

EQUIPMENT ACQUISITION FOR POLAND

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The TEMPUS projects in general, along with JEP 0449, aim at upgrading the teaching facilities in the Central and East European educational institutions. The actions undertaken to acquire the necessary equipment are presented in this paper. It includes an overview of the developed facilities and the equipment used. Experiences in equipment acquisition and pitfalls are expounded.

1. Introduction

The CEC provides some funding for the acquisition of equipment under the TEMPUS Joint European Projects. This is provided with restrictions that it may benefit solely the participants from the "eligible" countries (this is a term introduced by the TEMPUS Brussels Office to signify the Central and Eastern European countries, which are eligible to participate in the JEP activities). Further, the CEC funding can be used only to equip teaching laboratories (it cannot be used for research). The funding is provided on a year-by-year basis and it cannot be accumulated over the years. The contract sets the minimal allocation of funds for this purpose, typically at 20,000 ECU per institution per year.

Working Party has been set up within the structure of the TEMPUS JEP 0449 to administer the equipment acquisitions. Its tasks are twofold. Primarily, it has to elaborate the yearly plans of acquisitions that satisfy the requirements of the developed courses and fit them within the constraints of the allocated budget. It must also tackle the technical problems connected with the purchase of high-tech hardware and software for Polish institutions.

The CEC TEMPUS Office provides the bulk of funds for equipment purchase under JEP 0449 project. Some additional funds are obtained from the accumulated bank interest. The Polish institutions are also required to contribute towards these expenses. Thus, the presented purchases significantly exceed the CEC funding.

2. Itemisation of the Equipment Purchase

The two Polish institutions participating in the JEP 0449 benefit from the upgrading of teaching facilities. It is proposed to extend this to include the Technical University of Brno, subject to the approval by the CEC TEMPUS Office. The upgraded student laboratories are as follows:

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Table 1. Equipment acquisition in year 1990/91.

Equipment items	Number of	
	Wr	ZG
PC-386 micros	5	3
Transputer Boards (TMB04-E-1)	5	2
PLD Programmers	1	1
ANSI C compiler	5	2
Occam 2 compiler	1	1
CAD Software (OrCAD)	4	2
Xilinx XACT development system	1	-
VHDL compiler	5	5
PLD design tools (CUPL)	1	1

- at the Institute of Engineering Cybernetics, Technical University Wroclaw
 - Advanced Computer Architecture Laboratory
 - Logic Design Laboratory
 - Computer Vision and Graphics
- at the Institute of Informatics and Electronics, Higher College of Engineering Zielona Gora
 - Advanced Computer Architecture Laboratory
 - Logic Design Laboratory

A detailed breakdown of the acquired equipment is given in Tables 1-3. Presently, early in 1992, the second year purchases are being realised. Thus, the information given in Table 1 is final, whereas Tables 2 and 3 present the anticipated results. In case of Table 2 there might be some slight changes caused by extra funds becoming available (initially scheduled for other expenses). Table 3 is provisional, subject to the allocation

Table 2. Equipment acquisition in year 1991/1992.

Equipment items	Number of	
	Wr	ZG
Xilinx XACT development system	-	1
Enhancement for IBM RISC	-	1
SUN IPC workstation	1	-
Image processing kits	2	-
Video camera (PULNiX)	1	-
Video recorder (Sony)	1	-
Video monitors (CUB)	2	-

Table 3. Equipment acquisition proposed for year 1992/93.

Equipment items	Number of		
	Wr	ZG	Br
Image processing kits	2		
CAM-corder (Sony CCDF)	1		
Logic tester/analyser	1	1	1
SUN Sparc IPC server	1	1	
X-Window terminals	2		4
Transputer T800 board			3
INMOS ANSI C and Occam compilers			1
Cadence Verilog HDL			1
Xilinx XACT development system			1
OrCAD software			1

of grant by the CEC.

The rationale behind the choice of equipment is found in the other presentations of this session. The decisions in this matter are based on the recommendations of the Working Parties developing specific courses. These are balanced against the project funding and the final purchase plan is approved by the Management Committee.

The available funds are insufficient to equip a number of separate laboratories at each of the partner institutions. This led to the decision to share equipment between the laboratories. This reduces the potential throughput as the facilities cannot be used simultaneously. On the other hand, the funds are used more effectively. This sharing of equipment between the facilities is illustrated by the diagram in Figure 1.

3. Equipment Acquisition Schemes

For a number of reasons equipment acquisition under the TEMPUS JEP 0449 project is rather complex. The University of Bristol administers all the funds allotted to the project and is financially responsible before the TEMPUS Office. Thus, all the bookkeeping is done there; all acquisition orders and payments must originate from there.

Trade limitations also complicate the matters. The project deals with high-tech equipment, which is liable to export restrictions. These are gradually reduced, but still apply to a number of products (e.g. the transputers). It is the responsibility of suppliers to obtain the necessary permits, but it tends to be time-consuming and discourages some of them. In some cases COCOM requires an end-user statement and an import licence. These have to be supplied by the Polish educational institutions and the Polish Ministry of Foreign Relations respectively. In case of software restrictions may also originate

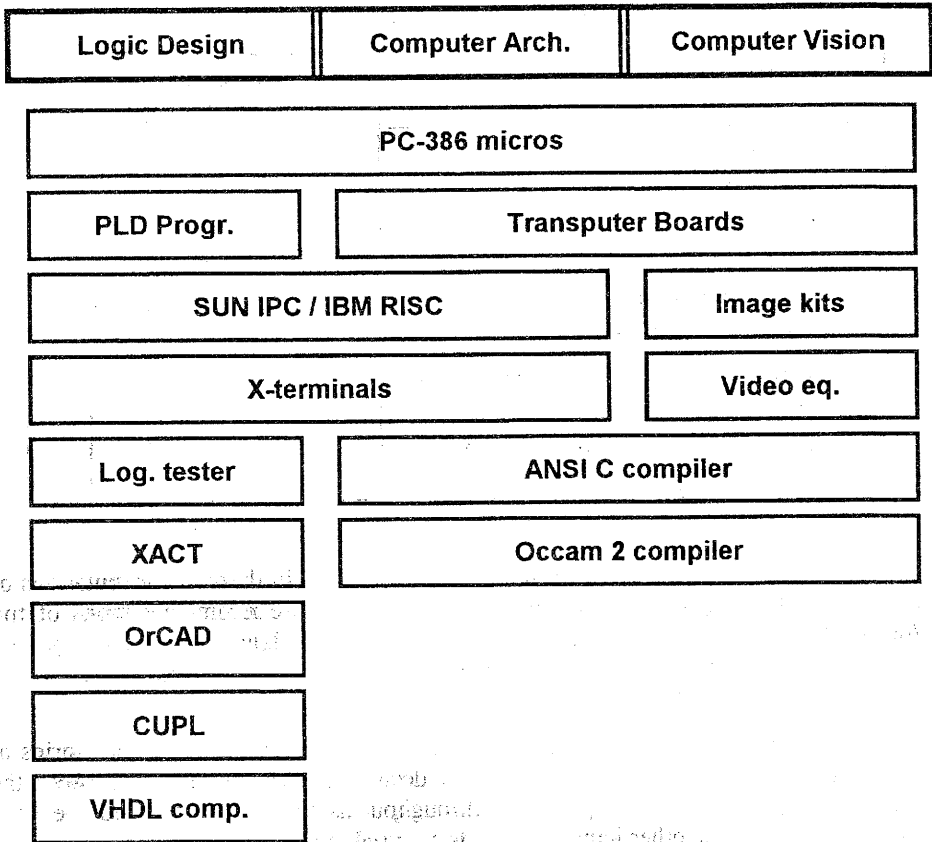


Fig. 1. Distribution of equipment between laboratory facilities.

from the producer (e.g. we were unable to buy Viewlogic design systems due to such a ban).

We have tried a number of different routines for acquiring the equipment. The experience with different categories of transactions is related here:

Acquisition in UK (or other EEC country) with delivery to Poland. This is probably the simplest procedure considering negotiating and placing the order and the payment. Pre-payment is not required. Exemption from VAT is assured if the goods are delivered directly to Poland. Usually it is customary to get educational discounts. Negotiating the export licence tends to be a problem. In some cases the regionalisation of dealerships prevents UK companies from selling to Poland (e.g. Xilinx products). Extra charges should be expected for packing and delivery.

Acquisition in Poland by a direct order from Bristol. This is also a fairly straightforward procedure, though it usually involves the Polish beneficiary institution in the negotiations. Licensing is handled in this case fully by the Polish supplier. There

are numerous problems with payment. Customarily, the Polish suppliers require prepayment. Transfer of money is time consuming and incurs additional charges. Some forms of payment, most notable by cheque, are not acceptable.

Acquisition in Poland by Polish institutions. This was considered as a method of simplifying the procedure described previously. The Polish institutions can buy the equipment from local suppliers and then bill the JEP project. Unfortunately it requires the Polish institution to use its own funds for the time needed to refund the expenses. This was found prohibitively expensive due to the high interest rates charged by the Polish banks.

Acquisition from an international supplier with a Polish branch. This is actually a special case of the first variant of transaction. Having a Polish branch, it eliminates some of the disadvantages of that procedure (licensing, delivery). This is still a very limited option.

4. Conclusions

Equipment acquisition for Polish destinations is not a routine task. It requires careful administration. This needs to be considered when setting up a project involving East-West Europe collaboration of whatever character.

None of the various methods of acquiring equipment is particularly suitable, all have serious disadvantages. These can be viewed in two categories: the time involved and the extra expenses. The time overheads result from complicated communications, inefficient banking systems in Poland and from bureaucracy (when applying for an export/import licence). The extra expenses to consider are: package and delivery charges, VAT, charges for money transfer, interest lost due to prepayments.

Another fine point is the reliability of suppliers, especially those from Poland. We have not experienced serious problems with delivery of purchased goods. The stability of maintenance, both during warranty period and past it, causes some anxiety.