



Contract No. 004420

eu-DOMAIN - enabling users for
Distance-working & Organizational Mobility
using Ambient Intelligence Networks

D1.2.1 Period 1 Activity Report

Specific Targeted Research or Innovation Project

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1. Introduction

This report is the eu-DOMAIN activity report for the project's first formal reporting period, Period 1: 1st June 2004 to 31st May 2005. It should be read in conjunction with the corresponding eu-DOMAIN D.1.2.1 Management Report for the same period. For clarity some information is duplicated in both reports.

This activity report encompasses a publishable executive summary, the project's progress against its objectives, workplan and management aims, and includes an updated dissemination and use plan.

2. Executive summary

2.1 eu-DOMAIN aims and objectives

The eu-DOMAIN project will develop a new, innovative European ambient intelligence service platform which will interconnect people, devices, buildings and content in an interoperable network and open up entirely new ways of working in collaborative work environments.

An estimated 12 million Europeans travel everyday across Europe working outside their normal workspace. eu-DOMAIN will dramatically improve their ability to deliver quality services, increase the competitiveness and visibility of their host organisations and generally improve the quality of life for Europe's citizens.

European impact

Strategic impact: eu-DOMAIN places European companies at the forefront of ambient intelligent technologies *providing potential to significantly increase the competitiveness of European businesses*. It provides SMEs with an easy-to-deploy strategic platform allowing them to drastically improve time-to-market of their products by simply renting access to the platform from service providers.

Economic impact: eu-DOMAIN integrates a number of emerging technologies in an infrastructure and set of applications and services. The scenarios being validated are in the eBusiness and eHealth domains but the results will have wider applicability in many other domains. *A platform that improves the efficiency and effectiveness of a market of this size must by definition have a major impact at the European level*. Citizen users will similarly realise both economic and social benefits as a result of their more efficient and effective interaction with all types of organisation using eu-DOMAIN.

Business innovation: An integral part of the project is the analysis and development of realistic business models for users and service providers. *New research into defining and measuring value creation in web service networks will lead to innovative business structures involving content providers and service providers in collaborative systems*. Specific emphasis will be made on identifying new business opportunities for SMEs. Governments, especially in the healthcare and social services area, will be provided with a platform for delivering public services directly to the citizens' homes with enormous potential for improving quality and reducing costs.

Results exploitation

The intention is to establish eu-DOMAIN as a new joint-venture stand-alone business available to potential users throughout Europe initially, and then potentially worldwide. *It is expected that the joint venture will cover sufficient technological ground to be able to offer and operate a complete Europe-wide eu-DOMAIN platform*.

In addition to participation in the joint venture, the eu-DOMAIN partners will also be able to exploit the knowledge gained from participation to improve their consultancy services and/or research activities to all types of private and public sector organisations who are interested in exploiting emerging technologies to implement new and better ways of working.

Validation scenarios

Two innovative user scenarios have been defined to demonstrate the systems potential: In the field of *industrial pumps* the focus is '*Serving your every need!*': Combined with eu-DOMAIN, the basic product function of a pump will shift from simply moving water (or fluids) to be an integral, maybe even a crucial part, of the customer's solution. The pumps are "serving you – wherever you are – whatever you do – whenever you want it".

In the field of **Healthcare** the focus is '**Patients as customers**': *A variety of new methods, devices and medication are available from various service providers, each of them offering their services to an informed patient - sometimes in competition; sometimes in cooperation. The patient chooses the providers that are most suited to their needs supported by eu-DOMAIN technology.*

Approach

eu-Domain will realise its vision by developing a working example of 'Ambient Intelligence' infrastructure, combining state-of-the-art communications, decision support, semantic web and location-based technologies.

It will pave the way for its commercial deployment through the development of realistic business models for users and service providers.

The project's work is divided into five phases covering:

- Project coordination processes
- Research and development,
- Prototyping and system integration
- User testing and uptake
- Dissemination and exploitation.

Technology innovation

The main technological innovation in eu-DOMAIN lies in its 3-tier hierarchical client-server structure with multilevel distributed, configurable intelligence pools. This structure supports the wealth of different applications, which can be integrated into the Europe-wide ambient intelligence service network.

Another very innovative feature is self-configuring devices that use semantic agents to search for configuration set-up, protocols and user interfaces. Application specific intelligence pools perform intelligent adaptation and user set-up, tailored to the users precise needs in the actual real-world situation.

A further innovative feature of eu-DOMAIN is the web based service-provisioning platform, which allows any service provider (industrial, healthcare, government, etc.) to deliver web services to people and devices in any location across Europe.

2.2 Project participants

The eu-DOMAIN consortium has an excellent insight into the state of the art in this field. It encompasses highly skilled organisations with a wealth of experience necessary to the project's management, technical and business requirements. The consortium is:

- Functionally comprehensive with a very full and sound balance between user, technical and managerial expertise with clear and relevant roles established for each consortium partner; and;
- Skilled and experienced in the projects business and technical requirements with the projects requirements for user input well covered across the focus sectors of Building Facility Management and eHealth Services.

It is nationally and culturally diverse with partners from 6 European countries who conduct their business across Europe and beyond, providing a clear understanding of the dynamic business, sociological and cultural characteristics of its potential market place. The consortium partners are:

Contractors:

| Participant | Role | Country | Expertise |
|--|-------------------------|-------------------|---|
| C International Ltd (CIL) | Coordinating Partner | United Kingdom | Extensive experience of managing IST and other multi-partner projects. Substantial prior involvement in testing implementation and evaluation activities and substantial experience in business modelling. |
| Innova S.p.A. (INNOVA) | Partner | Italy | Long experience in bringing new technology to SMEs. Experience in conduction European Awareness Scenario Workshops (EASW) and substantial knowledge of Socio-economic issues in relation to technology deployment. |
| In-JeT ApS (IN-JET) | Partner | Denmark | Considerable knowledge on frameworks for ambient intelligence and web services. Also in business modelling and building business cases. |
| University of Aarhus, Dept of Computer Science (UAAR) | Partner | Denmark | Substantial scientific knowledge of software architectures and system analysis. Experience in gateway technology and OSGi frameworks and substantial scientific knowledge of trust and security analysis. |
| FORTH (FORTH) | Partner | Greece (Crete) | Expertise in all aspects of system design for healthcare. Substantial expertise in eHealth devices and extensive expertise in EPR and ICRS systems. |
| CNet Svenska AB (CNET) | Partner | Sweden | Extensive experience in XML based content and web service application development. Substantial knowledge in web-based meta data creation for the construction industry. Experience in interactive environments for geographically distributed organisations. |
| T-connect S.r.l. (T-CON) | Partner | Italy | Experience in wireless broadband technologies. Substantial knowledge of deliveries of personalised services via wireless networks. |
| Software AG (SAG) | Partner | Belgium | Leading vendor of XML technology and solutions. Substantial experience in web services and content management. Comprehensive experience in mobile computing. |
| Telefónica I+D (TID) | Partner | Spain | Substantial experience in intelligent network and services creation on broadband. Comprehensive skills in artificial intelligence and software engineering. Experiences in real time systems and databases and knowledge bases. |
| Grundfos (GMA) | User | Denmark | Grundfos is one of the world's leading pump manufacturers and has decades of know-how about pumps and pump systems and is a typical case of a European Service Network user. |
| Eastern Birmingham Primary Care Trust (EBPCT) | User | United Kingdom | The PCT has extensive experience in commissioning hospital services as well as providing community services and running emergency services and is a typical case of a Healthcare for tomorrow user |

Additional supporting participants:

CONTRIBUTOR - ALEXANDRA INSTITUTE, Denmark;

SUBCONTRACTOR - ACIT GMBH, Germany;

SUBCONTRACTOR – LIWAS APS, Denmark.

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2.3 Progress to date

The eu-Domain project has completed its first formal reporting period covering June 2004 through May 2005. During this period the project has achieved its set objectives and is currently on schedule to complete its activities to plan.

The project has seen sound progress made to date with:

- The current state-of-the-art in the ambient intelligence arena having been analysed and documented, and continued to be impacted upon the projects user functional requirements, system architecture and system development.
- Innovative user scenarios and functional user requirements finalised, with the two user partners being used as a clear focus for eu-DOMAIN development, deployment and validation.
- The eu-DOMAIN client and server-side architectures have been defined together with design guidelines for user interfaces to form a sound framework to the system development work which is now underway.
- The user scenarios workflow procedures and potential for innovation have been analysed and now provide a prioritised approach to eu-DOMAIN deployment for validation by the user partners.
- The implementation of the architecture has been initiated with the on-going development of an early demonstrator for one of the user scenarios.
- Business model analysis has been commenced and will be continued to completion over the next six months.
- The project's dissemination has been initiated through workshops and peer contacts and the first phase of the dissemination programme completed to plan.

The project's workplan has progressed as intended with the tasks and deliverables scheduled to this point in the project having been completed. There have been no issues or unexpected problems that have impacted the project's schedule, costs or quality.

The project is progressing under its sound organisational framework with each and every consortium partner playing a significant role in the project and deploying their skills and experience to maximum effect. The project's resource usage is running within plan with some of the work originally planned for later in the project currently running ahead of schedule.

2.4 Next Steps

The project is currently focusing upon the development of the eu-DOMAIN system components from the Client and Server Side's architecture specifications and the definition of supporting business models for eu-DOMAIN deployment. Over the next few months:

- The implementation of the eu-Domain client and server software will continue with the focus upon early demonstrator systems for proof of concept and for supporting detailed validation planning and wider project dissemination.
- Business modelling will be fully underway.
- A technology and competitor watch will be maintained to ensure that the development of the eu-DOMAIN system takes account of evolving technologies and that its business models remain ahead in the potential marketplace.
- The project's dissemination and use plans will be updated and the already established dissemination programme intensified for the second phase of the project's planned dissemination programme. The project website is being considerably enhanced to support this.

3. Project objectives and achievements for the reporting period

3.1 Main achievements summary

This first formal reporting period (fourth quarterly reporting period) for months 1 to 12 of the eu-DOMAIN project has seen good progress being made with the set objectives for the period being achieved. This first 12 months of the project has seen:

- The project being successfully initiated, from the pre-contract signature date agreed with the Commission of the 1st of June 2004, within a sound management and quality framework.
- The project's state-of-the-art analysis completed and documented, and impacted upon the user functional requirements analysis and technical architecture definition work.
- Innovative user scenarios being finalised with the two user partners with these being henceforward the focus for eu-DOMAIN deployment and validation.
- User requirements specification completed with the production of the
 - Functional user requirements
 - Societal user requirements
 - Trust and security requirements, and
 - Drafting of the Workflow analysis and optimisation.
- The eu-DOMAIN client and server-side architectures and the design guidelines for user interfaces finalised.
- The workflow procedures and potential for innovation deliverable completed - later than originally planned, allowing for further user validation and correlation with the finalised technical architecture.
- The implementation of the architecture initiated with the on-going development of an early demonstrator for one of the user scenarios.
- The project's first phase dissemination initiated and completed through workshops and peer contacts, and the detailed planning of the project's dissemination and exploitation programme.
- The project's first annual review with the Commission was successfully completed on the 18th May 2005.

3.2 Progress in implementation of the 'Description of Work' / Problems encountered

The project's workplan has progressed as intended with the tasks and deliverables scheduled to this point in the project having been completed.

There have been no issues or unexpected problems that have impacted the project's schedule, costs or quality.

3.3 Objectives achievement

eu-DOMAIN has achieved its aimed objectives for this reporting period with progress against these as follows:

| <i>Objectives</i> | <i>Progress towards achieving objectives</i> |
|--|--|
| <input type="checkbox"/> Initiate the project and put in place its operational project management | <ul style="list-style-type: none"> The project was successfully initiated from its kick-off meeting held in London in June 2004. The project's quality plan has been implemented and a sound framework governing operational project management has been established. Each and every project partner is playing a full and enthusiastic role in the project and is to be congratulated on achieving the innovative pre-contract signature start to the project agreed with the Commission. |
| <input type="checkbox"/> Progress the project's operational project management | <ul style="list-style-type: none"> The project is progressing under its sound managerial framework. Each and every project partner continues to play their full role in the project. The project is currently running to schedule in terms of its objectives achievements and resource usage. |
| <input type="checkbox"/> Specify user requirements - carry out state-of-the-art analysis and scenarios building. | <ul style="list-style-type: none"> The user requirements work has been completed. The Functional user requirements specification has been completed The Trust and security requirements specification has been completed The Societal requirements specification has been completed The workflow procedures deliverable has been completed. This was rescheduled for a more logical completion (than first planned) when the architecture specifications were complete. |
| <input type="checkbox"/> Complete the eu-DOMAIN architecture specifications | <ul style="list-style-type: none"> Both the client and server-side architectures specifications have been completed and presented in a combined deliverable D3.1+D4.1. |
| <input type="checkbox"/> Initiate the project's dissemination planning and run first phase dissemination programme | <ul style="list-style-type: none"> Dissemination planning was initiated and the project completed its first phase dissemination and use plans to schedule. Dissemination activities have been progressed by each of the consortium partners. An inaugural workshop was participated in - AMI@Work in Brussels 7-9 June 2004 - and further events have been held and planned An important workshop - Bringing Knowledge Management tools to the emerging world of Ambient Intelligence infrastructures - was organised by the consortium and held on 14th-15th October 2004. Future workshops in this are planned. |
| <input type="checkbox"/> Build the eu-DOMAIN system | <ul style="list-style-type: none"> The development of the eu-DOMAIN system has been initiated and is currently being progressed through the building of an early demonstrator system. |
| <input type="checkbox"/> Develop business models for eu-DOMAIN deployment | <ul style="list-style-type: none"> Work has commenced on the definition of business models. This work is running to schedule and will be completed over the next six months. |

3.4 Highlights/anticipated problems for next reporting period

It is anticipated that during the next reporting period (project months 13 through 24) the project's work will continue to schedule with no deviations from plan:

- The development and build of the eu-Domain client and server software under workpackages 3 and 4 will be completed.
- The eu-DOMAIN communications infrastructure will be put in place.
- Workpackage 6 - Socio economic issues will be completed with the definition of sound business models for eu-DOMAIN deployment validated through European Awareness Scenario workshops.

- The integration of the eu-DOMAIN system components will be approaching completion.
- The dissemination and use plan will be updated and the already established dissemination programme intensified. The project website is being considerably enhanced to support this.
- The project's evaluation and assessment for the second reporting period will be completed.

4. Workpackage progress of the period

4.1 Work progress

The project's workplan has progressed as intended with the scheduled tasks and deliverables completed to plan at this point in the project. There have been no issues or unexpected problems that have impacted the project's work schedule or its related costs or quality.

Workpackage 2 has been completed, Workpackages 1, 3, 4, 6, 9 and 10 progressed to schedule, and preparatory work has been undertaken on Workpackage 5.

An updated project Gantt chart illustrating current progress is provided in Section 5.

| <i>Work Package</i> | <i>Activity status</i> |
|--|---|
| WP1 Project Management | |
| T1.1 Project Initiation | This task was completed with the project kick-off meeting in June 2004 |
| T1.2 Operational Project Management and T1.3 Project reporting | Initiated with operation framework put in place and quality plan implemented. This has been on-going throughout the reporting period. |
| WP2 User requirements | |
| T2.1 Analyse state of the art | Completed and deliverables D2.1 and D2.2 finalised |
| T2.2 Define trust & security | Completed and deliverable D2.3, D2.4 and D2.5 finalised |
| T2.3 Workflow analysis | Completed and deliverable D2.6 finalised. |
| WP3 Client side architecture | |
| T3.1 Software architecture analysis and design | This task is now complete. Architecture has been finalised and documented in combined deliverable with T4.1 results. |
| T3.2 OSGI framework on gateways | This task has been commenced to plan. Some preparatory work had already been undertaken in support of other tasks and deliverables. |
| T3.3 Research new devices, interactions | Initial research has been completed. This activity is on-going throughout the software development to ensure that the project keeps abreast with state of the art developments. |
| WP4 Server side architecture | |
| T4.1 Software architecture analysis and design | This task is now complete. Architecture has been finalised and documented in combined deliverable with T3.1 results. |
| T4.2 Network intelligence pool and databases | This task has been commenced to plan. Some preparatory work had already been undertaken in support of other tasks and deliverables. |
| T4.3 Application intelligence / Web services | This task has been commenced to plan. Some preparatory work had already been undertaken in support of other tasks and deliverables. |
| WP5 Communication infrastructure | |
| T5.1 Set up communications network | Initial communication infrastructure strategy has been updated in line with WP3 and WP4 finalisation. |
| WP6 Socio-economic issues | |

| | |
|----------------------------------|--|
| T6.1 Business modelling | This task has been commenced to plan. Some preparatory work had already been undertaken in considering the modelling approach and associated key aspects. It has been decided to follow the OBELIX methodology for analysing and defining business models. OBELIX is the output of an earlier IST project. |
| WP9 Dissemination & exploitation | |
| T9.1 Dissemination | The project's dissemination and use programme has been progressed in line with the project's Dissemination and Use Plan (DUP). The project website has been considerably enhanced and the DUP updated as a detailed plan for the next phase of dissemination. |
| T9.2 Exploitation | Early consideration and discussions on business models were progressed as a precursor to WP6 commencement. WP6 has now been initiated and is benefiting from this early work. |
| WP10 Review and assessment | |
| T10.1 On-going project review | Final outcomes assessment of Workpackage 2 continue to be impacted upon the projects continuing activities. |

4.2 Milestones

The project's target milestones for this reporting period have been attained and are shown in the following table:

| <i>Milestone</i> | <i>Planned month</i> | <i>Actual month</i> | <i>Comments</i> |
|---|----------------------|---------------------|--|
| M1.1 Acceptance of the consortium agreement by all partners. | 1 | 3 | |
| M1.2 PID produced for kick off meeting. | 2 | 1 | Project successfully initiated – kick-off meeting 21 st & 22 nd June 2004. |
| M1.3 Timely issuance of a Quality Manual to be used in all parts of the project and in all project material. | 3 | 3 | Quality manual adopted by consortium partners and will be updated as necessary throughout project. |
| M1.4 Timeliness of the planned reviews. | From 5 | | End of period 1 review held with Commission on 18 th May 2005 before end of period. Also expected to be attained to schedule for periods 2 and 3. |
| M1.5 Final project report produced. | 36 | | Expected to be attained to schedule |
| M2.1 Scenarios identifying key technological, socio-economic and business drivers for future technological development have been established and show no adverse impact on the overall concept of the eu-DOMAIN infrastructure. | 3 | 4 | Eight scenarios developed and two identified for implementation and validation. |
| M2.2 The comprehensive set of user requirements specifications based on users behaviours and simulated interaction infrastructure ensuring its market exploitation and social acceptance | 6 | 6 | Specifications successfully derived. Social acceptance to be included in validation work. |
| M3.1 Software architecture is defined in UML with no major points of conflict with user requirements. | 9 | 9 | Architecture defined. To be validated in first demonstrator. |
| M3.2 OSGi framework is operational with testing bundles | 18 | | Expected to be attained to schedule |

| | | | |
|--|--------|-------|---|
| M3.3 Entire client side infrastructure is operational and can be integrated with the server side structure. | 21 | | Expected to be attained to schedule |
| M4..1 Software architecture is defined in UML with no major points of conflict with user requirements. | 9 | 9 | Architecture defined. To be validated in first demonstrator. |
| M4.2 Entire server side infrastructure is operational and can be integrated with the client side structure. | 20 | | Expected to be attained to schedule |
| M5.1 System architecture approved. | 18 | | Expected to be attained to schedule |
| M5.2 Network access approved. | 18 | | Expected to be attained to schedule |
| M5.3 Entire communication infrastructure is operational and can be integrated with the server and client side structure. | 26 | | Expected to be attained to schedule |
| M6.1 Successful business cases for each of the two user scenarios. | 15 | | Expected to be attained to schedule |
| M6.2 Successful organisation of European Awareness Scenario Workshops with at least 15 participants in each event. | 21 | | Expected to be attained to schedule |
| M7.1 Infrastructure testing successful | 28 | | Expected to be attained to schedule |
| M7.2 Testing and population of user cases successful | 31 | | Expected to be attained to schedule |
| M8.1 User acceptance of the two user cases. | 35 | | Expected to be attained to schedule |
| M8.2 At least two potential new users from different domains have emerged and are planning new tests. | 35 | | Expected to be attained to schedule |
| M9.1 Project presentation completed. | 3 | 2 | |
| M9.2 Inaugural conference held | 2 | 1 | AMI communities workshop organised and attended |
| M9.3 Plan for disseminating and using knowledge. | 6 | 6, 12 | Dissemination programme updated from DUP following initial 6 months and at end of month 12. |
| M9.4 Final plan for disseminating and using knowledge | 35 | | Expected to be attained to schedule |
| M10.1 Draft evaluation updated at completion of each workpackage. | 7 - 36 | | On schedule at this first period report. |
| M10.2 Project fully evaluated | 36 | | Expected to be attained to schedule |

4.3 Deliverables

The scheduled deliverables for this reporting period have been completed and are shown below.

Some small internal changes have been agreed in deliverable responsibility as follows:

- UAAR took on board overall responsibility for the combined deliverable D3.1 and D4.1 – client and server architectures.
- The lead responsibility for D3.2 will now be TID rather than UAAR
- FORTH took on board overall responsibility for D4.2 Design guidelines for user interfaces from UAAR.

These do not impact the projects costs or quality or individual partners planned resource allocations.

| <i>Deliverable Code & Name</i> | <i>Planned month</i> | <i>Completed month</i> | <i>Comments</i> |
|---|----------------------|------------------------|--|
| D1.1 Project Quality Plan | 1 | 3 | Delivered with progress report QMR1 for first reporting period |
| D1.2 Periodic activity, management and financial reports | 12+24+36 | 14 | First period reports completed. Period 2 and 3 expected to be delivered to schedule |
| D1.3 Quarterly progress reports for the commission | 3 thru 33 | | Quarter 3, 6 and 9 reports completed. Remaining reports expected to be delivered to schedule |
| D1.4 Final project report - activity, management and financial (draft & final versions) | 35 & 36 | | Expected to be delivered to schedule |
| D2.1 User validation framework plan | 3 | 4 | Delivered with progress report QMR1 for first reporting period |
| D2.2 State of the Art analysis | 4 | 4 | Delivered with progress report QMR1 for first reporting period |
| D2.3 Functional user requirements specifications | 6 | 6 | Delivered with progress report QMR2 for second reporting period |
| D2.4 Trust and security user requirements specifications | 6 | 6 | Delivered with progress report QMR2 for second reporting period |
| D2.5 Societal user requirements specifications. | 6 | 6 | Delivered with progress report QMR2 for second reporting period |
| D2.6 Workflow procedures and potential for innovation | 6 | 9 | Delivered with progress report QMR3 for third reporting period |
| D3.1 Client side architecture specification | 9 | 9 | Delivered as combined deliverable with D4.1 with progress report QMR3 for third reporting period |
| D3.2 Gateway OSGi framework and device communication | 18 | | Expected to be delivered to schedule |
| D3.3 Design guides and navigation for device interaction | 21 | | Expected to be delivered to schedule |
| D4.1 Server side architecture specification | 9 | 9 | Delivered as combined deliverable with D3.1 with progress report QMR3 for third reporting period |
| D4.2 Design Guidelines for user interfaces | 9 | 9 | Delivered with progress report QMR3 for third reporting period |
| D4.3 Network intelligence, database and user interfaces | 20 | | Expected to be delivered to schedule |
| D4.4 Application intelligence and web service provisioning | 22 | | Expected to be delivered to schedule |
| D5.1 Communication architecture description | 21 | | Expected to be delivered to schedule |
| D5.2 Prototype of communication infrastructure | 26 | | Expected to be delivered to schedule |
| D6.1 Proposed business models and business cases | 15 | | Expected to be delivered to schedule |
| D6.2 Organised European Awareness Scenario Workshops | 22 | | Expected to be delivered to schedule |

| | | | | |
|-------|--|-----------|---|---|
| D6.3 | Public reports from the EASW Workshops | 22 | | Expected to be delivered to schedule |
| D6.4 | Validated business models and business cases | 22 | | Expected to be delivered to schedule |
| D7.1 | Test report of prototype platform | 31 | | Expected to be delivered to schedule |
| D7.2 | Testing platform for validation | 31 | | Expected to be delivered to schedule |
| D7.3 | User validation plan for eu-DOMAIN | 31 | | Expected to be delivered to schedule |
| D8.1 | Validation report: The European Service Network | 35 | | Expected to be delivered to schedule |
| D8.2 | Validation report: Healthcare for tomorrow | 35 | | Expected to be delivered to schedule |
| D8.3 | Evaluated platform for take-up activities | 35 | | Expected to be delivered to schedule |
| D8.4 | Take-up guideline and technology watch report | 35 | | Expected to be delivered to schedule |
| D9.1 | Project presentation | 2 | 3 | Delivered with progress report QMR1 for first reporting period |
| D9.2 | Project website | 2 | 2 | www.eu-domain.eu.com |
| D9.3 | Plan for using and disseminating knowledge (drafts at 6 month intervals) | 6 thru 32 | | First version delivered with progress report QMR2 for second reporting period. Updated version delivered with Period 1 Activity report. Further version expected to be delivered to schedule |
| D9.4 | Final plan for using and disseminating knowledge | 35 | | Expected to be delivered to schedule |
| D9.5 | Raising public awareness report | 35 | | Expected to be delivered to schedule |
| D9.6 | Exploitation plans (Draft and final) | 16 and 34 | | Expected to be delivered to schedule |
| D10.1 | Evaluation & assessment report | 12+24+35 | | Period 1 report completed and delivered with this report. Period 2 and 3 reports expected to be delivered to schedule |

4.4 Deviations from Plan

There are no deviations from plan that affect the projects objectives, timescales or resources at this stage of the project.

D2.6 Workflow analysis has been delivered later than schedule for a more logical completion than first planned. This was in order that prioritisation of workflows for user validation took proper account of the final system architecture specifications.

Both the client and server-side architectures specifications have been completed but are presented in a combined deliverable D3.1+D4.1. This makes the whole architecture more readily understood by the reader and presents a more logical representation of its functionality than if it is separated into two reports.

Some planned man-months have been used ahead of schedule but this is self-levelling as they apply to tasks completed early which will not now require resources later in the project as originally planned.

4.5 Dissemination

eu-DOMAIN has followed its schedule for first year dissemination and has completed the first phase of dissemination activity as planned:

- The project's dissemination and use plans have been documented and implemented as a series of dissemination activities
- A project 'Flyer' has been produced and used to publicise eu-DOMAIN
- The project website has been operational and a dissemination contact list put in place. The website has recently been considerably enhanced with a new layout and added content to support the second more intensive phase of project dissemination.
- A range of presentations have been made at a variety of workshops and other events pertinent to the ambient intelligence research, industrial and healthcare arenas
- Peer contacts have been instigated with a number of projects and organisations in order to explore clustering possibilities
- Articles for peer-reviewed scientific journals are being prepared for publications in the coming reporting period

The following table illustrates some of the above activities:

| Date | Title | Number of persons attended + other information |
|--|---|---|
| 7-9 th June 2004 in Bruxelles | AMI @ Work communities | Clustering activities, contact with other projects & AMI @ work communities established |
| August 2004 - Website | Website launched at www.eu-domain.eu.com | |
| 16 th September 2004 | Press release issued to Commission | |
| 14-15 th October 2004 Bruxelles, | Workshop on KM and Aml technologies | Held in conjunction with the European Commission and the Knowledge Board. Very successful workshop attended by representatives from the AMI community. |
| 22 nd October 2004 in Taastrup | Presentation of eu- DOMAIN | Presentation at a National Contact Point information day meeting held in Taastrup, Denmark. Some 65 people participated. |
| 18 th November 2004 | Spanish W3C multimodality seminar | A 1-day workshop organized by the Spanish charter of the W3C to promote W3C multimodality technologies. Software AG presented "Multimodality in Software AG", which included eu-Domain. |
| 15 – 17 th November 2004 in Hague | IST Conference Hague | Clustering with research community - Dissemination of project aims at the IST conference and within AMI work sessions. |
| 24 th November 2004 in Odense | Presentation of eu- DOMAIN | Presentation at a National Contact Point information day meeting held in Odense, Denmark. Some 25 people participated. |

| | | |
|---|--|---|
| 17 – 21 st January 2005 in Darmstadt | Software AG EII workshop | Knowledge about Enterprise Information Integrator regarding its usage in eu-Domain presented by Software AG. |
| Jan 19 th 2005 in Aarhus | Summit 05 | 200 attendees, eu-DOMAIN architecture presented. |
| January 2005 in Madrid | eu-DOMAIN advantages and applications. | The eu-DOMAIN project advantages and applications were presented in a workshop hosted in Telefónica, Madrid, Spain. |
| March 2005 in Boecillo | The eu-DOMAIN project | The eu-DOMAIN project was presented in a workshop hosted in Telefónica, Boecillo, Castilla y León, Spain. |
| 15 th March 2005 in Copenhagen | Security in Apparatuses | Security and Pervasive computing. Presentation by Alexandra Institute using eu-DOMAIN as example. |
| 5 th May 2005 | Master on e-Commerce by Universidad Autónoma of Madrid | eu-DOMAIN presented in the context of SOA-based projects |
| 19-20 th May 2005 in Budapest | AMI workshop | Clustering activities, contact with other projects and preparations for future follow-up projects. |
| 17 – 22 nd May 2005 in Zaragoza | Connectiva Fair | Distribution of eu-DOMAIN and poster presentation by TID |
| May 2005 | CEDI 2005 | Paper submitted for presentation in September 2005. |

5. Consortium management

5.1 Contractual

In agreement with the European Commission the project partners commenced the eu-DOMAIN project on the 1st June 2004 ahead of the contract being signed. This was to avoid delays and get the project up and running as quickly as possible. There was a clear demonstration by the partners of their considerable enthusiasm for the project by adopting this innovative approach in agreement with the Commission.

Subcontracting negotiation is currently ongoing between UAAR and LIWAS for work on vehicle gateways and is expected to be completed during the next two months.

There is a close working relationship between UAAR and the Alexandra Institute on research matters. In the case of eu-DOMAIN there is no sub-contracting arrangement required for this as there are no financial transfers necessary or IP rights to be devolved. However, the consortium partners feel it is only fair that throughout future demonstration stages the project recognises the role of the Alexandra Institute and provides them with the associated 'kudos' of eu-DOMAIN involvement and for convenience intend to list them as a 'Contributor' to the consortium in the dissemination material.

No other contractual issues have arisen during the course of the first reporting period.

5.2 Coordination and work schedule

It can be seen from Section 3 of this report that good progress has been made against the project's workplan and towards achieving the project's aims and objectives. An updated project GANTT chart showing current progress is shown under 5.5 below.

The project deliverables due in the first reporting period have been completed and the resource usage and costs incurred are running in line with the project schedule and activities undertaken to date. Actual person-months are slightly above planned months for this point in the project as some of the work planned for Workpackages 3, 4, 5 currently runs ahead of schedule. The project is well placed for maintaining its schedule to project conclusion. Project resource usage is shown under 5.4 below.

The project partners have worked closely together and supported each other in a highly professional and committed manner. The roles of the partners are illustrated in the table under 5.3 – Partner activities. Excellent liaison between the project partners and wider audience has been maintained throughout the past 12 months and a number of project meetings and workshops have been held, including:

| <i>Title</i> | <i>Data and Place</i> | <i>Main conclusions</i> |
|--|--|--|
| Initial Project Board kick-off meeting | 21 st -22 nd June 2004, London | Confirmation of successful project initiation. Agreed strategy and approach for user scenarios building and initial evaluation of technical architectures to be adopted. |
| Workshop planning meeting | 27 July 2004 in Birmingham | Agreement of potential use cases and decision on the clinical domain to be used in the healthcare user scenario |
| Workshop planning meeting | 6 August 2004 in Bjerringbro | Agreement of potential use cases and decision on the business unit to be used in the industrial user scenario |
| Scenario Thinking Workshop | 11 August 2004 in Bjerringbro | IDON scenario workshop resulting in definition of the industrial user scenario |

| | | |
|--|---|--|
| Scenario Thinking Workshop | 1 September 2004 in Birmingham | IDON scenario workshop resulting in the definition of the healthcare user scenario |
| 2 nd Project steering meeting | 4 th -5 th October 2004 in Madrid | Agreed: <ul style="list-style-type: none"> • finalisation of user requirements • security approach strategy and approach adopted for client and server side architectures. |
| Architecture and security Workshop | 28 th and 29 th October 2004 in Aarhus, Denmark | Agreement on components of client-side architecture and security framework |
| Server-side architecture workshop | 25th November 2004 at CNet in Sweden | Agreement on components of server-side architecture |
| 3 rd Project steering meeting | 27 th -28 th January 2005 in Heraklion, Crete | Agreed finalisation of client and server side architectures. |
| 4 th Project steering meeting | 18 th -19 th April 2005 in Rome | Confirmation of development approach. Workflow prioritisation and proof of concept strategy through early demonstrators. Phase 2 dissemination strategy and plans agreed. |
| First annual review | 18 th May 2005 Budapest | Successful review. Project agreed to be meeting good progress. Useful input from EC reviewers being taken on board along with formal review report recommendations. |

5.3 Partner activities

The following table illustrates activities undertaken by the eu-DOMAIN consortium partners during the first reporting period from 1st June 2004 to 31st May 2005:

| Workpackage / activity | CIL | Innova | In-JeT | UAAR | FORTH | CNet | T-CON | SAG | TID | Grundfos | EBPCT |
|--|-----|--------|--------|------|-------|------|-------|-----|-----|----------|-------|
| WP1 Project management - Led by CIL | | | | | | | | | | | |
| Prepare for, attend and follow-up project steering meetings | | | | | | | | | | | |
| Host project steering meeting | | | | | | | | | | | |
| Day-to-day overall operational project management and coordination | | | | | | | | | | | |
| Local partner project management and reporting to CIL | | | | | | | | | | | |
| Overall day-to-day technical coordination | | | | | | | | | | | |
| Draft and implement quality manual | | | | | | | | | | | |
| Contract, quality and risk management - EC reporting | | | | | | | | | | | |
| WP2 User requirements specification - Led by Innova | | | | | | | | | | | |
| Research and define business and technical state of the art | | | | | | | | | | | |
| Document state of the art | | | | | | | | | | | |
| Run user scenario workshops | | | | | | | | | | | |
| Run security workshops | | | | | | | | | | | |
| Attend scenario/security workshops | | | | | | | | | | | |
| Analyse, define and document trust and security requirements | | | | | | | | | | | |
| Analyse, prioritise and map out workflows | | | | | | | | | | | |
| Build and document user scenarios | | | | | | | | | | | |
| Research and specify societal requirements | | | | | | | | | | | |
| Define user requirements and validation framework | | | | | | | | | | | |
| Document user requirements and validation framework | | | | | | | | | | | |
| WP3 Client side architecture - Led by UAAR | | | | | | | | | | | |
| Appraise available client side technology | | | | | | | | | | | |
| Run technical design workshops | | | | | | | | | | | |
| Attend workshops | | | | | | | | | | | |
| Build client-side architecture definitions | | | | | | | | | | | |
| Review client-side architecture definitions | | | | | | | | | | | |
| Research new devices and impact on architecture | | | | | | | | | | | |
| Research and recommend OSGi solutions | | | | | | | | | | | |
| Document client side architecture | | | | | | | | | | | |

| Workpackage / activity | CIL | Innova | In-JeT | UAAR | FORTH | CNet | T-CON | SAG | TID | Grundfos | EBPCT |
|---|-----|--------|--------|------|-------|------|-------|-----|-----|----------|-------|
| WP4 Server side architecture - Led by Cnet | | | | | | | | | | | |
| Appraise available server side technology | | | | | | | | | | | |
| Run technical design workshops | | | | | | | | | | | |
| Attend workshops | | | | | | | | | | | |
| Build server-side architecture definitions | | | | | | | | | | | |
| Review server-side architecture definitions | | | | | | | | | | | |
| Domain modelling. Research web service and semantic web related standards | | | | | | | | | | | |
| Agree development tools environment - tools | | | | | | | | | | | |
| Design and put in place eu-DOMAIN technical development environment | | | | | | | | | | | |
| Define and document design guidelines for user interfaces | | | | | | | | | | | |
| Host eu-DOMAIN development environment | | | | | | | | | | | |
| Document server side architecture | | | | | | | | | | | |
| Design and build early (GRUNDFOS) demonstrator | | | | | | | | | | | |
| WP5 Communication infrastructure - Led by TID | | | | | | | | | | | |
| Outline initial communications topologies | | | | | | | | | | | |
| On-going appraisal in line with architecture definitions | | | | | | | | | | | |
| WP6 Socio economic issues - Led by Innova | | | | | | | | | | | |
| Initial consideration of eu-DOMAIN deployment business models | | | | | | | | | | | |
| EASW workshop planning | | | | | | | | | | | |
| WP9 Dissemination and exploitation - Led by CIL | | | | | | | | | | | |
| Initial analysis for Dissemination and Use Plans | | | | | | | | | | | |
| Draft dissemination and use plan | | | | | | | | | | | |
| Disseminate eu-DOMAIN through workshops and peer contacts | | | | | | | | | | | |
| Competitor watch - technical and business | | | | | | | | | | | |
| Set up and maintain website | | | | | | | | | | | |
| WP10 Review and assessment - Led by CIL | | | | | | | | | | | |
| Review of project progress against plans | | | | | | | | | | | |
| Log progress and quality checks | | | | | | | | | | | |
| Quality review of project results | | | | | | | | | | | |

5.4 Project Effort

The following table shows resource usage for each partner to the 31st May 2005.

| Cumulative effort to date in person-months <i>A=Actual effort / P = Plan to date</i> | RTD & Innovation Activities | | | | | | | | | | | | | | | | | | | Management Activities | | TOTALS | |
|--|-----------------------------|--------------|--------------|--------------|--------------|--------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------|-----------------------|---------------|---------------|-------|
| | WP 02 | | WP 03 | | WP 04 | | WP 05 | | WP 06 | | WP 07 | | WP 08 | | WP 09 | | WP10 | | WP 01 | | | | |
| | A | P | A | P | A | P | A | P | A | P | A | | A | P | A | P | A | P | A | P | A | P | |
| Contractor | | | | | | | | | | | | | | | | | | | | | | | |
| C International (CO) | 2.20 | 2.00 | | | | | | | | 0.50 | 0.50 | | | | | 1.25 | 1.75 | 0.75 | 0.75 | 6.60 | 7.00 | 11.30 | 12.00 |
| Innova S.p.A. | 21.68 | 13.00 | | | | | | | | 2.25 | 4.00 | | | | | 0.32 | 1.00 | 0.25 | 0.50 | 1.00 | 1.10 | 25.50 | 19.60 |
| In-JeT ApS | 3.30 | 5.00 | 0.60 | 0.40 | 2.00 | 2.50 | | | | 0.60 | 0.60 | | | 0.30 | | 2.00 | 1.60 | 0.00 | 0.50 | 1.90 | 1.20 | 10.70 | 11.80 |
| University of Aarhus | 5.25 | 5.00 | 7.80 | 8.50 | 1.05 | 1.50 | | | | | | | | | | | | 0.20 | 0.50 | 0.20 | 0.30 | 14.50 | 15.80 |
| Foundation for Research and Technology – Hellas | 0.00 | 4.00 | 13.75 | 10.00 | 6.50 | 6.00 | | | | | | | | | 0.40 | 0.50 | 0.25 | 0.50 | 0.10 | 0.10 | 21.00 | 21.10 | |
| CNet Svenska AB | 4.90 | 0.90 | 1.20 | 1.00 | 18.60 | 16.00 | | | | | | | | | 1.00 | 1.00 | 0.30 | 0.50 | 1.00 | 1.00 | 27.00 | 20.40 | |
| T-connect s.r.l. | 1.38 | 0.00 | 3.00 | 3.75 | 3.00 | 3.50 | | | | | | | | | 0.25 | 0.30 | 0.15 | 0.25 | 0.20 | 0.20 | 7.98 | 8.00 | |
| Software AG Belgium SA | | | | | 5.55 | 7.00 | | | | | | | | 0.31 | | | | 0.45 | 0.50 | 0.28 | 0.10 | 6.59 | 7.60 |
| Telefónica I+D | 2.62 | 0.00 | 7.12 | 5.50 | 7.26 | 7.60 | 1.40 | 2.50 | 1.20 | 1.20 | | | | | 0.20 | 0.20 | 0.30 | 1.00 | 0.12 | 0.12 | 20.22 | 18.12 | |
| Grundfos Management A/S | 2.38 | 4.00 | 2.00 | | | | | | | | | | | | 0.25 | 0.50 | 0.22 | 0.25 | 0.10 | 0.10 | 4.95 | 4.85 | |
| Eastern Birmingham Primary Care Trust | 2.33 | 4.00 | 0.60 | | | | | | | | | | | | 0.25 | 0.50 | 0.22 | 0.10 | 0.10 | 0.10 | 3.50 | 4.70 | |
| | 46.04 | 37.90 | 36.07 | 29.15 | 43.96 | 44.10 | 1.40 | 2.50 | 4.55 | 6.30 | 0.00 | 0.00 | 0.61 | 0.00 | 5.92 | 7.35 | 3.09 | 5.35 | 11.60 | 11.32 | 153.24 | 143.97 | |

| | | Year/Quarter | | | 1/1 | | | 1/2 | | | 1/3 | | | 1/4 | | | 2/1 | | | 2/2 | | | 2/3 | | | 2/4 | | | 3/1 | | | 3/2 | | | 3/3 | | | 3/4 | | |
|-------|--|--------------|--|--|-----|---|---|-----|---|---|-----|---|---|-----|---|---|-----|---|---|-----|---|---|-----|---|---|-----|---|---|-----|---|---|-----|---|---|-----|---|---|-----|--|--|
| | | Month | | | 1 | 2 | 3 | 1 | 2 | 3 | 1 | 2 | 3 | 1 | 2 | 3 | 1 | 2 | 3 | 1 | 2 | 3 | 1 | 2 | 3 | 1 | 2 | 3 | 1 | 2 | 3 | 1 | 2 | 3 | 1 | 2 | 3 | | | |
| T6.2 | European awareness scenario w/shops | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| WP7 | System integration | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| T7.1 | Integration of system components | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| T7.2 | Technical testing overall platform | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| T7.3 | Testing and user scenarios | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| T7.4 | Validation plans | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| WP8 | Testing and validation | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| T8.1 | Validation of ESN | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| T8.2 | Validation of Healthcare tomorrow | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| T8.3 | Preparation for exploitation & take-up | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| WP9 | Dissemination and exploitation | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| T9.1 | Project dissemination | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| T9.2 | Exploitation | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| WP10 | Review and Assessment | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| T10.1 | On-going project review | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| T10.2 | Final assessment | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

6. ANNEX A: Dissemination and USE Plan

Updated project Dissemination and Use Plan attached with this report