**Euro-ISDN**

**TaRgET Project - Ref 96/45503**

**TITLE:**

# FIRST PHASE REPORT & FEASIBILITY REPORT

**AUTHORS:**

**A. Gorissen**
**B. Tanner**

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**PREFACE**

The TaRgET project is a feasibility study to investigate and then pilot the development of a trans-regional distance learning platform using Euro-ISDN. The project is a co-operation between 8 European countries and involves 10 education and training institutions.

This feasibility study is the major deliverable of the first phase of the TaRgET project. The completion of this deliverable and the activities connected with workpackages 1-4 brings to a close the first phase of the project.

The subsequent project phases will be Planning and Preparatory Actions (phase 2) and Operation and Evaluation (phase 3).

We would like to take this opportunity to thank all partners for their contributions during phase 1.

For information please contact:
Technology Centre Limburg
Mrs. A. Gorissen, Workpackage 3 and 4 leader

P.O. Box 483
6400 AL Heerlen
The Netherlands

Tel - + 31 45 5740832
Fax - + 31 45 5711229
E-mail - tclcot@xs4all.nl

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## 1. INTRODUCTION

The TaRgET project partnership will address all issues involved in the design, implementation and operation of a flexible, easily accessible, cost-effective means of delivering training materials in collaboration with SMEs across Europe.

The phase 2 and 3 project activities will lead to the establishment of a trans-regional platform to deliver training services which will utilise the applications provided by Euro-ISDN. It is envisaged that through these activities, future investment in the services, training material and hardware needed to actually use advanced technologies will be stimulated. Additionally, the project activities will contribute to the enhancement and development of the participants perception of training and education.

The TaRgET project activities will specifically address **the training needs of SMEs**. Training needs both on a regional and transnational level have been analysed. In order to ensure that optimal results are derived from the project activities, success and evaluation criteria have been defined against which the results of the project will be measured.

**The required technological solutions and standards** have been identified in Workpackage 2 and are outlined in Chapter 5, the technical evaluation review.

Activities relating to the adaptation and delivery of training amongst the project partnership will be formulated within **co-operation models as indicated in Chapter 6**.

Presently, a gap between the development of the required technical infrastructure and technology and the development of learning technologies and the delivery of training courses exists. Additionally, too much attention is focused upon the infrastructure and technology and too little upon the needs of SMEs, trainees and trainers and how to translate these requirements into attractive, flexible, high quality training solutions.

## 1.1 Objectives - Deliverable 3: Feasibility Report

Deliverable 3 is a study which outlines the necessary conditions required for the feasibility and operation of a pilot distance learning platform. This pilot distance learning platform will form the back-bone of future TaRgET project activities.

The information compiled in this report has been based on the outcomes of the following Workpackage activities:

1. INFORMATION NEEDS ANALYSIS;

2. TECHNICAL EVALUATION;

3. CO-OPERATION MODELS;

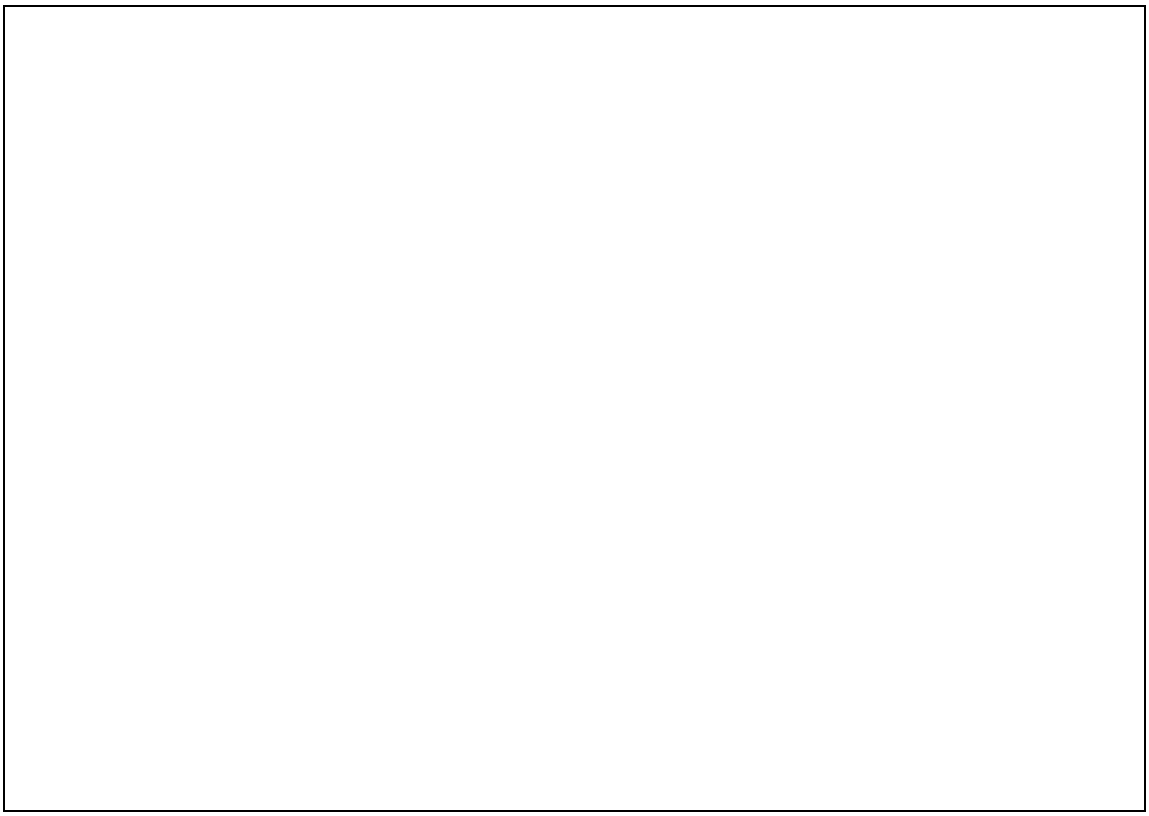
The principal objectives of the Feasibility Report were to:

- Address educational, economic, social and technical issues;
- Identify the needs of both trainers and trainees (SMEs);
- Define the success criteria for a co-operation network for distance learning;
- Plan exercises with the elements of the installation, commissioning and operation of the platform;
- Provide recommendations on the operation of a pilot distance learning platform;
- Provide recommendations on the feasibility of a pilot distance learning platform.

### 1.2 Studyplan and methods

The activities which took place during Workpackage 3 and 4 are outlined in figure 1.

**Figure 1:**



## 2. THEORETICAL BACKGROUND

### 2.1 Flexible and Distance Learning

The term Flexible and Distance Learning (FDL) relates to the combination of flexible learning modes which have a distance component. FDL can be used to describe both education and training activities. Within the TaRgET project, the pilots will mainly involve employed adults therefore the majority of activities will be of a training nature.

#### 2.1.1 The role of New Technologies in FDL

New technologies do not aim to substitute existing facilities but rather complement them. Technology in education also creates the opportunities for home-based and distance learning and allows people to study at their own place.

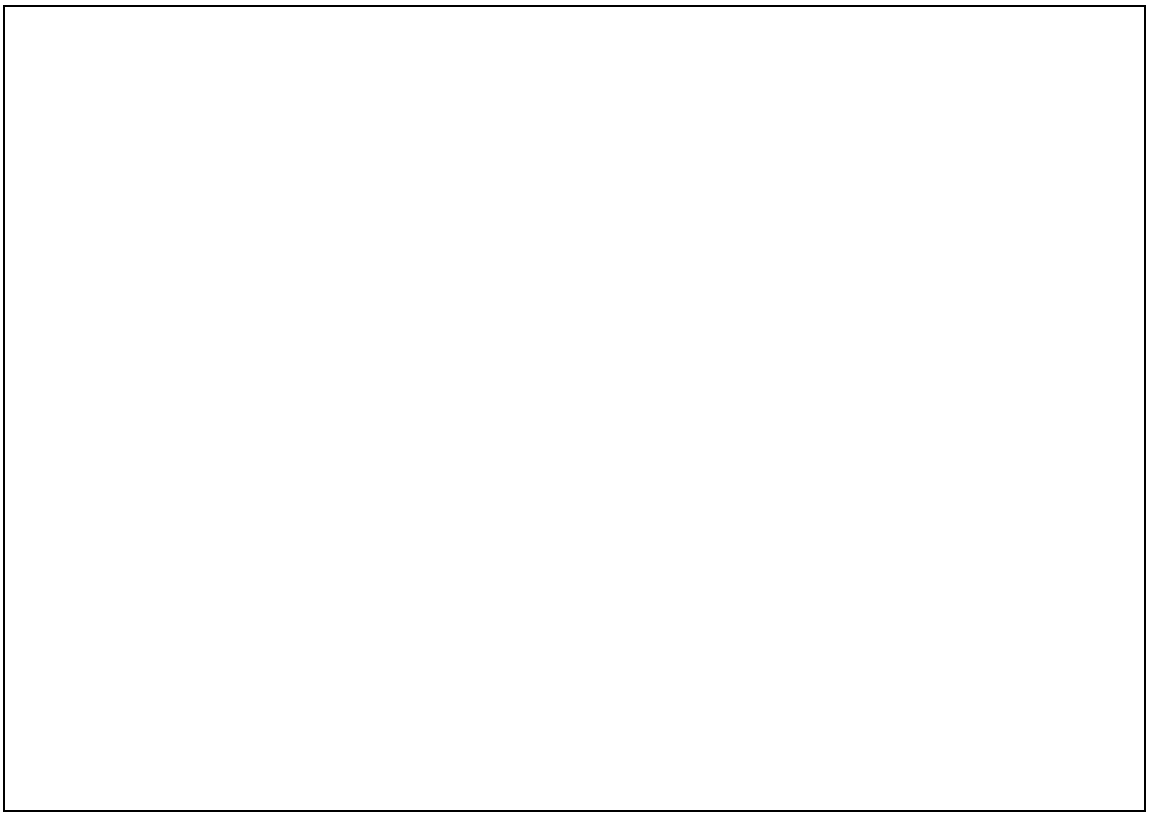
The new learning environment should be open to interaction with a constantly developing technological and business world. In theory, the technology allows us to replace the trainer, however in practice only the role of the trainer will change.

#### 2.1.2 New Learning Environments created by FDL

Flexible and distance learning methods allow for the implementation of different didactic models. These models range from the traditional, one-to-many teaching model through to learning environments where even a one-to-one learning model can be adopted. In the latter case, the tutor is replaced by a computer through the use of: computer based training, simulations, CD-i, hypertext or hypermedia tools. An extension of this model is the availability of the tutor at a distance through the use of audio and/or videoconferencing.

Interactivity both with the tutor and other learners is stimulated through the presence of new technologies.

**Figure 2: Didactics Models of learning environments**[1]



[1] Derived from 'On New Learning Environments and Educational Technology - Perspectives in Finland', by Juha Pohjonen (Oulu, FL) and Juha Nieminen (Jyvaskyla, FL), EurostudyCentres, 18. Jahrgang, Heft 1/1994, Österreichischer StudienVerlag.

## 2.2 Operation of a distance learning trans-regional network

### Platform Requirements

The demands of the users are often related to the organisation, the content, the advantages of networking and the practical aspects of using the network.

### The characteristics of a transnational training platform

To realise an integrated facility with communication, transaction, information and support, a mixture of telematic services should be offered.

The aim of such a network is to provide good, low-cost training for SMEs to enable them to anticipate the technological and economic changes facing their sector.

The following table summarises the main functions of the services of a transnational platform[2]

[2] For futher information, please refer to B. Collis and P. de Vries: 'The Emerging trans-European Network for Education and Training: Guidelines for Decision Makers', Task Force Human Resources, Education, Training and Youth, Commission of the European Community, Brussels 1993.

**The most important functions of telematic services for the organisation of training**

| SERVICE | FUNCTION |
|---|---|
| **INFORMATION SERVICE** | - interactive on-line data bases<br>- intermediate help service to tune the information offer to the target group and to prevent inconvenience by:<br>  - editing and categorising the information and providing sources<br>  - providing overviews of on-line information |
| **COMMUNICATION SERVICE** | - one to one mail exchange (electronic mail)<br>- one to many mail exchange (bulletin board)<br>- group discussions<br>- forum discussions (combination of on to one, one to many and group discussion)<br>- possibility to search for partners for activities<br>- possibility of organising tutor relationships between starting and experienced professionals |
| **SERVICES WHICH SUPPORT GROUPWORKING** | - support for starting and maintaining interest-groups<br>- support for virtual meetings and seminars by combined computer, audio and video conference<br>- support for the coordination of groups<br>- support for the social group dynamic by stimulating the less active members and spreading information<br>- support for the execution of collective tasks<br>- give support and take the initiative for meetings, workshops, courses etc. |
| **MENTORING** | - support for direct and indirect interaction between trainer and students and students mutually<br>- electronic school board to work out concepts<br>- provide just-in-time access to relevant course material<br>- facilitate contacts between training centers for mutual projects<br>- provide an overview of lessons and training tools and other relevant information |
| **TRANSACTION SERVICES** | - the possibility for trainers and students to see and order course material and to pay for it electronically<br>- electronic supply, adaptation, ordering and payment of target aimed information<br>- the use of file transfer for the development of course software and other digitised material |
| **AN INTEGRATED TELEMATIC SERVICE** | - integrated support for one-stop-shopping, communication and co-operative work, not only for student-users but also for groups involved in developing training and other support material |

Only certain services outlined above will be utilised during the TaRgET project.

## 3. DISTANCE LEARNING SUCCESS CRITERIA/FACTORS TO CONSIDER

In order to optimise the benefits to be derived during the TaRgET activities, prior to the operational phase of the distance learning platform, conditions for the successful implementation of the platform must be addressed.

The following success factors should be taken into account when considering the establishment of a Distance Learning Platform:

1. The needs of the trainee, the trainer and the training institution;

2. Technical requirements, especially in relation to the use of new technologies (particularly videoconferencing);

3. Continuous evaluation (both technical and educational)

### 3.1 Success Factors Relating To:

**The needs of the trainee**:

- give the trainee responsibility for his or her learning, place the emphasis on individual and autonomous learning;
- consideration of which location is most suitable: at home, at work or still in a training center or a combination?;
- creation of a motivating and effective learning environment to encourage the trainee to work independently. Stimulate interactivity through the choice of learning style include self-assessment
  exercises throughout;
- utilisation of technologies to provide communication forums (thereby reducing the risk of students feeling isolated). Encourage
  participants to communicate with tutors and peers, (either by email, discussion platforms or videoconferencing).

**The needs of the trainer:**

- change of role from tutor to mentor;
- receive training on the mentoring needs of distance learning students;
- receive training on how to manage a distance learning programme;
- need to offer students comprehensive student support service;
- need to establish clear learning objectives with students;
- need to establish effective communication channels with students

**The needs of the institution:**

- what organisational conditions must be met?;
- what technical facilities are needed to provide Distance learning and co-operate in a transregional learning platform?;
- what conditions are required to ensure effectiveness for the trainee and what kind of feed-back can be used?;
- what conditions are required to ensure effectiveness for the trainer and what kind of feed-back can be used?;
- how to change the role of the trainer?;
- how to develop material that motivates the trainee to work independently?

## 3.2 New Technology requirements

From a trainee perspective, problems associated with the use of new technologies may include issues relating to:

- accessibility;
- lack of awareness;
- perception (viewed as an add-on option);
- packages are not always user friendly;
- the danger of some technology (e.g.) video being too passive, when the learning process is too easy the learners can fail to grasp important concepts;
- breakdowns in communication which can cause disruption to the learning process.

**Ways to overcome these barriers**

- need to overcome obstacle of getting the trainees (and tutors) to use the technology in the first instance (i.e break down fear). Apply motivations to encourage students to use technology;
- once this hurdle has been overcome, provide effective training on how to use the various types of technology;
- need to increase awareness amongst companies of the benefits provided by new technologies/multi-media to ensure relevant resources are made available.

**Videoconferening - Important success factors**

- prior to the use of the videoconferening for training purposes, thorough training is required which should include the following:
  - how to prepare a videoconferencing session;
  - how to organise and chair a videoconferencing session;
    (etiquette, presentation skills, interactivity, production of learning materials);
  - how to handle basic technical/communication problems.

The following outcomes relating to the use of videoconferencing were highlighted during the European Open University Network project
co-ordinated by the European Association of Distance Teaching Universities (EADTU):

- "the need for train the trainer courses to support the development and delivery of telematic courses has found to be of importance ... .....ESC (EuroStudyCentre) network staff, in particular wished to attend short workshops directly relevant to the immediate course support activities";

- "small group point-to point tutorials seem to be the best current use of videoconferencing for teaching purposes"[3].

### 3.3 Evaluation success factors (both technical and educational)

As far as possible, the collection methods for evaluation information will be fed back into the functioning of the systems and operational procedures. This continuous evaluation procedure will ensure the identification of any educational or technical obstacles at an early stage.

**Continuous evaluation assessment will address the following areas:**

[3] EADTU, "Annual Report of Activities 1995", February 1996

- User- acceptance/satisfaction;
- User competence;
- Operational performance;
- Technical support;
- Other problems.

During the project all regional co-ordinators and SMEs will complete evaluation assessment on a monthly basis.

Additionally, a thorough evaluation exercise will be conducted (with input from each regional co-ordinator) at the end of the operational phase.

**Final evaluation assessment will address the following areas:**

**How effective are technologies/applications provided by Euro-ISDN in relation to:**
- effectiveness?;
- efficiency?;
- operational cost?;
- user-acceptance/satisfaction?

**Analysis of user experiences in the following groups:**
- trainees/learners;
- tutors/teachers;
- SME managers.

**Added Value**
Do technologies provided by Euro-ISDN provide added value to the delivery of training?

**European dimension:**
How did the European dimension benefit the training activities?

**Technical Evaluation:**
Issues such as: reliability; operability; inter-operability and
user-acceptance will be addressed.

**Identification of successful co-operation models**

Given that co-operation activities amongst the regional co-ordinators will form an integral part of the project activities, the identification of
co-operation models amongst the regional pilot trials will also be an important success factor.

Consequently, Chapter 6 provides suggestions for co-operation activities. These models will provide a sound base for the operational platform activities.

## 4. NEEDS ANALYSIS INVESTIGATIONS

### 4.1 Summary of deliverable 1: Needs analysis report

Deliverable 1, entitled `Needs Analysis Report,' was the first activity conducted during Phase 1 of the TaRgET project activities.
The principal **objectives of the Needs Analysis Report** were to:

- Define the training needs in each region;
- Identify the training and development needs to be addressed during the TaRgET project.
- Clarify the learning topics to be piloted via Euro-ISDN;

### 4.2 Regional training provisions offered to SMEs

Sectors and training target groups differ amongst the regional co-ordinators. Nevertheless most partners appear to work in the area of industry and consequently offer a lot of training courses in this area.

The main subject areas, currently offered to SMEs, both conventionally and by Distance Learning training programmes appear to be:

- Technical training: electronics, process control and maintenance, PLC, machine training etc.;
- Information Technology: applications, DTP, CAD etc.;
- Languages: business and technical;
- Management: MBA, leadership, etc.;
- Quality Management: ISO and TQM
- All kinds of training in how to manage the new technical developments in training environments: Distance Teaching Education, Internet training, Virtual classroom, Self-producing material for Distance Learning, etc.

The research indicated that the extent of Distance Learning delivery of training programmes differs widely amongst the regional co-ordinators.

### 4.2.1 Regional strategic sectors and target groups

Partners were presented with research findings of the Technology Centre Limburg, which had been conducted in the Limburg region of the Netherlands, and were then requested to complete the data for their region (or country).
The responses identified regional strategic sectors and the percentage of the partners who identified individual sector as a training target group of their organisation.

**Strategic sectors and target groups**

| STRATEGIC SECTORS | % of partners who identified sector as strategic | % Of partners who identified this sector as their training target group |
|---|---|---|
| Industry | 90 | 90 |
| Hotel and catering/tourism | 80 | 50 |
| Business services | 70 | 40 |
| Telecommunication & Telematics | 70 | 40 |
| Transport and Logistics | 60 | 10 |
| Health Care | 60 | 40 |
| Printing and Graphics Industry | 50 | 30 |
| Metal Industry | 50 | 20 |

### 4.2.2 Technological developments

Research has shown that the implementation of new technologies in combination with the need for skilled labour are particular barriers to SME growth. In order to be able to identify future training needs, co-ordinators were requested to provide an overview of the technological developments occurring in strategic sectors of their region.

In summary the responses indicated that :

- within most of sectors production automation, proces-control automation and automation is important;
- the implementation of new techniques and technologies is an ongoing process, so SMEs need to be attentive to these developments, certainly in relation to the open European market (become more competitive).

### 4.2.3 Future training needs

In combination with the technological developments, regional co-ordinators were asked to comment on future training needs in SMEs in their region. It is significant that technical and management skills figure so highly. If the (future) training needs are considered, they can be divided into 7 sections:

1. Skills in relation to New technologies and Information Technology;
2. Skills in relation to Management;
3. Skills in relation to Quality Management (=TQM);
4. Skills in relation to Total Productive Management (=TPM);
5. Languages in relation to export in the European and Global Market;
6. Social and communication skills.
7. Knowledge of the surrounding world (Policy, environment, laws, economy etc).

Not everybody in an SME will be confronted with the same level of challenges and needs. Nevertheless, to varying extents, the developments will have an impact on the following Target groups who need to be trained:

1. Management;
2. Workfloor Staff and production operators;
3. Line managers;
4. Marketing and sales staff.

During this phase, the regional priorities for the learning topics to be delivered during the operational trans-regional pilot platform were clarified.

Regional partners then contacted SMEs in their regions who were faced with these training challenges and selected one (or in one case two) to be involved in the pilot training activities.

## 4.3 Descriptions of regional TaRgET pilot projects

The table overleaf provides an easy reference point for the regional pilot activities to take place during the operational phase of the project.

**Regional pilot project activities**

| PARTNER | SME | NATURE OF TRAINING | APPLICATIONS REQUIRED SPECIAL REQUIRE-MENTS | GROUP SIZE |
|---|---|---|---|---|

| | | | | |
|---|---|---|---|---|
| **Swedish War College Bengt Kroon** | NNP, wich has 15 stores in Midnorrland | Basic management training to 15 NNP store supervisors. Business English to sales personnel in timber companies. | Videoconferencing email Links with room systems | 1 |
| **Hertford Regional College Peter Dutton** | Draughtsmenn/ designers Pharmaceutical company | Autocad v12 Basic maintenance | Videoconferencing Application sharing CD ROM | up to 8 |
| **Associazione Centro Elis Michele Crudele** | Libero Instituto Universitario Campus Bio-Medico | Kitchen and cleaning staff laws/techniques on fire prevention, safety, health and hygiene | Videoconferencing, two cameras required File transfer, hypertext | 5 - 10 |
| **RTC Tallaght, Dublin Pat Coman** | MDS telephone systems | Electrical and mechanical skills development | Paper & multimedia, videoconferencing to support, file transfer | 15 - 20 |
| **VIA, Belgium Luk Indesteege** | Borealis, plastics production plant, Beringen, Diepenbeek | TPM, theoretical background to learn the actual maintenance skills | Videoconferencing, multimedia, CD-i, file transfer | 20 |
| **NWIFHE Derry Robbie Hegarty** | Total engineering | Amplifier design and digital techniques | Software based, tutor to student communication by videoconferencing | 1 |
| **Camera Oviedo Barcelona Brendan Doyle** | Ingenieria y Suministros Asturias S. Antonio Lopez | Language audit and training | Distance learning using videoconferencing | up to 6 |
| **Technology Centre Limburg Belinda Tanner** | Davison Marley, polymer dashboards | To train operators become mechanical operators | Multimedia, TV, CD-i, email, videoconferencing, application sharing | 10 x 1 |
| **Greek Productivity Centre Dimitris Passouris** | To be determined | To be determined | Interactive multimedia over ISDN File transfer, application sharing | |

### 4.4 Conclusions and recommendations

As a result of these activities, current and future training needs of each region were defined and based on these needs, the learning topics and SMEs to be involved in the pilot platform were identified. This core set of subjects is suitable for delivery by distance learning and all subjects are appropriate for shared resources from which trainers and trainees alike will benefit.

From an early stage, partners obtained a clear understanding of the regional activities to take place during the project.

Preliminary information indicated that certain regional co-ordinators, and a high proportion of SMEs to be involved in the pilot training activities, have little experience to date of using advanced telecommunications applications. Consequently, training in the use of these technologies will be an important factor prior to the operational activities.

## 5. THE TECHNICAL EVALUATION

The Technical evaluation, Deliverable 2, investigated the viability of current telecommunications applications fulfilling the needs of the partners based on the findings of the needs analysis investigations.

The Technical model for a distance learning platform can be realised in several ways. Within the TaRgET pilot trials, Euro-ISDN in combination with PCs, videoconferencing, Internet and WWW will be utilised. As prices are still falling, the SMES are able to profit from the new IT-developments [4]. Many companies can already find equipment and expertise in IT locally.

The **objectives of the technical evaluation** were:

- To investigate currently available applications.
- To define a baseline and ideal configuration for the system and assess the existing situation.
- To define measures for the success of the network, including reliability, security, maintainability, performance and functionality.

### 5.1 Methodology used

**A survey of technology and applications used by partners and SMEs**
Questionnaires were distributed to TaRgET partners to establish the current technologies used and the applications required for their training courses. Partners also provided information on the IT competence and technologies used by their associated SME. An over-view of the current equipment, applications and experiences in the field of videoconferencing, file transfer and desktop conferencing was obtained.

**Determination of availability and pricing of Euro-ISDN**
In order to determine availability and pricing of Euro-ISDN services, network operators were contacted. Consequently, a list covering all TaRgET countries relating to the costs of installing ISDN, monthly costs, call costs and available services was complied.

**Identification of the functional requirements of partners in the ISDN-TaRgET project.**
All partners will use videoconferencing and they also need file transfer and email capability. Some partners have a need to deliver educational packages and all to transfer to and from project management. Application sharing has been identified as necessary by partners to be able to share applications with students in real time.

**A review of the videoconferencing market in Europe**

[4] Professor Mulder 'Automation Guide 29th of July 1994

Videoconferencing suppliers and distributors were contracted and asked to supply information on current products and availability throughout Europe. Products from six manufacturers were obtained and evaluated and a seventh investigated. At the project meeting on 30th of September the findings of the hands-on evaluation carried out by technical management will be presented to the partners and recommendations made. A decision concerning the most appropriate platform will be taken by consensus of the partners.

## 5.2 Summary- Technology Evaluation

Products from six manufacturers were obtained and evaluated and a seventh investigated: Intel ProShare 200, Nokia MediaStation 447k, BT VC800 with Olivetti software, PictureTel Live 100, PictureTel Live 200p, Tandberg Compact Vision, Teles Vision P2, VCON Armada Cruiser 100.

To be able to define measures for the success of the network the technical evaluation criteria were grouped into six sections:

**1. Functionality**
This section looked at the overall functionality of the system, including the availability of videoconferencing, whiteboarding, file transfer and application sharing.

**2. Ease of use**
The usability of the system is reflected by features such as point and click, context sensitive help, menu availability of documentation provided.

**3. Standards**
All units evaluated were H.320 compliant. The emerging standard T.120 was also considered preferable and new advanced standards were examined.

**4. Requirements**
Minimum and recommended specifications for the host PC were given.

**5. Peripherals**
This section identifies additional peripherals that may be required by the partners such as external cameras.

**6. Other technical specifications**
This section detailed the technical specifications of the systems evaluated.

## 5.3 The Technical Pilot Platform Success Criteria

During the project all partners and SMEs will evaluate the chosen and installed equipment. They will complete an evaluation form monthly which will be submitted to technical management for ongoing analysis.

**Criteria for this evaluation will include the following areas:**
- User reaction to chosen system;
- Operational performance;
- Documentation;
- User competence;
- Support;
- Other problems.

### 5.4 Conclusions and recommendations

Based on the findings of the technical evaluation the following conclusions can be drawn.

- All partners have a requirement for videoconferencing systems

- Euro ISDN is available in all partner countries and all video-conferencing manufacturers/distributors have agreed to support their products in these countries

- Some partners may have to reduce the size of their training groups

- All partners and SMEs should receive the same level of training in the use of PC technology and conferencing techniques

- All partners receive the same basic level of equipment

- The system to run the videoconferencing should be PC based with a minimum specification of:
  - Pentium P-120 processor, 16 Mbytes RAM;
  - 1 Gigabyte hard disk;
  - 2 Mbyte graphics card;
  - 15" monitor;
  - quad speed CD-ROM drive

- All partners require a conferencing system which is:
  - compliant with all currently ratified standards;
  - capable of multipoint conferencing as it may be beneficial to the TaRgET partners to take part in conferences later in the project;
  - easy to use, with software which incorporates all the features needed;
  - able to be easily expanded to accommodate individual needs, such as extra cameras or microphones.

## 6. CO-OPERATION MODELS IN THE TARGET PROJECT

**How will the platform function on an operational level?**

During the pilot trials, partners will shift from traditional classroom to Distance Learning methods.

Depending on their experiences to date and the training needs of the SME, partners will participate at different levels.

Firstly, a distinction should be made between the **regional** and **transregional** co-operation activities. Additionally, within each of these areas **basic** and **advanced** levels of activities can be defined.

On the **basic level** Euro-ISDN applications will be utilised for communication purposes.

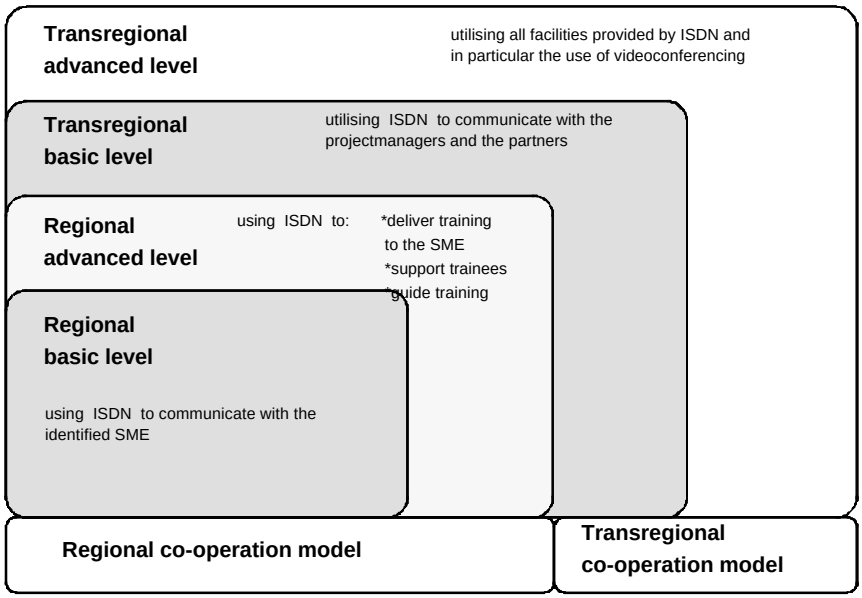
On the **advanced level** Euro-ISDN applications will be used to:
- support or guide training;
- deliver training to SMEs;
- develop training materials.

Each regional partner will realise the basic co-operation level, both on a regional and transregional basis.

The advanced level of co-operation in a transregional Distance Learning Platform is divided in 5 levels of co-operation (for detailed information look at page 28). Depending on the training needs, partners will participate.

The model below illustrates the role of the partners on both a regional and transregional co-operation level.

**Model: Regional and Transregional co-operation**




Through the linking of partners as described in the model, the following activities will occur:
**- exchange of trainers;**
**- exchange of trainees;**
**- exchange of experts;**
**- exchange of training concepts;**
**- exchange of training materials;**
**- development of future training concepts.**

Within the transregional basic level, Euro-ISDN will be used for communication and evaluation purposes amongst the project management and project partners as indicated below.

| Members of: | Meeting via videoconferencing |
|---|---|
| Project Management | every 4 weeks |
| Technical Working Group | every 6 weeks |
| Training Working Group | every 6 weeks |

Besides co-operation with the local SME and participating in the workinggroups, members of the training centre will also be linked with European colleagues during the pilot trials.

This transregional co-operation amongst partners will also operate on different levels. The table overleaf illustrates five levels of co-operation which will take place, to varying extents during the project.

**Advanced levels of co-operation in a transregional Distance Learning Platform**

| ADVANCED TRANSREGIONAL CO-OPERATION MODEL | | | | |
|---|---|---|---|---|
| **LEVEL 1** | **LEVEL 2** | **LEVEL 3** | **LEVEL 4** | **LEVEL 5** |
| Trainers exchange experience of using video-conferencing to support and guide students | Trainers and groups of trainees link via video-conferencing to discuss content of training and collaborative project activities and/or evaluate new technologies | Exchange of experts from different countries to provide lessons via video-conferencing.<br><br>**Jointly developing training concepts and material** | In addition to points in Levels 1-3, deliver parts of training transregionally, utlilising the wide pool of training resources available amongst the partnership.<br><br>**Transregional training via video-conferencing to train the trainers in using video-conferencing** | Transregional multi-point sessions simultaneously linking experts and students from different regions |
| ***Trans-Regional Distance learning platform using Euro-ISDN*** | | | | |

**As it is planned to train partners in the use of Euro-ISDN videoconferencing via a videoconference training session, all partners will participate at level 4.**

The facilities provided by the Euro-ISDN platform will be utilised in varying extents during the pilots to: exchange experiences; support and guide trainees; deliver a training course/part of a training course and to develop training concepts and training materials.

Those regional pilots which involve training in similar subject areas will co-operate transregionally using the distance learning platform.

In addition to the trainers exchanging experiences, the possibility to deliver parts of a training programme transregionally and linking trainees via videoconferencing will be investigated.

Transregional co-operation will also take place amongst those regional partners who have particular knowledge and experience in utilising Euro-ISDN as a means of delivering remote training. This co-operation group will focus upon the assessment and evaluation of ISDN based technology.

These transregional co-operation models will be discussed during the next project meeting to be held on 30 September 1996.

The detailed operational plans (which will outline the interactions between regions) will be further defined during WP 5 - Implementation and
Operational Planning.

However, provisional suggestions concerning transregional co-operation models, which are based on the Needs Analysis Investigations and the pilot project details are overleaf.

**Group 1: Co-Operation Area - Training Area; - LANGUAGE TRAINING**

**Partners involved:** - Swedish War College
- Camara Oviedo

| **Partners** | **New Technologies** | **Regional aims** | **Conceivable Transregional Aims** |
|---|---|---|---|
| **Swedish War College** | Videoconferencing to deliver training and provide support | Training Business English to sales personnel | - trainers exchanging experiences<br>- exchanging trainers<br>- linking the SMEs |
| **Camara Oviedo** | Videoconferencing to deliver training | Language training for business personnel who have both technical and commercial duties | - linking trainees<br>- developing training concepts<br>- developing parts of the training |

**Group 2: Co-operation Training Area - OPERATOR TRAINING**

**Partners involved:** - VIA
- RTC Tallaght
- TCL

| Partners | New Technologies | Regional Aims | Conceivable Transregional Aims |
|---|---|---|---|
| **VIA** | CD-ROMs<br>CD-Is<br>Videoconference<br>used in a supporting from trainer | to give production operators theoretical background in:<br>maintenance strategy; TPM; flanges; gaskets; seals; coolers etc.<br>Also, to reduce the gap between production and maintenance operators | - trainers exchanging experiences<br>- exchanging trainers<br>- linking the SMEs<br>- linking trainees<br>- developing training concepts<br>- developing parts of the training |
| **TCL** | Videoconferencing to provide real time problem solving and support, Application sharing and email<br>Multi-media with TV in combination CD-Is and CD-ROMs | to train operators to become mechanical operators | |
| **RTC TALLAGHT** | Videoconferencing to be used in a supporting role<br>Students will use ISDN to access multi-media training materials and simulations | to increase the technical involvement of operators and move them towards first level fault diagnosis and maintenance consistent with trends such as TPM | |

**Group 3: Suggested Co-operation Area**

**Assessment and Evaluation of ISDN based technology**

**Partners involved:**
- Associazione Centro Elis
- Hertfordshire Regional College
- NorthWest Institute of Further and Higher Education
- Greek Productivity Centre

| Partners | New Technologies | Regional Aims | Conceivable Transregional Aims |
|---|---|---|---|
| **Associazione Centro Elis** | Videoconference used in a supporting role from trainer<br>File transfer<br>Hyper text | Kitchen and cleaning staff training on the laws/techniques on fire prevention, safety, health and hygiene | - trainers exchanging experiences<br>- assess how to apply multimedia in education |
| **NorthWest Institute** | Software based, tutor to student communication by videoconferencing | To train new recruits to BTEC electronics module in amplifier design and digital techniques | - pan-European teleworking-assessment of advantages and disadvantages |
| **Greek Productivity Centre** | Interactive multi-media over ISDN<br>File transfer<br>Application sharing | To be determined | - evaluate the use of telematics as a communication tool for DL training |
| **Hertford Regional College** | Video conferencing to be used in a supporting role<br>Application sharing<br>CD ROM | To train draughtsman/designers in the area of AUTOCAD v12 and Basic maintenance | - developing training concepts |

## 7. ECONOMIC ASPECTS

### 7.1 Costs

The developments in the field of Euro-ISDN, the Internet, WWW-server and email possibilities have provided the opportunity for increased cost-effective training activities. These facilities will provide long-term benefits both for future training activities and the daily operational activities of training institutions and SMEs.

Euro-ISDN based projects like TaRgET are important as they raise awareness amongst training institutes and SMEs and stimulate future investment.

The effectiveness of the technologies and applications in relation to operational costs will be evaluated during the project.

In addition to costs related to traditional methods of training, the following cost factors need to be observed within the TaRgET project:

- **hardware and software:**
  in this project each region has a budget of 12.000 ECU to purchase hard and software equipment and to obtain an ISDN connection both in the training organisation and the selected SME.

- **`train the trainer and trainee' costs in relation to the use of videoconferencing:**
  this cost is not separately accounted for in the project costings, but one of the most important success criteria of the project.

- **communication costs:**
  ISDN provides a sound alternative to connect trainees with their training centre. If the use of videoconferencing is to take place (as has been identified), ISDN must be used. In this project, the communication costs are also included in the budget.

  The table overleaf provides an indication of the communication costs in ECUs of Euro ISDN per minute for each country involved in the TaRgET project:

**Comparative costs in ECUs of EuroISDN per minute at data standard rate.**

| | Destination Country | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Source Country** | **Belgium** | **Greece** | **Ireland** | **Italy** | **Netherlands** | **Spain** | **Sweden** | **UK (BT)** |
| **Belgium** | | 0.55 | 0.51 | 0.51 | 0.43 | 0.55 | 0.65 | 0.43 |
| **Greece** | 0.46 | | 0.46 | 0.38 | 0.46 | 0.46 | 0.46 | 0.46 |
| **Ireland** | 0.61 | 1.28 | | 0.90 | 0.61 | 0.90 | 0.90 | 0.51 |
| **Italy** | 0.60 | | 0.60 | | 0.60 | 0.60 | 0.60 | 0.60 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Netherlands** | **0.41** | **0.59** | **0.57** | **0.57** | | **0.57** | **0.39** | **0.41** |
| **Spain** | **0.51** | **0.51** | **0.51** | **0.51** | **0.51** | | **0.51** | **0.51** |
| **Sweden** | **0.48** | **0.78** | **0.48** | **0.27** | **0.48** | **0.57** | | **0.48** |
| **UK (BT)** | **0.78** | **0.78** | **0.67** | **0.78** | **0.78** | **0.78** | **0.78** | |

In addition to this information, the detailed project costings table overleaf illustrates that the TaRgEt project activities can be completed within the budget constraints.

## 7.2 Project costings

## 8. TIME-SCHEDULE

The project activities will take place as outlined in the time schedule provided overleaf.

To date, the project is running well on schedule. All excluding one partner, have identified an SME in their region to be involved in the pilot trials and have determined the nature of the training activity to take place.
The only country where this task is proving to be more difficult is Greece. SMEs in the surrounding region are keen to participate but the regional technical infrastructure and availability of Euro-ISDN services has delayed the process.

**Time schedule**

## 9. RESULTS FEASIBILITY STUDY

This study examines the feasibility to link training centres to a trans-regional training platform using Euro-ISDN to address all issues involved in the development and delivery flexible, accessible, cost-effective training programmes to SMEs across Europe.

The outcomes discussed in the previous chapters were based on the findings Workpackage 1-4 activities.

The main factors concerning the feasibility of the continuation of the TaRgET project activities are related to: technical; financial; organisational and operational issues.

In summary, the investigations to date have provided the following answers relating to the successful establishment of the transregional TaRgET project network.

| **Questions relating to the establishment of and successful operation of the target trans-regional network** | **Outcomes from wps 1-4 investigations** |
|---|---|
| Have regional training needs been successfully defined? | **Yes** |
| Do partners have existing materials which can be adapted to meet these regional needs? | **Yes, partly** |
| Are there SMEs within each region which require this training and are willing to co-operate in the pilot trials? | **Yes** |
| Are the necessary hardware/software and Euro-ISDN facilities available in all partner countries? | **Yes** |
| Given that all partners require videoconferencing for the pilots, can manufacturers/distributors support their products in TaRgET countries? | **Yes** |
| Will suitable training material in the use of videoconferening be available for regional trainers prior to the operational phase? | **Yes** |
| Is it financially possible to achieve the project activities within the project budget? | **Yes** |
| Can the project activities be organised into successful co-operation models? | **Yes** |
| Do the activities fit within the project time-schedule? | **Yes** |

## 10. CONCLUSIONS

Through the TaRgET project activities, the transnational partnership will be able to address all issues involved in the design, implementation and operation of a flexible, easily accessible, cost-effective means of delivering education and training. Additionally, partners will have access to the knowledge and experience of all the consortium members.

Through the linking of partners as described in the co-operation models chapter, the following transregional activities will occur:

**- exchange of trainers;**
**- exchange of trainees;**
**- exchange of experts;**
**- exchange of training concepts;**
**- exchange of training materials;**
**- development of future training concepts.**

Conditions for the success of the training platform have also been clearly defined in Chapter 2. These address the need for continuous evaluation procedures to ensure the identification of any educational or technical obstacles; the needs of trainees; trainers and the training institution.

The technical evaluation has indicated that all partners have a requirement for videoconferencing systems during the trails and that Euro-ISDN facilities are available in all partner countries. Additionally, the platform required, in addition to recommendations concerning which type of equipment to use were identified in the Technical evaluation.

A particular condition to ensure the success of this project, is the strong recommendation that participants (mentors, trainers and trainees) should be trained in the use of videoconferencing prior to the operational phase. The project management have provisionally identified suitable material for this purpose.

Given the above factors, and considering that the costs involved are within the budget allocation, it is recommended that the TaRgET project consortium continues to invest in the project and commences phase 2
activities.

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