



VAN

FP6/2004/IST/NMP/2 - 016969 VAN

Virtual Automation Networks

Work Package 10
Exploitation and Dissemination

Task 10.1
Information Dissemination

Deliverable 10.1-2-V5
Plan for using and disseminating knowledge

Document type	: Report
Document version	: Final
Document Preparation Date	: 11.09.2008
Classification	: Public
Contract Start Date	: 01.09.2005
Duration	: 31.08.2009



Project funded by the European Community
under the "Information Society Technology"
Programme (2002-2006)

Rev.	Content	Resp. Partner	Date
1.0	First draft	CARTIF	02.09.2009
2.0	Finished version at WP Level	CARTIF	07.09.2009
3.0	Definite versión alter review at Board Level	CARTIF	11.09.2009

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Executive summary

This deliverable belongs to task 10.1 “Information Dissemination”, from work package 10, “Exploitation and Dissemination”.

This is the fifth and last version of this deliverable and presents the dissemination activities carried out by VAN partners from September 2008 to August 2009, as well as some planned ones within the next few months. The first version of this document [D10.1-2 V1] describes the approach taken for dissemination, as well as the strategy followed.

This deliverable is structured in six chapters and two appendixes. The first chapter is an introduction. The second chapter includes accomplished dissemination actions from September 2008, after the previous plan for using and disseminating knowledge. Progress of the project regarding achieved deliverables is also included. The third chapter introduces future dissemination actions planned for the near future. The fourth chapter deals with the latest updates related to VAN channels and tools. The fifth chapter shows the results obtained from the assessment procedure described in the first version of this deliverable [D10.1-2 V1]. Assessment results have been presented in a graphical way for a clear and better understanding. Finally, chapter six includes a set of conclusions from the report.

Two appendixes are included at the end with information collected from VAN partners regarding the assessment procedure and the dissemination events.

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1 Introduction

Along the past three periods of the project, and by specifying requirements and establishing a trend screening process for VAN relevant communication technologies, WP1 has formed a baseline of work for all other technical work packages. Now that we are approaching the end of period 4, the main goal of WP1 is to perform a final evaluation of the achieved results with respect to the state of the art and the original project goals.

The basis for the migration of the different technologies is Work Package 2 (Open Platform & System Architecture). In WP2 an open infrastructure for automation components for the VAN goals has been specified and developed. Based on the results of WP2 different solutions for wireless communication, safety, security, and real-time aspects in the single technical WPs have been investigated and developed. Several WPs have already ended in the beginning / middle of period 4 (WP4, WP5, WP6), but some implementation and validation work is still in progress. Especially worth to be mentioned here are the implementation and validation activities in WP3 (Wireless), WP7 (Public and Private Networks) after prolongation, and WP8 with the special focus on Engineering of the VAN system.

The main focus during last project period is on the development and implementation of the Industrial Experimental Setups (IESs) as basis for validation and testing activities. This will be done on the one hand in the specific Work Package (as mentioned before), and on the other hand in an integrated IES covering factory and process automation. All implementation activities have been and will be supervised and coordinated by the Technical Coordination Committee (TechPCC) in WP9.

As usual, all the progress is available for the public through the adequate channels. VAN partners are taking advantage of all the available dissemination tools and are participating actively in events of every kind (conferences, congresses, workshops, etc). These are being punctually announced through VAN website (www.van-eu.eu) and the generated material can be accessed through it.

2 Accomplished dissemination

2.1 Past events

There follows a list with the most remarkable events VAN partners have attended from months 37 to 48, that is, from September 2008 to August 2009.

Short name	Full name	Date
Innotrans	International Trade Fair for Transport Technology Innovative Components Vehicles Systems	Sep, 2008
ICC 2008	Industrial Communication Congress 2008	Sep, 2008
SPS/IPC/Drives 2008	SPS/IPC/Drives. Electric Automation. Systems and Components	Nov, 2008
IECON 2008	34 th Annual Conference of the IEEE Industrial Electronics Society	Nov, 2008
WCSN 2008	Fourth IEEE Conference on Wireless Communication and Sensor Networks	Dec, 2008
IEEE-ICIT'09	IEEE-ICIT'09 International Conference on Industrial Technology	Feb, 2009
Hanover Fair	Hanover Fair	Apr, 2009
MCA	17 th Mediterranean Conference on Control and Automation	Jun, 2009
I*PROMS	I*PROMS Virtual Conference	Jul, 2009

For a more detailed description of these dissemination events, please refer to Annex II.

Additional information regarding several publications is listed below:

Trendy automatizace 2008

Zeulka, F; Hynčica, O. (BUT)

In *Automatizace, regulace a procesy 2008*. Praha, ČVUT. November 2008. p. 67 - 72. ISBN 978-80-903844-2-2.

Wireless Sensor Networks: VAN-Project Perspectives

Lakkundi, V; Kratzig, M. (BUT)

Radioengineering, p. 215-222, vol. 18, no. 2, June 2009. ISSN 1210-2512.

Ethernet based real time control for distributed manufacturing plants in VAN

M. Surico, D. Panarese, F. Meo (Fidia)

5th I*PROMS Virtual International Conference on Innovative Production Machines and Systems 6 - 17 July, 2009

A double layer coordination system for safety in manufacturing plants

M. Surico, D. Panarese, F. Meo (Fidia)

2nd International Researchers Symposium 2009 on INNOVATIVE PRODUCTION MACHINES AND SYSTEMS 22 - 24 July 2009, Ischia, Italy

VAN Presentation at the AutomationML Workshop (more information on this on D10.2-1)
23-24 June 2009, Nuremberg, Germany, AutomationML Workshop

University lectures (more information on this on D10.2-1):

- *Brno University of Technology*. 2-hour lecture in spring semester 2008, 2009
- *Otto-von-Guericke University of Magdeburg*. Course Kommunikation in der Fabrikautomation

2.2 Deliverables

During this last period of the project, the objective has been to install prototype devices, engineering systems and networks, both wired and wireless at identified test sites. On the one hand, this refers to the Industrial Experimental Setup (IES) for Process Automation (PA), and on the other hand for Factory Automation (FA). The first one is a manifold production system developed as a common IES with the EC STREP PABADIS'PROMISE; the second one is a biogas power plant, showing the VAN potentialities in the field of factory automation.

The main outcomes from this period are:

- Results from the test installations concerning process industry (IES PA)
- Results from the test installations concerning manufacturing industry (IES FA)
- Prototype Software for VAN Open Platform
- Prototype of a network integration engineering tool
- Established European Competence Group (ECG)
- Concept of Test Laboratory for VAN products

The following graphs represent the progress achieved along the last year of the project. Deliverables are classified both by type and by work package.

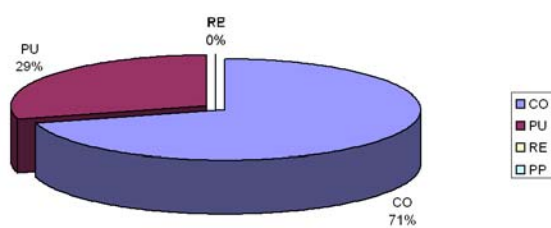


Fig. 2.1 Deliverables achieved from September 2008 to August 2009, classified by type

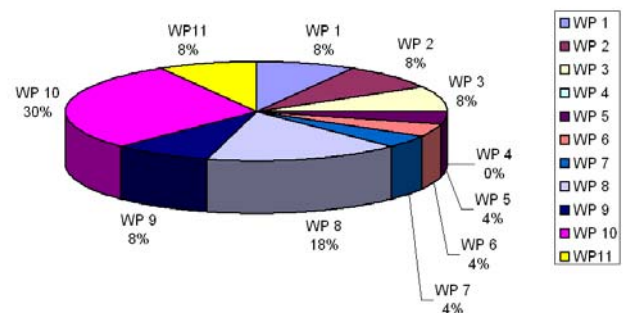


Fig. 2.2 Deliverables achieved from September 2008 to August 2009, classified by work package

	Year 2008				Year 2009							
	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
WP1												
T1.3									D01.3-1 V5 D01.3-6			
WP2												
T2.4			D02.4-2 D02.4-3									
WP3												
T3.4										D03.4-3		
T3.5								D03.5-2				
WP4												
T4.5												
WP5												
T5.4												
T5.5			D05.5-1 (f)									
WP6												
T6.4												
T6.5	D06.5-1											
WP7												
T7.3												
T7.4												D07.4-1
WP8												
T8.5	D08.5-2											
T8.6	D08.6-2											
T8.7					D08.7-1					D08.7-2		
WP9												
T9.1											D09.1-1	
T9.2											D09.2-1	
WP10												
T10.1												D10.1-2 V5 D10.1-3
T10.2											D10.2-1	
T10.3											D10.3-2 V4 D10.3-3	
T10.4										D10.4-1		D10.4-2
WP11												
T11.1						D11.1-2-V4						
T11.2												D11.1-3-V4

Fig. 2.3 Deliverables accomplished from September 2008 to August 2009

Task 3.4, Task 3.5, Task 6.4, Task 6.5 and Task 7.4 have been prolonged with regard to the original planning.

The corresponding deliverables are listed below:

D01.3-1 V5	Final Evaluation and Conclusions (M45) PU
D01.3-6	Ex-post Social Impact Assessment (M45) PU
D02.4-2	Prototype Software for VAN Open Platform (M39) CO
D02.4-3	Setup of Testing Laboratory for VAN Products (M39) CO
D03.4-3	Wireless Prototyping – Extended Wireless Localisation System (M46) CO
D03.5-2	Measures to improve Robustness of Wireless Technologies (M44) CO
D05.5-1	Test and validation of prototypes (final) (M39) CO
D06.5-1	Test report (M37) CO
D07.4-1	Integration Guideline and Conformance Test Specification (M48) CO
D08.5-2	Prototype Implementation of Engineering Tool, Prototypes for Stand-alone Concept (M37) CO
D08.6-2	Implementation of Engineering Tool Prototypes for Integrated Concept (M37) CO
D08.7-1	Specification of Engineering Tool Support for the IES (M41) CO
D08.7-2	Prototype Implementation of Engineering Tool Support for the IES (M46) CO
D09.1-1	Prototype Installation incl. Validation and Test for Process Industry Environment (M47) CO
D09.2-1	Prototype Installation incl. Validation and Test for Manufacturing Industry Environment (M47) CO
D10.1-2 V5	Plan for using and disseminating knowledge (final) (M47) PU
D10.1-3	Use and Dissemination of Knowledge Assessment (M48) PU
D10.2-1	Demonstration of VAN Devices and Technology based on Prototype Installations (M47) PU
D10.3-2 V4	Gender-action-plan report (final) (M47) PU
D10.3-1 V2	European Competence Group – Report 3 (M47) PU
D10.4-1	VAN related Input for Standardisation (M46) CO
D10.4-2	Reports on Meetings with relevant Standardization Committees (M48) CO
D11.1-2 V4	Intermediate Progress and Activity Report (M42) CO
D11.1-3 V4	Progress and Activity Report (M48) CO

From the above list, D01.3-1 V5, D01.3-6, D10.1-2 V5, D10.1-3, D10.2-1, D10.3-2 V4 and D10.3-3 are public. Once they have been delivered and approved by the EC, they will be available to the general public through VAN web site.

Below there is a graph summarizing dissemination events and deliverables accomplished by VAN membership from September 2008 to August 2009 (see Annex II)

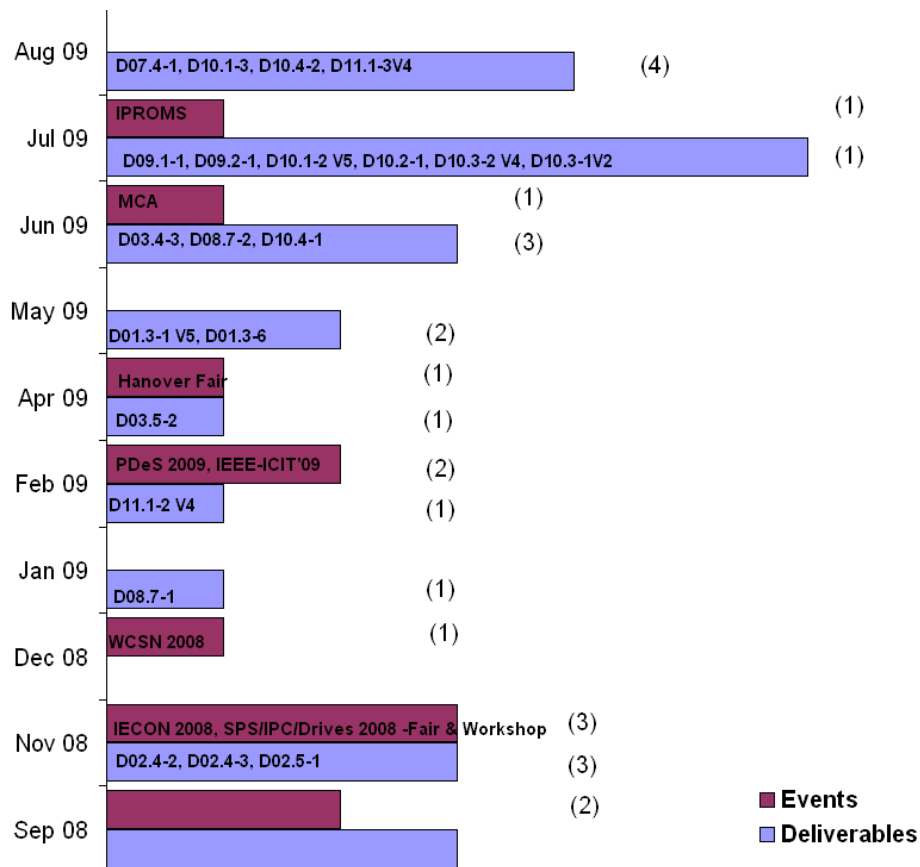


Fig. 2.4 Accomplished dissemination events and deliverables from September 2008 to August 2009

2.3 European Competence Group related events

Under this section an overview on the latest ECG related events is given. This comprises the last two meetings held during the SPS/IPC/Drives Fair (November 2008) and Hanover Fair (April 2009).

2.3.1 SPS/IPC/Drives Fair (November 2008)

The fourth ECG meeting held so far since the start of VAN project was organized and conducted as a joint dissemination event, together with the project PABADIS'PROMISE (P2). As usual, it took place within the framework of one of the most well known automation fairs, the SPS/IPC/Drives Fair, on the 25th of November 2008.

Attendants had a good chance to get an overview about research activities in the context of novel automation architectures and technologies that will increase the flexibility, efficiency and robustness of automation and communication systems.

Concepts and progress achieved for both projects were shown to the public and the presentations were subdivided into two parts, being the first one dedicated to PABADIS'PROMISE, and the second one to VAN

There follows the list of presentations for VAN project¹:

- Future of Industrial Communication (C. Schwab, Siemens AG)
- Technical Architecture and Prototyping in Factory and Process Automation (R. Greiner-Jacob, Siemens AG)
- Implementation Aspects (R. Messerschmidt, ifak e.V.)

¹ More information can be found in <http://www.van-eu.eu/readmoreSPS2008>

2.3.2 Hanover Fair (April 2009)

This last meeting of the ECG took place during the Hanover Fair, on the 21st of April 2009. In this occasion and due to the degree of advance of VAN project almost final results could be shown and several real implementation scenarios could be presented and discussed. At this stage, implementation work inside single work packages was finalised and the main focus was on the final implementation of the two IESs (for Factory Automation and Process Automation).

Next, the list of related presentations is shown²:

- Future of Industrial Communication (C. Schwab, Siemens AG)
- Overall Technical Architecture and Prototyping in Industry (R. Greiner-Jacob, Siemens AG)
- Name based Addressing and Routing (R. Messerschmidt, ifak e.V.)
- Common Engineering for Virtual Automation Networks (M. Hoffmann, Univ. of Magdeburg)

² More information can be found in <http://www.van-eu.eu/readmoreHannoverMesse09>

3 Future dissemination

VAN official ending date is 31st October 2009. This means no further work will be carried out regarding the tasks and work packages defined in the project as both time and budget have reached the end.

However, dissemination intends to go further in time. Progress achieved and outcomes reached so far will be made available to the public through publications and attendances to relevant events. The web site itself will be operative for another year at least from the end of the project. This will give us a fair chance of keeping the audience informed and up to date with related dissemination material and news.

3.1 Already planned dissemination events

Right now there is a list of planned dissemination events for the short and medium term in which VAN partners are planning to present outcomes of the project³

Event name and venue	Contribution	Author	Date
The 8 th International PhD Student's workshop of Control and Information Technology (Brno, Czech Republic)	Presentation of Synergies between VAN Engineering and AutomationML	CVS	8 th Sep 2009
Fachbereichskolloqium "VAN - Virtual Automation Networks (Lemgo, Germany)	VAN project overview and effect on industry seminar, oriented to research community in industrial automation	Phoenix Contact	13 th Oct 2009
Machines Communicate at 51 st International Engineering Fair 2009 (Brno, Czech Republic)	30-minute presentation on the VAN technology and its technical outcomes (Prof. Zezulka). Oriented to Industrial and university experts and occasional audience from the electrical and mechanical engineering visiting the International Engineering Fair 2009. Press will be present	BUT	14 th Oct 2009
IEEE IES Forum 2009 (Porto, Portugal)	Invited presentation on VAN. The related paper is expected to appear in the IEEE Industrial Electronics Magazine	BUT	2 nd Nov 2009
SPS/IPC/Drives 2009 (Nuremberg, Germany)	VAN presentation on booth	ifak	Nov 2009
Hanover Fair 2010 (Hanover, Germany)	VAN presentation on booth	ifak	Apr 2010
ETFA 2010 (Bilbao, Spain)	Name based Routing - a network address independent routing solution for Virtual Automation Networks	ifak	Sep 2010

³ Extended information on these events can be found in D10.2-1

Some foreseen publications:

P. Neumann, R. Messerschmidt (ifak Magdeburg) have contributed to the contents of a publication called "Handbook on Industrial Electronics Part 3 -- Industrial Communication Systems". Their contribution is: "Chapter 1.3.3 Virtual Automation Networks".

Ifak Magdeburg will profit from experience gained inside VAN project in order to make a contribution for the project DIVAN AIF 15842 BG (German project about QoS capabilities in Virtual Automation Networks). The specific contribution will be the use and merging of experiences of the VAN project for modelling and simulation of QoS characteristics in heterogeneous industrial networks. This will be due by the end of October 2010 and is intended for the research community.

4 VAN Dissemination Channels and Tools

4.1 Channels

4.1.1 Web site

Now that we are approaching the end of the project, most practical results have been achieved or are about to. The ultimate outcomes have been the Industrial Experimental Setups that show VAN technologies and their implementation within industrial facilities, as well as the interconnection of several remote machines in order to validate the project's outputs.

The amount of deliverables, publications and participation in relevant events shows the efforts devoted by the consortium to VAN project. All this can be accessed through www.van-eu.eu.

Sections recently updated are:

- News and events:
 - News: conferences, congresses, workshops, etc
 - Newsletter: issue 6 will be delivered within the next weeks
 - Meetings: the latest meetings have been included
- Related links
- Publications
- Deliverables
- Downloads

The public (PU) available deliverables can be downloaded here. They will be ready for download only after having been officially approved at periodic project reviews. This will entail some delay in most cases.

Dissemination Level
 PU = Public
 PP = Restricted to other programme participants (including the Commission Services).
 RE = Restricted to a group specified by the consortium (including the Commission Services).
 CO = Confidential, only for members of the consortium (including the Commission Services).

WP1	Requirements and trend Screening			
ID	Title	Resp. Partner	Dissemination Level	Delivery Date
D01.1-1-V1 (3,9 Mb)	<u>State of the Art and Trends in safety, security, wireless technologies and real-time properties</u>	Brno University of Technology	PU	Nov, 2005
D01.1-1-V2 (183,9 Kb)	<u>State of the Art and Trends in safety, security, wireless technologies and real-time properties</u>	Brno University of Technology	PU	Jul, 2006
D01.2-1-V1 (2,4 Mb)	<u>Description of Requirements and Technological roadmap</u>	MCM	PU	Jan, 2005
D01.2-1-V2 (2,7 Mb)	<u>Update of Requirements and Technological roadmap</u>	MCM	PU	Aug, 2006

Below you can find a list of the publications and downloading any of them, please [register](#). If you are a registered user, please [log in](#).

Publications

- **A double layer coordination system for safety**
M. Surico, D. Panarese, F. Meo (Fidia)
 2nd International Researchers Symposium 20 July 2009, Ischia, Italy
- **Ethernet based real time control for distributed systems**
M. Surico, D. Panarese, F. Meo (Fidia)
 4th IPROMS Virtual International Conference on Innovative Production Machines and Systems 6 - 17 July, 2009
- **Wireless Sensor Networks: VAN-Project Perspectives**
Lakkundu, V.; Kratzig, M.
 Radioengineering, p. 215-222, vol. 18, no. 2, June 2009. ISSN 1210-2512.
- **Seamless Engineering for Distributed Control Systems - An Approach for Virtual Automation Networks**
Hoffmann, M.; Hundt, L.; Fuchs, T.
 IEEE International Conference on Industrial Technology, ICIT 2009, 10-13. February, Melbourne, Australia, 2009, ISBN:978-1-4244-3507-4
- **Wireless Sensor Network Prototype in Virtual Automation Networks: Implementation and Coexistence Aspects**
Lakkundu, V.; Beran, J.; Kratzig, M.
 Proceedings of Fourth IEEE Conference on Wireless Communication and Sensor Networks, Allahabad, India, Indian Institute of Information Technology Allahabad (IIIT-A), December 2008. p. 137 - 142. ISBN 978-1-4244-3326-1.

Fig. 4.1 Recent updates on VAN web site

4.1.2 Groupware

No remarkable changes can be attributed to this internal dissemination channel. It goes on serving as an ideal tool for information exchange and database among the consortium.

4.2 Tools

4.2.1 Newsletter

The fifth issue of VAN newsletter was released on last March. It is currently available at:

http://www.van-eu.eu/sites/van/pages/files/VAN_Newsletter5_03-09.pdf

The sixth one will be ready in the next few weeks.

Corresponding sections for issue 5 are as follows:

- **Last contributions to VAN:** Contains a brief description of the main dissemination activities performed by VAN partners previous to the publication of the newsletter. This time, we presented: Aucoteam at Innotrans, VAN team at the 17th IFAC World Congress (6th-11th July 2008), Recent publications from ifak and Schneider, Phoenix Contact organizing the 13th Industrial Communication Congress 2008 and SPS/IPC/Drives 2008.
- **Interview with Mr. Ralf Messerschmidt, from ifak:** ifak, as one of the research centers belonging to VAN consortium, is mainly in charge of tasks dealing with specification. They have a large experience in specification of communication protocols, even for IEC standardisation.
- **Meet the partners:** This time, Aucoteam and Heitec were presented. Right now all VAN partners have been presented through this section of our newsletter.
- **Future Events:** Includes the most remarkable future events for VAN dissemination interests. This time we presented next Hanover Fair, the 2nd IFAC Workshop on Dependable Control of Discrete Systems (DCDS'09) and next I*PROMS Virtual International Conference on Intelligent Production Machines and Systems.
- **Meetings:** This section includes the latest EBM in Karlsruhe, the one held in Brno and the third year review meeting organized by Phoenix Contact Electronics in Bad Pyrmont.

Contents of the issue 6 are described below:

- **Last contributions to VAN:** Contributions presented in this section have been: participation of VAN consortium at the latest Hanover Fair (including the latest ECG event), 17th Mediterranean Conference on Control and Automation (BUT), I*PROMS 2009 (Fidia), the 8th International PhD Student's Workshop of Control and Information Technology (CVS)
- **VAN Showcases:** A description of VAN IESs is presented in this new section. Both Process Automation and Factory Automation prototypes are described here including details on VAN implementations.
- **VAN Social Impact Evaluation (SIE):** The Social Impact Evaluation, developed along the whole project is briefly described here.
- **Future Events:** This time we present Fachbereichskolloquium "VAN - Virtual Automation Networks", the Industry Forum (IEEE Industrial Electronics Society) and next SPS/IPC/Drives 2009.
- **Meetings:** This section includes the latest EBM in Valladolid (organized by CARTIF), and the latest review meeting in Bari.

Everyone accessing <http://www.van-eu.eu/> can download VAN newsletters freely. Furthermore, there exists a mailing list of selected addressees aiming to get to the appropriate audiences. It is partly formed by the people registered to access the publications section and those from VAN interest group. In general, these people come from public and private organizations with a high interest in VAN results. Part of them is currently participating in embedded systems projects.

Currently, VAN newsletter is being sent regularly to around 300 people. Professional interests have not been the only criteria to select them because a broader audience is pursued. This way, some of the organisations included are: Universitat of Salzburg, University of kalsruhe, Ghent University, Trinity College Dublin, Delft University of Technology, Philips, European Institute of Information Technology Education, Ecole Nationale Superieure des Telecommunications, CNR, IBM, ABB, France Telecom, Fraunhofer FIT, Nokia Research Center, Ericsson AB, etc.

4.3 Web page and GroupWare indicators

The most relevant information on the impact of the web page and GroupWare comes from the number of visits and the most visited sections.

4.3.1 Web page

Two graphs are displayed below with data regarding the visits paid to VAN web site along the years 2008 and 2009. From year 2008, only information from October to December is new, as the rest was presented in last Plan for Using and Disseminating Knowledge.

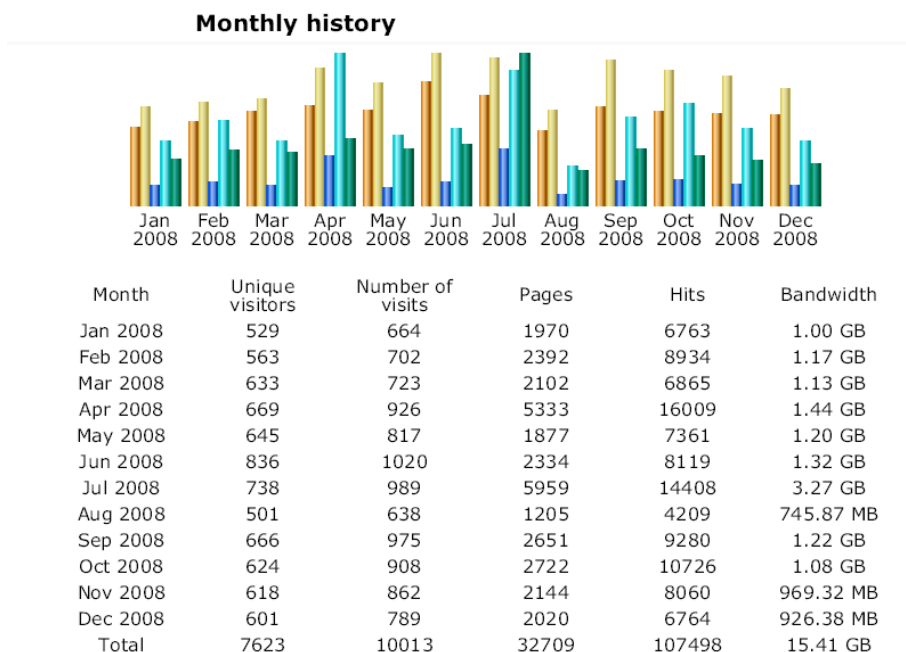


Fig. 4.2 Monthly indicators for 2008 (only months Sep 08 – Dec 08 are relevant for this report)

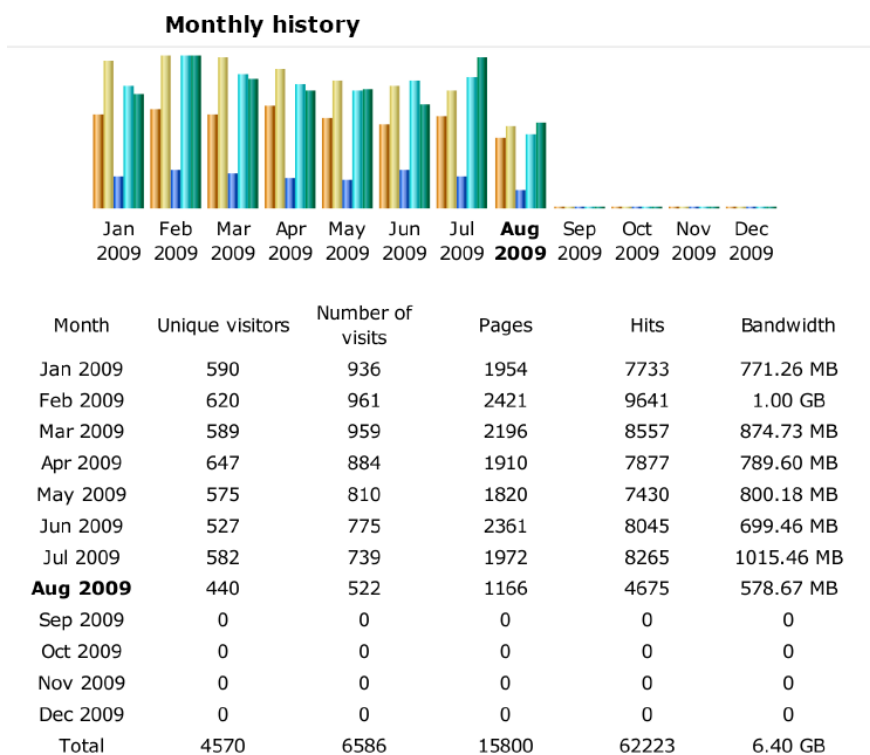


Fig. 4.3 Monthly indicators for 2009

When comparing indicators from 2008 to those of 2009, the first thing we realise is that the number of unique visitors increased slightly during the first two months (January and February). However, this trend changes from March till August as there is a slight decrease, which is more accentuated during June and July. Regarding the number of visits there is a clear increase in most of the months except for June and July again.

The origin of the users accessing the web is also important. The following couple of tables show the countries from which visits have been performed in 2008 and 2009.

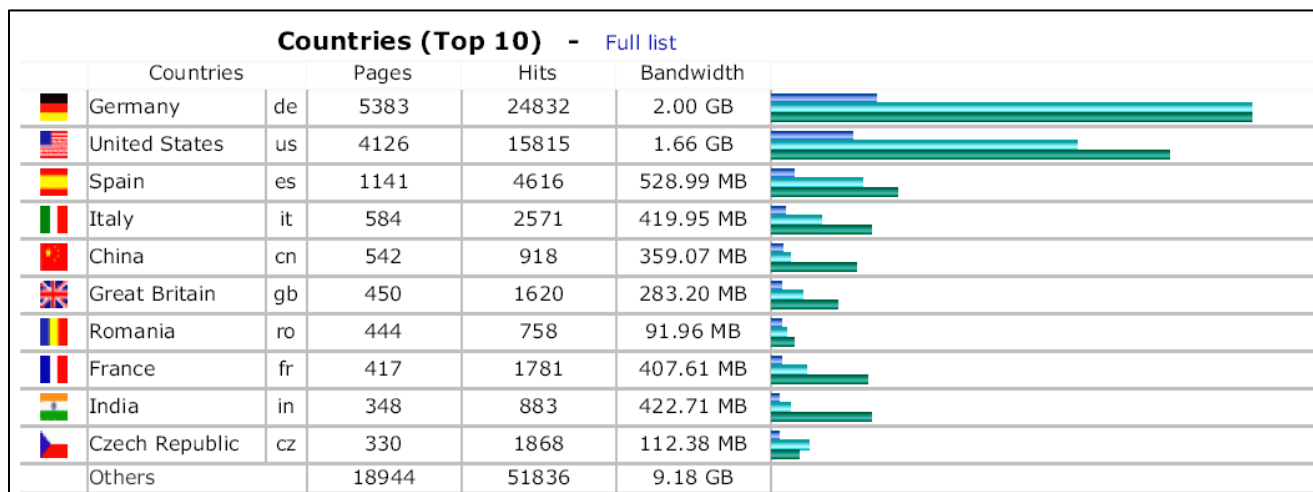


Fig. 4.4 Visits per Country (2008)

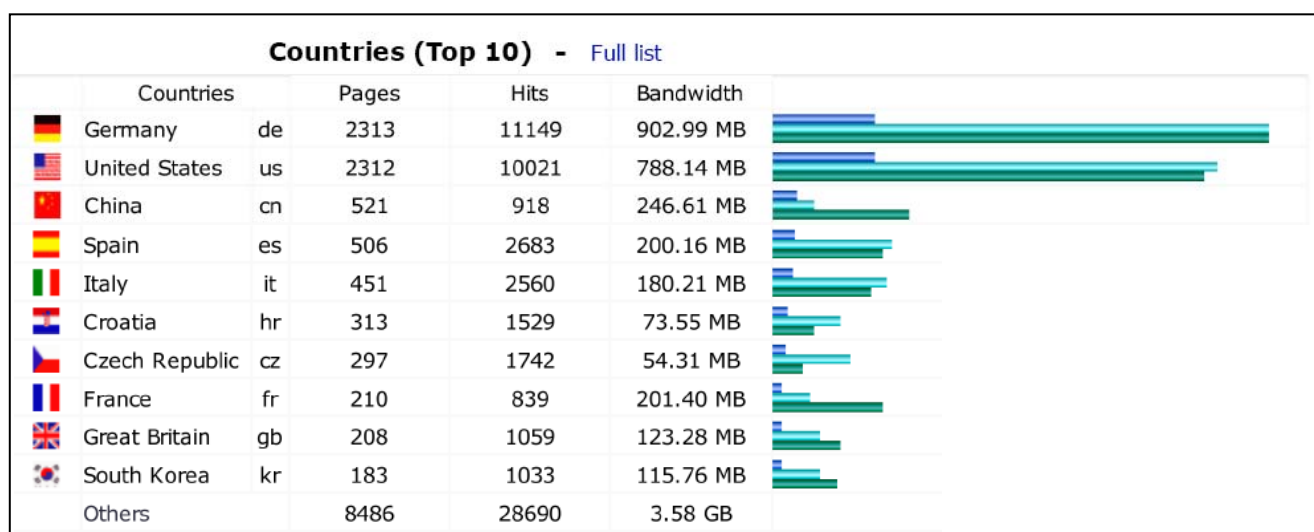


Fig. 4.5 Visits per Country (2009)

There are no changes in the top positions, with China getting to the third place, between USA and Spain. Then, we notice the arrival of Croatia and South Korea instead of Romania and India that leave the top 10 positions.

There follows a table including the list of more visited sections inside VAN web site. This data have been gathered for years 2008 and 2009.

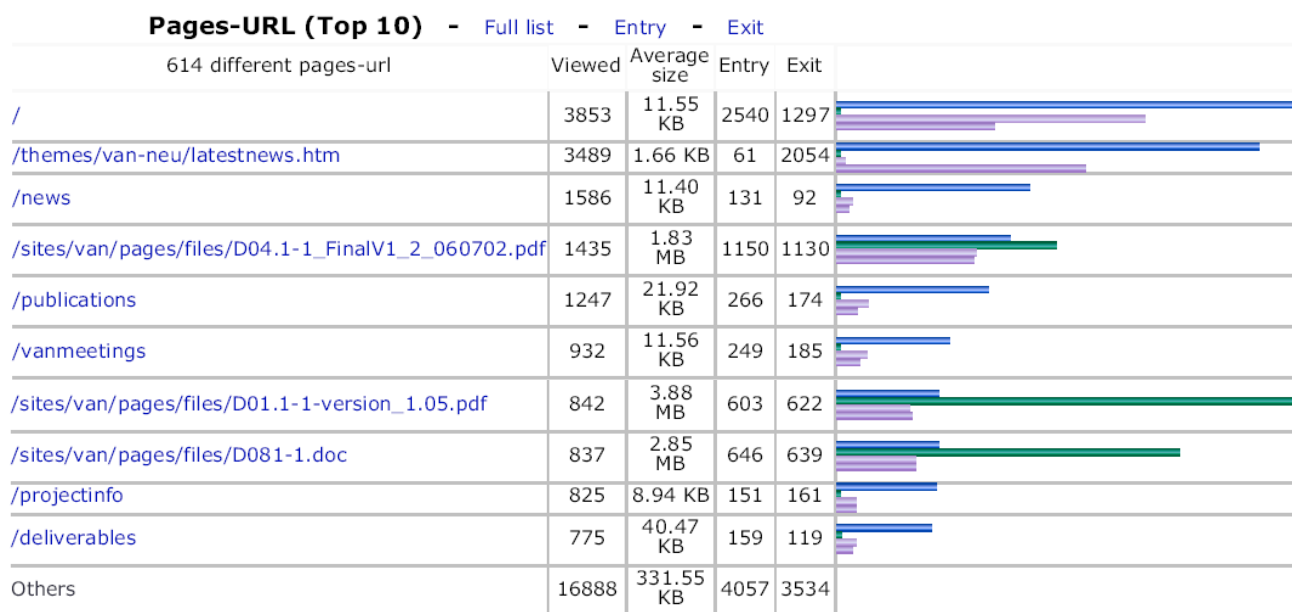


Fig. 4.6 List of more often visited VAN web site sections during year 2008

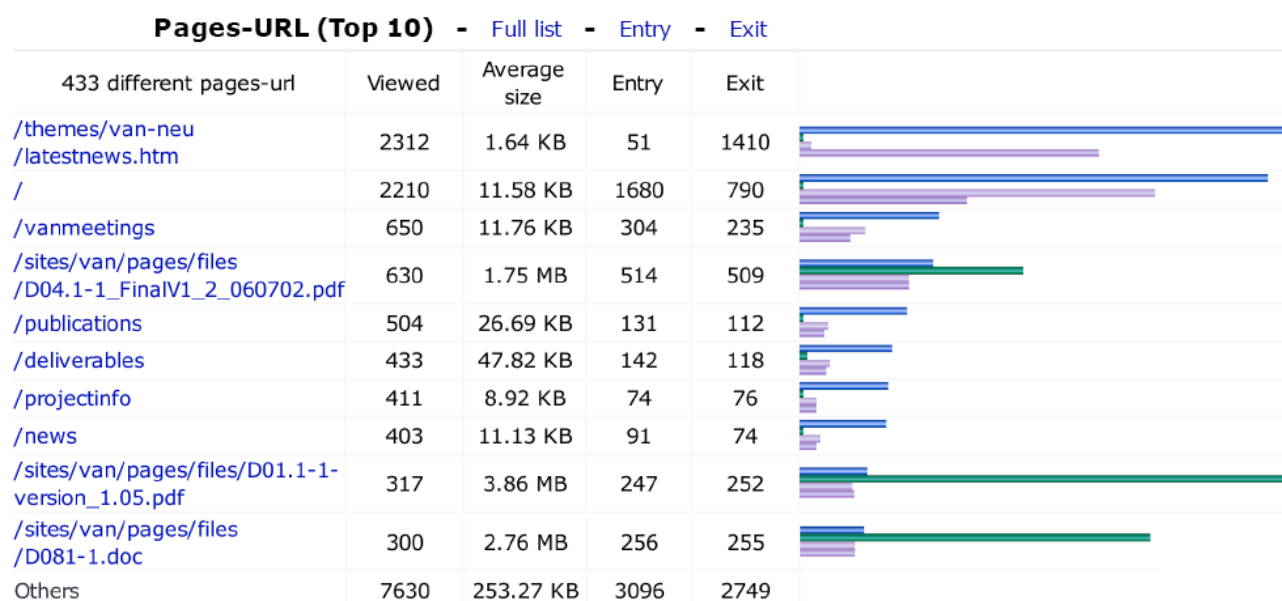


Fig. 4.7 List of more often visited VAN web site sections during year 2009

The general layout is quite similar, that is, approximately de same sections keep similar positions to those of last year. The most downloaded deliverables are still D04.1-1, D01.1-1, and D08.1-1.

There is just one change worth to be mentioned. The section Deliverables that was at the last position of the list last year, now has climbed to the sixth one. This is reasonable as there are more deliverables available to the public as the project achieves progress.

4.3.2 GroupWare

The number of users accessing the GroupWare is an indicator of the workload along time. Below there are related graphs displaying this information both for years 2008 and 2009.

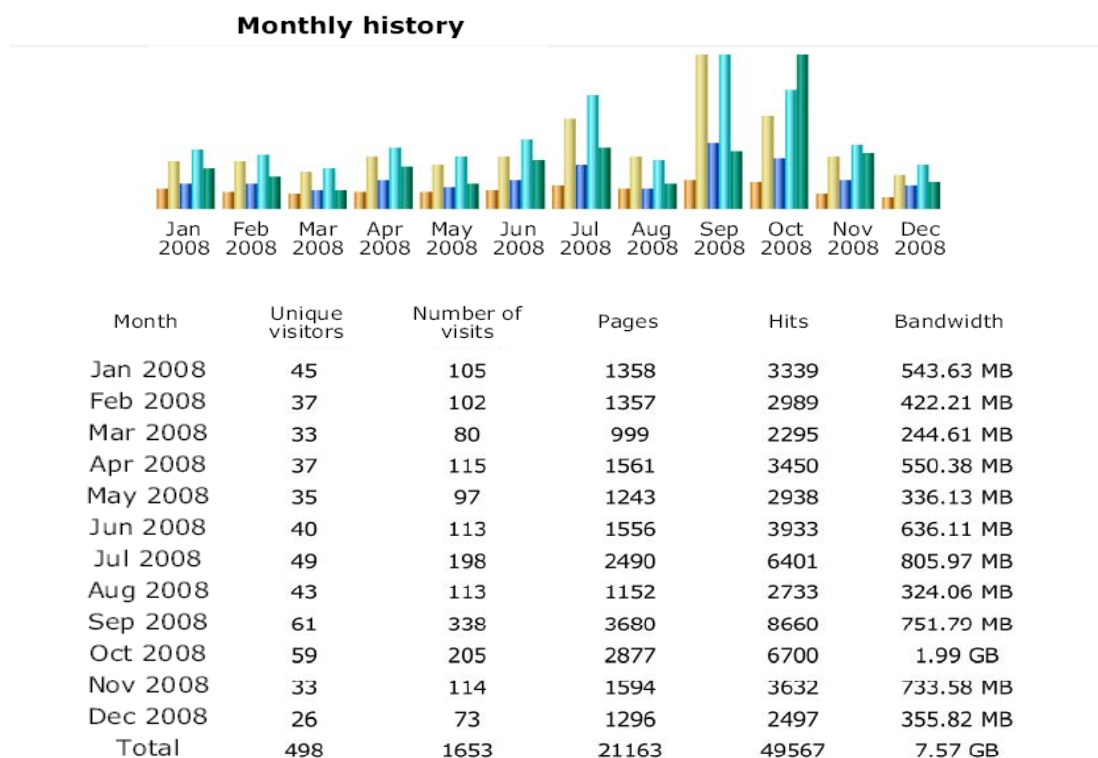


Fig. 4.8 Accesses to the GroupWare (2008)

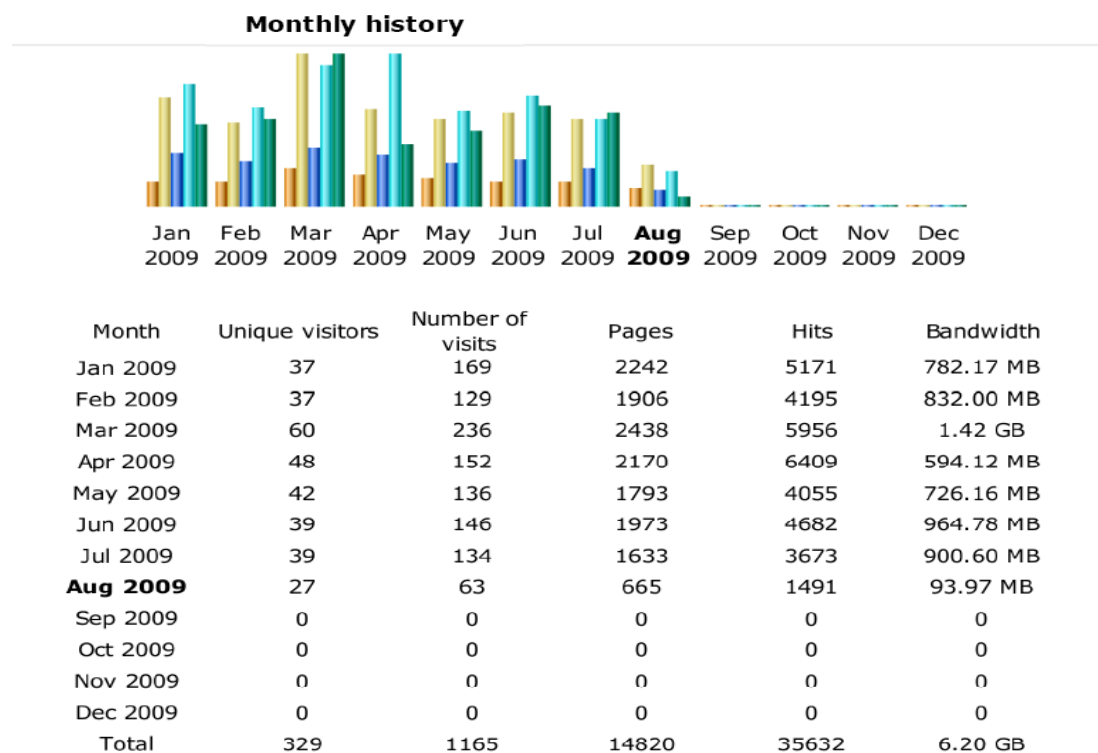


Fig. 4.9 Accesses to the GroupWare (2009)

Figs 4.8 and 4.9 give an idea of the working pace inside the consortium. It is quite regular during 2008. We just notice a slightly higher degree of activity during July and much higher on September and October 2008. During 2009 much more activity has been registered, especially during March and April.

5 Dissemination plan assessment

Following with the framework presented in the first version of this report (D10.1-2 V1) VAN partners have filled in the Dissemination Plan Template [DPT08], giving information on both past and future events they have attended during the current reported period.

The indicators chosen give general information on past events and assess the related impact for VAN project interests. For more information on the indicators, their nature and reasons for choosing them, please refer to D10.1-2 V2.

The related information collected from VAN partners has been included in Annex I of the current document and is displayed there in several tables. It is also shown below in figures 5.1 to 5.4.

Figure 5.1 shows the participation level of VAN consortium in dissemination events in general terms, that is, without taking into account the different dissemination channels (fairs, congresses, etc.), from September 2008 to October 2009. This means that both the already accomplished and the foreseen ones are included. The related figures can be found in Annex I.

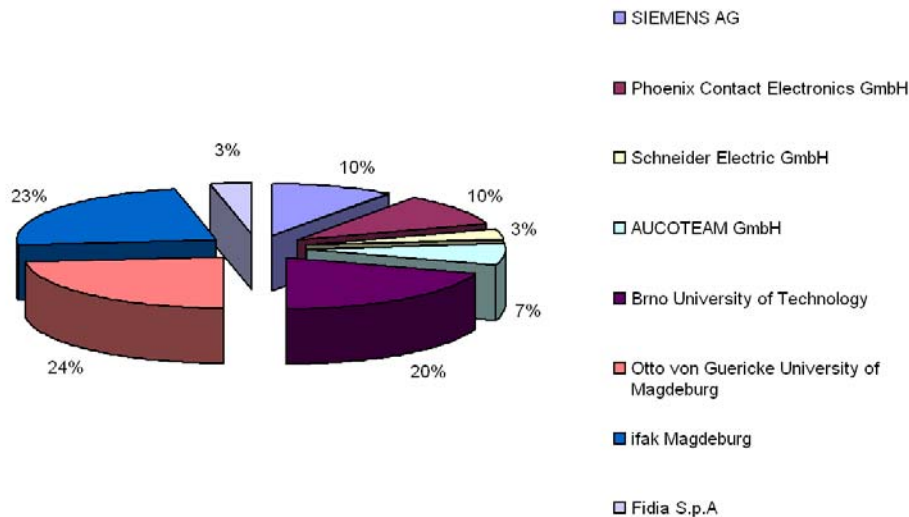


Fig. 5.1 Degree of participation of VAN partners in dissemination events

Figure 5.2 shows the participation of VAN partners in past and future dissemination events, that is, from September 2008 to October 2009. The different channels (Standardisation, Mass Media, etc.) are displayed in different colours inside a unique column for each partner. The related figures can be found in Annex II.

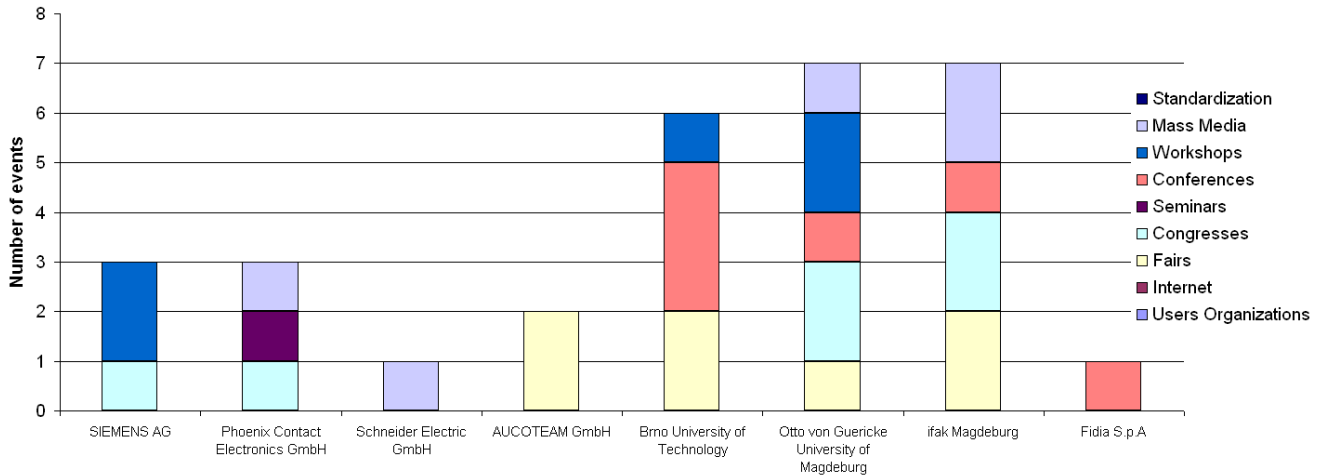


Fig. 5.2 Participation of VAN partners in dissemination events

Figure 5.3 classifies dissemination contributions in terms of type of audience. The related figures have been taken from the tables in Annex II.

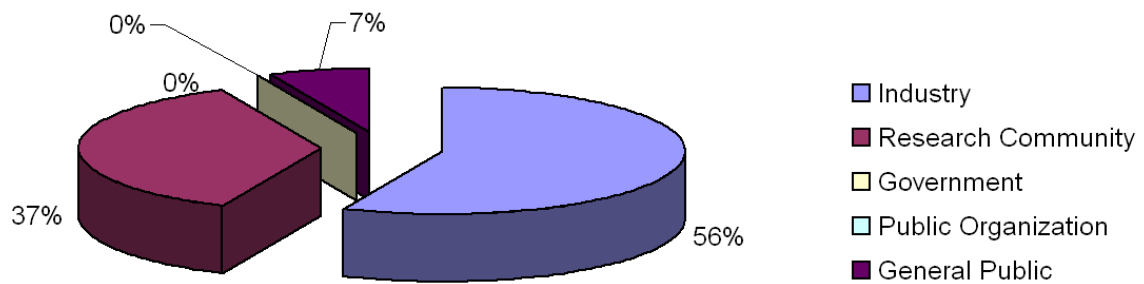


Fig. 5.3 Dissemination contributions in terms of audience

Fig 5.4 shows information related only to past events. In order to assess the impact on the audience, the number of interested organizations has been collected as a relevant indicator for contributions in some remarkable events. Note that Phoenix, Ifak and CVS have exactly 10 interested organizations because these data corresponds to a shared event (The ICC 2008). The related figures have been taken from the tables in Annex I.

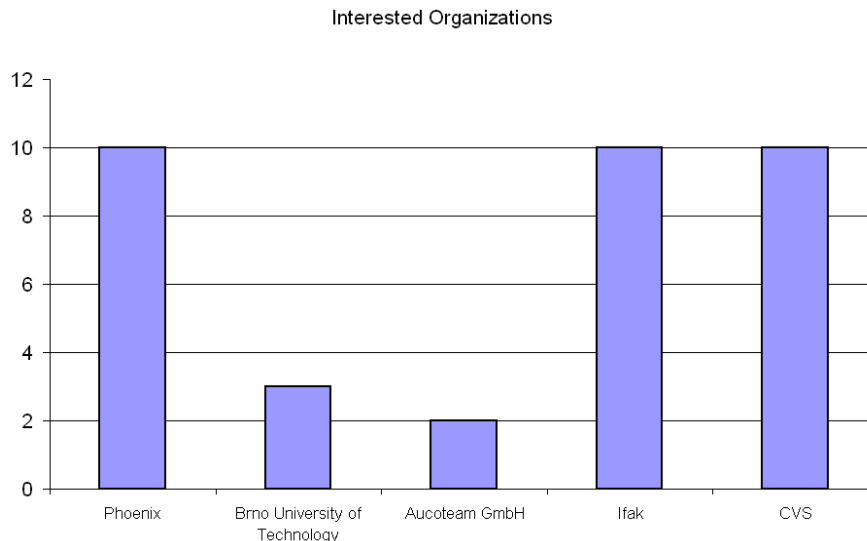


Fig. 5.4 Assessment indicators for past contributions in some remarkable events

6 Conclusions

This is the latest plan for using and disseminating knowledge from VAN project. So far we have described in a yearly basis the progress and advances achieved by the consortium in terms of dissemination and exploitation. Though the project is about to reach its official deadline (31st October 2009), some dissemination efforts will still be spent along the following months as there is a lot of material to be used in publications, congresses, fairs, etc. The web site will guarantee access to the audience during at least one more year, and maybe more, depending on actual needs.

VAN ECG events have proved successful according to the interest shown by external experts mainly belonging to market-relevant user groups from factory and process automation, device and machine suppliers, system integrators and companies in general. The number of visitors has been stable and quality discussions have followed each presentation. Research activities have been enhanced by practical use-cases and application scenarios.

According to the assessment indicators on dissemination, industry has been the first audience for VAN dissemination events along last year. The research community has been in the second position, and much lower participation has been left to the others. This reflects the efforts spent towards VAN industrial experimental setups in terms of dissemination events.

VAN project results have reached a remarkable quality. This can be clearly deduced from the interest shown by the public at the website (increased number of visits) and the number of contacts made by VAN partners during public events.

Glossary

EC	European Commission
ECG	European Competence Group
FA	Factory Automation
IES	Industrial Experimental Setup
TechPCC	Technical Project Coordination Committee
PA	Process Automation
QoS	Quality of Service
SIE	Social Impact Evaluation
VAN	Virtual Automation Network
WP	Work Package

References

- [DoW09] Description of Work for months M37-M48
- [D10.1-2 V1] D10.1-2 V1 Plan for using and disseminating knowledge
- [D10.1-2 V2] D10.1-2 V2 Plan for using and disseminating knowledge
- [D10.2-1] D10.2-1 Demonstration of VAN Devices and Technology based on Prototype Installations
- [DPT08] Dissemination Plan Template (version 4)

Appendix I: Past events assessment

VAN partners have filled in the Dissemination Plan Template giving information on the assessment of past events. The related results are shown below.

I.1 Industrial Communication Congress 2008

This year for the first time ever, the annual meeting of automation specialists from around the world was held in the innovations centre for electronics in Bad Pyrmont. More than 500 participants from 8 countries took the opportunity to learn more about new technologies, solutions and trends in automation during several lectures and meetings.

Partner	Contribution	Target audience
Phoenix, ifak, CVS	VAN booth	Industry
Assessment indicators		
Number of participants		250
Interested organizations		10
Contacts made for possible future collaboration		
Web site impact		
Scope		International

Table I.1 Assessment indicators for Industrial Communication Congress 2008, contribution from Phoenix Contact

I.2 34th Annual Conference of the IEEE Industrial Electronics Society

IECON-2008 is the 34th Annual Conference of the IEEE Industrial Electronics Society. It is technically co-sponsored by the Society of Instrument and Control Engineers (SICE), Auburn University, and Universidad de Sevilla.

IECON-2008 is being held concurrently with the 2nd IEEE International Conference on E-Learning in Industrial Electronics (ICELIE-2008).

Technical interests for these two conferences include:

- Control Systems & Applications
- Power Electronics
- Electrical Drives & Machines
- Factory Automation & Industrial Informatics
- Robotics & Mechatronics
- Sensors, Actuators & System Integration
- Signal Processing & Computational Intelligence

Partner	Contribution	Target audience
Brno University of Technology	Virtual Automation Networks - Architectural Principles and the Current State of Development	Research community
Assessment indicators		
Number of participants		500
Interested organizations		2
Contacts made for possible future collaboration		
Web site impact		
Scope		International

Table I.2 Assessment indicators for the 34th Annual Conference of the IEEE Industrial Electronics Society, contribution from Brno University of Technology

I.3 IFAC Workshop on Programmable Devices and Embedded Systems

This workshop was organized by the Department of Measurement and Control of the Faculty of Electrical Engineering and Computer Science, VSB Technical University of Ostrava is considered to be a continuation of previous PDeS conferences.

The main goal is to provide a forum to present the latest research results and experiences in the area of the design and application of programmable devices and systems and a forum to discuss the current status and future trends of this particular branch of applied electronics in control and information technology.

Partner	Contribution	Target audience
Brno University of Technology	Findings on QoS Metrics of L3 Network Devices Intended for Future Factory Automation	Research Community
Assessment indicators		
Number of participants		50
Interested organizations		1
Contacts made for possible future collaboration		
Web site impact		
Scope		International

Table I.3 Assessment indicators for the IFAC Workshop on Programmable Devices and Embedded Systems, contribution from Brno University of Technology

I.4 17th Mediterranean Conference on Control and Automation

The 17th Mediterranean Conference on Control and Automation, MED'09, was held in Thessaloniki, Greece.

The conference, through its technical program, provides a unique opportunity for the academic and industrial community to address new challenges, share solutions and discuss future research directions. A broad range of topics was proposed, following current trends of combining control/systems theory with software/communication technologies.

Partner	Contribution	Target audience
Brno University of Technology	Rate-Variable-Latency Service Curve As an Extension to Network Calculus	Research Community
Assessment indicators		
Number of participants		300
Interested organizations		
Contacts made for possible future collaboration		
Web site impact		
Scope		International

Table I.4 Assessment indicators for the 17th Mediterranean Conference on Control and Automation, contribution from Brno University of Technology

I.5 Innotrans

With a large number of reference projects and over 220 transport technology firms, Berlin is the main focus of Germany's transport engineering industry and an ideal venue for InnoTrans, an international platform for buyers and sellers of passenger and freight transport technology. InnoTrans has become established as an international industry showplace focusing on **Railway Technology**. A full range of rail vehicles are presented in static displays on the Messe Berlin tracks located outside the exhibition halls. Other key InnoTrans features include **Railway Infrastructure, Interiors, Public Transport and Tunnel Construction**.

Partner	Contribution	Target audience
Aucoteam GmbH	Using public network for monitoring and control	Industry
Assessment indicators		
Number of participants		40
Interested organizations		2
Contacts made for possible future collaboration		
Web site impact		
Scope		

Table I.5 Assessment indicators for Innotrans, from Aucoteam GmbH

Appendix II: Dissemination events

Detailed information regarding past dissemination events from chapter 2 is included below.

The degree of importance of each contribution ranges from 1 to 5, being 1 the mark for the least important and 5 the one for the most important. It has been assessed by the author and reflects the relevance of the contribution for VAN project in terms of indicators such as: number of people addressed, target audience and its significance for the project, policies addressed, etc.

International Conferences

Contribution:	Virtual Automation Networks - Architectural Principles and the Current State of Development
Author:	Brno University of Technology
Event:	34 th Annual Conference of the IEEE Industrial Electronics Society
Date:	10 th -13 th November, 2008
Venue:	Orlando, USA
Target audience:	Research Community
Motivation	Bring the notion of the VAN Project into research community
Degree of importance	4

Contribution:	Wireless Sensor Network Prototype in Virtual Automation Networks: Implementation and Coexistence Aspects
Author:	Brno University of Technology
Event:	Fourth IEEE Conference on Wireless Communication and Sensor Networks
Date:	27 th -29 th December 2008
Venue:	Allahabad, India
Target audience:	Research Community
Motivation	Bring the notion of the VAN Project into research community
Degree of importance	3

Contribution:	VAN project overview presentation and first results in engineering
Author:	Otto von Guericke University of Magdeburg
Event:	IEEE-ICIT'09 International Conference on Industrial Technology
Date:	10 th -13 th February, 2009
Venue:	Melbourne, Australia

Target audience:	Research Community
Motivation	Presentation of the architecture
Degree of importance	4

Contribution:	Rate-Variable-Latency Service Curve As an Extension to Network Calculus
Author:	Brno University of Technology
Event:	17 th Mediterranean Conference on Control and Automation
Date:	24 th -26 th June 2009
Venue:	Thessaloniki, Greece
Target audience:	Research Community
Motivation	Bring the notion of the VAN Project and the new real-time capabilities of industrial Ethernet into research community
Degree of importance	4

Contribution:	Ethernet based real time control for distributed manufacturing plants in VAN
Author:	Fidia S.p.A
Event:	4 th I*PROMS Virtual Conference
Date:	July, 2009
Target audience:	Research Community

Contribution:	Name based Routing - a network address independent routing solution for Virtual Automation Networks
Author:	Ifak Magdeburg
Event:	ETFA 2010
Date:	21 st -24 th September 2010
Venue:	Bilbao, Spain
Target audience:	Research Community
Degree of importance	5

Workshops

Contribution:	VAN Presentation and Joint Dissemination Event (European Competence Group Meeting #4) with EC STREP Pabadis'Promise
Author:	SIEMENS AG
Event:	SPS/IPC/Drives 2008

Date:	25 th – 27 th November 2008
Venue:	Nuremberg, Germany
Target audience:	Research Community
Degree of importance:	3

Contribution:	Findings on QoS Metrics of L3 Network Devices Intended for Future Factory Automation
Author:	Brno University of Technology
Event:	IFAC Workshop on Programmable Devices and Embedded Systems
Date:	10 th -12 th February 2009
Venue:	Rožnov pod Radhoštěm, Czech republic
Motivation	Bring the notion of the VAN Project and the new real-time capabilities of industrial Ethernet into research community
Target audience:	Research Community
Degree of importance:	2

Contribution:	VAN Presentation and European Competence Group Meeting #5
Author:	SIEMENS AG
Event:	Hanover Fair 2009
Date:	20 th – 24 th April 2009
Venue:	Nuremberg, Germany
Target audience:	Research Community
Degree of importance:	3

Contribution:	Presentation of Synergies between VAN Engineering and AutomationML
Author:	Otto von Guericke University of Magdeburg
Event:	The 8 th International PhD Student's workshop of Control and Information Technology
Date:	8 th September 2009
Venue:	Brno, Czech Republic
Target audience:	Research Community
Degree of importance:	3

Mass Media

Contribution:	Flexible FDT Integration in VAN Engineering
Author:	Schneider Electric GmbH, Phoenix Contact
Event:	Journal: SPS Magazin
Date:	December 2009
Target audience:	Industry
Degree of importance:	4

Contribution:	Chapter 1.3.3 Virtual Automation Networks
Author:	Ifak Magdeburg
Event:	Handbook on Industrial Electronics Part 3 -- Industrial Communication Systems
Date:	March 2010
Target audience:	General Public
Degree of importance:	5

Seminar

Contribution:	VAN project overview and effect on industry presentation
Author:	Phoenix Contact
Event:	Fachbereichskolloqium "VAN - Virtual Automation Networks: Die Bedeutung von Forschungsprojekten für Industrieunternehmen"
Date:	13 th October 2009
Venue	Lemgo, Germany
Target audience:	Research Community
Degree of importance:	4

Fairs

Contribution:	Using public network for monitoring and control
Author:	Aucoteam GmbH
Event:	Innotrans
Date:	23 rd September 2008
Venue:	Berlin, Germany
Target audience:	Industry
Motivation	Give an overview on using public networks for monitoring and control in the process industry

Contribution:	Security solutions for control systems
Author:	Aucoteam GmbH
Event:	SPS & Drives Fair 2008
Date:	25 th November 2008
Venue:	Nuremberg, Germany
Target audience:	Industry
Degree of importance:	5
Motivation:	Give information's on security solutions, acquisition

Contribution:	Presentation of VAN engineering and participation in the VAN panel discussion
Author:	Otto von Guericke University of Magdeburg
Event:	Hanover Fair - Forum
Date:	21 st April 2009
Venue:	Hanover, Germany
Target audience:	Public Organization
Degree of importance:	3

Contribution:	VAN presentation on booth
Author:	Ifak Magdeburg
Event:	SPS/IPC/Drives 2009
Date:	24 th -26 th November 2009
Venue:	Nuremberg, Germany
Target audience:	Industry

Degree of importance:	4
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Contribution:	VAN presentation on booth
Author:	Ifak Magdeburg
Event:	Hanover Fair 2010
Date:	19 th -23 rd April 2010
Venue:	Hanover, Germany
Target audience:	Industry
Degree of importance:	3

Congresses

Contribution:	VAN Booth at Industrial Communication Congress 2008 (VAN demonstrator system consisting of several IPCs and PCs showed parts of the latest developments of the project, presentation of posters, flyers, etc.)
Author:	SIEMENS AG, Otto von Guericke University of Magdeburg, ifak Magdeburg
Event:	ICC 2008
Date:	16 th – 17 th September 2008
Venue:	Bad Pyrmont
Target audience:	Industry
Motivation	Promotion of VAN results
Degree of importance	4

Contribution:	VAN booth / VAN presentation
Author:	Phoenix Contact, ifak Magdeburg, Otto von Guericke University of Magdeburg
Event:	ICC 2008
Date:	16 th – 17 th September 2008
Venue:	Bad Pyrmont
Target audience:	Industry
Motivation	Presentation of VAN project and practical demonstration of prototypes
Degree of importance	4