ALFA Programme
Sub-programme A:
Academic and Institutional Management

INTERMEDIATE Technical Report

Contract Number: AML/B7-311/97/0666/II-0465-FA
Project Title: RexNet-yippee. Remote Experimentation Network – yielding an inter-university peer-to-peer e-service
Coordinating Institution: Polytechnic Institute of Porto (Instituto Politécnico do Porto, IPP)
Network's Name: Remote Experimentation Network (RexNet)
Study Area: Engineering (Mechanical, Electrical & Computer engineering) and also Social & Economic Sciences in general (related to educational development and pedagogy)
Date of Signature: 7th of December 2004
Date of coming into effect of the contract: 1st of January 2005
Contract Duration: 24 months
Addenda (number and object)**: 1 – New network composition with the adhesion of *Universidad de Deusto* (ES) and *Universidad Politécnica de Cataluña* (ES)**
Date of Contract Termination: 31st of December 2006
Period covered by the INTERMEDIATE Report: 1st year of activities
- **from** (Date of coming into effect of the contract)**:** 1 / Jan. / 05
- **to** (Date of Contract Termination)**:** 31 / Dec. / 05

Coordinator:

Full Name: Gustavo Ribeiro da Costa Alves
Position: Adjunct Professor
Faculty/Department/Service: Polytechnic Institute of Porto / School of Engineering / Department of Electrical Engineering

Date: / Feb. / 2006 Signature:

Legal Representative:

Full name: Maria de Fátima Morgado
Position: Vice-President

Date: / Feb. / 2006 Signature and stamp of the Coordinating Institution:

Note: *To be accepted, this report must be **signed by the coordinator of the project** and **signed and stamped by the legal representative of the coordinating institution.***

I. Introduction

Technical intermediate reports allow for comparative analysis of objectives, means and expected results with objectives and results really achieved during the period covered by the report.

The intermediate report appraisal will be a detailed **compilation** of the project activities and their implementation during the period covered by the report.

As regard to the form to be given to the present report, we recommend you to refer to the web page of the ALFA Programme (Cf. Guidelines for the Candidate, Annex II and FAQ, question n° 13):

"The Report will be constructed so that it permits a comparison between the objectives, means and results envisaged and those obtained or really applied.

To facilitate that comparison, we strongly recommend the presentation of a scheme made up of two columns: the first column intended for the objectives, activities and results envisaged; and the second column intended to indicate the degree of fulfilment of those objectives, activities and results.

Furthermore, it is essential to explain and justify all the cases of not accomplishment of the objectives, activities and results envisaged.

If an objective or result finishes being more successful than what it was envisaged, please inform us in detail about it as it will be of interest for the ALFA Programme and its beneficiaries.

II. Content

The Intermediate Technical Report will must contain the following elements:

II.1 Activities achieved

Inform about all activities developed by the Network.

We strongly recommend to use a scheme made up of two columns: the first column intended for the objectives, activities and results envisaged in the contract; and the second column to indicate the degree of fulfilment of those objectives, activities and results. (Cf. Guidelines for the Candidate, Annex II and on the ALFA web page FAQ, question n° 13).

Indicate, for each activity the following:

- Type of activity (technical meetings, study visits, seminars, workshops, intensive courses, etc.); objectives envisaged; place and date of realisation;

- List of participants at the various activities; type of responsibility of the participants in their institution; nationality of the participants;

- Enclose for each activity all products generated by the project (minutes of meetings, reports concerning visits, etc.);

- Indicate if the activities have been developed along with or in parallel with other activities related or not to other ALFA projects;

- Indicate all results reached as regard to the planning and initial schedule;

- Comment the eventual difficulties met as part of the organisation;

- When appropriate, refer also to the modification brought to the initial project and their justification.

- Quote the effective participation of each Network member for the development of the project (mention how they co-operated and co-ordinated)

- Explain if communication worked properly among Network members.

III. Formal aspects

Intermediate Technical Reports must be drawn up in the language of the contract and when foreseen in the contract, must be accompanied by a Request for Payment (the model of the Request for Payment is Annex V of the contract).

They must be drawn up in duplicate (one original and one copy) and sent to the EC at the latest two months after the period covered by the report.

The Intermediate Technical Report should be sent to the address mentioned in the Contract:

Payment requests, reports and changes in bank account details should be communicated to:
European Commission
EuropeAid – Co-operation Office
To the Attention of the Financial Unit
Office: J-54 2/31
B-1049-Brussels
Belgium
Tel: + 32 2 296 37 17
Fax: + 32 2 295 69 77

Copies of the documents referred to above, and correspondence of any other nature, should be sent to:

European Commission
EuropeAid – Co-operation Office
Unit E/2
ALFA Programme
Office: J-54 4/29
B-1049-Brussels
Belgium
Tel: + 32 2 299 13 79
Fax: + 32 2 299 10 80/47

As a reminder Intermediate Reports are made up of:

- **Technical Report,**
- **Financial Report,**
- **Audit Report, when stipulated in the particular conditions of the contract,**
- **Request for payment (Annex V of the contract).**

Do not forget to include all products generated by the project: *publications, conclusions of meetings, books, CD ROM, etc. as well as the Web page address*.

1. Preamble

This intermediate report describes the activities completed during the first year, i.e. the period from the 1st of January 2005 till the 31st of December 2005. It is formatted according to the suggestions contained in the Introduction and it includes a technical annex with several elements, identified on the first page of the annex and explicitly referred along the following tables.

Objectives envisaged in the contract		**Objectives achieved within the 1st year of the contract**
Degree of fulfilment *100%*	*Main goal*: Share and spread current competences on Remote Experimentation (and on other forms of e-learning) detained by members of the consortium, in order to harmonize the use of this auxiliary resource (as a complement to using local labs) within courses provided by member institutions.	The remote experiments supported by each network member are available to all other members (*share*) since the kick-off-meeting (where common logins and passwords were defined). During the 1st year a number of new remote experiments were developed and again made available to the entire consortium. At the same time, Brazilian institutions associated with the Federal University of Santa Catarina (*Universidade Federal de Santa Catarina*, UFSC), i.e. the project technical coordinator, contributed with another pool of remote experiments while benefiting from the ones hosted by UFSC (*spread*). Also during the reported period, two new institutions joined the consortium (*spread*) as denoted by the addendum 1 to the contract.
Degree of fulfilment *100%*	*Secondary goal (1)*: Organize a workshop on Remote Experimentation (one year in Europe and following year in Latin America);	An International Workshop on Remote Experimentation was held at Florianópolis, Brazil, during the 1st consortium and kick-off meeting (KOM). The event was hosted by the local partner, and several elements from surrounding Universities, namely the UNISUL, among others, attended and participated on it. The consortium decided to swap the order, i.e. organize the 1st workshop in Latin America (LA) and not in Europe (EU), to stress the role played by the LA partner acting as the project technical coordinator. This decision was also supported by the fact that the idea to setup the present network originated from early talks, held at Brazil, between two institutions now members of the consortium.

Degree of fulfilment *50%*	*Secondary goal (2)*: Agree on a common lab script format for describing the conduction of a remote experimentation session (with multilingual support);	All partners agreed to adopt a common Virtual Learning Environment (VLE) as the first action towards this objective. The common lab script, as now understood by the project partners, must reflect the diversity of remote experiments available inside the consortium and therefore the complete fulfilment of this objective is not complete at this moment in time.
Degree of fulfilment *10%*	*Secondary goal (3)*: Create templates for lab reports, editable on-line and supporting automatic correction by the remote lab server;	This goal occurs from the previous one and therefore it is in a stand-by position. The choice to adopt a common VLE also affects the present objective.
Degree of fulfilment *50%*	*Secondary goal (4)*: Produce a report on Institutional Needs on Remote Experimentation, covering the areas already served by remote labs supported by consortium members;	During the technical discussions held at the KOM, the consortium defined a simple questionnaire to be distributed and answered by all members (see action list included in the annex – points 11, 12 and 13). The findings were grouped in two Excel files that establish all possible connections between existing remote experiments and existing courses belonging to the consortium members. Some of the findings enabled the project coordinator to write down a technical paper and an extended abstract submitted to two international conferences: the 10th IEEE International Conference on Emerging Technologies and Factory Automation (ETFA'05), Catania, Italy, September 2005, and the 11th International Conference on Technology Supported Learning & Training (Online EDUCA Berlin 05), Berlin, Germany, December 2005, respectively. The paper and the extended abstract are included in the technical annex and may also be referred as part of the main project goal (*share and spread current competences on remote experimentation*).
Degree of fulfilment *10%*	*Secondary goal (5)*: Establish a broad network of tutors' assistance to remote experimentation sessions, by taking advantage of the time difference between participating countries (7 to 8 hours between Mexico and Germany).	Presently, the consortium is establishing the communication infrastructure that will support the network of tutors, namely the Flash Comm Server. This goal is still not fulfilled.

Task n.		**Activities envisaged in the contract**	**Activities carried out within the 1st year of the contract**
Planned	**Executed**		
T1		Creation and maintenance of a web site for centring all the information regarding the project, namely its objectives, the consortium partners, and the available remote experiments, among other items.	The project website is hosted by UFSC, Brazil, which acts as the project technical co-ordinator (as expressed in the original proposal submitted to the Alfa Programme). A unique domain, totally devoted to project RexNet and its activities, was acquired in late 2004 and donated to UFSC by the project co-ordinator, the Polytechnic Institute of Porto (*Instituto Politécnico do Porto*, IPP). The project website is accessed through that domain, named www.rexlab.net, and includes, at present, the following links: About; Events; Publications; Remote Experiments; Contacts; and Links. It also contains a restricted access area (all consortium members have a login and a password to enter this area) and a forum for discussing issues related to the project activities. At the page bottom is a series of links to sites related to the Alfa Office, while the home page also exhibits the Alfa logo and the RexNet project logo.
Start: M1Y1 End: M12Y2	Y1		
T2		Kick-off meeting (KOM). The first general meeting will serve as a starting point for T3 and T4. Among the expected outcomes are also the definition of a table with the first cross-institutional trials, with a clear indication of both the providing and client institutions, and the moment of realization. The definition of the 1st Workshop, namely its contents and program committee, will also be addressed at this meeting.	The KOM ended up being part of the International Workshop on Remote Experimentation, organized by the consortium at Florianópolis, Brazil. Several partners presented their current work on the field and the all consortium had the opportunity to visit the RexLab headed by Dr. João Bosco da Mosta Alves. The copies of all (PowerPoint) presentations are included in the technical annex to this report. From the presentations it is clear that all partners detain a reasonable degree of knowledge in the remote experimentation arena, and that collaboration is already addressed in actual and future plans. Already established collaboration schemes are described in more details under Activity T5.
Start/End M2Y1	Start/End M3Y1		

T3	Start: M3Y1 End: M6Y1 / Start: M4Y1 End: *open*	Specify and develop a common lab script structure for existing remote experiments (1st iteration before T5, and second iteration before T9). Where possible, the lab script should contain editable fields, which may be filled in on-line. The system will be expected to return the indication of errors and suggestions of improvement, i.e. how the experience should be repeated, preferably with tutor assistance.	All partners agreed to install at their Institutions the VLE named Moodle, due to several reasons, one of the most important being the fact it is a free and open-source platform. This platform provides the common ground for the lab scripts, and some partners do provide already not only contents but also activities: a keyword in Moodle that may refer to a remote experiment. The remaining aspects (i.e. editable fields, system returning the indication of errors and suggestions of improvement) are still being considered by the consortium members.
T4	Start: M8Y1 End: M10Y1 / Start: M8Y1 End: M10Y1	Identify and setup a pool of international (overseas) tutors for assisting on the conduction of remote experiments (the assistance will mainly be provided by videoconference facilities, either integrated in the actual interfaces of the remote labs or as a separate resource).	This activity is divided into two parts: i) how to establish a common communication platform; and ii) the feasibility of the tutors' pool. The first part is being currently addressed through a widely accepted video-conference system, named Flash Comm Server, which has already been acquired the consortium. First tests will be conducted during the 2nd year of activities. The 2nd part remains more difficult to address due to the limited available time of some consortium partners. This is a crucial aspect already pointed out by the educational community, i.e. the amount of time that teachers have to devote to both synchronous and asynchronous communication tools in parallel with their normal, presential, lecturing duties. Discussion on this aspect is still open.
T5	Start: M8Y1 End: M10Y1 / Start: M8Y1 End: M10Y1	1st round of cross-institutional trials with small target groups in the client institutions. The expected outcome is a full report covering aspects such as: ease of use; bandwidth requirements; quality of the lab scripts; etc. A set of short term visits is included in this task.	This activity did not yet start in full scale. So far there is only a restricted number of partner-to-partner initiatives, with few students involved. An interesting an important action resulting from this activity is however being implement during the reported period: a new collaboration project among the SENAI-RS (a vocational training centre sited at the state of Rio Grande do Sul, Brazil), the Federal University of Rio Grande do Sul (*Universidade Federal do Rio Grande do Sul*, UFRGS), the University of Bremen (UB) and the Technical University of Berlin (TUB), these last three institutions being part of the RexNet consortium. Within this project, an MSc student from UFRGS (Mr. Frederico Schaf) visited the UB and carried out a series of tasks, further continued at his home institution.

T6 Start: M11Y1 End: M11Y1	Start: M3Y1 End: M 3Y1	 International Workshop on Remote Experimentation (IWoRE'05).	The figure illustrates the banner advertising the event that took place from the 30th of March till the 1st of April 2005. Although scheduled for the last quarter within the 1st year of activities, and to take place in Europe, the consortium agreed to advance this event in time and make it coincident with the 1st general meeting, hosted by the project technical co-ordinator, at Latin America. The technical annex includes the workshop program and copies of all presentations. A special reference should be made to the involvement of all project partners, not only during the II WIER, but also during the 2nd general consortium meeting, where a significant number of presentations were made. This last event was open to third parties and the consortium had a special concern in publicizing it, not only through the Alfa office website, but also through press releases and both the TUB's and UB's websites. The copies of the presentations made during the 2nd consortium meeting are also included in the technical annex.
T7 Start: M12Y1 End: M2Y2	Start: M4Y1 End: *open*	Analysis of institutional needs within the areas covered by remote experiments supported by consortium members. The report should include the identification of disciplines in courses offered by consortium members that could benefit from remote experiments made available within the consortium, and also address the harmonization of such disciplines, regarding the practical side of its programmes.	Besides the findings that emerged from the questionnaires filled out by the project partners, the planned bilateral visits contributed to the results expected from this activity. The presence, at the visited institution, of the person responsible for a remote experiment, located at the visiting institution, enabled the social contact with potential users (both lecturers and students), triggering for the establishment of trials. During the 1st year of activities there was a total of eight bilateral meetings scheduled, four between LA partners and another four between EU partners. All EU bilateral visits were fulfilled, while only one LA bilateral visit was fulfilled (the three others were postponed to the 2nd year). In all bilateral meetings the purpose was to disseminate, within the visited institution, the area of remote experimentation. To illustrate this purpose, the technical annex also includes copies of presentations made during bilateral meetings.

Results envisaged in the contract	**Results obtained during the 1st year of the contract**
1. The website and the electronic newsletter (T1) This result comprehends a set of web pages with information on the project, its goals and activities, the consortium, and several links to sites related to remote experimentation. It will also contain links to the RexNet consortium members, namely to the existing remote labs and to the resources that will be available to all. Registered users (free registration) will receive a periodical electronic newsletter with information on the RexNet activities and remote experimentation in general.	 The figure represents the entry page of the RexNet website. The URL is www.rexlab.net. Other associated URLs (belonging to Institutions that are part of the consortium or associated with it) are: www.rexlab.ufsc.br www.rexlab.unisul.br

2. The Remote Experimentation Network (T2, T3, T4, and T8) This is the most tangible result of the proposed project: a network of remote labs providing experiences on different engineering fields, with lab scripts and templates for lab reports (editable on-line with automatic correction) available in several languages (English, Germany, Portuguese, and Spanish) and an international pool of tutors able to assist on the execution of those experiments. Additionally, it will provide a verification & validation scenario for two tools under development: an Intelligent Tutoring System (ITESM) and a Booking System (Uuniversity of Dundee).	Several remote experiments are already available to consortium members. Specific results of collaboration / cooperation between and among partners are: a) the joint project on e-learning (with remote experiments on control, automations and robotics) with SENAI-RS, UFRGS, both from Brazil, plus TUB and UB, both from Germany; b) the Intelligent Tutoring System, developed by the Institute of Higher Studies and Technology of Monterrey (*Instituto de Estudios Superiores y Tecnológico de Monterrey*, ITESM) and used by UFRGS; c) the Virtual and robotics lab, hosted by ITESM (Mexico) and currently being used by the Catholic University of Temuco (*Universidad Católica de Temuco,* UCT); d) the Booking System developed by the University of Porto (UP), for the Moodle system, and currently being used by UB (Germany); e) the network enlargement with two new Institution members, as expressed in the addendum n. 1 to the project contract, namely the Polytechnic University of Catalonia (*Universidad Politécnica de Cataluña,* UPC), and the University of Deusto (UDeusto), both from Spain.
3. The Reports on trials results and institutional needs (T5, T7, and T9) These documents will contain the findings from the two trial rounds (first with small target groups and then with large classes) and the analysis of institutional needs on remote experimentation (from the consortium members). The decision on whether to create three independent reports or a single report with three main parts (as the contents are related) will be taken by the consortium on its first meeting.	The consortium decided to create a single report on this issue by the end of the project, therefore the result has not yet been completely achieved. However, some trials have already been initiated as reported on the previous (upper) cell.

4. The International Workshops on Remote Experimentation (IWoRE) (T6 and T10). These events will provide an opportunity to: a) disseminate the area of Remote Experimentation; b) submit, publish, and present articles on current best practices and associated state-of-art technology; and c) arrange contacts for new partnerships.	The presentations made during the International Workshop on Remote Experimentation held at Floripa, Brazil and the Seminar on Remote Experimentation, held in Berlin and Bremen, Germany, together with the papers published and presented at ETFA'05 and Online Educa Berlin 2005 (OEB'05) demonstrate the level of dissemination achieved by the consortium. In addition, some partners have also submitted and / or published papers describing their own remote experiments and supporting mechanisms / methodologies in relevant international conferences or journals (e.g. ITESM published a paper on its robotics course and tutor system at the 35th ASEE/IEEE Frontiers in Education Conference). Presently, the consortium is preparing the next International Workshop on Remote Experimentation, to be held at Porto (Portugal) with the presence of the two new partners and the expected participation of institutions from other Alfa projects, namely LEAL (II-0341-A) and FADO (II-0345-A).

Technical Annex

II WIER

II International Workshop on Remote Experimentation

II Workshop Internacional de Experimentação Remota

RexNet Kick-off-Meeting (KOM) – Agenda

II WIER – "History of RexNet", João Bosco Alves (UFSC) and José M. Ferreira (UP)

II WIER – "A remote experimentation network", José M. Ferreira (UP)

II WIER – "Remote Experimentation Network: yielding and inter-university peer-to-peer e-service", Gustavo R. Alves (IPP)

II WIER – "Remote Labs – University of Bremen", Dieter Müller (UB) and Heinz-H. Erbe (TUB)

II WIER – "A Web-based remote multivariable control experiment", J. M. Gomes da Silva Jr. (UFRGS)

II WIER – "A remote electronics workbench", José M. Ferreira (UP)

II WIER – "Laboratorio Virtual para Enseñanza de Robótica Móvil", Enrique Sucar (ITESM)

Actions points raised from the KOM

	Action	Who	Deadline
1	Send PPT file(s) used at KOM (Florianopolis, Brazil) to Bosco (jbosco@inf.ufsc.br). Translate into a 2nd language (e.g. if your institution is from Portugal or Brazil then translate into Portuguese / English, depending on original language used in your presentation slides)	All partners	30 April
2	Send PDF file of papers referred on questionnaire to Bosco (jbosco@inf.ufsc.br).	All partners	30 April
3	Create the RexNet forum and inform other partners of address (URL)	Nick	30 April
4	Install Skype and **send contact to all other partners**	All partners	9 April
5	Multiconference using Skype – please indicate a date / hour (**send e-mail to Gustavo with cc to all**)	All partners	9 April
6	Install Moodle at each partner – download from www.moodle.org. Use PC acquired with RexNet budget or any other server. UP to provide assistance. **Later post URL onto the RexNet forum.**	All partners	15 May
7	Move a simple course from Blackboard into Moodle and **post findings onto the RexNet forum**	Nick	31 May
8	Move a simple course from EDUCA into Moodle and **post findings onto the RexNet forum**	Oriel	31 May
9	Create a list of logins and passwords to all RexNet partners at all relevant sites / systems / remote labs (including Moodle) hosted by your institution. Use the following scheme (case sensitive) – e.g. for Luis Sucar from ITESM / login: RexNet_ITESM_Sucar / passw: ITESM_Sucar A student associated with Sucar would have following login: RexNet_ITESM_Sucar_nnnnnn and passw: ITESM_Sucar_nnnnnn Where nnnnnn represents the student number when enrolling at the University (e.g. ITESM). Send a brief message to each partner after creating the login / password and the URL where it is entered.	All partners	asap
10	Send receipts and all related-documents to: Instituto Politecnico do Porto A/c Anabela Sa' Rua Dr. Roberto Frias 4200-465 Porto - PORTUGAL Please sign reverse of documents and clearly indicate your institution name. Send also a brief table with expense title and value.	All partners	30 April
11	Fill in table with Institution / School / Department / Degree / Course or Module **Gustavo to collect all tables and send result to all – deadline 1st week of May**	All partners	30 April
12	Fill in table with Remote Experiment / Goal – target group / SW requirements **Gustavo to collect all tables and send result to all – deadline 1st week of May**	All partners	30 April
13	Check both previous tables and try mapping: - your experiment to courses offered by RexNet partners – explain why - experiments from other RexNet partners to your course(s) – explain why - experiments from other RexNet partners to courses lectured by close colleagues of yours – explain why and provide similar information as from table of action point 11 **Gustavo to collect all maps and send result to all – deadline 3rd week of May**	All partners	15 May
14	Update the RexLab site (no visible re-direction, i.e. the URL appearing at the address field of the web browser should be www.rexlab.net). Propose structure and contents using the forum – all partners	Bosco	30 April
15	Check and propose best video conference tool (e.g. FlashCom). Budget for each partner (max. 1000 euros). Benefits of having one server installed at each partner (daisy chaining?)	Jose	30 April
16	Structure and contents for paper describing RexNet. (?)Title: Globalization / Local communities – benefits from a network of remote labs.	Gustavo	15 April
17	Send meeting notes to Gustavo (e-mail) - (Note: I have already Sucar's notes from Wednesday and Thursday)	All partners	asap
18	Next meeting arrangements- Propose travel scheme and hotels	Dieter / Heinz	30 May

Paper published and presented at the 10th IEEE International Conference on Emerging Technologies and Factory Automation (ETFA'05)

Authors: Gustavo R. Alves, J. M. Martins Ferreira, Dieter Müller, Heinz-H. Erbe, João Bosco, Carlos E. Pereira, Enrique Sucar, Oriel Herrera, Luciano Chiang, and Nick Hine

Title: "Remote Experimentation Network – Yielding an Inter-university Peer-to-Peer e-service"

rexnet Remote Experimentation Network

2ND REXNET MEETING IN BERLIN AND BREMEN
- PLANNING AND SCHEDULING, FURTHER INFORMATION -

AGENDA BERLIN

Monday, 26. September 2005

09:00 –	Welcome and opening remarks Profs. Heinz Erbe, Gustavo Alves
09:10 –	TU Berlin / International Affairs Mr. H. Ermel
09:40 –	Fraunhofer Institute – an overview Dr.-Ing. Bernhardt, Dipl.-Ing. Hohwieler
10:10 –	Center for Human-Machine Systems Dipl.-Ing. Boris Gauss
10:40 –	Coffee Break
11:00 –	Report on RexNet activities Prof. Luciano Chiang, P.Universidad Católica, Santiago, Chile
11:40 –	Moving courses from EDUCA to MOODLE: Our first experiences Prof. Oriel Herrera, Unversidad Católica,Temuco, Chile
12:20 –	Remote experiment on Multimedia Audio Prof. Nick Hine, University of Dundee, UK
13:00 –	Lunch
14:00 –	Online Process Control: Department of process dynamics & operation, Prof. G. Wozny, TU Berlin
16:00 –	Coffee Break
16:20 –	Report on RexNet activities Prof. João Bosco, Universidade Federal Santa Catarina, Brazil
16:50 –	Remote experiment on transducers (LVDT) Prof. Gustavo Alves, Instituto Politécnico do Porto, Portugal
19:00 –	Dinner (restaurant close to the hotel Gates)

Tuesday, 27. September 2005

09:00 –	Check-out hotel (leave luggage)
09:30 –	Report on RexNet activities Prof. Carlos E.Pereira, Universidade Federal Rio Grande do Sul, Brazil
10:00 –	Report on RexNet activities Prof. José Ferreira, Universidade do Porto, Portugal
10:40 –	Coffee Break
11:00 –	RexNet website – contributions Bilateral meetings João Bosco, Gustavo Alves
13:00 –	Lunch
14:00 –	Campus tour
15:00 –	Hotel (pick-up luggage) + Transport to Train station
15:45 –	Departure to Bremen
18:41 –	Arrival at Bremen, transfer to the hotel

AGENDA BREMEN

Wednesday, 28. September 2005

10:00 –	Welcome and opening remarks Dr. Dieter Müller, Prof. Gustavo Alves
10:10 –	artecLab – Laboratory for art, work, technology Prof. Willi Bruns
10:40 –	Coffee Break
11:00 –	University of Bremen – International Office Mrs. Hasenmüller
12:00 –	MARVEL project outcomes Dr. Dieter Müller
13:00 –	Lunch
14:00 –	Campus tour - includes visit to lab hosting remote experiments supported by artecLab Dieter Müller, Martin Faust
15:30 –	Coffee Break
16:00 –	any other business
19:00 –	Dinner (Bremen downtown)

Thursday, 29. September 2005

09:30 –	Dissemination activities Conferences RexNet Forum
10:00 –	Results from Actions list 1 Institutions - degrees - courses Institutions - remote experiments
10:40 –	Coffee Break
11:00 –	Interaction with other projects
11:30 –	New directions for Remote Experimentation
13:00 –	Lunch
14:00 –	Financial stuff Budget transfers Intermediate financial report
15:00 –	Discussion on following actions Next consortium meeting – Porto 2006 Alfa Workshop within ICL
15:30 –	AOB
16:00 –	End of Meeting

Seminar on RE – “Welcome and opening remarks”, Gustavo Alves (IPP)

Seminar on RE – “Online Experiments – next steps”, C. Hausmanns and G. Wozny (TUB)

Seminar on RE – "What we have done since Florianopolis within the scope of RexNet", Carlos E. Pereira (UFRGS)

Seminar on RE – “Moving courses from Educa to Moodle: our first experiences”, Oriel Herrera (UCT)

Seminar on RE – “Designing for Dialogue: Social Networks supporting the use of Remote Labs” Nick Hine (UD)

Seminar on RE – "University of Porto: report on RexNet activities", José M. Ferreira (UP)

Seminar on RE – “RexNet at ITESM: past, current and future work”, Enrique Sucar (ITESM)

Seminar on RE – "Federal University of Santa Catarina: Report on RexNet activities", João Bosco Alves (UFSC)

Seminar on RE – "PUCC: Report on RexNet activities", Luciano Chiang (PUCC)

Seminar on RE – "Mobile Experimentation: an emerging area in education", Ricardo J. Costa and Gustavo Alves (IPP)

Seminar on RE – “Internet-Based Learning – The Online Laboratory Distillation Column”, G. Wozny (TUB)

Abstract and presentation at the 11th International Conference on Technology Supported Learning & Training (OEB'05)

Presenter: Gustavo R. Alves,

Title: "Remote Experimentation Network – an Inter-university Peer-to-Peer e-service"

Bilateral visit from Dr. Nick Hine (UD) to IPP: “Remote Experimentation Technology – simple is beautiful”

Bilateral visit from Dr. Luciano Chiang (PUCC) to UFRGS: “Load Based Optimization for Mobile Manipulator Trajectory Planning”