# FH D

**Fachhochschule Düsseldorf**
**University of Applied Sciences**

## LEAN ◧ WEB AUTOMATION

# EUREMOTE

## European Center for Remote Technology

T-AUTOMATION LAB

**D@T**

Düsseldorfer Telelabor

**Pi LAB**

Process Informatics Lab
Labor Prozessinformatik

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**Invitation to a brainstorming session concerning the development / using / sharing of a European Center for Remote Technology (EUREMOTE)**

### ◧ Objectives

Remote solutions based on Internet technology are being increasingly deployed in numerous areas of research, science, medicine, industry and education. With further growth in Internet access, increasing bandwidth and improved security, remote technologies (RT) will continue to spread and will form a key factor in the efficient use of a globalised ICT.

The aim of the planned project is to construct an e-infrastructure (European Centre for Remote Technology – EUREMOTE) by means of which the growing European and global RT community can communicate, collaborate on research projects and provide training services for the higher-education and vocational sectors.

By deploying a new generation of a highly developed global infrastructure that incorporates national RT initiatives, EUREMOTE intends to enable European researchers from different RT areas to collaborate over a broad spectrum. The infrastructure should utilise synergies and thus enable multidisciplinary RT projects.

The EUREMOTE infrastructure should also be made up of different parts in order to fulfil different needs and requirements. These include for example:

- A European coordination point;
- An international scientific council;
- A web-based multi-media service portal (RT portal);
- A dispersed and web-based database;
- Globally networked laboratory and test systems;
- An RT server farm for scientific investigation;
- Various online periodicals;
- An annual online conference;
- A distance learning centre;
- A digital RT library,
- An open-source tool portal for remote technology.

Using the new infrastructure, researchers should be able to access available data, knowledge and systems on RT easily and transparently without having to deal with the underlying ICT structures and conditions in detail.

In the development phase of EUREMOTE, equipment and users from the Latin American countries (Mexico, Ecuador, Cuba) that are heavily involved in high-performance research in the field of telemedicine should be included in the project to achieve an additional global benefit. In future EUREMOTE scientists and users from around the world should be able to offer a common research base for RT technologies. Thus, global "communities of practice" can be easily formed via EUREMOTE that pursue common goals and rapidly distribute, efficiently test, discuss and improve innovations in the RT sector.

A central aim of EUREMOTE is the rapid and broad provision of new RT research and development results for practical use by interested users. This should be done via online conferences, webinars, online periodicals and remote test applications.

EUREMOTE should offer services to scientists and other users via standardised and uniform methods in order to access knowledge, data and systems of the partners involved and to work with them.

Further, EUREMOTE should also push forward new approaches, methods and competences for interpreting and processing available data, knowledge and systems with appropriate software.

### ◧ Impact

Key impacts of the EUREMOTE project aim at utilising synergies that arise through consistent and transparent integration of the partners' existing e-infrastructures into the EUREMOTE infrastructure. This considerably improves the continuity, interoperability and the mutual networking of the decentralised storage and preservation locations

for the information and systems deployed by EUREMOTE.

- *Data:* Pre-existing access and processing algorithms for special data collections can also be used for other data in EUREMOTE. New methods and techniques for data processing can be developed from an interdisciplinary perspective from the outset. This enables considerable savings in development costs.

- *Knowledge:* The storage and processing of knowledge information (e.g. documents) is simplified through harmonised approaches and guidelines. Research processes in the EUREMOTE knowledge databases can use standard tools or develop these in the context of EUREMOTE.

- *Systems:* Normally RT systems (real lab and testing systems, virtual systems) are constructed highly heterogeneously in terms of the respective application focus and the associated e-infrastructure. With the help of EUREMOTE, suitable ICT base structures are created anew and/or "best practice" examples are distributed amongst other partners, enabling in particular the interoperability and networking of these systems to be considerably improved. At the same time, the level of utilization and thus also the efficiency of the investment costs for these systems increases.

The actual project results achieved in terms of the intended provision of data, knowledge and systems in EUREMOTE can be determined using the scope of the information and the range of the information. According to a provisional estimate, the following data volume and system scope is anticipated in EUREMOTE after an operating period of 12 months:

- Provision of data: Data sets and individual data at a scope of > 50 GB

- Provision of knowledge: Documentation, definitions, reports, investigations, test reports etc. at a scope of > 5000 pages (DOC, PDF, HTML)

- Provision of systems: Real and virtual lab systems, RT test scenarios at a scope of min. 50 systems or scenarios

The combination of the participating partners in EUREMOTE enables a common approach and coordinated decisions on different RT subject areas with various objectives (research, application, training). In global competition this produces considerably greater visibility of European competences and resources in the RT field and boosts the penetration of European RT solutions.

The joint management of the resources bundled in EUREMOTE enables a targeted and broadly based publicity and acquisition for new users and thus creates a new quality of resource utilisation through globally active EUREMOTE users. As EUREMOTE is further designed as a multidisciplinary platform with different scientists from different sectors and subject areas, multidisciplinary groups of scientists can locate each other quickly and easily for defined projects and collaborate efficiently.

The key benefit of EUREMOTE in terms of the dissemination and exploitation of the project results lies in its close relationship to the global Internet. This means that all web dissemination methods can be used to reach the global web community.

EUREMOTE will initially bring together scientists active in the field of RT in Europe and in doing will so make a contribution to the creation of a European research area for remote technologies. To date there are only national activities and European projects on individual topics in this scientific area. The comprehensive and multidisciplinary collaboration in EUREMOTE by a range of European scientists, complemented by international partners from Latin America, brings a new quality to the field of RT research. The collaboration of leading European specialists in EUREMOTE gives rise to multipliers as these partners are also active in other RT projects both nationally and internationally.

## Participants and Financing

*List of participants:*

Germany – UAS[1] (co-ordinator)
Great Britain – Univesity
Portugal – University
Austria – International Organisation
Austria – UAS
Romania – University
Sweden – UAS
Slovenia – University
Spain – University
Mexico – Research Institut
Mexico – University
Ecuador – National Organisation
Cuba – University

[1] UAS – University of Applied Sciences

The finance volume should be approx. € 1.5 million, term of 2.5 years.