



simpli-city

The Road User Information System Of The Future

WP9 – Exploitation, Dissemination, Collaboration and Standardisation

D9.3.2: Scientific Dissemination Report II

Deliverable Lead: FGM

Contributing Partners: TUV, ASC, TIE, TUDA, IBM, TALK, WORLD, CRF, SRM

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Short Abstract (Teaser)

This document describes the scientific dissemination activities and the promotional activities that have been carried out within the first 24 months of the project SIMPLI-CITY. The current progress regarding dissemination activities as well as planned forthcoming activities are highlighted in this deliverable.



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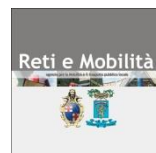
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Executive Summary

This document describes the scientific dissemination activities as well as the promotional activities that have been carried out within the first 24 months of the project SIMPLI-CITY. It follows closely the themes of the “Dissemination and Communication Strategy” working paper that guides the communication and outreach activities of the SIMPLI-CITY Consortium.

This deliverable highlights the current progress regarding dissemination and communication activities, and gives also an overview of the forthcoming planned activities within the Tasks T9.2 (Promotion and Promotional Materials) and T9.3 (Dissemination and Workshops) of the project SIMPLI-CITY.

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1 Introduction

SIMPLI-CITY – The Road User Information System of the Future – is a project funded by the Seventh Framework Programme of the European Commission under Grant Agreement No. 318201. It provides the technological foundation for bringing the “App Revolution” to road users by facilitating data integration, service development, and end user interaction.

Within this deliverable, the scientific dissemination activities as well as the promotional activities that have been carried out within the first 24 months of the project SIMPLI-CITY are described. The current progress regarding dissemination and communication activities is highlighted, and also an overview of the forthcoming planned activities within the Tasks T9.2 (Promotion and Promotional Materials) and T9.3 (Dissemination and Workshops) of the project SIMPLI-CITY is given.

1.1 SIMPLI-CITY Project Overview

Analogously to the “App Revolution”, SIMPLI-CITY adds a “software layer” to the hardware-driven “product” mobility. SIMPLI-CITY will take advantage of the great success of mobile apps that are currently being provided for systems such as Android, iOS, or Windows Phone. These apps have created new opportunities and even business models by making it possible for developers to produce new apps on top of the mobile device infrastructure. Many of the most advanced and innovative apps have been developed by players formerly not involved in the mobile software market. Hence, SIMPLI-CITY will support third party developers to efficiently realise and sell their mobility-related service and app ideas by a range of methods and tools, including the Mobility Services and App Marketplaces.

In order to foster the wide usage of those services, a holistic framework is needed which structures and bundles potential services that could deliver data from various sources to road user information systems. SIMPLI-CITY will provide such a framework by facilitating the following main project results:

- **Mobility Services Framework:** A next-generation European Wide Service Platform (EWSP) allowing the creation of mobility-related services as well as the creation of corresponding apps. This will enable third party providers to produce a wide range of interoperable, value-added services, and apps for drivers and other road users.
- **Mobility-related Data as a Service:** The integration of various, heterogeneous data sources like sensors, cooperative systems, telematics, open data repositories, people-centric sensing, and media data streams, which can be modeled, accessed, and integrated in a unified way.
- **Personal Mobility Assistant:** An end user assistant that allows road users to make use of the information provided by apps and to interact with them in a non-distracting way – based on a speech recognition approach. New apps can be integrated into the Personal Mobility Assistant in order to extend its functionalities for individual needs.

To achieve its goals, SIMPLI-CITY conducts original research and applies technologies from the fields of Ubiquitous Computing, Big Data, Media Streaming, the Semantic Web,

the Internet of Things, the Internet of Services, and Human-Computer Interaction. For more information, please refer to the project website at <http://www.simpli-city.eu>.

1.2 Deliverable Purpose, Scope and Context

The purpose of this deliverable is to report scientific dissemination as well as promotion and communication activities performed in SIMPLI-CITY during the first two years. These activities include publications, presentations and other dissemination events.

This dissemination report is updated every year and provides an overview of the current state regarding the dissemination and communication activities as outlined in the DoW and in the “Dissemination and Communication Strategy” working paper.

1.3 Document Status and Target Audience

This document is listed in the Description of Work (DoW) as “public”, as it provides general information about the dissemination and communication activities of SIMPLI-CITY and can therefore be used by external parties in order to get according insight into the respective project activities. This public deliverable can also be useful for the wider scientific and industrial community as well as other publicly funded projects, which may be interested in collaboration activities.

1.4 Abbreviations and Glossary

A definition of common terms and roles related to the realization of SIMPLI-CITY as well as a list of abbreviations is available in the supplementary document “Supplement: Abbreviations and Glossary”, which is provided in addition to this deliverable.

Further information can be found at <http://www.simpli-city.eu>.

1.5 Document Structure

This deliverable is broken down into the following sections:

Section 1 provides an introduction for this deliverable including a general overview of the project, and outlines the purpose, scope, context, status, and target audience of this deliverable.

Section 2 describes the dissemination methodology including dissemination and communication approach, tools and targets.

Section 3 outlines the updated dissemination planning, and describes the dissemination actions carried out from month 1 to month 24 of the SIMPLI-CITY project

Section 4 gives a summary of the dissemination and communication efforts described in this deliverable.

2 Dissemination and Communication Strategy

2.1 Communications Vision and Objectives

The aim of SIMPLI-CITY is to “foster the usage of full-fledged road user information systems – helping drivers to make their journey safer, more comfortable, and more environmentally friendly.” - The communications vision for SIMPLI-CITY is that as many end users (see “Target Groups” of SIMPLI-CITY) as possible are informed about SIMPLI-CITY, and are ready and able to use the knowledge delivered by the project. The following table gives an overview of the objectives and (desired) outcomes of the communication and dissemination efforts within SIMPLI-CITY:

Table 1: SIMPLI-CITY’s Communications Objectives

Communications Objective	Outcome
On a communications level, what are we trying to accomplish?	What will be achieved when the Communications Objective is met?
Primary Objective(s)	
Raise awareness among non-SIMPLI-CITY partners across Europe of the importance of full-fledged road user information systems ⇒	Awareness about the presence of interoperable, value-added services, and applications, which support drivers and other road users to adopt a sustainable mobility style, become more and more „mainstream“
Build a “brand identity” for SIMPLI-CITY, establishing SIMPLI-CITY as a leading voice and a source for information and experience about full-fledged road user information systems ⇒	An increase in the amount of interest in SIMPLI-CITY in the form of inquiries from external audiences, and web traffic
Facilitate knowledge transfer from results, solutions and recommendations developed by SIMPLI-CITY to other projects, EU clusters, and Future Internet PPP projects and activities ⇒	An increase in the exchange of information with other projects, clusters and other specialists in this field and their peers, especially at conferences and other events
Supporting Objective(s)	
Coordinate and assist SIMPLI-CITY project dissemination teams with their communication activities and delivery of user-friendly information products and results ⇒	Consistency and common messaging throughout SIMPLI-CITY communications; Communications services and products are user-friendly; Result publications are easily accessible and receive high visibility;

2.2 Target Groups

The target groups of SIMPLI-CITY's communication and dissemination activities can be categorised as "end target groups" and "intermediary target groups":

- "*End target groups*" are defined as those whose attitudes and behaviour ultimately determine the success or failure of SIMPLI-CITY's communication efforts.
- "*Intermediary target groups*" are defined as those who have the power to influence the attitudes and behaviour of the "end target groups".

The following table lists these stakeholder groups, who have been identified to be relevant for SIMPLI-CITY's dissemination and communication activities:

Table 2: Target Groups of SIMPLI-CITY

Target group	Relevance for SIMPLI-CITY
"End target groups"	
Software Developers	In SIMPLI-CITY independent software vendors will get the chance to develop and sell new mobile end user applications and reusable services on top of the SIMPLI-CITY prototype results and on top of the SIMPLI-CITY use cases.
Lecturers at academic level	The professors in the universities will be targeted in order to promote the inclusion of SIMPLI-CITY results in the practice programmes for computer science and (business) information systems students.
Students at academic level	The software engineering students are primarily a target for channelling the results of SIMPLI-CITY into the companies to which they may find their career route.
Research Units at EU level	SIMPLI-CITY will address R&D Units in different Directorates-General, which could disseminate and promote the usage of SIMPLI-CITY results in internal software projects as well as in funded research projects under their supervision.
Public authorities	Public authorities are a target group for SIMPLI-CITY, as they can make use of SIMPLI-CITY to provide transport related information to citizens, in order to improve the traffic in cities. Furthermore, they can develop apps over SIMPLI-CITY and publish their traffic-related data in an open data format to be used by SIMPLI-CITY's app developers
Automotive companies	On the one hand SIMPLI-CITY provides a specific apps marketplace that automotive companies can use for enhancing drivers' experience in terms of mobility, comfort, safety, fuel-economy , ... On the other hand SIMPLI-CITY can benefit from the information coming from the sensors of the cars and manage it in order to provide information to users e.g. regarding the real-time traffic

Target group	Relevance for SIMPLI-CITY
“Intermediary target groups”	
Business Consultants	SIMPLI-CITY will introduce a new view on how to realise road user information systems in a better way. This will allow consultants to introduce the results in real-world businesses.
Project Managers	Liaison with other R&D projects and programmes is relevant for exchange of knowledge and best practices.
Mainstream and specialised media	Media is an important source of information for the “end target groups”, therefore, also this group has to be approached.

Note: the greater public – which could be thought of as an “end target group” – is not directly addressed through SIMPLI-CITY’s communication and dissemination activities, since a dedicated campaign with significant resource allocation would be required. Nevertheless, citizen outreach does implicitly take place at the local level through the dissemination activities of the SIMPLI-CITY partners.

2.3 Channels of Dissemination and Communication

In order to ensure that all the target groups described above are informed about SIMPLI-CITY adequately, the consortium will communicate and disseminate information about SIMPLI-CITY and its results through different channels.

Table 3 gives an overview of the products, services, and tools that are used within SIMPLI-CITY to facilitate the dissemination of SIMPLI-CITY’s results and findings, and to support communication with the target groups:

Table 3: Dissemination Tools and Targets

Dissemination Tools	Dissemination Targets addressed							
	Academic Lecturers	Students	Software Developers	Automotive Companies	Public Authorities	Project Managers	Consultants	Media
Exhibition material (roll-up displays, poster)	x					x	x	
Promotion materials (printed project information)	x			x	x	x	x	
SIMPLI-CITY Newsletters	x			x	x	x	x	
SIMPLI-CITY Website	x	x	x	x	x	x	x	x
SIMPLI-CITY Workshops	x	x	x			x		
Media relations (press information, articles)								x
Scientific publications and presentations	x	x						
Non-scientific presentations and dissemination events		x	x	x	x	x	x	x
Others (Piggyback dissemination, Blogs, Personal Contacts,...)	x	x	x	x	x	x	x	x

3 Dissemination and Communication Activities

The following table gives an overview of the actual state of the dissemination and communication activities planned within SIMPLI-CITY:

Table 4: SIMPLI-CITY's Dissemination Planning

Task	Activity Name	Actual State	(Planned) Date of Initial Step(s)	(planned) Date of Finalisation
T9.2	Project Fact Sheet	completed	January 2013	February 2013
T9.2	Pop-up card	completed	March 2013	August 2013
T9.2	Roll-up display	completed	July 2013	September 2013
T9.2	Poster	completed	July 2013	September 2013
T9.2	Slide Library	initial version completed; updates on-going	August 2013	October 2013, regularly updated
T9.2	Newsletter I	completed	June 2013	September 2013
T9.2	Newsletter II	completed	December 2013	April 2014
T9.2	Newsletter III	completed	June 2014	September 2014
T9.2	Newsletter IV	not due yet	December 2014	February 2015
T9.2	Newsletter V	not due yet	June 2015	August 2015
T9.2	Website	in operation; updates on-going	October 2012	November 2012, regularly updated
T9.2	Media relations	ongoing	June 2013	August 2013, regularly updated
T9.2	Dissemination database	initial version completed; updates on-going	June 2013	August 2013, regularly updated
T9.3	Workshop I	completed	September 2013	June 2014
T9.3	Webinar	completed	June 2014	September 2014
T9.3	Workshop II	not due yet	March 2015	September 2015
T9.3	Scientific publications	on-going	March 2013	on-going until end of project
T9.3	Presentations at events	on-going	March 2013	on-going until end of project

During the first two years of the project SIMPLI-CITY several dissemination and communication activities have been carried out:

- Development and production of exhibition and promotional materials
- Creation and distribution of newsletters
- Creation and update of website
- Organisation and conduction of workshop and webinar
- Development of media relations
- Scientific publications and presentations
- Non-scientific presentations / dissemination events
- Other dissemination activities

Detailed information about each of these activities is presented in the following sections.

3.1 Exhibition and Promotional Materials

3.1.1 Project Logo and Corporate Design

A corporate design manual was created for the SIMPLI-CITY project. It serves as a guideline for the visual appearance of the project's promotion and communication products, and includes:

- The project's logo (with all relevant information such as colours, logo variations, rules for application, positioning, proportions, etc.)
- Templates for Word and Powerpoint documents (including font types, colours, styles, etc.)
- Examples of dissemination products (roll-up, poster,...)

The figure below shows the SIMPLI-CITY logo, which will be used for any kind of project presentations, the website, brochure, poster, etc.



Figure 1: Project Logo

3.1.2 SIMPLI-CITY Project Factsheet

In February 2013 a project factsheet has been developed, as shown in Figure 2. It has been updated according to the new style-guide / template of the FP7 in December 2013, as shown in Figure 3, and is available for download on the "Project"-page of the SIMPLI-CITY website.

SIMPLI-CITY

The Road User Information System of the Future

In one sentence, SIMPLI-CITY will provide the road user information system of the future – helping drivers to make their journey safer, more comfortable, and more environmentally friendly.

Project acronym: SIMPLI-CITY
The Road User Information System of the Future

Project type: STREP (Grant Agreement No. 318001)

Programme: FP7-ICT-Infrastructure

Project coordinator: Vienna University of Technology
Institute for Information Systems
Distributed Systems Group

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Project partners:
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IBM Ireland Product Distribution Limited,
Forschungsgesellschaft Mobilität – Austrian
Mobility Research FGM-AMOR gGmbH,
Tallkvarn AB,
Janssen s.r.l. Innovation in Applications, Milano,
SA,
Centro Ricerche Fiat S.p.A.
SRM – SOCIETÀ RETI E MOBILITÀ SRL

Start date: 1st of October 2012

End date: 30th of September 2015

Total cost: 4,908,445.00 €

EU funding: 3,591,991.00 €

Project website: www.simpli-city.eu

Rationale
Analogously to the "App Revolution", SIMPLI-CITY adds a "software layer" to the hardware-driven "product" mobility. SIMPLI-CITY will take advantage of the great success of mobile apps that are currently being provided for systems such as Android, iOS, or Windows Phone. These apps have created new opportunities and even business models by making it possible for developers to produce new applications on top of the mobile device infrastructure. Many of the most advanced and innovative apps have been developed by third party players. In order to facilitate an App Revolution in the mobility domain, it is necessary to develop the underlying technologies and software frameworks.

Objectives
SIMPLI-CITY will support developers to efficiently realise and sell their mobility-related service and app ideas by a range of methods and tools, aiming at data integration, service development, and end user interaction. All functionalities facilitated and provided by SIMPLI-CITY are provided in an open, extendable framework.

Results

SIMPLI-CITY will provide such a framework by facilitating the following main project results:

Mobility Service Framework: A next-generation European Wide Service Platform (EWSP) allowing the creation of mobility-related services as well as the creation of corresponding apps. This will enable third party providers to produce a wide range of interoperable, value-added services, and apps for drivers and other road users.

Mobility-related Data as a Service: The integration of various, heterogeneous data sources like sensors, cooperative systems, telematics, open data repositories, people-centric sensing, and media data streams, which can be modelled, accessed, and integrated in a unified way.

Personal Mobility Assistant: An end user assistant that allows road users to make use of the information provided by apps and to interact with them in a non-distracting way – based on a speech recognition approach. New apps can be integrated into the Personal Mobility Assistant in order to extend its functionalities for individual needs.

To achieve its goals, SIMPLI-CITY conducts original research and applies technologies from the fields of Ubiquitous Computing, Big Data, Media Streaming, the Semantic Web, the Internet of Things, the Internet of Services, and Human-Computer Interaction.

For more information, please refer to the project website at <http://www.simpli-city.eu>.

Project Structure

The Work Package (WP) Vision and Requirements (WP2) and the Architecture, Functional & Technical Specification, Security & Privacy Concept, Integration (WP3) provide the foundation for SIMPLI-CITY. Hence, most of the work conducted in these WPs will be conducted in the first year of the project. Based on that, WPs 4 to 6 provide the core RTD parts of SIMPLI-CITY, namely: researching Mobility Related Data as a Service (WP4), drafting the Mobility Service Framework (WP5), and presenting it to the user in form of a Personal Mobility Assistant (WP6). Based on their results, the (industrial) validation and real world piloting is done in two use cases: Meeting the Increased Mobility Demand (WP7) where there will be a test bed in Bologna and Enhancing the Driving Experience (WP8) in cooperation with the automotive partner. These use cases from the mobility domain will provide a wide range of mobility-related services and end user applications. Exploitation, Dissemination, Collaboration, and Standardisation (WP9) will happen across the duration of the project but the majority of exploitation, dissemination, and standardisation activities will be in the last 12 months. Project Management, Quality Assurance and Reporting (WP1) of course are pervasive throughout the duration of the project.

For further information

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Figure 2: Project Factsheet (Version from February 2013)

SIMPLI-CITY

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Figure 3: Project Factsheet (Updated Version from December 2013)

3.1.3 SIMPLI-CITY Press Information Package

In order to facilitate contact with the media a Press Information Package (containing a brief introduction to the project, the project logos in different formats, and some graphical material) was prepared and provided on the project's website for download (see Figure 4).

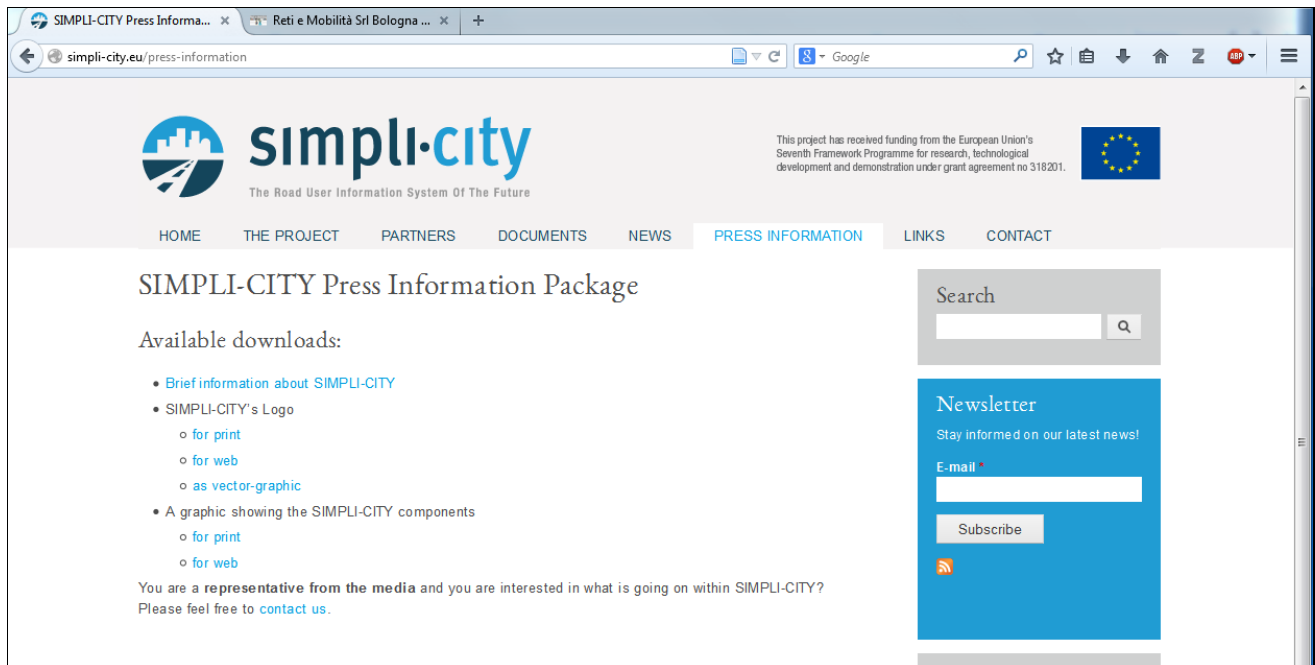


Figure 4: Press Information Package for Download from www.simpli-city.eu

3.1.4 SIMPLI-CITY Roll-up

Two versions of the SIMPLI-CITY roll-up have been developed (as shown in Figure 5), and the partners could individually choose the one that fits their needs best. For each partner one roll-up (size: approx. 210 x 85 cm) was produced.



Figure 5: The two Layout Versions of the SIMPLI-CITY Roll-up

3.1.5 SIMPLI-CITY Poster

Two SIMPLI-CITY posters (format: DIN A1) have been created as shown in Figure 6. One of the two posters sets the focus on the graphical presentation of the SIMPLI-CITY components, while the other poster gives text-based information regarding the SIMPLI-CITY components. The posters are designed such that they complement each other and may be displayed either each of them stand-alone or both of them side by side. For each project partner a set of posters is produced.

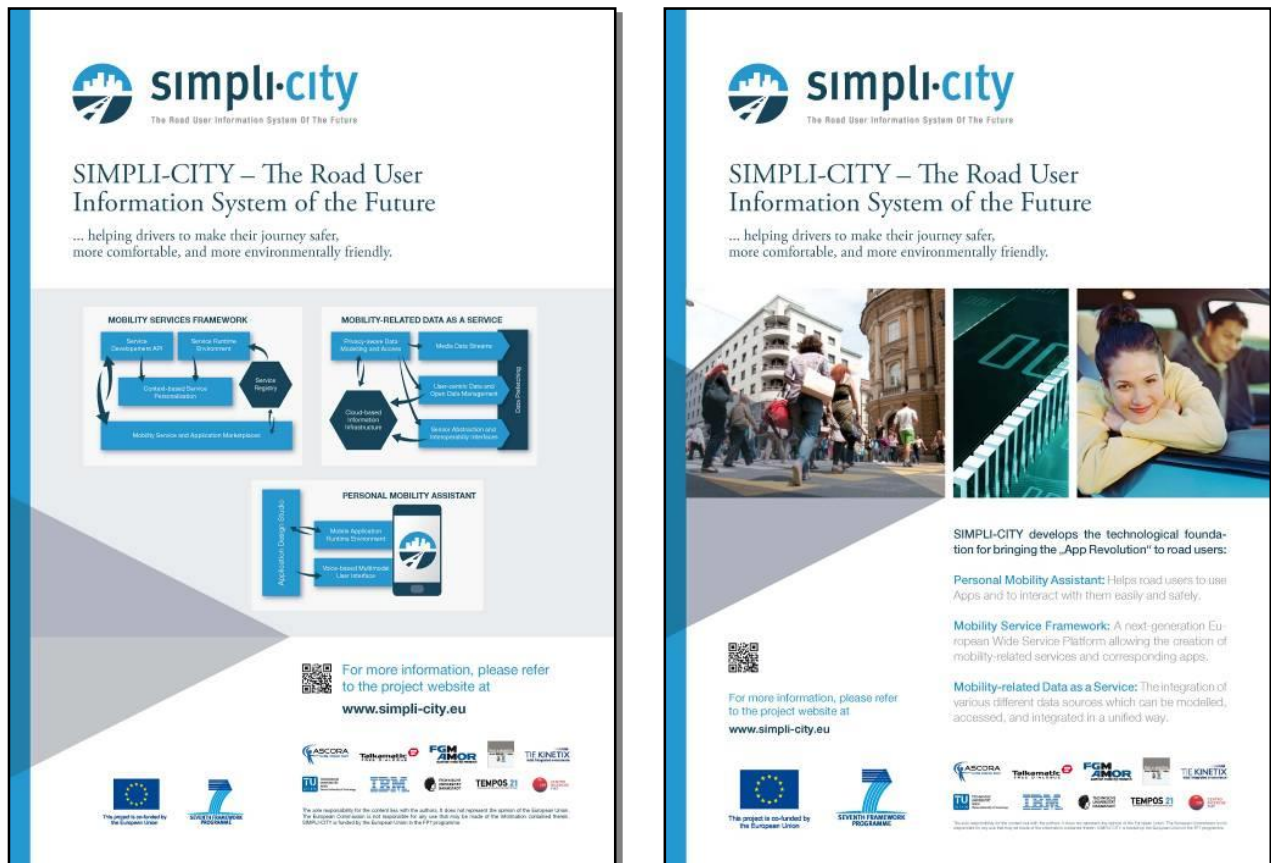


Figure 6: Set of SIMPLI-CITY Posters

3.1.6 SIMPLI-CITY Pop-up Card

The SIMPLI-CITY pop-up card – a card that pops-up a city in 3D – (see Figure 7) is an eye-catching means to give brief information about the project and promote the project's website.

In August 2013 each project partner has got 200 pop-up cards (format: DIN A4 folded) to be used as support for the partners' promotion activities.

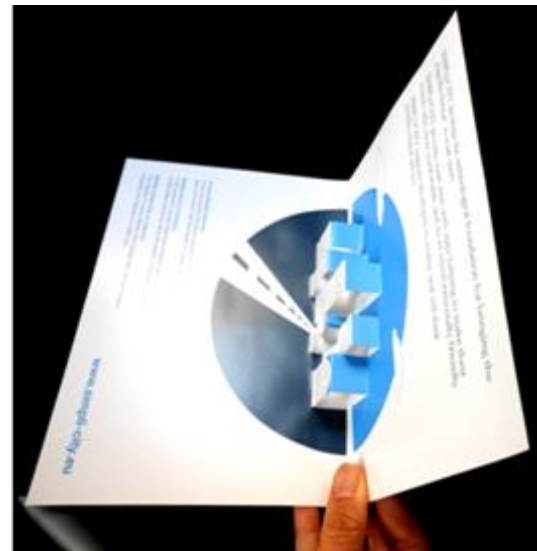


Figure 7: The SIMPLICITY Pop-up Card

3.2 Newsletters

In total five newsletters are planned to be published within the project duration, the first in project month 12. Newsletters are sent out electronically via email, and in addition hard copies of them are printed and distributed in different dissemination events such as workshops, conferences, fairs, exhibitions, etc.

The first newsletter (shown in Figure 8), which briefly introduces SIMPLI-CITY and gives some basic information about the scope, the objectives, and the envisaged results of the project, was sent out in September 2013 in electronic version to the mailing list (35 contacts). Additionally 1000 hard copies were printed and distributed in different dissemination events.



Figure 8: SIMPLI-CITY Newsletter No. 1

The second newsletter, shown in Figure 9, included information about the SIMPLI-CITY user survey and the award winning demo STAR-CITY, as well as a description of the SIMPLI-CITY Information App and an invitation to the first SIMPLI-CITY Workshop. The newsletter was sent out in electronic format to the mailing list (130 contacts) at the beginning of April 2014, and in addition 1000 printed versions of the newsletter were distributed.

SIMPLI-CITY PROJECT NEWS MARCH/APRIL 2014 | No. 2

NEWSLETTER

SIMPLI-CITY - THE ROAD USER INFORMATION SYSTEM OF THE FUTURE





SIMPLI-CITY-Workshop "Business meets Science" on ITS Helsinki

On the 16th of June, SIMPLI-CITY will be hosting a workshop on ITS-Helsinki with the topic "Business meets Science". Experts from science and business will discuss future trends of Information Systems with a special focus on Road User Information Apps and services. The interactive workshop includes a mixture of presentations, discussions and a panel session. Find the detailed agenda on the SIMPLI-CITY website and take the chance to: [REGISTER NOW!](#)

SIMPLI-CITY User survey

At the beginning of 2014 SIMPLI-CITY conducted a survey in order to obtain road-users' point of view regarding the usefulness of the planned SIMPLI-CITY Apps. 239 people filled-in the online questionnaire and gave their ratings on a scale from 0 (= not useful) to 5 (= very useful). The top-ranked Apps were those, which notify the user of anticipated delays along the planned route and suggest the best alternative route, provide the user with real-time information about the current state of traffic conditions and also about personally relevant traffic restrictions. The results of this survey will be used by SIMPLI-CITY for prioritisation of the Apps in the forthcoming development and implementation process.

* This number is a very approximate and unprecise success for a research-driven survey and shows the large margin in the SIMPLI-CITY ecosystem.

Dear Readers

Welcome to the second SIMPLI-CITY Newsletter. Within this newsletter, you will find information about the SIMPLI-CITY User Survey as well as the award winning demo STAR-CITY. Both have received great interest by the general public and the research community, showing the timeliness and importance of the topics regarded in SIMPLI-CITY. We are very happy that we will be able to present the current status of the project at ITS Europe 2014 and cordially invite you to join us in Helsinki.

Prof. S. Duster & Dr. S. Schulte
Vienna University of Technology
Distributed Systems Group
Prof. Dr. Schahram Duster
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Vienna University of Technology,
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Distributed Systems Group
Prof. Dr. Schahram Duster
Dr.-Ing. Stefan Schulte
s.schulte@infosys.tuwien.ac.at

Find more information about STAR-CITY:
http://challenge.semanticweb.org/2013/submissions/awc2013_submission_11.pdf
> Contact the author: Freddy Lacue

simpli-city
The Road User Information System of the Future

This project has received funding from the European Union's Seventh Framework Programme for research, technological development and demonstration under grant agreement no 318201.

SIMPLI-CITY PROJECT NEWS MARCH/APRIL 2014 | No. 2

NEWSLETTER

SIMPLI-CITY - THE ROAD USER INFORMATION SYSTEM OF THE FUTURE

STAR-CITY: Semantic Traffic Analytics and Reasoning for CITY

As the number of vehicles on the road steadily increases and the expansion of roadways remains static, congestion in cities became one of the major transportation issues in most industrial countries. Urban traffic costs 5.5 billion hours of travel delay and 2.9 billion gallons of wasted fuel in the USA only, all at the price of \$121 billion. Even worse, the costs of extra time and wasted fuel have quintupled over the past 30 years. It also used to (i) stress and frustrate motorists, encouraging road rage and reducing health of motorists and (ii) interfere with the passage of emergency vehicles traveling to destinations where they are urgently needed. All are examples of negative effects of congestion in cities.

Three ways can be considered to reduce congestion: one is to improve the infrastructure e.g., by increasing the road capacity, but this requires enormous expenditure which is often not viable in many urban areas. Promoting public transport in large cities is another way but it is not always convenient. Another solution is to determine where, when, and why congestion will be occurring, which will support transportation departments and their managers to proactively manage the traffic before congestion is reached e.g., changing traffic light strategy or re-routing for efficient urban planning. SIMPLI-CITY addresses these challenges through one of its components called STAR-CITY (Semantic Traffic Analytics and Reasoning for CITY). The award winning system of SIMPLI-CITY (WP4 and WP7) for the semantic web challenge at ISWC 2013 (October 21st - 25th) in Sydney, which focused on the knowledge representation and reasoning layer of SIMPLI-CITY, presents a system supporting semantic traffic analytics and reasoning for city. This system (Video available on <http://dublinked.ie/sandbox/star-city>) which integrates (human and machine-based) sensor data using a variety of formats, vocabularies and volumes, has been designed to provide insight on historical and real-time traffic conditions, all supporting efficient urban planning. Our system demonstrates how the severity of road traffic congestion can be smoothly analyzed, diagnosed, explored and predicted using semantic web technologies. Our prototype of semantics-aware traffic analytics and reasoning, experimented in Dublin City Ireland, works and scales efficiently with real, historical together with live and heterogeneous stream data.

Find more information about STAR-CITY:
http://challenge.semanticweb.org/2013/submissions/awc2013_submission_11.pdf
> Contact the author: Freddy Lacue

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SIMPLI-CITY PROJECT NEWS MARCH/APRIL 2014 | No. 2

NEWSLETTER

SIMPLI-CITY - THE ROAD USER INFORMATION SYSTEM OF THE FUTURE

The SIMPLI-CITY Information App



Nowadays, staying up-to-date is not an easy task. As a solution, SIMPLI-CITY provides a Smartphone App to stay in touch with project partners and interested people. It brings news and status updates about the navigation system of the future, even on the go. From now on, it will also notify you with push notifications. A goal of SIMPLI-CITY is, to bring a smarter navigation-assistant to road-users. With an intuitive interface and understandable information, it creates a more comfortable, safer and easy way of driving. Information about results and the actual status of the EU sponsored project are already published by project members on the project website (www.simpli-city.eu) since the project kick-off. In addition, interested parties are now able to get information about the navigation-system of the future comfortably on the go. An intuitive and easy interface provides comfortable access to news, actual progress, information, goals and partners of the project. In a download section, released Deliverables can be downloaded and shown. The newest version brings an interesting feature to enhance the information process for the user. As soon as project-process news are available, the App will inform the user with push notifications about the actual progress in the SIMPLI-CITY project. To bring the advantages to a wide

base, the App was developed for the major Smartphone Platforms Android and iOS. The iOS version takes just 2.2MB and is compatible down to iOS 4 and the iPhone 3GS. The 5-star rated Android version consumes 7.6MB of storage and is compatible for Android 2.2 "Froyo" and newer. The following links provide the download location, or alternatively just scan the QR-code with your smartphone to install the app.

Download the App via QR-Code:

> iOS-Version:
<http://bit.ly/1gTWior>



> Android-Version
<http://bit.ly/1H4PH>



simpli-city
The Road User Information System of the Future

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SIMPLI-CITY PROJECT NEWS MARCH/APRIL 2014 | No. 2

NEWSLETTER

SIMPLI-CITY - THE ROAD USER INFORMATION SYSTEM OF THE FUTURE

New Deliverables on Website

SIMPLI-CITY wants to introduce you to some of its deliverables that are available at the website: <http://simpli-city.eu/documents>

The Project Vision Consensus Document presents the general positioning of SIMPLI-CITY in terms of the challenges that the project is going to meet, the business and Research and Technical Development (RTD) objectives of SIMPLI-CITY, and general business opportunities facilitated through the project.

The Target Market Sector Descriptor describes the current market sector for SIMPLI-CITY in order to maximize future exploitation opportunities. The Requirements Analysis lists and describes the requirements of the SIMPLI-CITY project, which have the objective to identify the user needs and to describe the requisites of the SIMPLI-CITY architecture in order to fulfil these needs. These requirements will serve as a basis for the upcoming tasks of the project.

The Global Architecture Definition delivers a bird's-eye view of the SIMPLI-CITY components by showing the high-level architecture in a graphical way. Based on this, each software component is described in a detailed way. The Functional Specification describes the SIMPLI-CITY software components in detail. Together with the Requirements Analysis Report, the initial State of the Art Review, the Global Architecture Definition, and the Technical Specification, it provides the foundation for the Research, Technology, and Development work in the project. The Holistic Security and Privacy Concept describes the privacy and security aspects of the project and ensures that the concept is applicable to and followed by all SIMPLI-CITY software components.

Find Interesting Links to State of the Art articles to relevant related research areas:
<http://simpli-city.eu/state-art>

If you want to know more about SIMPLI-CITY, please visit the project's website:
www.simpli-city.eu

Upcoming Events

SIMPLI-CITY-Workshop "Business meets Science"
16th of June 2014, ITS Helsinki (FI)
Experts from science and business will discuss future trends of Information Systems and App development
> Agenda and registration

The 10th ITS European Congress
16 - 19 June 2014, Helsinki (FI)
This year theme of the 10th ITS European Congress is the ITS in your pocket - proven solutions driving user services.
> Link to website

7th International Congress "Cities for Mobility"
1-3 June 2014, Stuttgart (DE)
Over 200 decision-makers and experts in the urban transport area will share experiences and approaches.
> Link to website

ASCORA **Talkmatic** **FGM** **INOR** **TE KINETIX**
TU **IBM** **worltime**

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Figure 9: SIMPLI-CITY Newsletter No. 2

The third SIMPLI-CITY's newsletter (shown in Figure 10) included an invitation to the SIMPLI-CITY webinar, information about the PMA – SIMPLI-CITY's user interface, and a short report on the Hackathon that was dedicated to SIMPLI-CITY's components' integration. This newsletter issue was distributed electronically to the mailing list (130 contacts) at the beginning of September 2014. In addition 230 hard copies of this newsletter were printed.



Figure 10: SIMPLI-CITY Newsletter No. 3

3.3 SIMPLI-CITY Slide Library

In order to support partners in their dissemination activities, a slide library providing basic information about the project was prepared as shown in Figure 11. The initial version of the SIMPLI-CITY slide library (28 slides) was available at the end of October 2013. The slide library is regularly updated to keep pace with the project's developments. In September 2014 the slide library already included 36 slides. (The slide library will keep being updated throughout the course of the project.)

D9.3.2_Scientific_Dissemination_Report_II_v1.00_EC_ Approved.docx	Document Version: 1.00	Date: 2015-04-21	Status: Approved	Page: 20 / 64
http://www.simpli-city.eu/		Copyright © SIMPLI-CITY Project Consortium. All Rights Reserved. Grant Agreement No.: 318201		



Figure 11: Examples of Slides Included in the SIMPLI-CITY Slide Library

3.4 SIMPLI-CITY App

Partner Ascora developed a SIMPLI-CITY information App for Android and iOS devices as shown in Figure 12. This App was released in the Google Play Store and in the Apple App Store in March 2013. It brings news and updates about SIMPLI-CITY on the go. The iOS version takes just 2.2MB and is compatible down to iOS 4 and the iPhone 3GS. The 5-star rated Android version consumes 7.6MB of storage and is compatible for Android 2.2 “Froyo” and newer.



Figure 12: SIMPLI-CITY Information App, Screenshot

3.5 Website

The project's public website (<http://www.simpli-city.eu>) is in operation since 18.12.2012. The website is updated regularly.

It contains information about the project and the partners, invites the visitor to subscribe for the SIMPLI-CITY newsletters, includes a section for project related news, and a list of links to thematically related web-resources. Furthermore the website provides the possibility to download the project's deliverables and abstracts of the publications, and to contact the project's coordinator.

From April 2014 to June 2014 an invitation for the SIMPLI-CITY Workshop at the ITS Helsinki and a registration page for the workshop was available on the SIMPLI-CITY website.

From July 2014 to September 2014 an invitation for the SIMPLI-CITY Webinar and a registration page for the webinar was available on the SIMPLI-CITY website.

The screenshots shown in Figure 13 give an impression of the SIMPLI-CITY website www.simpli-city.eu.



Components

Mobility Service Framework:
A next-generation European-wide service platform allowing the creation of mobility-related services as well as the creation of corresponding Apps. This will enable third party providers to produce a wide range of interoperable, value-added services, and Apps for road users.

Mobility-related Data as a Service:
A framework for the integration of various different data sources like sensors, cooperative systems, telematics, open data repositories, people-centric sensing, and media data streams, so that these data can be accessed and utilised in a unified way.

Personal Mobility Assistant:
An end user assistant that allows road users to make easily use of the information provided by Apps and to interact with them based on a speech recognition approach.

MOBILITY SERVICES FRAMEWORK

- Service Development API
- Service Runtime Environment
- Context-based Service Personalisation
- Service Registry
- Mobility Service and Application Marketplaces

MOBILITY-RELATED DATA AS A SERVICE

- Privacy-aware Data Modelling and Access
- Media Data Streams
- User-centric Data and Open Data Management
- Sensor Abstraction and Interoperability Interfaces
- Cloud-based Information Infrastructure
- Data Publishing

PERSONAL MOBILITY ASSISTANT

- Application Design Studio
- Mobile Application Runtime Environment
- Voice-based Multimodal User Interface

Partners

The SIMPLI-CITY Consortium is composed of ten experienced and complementary partners from seven EU-countries, covering mobility and ICT as well as SMEs and research organisations.

	TECHNISCHE UNIVERSITÄT WIEN Vienna University of Technology	Project Coordinator Vienna University of Technology Institute for Information Systems Distributed Systems Group Contact: Dr.-Ing. Stefan Schulte
	Ascora GmbH http://ascora.de/	
	TIE KINETIX total integrated e-commerce	TIE Netherlands B.V. http://tiekinetix.com/
	Technische Universität Darmstadt	
	IBM Ireland Limited	







Figure 13: Screenshots of the SIMPLI-CITY Website (www.simpli-city.eu)

The website's traffic is monitored with the web analytics application Piwik. Table 5 below gives the actual cumulative numbers of visitors and page views for month 6, month 12, and month 24 of the project.

Table 5: www.simpli-city.eu – Visitors and Page Views (Cumulated Figures)

Metric	Month 6 (until 31.03.2013)	Month 12 (until 27.09.2013)	Month 24 (until 29.09.2014)
Visits	524	1349	4139
Unique visitors	271	656	2247
Page views	2542	5457	15121
Unique page views	1517	3326	9554

3.6 SIMPLI-CITY Workshops

3.6.1 SIMPLI-CITY Workshop I

The first SIMPLI-CITY workshop „Business meets Science“ took place on Monday, June 16, 2014 in conjunction with the 10th ITS European Congress in Helsinki. The ITS Congress & Exhibition are two of Europe's largest events in the field of Intelligent Transport Systems and Services.

The promotion for the workshop began 2 months before the event (see the related leaflet in Figure 14). The theme “Business meets Science”, related topics and an agenda were elaborated in close cooperation with all partners with the aim of attracting as many participants as possible. An invitation with the agenda was designed as a leaflet and was printed (400 copies) and distributed by all partners in order to announce the workshop. From April to June 2014 an invitation to the first SIMPLI-CITY's workshop was placed prominently on the SIMPLI-CITY's website homepage and a special page for the workshop was added to the site <http://simpli-city.eu/workshop>. Furthermore the workshop was advertised also via other electronic channels such as Facebook and several info-mailings. An article about the workshop was included in the second issue of the SIMPLI-CITY's newsletter, which was distributed in both electronic and printed versions (1000 copies). Also partners gave their best to convince their contacts as potential workshop guests directly Face-to-Face. Additionally the workshop was announced at the website of the ITS Congress (<http://www.itsineurope.com/its10/>).

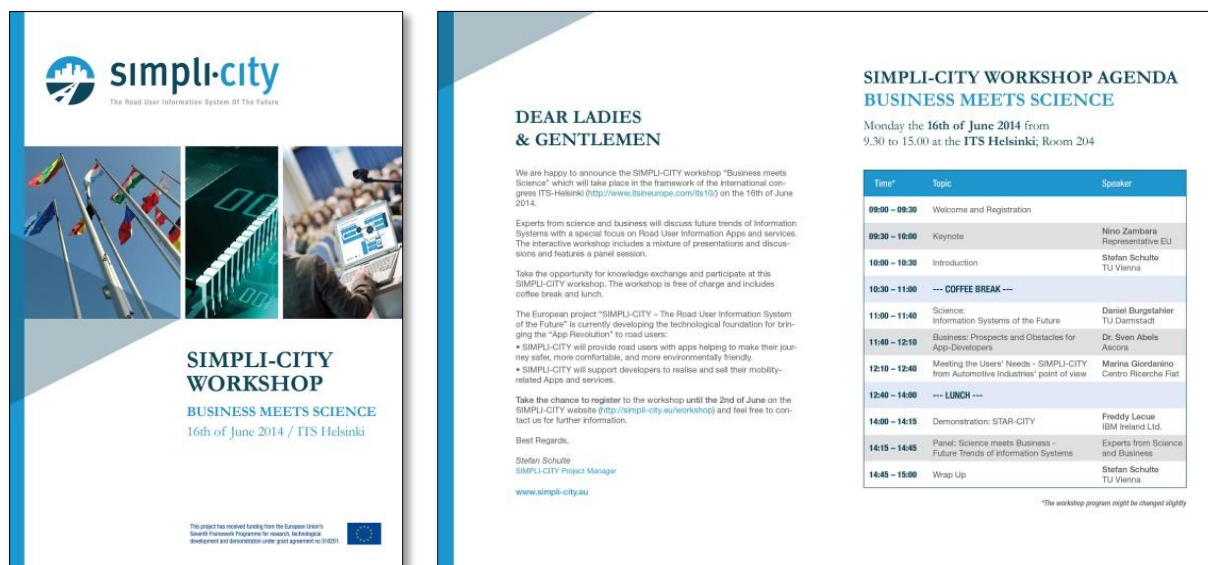


Figure 14: Leaflet for the SIMPLI-CITY Workshop I

Unfortunately, despite the communication effort, the workshop did not achieve the expected success. There were only 16 registrations and finally 11 participants at the workshop. The small amount of participants can be explained with the expensive flight connections to Helsinki on the one hand and the unfavourable time of the workshop, starting on Monday morning at 9:30am. (This time for the workshop was strongly recommended by the organisation of ITS).

However, the presentations given at the workshop were interesting and well prepared: A key note speech was given by Nino Zambara, as representative of the European Union. Stefan Schulte (Technical University of Vienna) as representative of the SIMPLI-CITY consortium gave an introduction to the project itself in the context of App development and market movements in Europe. David Burgstahler from the Technical University of Darmstadt presented new findings from the science perspective and showed possible future scenarios of App development in a growing European market. Sven Abels from the private company ASCORA described the business perspective and showed prospects and obstacles for App-developers. And Freddy Lecue from IBM Ireland presented the successful and awarded demonstration STAR-CITY, with digital animations and a small movie. In the panel session the participants took the opportunity for knowledge exchange to ask questions to the experts of the SIMPLI-CITY consortium, before Stefan Schulte summarised the workshop in a wrap-up session.

SIMPLI-CITY Webinar

Since the number of participants at the workshop was quite small, the Consortium decided to organise an additional webinar with the same title and similar content as the workshop. The promotion started in July 2014. In addition to a specially designed invitation mailing (see Figure 15) and invitation pdf-file (see Figure 16), the webinar was announced in the third issue of the newsletter (see Figure 10), and also promoted by the partners personally to their contacts.



Figure 15: SIMPLI-CITY Webinar Invitation Mailing

**WEBINAR:
BUSINESS MEETS SCIENCE**
18th of September 2014 at 2pm (CET)

Time	Topic	Presenter
14:00 – 14:15	Introduction	Stefan Schulte TU Vienna
14:15– 14:30	Science: Information Systems of the Future	Stefan Schulte TU Vienna
14:30– 14:50	Business: Prospects and Obstacles for App-Developers	Dr. Sven Abels Ascora
14:50 – 15:10	Demonstration: STAR-CITY	Freddy Lecue IBM Ireland Ltd.
15:10 – 15:30	Questions from the Audience & Wrap up	Stefan Schulte TU Vienna

This webinar is organised by the SIMPLI-CITY consortium and is powered by GoToWebinar.
Please register on: <https://attendee.gotowebinar.com/register/7288921325772675074>
Find further information on: www.simpli-city.eu/webinar

Figure 16: PDF-File Designed for Promotion of the SIMPLI-CITY Webinar

The webinar took place on the 18th of September. 55 interested people registered and finally 40 participants attended the online workshop. The webinar had a duration of 90 minutes. Stefan Schulte informed the participants about the project SIMPLI-CITY, its main challenges and objectives. After this introduction he continued with the Science aspects and showed possible developments of Information Systems in the future. The next presentation was held by Sven Abels who showed prospects and obstacles for App-Developers from the business perspective. Freddy Lecue made the final online presentation and informed the audience about Star-City. After the presentations questions by the participants were answered by all panellists.

3.7 Media Relations

Press Release Published by Partner TIE

At the beginning of the project, TIE has issued a *press release*, which explains the project and emphasizes the benefits of it. This press release can be reached directly at the following URL addresses:

- TIE Kinetix main web page:
<http://tiekinetix.com/node/1203>
- TIE Kinetix Investor Center:
<http://investorcenter.tiekinetix.com/news/tie-kinetix-technology-provider-european-union-projects-simpli-city-and-intuitel>
- Noodls:
<http://www.noodls.com/view/332B62CAC9BF18C8AE907D1385C337057BE9F590>
- TIE Kinetix's Facebook page:
<https://www.facebook.com/TIEKinetix/posts/387885421301578?ustart=1>
- TIE Kinetix's Official Twitter Account

Press Interview Given by Partner TUDA

In June 2014, SIMPLI-CITY partner TU Darmstadt welcomed a group of about 15 German journalists to inform them about the activities of the Multimedia Communication Lab in European projects, including SIMPLI-CITY. This visit of the journalists at TU Darmstadt led to coverage in different German media:

- RTL: TV report on June 26th 2014:
<http://www.rtl-hessen.de/video/4780/hessische-projekte-mit-eu-unterstuetzung>
- Darmstädter Echo: Newspaper article on June 26th 2014:
<http://www.echo-online.de/region/suedhessen/EU-Geld-kommt-gut-an-in-Suedhessen;art24719,5169943>
- Frankfurter Neue Presse: Newspaper article on June 26th 2014:
<http://www.kreisblatt.de/rhein-main/So-profitiert-Hessen-von-der-EU;art801,911527>

Press Interview given by Partner IBM

On December 3rd 2013, at the launch of the re-generated IBM Innovation Centre in Dublin, Freddy Lecue from IBM Research – Ireland, a member of the EU FP7 SIMPLI-CITY Consortium, demonstrated and presented the ISWC awarded STAR-CITY (i.e. SIMPLI-CITY WP4 and WP7) to the audience, including several delegates from Irish media. In addition to this presentation Freddy Lecue gave an interview to Irish Independent Newspaper and Sunday Business Post regarding “STAR-CITY”/SIMPLI-CITY.

The article that was published by Irish Independent based on this interview (see Figure 17) can be found at

<http://www.independent.ie/business/irish/ibm-tool-generates-data-on-dublin-city-traffic-29807008.html>



Figure 17: Screenshot of the SIMPLI-CITY-Related Article Published by Irish Independent
Press Release Published at The Wall Street Journal

The SIMPLI-CITY related paper “STAR-CITY: Semantic Traffic Analytics and Reasoning for CITY”, by Freddy Lecue et al was awarded the 3rd prize in the 2013 Semantic Web Challenge, and thus was announced in a Press Release (see Figure 18) published online at The Wall Street Journal on October 30, 2013:

<http://online.wsj.com/article/PR-CO-20131030-909839.html>

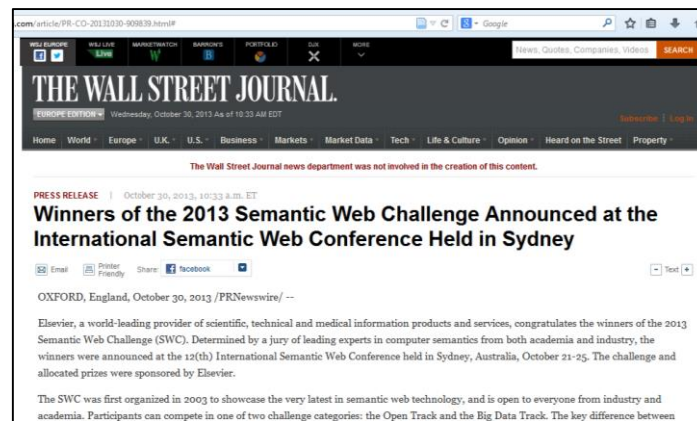


Figure 18: Screenshot of the Press Release Published at The Wall Street Journal

3.8 Scientific Publications

The publication of articles in scientific/technical journals and the presentation of SIMPLI-CITY related research findings at scientific conferences help to reach a wide range of scientists. Thus getting a paper published in an international journal or in conference proceedings supports the objective of promoting the project and its results to the international scientific community. In addition, conferences provide also an opportunity to discuss the findings and results with scientists from different research areas.

Within the first 24 months of SIMPLI-CITY, 18 SIMPLI-CITY related scientific papers have been published by the project partners, and further 5 scientific papers are accepted for publication in the next months.

Table 6 illustrates the relation of the scientific publications and the project's foreground, i.e. it lists the SIMPLI-CITY work packages, which delivered the relevant foreground for the respective papers.

The abstracts of these SIMPLI-CITY related scientific papers published in 2013 and 2014 can be found in subsections 0 and 3.8.2 respectively.

Since the copyright of many of these papers is with the editors, the full papers cannot be included in this report, but are submitted to the EC project officer only in a separate confidential document.

Table 6: Scientific Publications and Related SIMPLI-CITY Foreground

Scientific Papers	Related SIMPLI-CITY Work Packages
Enabling Virtual Manufacturing Enterprises with Cloud Computing – An Analysis of Criteria for the Selection of Database as a Service Offers	WP4
Energy-efficient Web Service Invocation on Mobile Devices: The Influence of Compression and Parsing	WP4
Realizing Elastic Processes with ViePEP	WP5
Introducing the Vienna Platform for Elastic Processes	WP5
Exploiting Platform Heterogeneity in Wireless Sensor Networks by Shifting Resource-Intensive Tasks to Dedicated Processing Nodes	WP4
Towards Constructive Evidence of Data Flow-Oriented Web Service Composition	WP4
Predicting Knowledge in An Ontology Stream	WP4
Workflow Scheduling and Resource Allocation for Cloud-based Execution of Elastic Processes	WP5
Self-Adaptive Resource Allocation for Elastic Process Execution	WP5
Push vs. Pull: An Energy Perspective	WP4
Cost-Driven Optimization of Cloud Resource Allocation for Elastic Processes	WP5
Decision support for Web service adaptation	WP5
STAR-CITY: Semantic Traffic Analytics and Reasoning for CITY	WP4, WP7
ViePEP – A BPMS for Elastic Processes	WP5
Towards Scalable Exploration of Diagnoses in an Ontology Stream	WP4, WP7
Predicting Severity of Road Traffic Congestion using Semantic Web Technologies	WP4, WP7
Profiling-Based Task Scheduling for Factory-Worker Applications in Infrastructure-as-a-Service Clouds	WP5
Switching Push and Pull: An Energy Efficient Notification Approach	WP4
Where is That Car Parked? A Wireless Sensor Network-Based Approach to Detect Car Positions	WP4
Semantic Traffic Diagnosis with STAR-CITY: Architecture and Lessons Learned from Deployment in Dublin, Bologna, Miami and Rio	WP4, WP7
Informationssysteme für Verkehrsteilnehmer: Datenintegration, Cloud-Dienste und der Persönliche Mobilitätsassistent	WP6
Architecture-centric Design of Complex Message-based Service Systems	WP5
Towards Consistency Checking over Evolving Ontologies	WP4, WP7

3.8.1 Scientific Papers Published in 2013

Push vs. Pull: An Energy Perspective

Reference: D. Burgstahler, U. Lampe, N. Richerzhagen and R. Steinmetz, "Push vs. Pull: An Energy Perspective", in: Proceedings of the 2013 6th IEEE International Conference on Service Oriented Computing & Applications (SOCA 2013), p. 190-193, IEEE Computer Society, December 2013. ISBN 978-1-4799-2701-2.

Abstract: In many application scenarios, such as traffic guidance or ambient living, services need to notify mobile applications about status changes. Such notifications to mobile devices can be realized using two principal approaches, namely push- and pull- based. Apart from functional differences, the two options likely result in different energy consumption, which is an important aspect due to the battery constraints of contemporary mobile devices. This paper provides a detailed assessment of energy consumption in pull- and push-based notification scenarios, considering different payload sizes and notification intervals. Our results indicate that an educated choice among both options may, depending on the specific application scenario, facilitate energy savings of up to 19%.

Enabling Virtual Manufacturing Enterprises with Cloud Computing – An Analysis of Criteria for the Selection of Data base as a Service Offers

Reference: R. Hans, D. Dahlen, S. Zöller, D. Schuller, U. Lampe, "Enabling Virtual Manufacturing Enterprises with Cloud Computing – An Analysis of Criteria for the Selection of Database as a Service Offers", in Américo Azevedo: Advances in Sustainable and Competitive Manufacturing Systems, Porto, Portugal, 2013, pages 427-438.

Abstract: In our globalized world, small- and medium-sized enterprises in the manufacturing domain face a highly competitive environment. They are subject to various challenges, such as very short product life cycles and a strong price competition with companies from low-cost countries. To remain competitive in such an environment, new forms of collaborations, like Virtual Manufacturing Enterprises, are required. An essential part of virtual organisations is data provisioning. Thereby, data from various sources like factories' ERP systems or data provided by sensors need to be processed and stored. In this context, data storage is a crucial architectural element that influences both functional aspects and competitive aspects, especially costs, of Virtual Manufacturing Enterprises. For realizing Virtual Manufacturing Enterprises with low up-front investments, the application of new technologies, such as Cloud Computing, is required. For storage of information in databases "Database as a Service" offers from the Cloud can be exploited. However, since there is a huge amount of providers acting on a non-transparent market, it is difficult to find appropriate "Database as a Service" offerings. To overcome this problem, we provide a criteria catalogue for the selection of providers and their services. Further, we show how different offers, which at the first glance look very similar, could cause very different expenses. With our work, we simplify the selection and evaluation of

Cloud storage providers and provide an evaluation of current Cloud storage service offers.

Energy-efficient Web Service Invocation on Mobile Devices: The Influence of Compression and Parsing

Reference: R. Hans, M. Zahn, U. Lampe, A. Papageorgiou, R. Steinmetz: "Energy-efficient Web Service Invocation on Mobile Devices: The Influence of Compression and Parsing", in: Proceedings of the 2nd International Conference on Mobile Services (MS 2013). P. 1-6, Institute of Electrical and Electronics Engineers (IEEE), June 2013. ISBN 978-0-7685-5029-9.

Abstract: In recent years, there has been a rapid growth in the number of smartphone applications, many of which rely on Web services as key building blocks. Unfortunately, the use of such applications and services requires substantial amounts of energy, which is specifically problematic in the context of battery-constrained mobile devices. In this paper, we examine the potential for energy-efficient mobile service consumption through fine-grained experiments. Our results indicate that energy savings of up to 21.5% may be achieved through the sophisticated use of compression, while the choice of an appropriate parsing strategy may yield savings of up to 53.4%. The results of our work facilitate the development of more energy-efficient, service-based mobile applications.

Workflow Scheduling and Resource Allocation for Cloud-based Execution of Elastic Processes

Reference: P. Hoenisch, S. Schulte, S. Dustdar, "Workflow Scheduling and Resource Allocation for Cloud-based Execution of Elastic Processes," in 6th IEEE International Conference on Service Oriented Computing and Applications (SOCA 2013), Kauai, HI, USA, 2013, pages 1-8.

Abstract: Today's extensive business process landscapes make it necessary to handle the execution of a large number of workflows. Especially if workflow steps require the invocation of resource-intensive applications or a large number of applications need to be carried out concurrently, process owners may have to allocate extensive computational resources, leading to high fixed costs. Instead, process owners could make use of Cloud-based computational resources, dynamically leasing and releasing resources on demand, which could lead to lower costs. In the work at hand, we propose a resource-efficient workflow scheduling algorithm for business processes and Cloud-based computational resources. Through the integration into the Vienna Platform for Elastic Processes and an evaluation, we show the practical applicability and the benefits of our contributions. Specifically, we find that our approach reduces the resource demand if compared with an ad hoc approach.

Self-Adaptive Resource Allocation for Elastic Process Execution

Reference: P. Hoenisch, S. Schulte, S. Dustdar and S. Venugopal, "Self-Adaptive Resource Allocation for Elastic Process Execution", in IEEE 6th International Conference on Cloud Computing (CLOUD 2013), Santa Clara, CA, USA, 2013, pages 220-227.

Abstract: Especially in large companies, business process landscapes may be made up from thousands of different process definitions and instances. As a result, a Business Process Management System (BPMS) needs to be able to handle the concurrent execution of a very large number of workflow steps. Many of these workflow steps may be resource-intensive, leading to ever-changing requirements regarding the needed computing resources to execute them. Using Cloud technologies, it is possible to allocate workflow steps to resources obtained on demand from Cloud platform providers. However, current BPMS do not feature the means to make use of Cloud resources in order to execute workflows. This work presents an approach to automatically lease and release Cloud resources for workflow executions based on knowledge about the current and future process landscape. This approach to self-adaptive resource allocation for elastic process execution is implemented as part of ViePEP, a research BPMS able to handle workflow executions in the Cloud.

Predicting Knowledge in An Ontology Stream

Reference: F. Lecue, J. Z. Pan, "Predicting Knowledge in An Ontology Stream", in Proceedings of the 23rd International Joint Conference on Artificial Intelligence (IJCAI 2013), Beijing, China, 2013, pp. 2662-2669.

Abstract: Recently, ontology stream reasoning has been introduced as a multidisciplinary approach, merging synergies from Artificial Intelligence, Database, World-Wide-Web to reason on semantic augmented data streams. Although knowledge evolution and real-time reasoning have been largely addressed in ontology streams, the challenge of predicting its future (or missing) knowledge remains open and yet unexplored. We tackle predictive reasoning as a correlation and interpretation of past semantics augmented data over exogenous ontology streams. Consistent predictions are constructed as Description Logics entailments by selecting and applying relevant cross-streams association rules. The experiments have shown accurate prediction with real and live stream data from Dublin City in Ireland.

Towards Constructive Evidence of Data Flow-Oriented Web Service Composition

Reference: F. Lecue, "Towards Constructive Evidence of Data Flow-Oriented Web Service Composition", in Proceedings of the 12th International Semantic Web Conference (ISWC 2013), Sydney, Australia, 2013, p. 298-313.

Abstract: Automation of service composition is one of the most interesting challenges facing the Semantic Web and the Web of services today. Despite approaches, which are able to infer a partial order of services, its data flow remains implicit

and difficult to be automatically generated. Enhanced with formal representations, the semantic links between output and input parameters of services can be then exploited to infer their data flow. This work addresses the problem of effectively inferring data flow between services based on their representations. To this end, we introduce the non-standard Description Logic reasoning join, aiming to provide a “constructive evidence” of why services can be connected and how non trivial links (many to many parameters) can be inferred in data flow. The preliminary evaluation provides evidence in favour of our approach regarding the completeness of data flow.

STAR-CITY: Semantic Traffic Analytics and Reasoning for CITY

Reference: F. Lecue, S. Tallevi-Diotalle, J. Hayes, R. Tucker, V. Bicer, M. Sbodio, P. Tommasi, “STAR-CITY: Semantic Traffic Analytics and Reasoning for CITY”, awarded the 3rd prize at the Semantic Web Challenge 2013, <http://challenge.semanticweb.org/2013/winners.html>, IBM Research, Smarter Cities Technology Centre Damastown Industrial Estate, Dublin, Ireland.

Abstract: This technical report, accompanying the application submitted for the Semantic Web Challenge, presents STAR-CITY, a system supporting semantic traffic analytics and reasoning for city. STAR-CITY, which integrates (human and machine-based) sensor data using variety of formats, velocities and volumes, has been designed to provide insight on historical and real-time traffic conditions, all supporting efficient urban planning. Our system demonstrates how the severity of road traffic congestion can be smoothly analyzed, diagnosed, explored and predicted using semantic web technologies. Our prototype of semantics-aware traffic analytics and reasoning, experimented in Dublin City Ireland and Bologna City Italy, works and scales efficiently with real, historical together with live and heterogeneous stream data.

Exploiting Platform Heterogeneity in Wireless Sensor Networks by Shifting Resource-Intensive Tasks to Dedicated Processing Nodes

Reference: A. Reinhardt, D. Burgstahler, “Exploiting Platform Heterogeneity in Wireless Sensor Networks by Shifting Resource-Intensive Tasks to Dedicated Processing Nodes”, in Proceedings of the 14th International Symposium on a World of Wireless, Mobile and Multimedia Networks (WoWMoM), IEEE Press, June 2013, pages 1-9. ISBN 978-1-4673-5826-2.

Abstract: Platform heterogeneity in wireless sensor networks is often seen as a major challenge for application development. Once embedded systems with different processor architectures, computational power, and memory are part of the same network, algorithms and applications must be adapted to this additional degree of complexity. As a result, current sensor network deployments are (with exception of the sink node) commonly comprised of devices of identical make and model. In this paper, we show how device heterogeneity may be exploited to improve the energy efficiency of the sensor network by shifting resource-intensive processing tasks to other nodes within the network. To this

end, we analyse the energy demand for representative processing operations and wireless communications on six heterogeneous state-of-the-art sensor platform types. Based on the created models, we assess the achievable energy savings when tasks are shifted to more powerful processing nodes. Our results show that platform heterogeneity, although often being perceived as a hindrance to the easy deployment of applications, also serves as an enabler for increased energy efficiency of the network.

Introducing the Vienna Platform for Elastic Processes

Reference: S. Schulte, P. Hoenisch, S. Venugopal and S. Dustdar, "Introducing the Vienna Platform for Elastic Processes", in Performance Assessment and Auditing in Service Computing Workshop (PAASC 2012) at 10th International Conference on Service Oriented Computing (ICSOC 2012), Shanghai, China, volume 7759 of Lecture Notes on Computer Science, 2013, pages 179-190.

Abstract: Resource-intensive tasks are playing an increasing role in business processes. The emergence of Cloud computing has enabled the deployment of such tasks onto resources sourced on-demand from Cloud providers. This has enabled so-called elastic processes that are able to dynamically adjust their resource usage to meet varying workloads. Traditional Business Process Management Systems (BPMSs) do not consider the needs of elastic processes such as monitoring facilities, tracking the current and future system landscape, reasoning about optimally utilizing resources given Quality of Service constraints, and executing necessary actions (e.g., start/stop servers, move services). This paper introduces ViePEP, a research BPMS capable of handling the aforementioned requirements of elastic processes.

Realizing Elastic Processes with ViePEP

Reference: S. Schulte, P. Hoenisch, S. Venugopal and S. Dustdar, "Realizing Elastic Processes with ViePEP", in 10th International Conference on Service Oriented Computing (ICSOC 2012) – Demos, volume 7759 of Lecture Notes on Computer Science, 2013, pages 439-443.

Abstract: Online business processes are faced with varying workloads that require agile deployment of computing resources. Elastic processes leverage the on-demand provisioning ability of Cloud Computing to allocate and de-allocate resources as required to deal with shifting demand. To realize elastic processes, it is necessary to track the current and future system landscape, monitor the process execution, reason about how to utilize resources in an optimal way, and carry out the necessary actions (e.g., start/stop servers, move services).

Traditional Business Process Management Systems (BPMS) do not consider such needs of elastic process. Within this demo, we present ViePEP, a research BPMS able to execute and monitor resource-, cost and QoS-elastic, service-based workflows and optimize the overall system landscape based on a reasoning of the non-functional requirements of current and forthcoming elastic processes.

Cost-Driven Optimization of Cloud Resource Allocation for Elastic Processes

Reference: S. Schulte, D. Schuller, P. Hoenisch, U. Lampe, S. Dustdar, and R. Steinmetz, "Cost-Driven Optimization of Cloud Resource Allocation for Elastic Processes", International Journal of Cloud Computing, vol. 1, no. 2, pp. 1-15, 2013.

Abstract: Today's extensive business process landscapes make it necessary to handle the execution of a large number of business processes and individual process steps. Especially if process steps require the invocation of resource-intensive applications or a large number of applications need to be executed concurrently, process owners may have to allocate extensive computational resources, leading to high fixed cost. In the work at hand, we propose an alternative to the provision of fixed resources, based on automatic leasing and releasing of Cloud-based computational resources. For this, we present an integrated approach which addresses the cost-driven optimization of Cloud-based computational resources for business processes in order to realize so-called Elastic Processes. Through an evaluation, we show the practical applicability and benefits of our contributions. Specifically, we find that our approach substantially reduces the cost compared to an ad hoc approach.

3.8.2 Scientific Papers Published in 2014

Where is That Car Parked? A Wireless Sensor Network-Based Approach to Detect Car Positions

Reference: D. Burgstahler, F. Knapp, S. Zöller, T. Rückelt, and R. Steinmetz, "Where is That Car Parked? A Wireless Sensor Network-Based Approach to Detect Car Positions", in 9th IEEE LCN International Workshop on Practical Issues in Building Sensor Network Applications (IEEE SenseApp 2014), Edmonton, Canada, 2014, pp. 514-522.

Abstract: The global trend of increased urbanization makes space rare in city environments in general and for parking in particular. In addition, cars become bigger and often use more than one parking space. As a result neighbouring parking spaces can be affected by a parked car. So, a basically free parking space might be too narrow for an arriving car depending on the arriving car's size. Therefore, means to detect car positions on parking spaces in a fine granular way are required to detect such situations and avoid inefficient parking space searches. Wireless sensor networks provide the possibility to sense the exact occupation of a parking space and potential influences on neighbouring parking spaces. However, current solutions focus only on the detection if a parking space is occupied or not. In our work, we present a sensor deployment and a machine learning-based approach able to provide the mentioned more fine-granular detection level. We have conducted an extensive real-world evaluation of our solution, in particular considering different characteristics of today's car bodies. In our tests, our approach achieved an accuracy of more than 98%.

Switching Push - Pull: An Energy Efficient Notification Approach

Reference: D. Burgstahler, N. Richerzhagen, F. Englert, R. Hans, and R. Steinmetz, "Switching Push - Pull: An Energy Efficient Notification", in: 3rd International Conference on Mobile Services (MS 2014), Anchorage, AK, USA, 2014, p. 68-75. ISBN 978-1-4799-5060-7.

Abstract: An increasing number of modern smartphone applications are dependent on information updates from the cloud. To realize such information updates mainly two communication approaches are common, namely push- and pull. Due to different communication patterns both approaches differ in their energy consumption and notification latency. The energy constrained nature of mobile devices entails a sensible selection of the appropriate notification approach. In this paper we provide an evaluation of the energy consumption of both communication approaches. Based on this we provide a transition approach that is able to use the best of both, low latency and low energy consumption. Our results show that energy savings of up to 7% of the total smartphone battery per day can be achieved by switching between both approaches, depending on the context.

Informationssysteme für Verkehrsteilnehmer: Datenintegration, Cloud-Dienste und der Persönliche Mobilitätsassistent

Reference: D. Burgstahler, S. Schulte, S. Abels, K. Kipp, P. Hoenisch, S. Dustdar, and R. Steinmetz, "Informationssysteme für Verkehrsteilnehmer: Datenintegration, Cloud-Dienste und der Persönliche Mobilitätsassistent", in: PIK - Praxis der Informationsverarbeitung und Kommunikation, vol. 37, December 2014, pp. 197-213.

Abstract: In theory, road users can use a variety of information sources these days. However, in practice the usage of this huge amount of available information is rather difficult for the end-user, since the information is presented in various different apps, software services or other data sources. Thus a comprehensive view of the information that is relevant for road users is difficult or sometimes even not possible. In this article different research approaches in the field of information systems for road users are presented, which should support software developers with provision of relevant information to end-users. Among these approaches are data integration, usage of mobility data in cloud services and integration of cloud services into a personal mobility assistant, which offers a multimodal user interface.

Architecture-centric Design of Complex Message-based Service Systems

Reference: C. Dorn, P. Waibel, S. Dustdar, "Architecture-centric Design of Complex Message-based Service Systems (accepted for publication)," in the 12th International Conference on Service Oriented Computing (ICSOC 2014), Paris, France, 2014, pp. NN-NN.

Abstract: Complex, message-based service systems discourage central execution control, require extremely loose coupling, have to cope with unpredictable

availability of individual (composite) services, and may experience a dynamically changing number of service instances. At the topmost level, the architecture of such a complex system often follows a messaging style most naturally. A major problem during the design of these systems is achieving an overall consistent configuration (i.e, ensuring intended message routing across producers, consumers, and brokers). While orchestration or choreography-based approaches support the design of individual composite services along a workflow-centric paradigm, they are an awkward fit for specifying a message-centric architecture. In this paper, we present an architecture-centric approach to designing complex service systems. Specifically we propose modelling the system's high-level architecture with an architecture description language (ADL). The ADL captures the message-centric configuration which subsequently allows for consistency checking. An architecture-to-configuration transformation ensures that the individual deployed services follow the architecture without having to rely on a central coordinator at runtime. Utilizing our provided tool support, we demonstrate the successful application of our methodology on a real world service system.

ViePEP – A BPMS for Elastic Processes

Reference: P. Hoenisch, "ViePEP – A BPMS for Elastic Processes", in 6th Central-European Workshop on Services and their Composition (ZEUS 2014), Potsdam, Germany, published on CEUR-WS Vol-1140, pages 61-68.

Abstract: In today's IT industry resource-intensive tasks are playing an increasing role in business processes. By the emergence of Cloud computing it is nowadays possible to deploy such tasks onto computing resources leased in an on-demand fashion from Cloud providers. This enabled the realization of so-called Elastic Processes (EPs). These are able to dynamically adjust their used resources in order to meet varying workloads. Till now, traditional Business Process Management Systems (BPMSs) do not consider the needs of Elastic Processes such as monitoring the current system load, reasoning about optimally utilized resources, in order to ensure given Quality of Service constraints while executing required actions such as starting, stopping servers or moving services from one server to another. This paper focuses on our current work on ViePEP, a research BPMS for the Cloud capable of handling the aforementioned requirements of EPs.

Towards Scalable Exploration of Diagnoses in an Ontology Stream

Reference: F. Lecue, "Towards Scalable Exploration of Diagnoses in an Ontology Stream", in 28th Conference on Artificial Intelligence (AAAI 2014), Québec City, Québec, Canada, pp. 87-93.

Abstract: Diagnosis, or the process of identifying the nature and cause of an anomaly in an ontology, has been largely studied by the SemanticWeb community. In the context of ontology stream, diagnosis results are not captured by a unique fixed ontology but numerous time-evolving ontologies. Thus any anomaly can be diagnosed by a large number of different explanations depending on the

version and evolution of the ontology. We address the problems of identifying, representing, exploiting and exploring the evolution of diagnoses representations. Our approach consists in a graph-based representation, which aims at (i) efficiently organizing and linking time-evolving diagnoses and (ii) being used for scalable exploration. The experiments have shown scalable diagnoses exploration in the context of real and live data from Dublin City.

STAR-CITY: Semantic Traffic Analytics and Reasoning for CITY

Reference: F.Lecue, S. Tallevi-Diotalleivi, J. Hayes, R. Tucker, V. Bicer, M. Sbodio, P. Tommasi, "Star-City: Semantic Traffic Analytics and Reasoning for CITY" in ACM International Conference on Intelligent user Interface (IUI 2014). Haifa, Israel, 2014, pp. 179-188.

Abstract: This paper presents STAR-CITY, a system supporting semantic traffic analytics and reasoning for city. STAR-CITY, which integrates (human and machine-based) sensor data using variety of formats, velocities and volumes, has been designed to provide insight on historical and real-time traffic conditions, all supporting efficient urban planning. Our system demonstrates how the severity of road traffic congestion can be smoothly analyzed, diagnosed, explored and predicted using semantic web technologies. We present how semantic diagnosis and predictive reasoning, both using and interpreting semantics of data to deliver useful, accurate and consistent inferences, have been exploited and adapted systematized in an intelligent user interface. Our prototype of semantics-aware traffic analytics and reasoning, experimented in Dublin City Ireland, works and scales efficiently with historical together with real live and heterogeneous stream data.

Predicting Severity of Road Traffic Congestion using Semantic Web Technologies

Reference: F. Lecue, R. Tucker, V. Bicer, P. Tommasi, S. Tallevi-Diotalleivi, M. Sbodio "Predicting Severity of Road Traffic Congestion using Semantic Web Technologies", in 11th Extended Semantic Web Conference (ESWC 2014), Anissaras, Crete, Greece, 2014, DOI 10.1007/978-3-319-07443-6_41, Online ISBN 978-3-319-07443-6, pp. 611-627.

Abstract: Predictive reasoning, or the problem of estimating future observations given some historical information, is an important inference task for obtaining insight on cities and supporting efficient urban planning. This paper, focusing on transportation, presents how severity of road traffic congestion can be predicted using semantic Web technologies. In particular we present a system which integrates numerous sensors (exposing heterogeneous, exogenous and raw data streams such as weather information, road works, city events or incidents) to improve accuracy and consistency of traffic congestion prediction. Our prototype of semantics-aware prediction, being used and experimented currently by traffic controllers in Dublin City Ireland, works efficiently with real, live and heterogeneous stream data. The experiments have shown accurate and consistent prediction of road traffic conditions, main benefits of the semantic encoding.

Semantic Traffic Diagnosis with STAR-CITY: Architecture and Lessons Learned from Deployment in Dublin, Bologna, Miami and Rio

Reference: F. Lecue, R. Tucker, S. Tallevi-Diotalle, G. Liguori, M. Borioni, R. Nair, Y. Gfoukas, A. Rademaker, L. Barbosa, "Semantic Traffic Diagnosis with STAR-CITY: Architecture and Lessons Learned from Deployment in Dublin, Bologna, Miami and Rio (accepted for publication)", in the 13th International Semantic Web Conference (ISWC 2014), Trento, Italy, 2014, pp. NN-NN.

Abstract: IBM STAR-CITY is a system supporting Semantic road Traffic Analytics and Reasoning for CITY. The system has been designed (i) to provide insight on historical and real-time traffic conditions, and (ii) to support efficient urban planning by integrating (human and machine based) sensor data using variety of formats, velocities and volumes. Initially deployed and experimented in Dublin City (Ireland), the system and its architecture have been strongly limited by its flexibility and scalability to other cities. This paper describes its limitations and presents the "any-city" architecture of STAR-CITY together with its semantic configuration for flexible and scalable deployment in any city. This paper also strongly focuses on lessons learnt from its deployment and experimentation in Dublin (Ireland), Bologna (Italy), Miami (USA) and Rio (Brazil).

Decision support for Web service adaptation

Reference: A. Papageorgiou, A. Miede, S. Schulte, D. Schuller and R. Steinmetz, "Decision support for Web service adaptation", Pervasive and Mobile Computing, vol. 12, Jun. 2014, pp. 197-213.

Abstract: With the Internet of Services, Web services from all areas of life and business will be offered to service consumers. Even though Web service technologies make it easy to consume services on arbitrary devices due to their platform independence, service messaging is heavyweight. This may cause problems if services are invoked using devices with limited resources, e.g., smartphones. To overcome this issue, several adaptation mechanisms to decrease service messaging have been proposed. However, none of these are the best-performing under all possible system contexts. In this paper, we present a decision support system that aims at helping an operator to apply appropriate adaptation mechanisms based on the system context. We formulate the corresponding decision problem and present two scoring algorithms – one Quality of Service-based and one Quality of Experience-based. Missing data and, thus, an incomplete system context is a serious challenge for scoring algorithms. Regarding the problem at hand, missing data may lead to errors with respect to the recommended adaptation mechanisms. To address this challenge, we apply the statistical concept of imputation, i.e., substituting missing data. Based on the evaluation of different imputation algorithms used for one of our scoring algorithms, we show which imputation algorithms significantly decrease the error imposed by the missing data and decide whether imputation algorithms tailored to our scenario should be investigated.

Profiling-Based Task Scheduling for Factory-Worker Applications in Infrastructure-as-a-Service Clouds

Reference: R. Zabolotnyi, P. Leitner, and S. Dustdar, "Profiling-Based Task Scheduling for Factory-Worker Applications in Infrastructure-as-a-Service Clouds", in 40th Euromicro Conference on Software Engineering and Advanced Applications (SEAA 2014), Verona, Italy, 2014, pp. 119-126.

Abstract: With the recent advances of cloud computing, effective resource usage (e.g., CPU, memory or network) becomes an important question as application developers have to continuously pay for rented resources, even if they are not used effectively. In order to maintain required performance levels, it is currently common to reserve resources for peak resource usage or possible resource usage overlaps, if more than one task is executed on a host. While this is a reasonable approach for long-running applications or web servers, for some applications with disperse resource usage over time, this strategy causes significant over-provisioning and thus resource wastage and financial loss. In this paper we present a profiling-based task scheduling approach for factory-worker applications that schedules tasks within the defined resource limitations (e.g., existing machine memory size or network quota) and distributes the tasks in the cloud environment in order to use resources effectively. The evaluation of our approach approved the efficiency of the proposed algorithm and minimal performance overhead. In case of the evaluated application, the presented scheduling process leads up to 33% resource savings with only 1% of performance loss.

3.9 SIMPLI-CITY Related Presentations

SIMPLI-CITY at IJCAI 2013 in Beijing, China

A SIMPLI-CITY related presentation (title: *Diagnosing traffic congestion in Dublin City using the Semantic Web*) was given at the 2nd International workshop on Semantic Cities during the 23rd International Joint Conference on Artificial Intelligence (IJCAI 2013), Beijing, China, 2013 on August 5th. IBM Research and Microsoft Research have joint-organised the event.

The presentation was related to the first results of the project's technical work package WP4 and described SIMPLI-CITY's approach to reasoning with mobility-related data, i.e. giving explanation of road traffic congestion in Dublin City. The presenter was Freddy Lecue from IBM Research.

Link to the event: <http://research.ihost.com/semanticcities13/>

SIMPLI-CITY at IEEE Cloud 2013 in Santa Clara, USA

A SIMPLI-CITY related presentation (title: *Self-Adaptive Resource Allocation for Elastic Process Execution*) was given by Philipp Hoenisch from the Vienna University of Technology at the IEEE 6th International Conference on Cloud Computing (Cloud 2013), Santa Clara, California, USA, 27th June – 2nd July 2013.

The presentation was related to the research topics underlying SIMPLI-CITY's technical work package WP5, and described how a Service Platform for SIMPLI-CITY can look like: it is important that such a Service Platform is able to automatically scale up and down, so that it can meet the required resource demand in order to serve several hundreds of user requests simultaneously.

Link to the event: <http://www.thecloudcomputing.org/2013/>

SIMPLI-CITY at 2013 RTD Cooperation meeting in Berlin, Germany

Ascora gave a 30 Minute presentation of SIMPLI-CITY at the 2013 RTD Cooperation meeting hosted by sofD GmbH at Berlin, in May 2013. The presentation has outlined the main goals of the project with a focus on the Personal Mobility Assistant (PMA).

SIMPLI-CITY at the Cloudi/o expert meeting in Stuttgart

Ascora has led a 45 Minute discussion for presenting the SIMPLI-CITY Cloud-based Information Infrastructure at the Cloudi/o expert meeting in Stuttgart, Germany, in September 2013. The meeting included other ICT companies as well as a hospital department from the German Charite hospital and external experts for data management and privacy aspects.

SIMPLI-CITY at Dialogverkstad 2013 in Gothenburg, Sweden

Talkamatic has given a brief presentation of SIMPLI-CITY at Dialogverkstad in Gothenburg, Sweden, hosted by the Dialogue Technology Lab at the Department of Philosophy, Linguistics and Theory of Science. Dialogverkstad is an annual Swedish one-day workshop devoted to dialogue systems and dialogue technology, bringing together academia and industry.

SIMPLI-CITY at Vienna University of Technology's "Beginners' Day" 2013, Vienna, Austria

At the TU Vienna's Beginners' Day, on 23rd of September 2013, all new students of the Faculty of Informatics are informed about the research work of the different research groups. Christoph Dorn from SIMPLI-CITY partner TUV briefly introduced the Distributed System's Group research work, including a 5 minute presentation of the SIMPLI-CITY project's basic ideas.

SIMPLI-CITY at the launch event of the IBM Innovation Centre, Dublin, Ireland

On December 3rd 2013, at the launch of the re-generated IBM Innovation Centre in Dublin, Freddy Lecue presented the ISWC awarded STAR-CITY (i.e. SIMPLI-CITY WP4 and WP7) to the audience.

SIMPLI-CITY presented to journalists visiting TU Darmstadt, Germany

In the course of a journalists' visit at TU Darmstadt on 24th of June 2014, Daniel Burgstahler presented SIMPLI-CITY as a research project that enables smartphones and tablets to deal with a wide range of information in the mobility context, whereby the focus

of the project is to bring information from a variety of heterogeneous sources (such as reports about traffic jams, the weather forecast, available parking spaces, connections to public transport, and so on) together and make this easily available to the user by multi modal user interfaces. This project presentation led to coverage in several German media.

SIMPLI-CITY presented in lecture at TU Vienna, Austria

2013-11-06: Dr.-Ing. Stefan Schulte presented SIMPLI-CITY as part of the Distributed Systems lecture on "Current Trends in Distributed Systems" at TU Vienna on November 6th, 2013, to an audience of ~100 students. The talk gave a broad overview on the SIMPLI-CITY Service Runtime Environment as an example for state-of-the-art distributed systems.

SIMPLI-CITY at MoMM 2013 in Vienna, Austria

2013-12-03: Dr.-Ing. Stefan Schulte gave a keynote talk titled "Mobile Mobility: The Road User Information Systems of the Future" at the 11th International Conference on Advances in Mobile Computing & Multimedia (MoMM 2013) that was held from 2-4 December 2013 in Vienna, Austria. Within this keynote, current research gaps in road user information systems, namely the need to overcome heterogeneous and missing interoperability of relevant data sources, a missing end-to-end integration of data and functionality, and the demand for a homogeneous, unified user interface to road user information systems, have been identified. To show current advances in the field, ongoing research from SIMPLI-CITY, which contributes to solve these issues, has been presented.

SIMPLI-CITY at SOCA 2013 in Kauai, USA

2013-12-17: In his talk "Workflow Scheduling and Resource Allocation for Cloud-based Execution of Elastic Processes", Philipp Hoenisch presented research from WP5 at the 6th IEEE International Conference on Service Oriented Architecture in Kauai, HI, USA. In particular, research conducted as part of the work on the SIMPLI-CITY Mobility Services Framework and the scalability of Service Runtime Environments was presented.

SIMPLI-CITY at ZEUS 2014 in Potsdam, Germany

2014-02-21: In his talk "ViePEP - A BPMS for Elastic Processes", Philipp Hoenisch gave an overview on elasticity mechanisms for service-based business processes. This work is a result of the research activities in T5.3 on the SIMPLI-CITY Mobility Services Framework. The presentation was part of the 6th Central European Workshop on Services and their Composition (ZEUS 2014) in Potsdam, Germany.

SIMPLI-CITY at ITS Europe Congress 2014 in Helsinki, Finland

2014-06-17: Dr.-Ing. Stefan Schulte gave a brief presentation about SIMPLI-CITY's Service Framework at the Special Interest Session SIS04 to an audience of about 100 people, as part of the discussion on "Europe-wide service platforms – towards an 'Internet of mobility'" at ITS Europe Congress 2014 in Helsinki, Finland.

SIMPLI-CITY at SEAA 2014 in Verona, Italy

2014-08-22: Rosty Zabolotnyi gave a presentation on "Profiling-based Task Scheduling for Factory-Worker Applications in Infrastructure-as-a-Service Clouds" at the 40th Euromicro Conference on Software Engineering and Advanced Applications (SEAA 2014) in Verona, Italy. In this WP5-related talk, Cloud-based scalability and elasticity mechanisms were presented.

SIMPLI-CITY at ISWC 2013 in Sydney, Australia

Presentation of "STAR-CITY (Semantic Traffic Analytics and Reasoning for City)" in October 2013 in Sydney, Australia by Freddy Lecue during the semantic web challenge session (demo only). STAR-CITY is the underlying reasoning framework of SIMPLI-CITY (WP4) for analysing, diagnosing and predicting congestion in a city.

Presentation "Towards Constructive Evidence of Data Flow-Oriented Web Service Composition" in October 2013 in Sydney, Australia by Freddy Lecue. This paper is related to the data correlation component of SIMPLI-CITY's WP4.

SIMPLI-CITY at IUI 2014 in Haifa, Israel

Presentation of "Star-City: Semantic Traffic Analytics and Reasoning for CITY" in February 2014 in Haifa, Israel by Marco Luca Sbodio. This paper is related to STAR-CITY, which is the underlying reasoning framework of SIMPLI-CITY (WP4) for analysing, diagnosing and predicting congestion in a city.

SIMPLI-CITY at AAI 2014 in Quebec, Canada

Presentation of "Towards Scalable Exploration of Diagnoses in an Ontology Stream" in July 2014 in Quebec City, Canada by Freddy Lecue. This paper is related to the diagnosis reasoning required in WP7 scenario, and jointly elaborated within WP4.

SIMPLI-CITY at the ESWC 2014 in Anissaras, Greece

Presentation of "Predicting Severity of Road Traffic Congestion using Semantic Web Technologies" in May 2014 in Anissaras, Crete, Greece. This paper is related to the prediction reasoning required in WP7 scenario, and jointly elaborated within WP4. This paper won the "Best In Use Paper" award at ESWC 2014.

SIMPLI-CITY at Vienna University of Technology's "Beginners' Day" 2014, Vienna, Austria

At the TU Vienna's Beginners' Day, on 22nd of September 2014, all new students of the Faculty of Informatics are informed about the research work of the different research groups. Christoph Dorn from SIMPLI-CITY partner TUV has briefly introduced the Distributed System's Group research work, including a 5 minute presentation of the SIMPLI-CITY project's basic ideas.

3.10 Partners' other Dissemination & Communication Activities

In addition to the publications, presentations and media relations mentioned in the previous chapters, the Consortium partners have promoted SIMPLI-CITY also via personal contacts, distribution of SIMPLI-CITY materials, piggyback dissemination (i.e. including SIMPLI-CITY information in third parties' information channels), web articles, blogs, etc. The following lines provide an overview of these activities:

WORLD

- Information of the SIMPLI-CITY project on the web page of the company: <http://www.tempos21.com/web/rd-projects/>
- Internal newsletter for all the employees of Atos Spain describing the SIMPLI-CITY project, November 2012.
- Presentation of the project in the Tempos 21 stand of the Smart City Expo World Congress, in Barcelona November 2012 (<http://www.smartcityexpo.com>)
- Presentation of the project in the Tempos 21 stand of the Mobile World Congress, in Barcelona February 2013 (<http://www.mobileworldcongress.com>)
- Internal distribution of the first SIMPLI-CITY's Newsletter to Worldline Spain employees, October 2013
- Presentation of the project's apps to Worldline Spain employees on the company's intranet, October 2013
- Presentation of the project and distribution of SIMPLI-CITY's pop-up cards and newsletter on Worldline's stand at the Mobile World Congress, in Barcelona February 2014 (<http://www.mobileworldcongress.com>)

SRM

- SRM disseminated the SIMPLI-CITY project providing information by means of the company's website. Beside the section in English (http://www.srmbologna.it/progetti_simpli-city_eng.shtm), a section in Italian is specifically aimed to provide information about the project at local level (http://www.srmbologna.it/progetti_simpli-city_ita.shtm).
- SRM distributed SIMPLI-CITY information material among the participants of the CIVITAS Forum in Brest (30.9.-2.10.2013) and informally informed the participants of the Forum about the SIMPLI-CITY project. (<http://www.civitas.eu/index.php?id=206>)
- On 8.10.2013 SRM distributed SIMPLI-CITY pop-up cards and briefly presented SIMPLI-CITY, and other European projects in which SRM or the Municipality of Bologna are partners, at a meeting with the French Agency for International Business Development, public authority for business under the French Embassy in Italy. The meeting was hosted by the Municipality of Bologna under the topic "Urban mobility in the city of Bologna", and about 20 delegates and technicians from French cities administrations and private companies involved in urban mobility attended the meeting.
- In December 2013 project flyers about SIMPLI-CITY were distributed during the 2013 Annual POLIS Conference in Brussels (BE).
- In January 2014 SRM informed cities and stakeholders about SIMPLI-CITY, and asked them to answer the SIMPLI-CITY user survey, by compilation of a news-entry

that was published at the website of the POLIS Network

(www.polisnetwork.eu/publicnews/561/45/SIMPLI-CITY-project-needs-you-what-is-your-opinion-about-transport-) and in INFOPOLIS, the newsletter of the Network (www.polisnetwork.eu/membersnewsletter/65/78/Issue-92).

- In April 2014 in Donostia-San Sebastian the SIMPLI-CITY project was introduced to about 15 participant partners during the steering committee meeting of the P-REACT project (<http://p-react.eu/>), in which SRM is a partner.
- In May 2014 SRM organised a working meeting at local level with the Municipality of Bologna and the traffic-related data provider. About 10 stakeholders participated at this meeting. During this meeting SRM provided the stakeholders with an update on the project development and distributed project dissemination material.
- In May 2014 in Brussels (BE) the SIMPLI-CITY project was introduced to about 20 participant partners during the steering committee meeting of the EPTA project (www.eptaproject.eu/) in which SRM is lead partner.
- On 23-26 September 2014 SRM disseminated the SIMPLI-CITY project at the CIVITAS Forum in Casablanca (MA) (www.civitas.eu/content/civitas-forum-conference-2014). Information material was distributed among the conference's participants, and the project's roll-up was exposed. Furthermore, a dedicated notebook was at disposal to show a demo on "STAR-CITY" (i.e., SIMPLI-CITY WP4 and WP7).

TIE

- TIE has developed a microsite specific for SIMPLI-CITY, which is published under TIE's main web page. This microsite contains the administrative information of the project and a friendly description targeted to all the users. The microsite is accessible in the TIE Kinetix Innovation website: <http://innovation.tiekinetix.com/innovation/projects/simpli-city>
- The RDI Department of TIE Nederland publishes an internal newsletter quarterly. This newsletter aims to inform all TIE Kinetix employees about the progresses and top stories of the different projects carried out by the RDI Department. All newsletters that have been published since the start of the SIMPLI-CITY project (in Oct'13, Jan'14, Apr'14, Jul'14) included a short update on the project. The April 2014 newsletter contained a large article about SIMPLI-CITY and SIMPLI-CITY was featured as the "Project of the Quarter" in this issue of the TIE newsletter.
- Forthcoming activity:
In addition, TIE Kinetix will include information about SIMPLI-CITY in the biannually published TIE Magazine. The audience of the TIE Magazine comprises customers (current and potential) and business partners seeking to learn about the experience of other customers.

IBM

- IBM Research - Ireland presented the SIMPLI-CITY project to two EU groups (the Council Research Working Party and European Research Area Committee (ERAC) group), in June 2013, as part of Horizon 2020 events.
- In 2013 the staff working for SIMPLI-CITY at IBM also included a project summary and updates in the Divisional Executive reviews and presented very early data

model prototype demonstrations to the Lab Director and to other teams within the lab.

- In 2014 the staff working for SIMPLI-CITY at IBM presented SIMPLI-CITY to other entities of IBM.

FGM

- FGM listed SIMPLI-CITY at the company's website http://www.fgm.at/index.php?id=2340&ID1=2142&stat=0&projekt_id=77
- FGM distributed SIMPLI-CITY's promotional material (pop-up cards and printed newsletters) to representatives of European cities, consultants, universities, companies, etc., who visited FGM's office to attend project meetings and training courses
- FGM submitted information about the project as well as about the workshop and the webinar to the European Platform on Mobility Management (EPOMM) and to the Transport Research & Innovation Portal (TRIP) to be published on these organisations' websites www.epomm.eu and www.transport-research.info respectively

TUV

- TUV presented SIMPLI-CITY to about 20 researchers at TU Vienna on 29th of May 2013. The presentation included a general introduction of the SIMPLI-CITY project, the most important technical aspects, and details of the research activities done by TUV within SIMPLI-CITY.
- On 2nd of September 2013 TUV presented SIMPLI-CITY to the leader of the IP TEAM (Tomorrow's Elastic Adaptive Mobility <http://www.collaborative-team.eu/>), which is a "sister project" of SIMPLI-CITY, i.e., funded by the EC within the same call and objective. The presentation included a general introduction of the SIMPLI-CITY project, the most important technical aspects of the project, as well as the envisioned use cases.
- SIMPLI-CITY is also listed at TUV institute's homepage <http://www.infosys.tuwien.ac.at/projects.html>
- On 2014-04-30 Stefan Schulte gave a brief presentation of SIMPLI-CITY's project goals to stakeholders from other European projects. This presentation was part of the project collaboration activities of the EU ICT Call 7 & 8 Concertation workshop in Brussels, Belgium.
- On 2014-06-17 Stefan Schulte gave a presentation on SIMPLI-CITY's general technical approach as well as the Mobility Services Framework at a bilateral meeting between MOBINET and SIMPLI-CITY, which took place during the ITS Europe Congress.

CRF

- The staff working for the project at CRF presented SIMPLI-CITY during a periodic Unit Internal Meeting

ASC

- Partner Ascora GmbH has placed information about SIMPLI-CITY at its website showing the main goals of the project and its participation
- Partner Ascora GmbH has distributed self-printed flyers of SIMPLI-CITY at the OPDIS plenary meeting
- Partner Ascora GmbH has presented SIMPLI-CITY at an internal cooperation meeting with sofd GmbH
- Partner Ascora GmbH has established active cooperations with the Cloudi/o and OPDIS RTD projects

TALK

- Promoted SIMPLI-CITY in the blog in the main page of their new company website <http://www.talkamatic.se/>

TUDA

- Prof. Ralf Steinmetz briefly presented SIMPLI-CITY during a Horizon2020 event at the IHK (Chamber of Industry and Commerce Darmstadt Rhein Main Neckar) on 28.10.2013.
(http://www.darmstadt.ihk.de/System/VstTermine/2584930/tg_28_10_2013_138472.html)
- On 19th of March 2014 Daniel Burgstahler from TUDA published a blog article "Meine Vision: Die Mobilität der Zukunft" (My vision: The mobility of the future) explaining SIMPLI-CITY's vision and the project in German language.
<http://blog.multimedia-communications.net/meine-vision-die-mobilitaet-der-zukunft/>

4 Summary

As can be seen from the information given in chapter 3, all SIMPLI-CITY partners have already been active with dissemination and communication activities in order to spread information about the project to stakeholders in Europe.

Within the first 24 months of the SIMPLI-CITY project 19 SIMPLI-CITY related presentations have been given, 18 scientific papers have been published, further 5 scientific papers have been accepted for publication, and several other communication activities have been done by the project partners.

The following two tables give an overview of the dissemination and communication activities that have been carried out within SIMPLI-CITY from the beginning of the project until month 24:

- Table 7 lists all dissemination activities performed by the project partners, and
- Table 8 gives details for all scientific publications related to SIMPLI-CITY.

Table 7: List of Dissemination Activities

Type of Activity	Main leader	Title	Date/Period	Place	Type of audience	Size of audience	Countries addressed
Presentation	IBM	Diagnosing traffic congestion in Dublin City using the Semantic Web	05/08/2013 to 10/08/2013	Beijing, China	Researchers	15	China, USA, India, Australia, UK, Italy, Ireland, Germany,
Presentation	TUV	SIMPLI-CITY: Project Overview	29/05/2013	TU Vienna, Vienna, Austria	Scientific Community	20	Austria
Presentation	TUV	SIMPLI-CITY: Project Overview	02/09/2013	Fraunhofer FOKUS, Berlin, Germany	Scientific Community	2	Germany
Presentation	ASC	SIMPLI-CITY – The Road User Information System of the Future	05/2013	Berlin, Germany	Industry	10	Germany
Presentation	ASC	Cloud based data management in RTD projects	09/2013	Stuttgart, Germany	Industry, Policy makers, Other (Hospital)	15	Germany
Presentation	TALK	SIMPLI-CITY, Alfred and Sam	04/09/2013	Gothenburg, Sweden	Academia and Industry	25	Sweden
Presentation	TUV	SIMPLI-CITY: Project Overview	23/09/2013	TU Vienna, Vienna	Computer science students (first semester)	100	Austria
Presentation (Keynote)	TUV	Mobile Mobility: The Road User Information Systems of the Future	03/12/2013	Vienna, Austria	Scientists	50	China, Austria, Germany, France, Malaysia, etc.
Presentation	SRM	SIMPLI-CITY project	04/2014	P-REACT project meeting, Donostia San Sebastian, Spain	Scientific community, researchers	15	
Presentation	TUV	SIMPLI-CITY: Project Overview	06/11/2013	Vienna, Austria	Students	100	Austria
Presentation	SRM	SIMPLI-CITY: update	05/2014	Bologna, Italy	Policy makers, researchers	10	Italy

Type of Activity	Main leader	Title	Date/Period	Place	Type of audience	Size of audience	Countries addressed
Presentation	TUV	Workflow Scheduling and Resource Allocation for Cloud-based Execution of Elastic Processes	17/12/2013	Kauai, Hi, USA	Scientists	25	Germany, USA, Japan, Austria, China, India
Presentation	TUV	ViePEP – A BPMS for Elastic Processes	21/02/2014	Potsdam, Germany	Scientists	40	Germany
Presentation	TUV	SIMPLI-CITY: Project Overview	17/06/2014	Helsinki, Finland	ITS Experts	100	Europe
Presentation	TUV	Profiling-based Task Scheduling for Factory-Worker Applications in Infrastructure-as-a-Service Clouds	22/08/2014	Verona, Italy	Scientists	20	Germany, Italy, India
Presentation	TUV	SIMPLI-CITY: Project Overview	30/04/2014	Concertation meeting, Brussels, Belgium	EU project stakeholders	30	Europe
Presentation	TUV	SIMPLI-CITY: Project Overview and Mobility Services Framework	17/06/2014	Helsinki, Finland	EU project stakeholders	5	Europe
Presentation	TUV	Research topics in Distributed Systems at TU Vienna	22/09/2014	Vienna, Austria	Students	70	Austria
Presentation	SRM	SIMPLI-CITY project	05/2014	EPTA project meeting, Brussels, Belgium	Policy makers, scientific community, researchers	20	
Presentation and distribution of material	SRM	Urban Mobility in the city of Bologna	08/10/2013	Bologna, Italy	Policy makers, researchers	20	Italy

Type of Activity	Main leader	Title	Date/Period	Place	Type of audience	Size of audience	Countries addressed
Presentation and distribution of material	SRM	SIMPLI-CITY and STAR-City	23/09/2014 to 26/09/2014	CIVITAS Forum 2014, Casablanca, Morocco	Policy makers, scientific community, researchers	~400	Worldwide, focus on EU
Distribution of material	SRM	SIMPLI-CITY	30/09/2013 to 02/10/2013	CIVITAS Forum 2013, Brest, France www.civitas.eu/index.php?id=206	Cities, policy makers, scientific community, researchers	~400	Worldwide, focus on EU
Distribution of material	SRM	SIMPLI-CITY	12/2013	Annual POLIS Conference, Brussels, Belgium	Cities, policy makers, scientific community, researchers	~100	EU
Distribution of material	WORLD	SIMPLI-CITY	02/2014	Mobile World Congress, Barcelona, Spain www.mobileworldcongress.com	Mobile related industry, app developers		
Web	TIE	SIMPLI-CITY	Since beginning of project	http://tiekinetix.com/innovation/projects/simpli-city	General audience		
Web	SRM	SIMPLI-CITY	Since beginning of project	SRM Company's website, www.srmbologna.it/progetti_simpli-city_eng.shtml	General audience		
Web	SRM	SIMPLI-CITY User survey promotion	01/2014	POLIS website, www.polisnetwork.eu/publicnews/561/45/SIMPLI-CITY-	Cities, policy makers, scientific community,		

Type of Activity	Main leader	Title	Date/Period	Place	Type of audience	Size of audience	Countries addressed
				project-needs-you-what-is-your-opinion-about-transport-	researchers		
Web	TUDA	Meine Vision: Die Mobilität der Zukunft (My vision: The mobility of the future)	19/03/2014	http://blog.multimedia-communications.net/meine-vision-die-mobilitaet-der-zukunft/	General German speaking audience		German speaking countries
3 rd party's newsletter	SRM	User survey promotion	01/2014	POLIS newsletter, www.polisnetwork.eu/membersnewsletter/65/78/Issue-92	Cities, policy makers, scientific community, researchers		
Press release	TIE	TIE Kinetix is technology provider in European Union Projects SIMPLI-CITY and INTUITEL	10/12/2012	TIE Kinetix web site, TIE Kinetix Investor Relations Other news portals, Facebook. Twitter	General audience		
Press Release	IBM	STAR-CITY	30/10/2014	Oxford, England	Wall street journal		
Press interview	IBM	STAR-CITY	03/12/2013	Dublin	journalists from Irish Independent Newspaper and Sunday Business Post		Ireland
Press interview	TUDA	Research projects funded by the EU in Hesse	24/06/2014	Darmstadt	German journalists	~15	Germany

Table 8: List of Scientific (Peer Reviewed) Publications

Title	Main author	Title of the periodical or the series	Number, date or frequency	Publisher	Place of publication	Year of publication	Relevant pages	Permanent identifiers (if available)	Is/Will open access (be) provided to this publication? if yes: Where? if no: Why not?
Predicting Knowledge in An Ontology Stream	F. Lecue	Proceedings of the 23rd International Joint Conference on Artificial Intelligence (IJCAI 2013)		AAAI	Beijing	2013	2662-2669	ISBN: 978-1-57735-633-2	No (editor copyright)
Towards Constructive Evidence of Data Flow-Oriented Web Service Composition	F. Lecue	Proceedings of the 12th International Semantic Web Conference (ISWC 2013)	Lecture Notes in Computer Science Volume 8218, 2013	Springer	Sydney	2013	298-313	DOI 10.1007/978-3-642-41335-3_19	No (editor copyright)
Self-Adaptive Resource Allocation for Elastic Process Execution	Philipp Hoenisch	IEEE 6th International Conference on Cloud Computing (CLOUD 2013)	---	IEEE Computer Society	Washington, DC, USA	2013	220-227	http://dx.doi.org/10.1109/CLoud.2013.126	Yes, at institute homepage: http://www.infosys.tuwien.ac.at/staff/sd/publications.php

Title	Main author	Title of the periodical or the series	Number, date or frequency	Publisher	Place of publication	Year of publication	Relevant pages	Permanent identifiers (if available)	Is/Will open access (be) provided to this publication? if yes: Where? if no: Why not?
Exploiting Platform Heterogeneity in Wireless Sensor Networks by Shifting Resource-Intensive Tasks to Dedicated Processing Nodes	Andreas Reinhardt	Proceedings of the 14th International Symposium on a World of Wireless, Mobile and Multimedia Networks (WoWMoM)		IEEE Press	Madrid	2013	1-9	DOI: 10.1109/WoWMoM.2013.6583388	No (editor copyright)
Introducing the Vienna Platform for Elastic Processes	Stefan Schulte	Performance Assessment and Auditing in Service Computing Workshop (PAASC 2012) at 10th International Conference on Service Oriented Computing (ICSOC 2012)	---	Springer	Heidelberg Berlin	2013	179-190	http://dx.doi.org/10.1007/978-3-642-37804-1_19	Yes, at institute homepage: http://www.infosys.tuwien.ac.at/staff/sd/publications.php

Title	Main author	Title of the periodical or the series	Number, date or frequency	Publisher	Place of publication	Year of publication	Relevant pages	Permanent identifiers (if available)	Is/Will open access (be) provided to this publication? if yes: Where? if no: Why not?
Realizing Elastic Processes with ViePEP	Stefan Schulte	10th International Conference on Service Oriented Computing (ICSOC 2012) -- Demos	---	Springer	Heidelberg Berlin	2013	439-443	http://dx.doi.org/10.1007/978-3-642-37804-1_48	Yes, at institute homepage: http://www.infosys.tuwien.ac.at/staff/sd/publications.php
Profiling-Based Task Scheduling for Factory-Worker Applications in Infrastructure-as-a-Service Clouds	Rostyslav Zabolotnyi	40th Euromicro Conference on Software Engineering and Advanced Applications (SEAA 2014)		IEEE Computer Society	Washington DC, USA	2014	119-126	http://dx.doi.org/10.1109/SEAA.2014.42	Yes, at institute homepage: http://www.infosys.tuwien.ac.at/staff/sd/publications.php
ViePEP – A BPMS for Elastic Processes	Philipp Hoenisch	6th Central European Workshop on Services and their Composition (ZEUS 2014)		CEUR-WS		2014	61-68	http://ceur-ws.org/Vol-1140/paper10.pdf	Yes, available at http://ceur-ws.org/Vol-1140/paper10.pdf
Decision support for Web service adaptation	Apostolos Papageorgiou	Pervasive and Mobile Computing	Vol. 12	Elsevier	Amsterdam	2014	197-213	http://dx.doi.org/10.1016/j.pmcj.2013.10.004	Yes, preprint available at institute homepage: http://www.infosys.tuwien.ac.at/staff/sschulte/

Title	Main author	Title of the periodical or the series	Number, date or frequency	Publisher	Place of publication	Year of publication	Relevant pages	Permanent identifiers (if available)	Is/Will open access (be) provided to this publication? if yes: Where? if no: Why not?
Cost-Driven Optimization of Cloud Resource Allocation for Elastic Processes	Stefan Schulte	International Journal of Cloud Computing	Vol. 1, No. 2	Hipore	New York, USA	2013	1-15	http://hipore.com/ijcc/2013/IJCC-Vol1-No2-2013-pp1-14-Schulte.pdf	Yes, available at http://hipore.com/ijcc/2013/IJCC-Vol1-No2-2013-pp1-14-Schulte.pdf
Self-Adaptive Resource Allocation for Elastic Process Execution	Philipp Hoenisch	IEEE 6th International Conference on Service Oriented Computing and Applications (SOCA 2013)		IEEE Computer Society	Washington DC, USA	2013	220-227	http://doi.ieeecomputersociety.org/10.1109/SOCA.2013.44	Yes, available at Institute homepage: http://www.infosys.tuwien.ac.at/staff/sd/publications.php
Push vs. Pull: An Energy Perspective	Daniel. Burgstahler	6th IEEE International Conference on Service Oriented Computing and Applications (SOCA 2013)		IEEE Computer Society	Washington, DC, USA	2013	190-193	DOI: 10.1109/SOCA.2013.17	Yes, at institute homepage: ftp://www.kom.e-technik.tu-darmstadt.de/papers/BLR13-2.pdf

Title	Main author	Title of the periodical or the series	Number, date or frequency	Publisher	Place of publication	Year of publication	Relevant pages	Permanent identifiers (if available)	Is/Will open access (be) provided to this publication? if yes: Where? if no: Why not?
Switching Push - Pull: An Energy Efficient Notification Approach	Daniel. Burgstahler	3rd International Conference on Mobile Services (MS 2014)		IEEE Computer Society	Washington, DC, USA	2014	68-75	ISBN 978-1-4799-5060-7	Yes, at institute homepage: ftp://ftp.kom.tu-darmstadt.de/papers/BRE+14.pdf
Informationssysteme für Verkehrsteilnehmer: Datenintegration, Cloud-Dienste und der Persönliche Mobilitätsassistent	Daniel. Burgstahler	PIK – Praxis der Informationsverarbeitung und Kommunikation	Vol. 37(3)		Germany	2014	243-250	DOI: 10.1515/pik-2014-0024	No (editor copyright)
Star-City: Semantic Traffic Analytics and Reasoning for City	F. Lecue	ACM International Conference on Intelligent user Interface (IUI 2014)		ACM	Israel	2014	179-188	ISBN: 978-1-4503-2184-6 DOI 10.1145/2557500.2557537	No (editor copyright)

Title	Main author	Title of the periodical or the series	Number, date or frequency	Publisher	Place of publication	Year of publication	Relevant pages	Permanent identifiers (if available)	Is/Will open access (be) provided to this publication? if yes: Where? if no: Why not?
Towards Scalable Exploration of Diagnoses in an Ontology Stream	F. Lecue	28th Conference on Artificial Intelligence (AAAI 2014)		AAAI	Canada	2014	87-93	ISBN 978-1-57735-661-5	No (editor copyright)
Predicting Severity of Road Traffic Congestion using Semantic Web Technologies	F. Lecue	11th International Conference, ESWC 2014 – Best In Use Paper award		Springer	Greece	2014	611-627	DOI 10.1007/978-3-319-07443-6_41	No (editor copyright)
Smart traffic analytics in the semantic web with STAR-CITY: Scenarios, system and lessons learned in Dublin City	F. Lecue	Web Semantics: Science, Services and Agents on the World Wide Web		Elsevier	Journal paper	2014	(10 pages)	DOI: 10.1016/j.websem.2014.07.002	No (editor copyright)