



## D8.3.1 Scientific Dissemination Report I

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This report provides a detailed description of scientific dissemination activities in the first year of ADVENTURE. It highlights the scientific dissemination activities as achieved during this period of time and planned activities for the rest of the projects duration.



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## Executive Summary

This document describes the scientific dissemination activities that have been carried out from month 1 to month 12 of the ADVENTURE project. It follows closely the themes of D8.5.1a (Dissemination Strategy and EI Cluster Collaboration Plan) and D8.5.1b (Dissemination Plan and Enterprise Interoperability Cluster Collaboration Plan Supplement), but mainly focused on the scientific part of the project. Although this report is basically concerned for scientific dissemination activities within the project, it will also cover all relevant dissemination activities too. The current progress as well as planned activities is highlighted in this deliverable.

The overall projects outcomes such as publications (journal/conference/workshop), presentations (conference/workshop/fair/exhibition), Website and logo design, banner and flyers design and distribution, published newsletters, interest group, etc., are outlined within the scope of dissemination activities.

Although a list of work-in-progress and future activities are scheduled and presented in this report this document should be considered as a living document rather than static one.

# 1. Introduction

ADVENTURE – ADaptive Virtual ENTERprise manufacTURING Environment – is a project funded in the Seventh Framework Programme by the European Commission. ADVENTURE creates a framework that enhances the collaboration between suppliers, manufacturers and customers for industrial products and services. Within this deliverable overall scientific dissemination activities are presented.

## 1.1 ADVENTURE Project Aims

The framework proposed by ADVENTURE provides mechanisms and tools that facilitate the creation and operation of manufacturing processes in a modular way. ADVENTURE combines the power of individual factories to achieve complex manufacturing processes. It provides tools for partner-finding, process creation, process optimization, information exchange as well as real-time monitoring combined with the tracking of goods and linking them to cloud services.

There have already been several research projects that address the combination of different independent manufacturers to so-called virtual factories. Most of these research projects focus primarily on the business-side in general and on aspects like partner-finding and factory-building processes in special. However, no proven tools or technologies exist in the market that provides the creation of virtual factories applying end-to-end integrated Information and Communication Technology (ICT). ADVENTURE is aiming to provide such tools and processes that will help to facilitate information exchange between factories and move beyond the boundaries of the individual enterprises involved. The collaborative manufacturing process will be optimised by enabling the integration of factory selection, forecasting, monitoring, and collaboration during runtime.

ADVENTURE builds on concepts and methods of Service-oriented Computing and benefits from the advancements in this field. The monitoring and governance of the collaborative processes will be supported by technologies from the Internet of Things such as wireless sensors. Existing tools and services that can be integrated will be considered during the development of the platform for ADVENTURE.

The increased degree of flexibility provided through ADVENTURE will benefit SMEs especially as it helps them to react quickly to changes and to participate in larger, cross-organizational manufacturing processes. Furthermore, ADVENTURE will help manufacturers in assessing the environmental friendliness of actual manufacturing processes and resulting products and services. Other objectives of ADVENTURE include research in areas such as service-based manufacturing processes, adaptive process management, process compliance, and end-to-end-integration of ICT solutions.

## 1.2 Deliverable Purpose, Scope and Context

The purpose of this document is to report performed scientific dissemination activities in ADVENTURE during the first year. It also considers partial general dissemination activities as mentioned within the D8.5.1a (Dissemination Strategy and EI Cluster Collaboration Plan) and D8.5.1b (Dissemination Plan and Enterprise Interoperability Cluster Collaboration Plan Supplement). This deliverable highlights the dissemination activities that were performed according to the dissemination plan in the DOW. These activities include publications, presentations and other dissemination events.

This dissemination report is updated every year and provides an overview of the current status.

### 1.3 Document Status

This document is listed in the DOW as 'public' as the dissemination reports may be used by external parties as a base for getting insights about the dissemination of ADVENTURE.

### 1.4 Target Audience

As a public deliverable, it could be useful for the wider scientific, industrial and Future Internet Enterprise Systems (FINES) Cluster participants and other similar projects.

### 1.5 Abbreviations and General Terms

A definition of general, common terms and roles related to the realization of ADVENTURE as well as a list of abbreviations is available in the supplementary document "Supplement: Abbreviations and General Terms" which is provided in addition to this deliverable.

Further information can be found at: <http://www.fp7-adventure.eu/glossary>.

### 1.6 Document Structure

This deliverable is broken down into the following sections:

**Section 1** provides an introduction for this deliverable outlining the aims, purpose, scope, context, status, audience and the structure of the deliverable.

**Section 2** describes the dissemination methodology including dissemination and exploitation approach, target users and channels of dissemination.

**Section 3** outlines the updated dissemination plan that consists of performed activities so far and the planned activities with target dates.

**Section 4** states the dissemination actions carried out within project's first year period.

**Section 5** illustrates the dissemination events such as participation of workshops, fairs, conferences.

**Section 6** concludes the final outcomes from this deliverable.



## 2. Dissemination Methodology

### 2.1 Dissemination and Exploitation Approach

The term of “dissemination” is widely used. In the ADVENTURE project, the objective of dissemination is to make people from both scientific and industrial community aware of the developments and outcomes of the project itself. Secondly, the objective of dissemination is to present and promote the ADVENTURE platform to potential users and to network with all parties that can add value to ADVENTURE services and support ADVENTURE final users.

The approach of dissemination in ADVENTURE is to ensure that the project objectives are in line with dissemination actions in order to keep dissemination focused and also to get feedback on the project that can help next step dissemination activities.

### 2.2 Target Users

Several stakeholders are typically involved in a manufacturing process. In ADVENTURE, stakeholders are considered users (organisations) that are interested in the project results. End-users of ADVENTURE will be broker, suppliers and customers.

### 2.3 Channels of Dissemination

After the identification of the potential business stakeholders, the next step is to reach all of them in order to disseminate the project results through different channels. These channels can be in the form of both internal and external dissemination activities. Internal disseminations can be in the form of using project’s results to produce master/doctoral theses, standard presentations, etc., whereas external activities can be as of scientific publications, newsletter, flyers, etc.

### 3. Updated Dissemination Plan

#### 3.1 Performed Activities

The dissemination activities as completed so far, ongoing and are not due immediately are presented in Table 1. These activities will be explained in detail later in this document. The status of such activities is also highlighted by using the colour code as follows.

Immediate Actions	These actions need to be address by end of Sept 2012
Review shortly	Need to be address by end of December 2012
No immediate requirements	Fall into 2013 and will be reviewed early 2013
Task Completed	Task Completed
Task Removed	Task Removed or covered by other activity
Void	Task started but became redundant

Table 1 – Completed, ongoing and not due dissemination activities

No	TASK	Activity Name	Status	Responsible Partner	Next Deadline
20	8.2	Newsletter	1st version done	ASC	01.04.2013
30	8.2	Initial Flyer	Completed	ASC	Done
40	8.2	Second Flyer	Not started	ASC	01.04.2013
50	8.2	Third Flyer	Not due	ASC	01.01.2014
60	8.2	Webcast Video	Not due	ASC	01.06.2013
70	8.2	Video Animation	Not due	ASC	31.01.2013
100	8.2	Project Logo	Completed	All	Done
110	8.2	Website (initial)	Completed	ASC	Done
112	8.2	Website (updates)	Not due	ASC	28.02.2013
114	8.2	Website (multilingual)	Not due	ASC	Removed
116	8.2	Website (traffic)	Ongoing	ASC	30.09.2012
120	8.2	Marketing Gift	Not due	TIE	31.12.2012
130	8.2	Project Banner	Completed	ASC	Done
150	8.2	Standard Presentation	Completed	TUDA	31.12.2012
160	8.2	Brochure	Not started	UVI	28.02.2013
170	8.2	White Paper	Not due	UVI	31.12.2012

### 3.2 Planned Activities with Target Dates

The overall planned activities are presented in Table 2.

Table 2 – Planned activities for D8.3.1

No	TASK	Activity Name	Status	Responsible Partner	Next Deadline
10	8.3	Blog Article	Void	TUDA	Stopped
80	8.3	Local Press Articles	Not Due	UVA	28.02.2013
90	8.3	Technical Event / Summer School	Not Due	TUDA	01.04.2013
140	8.3	Magazine Article	Not Due	TANet	31.12.2012
180	8.3	Workshop 1	Not Due	UVA	30.06.2013
190	8.3	Workshop 2	Not due	UVA	01.03.2014
200	8.3	Academic Papers – General	Ongoing	UVA	01.01.2013
320	8.3	Exhibit at CEBIT	Not Due	TUDA	15.03.2013
370	8.3	Conferences / External Workshops	Not Due	UVA	01.01.2013

## 4. Dissemination Activities

The presented dissemination actions activities presented in the following are based on the materials or information as collected within the project's first year. During the first year of the project, various dissemination activities were carried out. This section describes these elements. In summary, there is:

- one banner,
- one flyer,
- one newsletter,
- four published and four accepted papers for publication in a journal or conference,
- the project logo and
- the project Website.

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

### 4.1 External Dissemination Activities

External dissemination activities in relation to the ADVENTURE project refer to the activities that are focused to the international audience/community. These associated activities can be in the form of publishing/submitting papers to the international journals, attending and/or presenting scientific papers in the international conferences/workshops, development of project logo, website, banner, newsletters, flyers, Wiki, marketing materials, etc.

#### 4.1.1 Scientific Journal Papers

The publication of articles in referred journals helps to reach a wide range of scientists. Getting a paper published in an international referred journal supports the overall goal or promoting the project results to the international audience.

##### 4.1.1.1 SPRINTResponsibilities: Design and Development of Security Policies in Process-aware Information Systems

Reference: M. Leitner, J. Mangler, and S. Rinderle-Ma, "SPINTRResponsibilities: Design and Development of Security Policies in Process-aware Information Systems," in *Journal of Wireless Mobile Networks, Ubiquitous Computing, and Dependable Applications (JoWUA)*, vol. 2, no. 4, pp. 1–24, Dec. 2011.

Abstract: Process-Aware Information Systems (PAIS) enable the definition, execution, and management of business processes. Typically, processes are specified by control flow, data flow, and users or services, authorized to execute process tasks. During process execution, it is often necessary to access sensitive data such as patient or customer information. To secure this confidential data, the use of security policies becomes an essential factor for the application of PAIS in practice. In general, PAIS security policies are specified based on access rules and authorization constraints. On top of these rules, context policies referring to data, location, or time might pose restrictions. Over the years, several approaches for modelling and enforcing security policies in PAIS have appeared. Many of them restrict security policy specification to access rules and authorization

constraints, but neglect additional properties such as context information. As a further limitation, security policies are often defined in a heterogeneous way: whereas access rules are mostly defined at process task level leading to a merge of process logic and security aspects, additional policies such as authorization constraints are defined separately from the process logic. Consequently, security policies are not stored and managed centrally, but are rather distributed over different PAIS components, for example, the process model repository or the organizational model manager. In this paper, we introduce the formal concepts behind our SPRINT approach that aims at the consequent separation of security policies and process logic. Specifically, the SPRINT security policy data model and design methodology based on the concepts of responsibilities, permissions, and constraints will be provided. The concepts are evaluated based on a comparison with existing PAIS and a demonstration of the SPRINT prototype. The goal is to unify diverse security policies in different PAIS subsystems, to make security policies independent of these subsystems in order to restrain complexity from process modelling and evolution, and to allow for comprehensive security policy development and maintenance.

#### 4.1.2 Scientific Conference Papers

Presentation of ADVENTURE related research findings at scientific conferences serve the purpose of disseminating the ADVENTURE project. Further, conferences provide an opportunity to discuss the results with various researchers from different research areas.

##### 4.1.2.1 Cost-driven Optimization of Complex Service-based Workflows for Stochastic QoS Parameters

Reference: Dieter Schuller, Ulrich Lampe, Julian Eckert, Ralf Steinmetz, Stefan Schulte, "Cost-driven Optimization of Complex Service-based Workflows for Stochastic QoS Parameters", in Proceedings of the International Conference on Web Services (ICWS), Hawaii, USA, pp. 66-74, June 2012.

Abstract: The challenge of optimally selecting services from a set of functionally appropriate ones under Quality of Service (QoS) constraints – the *Service Selection Problem* – has been extensively addressed in the literature based on deterministic parameters. In practice, however, Quality of Service QoS parameters rather follow a stochastic distribution. In the work at hand, we present an integrated approach which addresses the Service Selection Problem for complex workflows in conjunction with stochastic Quality of Service parameters. Accounting for penalty cost which accrue due to Quality of Service violations, our approach reduces the impact of stochastic QoS behavior on total cost significantly.

##### 4.1.2.2 An 'Adventurous' Approach Towards Virtual Entrepreneurship

Reference: Georgi Pavlov, Atanas Manafov, Irena Pavlova, and Velimir Manafov, "An 'Adventurous' Approach towards Virtual Entrepreneurship," in Proceedings of the International Conference for Entrepreneurship, Innovation and Regional Development (ICEIRD), Sofia, Bulgaria, pp. 72-80, June 2012.

**Abstract:** In the recent years the utilization of Internet services as a widespread mean for doing business is considerably growing, influenced by several factors, namely – exchanging business information via Internet became an every-day human practice, the time for information exchange and processing is drastically reduced, information services are now easily accessible and at low cost, people awareness and skills in using Internet are growing constantly and the business is ambitious to achieve higher levels of competitive power. Further, Virtual Factories and Networked Enterprises are now a well-established concept that tries to foster the business development, especially for SMEs (Small and Medium Size Enterprises). The current solutions in the area however, are still limited in scope at business and technological level. They lack appropriate means for provisioning and processing real-time information, needed for the efficient involvement of these enterprises in global cross-company distributed production processes. This concerns not only the static information about their products and manufacturing capabilities, usually published on their web sites, but also the dynamic information in terms of current capacity and resource availability. Current technologies do not answer adequately to the strong requirements of reliable end-to-end cross partner interoperability of ICT systems and to easily fuse dispersed assets such as processes, information, status and other resources. Thus a separate SME is not able to influence global production processes neither with passive participation nor with active entrepreneurship. In order to cope with the demand for improved flexibility and fast-paced business innovation, there is a need for a more integrated approach, which is able to establish, manage, monitor, and adapt Virtual Factories. In the above context, the paper is introducing and studying an innovative methodology and framework to support plug-and-play Virtual Factories based on cross-organizational manufacturing processes. This work is a part of the FP7 EU project ADVENTURE (ADaptive Virtual ENTERprise ManuFACTURING Environment). The focus is mainly on realizing the needed tools and methods for data provisioning and discovery to support the ad-hoc involvement of SMEs in Virtual Supply Chain networks and also to enable these SMEs to manage such networks in the role of entrepreneurs.

#### 4.1.2.3 Virtual Enterprise Management to Enhance the Manufacturing Process Collaboration

**Reference:** Ahm Shamsuzzoha and Petri Helo, “Virtual Enterprise Management to Enhance the Manufacturing Process Collaboration,” in Proceedings of the International Conference on Flexible Automation and Intelligent Manufacturing (FAIM), Helsinki, Finland, June 2012.

**Abstract:** Due to recent economical recession globally exerted extra pressure to the manufacturing companies and urges to optimize their operational processes via digital tools and systems. Current practices within companies are not suitable enough to tackle such organizational and managerial challenges. To sustain within this complex business environment, companies need to collaborate in order to enhance and optimize their operational processes. The concept of virtual enterprise (VE) can offer an integrated solution approach, where the real enterprises/companies can collaborate with each

other virtually for achieving mutual benefits. Virtual enterprise promotes remote collaboration and communication for collaborative tasks among the real factories with the objective to achieve competitive advantage. The VE controls the entire production and logistics areas of manufacturing companies by providing real time information exchange among the manufacturing processes. This information exchange is done by implementing information and communication technology (ICT) players that supports flexibility and interoperability among the collaborative enterprise entities. This research is focused on the overall challenges or visions of the manufacturing companies, especially for small and medium size enterprises (SMEs), which consequently provides an ICT-based affordable solution approach to mitigate such challenges successfully. The overall framework to establish a VE is proposed in this paper for the intrinsic benefits of the manufacturing companies, especially for SMEs.

#### 4.1.2.4 Business Model Development for Virtual Enterprises

Reference: Soto, E.P.R., Barros, A.C., Azevedo, A.L., Batocchio, A. "Business Model Development for Virtual Enterprises", Accepted for publication at IFIP Working Conference on Virtual Enterprises (Pro-VE), Bournemouth, UK, October 2012.

Abstract: Virtual Enterprise is one form of collaborative networks that allows partners to exploit emerging business opportunities in a flexible way. Moreover, in the competitive landscape of the twenty-first century, the business model innovation has become increasingly a key element for companies' positioning in the market. Consequently, this paper aims at proposing a set of business model elements to be used by a virtual enterprise in order to explore a new business opportunity for its network. Literature review is used to identify the business model elements and evidence from a pilot case study confirms that these elements are considered in practice.

#### 4.1.2.5 Strategy for Virtual Factory Information System Design

Reference: Yuqiuge Hao, Ahm Shamsuzzoha and Petri Helo, "Strategy for Virtual Factory Information System Design", Accepted for publication at the International Conference on Industrial Engineering and Engineering Management (IEEE-IEEM), Hong Kong, December 2012.

Abstract: Rapid changes of today's global business environment demands for designing an advanced information management system as essential to share valuable knowledge and expertise among collaborative Virtual Factories (VFs). With such perspective, a strategy for process-based Virtual Factory Information System (VFIS) design is proposed in this research. This strategy provides not only a method but also a concrete tool for SMEs (Small and Medium Enterprises) to realize the VFs integration. The VFIS design optimizes VFs manufacturing processes and ensures faster response to changing customers' demands. It will also support tight integration with external systems and contributes to visualize the virtual factory management systems. In this paper, New Virtual Factory Lifecycle and its Architectural Framework are also illustrated.



#### 4.1.2.6 Virtual Enterprise Management: Perspective of Process-Based Business Collaboration

Reference: Ahm Shamsuzzoha, Filipe Ferreira, Jose Faria, Americo Azevedo, Yuqiuge Hao and Petri Helo, "Virtual Enterprise Management: Perspective of Process-Based Business Collaboration", Accepted for publication at the International Conference on Industrial Engineering and Engineering Management (IEEE-IEEM), Hong Kong, December 2012.

Abstract: The reality in today's business is to compete with dynamic and shorter market opportunities. In order to cope up with such environment, manufacturing firms, especially small and medium size enterprises (SMEs) are needed to collaborate with each other for mutual benefits. This collaboration offers process enhancement within the environment of virtual enterprise (VE) and contributes towards sharing costly resources and valuable knowledge among manufacturing companies. This research is basically focused on the process collaboration among companies that motivates them achieving identified business opportunities. A collaboration framework is proposed in this paper with respect to VE process mapping. Visualization of such processes is also highlighted through 'Dashboard' user interfaces in order to monitor and control a successful VE.

#### 4.1.2.7 Definition and Enactment of Instance-Spanning Process Constraints

Reference: Maria Leitner, Juergen Mangler and Stefanie Rinderle-Ma: "Definition and Enactment of Instance-Spanning Process Constraints", 13th International Conference on Web Information Systems Engineering 2012 (accepted as research short paper).

Abstract: Currently, many approaches address the enforcement and monitoring of constraints over business processes. However, main focus has been put on constraint verification for intra-instance process constraints so far, i.e., constraints that affect single instances. Existing approaches addressing instance-spanning constraints only consider certain use cases or scenarios. In other words, a holistic approach considering intra-instance, inter-instance, and inter-process constraints is still missing. This paper aims at closing this gap. First of all, we show how the Identification and Unification of Process Constraints (IUPC) compliance framework enables the definition of instance-spanning process constraints in a flexible and generic way. Their enactment and enforcement is demonstrated within a prototypical implementation based on a service-oriented architecture (SOA).

### 4.1.3 Project Logo

In order to market the ADVENTURE project and to meet the DOW requirements, the project partners iteratively developed a project logo, which is displayed in its final version in Figure 1. It will be used – and actually has been used – for all kinds of project presentations, for the website, brochure, internal as well as conference presentations, etc. This logo clearly supports the message of the ADVENTURE approach to form and execute the concept of a plug-and-play virtual factory among networked companies.




Figure 1 - ADVENTURE project logo


#### 4.1.4 The Project Website

One of the main means for disseminating ADVENTURE external dissemination is the public Website which has been completed at an early stage of the project. The URL of project Website is: <http://www.fp7-adventure.eu/>. An impression outlook on the Website is given in Figure 2. This Website provides different types of information to the public concerning project's organization, activities and current results. The types of information can be in the form of:

- Project description: objectives and goals of ADVENTURE, partner's information
- Project work progress: planned and performed activities are announced
- Project cornerstone (use case descriptions, the project's glossary, wiki, etc.)
- Project news and events (meetings, news of an event, etc.)
- Contacts and community information (photos, groups on social networks, etc.)
- Publicity materials (project deliverables, scientific publications, presentations in the workshop/conference, press release, etc.)
- Project results and achievements (prototype mock-ups and screenshots, tutorials, etc.)



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### FIND NEW WAYS TO COLLABORATE

ADVENTURE will help to create new products. It starts with the definition and optimization of business processes, till the finding of new partners or suppliers for special parts.

#### PROJECT

ADaptive Virtual ENTERprise ManuFACturing Environment (Adventure) is Small or Medium-Scale Focused Research Project (STREP) funded by the European Seventh Framework Programme in Virtual Factories and Enterprises. It started on the 1st September 2011 and lasts for 3 years.

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#### GOALS

The goal is the creation of a framework that provides the tools to combine factories in a pluggable way to manufacture a particular product. This includes the creation of manufacturing processes, finding partners and real-time monitoring of the processes.

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#### LATEST NEWS




**Fri Aug 17**  
Flyers available

If you are interested in the project flyers for conferences or workshops, please contact us:...



**Thu Jul 19**  
Functional Specification is online

The deliverable 3.2 Functional Specification was submitted to the commission and can be found in...



**Mon Jun 25**  
First ADVENTURE Newsletter


The first newsletter is now finished and can be viewed in the download area. Click...

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#### PARTNERS

The project consortium consists of ten partners from seven european countries. The partners can be splitted in three functional groups, which are Technology Providers, Research Institutes and Users.


##### Technology




##### Science



##### Users





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Figure 2 – Display of the ADVENTURE Website home page

According to plan, this Website is updated regularly and its traffic is monitored in order to measure the growth of the Website traffic probably indicating that it becomes necessary to take actions to ensure a target growth rate of 25%. Google Analytics is used in this respect and the outcomes are presented in Table 3.

Table 3 – Results of ADVENTURE Website traffic

Metric	Month 6	Month 12
Visitors	236	1009
New visitors	236	567
Page views	662	4633
Search traffic	93	198
Referral traffic	37	83
Direct traffic	106	286

Figure 3 displays the screen shot of ADVENTURE Website traffic from 15<sup>th</sup> December 2011 to 1<sup>st</sup> August 2012.

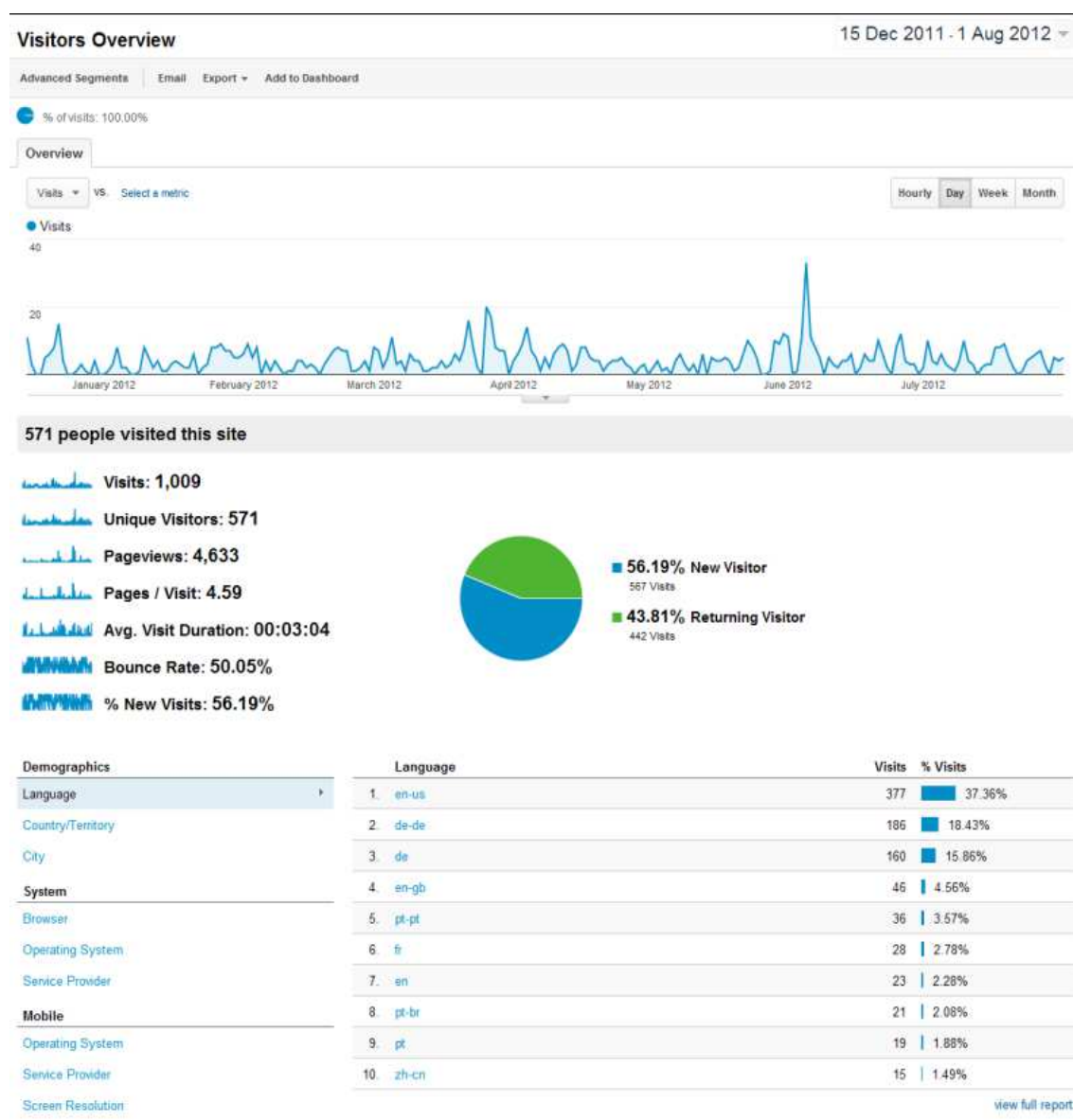


Figure 3 – Screen shot of ADVENTURE Website traffic

The Website traffic also can be visualized based on the use of language and displayed in Figure 4.

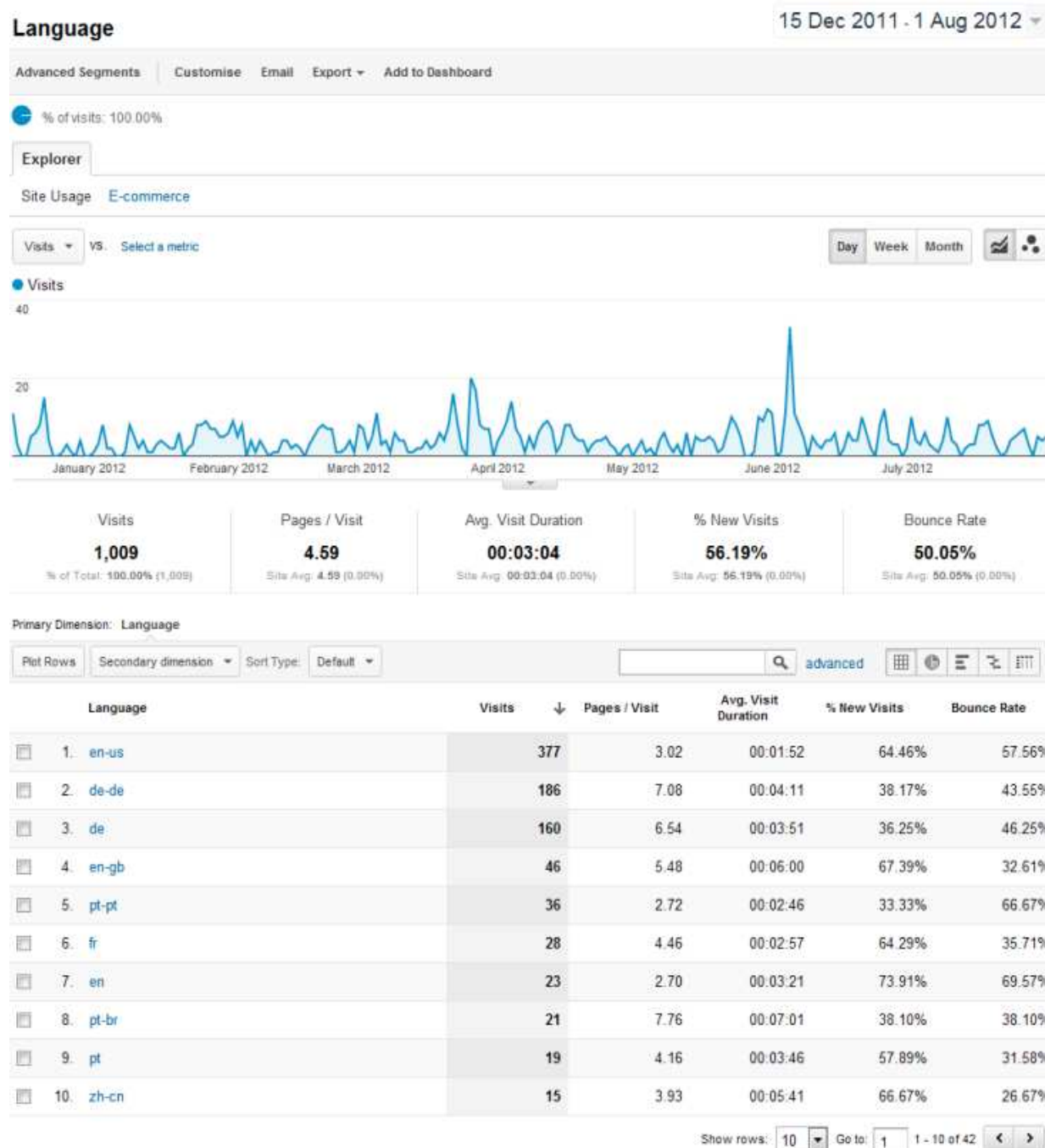


Figure 4 – Screen shot of ADVENTURE Website traffic based on use of language

### 4.1.5 Project Wiki

Within the scope of the project a Wiki has been set up with the objective to help ADVENTURE partners as well as the international community to get a better understanding about the project and its associated terms. It also helps users to make contributions through adding related articles, improving knowledge and/or to build up a collaborative community. The URL of the ADVENTURE Wiki is: <http://www.fp7-adventure.eu/wiki>. This Wiki contains information related to dissemination activities such as; Publications, State of the-Art, Glossary (ADVENTURE Glossary, DOW Term Transition) and Internal Discussions as indicated in Figure 5. It can be mentioned that some contents within the Wiki are public and some are private such as restricted deliverables.

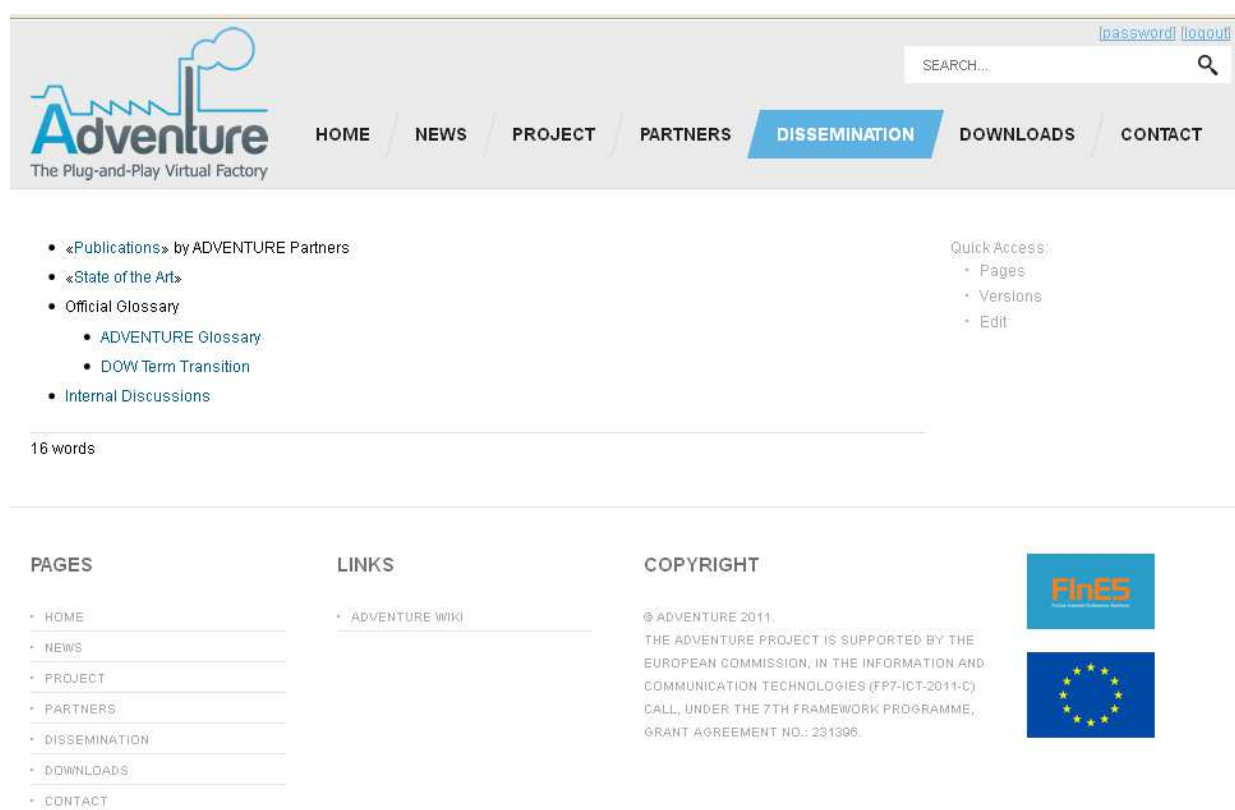


Figure 5 – First page of the ADVENTURE WIKI



#### 4.1.6 Banner

Regarding the objective to disseminate the project at “events” as, e.g. fairs, conferences, workshops, etc., a banner has been created, which is displayed in Figure 6. This banner visualizes the high level project concepts along with the names and logos of the project partners.

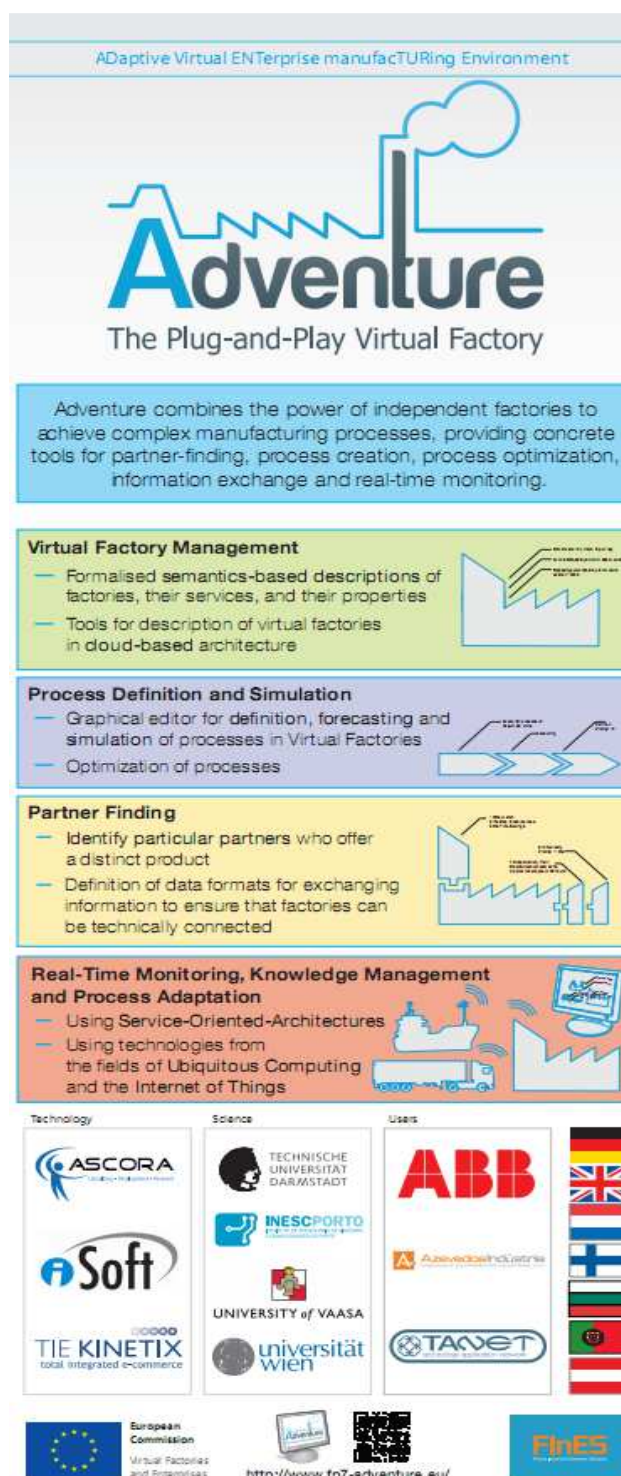


Figure 6 – Display of the ADVENTURE banner



### 4.1.7 Newsletters

The newsletter can be used to give an overview of the project's progress in terms of results and other findings during the specified months. The source of its contents can be adapted from current activities, white papers, external communications, etc.

Six newsletters are planned to be published during the project's duration. The first newsletter has already been published in the 2<sup>nd</sup> quarter of the year 2012 and can be seen in Figure 7. In total 5000 pieces of the first newsletter were printed out and distributed in different dissemination events such as conferences, workshops, fairs, exhibitions, etc. The remaining 5 newsletters are due in the quarter 3 of 2012, quarter 1 and 3 of 2013, quarter 1 and 3 of 2014, respectively.




Figure 7 – First newsletter from the ADVENTURE project

### 4.1.8 Flyers



ADVENTURE flyers can be used to promote the ADVENTURE project and platform within academic and industrial communities. ADVENTURE targeted three flyers that should be prepared and published according to the schedule as presented in Table 1. The first flyer has already been created and distributed. It can be seen in Figure 8 and Figure 9. In total, 5000 pieces of flyers were printed out and distributed among the project partners with the objective to circulate/disseminate them in different dissemination events such as conferences, workshops, fairs, exhibitions, etc. The second and third flyer will be prepared and published in quarter 2 of 2013 and quarter 1 of 2014, respectively.

D8.3.1-Scientific-Dissemination-Report-1	Author: UVA and Partners	Date: 2012-09-24	Page: 25 / 36
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### ADaptive Virtual ENTERprise manufacTURING Environment




The Plug-and-Play Virtual Factory

**European Commission**

Virtual Factories  
and Enterprises




[www.fp7-adventure.eu](http://www.fp7-adventure.eu)

### Connecting Companies

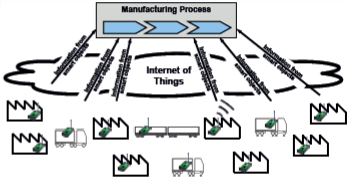
The goal of ADVENTURE is the creation of a framework that provides the tools to combine factories in a pluggable way to manufacture a particular product. This includes the creation of manufacturing processes, finding partners as well as real-time monitoring of the processes that are put into play.

The concept of combining the power of several independent factories to achieve complex manufacturing processes as so-called virtual factories is not new and has been addressed by several research projects in recent years. However, most of them are limited to create virtual factories at a business level and in many cases they concentrate on the partner-finding and factory-building processes. Still, no proven tools and technologies exist in the market to provide valuable end-to-end integrated Information and Communication Technology (ICT) in such environments.



**ADVENTURE:**  
The Plug-And-Play Factory

ADVENTURE will help virtual factories and enterprises move beyond existing operational limitations by providing concrete tools and approaches for leveraging the information exchange between factories. Factory process optimization will be enabled by the integration of runtime factory selection, forecasting, monitoring, and on-the-fly collaboration.



ADVENTURE aims at simplifying the establishment, management, adaptation, and monitoring of dynamic manufacturing processes in virtual factories by building on concepts and methods from the field of Service-oriented Computing and therefore benefiting from the progress that has been made in this domain over the last few years. Technologies from the field of Ubiquitous Computing and the Internet of Things, e.g., wireless sensors, will be adopted in order to support the monitoring and governance of processes, i.e., give information about the current status of manufacturing and delivery, as seen above.

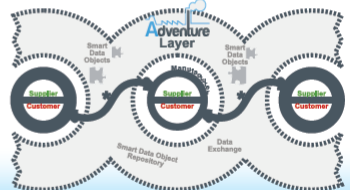


Figure 8 – ADVENTURE’s first flyer (front)

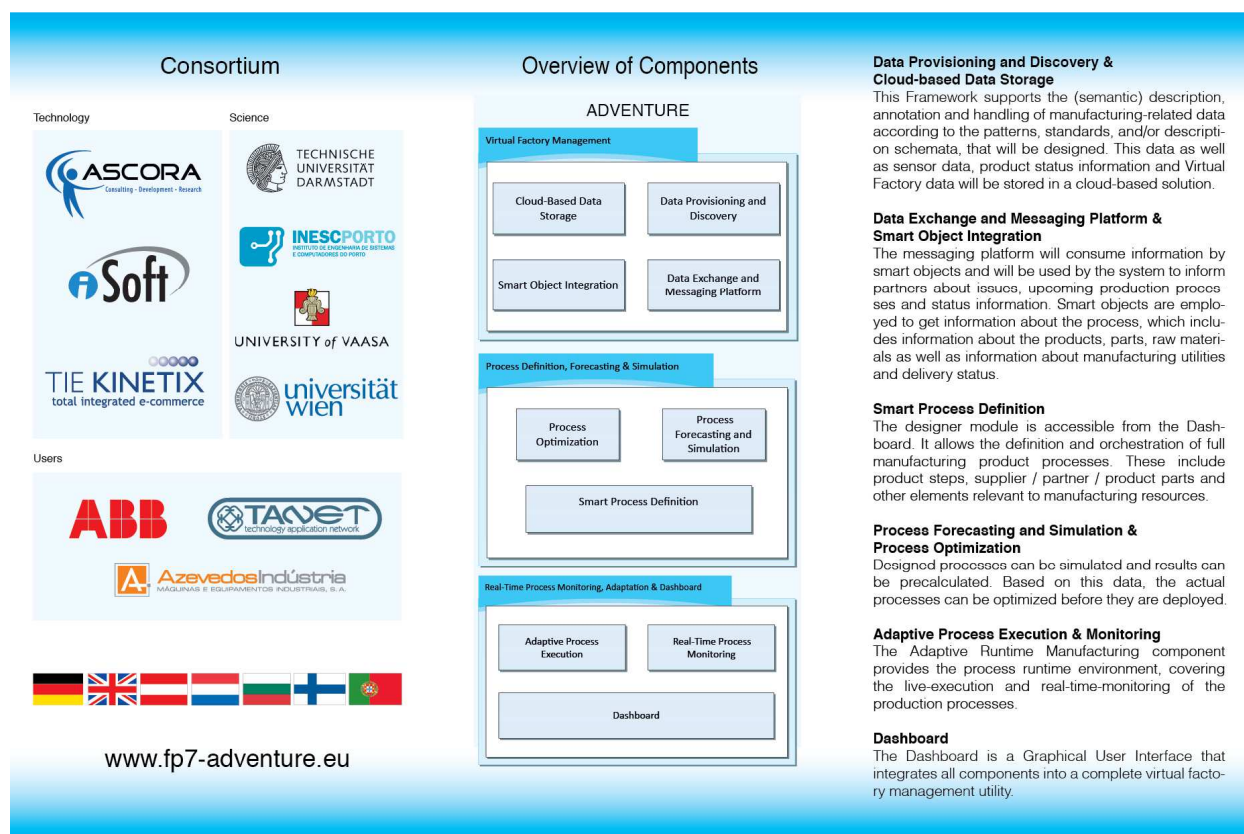


Figure 9 – ADVENTURE's first flyer (back)

## 4.2 Internal Dissemination Activities

Internal dissemination activities in relation to the ADVENTURE project refer to the work that is on-going within the project and not assigned for public. These associated activities can be in the form of theses (e.g. Bachelor, Master, and PhD), internal presentations, etc.

### 4.2.1 Bachelor, Master, PhD Theses

There are two master and three PhD theses which are currently conducted within the scope of the ADVENTURE project. The outcomes from the ADVENTURE project will contribute directly or indirectly to the completion of the respective master and PhD theses.

University of Vienna, Vienna:

- Master thesis: Supporting Users in Managing the Security Aspects of Large Scale Process Aware Information Systems.
- PhD thesis: Technologies and frameworks to support users during real-time monitoring and retrospective analysis of business process instance execution data combining visualization and sonification techniques.

Technical University of Darmstadt, Germany:

- Master thesis: Data storage in the cloud – Implementation of a DaaS interface
- Bachelor thesis: Data storage in the cloud – Analysis of database as a service.

- PhD thesis: QoS-aware Service Selection – Optimization Mechanisms and Decision Support for Complex Services-based Workflows.
- PhD thesis: Events in Logistics – Efficient Detection and Transmission with Wireless Sensor Network Technology (working title).

## 5. Standard Presentation

In order to visualize and present the project ADVENTURE to interested stakeholders or to include the presentation of ADVENTURE for specific purpose presentations, an ADVENTURE *standard presentation* has been compiled. It serves the purpose that all project partners of ADVENTURE may use a synchronized and committed set of slides, which is constantly updated.

The target audience for the standard presentation ranges from management-level staff to upper executive level. It visualizes the key advances and approaches of ADVENTURE on a rather abstract level instead of going into the details of the different ADVENTURE components. The standard presentation is scalable. I.e., according to the level of detail, which is to be provided, and according to the envisaged time frame, the standard presentation comes up with a reduced set of slides – in its current version for 5, 15, and 30 minutes presentations. Further graduations on granularity are planned. Of course, the standard presentation follows the guideline imposed by the Project Procedures and Quality Plan deliverable D1.2. Thus, it conforms to the Power Point template provided in the course of D1.2.

With respect to contents, the standard presentation is aimed at providing a rough overview and summary of the challenges arising especially for Small & Medium Enterprises (SMEs) in the addressed manufacturing domain. In addition, it presents the approached solutions ADVENTURE is aspiring. In this respect, an overview about the envisaged architecture of ADVENTURE is provided, indicating how the different components and building blocks of ADVENTURE are interconnected. Depending on the level of detail required for a talk which is to be given regarding ADVENTURE, high level explanations on the functionality of each of the ADVENTURE components are contained in the standard presentation. This supports the audience in getting a more in-depth idea on the ADVENTURE system and on its capabilities. Further, a comparison with current state of the art technologies and solutions in the field of virtual factories is conducted and improvements of ADVENTURE regarding the current state-of-the-art are listed. Finally, implementation and timeline information is provided.

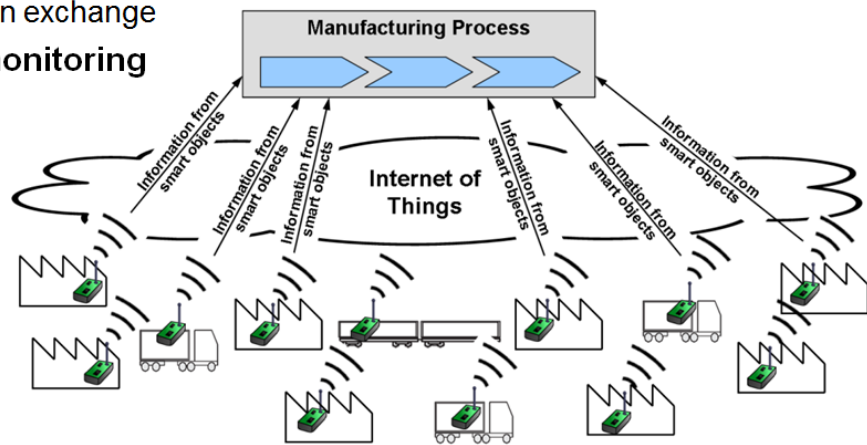
A couple of snapshots are provided in Figure 10, Figure 11, and Figure 12.

## ADVENTURE –

## ADaptive Virtual ENTERprise ManufacTURING Environment



- Combining the power of independent factories
- Achieving complex manufacturing processes
- Providing concrete tools for
  - Process creation
  - Process optimization
  - Information exchange
- Real-time monitoring



ADaptive Virtual ENTERprise ManufacTURING Environment (EU Project ID 285220)

30.06.2012

6

Figure 10 - ADVENTURE approached Solutions

The slide shown in Figure 10 indicates the goals ADVENTURE is trying to achieve as well as the tools which are to be provided by ADVENTURE in the context of manufacturing processes.



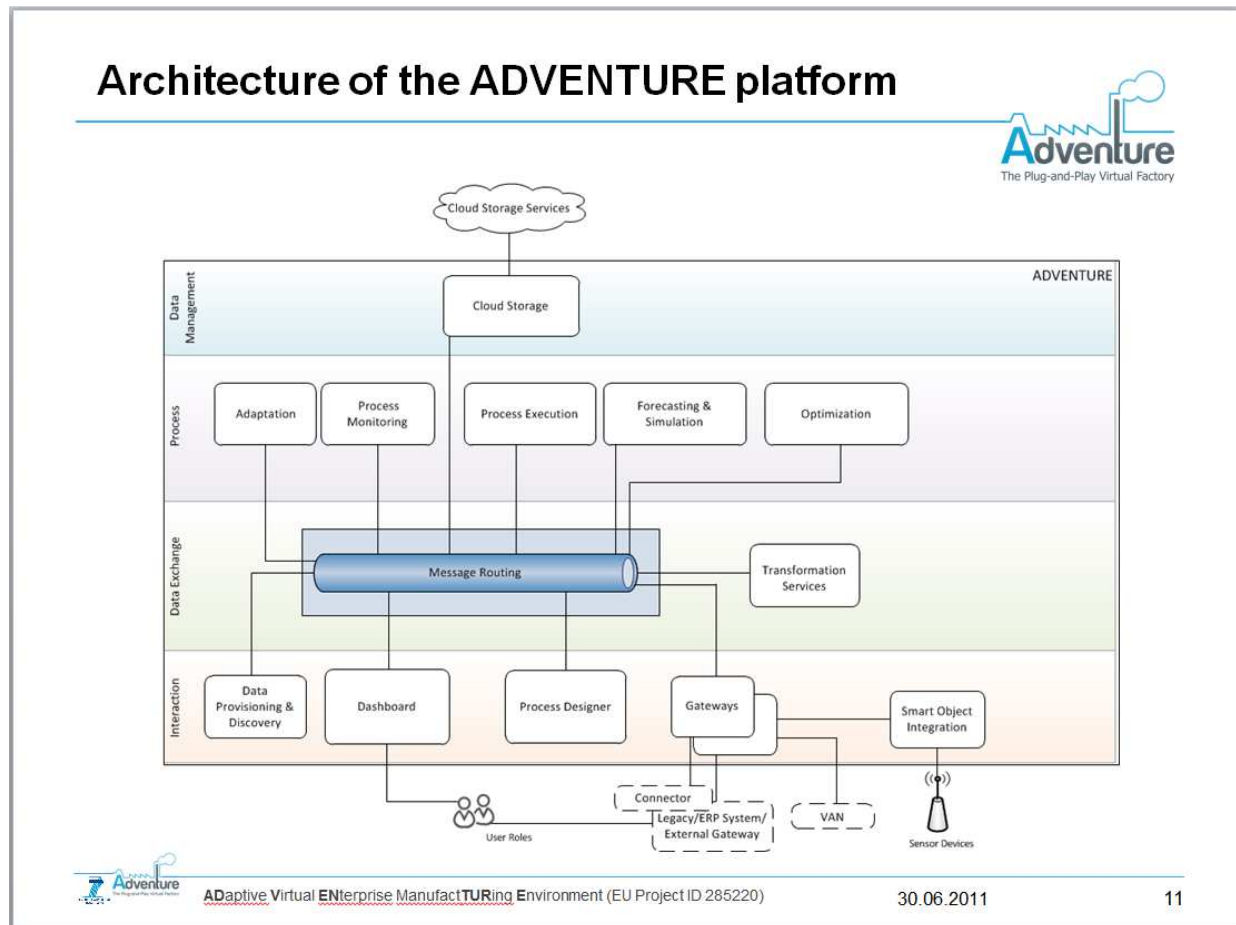


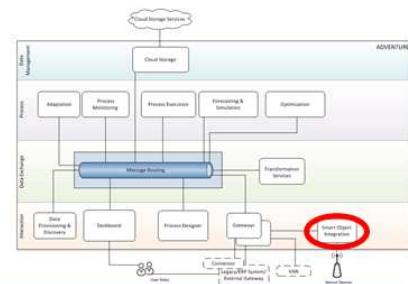
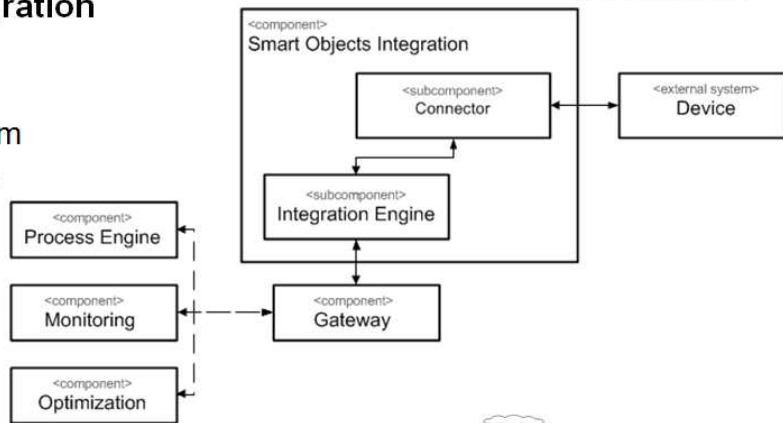
Figure 11 - Architecture of the ADVENTURE Platform

In Figure 11, the architecture of the different ADVENTURE components is indicated. It supports in providing an overview about how the different components will be connected – indicating envisaged interactions.

## Interaction Layer

### Smart Object Integration

- Data source for context data
- Real-time data from environment, e.g.,
  - Temperature
  - Tilt values
- Data aggregation
- Data communication/provisioning
  - To ADVENTURE system



ADaptive Virtual Enterprise ManufactURING Environment (EU Project ID 285220)

30.06.2011

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Figure 12 - Information on ADVENTURE Components

In Figure 12, more detailed information regarding the integration of smart objects are provided – including the interaction of components realizing the smart object integration.



## 6. Dissemination Events

During this report period, the consortium has participated at several events, which are described in the following.

### 6.1 Presentations at Conferences/Workshops

The ADVENTURE project partners participated at European and international conferences and workshops publishing and presenting research results which have been conducted in the context of ADVENTURE so far. These conferences and workshops are listed in the following. In addition, it is briefly stated which part(s) of ADVENTURE have been addressed in the respective scientific papers indicated in Section 4.1.2.

- 19<sup>th</sup> International Conference on Web Services (ICWS 2012)
  - Optimization of Quality of Service in Service-based workflows
  - Involvement of stochastic Quality of Service attributes
  - Adaptation for selecting services in case of violations regarding required Quality of Service levels
- 22<sup>nd</sup> International Conference on Flexible Automation and Intelligent Manufacturing (FAIM 2012 )
  - Overall challenges and vision of manufacturing companies (especially, SMEs)
  - ICT- based solution approach to mitigate market challenges for SMEs
  - An overall framework to establish, operate, monitor and adapt virtual enterprise
- 5<sup>th</sup> International Conference for Entrepreneurship, Innovation and Regional Development (ICEIRD 2012)
  - Introduce and study an innovative methodology and framework to support plug-and-play Virtual Factories based on cross-organizational manufacturing processes
  - Realizing the needed tools and methods for data provisioning and discovery to support the ad-hoc involvement of SMEs in Virtual Supply Chain networks
  - To enable SMEs to manage virtual collaborative networks in the role of entrepreneurs
- 4<sup>th</sup> International Workshop on Enterprise Modelling and Information Systems Architectures – EMISA 2011
  - A representation framework for the integration of process constraints stemming from different sources is introduced.
  - The representation framework is generic such that existing formalisms to represent process constraints can be integrated.
  - The framework is illustrated by means of real-world process constraints from different domains and heterogeneous sources.

## 6.2 Presentation at Fairs/Exhibitions

Apart from these conferences and workshops with own publications, the members of the consortium participated in several fairs and exhibitions. The dissemination activities here included but were not limited to distributing recent flyers from the project, discussing about the idea of service-oriented virtual enterprises, exchanging information with project participants' from other EU-FoF projects. The fairs and exhibitions, where the ADVENTURE project partners took part in are compiled in the following. Again, performed dissemination activities are additionally briefly listed. Figure 11 displays a snapshot as taken from CEBIT fair.

- **CeBIT** (Centre for Bureauautomation, Informationtechnology and Telecommunication) 2012 attended by TUDA
  - Information exchange/interaction European Commission – Dr. Erastos Filos (Head of Sector Intelligent Manufacturing)
  - Interaction with other project partners and projects, respectively, exposed at the booth of the “FP7 ICT for the Factories of the Future”
    - MSEE – Manufacturing Service Ecosystem
    - IMAGINE – Innovative end-to-end Management of Dynamic Manufacturing Networks



Figure 13 – A snapshot from CEBIT fair (Source: <http://www.msee-ip.eu/news/msee-present-at-cebit-2012>)

### 6.3 Participation in Conferences

Different project partners have also participated in various international conferences without presenting scientific papers but exchanging valuable information/ideas among other EU-project participants and, thus, disseminating the ADVENTURE project. The conferences are listed in the following:

- 24th International Conference on Advanced Information Systems Engineering (CAiSE'12), Gdansk, Poland, 25 – 29 June 2012. Total participants: around 100 people. Attended by UVI.
  - In total, four papers have been presented by UVI, one of which (Ly, Linh Thao and Indiono, Conrad and Mangler, Jürgen and Rinderle-Ma, Stefanie: Data Transformation and Semantic Log Purging for Process Mining) is loosely related to concepts that could also benefit ADVENTURE, but are not part of the DOW. In the above mentioned paper data transformation and semantic pre-processing steps that improve the quality of models mined from process have been introduced. After the presentations, ADVENTURE has been brought up as an example how process (re-design) might benefit from such an approach, with led to further discussion with conference participants.
- As the presented papers do not cover concepts included in the ADVENTURE DOW, the conference has not been financed through ADVENTURE.
- International Conference on Auditory Display (ICAD 2012), Atlanta, USA, 18-22 June 2012. Total participants: around 60-80 people. Attended by UVI.

UVI presented a paper describing a concept that could benefit ADVENTURE and will use the project as an example, but which is only in aspects covered by the ADVENTURE DOW (Hildebrandt, Tobias and Kriglstein, Simone and Rinderle-Ma, Stefanie: Beyond Visualization: on using sonification methods to make business processes more accessible to users). The paper deals with novel methods to present and analyze business process execution data combining visual and auditory means. After the presentation, ADVENTURE has been brought up as an example how process monitoring and –analysis might benefit from such an approach, which led to further discussion with conference participants. As the presented paper covers concepts that are only in aspects included in the ADVENTURE DOW, the conference has not been financed through ADVENTURE.

## 7. Conclusions

This deliverable provides a report mainly focused on the scientific dissemination activities, along with the general dissemination activities. It contains an overall dissemination summary regarding the project's first year (01.09.2011- 31.08.2012). This document will be updated every year and therefore cannot be considered as a static document but rather as "living" entity.

Within the scope of this deliverable, planned activities are also highlighted which are to be carried out during the remaining project's period. The planned activities should be followed according to the highlighted schedules as strictly as possible. However, changes of the planned activities can be updated collaboratively after discussing with the projects partners.