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Glossary of Acronyms

Acronym	Definition
B2B	Business to Business
C2C	Consumer to Consumer
DTC	Design Time Composer
DOW	Description of Work
EC	European Commission
EU	European Union
ICT	Information and Communication Technology
JSWEB	Scientific-Technical days in Web Services and SOA
LPML	Lightweight Process Modelling Language
NFP	Non-functional properties
SLA	Service Level Agreement
SPICES	Semantic Platform for the Interaction and Consumption of Enriched Services
SOA	Service oriented Architecture
R&D	Research and Development
SME	Small and Medium Enterprise
WS	Web Service

Executive Summary

SOA4All faces the challenge of introducing semantic Web services in the real market. Great efforts have been made to help stakeholders understand all the possibilities available for the new software generation. Based on the consultations that have been made by SOA4All team, this document describes the activities held with the aim of gathering stakeholders' opinion and analyzes the main outcomes arising from them.

A wide range of activities were undertaken during this period:

- Workshop held in Valencia during the JSWEB event focused on SOA4All tools: Discovery, Consumption (SPICES), K-Analytics, Services composition, as well as, the Public sector use case. This workshop was organized by Atos with the collaboration of iSOCO and SAP
- Face to face consultations carried out during the ICT 2010 event in SOA4All exhibition stand. Presentations relating to the Telecommunications and eCommerce case studies were explained by BT and TIE
- An interview with an expert employee of a Public Administration in Germany was made by SAP

Presentation of projects outcomes in front of experts in the field provides valuable feedback on people's expectations. Showing how the project advance beyond the state-of-the-art gives important knowledge on how different aspects of the project are perceived: which parts are considered more important by the audience, which solutions are considered useful or even awaited, and which scientific results convincing.

The outcomes have shown that the stakeholders are satisfied with the tool. They are sure that SOA4All turn out to be a great innovation for the Future Internet and will contribute to bring services to everyone. They are certain that the tool will greatly simplify the services consumer process and the services composition. They are ready to use the tool, nevertheless we concluded that further effort is needed to improve the user interface in order to make the tools more appealing and easy to use for end users. Until this is not achieved, a training course will be helpful to start using SOA4All. These suggestions will be considered for future improvements of the software.

Concerning business aspects, SOA4All is seen as a valuable product, and stakeholders are willing to use it. We conclude that we should offer to use SOA4All studio for free. Providers are willing to pay in order to get support (training, consulting, adaptation, bug resolution). We need to improve and to disseminate broadly the solution to encourage service providers to offer services through the SOA4All platform, as the success of the platform will be on the critical mass of services.

Stakeholders consider that SOA4All is applicable and useful in the Public Sector. They recognised that a market niche is available for this kind of tools in this area. The workshop participants agree that SOA4All could lead to a decrease of IT costs and support collaborative work within Public Authorities.

Experience of the Exhibition Stand at the ICT 2010 have shown strong interest of people to put SOA4All into concrete contexts. Almost 100 presentations were given during three days which has caused a strong impact. Therefore, people have been most interested in the visible

elements of SOA4All, especially the SOA4All Studio and also in the demonstrators, which they have been presented from a WP8 (Telecom) and WP9 (eCommerce) angle. Regarding the telecommunications use case the stakeholders were able to recognize that SOA4All will allow them to build the processes more easily and they found out where and how apply the tool. They showed their interest in how the software runtime capacities are achieved to ensure they are conforming to a level of service agreed with customers. Recommendations and suggested improvements include i) identifying how service level agreements can applied to deployed services ii) developing a telecoms related platform showcase and ii) making SOA4Alls tools available for download.

A strong interest has been expressed by the audience of the WP9 (eCommerce use case) presentation for using the SOA4All results in practice. People have shown strong interest in the integration of SOA4All into external tools and have also shown high interest in using the example tools that have been created in WP9 for Facebook and Twitter integrations. Suggestions for improvements have been made in (i) providing clear source code examples on how to integrate the project results into existing IT landscapes, (ii) providing “getting started” and “HowTo” documents, (iii) ensuring a better integration of the different tools and (iv) providing a publically available download for allowing people to experiment with the SOA4All tools on their own servers.

1. Introduction

1.1 Purpose and Scope

The purpose of this document is to present the SOA4All stakeholder consultations, which have been carried out during the last term of the project (M31). Different activities have been held, focusing on present information about the project with a view to obtaining some feedback from potential final users and professionals about SOA4ALL usability and applicable business models.

1.2 Structure

Besides the executive summary and the introduction to the document, main sections will be focused on: Activities, methodology definition, analysis of the activities, description of material and documentation used in the activities, and conclusions.

1.3 Audience

This document, according to the Description of Work (DOW), is Public.

This document is supported by three main categories of partners involved in SOA4All project, Industry, SMEs and Academia who have taken part in these Stakeholder consultations.

2. The Activities

2.1 A journey in SOA4All

The workshop was held during the JSWEB 2010, Scientific-Technical days in Web Services and SOA. The workshop ‘A journey in SOA4All’ was organized by Atos Origin, which took place in Valencia on September 12th. iSOCO and SAP also participated. The Workshop was aimed at promoting, disseminating and transferring SOA4All tools to potential users.

2.1.1 Methodology

Atos Origin organized this workshop with the collaboration of SAP, who was in charge of explaining the Public sector user case.

The purpose of the workshop was to obtain the potential SOA4All’ user opinion regarding the SOA4All tools: Services composition, SPICES and K-Analytics, as well as the Public sector use case.

To achieve this goal we articulated the workshop in four sections.

- Firstly an overview of the project was given.
- Secondly, we explained how the tools: Discovery, SPICES, K-Analytics and Services composition work. Our intention was to provide attendees with an overall vision. Some practical demo were also shown to give them a more practical perspective.
- Thirdly, the “discussion time” was scheduled to clarify the attendee’ questions and to listen their suggestions.
- And lastly, to capture the attendees’ feedback we distributed a questionnaire with the main subject matters we were dealing with. We wanted to gather information from a wide range of points of view (potential users, potential customers, etc).

2.1.2 Workshop Agenda

- SOA4All Overview – Santi Ristol (Atos), 15min.
- SOA4All Tools: SPICES and K-Analytics - Iván Martínez (iSOCO), 15 min.
- SOA4All Service Composition - Mateusz Radzimski (Atos), 15 min.
- SOA4All Use Case Demonstration - Sonja Meyer (SAP), 15 min.
- Discussion, 20 min.
- Questionnaires, 10 min.

Total duration, 90 min

The main goal of this session was to show participants how some SOA4All tools work; once we had shown them the tools, we gave them a questionnaire with the purpose of getting the participants’ feedback.

The outcomes of this session help us to take future strategic decisions from a technical point of view as well as exploitation and dissemination.

Four presentations were shown during this workshop:

- First a SOA4All overview
- Second a presentation about the tools Discovery, SPICES and K-Analytics where the main feature of the tools were explained
- During the third presentation we were informed about how SOA4All Services Composition tool is used to make the way of composing services faster, easier, accurate and robust
- Lastly, and to provide the user with an application case, a presentation about the SOA4All use Case was given for the Public Sector domain.

After the presentations, the audience asked questions, which were answered by various speakers (there are transcribed in the section 2.1.4 Discussion). This allowed us to reinforce the message of SOA4All, give clarification and interact with the stakeholders.

To finish, a questionnaire was delivered to gain an understanding of how stakeholders assess SOA4ALL and obtain a direct feedback.

We did not have a great number of attendees in the session, however all of them were very interested in the project and they pay special attention to the presentations. A large discussion took place after the presentations, where they shown their interest in the project and we foresee a demand for SOA4All to be in the market.

2.1.3 Questionnaire results

2.1.3.1 Polled profile

Attendees: 15

These charts show attendees role in relation to Web services as well as their expertise in the following areas:

- Process modelling tools
- Analysis and design of services architectures
- Web services development
- Application development

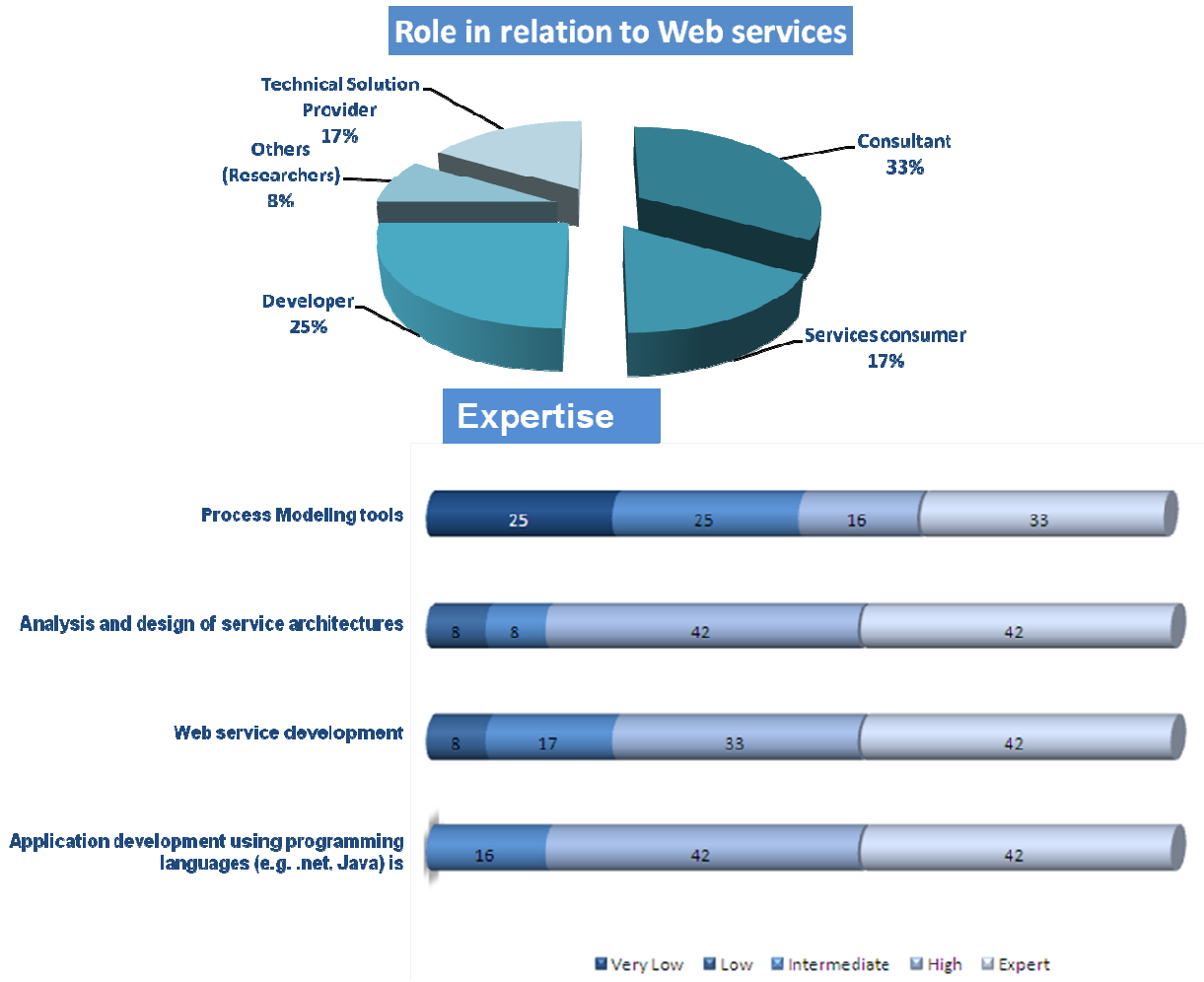


Figure 1: Polled profile, attendee' expertise

2.1.3.2 SOA4All innovation

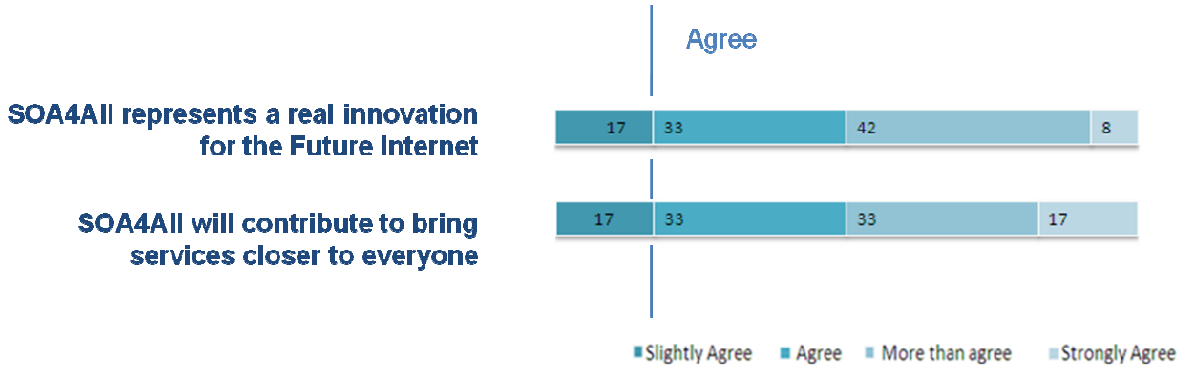


Figure 2: SOA4All innovation

Most stakeholders in our survey believe SOA4All represents a real innovation for the Future Internet and when asked whether SO4All will influence in bringing services closer to everyone, a surprising number of stakeholders considered thus more than satisfactory about 17% expressing “Strongly Agree” with this issue.

2.1.3.3 SOA4All concept

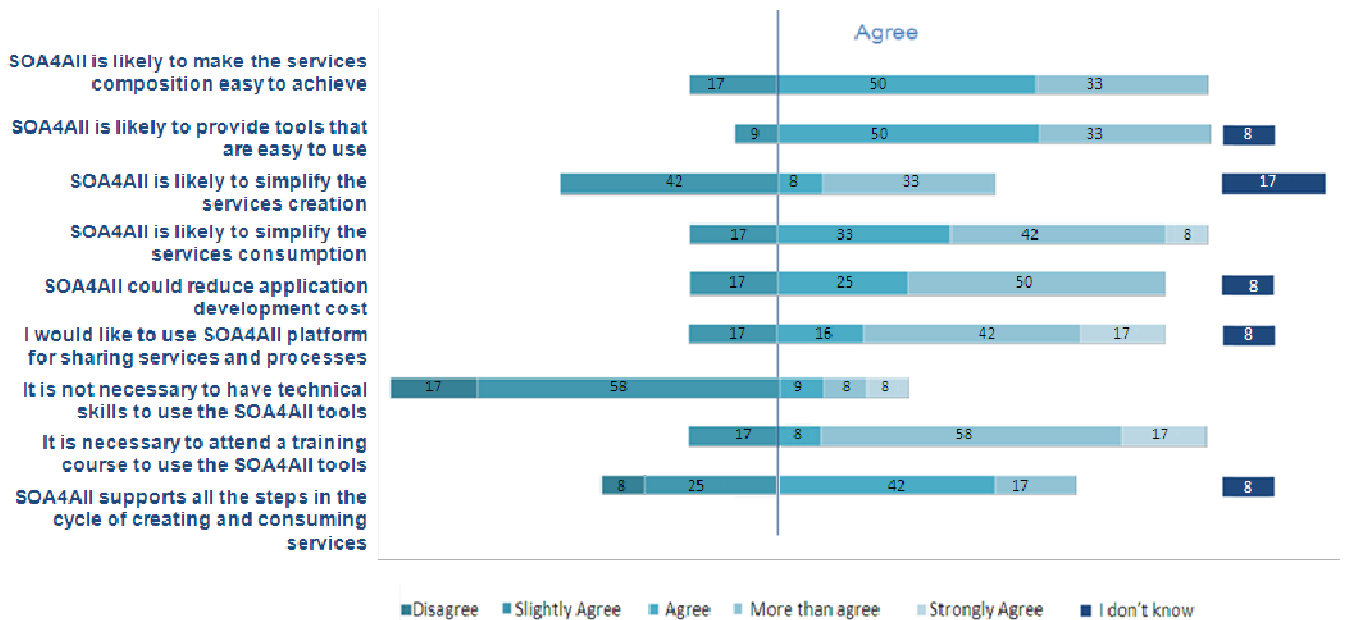


Figure 3: SOA4All concept

The majority consider that SOA4All will make the services composition easy to achieve (more than 83% agree) and that the tools provided by SOA4All are easy to use (again more than 83% agree). However, they do not consider that SOA4All is going to simplify services creation (42% slightly agree). Nevertheless, when asked about the services consumption, stakeholders

believe that SOA4All will simplify this process (more than 50% agree).

On the question whether SOA4All could reduce application development costs, the responders believe that SOA4All will reduce them (75% agree and more than agree). The vast majority of stakeholders are willing to use SOA4All platform for sharing services (59% more than agree and strongly agree).

When asked whether it was not necessary to have technical skills to use the SOA4All tools, an unexpected number of stakeholders said that technical skill are required - more than 75%.

Thus, most of the stakeholders believe that it is necessary to attend a training course to use SOA4All (over 83% agree, more than agree and strongly agree). The stakeholders do not have strong feelings whether SOA4All supports all the steps in the cycle of creating and consuming services (33% disagree and slightly agree).

To the open question “If you disagree, which steps are missing?” regarding SOA4All supports all the steps in the cycle of creating and consuming services some of stakeholders answered it as follows:

- Audience suggestion: “Data binding during process modelling”

SOA4All team elucidation: Concerning “Data binding during process modelling” this feature is supported by the Studio Process Editor, which supports data flow modelling thanks to the data flow editor. Additionally, modellers can rely on the Design Time Composer service, which reasoning on the existing domain specific knowledge, tries to generate the data flow connectors within a give process composition.

- Audience suggestion: “Analysing, monitoring for example”

SOA4All team elucidation: SOA4All provides both the infrastructure and a whole section of the SOA4All Studio which is devoted to service and processes analysis and monitoring. This machinery takes into account logs generated at runtime to derive non-functional properties for services, to inspect process execution at runtime, etc

- Audience suggestion: “Handling certain inconsistency issues, security problems, behavioural compatibility, and so on”

SOA4All team elucidation: This question is rather vague so it is hard to understand what they mean. Inconsistency issues at the data level can be handled via dataflow modeling and manipulation within the process editor. Security issues are not of major concern for the project. However, one important contribution of the project with regard to RESTful services invocation concerns the support for different authentication schemes which is necessary in about 80% of the cases. Behavioural compatibility is something we have not worked on explicitly.

Recommendation: The majority of stakeholders consider that SOA4All represents an innovation and it will pave the way for creating services and besides SOA4All will simplify the services creation and consumption. This consultation has revealed that we should simplify the technical process to the future users, especially regarding the service creation, as it is still quite complex to final users. It will be considered to add the suggested improvements to the software in the future.

2.1.3.4 SOA4All Business Aspects

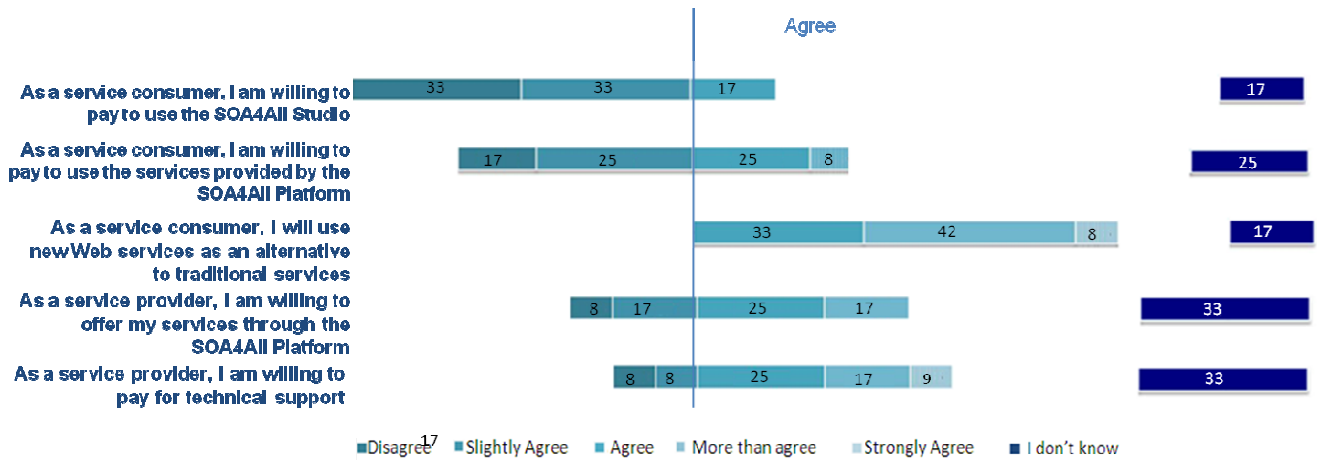


Figure 4: Business Aspects

As service consumer, they seem that are not willing to pay to use the SOA4All Studio (66% disagree and slightly agree), however seems more accepted to pay to use the services provided by SOA4All Platform (33% agree). Nevertheless, from the point of view of usage, this percentage rises up to extraordinarily more than 80% agreement to consumers to use new web services as an alternative to traditional services.

As service provider, they are more moderate, about 42% stakeholders are willing to offer their services through the SOA4All Platform. When we asked them if they were willing to pay for technical support the percentage were as follows: 51 % strongly agree, more than agree and agree)

Recommendation:

We had deliberated about offering the SOA4All studio for free and the poll confirm us that it was a correct decision, as they are not willing to pay for the studio. However, some of the services will be charged and it seems the correct decision, too.

This fit well with the subscription based open-source business model: service providers and consumers has the possibility to download the SOA4All platform for free. Some providers will pay in order to get support (training, consulting, adaptation, bug resolution).

We are in the right direction as the end user finds the SOA4All platform valuable and useful, and they are willing to use it. We need to improve the solution to encourage service providers to offer the service through the SOA4All platform, as the success of the platform will be on the critical mass of services. However, it seems they are willing to pay for technical support.

2.1.3.5 SOA4All Discovery

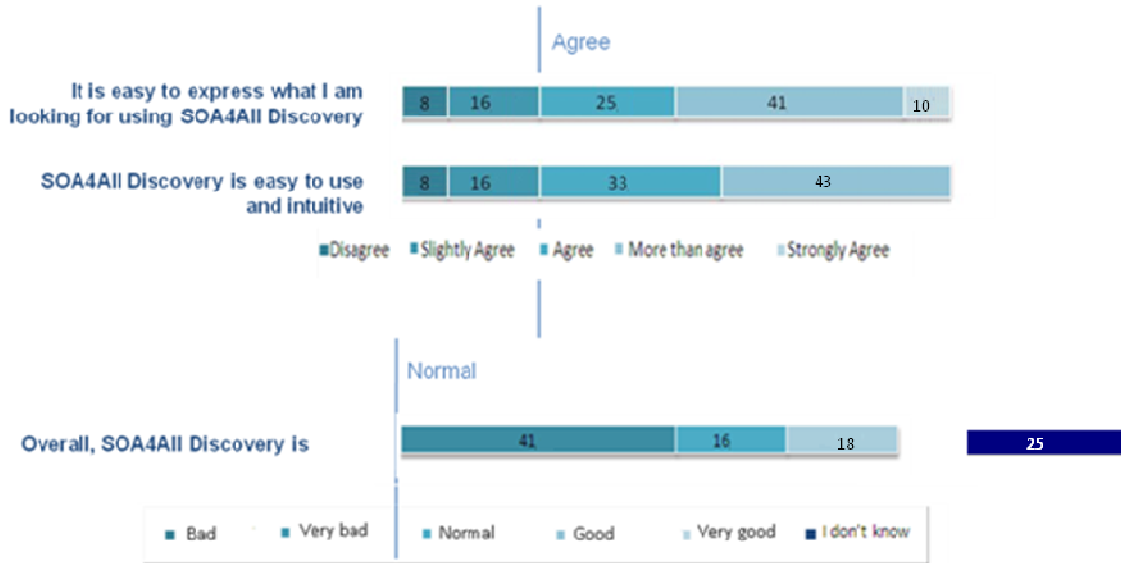


Figure 5: Discovery

The stakeholders envisage that it is quite easy for them to express what they are looking for with SOA4All Discovery (41% more than agree and 10% strongly agree). Stakeholders consider that SOA4All Discovery is easy to use and intuitive (43% more than agree).

Broadly speaking, SOA4All Discovery is very well assessed by the stakeholders.

Recommendation: Although the considerations about SOA4All Discovery are good, improving the way of use of the tool could push users to adopt SOA4All Discovery. They think that the searches are sometimes a little confusing because the amount of services rendered, for what should be ranked to provide a list more understandable to the user. On the other hand, should provide a much clearer description about the functionality of the service, since it is sometimes difficult to identify what the service does.

2.1.3.6 SOA4All Consumption (SPICES)

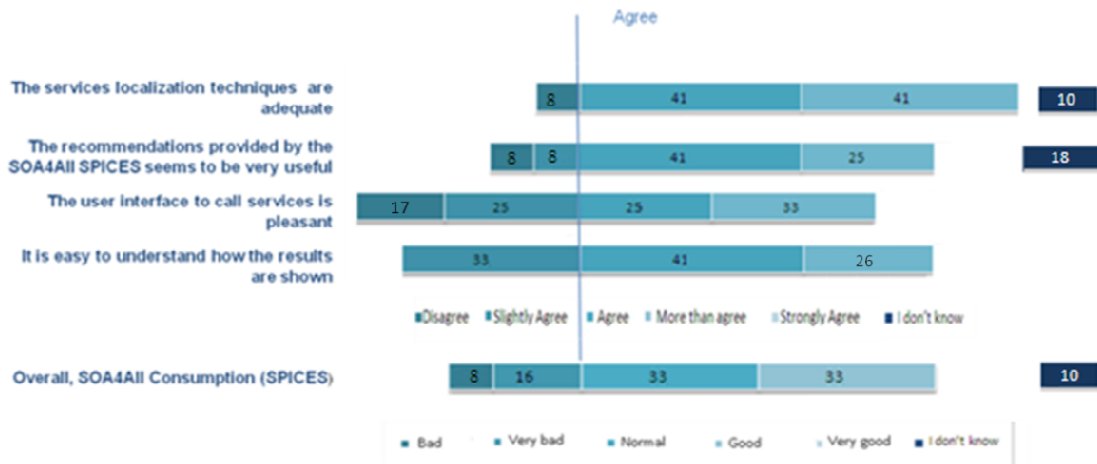


Figure 6: SOA4All Consumption (SPICES)

The opinions about the SPICES technical aspects are quite promising. As to “Localization techniques”, stakeholders believe that they have very good level (82% more than agree and agree). Regarding to “Recommendation” stakeholders are also satisfied (66% agree and more than agree).

On the other hand, stakeholders do not seem to feel comfortable with SPICES user interface. Although 33% more than agree, another 32% do not agree. The figures are quite similar when stakeholders are asked about how to understand the results shown by the application (33% slightly agree).

Recommendation: Focusing on the user interface is recommended, because the stakeholder feedback is telling us that they do not really feel comfortable with SOA4All SPICES user interface. We have to bear this issue in mind and study how to transform user interface into a more “friendly” tool. Another challenge we have to face is related to the heterogeneity of authentication and authorization methods used by different kinds of services. In particular, RESTful services have different ways to let third parties interact with them, and they usually ask for a key that they can provide on demand. While it is feasible to store those keys manually for a small set of services, these methods prevent automation.

Finally, users have the perception that the lightweight semantic annotations over descriptions of services can be useful in order to open up the service world to a larger audience.

2.1.3.7 SOA4All Service Composition

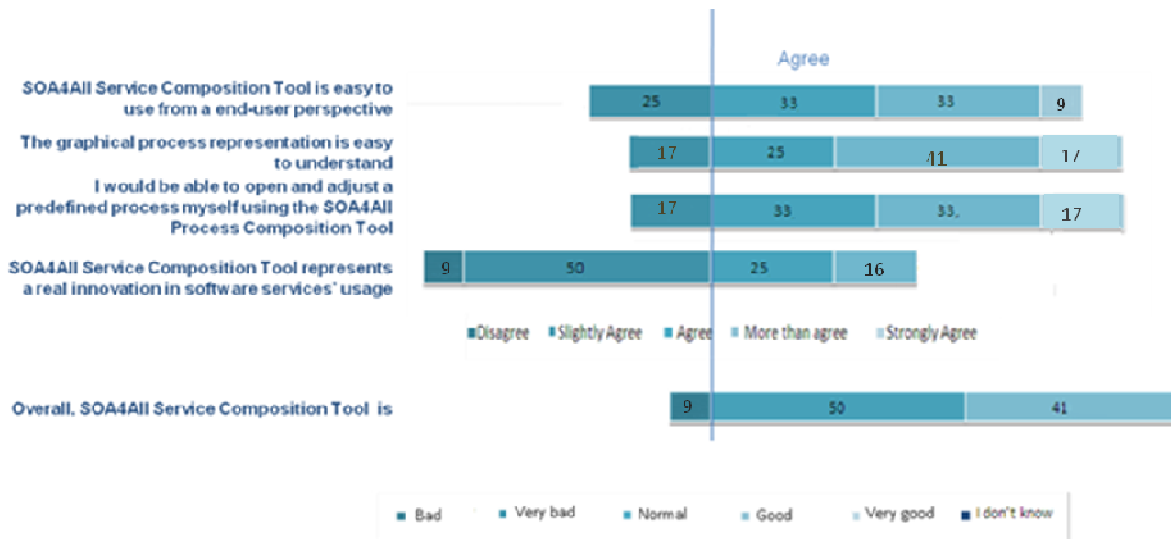


Figure 7: SOA4All Service Composition

General assessment regarding the easiness of use of SOA4All Service Composition tool is very good: in three questions there are always over 75% of positive answers, which ensure that the usability aspect of lightweight process modelling is well executed and clear for end users. Especially, when it comes to understanding process representation and making some modification where exceptional 83% of people responded positively. Overall rating of SOA4All Service Composition Tool is positive, with around 91% of positive answers. On the other hand, more than half of responders consider that presented tool does not represent a real innovation in service composition.

Recommendation: Most of the participants are already familiar with service composition research and methodologies. They already know some languages for process modeling and their graphical representation. However, SOA4All Composition Tool with its lightweight modeling approach provides a real change with comparison to the current established process modeling methodologies and tools. This aspect was also very well exposed, and the good usability has been noticed at the very early stage. However relatively low percentage of positive answers with regard to innovativeness of the tool may have twofold reason: it is much easier to present user interface advancements, and more difficult to present internal aspects of services working behind the scenes. While most of the people already know service composition, more stress should be put on explaining and differentiating our technological approach. Second reason is linked with integration of different tools. To show real advantage of service composition platform, availability of fully integrated tools that cover whole lightweight process modeling lifecycle is necessary, which was not the case in this demonstration. These aspects should be considered for upcoming presentations, however it is envisaged that this opinion will get more positive answers with advancement of integration efforts that are currently taking place.

2.1.3.8 SOA4All in the Public Sector

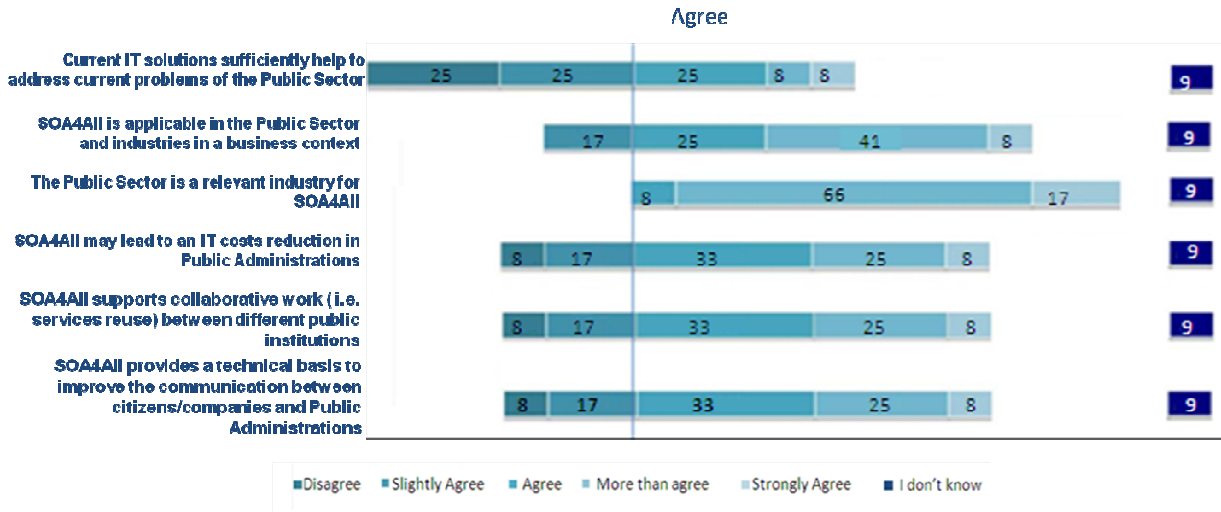


Figure 8: SOA4All in the Public Sector

The table above highlights the results of the questionnaire regarding the application of SOA4All in the Public Sector. More than half of the stakeholders agree that existing IT solutions do not satisfactorily assist to deal with problems of the Public Sector. In addition, 75% agreement of the stakeholder group conform to the statement that SOA4All generally is relevant technology for industries in a business context. The conclusion that SOA4All is also an applicable technology for the Public Sector leads the participants to a complete consent.

The last three questions have in each case the same percentages, 67% of the participants agree that SOA4All could lead to a decrease of IT costs in Public Administrations. Furthermore, they believe that SOA4All supports collaborative work between different public institutions like the reuse of services. For two third of the participants SOA4All provides also a technical basis to improve the communication between customers (citizen / companies) and Public Authorities.

Recommendation: In general, the obtained survey results correspond to the previous expectations. The workshop participants were both technical experts as well as business experts. Moreover, a smaller participant group had excellent market knowledge of the Public Sector and attended already previous events and speeches by SOA4All. With respect to the use of SOA4All in the Public Sector, we consider the obtained survey results as partially representative.

As a future target, we propose to convince further participants of the collaborative and communication-enhancing potential of SOA4All in public institutions. In addition, we recommend adapting the demonstration of the use case, so that it covers all platform features nearly completely. At the JSWEB 2010, we demonstrated one out of four storyboards because the other three use case demonstrations are currently in a development phase. The final deliverable 7.7 in M36 will report in detail about surveys and experiments also taking into account the collaborative and communication-enhancing potential obtained from the new storyboards with Public Sector experts. The obtained results from the questions and discussions with the workshop participants will feed into the preparation of the Public Sector use case evaluation activities

2.1.3.9 Are you interested in using SOA4All in the short or medium term?

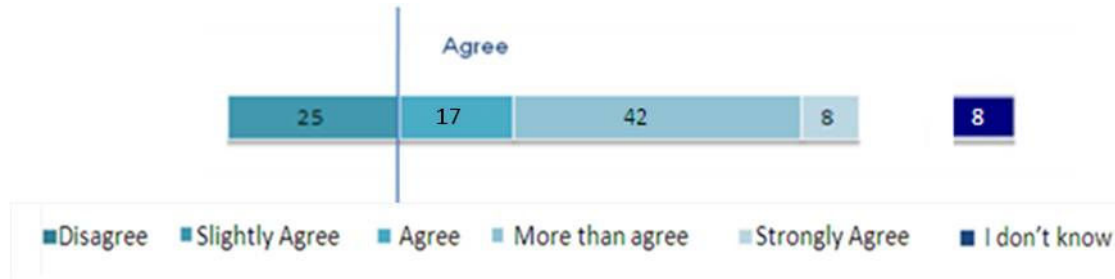


Figure 9: Interested in using SOA4All

Most of stakeholders expressed their intention in using SOA4All in the short or medium term, more than 67% agreement.

2.1.3.10 Open Question: Do you have any suggestion for improving the SOA4All Platforms

To this open question, we had several suggestions, SOA4All team have pondered these suggestions below them. We are intended to distribute these clarifications between the stakeholders:

- Audience suggestion: Formal foundation to formalise business process.

SOA4All team elucidation: The formal foundation to formalise business process is addressed by the specification of the Lightweight Process Modelling Language (LPML). In particular, SOA4All offers a BPMN2LPML transformation tool, so modellers can leverage on the huge knowledge base of existing domain specific business process specified in BPMN.

- Audience suggestion: Take into account protocol behavioural compatibility.

SOA4All team elucidation: The DSB layer takes in charge protocol interoperability thanks to the NMR (Normalized Message Router) at the heart of the system. The protocol behavioural compatibility is ensure thanks to the alignment of SOA4All to the current Web and SOA standards for service interoperability based on Web Services.

- Audience suggestion: Consider non-functional properties during the composition (QoS, security)

SOA4All team elucidation: Non-functional properties (NFP) are supported by the SOA4All Service Construction suite. Using the Studio Process Editor, modellers can specify NFP both at process and activity level. Those NFP are eventually used during the activity binding to rank matched bindings and during the optimization phase, to determine the optimal binding set.

- Audience suggestion: Handle concurrent interaction of services and the possible

inconsistency problems (such as deadlocks).

SOA4All team elucidation: The LPML language supports concurrent interaction of services using the Parallel Gateway modelling element. LPML minimizes inconsistency problems due to the simple parallel flow it supports.

- Audience suggestion: Runtime composition?

SOA4All team elucidation: Runtime composition is not supported by the SOA4All Service Construction suite. Current research initiatives on this topic are not promising enough to be considered in the context of IoS composition.

- Audience suggestion: Context based discovery and not only a semantic based one.

SOA4All team elucidation: Context based discovery is not supported by SOA4All Service Discovery. However, context based composition is supported at design time by the Design Time Composer (DTC). Modellers can annotate their service compositions with contextual information modelled according to the SOA4All context model and DTC uses that information to complete the process model with process fragments (templates) and bindings sensitive to that contextual information.

- Audience suggestion: Contextual adaption at design time and run time?

SOA4All team elucidation: Therefore, contextual adaptation is supported at design time, but not at runtime. Nonetheless, that contextual adaptation can be adapted to runtime and it will be considered as future work.

2.1.4 Discussion

After the presentations, during the period of “Discussion”, several participants made their questions, the speakers answered them as following: (We have transcribed the questions and answers).

- Audience : It is really for all? It seems you need to have technical knowledge.

Santi Ristol (ATOS) answered “Our intention is for all, but we realize that the current version requires technical knowledge but we hope in a near future it could be for all”.

- Audience : This is real? K-analytics is real?

Iván Martínez (iSOCO) answered: “Yes, we are using now, even it is a first version”.

- Audience: How realistic are use cases and how usable will be the whole platform?

Sonja Meyer (SAP) reports on a study of the University of Manchester of end user development practices and attitudes targeted professionals working at large client companies of SAP, and some of the non-technical divisions of SAP. In total, 133 persons participated. The aim of this study was to establish the extend of end user development practices in the target group of users, and to estimate their attitude towards the balance between the costs and benefits from end user development.

Details of the study are published in [Mehandjiev2008]; which will provide the main conclusions of relevance to this use case.

Mateusz (ATOS): Nowadays we experience growing number of exposed RESTful services (in a form of Web APIs) that provide interesting features, but manual composition is rather hard. SOA4All has already achieved some success in working with RESTful services and overall idea is promising, especially the BT use case scenario (WP8, “W21C BT Infrastructure”).

- Audience: This is Secure?

Ivan Martínez (iSOCO) answered: There is an authentication for each service web.

- Audience: “How do SOA4All manage context in service composition”

Mateusz Radzimski (Atos) answered “In SOA4All we manage context at the design time: it help us resolve the abstract process into different executable processes according to whom the process is tailored for (i.e. which department or public administration unit)”

- Audience: “How do we know which services/process fragments should be chosen in specific context?”

Mateusz Radzimski (Atos) answered: “We are using domain-specific knowledge that describes, according to the context model, relations between entities and services/process fragments”.

2.2 Exhibition Stand at ICT 2010

2.2.1 Methodology

Visitors to the SOA4All exhibition stand, entitled ‘The Service Jungle’ where shown 5-10 minute presentations. During the exhibition, three presentations have been available:

1. A General SOA4All introduction
2. A demonstration of SOA4All results in the telecommunication domain (WP8)
3. A demonstration of SOA4All results in the eCommerce domain (WP9)

Visitors were asked which one was of more interest to them and it turned out that about 90% of the visitors preferred one of the use case specific presentations as they are more concrete and show the real-world applicability of the project results. Following the presentation, the visitors were asked to fill in the questionnaire. The nature of the event, with many attendees wanting to see as many stands as they could meant that the number of people willing to complete the questionnaire was rather low. However, those that did fill in the questionnaire tended to be those that were most engaged with the presentations and the subject of the project.

2.2.2 Questionnaire results

We collected data from 12 responders with the aim of assessing several aspects of SOA4All and gauging users' initial expectations and opinions. Responses were gathered in the form of scores to questions, ranging from 1= disagree to 5= agree, and then inserted into SPSS (a statistical package) for statistical analysis. The responders included a variety of IT experts, such as service developers, service providers, technical solution providers, system integrators, consultants, service consumers, and usability researchers.

2.2.2.1 Background of Responders

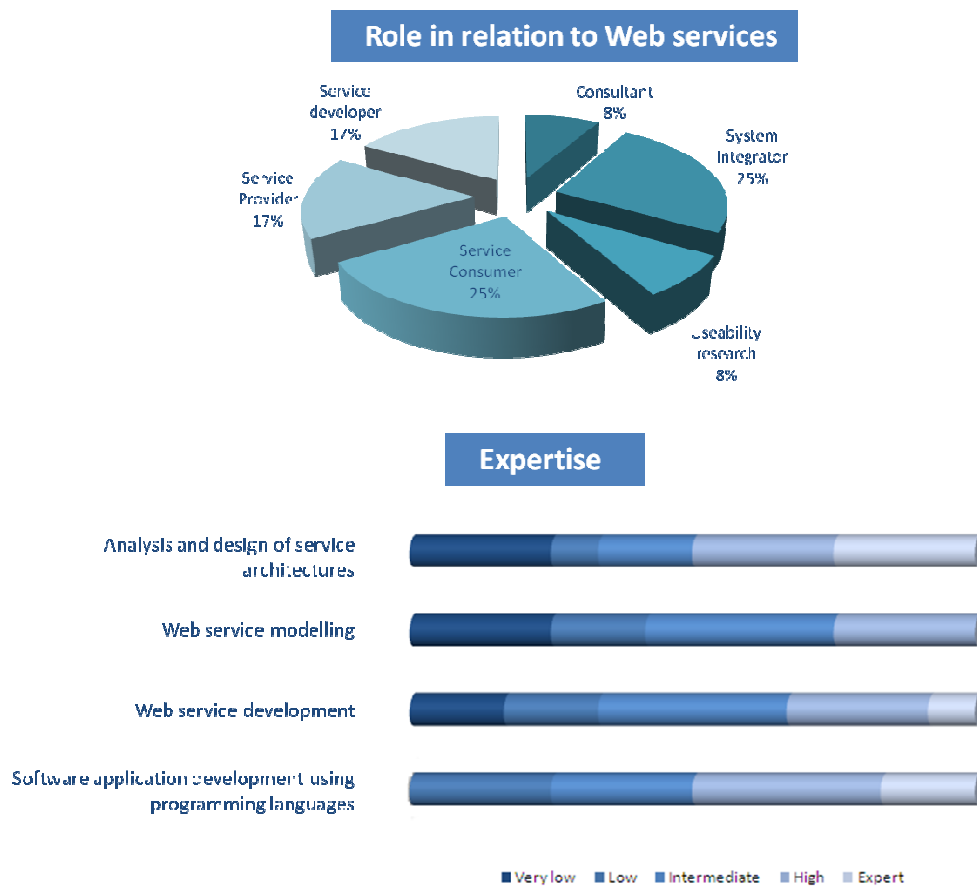


Figure 10: Polled profile, attendee expertise

Experience in software application development using programming languages (mean= 3.42¹, standard deviation (std)= 1.08), such as Java and C++, was rated higher than, web service development experience (mean= 2.92, std= 1.24) and web service modelling (mean= 2.58, std = 1.16); Paired-samples t-tests, p< 0.05. However, they rated their experience with analysis and design of service architectures (mean= 3.17, std= 1.58) similarly. Statistical analysis also showed that users' experience in web service development was significantly higher than their service modelling experience (Paired-samples t-tests, p< 0.05). Other comparisons were not

¹ All questions were rated on a 5-point Likert scale, where 1=disagree and 5= agree

significant.

Six responders did not report use of any programming languages, modelling languages, or systems to develop web services, whilst the remaining responders reported use of the following service development and composition technologies: BPEL, BPML, M2M, and Yahoo! Pipes.

2.2.2.2 User Ratings and Expectations

The first part of the questionnaire concentrated on collecting users' rating about various aspects of the SOA4All project following the presentation which elaborated the objective and vision of the project.

Users tended to agree that SOA4All adds a real innovation for the Future Internet (mean= 3.91), will facilitate the use of software services (mean= 3.92), and is likely to be useful for activities involving software services (3.67). However, users were neutral as to whether SOA4All will motivate everyone to develop software services (Paired-samples t-tests, $p < 0.01$), possibly due to the technical complexity usually associated to programming tasks. In regard to their interest in SOA4All in the future, users seems to be more interested in the long term than in the short term.

SOA4All Aspect	Mean	Standard deviation
SOA4All represents a real innovation for the Future Internet	3.91	0.54
SOA4All will facilitate the use of software services by everyone	3.92	0.51
SOA4All will motivate everyone to develop software services	3.00	0.85
SOA4All Studio is likely to be very useful for my activities involving software services	3.67	0.49
I am interested in using SOA4All in the short term	3.17	0.83
I am interested in using SOA4All in the long term	3.67	0.49

Table 1: SOA4All aspect

In the next step, users rated 10 questions that related to the tools and usability aspects SOA4All will provide to facilitate service creation and consumption. Users agreed that SOA4All will make service composition easier to achieve (mean= 4.00), provide tools that are easy to use, simplify service creation and consumption, and could reduce traditional software development cost. Although users declared that they would like to use SOA4All platform for sharing services and processes, they were uncertain as to whether SOA4All makes working in collaboration easy (Paired samples t tests $p < 0.01$). Despite the positive ratings, users were inclined to not agree that SOA4All supports all the steps in the cycle of creating and

consuming services. Users tended to believe that attending a training course is quite important to be able to use SOA4All tools. Users were also neutral in regard to whether technical skills are required to use SOA4All tools (inverted mean= 2.82).

SOA4All Concept	Mean	Std
SOA4All is likely to make service composition easy to achieve	4.00	0.44
SOA4All is likely to provide tools that are easy to use	3.82	0.75
SOA4All is likely to simplify service creation	3.80	0.63
SOA4All is likely to simplify service consumption	3.91	0.53
SOA4All could reduce traditional software development cost	3.64	0.67
I would like to use SOA4All platform for sharing services and processes	3.82	0.60
SOA4All makes working in collaboration easy	3.09	0.53
It is not necessary to have technical skills to use the SOA4All tools	3.18	1.25
It is necessary to attend a training course to use the SOA4All tools	3.73	0.64
SOA4All supports all the steps in the cycle of creating and consuming services	2.86	0.37

Table 2: SOA4All concept

As for the business aspects of SOA4All, service providers demonstrated strong willingness to offer their web services through SOA4All platform, buy and resell services using SOA4All platform, use the SOA4All platform to generate revenue, and pay for technical support. Similarly, service consumers showed willingness to use new web services as an alternative to traditional services, to pay to use SOA4All services, and subscribe to premium services. Service developers were also keen to pay to use the SOA4All studio.

SOA4All Business Aspects	Mean	Std
As a service consumer, I am willing to pay to use the services produced by the SOA4All Platform	3.50	0.52

As a service consumer, I will use new Web services as an alternative to traditional services (e.g. an online software service to send SMS messages instead of a mobile phone to send SMS messages)	3.73	0.64
As a service consumer, I am willing to subscribe to premium services	3.30	0.48
As a service developer, I am willing to pay to use the SOA4All Studio	3.56	0.52
As a service provider, I am willing to offer my services through the SOA4All Platform	4.00	0.50
As a service provider, I am willing to use SOA4All Platform to generate profits	4.22	0.66
As a service provider, I am willing to buy and resell services using the SOA4All Platform	4.11	0.60
As a service provider, I am willing to pay for technical support	4.00	0.70

Table 3: SOA4All business aspects

2.2.3 Non-Questionnaire based feedback

It should be noted that a lot of additional feedback and discussions have been given during the meeting. A total number of about 100 presentations have been performed during the exhibition, which had definitely resulted in a very high impact. All visitors have received an additional SOA4All brochure as well as a SOA4All business card with the web addresses. General feedback by the visitors has been highly positive in terms of the project results. Indeed a lot of visitors even voted the SOA4All stand as the best stand on the ICT conference, which has resulted in the award for the second place of all stands.

Strong interest has been expressed in downloading the final results (e.g. by downloading them as open source packages) and in further communication for follow-up activities.

2.2.4 Additional WP8 (Telecom use case) specific feedback

In this section, we identify feedback received at the ICT event that is specific to the Telecommunications domain. This includes feedback from both those who were willing to fill in the questionnaire and those that were not. Several attendees with a Telecoms background identified the need to be able to create and manage Service Level Agreements (SLAs) for deployed service mashups such as those discussed in the scenarios. SLAs are widely used in Telecoms but it is not clear how these should be applied to service mashups where multiple services including those from more than one party are used. There is existing work on 'End-to-End SLAs' [Wittgreffe et al. 2008] that could be relevant here.

Some attendees were interested in how Communication enabled Business Processes built using SOA4All technology could be applied in their industry. Notable examples includes the Health sector where applications to build processes ensuring the successful delivery of healthcare services to patients were discussed and 'Interactive Democracy' where the attendee could see potential is building applications to support the delivery of relevant material to individuals via various communication channels.

Finally, several attendees could see the potential in using SOA4All to integrate traditional telecommunication services with social-media, building applications to support sales, customer care and voting.

2.2.4.1 Suggested Recommendations and Improvements

As a result of the presentations made and discussions held the following suggested recommendations and improvements are suggested:

1. End-to-end Service Level Agreements. As stated above, deployed applications based on service mashups will require Service Level Agreements and will need to be measured against these. Existing work in this field should be investigated and its applicability to the federated infrastructure of SOA4All determined.
2. Platform Showcase: The requirement to generate example applications for various scenarios involving telecommunications enabled processes was made. Such applications would i) stimulate interest amongst potential adopters of the technology and ii) illustrate how they could be build using the technology. The applications could be made available through a platform accessible via the SOA4All website or a BT specific showcase could be generated highlighting how BT provided services can be integrated with 3rd party services to build telecoms related service mashups.
3. Availability of Tools: Many visitors requested how they could get access to the tools so they could try them out. The project is planning to make some tools available for download or as open source. These plans should be carried out and the availability of the tools fully publicised. This should help stimulate adoption of the SOA4All approach and allow the community to build on the results of the project.

2.2.5 Additional WP9 (e-Commerce use case) specific feedback

In this section, we identify feedback received at the ICT event that is specific to the eCommerce domain. This includes feedback from both those who were willing to fill in the questionnaire and those that were not.

The overall feedback of people that saw the eCommerce demonstrator results has been very positive. People have shown strong interest in the integration of SOA4All into external tools and have also shown high interest in using the example tools that have been created in WP9 for Facebook and Twitter integrations. Visitors have asked several times for possible web shop integrations and although SOA4All doesn't target this as a focus point, the WP9 team has been able to point visitors to connectors and to demonstrate an on-the-fly integration into web shop solutions such as TIE Mambofive. People have also shown interest in using the eCommerce dashboard as an entry point including the reuse of elements such as OpenID.

Many visitors have asked about the possibility of using the SOA4All analysis methods (i.e. the service monitoring) for marketing purposes. Although this is not the main goal of the SOA4All

monitoring platform, we have been able to show users an integration via the eCommerce advertising services and their graphical visualization.

2.2.5.1 Suggested Recommendations and Improvements

Within the discussions and presentations, the following recommendations and improvement suggestions have been made:

1. Existing IT Landscapes: The most prominent request was on ensuring a seamless integration into existing systems. For example, many visitors asked about the possibility to integrate the SOA4All results into their existing web shop solution, into their web based ERP system and into native applications. The examples that have been shown during the demos (e.g. the integration into the TIE mambofive webshop) have given some starting points on how this is possible. More examples for other domains could help to improve this understanding.
2. Presentations and HowTos: In completion to the last point, a lot of people have asked for small HowTo documents or presentations for the next steps. At the moment, only a very small number of those documents exist and large documents such as deliverables seem to be too “heavy” for getting started.
3. Integration: Many people asked about how integrated the different tools are, which means that a tight integration and interlinking of SOA4All tools is important for end users.
4. Publishing: A strong request has been made by many users to download the results in a binary way allowing them to setup and experiment with SOA4All. Although this is currently under preparation, the website didn’t contain any downloadable code so far.

2.3 Expert Interview on the EU Services Directive

This chapter describes an interview, which SAP carried out in relation to the SOA4All Public Sector use case with an employee of a Public Administration in Germany. This employee serves as a Public Sector expert stakeholder in his role as an active participant in the implementation of the EU Services Directive² of Baden-Württemberg³.

The introductory section discusses the applied theory for the realization of the interview. Second, the implementation section lists all the questions and answers of the interview. Finally, the conclusion section interpreters the gained knowledge in relation to the WP10 market study and the use case study conducted by WP7.

² 2006/123/EC of 12 December 2006 on services in the internal market, http://ec.europa.eu/internal_market/services/services-dir/index_en.htm

³ In Germany, each state independently implements the EU directive service. Baden-Württemberg is one of the sixteen federal states of Germany.

2.3.1 Interview Methodology

For the interview appointment, we selected the expert interview as a specific form of applying a semi-structured interview [Meuser and Nagel, 2002]. In an expert interview the interviewee as a whole person is of less interest than his capacities as an expert for a certain field. To address all issues in a specific period we literally pre-formulated parts of the questions in a guideline. The topic of the survey is set to the EU Services Directive and follows the content of a previously performed public presentation of a progress report "Single Point of Contact: Where are we now and how can it go on" to. The interview guideline is broken down into different areas. To react flexible in conversation it is possible to add individual questions to the literally pre-formulated questions. The following interview report is a compilation of all issues that we raised during the interview. The purpose of the predefined guideline is to guarantee the interviewer an overview of the topic and to keep him from skipping important areas. The order of the questions is set out in the guideline and has been bundled together in theme groups.

2.3.2 Interview Conduction

Moderator: Sonja Meyer (SAP Research, Switzerland),

Interviewee: Employee of the Chamber of Trade (Baden-Württemberg, Germany)

Timeframe: 8/10/2010, 11:00-13:00

Moderator: What is your task for the Chamber of trade regarding the EU Services Directive?

Parts of my duties include representing the Chamber of my city in project for the electronic implementation of the EU Services Directive in Baden-Wuerttemberg. This includes the content wise involvement in the project such as the provision of written descriptions for sub-processes that are performed e.g., when a new company is registered. The scope of the project of Baden-Wuerttemberg currently accounts an amount about 70 participants and includes public administrations as well as external partner companies. The aim of the project is to create an administration portal for Baden-Wuerttemberg that is accessible on the Web via the URL <http://www.service-bw.de/>. Core content of this website is the representation of municipal services offered by public administrations, like providing answers to the following citizens' questions: From which authority can a citizen get a certain public service? What documents should the citizen bring? Who is the responsible within the authority?

By the administration Web portal "service-bw" a constantly updated and legally secure administration encyclopaedia on all administrative services should be available for every citizen.

Moderator: The EU Services Directive requires an implementation of the so-called single point of contact – is that already realized in Baden-Württemberg?

We realized the policy of the single point of contact and the service is accessible via the portal "service-bw".

Moderator: Who has implemented the electronic procedure for Baden-Württemberg?

A known IT company in cooperation with the Ministry of Interior and partners of the public administration of the different province cities implemented the electronic procedure for the EU

Services Directive.

Moderator: Is there a uniformed implementation available for all federal states in Germany?

Partly we implemented the EU Services Directive in a uniformed way. We achieved a single process description at the federal level a standardized description for all cities in Baden-Wuerttemberg. In addition, the state even passed new laws. However, each federal state implemented the actual electronic procedures individually - accordingly there are now sixteen different implementations in Germany.

Moderator: How other EU Member States did realized the implementation?

I unfortunately do not know how different EU Member States realized the implementation of the EU Services Directive.

Moderator: In the progress report, you mentioned that registering a new business using the new electronic procedures is too complicated. What do you think is the reason for that?

Unfortunately, we did not design the graphical user interface in an end user manner. This refers to the employees of the public administrations, who support the services, as well as to the citizens that use the developed service platform, for example, to register a new business. The problems concern exclusively the graphical presentation of the application. The backend implementation is working well in its functionality.

Moderator: What would you like to improve?

The graphical user interface should be more intuitive, following the example of new internet applications. Known online marketplaces are already very end-user friendly, and address a large set of users. In terms of usability, these web portals should serve as a model for the public sector.

Moderator: Do you believe in principle in the digital implementation of such a procedure?

The chamber of trade of this city already offered a digital Web solution for registering a new business before the creation of the new implementation at federal level. Via this application, about 200 of the yearly 1000 enterprise procedures were processed. Since⁴ December 2009, we did not receive any procedure so far via the new application. However, it is not realistic to automate this process completely. In public administration, there are discretionary decisions, which need to be taken manually by the desk officers, when aspects of a process are not or not clearly defined.

Moderator: The EU Services Directive also aims to simplify and unify processes at European level. Did you observe this aspect in the implementation?

This aspect was not in the spotlight of the project implementation in Baden-Wuerttemberg, since no exchange took place at European level. Nevertheless, by the enactment of new laws a gradual alignment of this process took place at federal state level.

Moderator: The EU Services Directive should be implemented by the end of December 2009. Did you fulfil this restriction in your opinion?

We realized the new application on time to the end of December 2009. This covers the single

⁴ Until date of interview (10.08.2010)

point of contact and the process for the registration of new businesses. However, currently we are still working on the full implementation of the electronic process.

Moderator: By when may we expect the complete electronic solution?

Presumably, we will complete the ongoing project work towards the end of 2010.

Moderator: From today's perspective, do you expect a relief with the new electronic procedure in the public administrations?

At this time, the new Web portal does not promise a relief as it brings new labour-intensive aspects. These aspects include, for example:

- Training of employees
- Training of end users / citizens
- Insufficient use of the new application

This mirrors the current situation of the Chamber of trade of this city. Currently, the end-users are not using the platform at all. As a result, the administration does not receive requests for the registration of new companies, which is the reason why despite the previous training the staffs are using the new application too rare. Should it now turn to a new request by a citizen the implementation of the old process is both less time-consuming, and less cost-intensive.

Moderator: Did emerge a fundamental change of the organizational structure in this public administration in recent years?

The number of processes, that implement the offered public services doubled within the last 10 years in this public administration. In contrast to that, the number of employees has decreased proportionally.

2.3.3 Conclusion

The interview highlights the following aspects in terms of current IT implementations that address the novel requirements of public authorities such as the EU Services Directive:

- The EU Services Directive of 2006 is presently not yet fully been implemented in all EU countries.
- The EU Services Directive was implemented using different information technologies in all EU countries, sometimes even on federal state level.
- The process of registering a business is of huge complexity in some EU countries.

With the application of new technologies such as the SOA4All Service Delivery Platform, the following facilities would be yield in relation to the EU Services Directive.

- SOA4All support the communication between different public authorities at EU level, but in this case also within Germany, regarding the process modelling and implementation. In this way, administrative staff of various authorities can collaborate, exchanged, reused, or adapted already implemented processes from other European administrations.
- The SOA4All Service Delivery Platform ensures a unified technology for the implementation within the various provinces, but also within the different EU countries. If new processes are introduced in the different countries at EU-level, a overall and

comprehensive implementation through the SOA4All SDP can be realized. This minimizes the effort for the introduction of new processes.

The SOA4All Service Delivery Platform does not address directly the following encountered problems by:

- The interview highlights that process changes implemented in public administrations often require a realignment of organizational structure. This would mean that a successful launch and operation of the SOA4All Service Delivery Platform would be associated with a variability of the organizational structure.
- SOA4All does not deal in terms of usability with the graphical user interface, which enables the citizens to invoke services from the front-end side.

3. Conclusion

SOA4All has been widely welcomed by the stakeholders. Presentation of projects outcomes in front of experts in the field provides valuable feedback on people's expectations. Showing how the project advance beyond the state-of-the-art gives important knowledge on how different aspects of the project are perceived: which parts are considered more important by the audience, which solutions are considered useful or even awaited, and which scientific results convincing.

They have evaluated **SOA4All concept** favourably, responders took the view that SOA4All will make the services composition easy to achieve, it will simplify the services consumer process and it will reduce the application development costs. End users are willing to use SOA4All tool, nevertheless we concluded that the majority opinion request improvements in the user interface, in order to make the tools more appealing and easy to use for end users. For this reason, stakeholders consider that, at the moment, technical skills are required to use it and a training course will be helpful when they will use SOA4All. In addition, we should reinforce the concept related to support all the steps in the cycle of creating and consuming services. These suggestions will be considered for future improvements of the software.

Concerning **business aspects**, SOA4All is seen as a valuable product, and stakeholders are willing to use it. We conclude that we should offer SOA4All studio for free. Providers are willing to pay in order to get support (training, consulting, adaptation, bug resolution). We need to improve and to disseminate broadly the solution to encourage service providers to offer the service through the SOA4All platform, as the success of the platform will be on the critical mass of services.

From the point of view of the **SOA4All Studio tools** presented at the JSWEB 2010 workshop, it is worth noting that stakeholders are able to appreciate their potential, evaluating them in good terms overall. On the negative side, they point out the user interface and the ease of understanding as aspects to be improved. Importantly enough, the functionalities that have been constantly added are already available, and it is now a matter of improving their overall integration and focus on the cosmetic issues that will make the tools more appealing for end users. It can be argued that being tools coming from a Research and Development project, the focus has primarily been placed onto the new advanced functionalities, while a more professional packaging will be available within each partner exploitation activities.

It is noteworthy that the overall impression of **SOA4All Service Composition** is good and presented tool regarded as very useful. However, it is even more valuable to understand experts' doubts, find possible weak points and explain why some elements or features are underestimated, while they should be perceived equally important. That is a huge stimulus for improvements, but also for finding a better way to expose undervalued aspects.

Regarding the **Public Sector use case**, a conducted live demonstration was done at the JSWEB 2010. The findings of the questionnaire shows that 67% of the workshop participants agree that SOA4All could lead to a decrease of IT costs and support collaborative work within Public Authorities. This proves that the first storyboard of the Public Sector use case of the project covers the requirements of our target user group. The evaluation results will be also communicated to the scientific community. According to the overall project setup, the deliverable D7.7 will evaluate the features of the SOA4All Service Delivery Platform in a Public Sector context. The first release of the SOA4All Public Sector use case is focused on the three implemented storyboards. In addition, the extended new storyboards will allow investigating the business values of the SOA4All Service Delivery Platform within Public Administrations in

detail.

The overall reception of the **SOA4All stand at the ICT 2010** conference was very positive. Almost 100 presentations were given during three days which has caused a strong impact. Positive comments included the stand as such but also the project results and the tools that have been developed in the technical work packages and in the demonstrators. SOA4All stand received many votes and therefore received the second prize of all ICT 2010 stands.

The use of **telecommunications services** within business processes and the ability for SOA4All to enable such processes to be built more easily was viewed very positively by the visitors to the stand at ICT 2010. Several visitors could see how they could make use of the technology and processes within their own industry. Visitors with a telecommunications background were interested in the run-time aspects of the project i.e. how to support deployed services and ensure they are conforming to a level of service agreed with customers. Recommendations and suggested improvements include i) identifying how service level agreements can be applied to deployed services ii) developing a telecoms related platform showcase and ii) making SOA4Alls tools available for download.

A strong interest has been expressed by the audience of the **WP9 presentation** for using the SOA4All results in practice. Suggestions for improvements have been made in (i) providing clear source code examples on how to integrate the project results into existing IT landscapes, (ii) providing “getting started” and “HowTo” documents, (iii) ensuring a better integration of the different tools and (iv) providing a publically available download for allowing people to experiment with the SOA4All tools on their own servers. However, it should be emphasized that the overall feedback was highly positive. During the consultations, we have found out that the integration into existing systems is majorly important for users and that users have been highly interested in seeing – and downloading – example applications showing them how to use SOA4All in their own applications. The WP9 team provides three examples for this: The Facebook integration, the GoogleWave integration and the Twitter integration. All three will be published as open source for end users.

4. References

[Mehandjiev2008]	Mehandjiev, N., Todor Stoitsev, Olaf Grebner, Stefan Scheidl, Uwe Riss End User Development for Task Management: Survey of Attitudes and Practices. In Proceedings of 2008 IEEE Symposium on Visual Languages and Human-Centric Computing, 16-20 Sept 2008. Herrsching am Ammersee, Germany. IEEE Press, 2008. ISBN : 978-1-4244-2528-0
[Meuser et al. 2002]	Meuser, M. and Nagel, U. (2002) „ExpertInneninterviews – vielfach erprobt, wenig bedacht. Ein Beitrag zur qualitativen Methodendiskussion,“ in A. Bogner, B. Littig, and W. Menz (eds.), Das Experteninterview. Opladen: Leske & Budrich. pp. 71-95
[Wittgreffe et al. 2008]	Wittgreffe, J., Dames, M., Clark, J. and McDonald, J. (2008) End-to-End Service Level Agreements for Complex ICT Solutions, in ICT Futures: Delivering Pervasive, Real-Time and Secure Services (eds P. Warren, J. Davies and D. Brown), John Wiley & Sons, Ltd, Chichester, UK.

5. Annex: Questionnaires

5.1 A journey in SOA4All

QUESTIONNAIRE SOA4ALL PROJECT

Please provide the following information by ticking (✓) where appropriate:

1. My role in relation to Web services is: Service Provider <input type="checkbox"/> Service Consumer <input type="checkbox"/> System Integrator <input type="checkbox"/> Consultant <input type="checkbox"/> Developer <input type="checkbox"/> Technical Solution Provider <input type="checkbox"/> Other – please specify -																																				
2. Please rank your software development experience according to the following criteria: <ul style="list-style-type: none"> • My experience in application development using programming languages (e.g. .net, Java) is: • My experience in Web service development is: • My experience with analysis and design of service architectures is: • My experience with Process Modeling tools is: 	<table border="0"> <tr> <td>None</td> <td>1</td> <td>2</td> <td>3</td> <td>4</td> <td>5</td> <td>Expert</td> </tr> <tr> <td></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td></td> </tr> <tr> <td></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td></td> </tr> <tr> <td></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td></td> </tr> <tr> <td></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td></td> </tr> </table>	None	1	2	3	4	5	Expert		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
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3. SOA4All represents a real innovation for the Future Internet 4. SOA4All will contribute to bring services closer to everyone	<table border="0"> <tr> <td>Disagree</td> <td>1</td> <td>2</td> <td>3</td> <td>4</td> <td>5</td> <td>Agree</td> </tr> <tr> <td></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td></td> </tr> <tr> <td></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td></td> </tr> </table>	Disagree	1	2	3	4	5	Agree		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>															
Disagree	1	2	3	4	5	Agree																														
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	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																															

5. How do you evaluate the SOA4All concept?	Disagree 1 2 3 4 5 Agree
<ul style="list-style-type: none"> SOA4All is likely to make the services composition easy to achieve 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<ul style="list-style-type: none"> SOA4All is likely to provide tools that are easy to use 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<ul style="list-style-type: none"> SOA4All is likely to simplify the services creation 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<ul style="list-style-type: none"> SOA4All is likely to simplify the services consumption 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<ul style="list-style-type: none"> SOA4All could reduce application development cost 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<ul style="list-style-type: none"> I would like to use SOA4All platform for sharing services and processes 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<ul style="list-style-type: none"> It is not necessary to have technical skills to use the SOA4All tools 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<ul style="list-style-type: none"> It is necessary to attend a training course to use the SOA4All tools 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<ul style="list-style-type: none"> SOA4All supports all the steps in the cycle of creating and consuming services. 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<ul style="list-style-type: none"> If you disagree, which steps are missing? <hr/> <hr/>	

6. SOA4All Business Aspects	Disagree 1 2 3 4 5 Agree
<ul style="list-style-type: none"> As a service consumer, I am willing to pay to use the SOA4All Studio 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<ul style="list-style-type: none"> As a service consumer, I am willing to pay to use the services provided by the SOA4All Platform. 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<ul style="list-style-type: none"> As a service consumer, I will use new Web services as an alternative to traditional services (e.g. an online software service to send SMS messages instead of a mobile phone to send SMS messages) 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<ul style="list-style-type: none"> As a service provider, I am willing to offer my services through the SOA4All Platform 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<ul style="list-style-type: none"> As a service provider, I am willing to pay for technical support 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

<p>7. SOA4All Discovery</p> <ul style="list-style-type: none"> • SOA4All Discovery is easy to use and intuitive • It is easy to express what I am looking for using SOA4All Discovery • Overall, SOA4All Discovery is: 	<p>Disagree 1 2 3 4 5 Agree</p> <p><input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p><input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>Bad 1 2 3 4 5 Good</p> <p><input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p>
<p>8. SOA4All Consumption (SPICES)</p> <ul style="list-style-type: none"> • The services localization techniques are adequate • The recommendations provided by the SOA4All SPICES seems to be very useful • The user interface to call services is pleasant • It is easy to understand how the results are shown • Overall, SOA4All Consumption (SPICES): 	<p>Disagree 1 2 3 4 5 Agree</p> <p><input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p><input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p><input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p><input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>Bad 1 2 3 4 5 Good</p> <p><input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p>
<p>9. SOA4All Service Composition</p> <ul style="list-style-type: none"> • SOA4All Service Composition Tool is easy to use from a end-user perspective • The graphical process representation is easy to understand • I would be able to open and adjust a predefined process myself using the SOA4All Process Composition Tool • SOA4All Service Composition Tool represents a real innovation in software services' usage • Overall, SOA4All Service Composition Tool is: 	<p>Disagree 1 2 3 4 5 Agree</p> <p><input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p><input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p><input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p><input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>Bad 1 2 3 4 5 Good</p> <p><input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p>
<p>10. SOA4All in the Public Sector</p> <ul style="list-style-type: none"> • Current IT solutions sufficiently help to address current problems of the Public Sector • SOA4All is applicable in the Public Sector and industries in a business context • The Public Sector is a relevant industry for SOA4All 	<p>Disagree 1 2 3 4 5 Agree</p> <p><input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p><input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p>

<ul style="list-style-type: none"> • SOA4All may lead to an IT costs reduction in Public Administrations • SOA4All supports collaborative work (i.e. services reuse) between different public institutions • SOA4All provides a technical basis to improve the communication between citizens/companies and Public Administrations • What are the main issues of the Public Sector that should be addressed by SOA4All? _____ 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<p>11. Are you interested in using SOA4All in the short or medium term?</p>	<p>Disagree 1 2 3 4 5 Agree</p> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<p>12. Do you have any suggestion for improving the SOA4All Platform?</p>	

If you are interested to find out more please visit www.soa4all.eu or provide us your contact details:

Name: _____ Company: _____

Mail: _____

5.2 Exhibition Stand at ICT2010

QUESTIONNAIRE SOA4ALL PROJECT

Please provide the following information by ticking (✓) where appropriate. All questions are **optional** since some will not be appropriate for your position and interests.

<p>1. My role in relation to Web Services is:</p> <p>Service Provider <input type="checkbox"/> Service Consumer <input type="checkbox"/> System Integrator <input type="checkbox"/></p> <p>Consultant <input type="checkbox"/> Service Developer <input type="checkbox"/> Technical Solution Provider <input type="checkbox"/></p> <p>Other – please specify -</p>	
<p>2. Please rank your software development experience according to the following criteria:</p> <ul style="list-style-type: none"> • My experience in software application development using programming languages (e.g. Java, C++, PHP...) is: • My experience in Web service development is: • My experience in Web service modelling is: • My experience with analysis and design of service architectures is: 	<p>None 1 2 3 4 5 Expert</p> <p><input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p><input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p><input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p><input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p>
<p>SOA4All project aims to open the world of software services to everyone, using semantic technologies and a highly interactive rich development environment (SOA4All Studio) and run-time infrastructure (SOA4All run-time). If you have seen the video of Future Internet and SOA4All brochure before, please proceed to answer the questions below, otherwise please see the video and brochure on the following links:</p> <p style="text-align: center;">Future Internet: http://vimeo.com/5907327</p> <p style="text-align: center;">SOA4All Project and Principles: http://www.soa4all.eu/pdocs/soa4all_brochure_out.jpg</p>	
<p>Please tick the corresponding box on the right:</p> <p>3. SOA4All represents a real innovation for the Future Internet.</p> <p>4. SOA4All will facilitate the use of software services by everyone.</p> <p>5. SOA4All will motivate everyone to develop software services.</p> <p>6. SOA4All Studio is likely to be very useful for my activities involving software services.</p> <p>7. I am interested in using SOA4All in the short term.</p> <p>8. I am interested in using SOA4All in the long term.</p>	<p>Disagree 1 2 3 4 5 Agree</p> <p><input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p><input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p><input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p><input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p><input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p><input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p>

	Disagree 1 2 3 4 5 Agree
<p>9. How do you evaluate the SOA4All concept?</p> <ul style="list-style-type: none"> • SOA4All is likely to make service composition easy to achieve • SOA4All is likely to provide tools that are easy to use • SOA4All is likely to simplify service creation • SOA4All is likely to simplify service consumption • SOA4All could reduce traditional software development cost • I would like to use SOA4All platform for sharing services and processes • SOA4All makes working in collaboration easy • It is not necessary to have technical skills to use the SOA4All tools • It is necessary to attend a training course to use the SOA4All tools • SOA4All supports all the steps in the cycle of creating and consuming services • If you disagree, which steps are missing? <hr/> <hr/>	<p><input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p><input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p><input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p><input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p><input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p><input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p><input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p><input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p><input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p><input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p>
<p>10. SOA4All Business Aspects</p> <ul style="list-style-type: none"> • As a service consumer, I am willing to pay to use the services produced by the SOA4All Platform. • As a service consumer, I will use new Web services as an alternative to traditional services (e.g. an online software service to send SMS messages instead of a mobile phone to send SMS messages) • As a service consumer. I am willing to subscribe to premium services • As a service developer, I am willing to pay to use the SOA4All Studio • As a service provider, I am willing to offer my services through the SOA4All Platform • As a service provider, I am willing to use SOA4All Platform to generate profits • As a service provider, I am willing to buy and resell services using the SOA4All Platform • As a service provider, I am willing to pay for technical support 	<p><input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p><input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p><input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p><input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p><input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p><input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p><input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p><input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p>

Do you have any opinions in regard to the SOA4All project or suggestions for improving the SOA4All Platform?

If you are interested to find out more please visit www.soa4all.eu or provide us your contact details:

Name: _____ Company: _____

Mail: _____