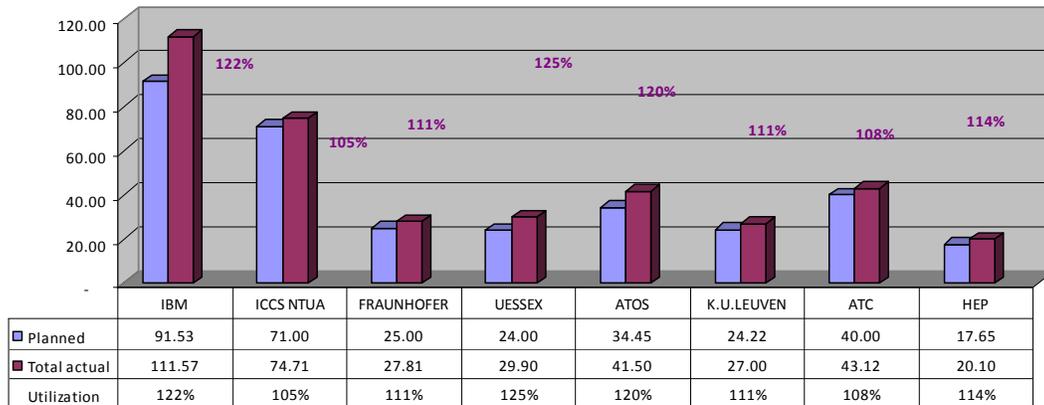

	IBM	ICCS NTUA	FRAUNHOFER	UESSEX	ATOS	K.U.LEUVEN	ATC	HEP
Planned	91.53	71.00	25.00	24.00	34.45	24.22	40.00	17.65
Total actual	111.57	74.71	27.81	29.90	41.50	27.00	43.12	20.10
Utilization	122%	105%	111%	125%	120%	111%	108%	114%

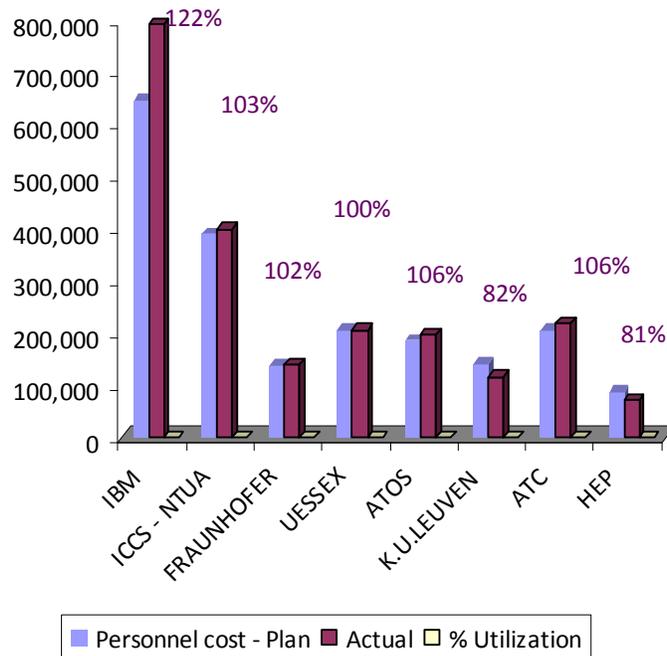**Figure 4. PM Utilization per Partner**

Figure 5. Personnel cost utilization per partner

When comparing to the Personnel cost (Actual vs. planed), both K.U.Leuven and HEP utilized around 80% of their personnel budget, while all the other partners utilized according to plan (although it seems IBM had overspent its personnel budget (122%), we should emphasize

that this chart shows only the direct costs, while IBM's mix of direct and indirect cost had changed, lowering the % of indirect).

3.7.2 Partner effort for the reporting period

In this section we focus on the current reporting period. Figure 6 below shows an overview of the budgeted and actual PMs per partner. While all partners exceeded their planned PMs, the previous figure shows that there was no exceeding of the actual budget.
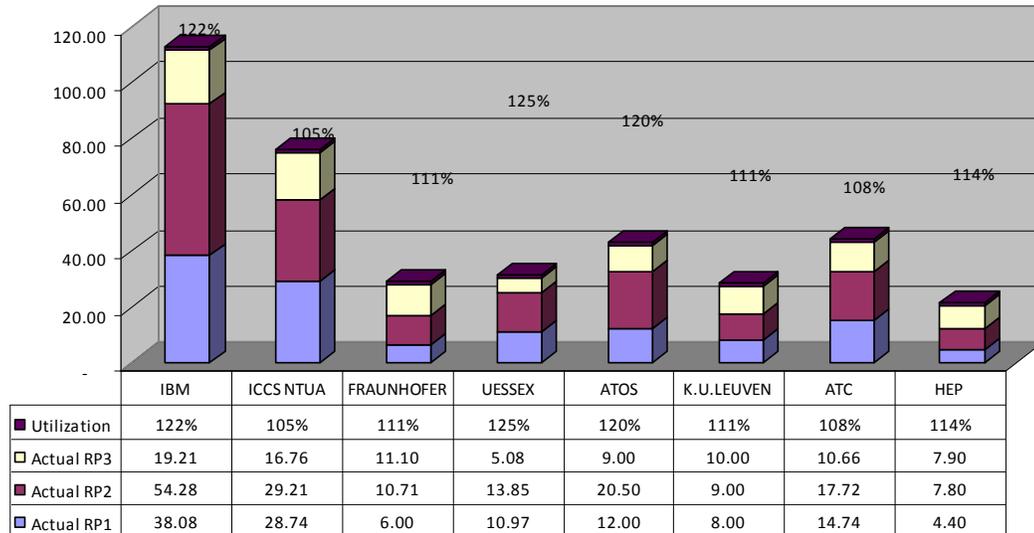

	IBM	ICCS NTUA	FRAUNHOFER	UESSEX	ATOS	K.U.LEUVEN	ATC	HEP
Utilization	122%	105%	111%	125%	120%	111%	108%	114%
Actual RP3	19.21	16.76	11.10	5.08	9.00	10.00	10.66	7.90
Actual RP2	54.28	29.21	10.71	13.85	20.50	9.00	17.72	7.80
Actual RP1	38.08	28.74	6.00	10.97	12.00	8.00	14.74	4.40

Figure 6. PMs Utilization per Partner

Figure 7 below shows the PMs utilization per WP, comparing planned vs. actual utilization. WP2 was not active during RP3. WP6, WP7 and WP8 are utilized according the plan.
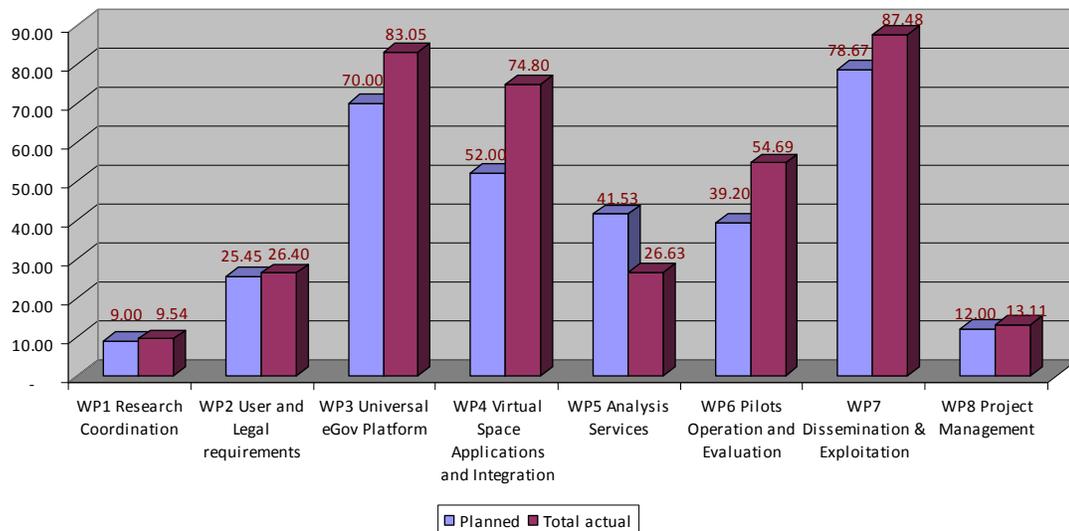

Figure 7. PMs Utilization per WP

The three technical WPs: WP3, WP4, WP5, utilized more PMs than originally planned (86.01 vs. 55.63). This may be explained by lower personnel costs.

3.8 Travel and Subsistence Expenditure

Travel costs cover the participation in project meetings and in project related events.

The cost of travels for the whole project duration is 126,340 €. By the end of RP3, the consortium consumed 66% of the travel budget (83,605 €).

Some of the partners already added estimation for the travel costs for the final review.

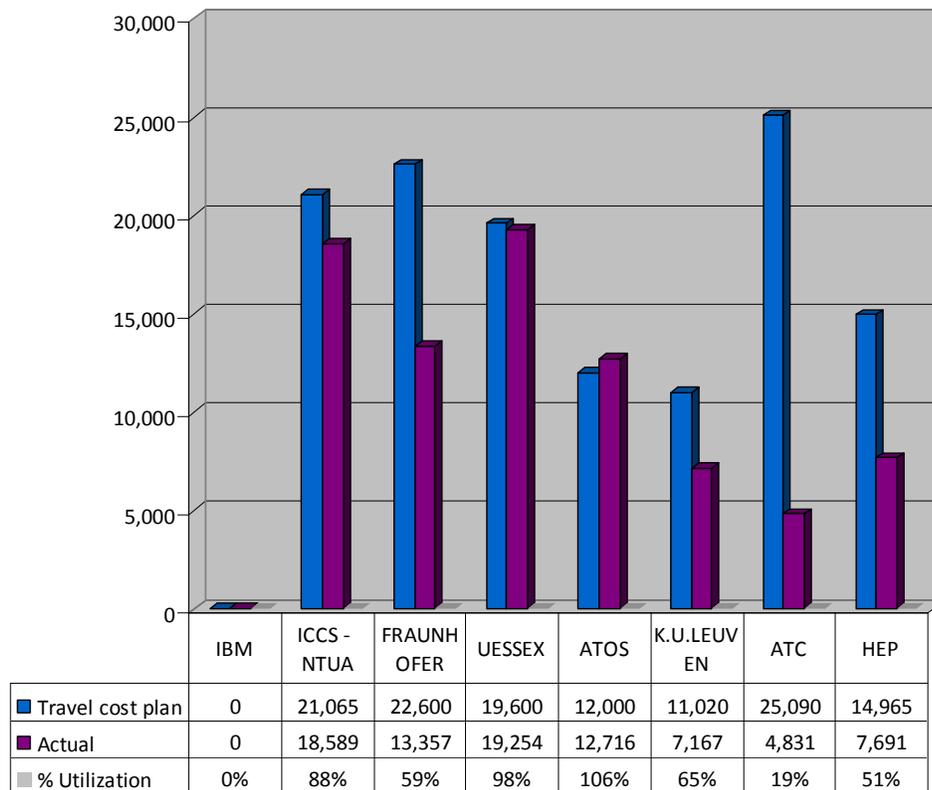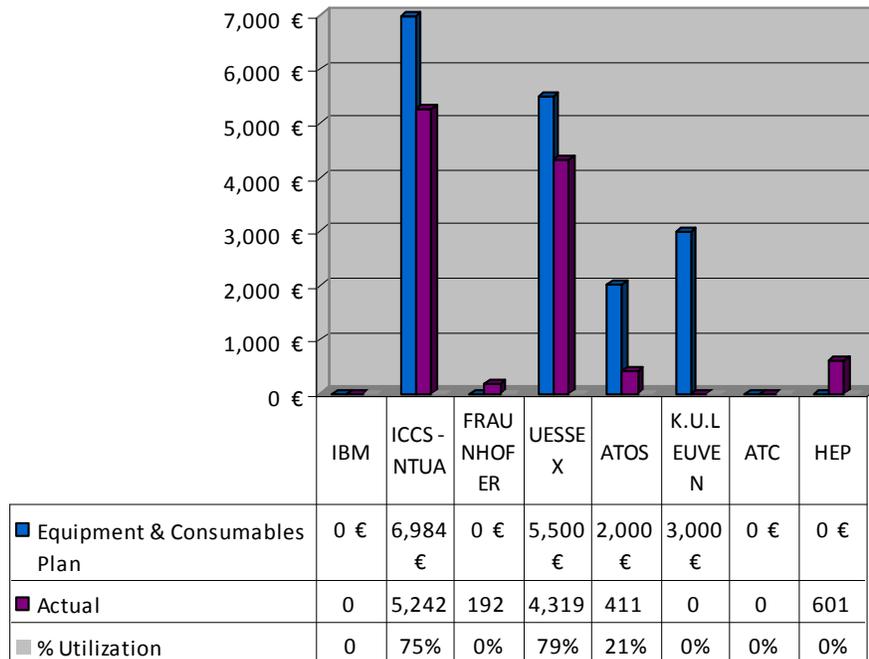IBM does not charge separately for travel expenses.

	IBM	ICCS - NTUA	FRAUNH OFER	UESSEX	ATOS	K.U.LEUV EN	ATC	HEP
■ Travel cost plan	0	21,065	22,600	19,600	12,000	11,020	25,090	14,965
■ Actual	0	18,589	13,357	19,254	12,716	7,167	4,831	7,691
▨ % Utilization	0%	88%	59%	98%	106%	65%	19%	51%

Figure 8. +Spaces Travel Expensses

3.9 +Spaces Durable Equipment and other Expenditures

	IBM	ICCS - NTUA	FRAU NHOF ER	UESSE X	ATOS	K.U.L EUVE N	ATC	HEP
■ Equipment & Consumables Plan	0 €	6,984 €	0 €	5,500 €	2,000 €	3,000 €	0 €	0 €
■ Actual	0	5,242	192	4,319	411	0	0	601
▦ % Utilization	0	75%	0%	79%	21%	0%	0%	0%

Figure 9. +Spaces Durable Equipment and other Expenditures

With regards to equipment and consumables, the consortium is at 162% of the consumption. A detailed explanation of the resources expenditure appears in section 3.10 below (not yet updated, will be taken from NEF). Here is a short summary of the equipment and consumables:

- ICCS-NTUA - Computer consumables (TFT Screen) & Brochures (RP1), HDD WD SATA, 2 BOOKS, 3 PC's (RP2), computers and Ram DD3, UPS, HD Seagate, Screen, printer etc (RP3)

- Fraunhofer – Consumables (RP1), books (RP2)

- University of Essex - Equipment & Consumables, Includes Apple Mac Mini CTO, Apple MBP CTO (RP1), Vmware softwareand licence, PC World. USBdrives, Amazon. Keyboardand headset,

- ATOS - Purchase of website domain (positivespaces.eu)

- HEP - Policy Research Simulation Lab Equipment after depreciation

3.10 Explanation of the use of the resources for the period 2012

The tables are from the NEF: "Table 3.1 Personnel, subcontracting and other Major cost items for beneficiary" – the NEF will be updated after the review, and these tables will be updated then.

Table 19. Direct cost items for Beneficiary 1 (IBM)

Table 20. Direct cost items for Beneficiary 2 (ICCS-NTUA)

Table 21. Direct cost items for Beneficiary 3 (Fraunhofer)

Table 22. Direct cost items for Beneficiary 4 (University of Essex)

Table 23. Direct cost items for Beneficiary 5 (ATOS)

Table 24. Direct cost items for Beneficiary 6 (K.U.Leuven)

Table 25. Direct cost items for Beneficiary 7 (ATC)

Table 26. Direct cost items for Beneficiary 8 (HEP)

3.11 Financial statements - Forms C and Summary financial report

The Forms C of all partners are in the NEF. Once the costs are approved by the commission, all original signed Form Cs will be added to the report.

3.12 Certificates

In +Spaces, only 2 partners (IBM ISRAEL, and ICCS/NTUA) budget is higher than the required EC contribution for a Certificate on the financial statements (in accordance with Article II.4.4 of the Grant Agreement). In both Form Cs the Expenditure threshold was reached and therefore CFSs were provided last period by both institutions, and are claimed this period.

4 PREVIOUS REVIEW

The +Spaces consortium would like to thank the reviewers for the consolidated report of the +Spaces 2nd annual review.

Following your request, we submitted to you a short document that outlines how our pilots will be completed and strengthened, as well as how we aim to improve our exploitation plan, according to your recommendations. This document is available on BSCW[6].

Following your recommendation regarding lessons learned concerning legal issues, a half-day workshop was organized in collaboration with the WeGov project. The workshop, titled "Legal challenges for FP7 projects: a +Spaces and WeGov Workshop", took place on July 4th as part of the Samos Summit. A report on the workshop was submitted to PO and reviewers and is available on BSCW[7].

In addition, following your support, we applied for a project extension of three additional months, to allow us to complete our pilots and have the time to analyze and evaluate them.

Below please find some more detailed responses to specific points of the report:

1. On page 2 it is mentioned that: "*the use of OpenWonderland still seems more like a feature that is 'bolted on' to +Spaces, included for the benefit of having a 3D virtual world component, as opposed to adding any new significant value to the platform that would improve policy making initiatives*".
    We would like to clarify our choice of OpenWonderland and the added value it brings to the project.
    One of the main contributions of +Spaces is the capability of the platform to support interoperability of multiple spaces, and to mix between various 2D and 3D spaces.
    OpenWonderland is our choice of a 3D world, as it is open and allows us to demonstrate the capabilities of the platform.
    Should anyone be interested in expanding the use of +Spaces to additional, more visually and functionally acceptable 3D spaces, they will be able to follow the OpenWonderland lead and use the +Spaces API in order to do that.
    We do feel that the differences between the 2D and 3D spaces (e.g., visual avatars, audio conversation, and more) along with the interoperability of 2D and 3D spaces (e.g., showing 2D events in the 3D space via the pigeon, or 3D events in the 2D spaces via the tickers), do indeed demonstrate the value of using 3D spaces for policy making.

2. We welcome the reviewers' comments about the potential exploitation of +Spaces, suggesting that +Spaces should seek for a different context for a pilot, creating real-life cases which discuss issues that appeal to potential buyers, in order to be able to demonstrate that using +Spaces is valuable. In D6.2.3, reporting on the pilots and their evaluation, you will find several additional contexts that we piloted with. HeP approached numerous officials and Greek parliament members. It also raised interest with the Austrian, Serbian, and French parliaments, as well as the European Parliament itself. ATC conducted a pilot with a psychologist from the "Centre of Children and Parent Support" who used the +Spaces 3D debates chamber in order to engage a group of parents (appearing as avatars) in a session of parents education. As a consortium, we made use of the role-playing web-application for

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[6] http://www.ami-communities.eu/bscw/wiki.cgi/d876494/%2bSpaces%20Outline%20Plan%20in%20Response%20to%20Review.pdf
[7] http://www.ami-communities.eu/bscw/wiki.cgi/d847562/%2bSpaces-WeGov%20Workshop_04.07.12_Report_final_v2.pdf

<+Spaces Public>

brainstorming, showing potential use for organizations.

3. On page 7 the reviewers comment that we, as of the +Spaces consortium, "excel in the research and theoretical aspects of the project".
   We highly appreciate this comment, along with the fact that the reviewers took notice of the serious efforts we made to advance the development of the software in order to address the difficulties raised in the previous review (as noted on page 9).

4. At the bottom of page 8, a comment is made about the legal issues around the Terms and Conditions of Social Media that we encountered during 2011: "It is surprising to see such issues arising at a relatively late stage in the project".
   We would like to clarify that taking notice of these issues is indeed an emerging topic.
   The vast majority of European research projects simply ignore the terms and conditions of the social media, as they place the focus of their research only on the technical aspects of their project. +Spaces has been conducting high quality research on the elicitation of legal issues, enhanced by the excellent collaboration between the +Spaces legal partner and the legal departments of some other partners. As explained in the presentation on the legal issues that was presented to you during the review, these legal issues cannot be identified and dealt with at an early stage of the project, as they are linked with specific functionalities of the software and relate to specific implementation choices that could not have been identified at an earlier stage. +Spaced is conducting pioneering research in the field and wishes to be one of the model projects in the handling of legal issues among the European research projects.

5. In the first paragraph of page 4 it is stated that there is a "seeming disconnect between the partner responsible for exploitation (ATOS) and the rest of the project".
   We would like to note that this comment was also included in the second review report. While the validity of this comment was not questioned at that time, we feel that the collaboration between ATOS and the consortium has been intensified during 2011 and even more so during 2012. The results are evident in D7.2.3.

6. On page 18 it is mentioned the Hellenic Parliament (HeP) has been less active than the other partners.
   We would like to note that HeP has been involved in all specifications and pilot planning efforts during 2011, as well as in the dissemination efforts.
   During 2012, and especially in the four last months, HeP was highly active in gathering policies for using in our pilots and especially in engaging parliamentarians from various countries in Europe (as well as from the EU parliament itself).
   HeP organized the +Spaces Conference in its premises in June 2012 and two of its officials gave keynote speeches during the conference. HeP Secretary General, A. Papaioannou, gave the introduction speech, while HeP's Coordinator of European Programs Implementation Service, V. Svolopoulos gave a talk about HeP in European projects. They both presented the influence of +Spaces on HeP.

7. Finally, two nitpicky comments, to avoid confusion.
   On page 17, partner 2 should be "National Technical University of Athens, NTUA".
   On page 18, partner 6 should be "Athens Technology Center, ATC".

Appendix I. +Spaces 2012 Deliverables

Table 27. +Spaces 2012 deliverables and their URLs, sorted by WP

#	Deliverable	Lead	Contributors	Nature (diss. Level)	Online Location	Delivery Date
D1.1.3	Technical Achievements and Progress Report including summary of research acomplishments and evaluation	NTUA	IBM, Fraunhofer, UEssex, KULeuven	R(PU)	http://www.ami-communities.eu/bscw/wiki.cgi/486736	M33
D3.2.2	+Spaces platform overall Architecture final version	NTUA	IBM, Fraunhofer, UEssex, KULeuven, ATC	R(PU)	http://www.ami-communities.eu/bscw/wiki.cgi/842314	M33
D6.1b	Pilot Scenario (resubmission)	ATC	HeP, IBM	R(PU)	http://www.ami-communities.eu/bscw/wiki.cgi/d864838/%2bSpaces-D6.1b.v1.0.pdf	
D6.2.2	Pilot Prototype	ATC	IBM, NTUA, Fraunhofer, UEssex	P(PU)	http://www.ami-communities.eu/bscw/wiki.cgi/842299	M33
D6.2.3	Pilot Results and Impact Analysis	ATC	HeP	R(PU)	http://www.ami-communities.eu/bscw/wiki.cgi/846307	M34
D7.2.3	Exploitation plans and Business Evaluation	Atos	IBM	R(CO)	http://www.ami-communities.eu/bscw/wiki.cgi/841358	M34

D7.4	Legal Evaluation Report	KULeuven		R(PU)	http://www.ami-communities.eu/bscw/wiki.cgi/842342	M33
D8.1.3	Last Annual Project Management Report	IBM		R(PU)	This report	M34