

## First Public Annual Report

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European STEP Centres Network

## **Public Annual Report 1**

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to September 30<sup>th</sup>, 1998**

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**1 Project overview**

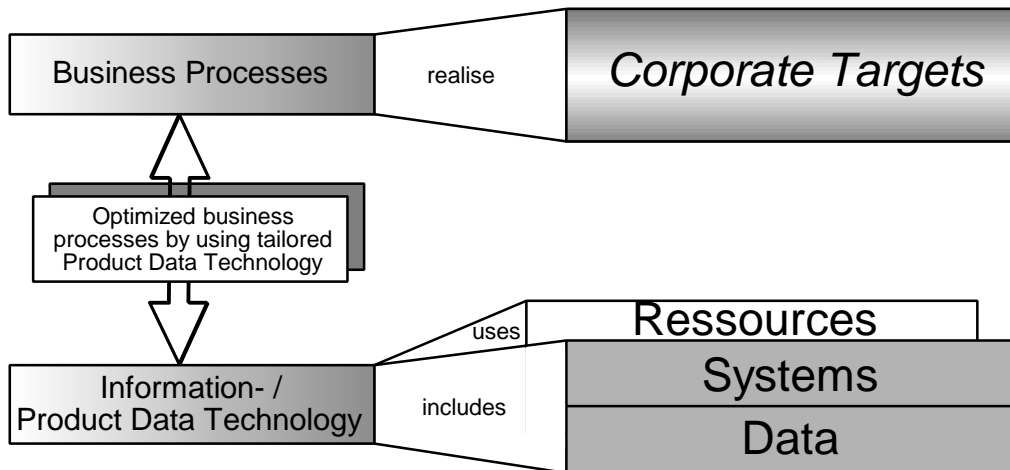
An essential factor for production in all design and manufacturing processes is information. The efficient use of this production factor can be measured by its availability. The technology which is used in order to make information available is the information technology. With respect to the technical processes used in design and production information technology is commonly referred to as product data technology (PDT). It's major goal is to assure the overall availability and reusability and processing capability of product information described by means of CAD/CAM systems, which, in particular, has a decisive effect on both the economy and flexibility, and therefore ultimately the competitiveness, of a company [Zimm-93].

Especially at times of restructuring and cost-cutting in almost all sectors of industry, the ability of CAD/CAM systems to communicate must be forcefully promoted as the basis of measures that increase efficiency, such as simultaneous engineering or the support of closer partnerships between manufacturers and suppliers with the aim of reducing the depth of production. Communication in this context refers not only to the exchange of information between the different CAD/CAM systems, but rather the ability to access, interpret and subsequently process the information across the boundaries of systems and companies throughout the entire computer-aided process in the development, design, fabrication, maintenance and disposal of products and production facilities.

Therefore the objective must be the

- independence of CAD/CAM systems by means of open selection of rival systems according to purely functional and economic criteria,
- the ability to access, interpret and subsequently process product data which is generated just once, throughout the product life cycle by means of data sharing on the basis of international product data standards,
- and not least, to reduce costs and delays incurred today during the exchange of data.

An essential prerequisite for achieving these goals is the availability of company-wide information models. The importance of company-wide information models becomes clear if the following simple business model of an enterprise is considered (Figure 1).

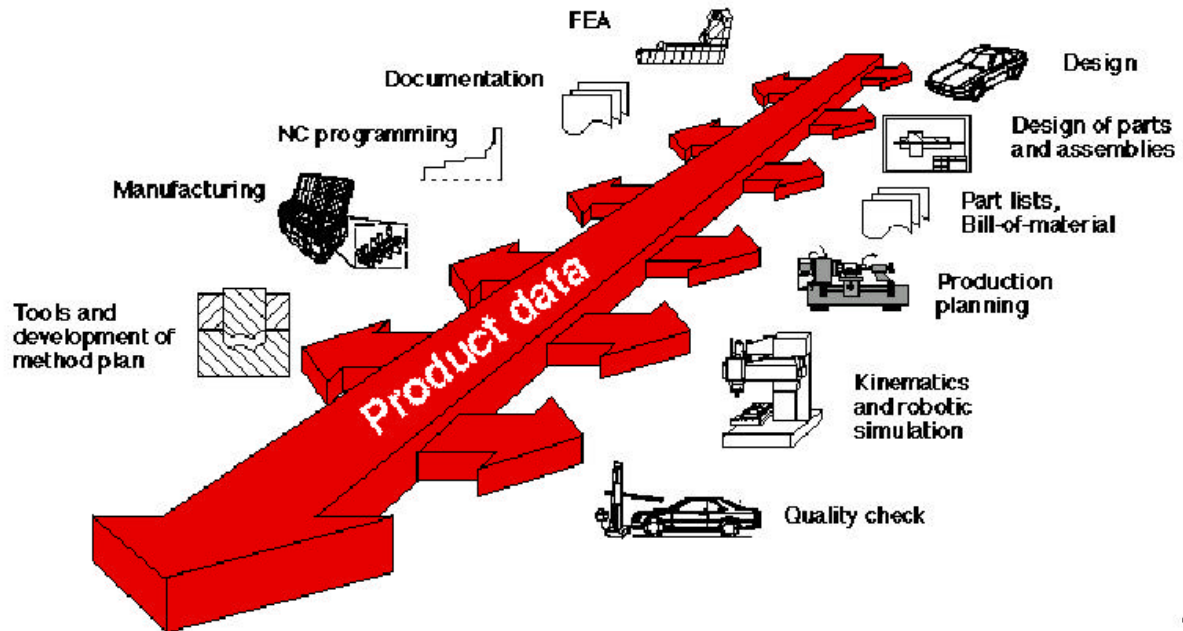


**Figure 1: Product data and business processes**

Existing interfaces fail in full filling the stated requirements. This fact has been recognised by the International Organisation for Standardisation ISO and has led to the development of the STEP interface. The objective of STEP is

'an unambiguous representation of computer interpretable product information through-out the life of a product' [ISO-93].

The following Figure 2 points out the representation of product information in STEP through out the product life cycle.



**Figure 2: Example of a process chain**

The STEP standards aims to represent all relevant product information with in the life cycle of the product on a neutral basis.

Simultaneously with the standardisation of the actual interface, a methodology was developed in order to eliminate the failings of existing standards, such as inadequate formal description and non-prescribed test criteria. [Holl-01]

The overall objective of ESCN (European STEP centres network) project, which is the subject of this report, is the promotion and dissemination of STEP and PDT know how.

## **2 Project objectives**

The strategic objective of the ESCN project is to establish and execute a STEP/PDT Training and Technology Transfer (TTT) program in order to disseminate STEP and PDT. This type of Training and Technology Transfer can be seen as a necessary building block to make STEP a sustainable competitive advantage for European Industry.

The aim of ESCN is:

- 1) to train teams of professionals from European projects and SMEs in the use and further development of STEP/PDT.
- 2) to execute dissemination and awareness activities in order to promote the implementation of

STEP/PDT in industrial context.

- 3) to increase the participation of the ESCN centres in the development and industrial deployment of STEP/PDT as consultants.

The scope of the training and technology transfer activities encompass:

- 1) product data technology in general and STEP in specific in order to assist European projects and SMEs in using Modellers, Express and STEP Application Protocols,
- 2) the collective areas of expertise and industrial coverage of the ESCN centres e.g. automotive, process industry, ship building, aerospace.

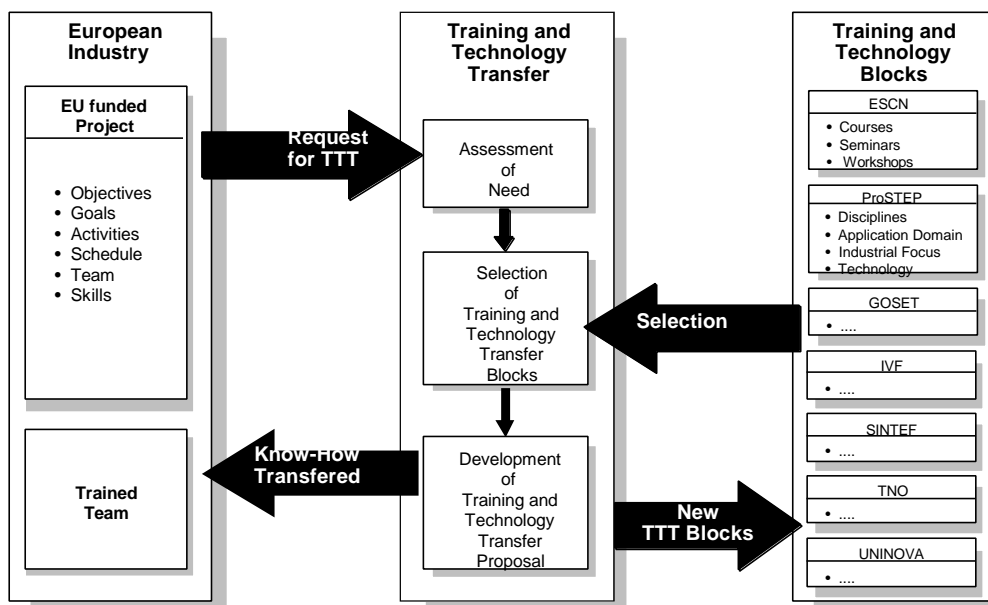
### 3 Methodologies

ESCN service are requested by projects or SMEs or comparable organisations. Additionally ESCN offers its services by searching for potentially interested projects. If interest in ESCN services is stated or such service is requested, the requirements and preconditions are collected and evaluated.

Based on this evaluation the appropriate ESCN partner for the necessary services is identified. This partner will develop if necessary the needed training material and prepare the TTT Event. The Event may also if needed be carried out by more than one partner.

The following Figure 3:explains the concept of ESCN TTT Events:

### ESCN Training and Technology Transfer Process



**Figure 3: The ESCN Training and Technology Transfer (TTT) Process**

A TTT events may also take place aside of conferences and other activities related to the addressed technical field. On the ESCN cluster events projects which takes place once a year projects can exchange their experiences related to ESCN services and STEP / PDT: Interested projects can present their scope and learn from the experience of other projects.

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#### **4 Project achievements**

As stated in chapter 2 the main activities of the ESCN project are as follows:

- to train teams of professionals from European projects and SMEs in the use and further development of STEP/PDT.
- to execute dissemination and awareness activities in order to promote the implementation of STEP/PDT in industrial context.
- to increase the participation of the ESCN centres in the development and industrial deployment of STEP/PDT as consultants.

The results from ESCN are the services provided by the project. The following statements can sum up the main experiences which the ESCN partners collected in carrying out TTT Events and dissemination and awareness activities.

- Many contacts to projects were established through earlier contacts of the ESCN partners
- New projects which were contacted usually had already started their work. The ESCN partners had to convince them that STEP could be an added value.
- Many projects which are related to STEP have already a partner which is a STEP expert. Therefore often there was no interest in STEP training.
- In some cases there were partners in projects who are STEP experts. Still there was no input about STEP in the projects.
- In contacting new projects a number of misunderstandings and lacks of knowledge about STEP were discovered. Such situations caused that based on this misunderstandings STEP was not used even if it could have been beneficial for the project scope. Examples of such misunderstandings are the following:
  - One of the partners stated that a data model could not be represented with STEP, without having the appropriate expertise or understanding of STEP
  - General lacks of knowledge about STEP and no interest to understand more
  - Some projects believed that using STEP would cause restrictions on the applied HW and SW.
  - Many people associated STEP only with an CAD interface.
- The ESCN partners have started also to contact SMEs in order to carry out TTT events for this industrial group. There was great interest for such events reported.
- In general the ESCN partners would like to contact projects as early as possible in order to provide technical advice related to PDT in an early stage of the projects.

In the first year the ESCN partners carried out more than 20 TTT Events. For the next report period a number of further events and the organisation of the second cluster event (PDT days 1999) is planned.

#### **5 Contacts established with other projects and potential synergies**

The work of ESCN is mainly based on contacts to other projects. ESCN is offering highly specialised expertise in the field of PDT and STEP. Instead of building such expertise in each single projects it is commonly available through ESCN services and therefore creates directly synergies.

In order to improve the performance of the ESCN work the PROSOMA project has been contacted. PROSOMA helps projects to present and to exploit their results. The ESCN projects can provide technical support for the exploitation of projects results related to PDT and STEP and offer services in the running project to help to develop industrial solutions.

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## **6 Results and activities related to standardisation**

The objective of ESCN is to support the understanding and application of the STEP standard. The projects main purpose is the application of standards in the PDT domain.

Possibly the project will also provide some inputs to standardisation activities, e.g. in the furniture sector. Details about such possible developments may be provided at a later stage.

## **7 Benefits to society**

### **7.1 Enhancing Europe's competitive edge in the global market place**

In ESCN for the first time STEP centres from different countries and branches are co-operating in order to provide technology transfer. The combined expertise of these centres creates synergies and harmonisation in the way STEP and PDT is promoted in the project and in general. The ESCN partners have the possibility to learn about each other. New technical areas are addressed for the application of STEP.

The increase of the use of standards strengthens the European position on global markets. It enables companies to exchange information in a multi-customer environment and helps them to develop from simple supplier to module developers. This especially in relevant for countries in the European communities who are interested to improve their industrial structures.

The co-operation of the European STEP centres may also lead to the harmonisation of the European position with respect to standard development and therefore increase the European influence.

### **7.2 Providing support for future growth in European industry**

See above.

### **7.3 Affecting levels of employment within the European Union**

STEP is addressing explicitly the future branch Information technology (IT). The implementation and use of STEP may create new, demanding and future-oriented employment possibilities within the EC.

### **7.4 Increasing the quality of life for people affected**

No direct influence.

### **7.5 Protecting and preserving of the natural environment and resources**

No direct influence.

## **8 Information dissemination activities**

All relevant information and contact of ESCN can be found on the ESCN homepage:

**[www.uninova.pt/~escn](http://www.uninova.pt/~escn)**

Reports from projects taking ESCN service or being interested to do so are available on the ESCN Cluster Events. The next Cluster Event will take place on April 14<sup>th</sup>, 1999 on the PDT Days 1999 (April 13<sup>th</sup> to April 16<sup>th</sup>, 1999) in Stavanger, Norway.

For direct contacts and as a first information about the project an ESCN flyer has been developed. This flyer was also published in CORDIS FOCUS and ICIMS news. The ESCN flyer is available as well as any other information about ESCN at the following contact:

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## **9      References**

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- [Holl-01]      Dr. Martin Holland: Product Data Technology and STEP, Comprehensive standards are prerequisites for the effective development of products and effective business processes.