



# TECNOMATIX

TECNOMATIX GmbH · Gallische Straße 2-4 · 63128 Dietzenbach

7145/3

PIAP Industrial Research Institute for Automation  
and Measurements, Poland  
attn. Mr. Z. Pilat  
Al. Jerozolimskie 202

PL-02-222 Warszawa  
POLEN

Ihr Zeichen

Ihre Nachricht vom

Unser Zeichen

Tag

RH/KA

08. Sept. 1994

**ROBCAD**

**Your Fax dated 01.09.1994**

Dear Mr. Pilat,

we were very glad to receive your Fax and would like to answer all the mentioned positions as follows:

1. It is possible to implement your own inverse kinematic solution.  
We have attached a few papers to describe the method.
2. We will give your institute 50 % discount on our prices. We have attached a possible configuration for ROBCAD and a description of the Software package
3. Delivery is possible within 10 days after receiving your import license and our export license as well as clarification of the payment to our bank in Germany.
4. ROBCAD is running on the following Hardware: HP, SUN, IBM, SGI Workstations. Please see the attached Hardware-Configuration Sheet. The lowest configuration we run on is the Indy with 8 bit Graphics and the Hp 715 with CRX 24 and Powershade Software.  
Min. 32 MB RAM and min. 500 MB Disk Space for ROBCAD.  
Minium Resolution: 1280 x 1024.

TECNOMATIX Automatisierungssysteme GmbH

Gallische Straße 2-4  
63128 Dietzenbach

Tel. : 0 60 74 / 2 70 75  
Fax: 0 60 74 / 4 39 79

Geschäftsführer  
Ralf Heimberg  
Harel Beit-On

Handelsregister  
Nr. 5 HRB 6771  
UST. ID-Nr. DE 113589390

Deutsche Bank Offenbach  
Kto.Nr. 1342716  
BLZ 505 700 18

1



# TECNOMATIX

---

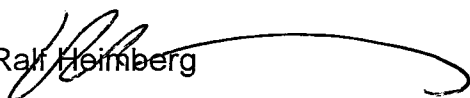
We will send you by separate mail all mentioned information incl. a video tape and some pictures.

We would like very much to continue in this direction.

Please send us a fax if any any questions remain open.

Best regards

**TECNOMATIX**  
**Automatisierungssysteme GmbH**

  
Ralf Heimberg



**TECNOMATIX**

---

**Q U O T A T I O N**

**T O**

**P I A P**

**INDUSTRIAL RESEARCH INSTITUTE**

**FOR AUTOMATION AND MEASUREMENTS**

**WARSZAWA / POLAND**

**F O R   A**

**R O B C A D   S O F T W A R E   S Y S T E M**

Quotation-No. A-2371 080994  
Sales Manager: Ralf Heimberg  
Tel. Germany/ 6074 / 27075

Dietzenbach, September 8, 1994



**TECNOMATIX**

---

## **C O N T E N T S**

- 1. Base of the Quotation**
- 2. ROBCAD Description**
- 3. Training / Technical support**
- 4. Maintenance**
- 5. Price Summary**
- 6. Terms and Conditions**



# TECNOMATIX

---

## 1. BASE OF THE QUOTATION

Base of our quotation is the your Fax dated Sept. 1, 1994.

## 2. ROBCAD DESCRIPTION

- 2.1 The ROBCAD Software is supplied in connection with the following hardware.

IBM RISC-6000 System  
SUN 4 Sparcstation  
HP9000/700 series  
Silicon Graphics

- 2.2 As there is already a Silicon Graphics machine on your site, please find following the necessary minimum configuration of this machine for using ROBCAD.

32 MB CPU memory  
500 MB Disk Space available  
150 MB ¼" Cartridge Tape Drive / CD-ROM  
24 Bit Z-Buffer  
Keyboard and Mouse  
1280 x 1024, 60 Hz non-interlaced color monitor  
UNIX operating system 4.xx



## 2.3 ROBCAD SOFTWARE

ROBCAD Basic consisting of:

### **Basic Software**

for design of robotic cells, complete layouts. Models can be designed in the system based on existing components from ROBCAD database or completely new. Components can be placed and different layouts can be checked.

### **Data Management**

The user has the possibility to copy and manipulate existing geometrical data in the database.

### **Software for Simulation**

The task of a working cell can be simulated to check each single step exactly.

### **Software for Mechanical Design**

for the design and definition of components to be used in a robotics workcell. This module also includes the possibility to modify imported components.

### **Software for Task Description**

for the description of tasks in a working cell with a high-level, structured programming language. This module allows to describe the complete working cycle including all active components.

### **Kinematic Module**

for the design of kinematic mechanisms with up to 30 axis. For robots, an algorithm is implemented for the automatical calculation of inverse solution.

### **ROBFACE**

A neutral interface to allow the user the development of an interface to a specific CAD-system, in case no standard interface is used.

### **ROBCAD Surface Handling Module**

including all functions in all ROBCAD modules for creation, handling, manipulating and working with surfaces.

### **ROBCAD Layout Robot Library**

including about 100 industrial robots



# TECNOMATIX

---

**ROBCAD Path Creation**

including all functions in all ROBCAD modules for creation, handling, manipulating and working with pathes.

**ROBCAD Extended Graphics**

This includes:

Z-Buffer shading, Gourond shading, lightning, shadows, floor, perspective representation, ROBCAD geometrical data interface IGES

**Price:****DM 50.000,--**

(incl. your discount of 50 %)

**ROBCAD OLP-package (Option)**

including 1 offline-programmable robot, for example series KUKA or Fanuc and the compiler/interpreter for these robots as well as a calibration module.

**Price:****DM 20.000,--**

(incl. your discount of 50 %)

**ROBCAD Application package ARCWELD (Option)**

Please see attached brochure

**Price:****DM 20.000,--**

(incl. your discount of 50 %)

**ROBCAD/ROSE ROBCAD Open System Environement (Option)**

Please see attached brochure

**Price:****DM 20.000,--**

(incl. your discount of 50 %)



# TECNOMATIX

---

### 3. TRAINING AND TECHNICAL SUPPORT (Option)

#### 3.1 Basic Training

The ROBCAD-system offers an intelligent user interface. For that reason, a 5 days training is sufficient to be able to learn how to operate and work efficiently with ROBCAD.

The training session can be performed in our office in Dietzenbach or also at the customer site. If the training takes place in Dietzenbach, we will make one workstation available for the training session free of charge.

The number of participants should be limited to 2 persons for one workstation.

**Price per participant:**  
for a training in Dietzenbach

**DM 3.000,--**

In this price, no travel and accomodation costs are included.

#### Advanced Training

On request we offer a ROBCAD advanced training, dedicated to the customers needs. Duration and conditions are to be agreed upon.

#### 3.2 Installation and Technical Support

Our ROBCAD application engineers are available to the customer for a price of DM 2.200,-- per day.

Travel and Hotel costs etc. will be charged separately.





# TECNOMATIX

---

## 4. ROBCAD SOFTWARE MAINTENANCE

This includes:

- Telephone hotline to Tecnomatix in Dietzenbach
- ROBCAD Software-Updates. We are planning two new software releases per year.

Price: 13% of the quoted list price per year.

Details need to be defined in a maintenance contract.



# TECNOMATIX

---

## 5. PRICE SUMMARY

### Software

ROBCAD Base

DM 50.000,--

### Software Options:

ROBCAD/Arcweld Package

DM 20.000,--

ROBCAD OLP package for KUKA or Fanuc robots

DM 20.000,--

### Training

Price per week and participant:

DM 3.000,--

### Technical support

Price per day:

DM 2.200,--

### Maintenance

Price: 13 % of quoted list price per year

In the above stated prices, a special discount of 50 % for PIAP is included.

We are very willing to negotiate a special package price, if you decide to purchase several of the above mentioned positions.



# TECNOMATIX

---

## 6. TERMS AND CONDITIONS

- 6.1 The introduction prices for PIAP is valid until 31.12.1994.
- 6.2 Delivery-time: Within short after written order and confirmation, as well as advance payment on the ROBCAD Software and a valid import /export license.
- 6.3 Warranty: 6 months starting with the day of delivery
- 6.4 Payment: 100 % before delivery
- 6.5 Conditions: According to German law and according to the license contract with the customer for the use of the ROBCAD-Software.
- 6.6 Terms: Price validity: until 31.12.94  
Delivery: FOB Dietzenbach  
Prices do not include taxes, customs duty etc.