

# EURO Bulletin

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Report from Past-President Paolo TOTH

## REPORT FROM THE PAST-PRESIDENT

During my two years in office as EURO President many successful events took place, and several new initiatives were proposed by the members of the Executive Committee. As for the former, I wish to mention the EURO-k Conferences, the EURO Summer/Winter Institutes, and the annual meetings of the EURO Working Groups. New activities concerned the European Initiatives, the Best Applied Paper Prize, stronger collaboration with other bodies, and the development of the EURO pages on the WWW. Few comments on the above activities follow.

### EURO - K Conferences

EURO XIV Conference took place in Jerusalem from July 3 to July 6, 1995. Zilla Sinuany-Stern acted as Chair of the Organizing Committee, and Roman Slowinski as Chair of the Program Committee. The Conference, celebrating

the XX Anniversary of EURO, was really a success. The Final Program contained 2 Plenary Sessions, 20 Semi-Plenary Sessions and almost 190 Parallel Sessions, with over 620 presentations, while the number of participants was about 650. The next EURO XV Conference will be held, jointly with INFORMS, in Barcelona, from July 13 to July 17, 1997. Jaime Barcelo is the Chair of the Organizing Committee, while the two Co-Chairs of the Program Committee are Luis Valadares Tavares (for EURO) and Burton Dean (for INFORMS). I am confident that this EURO-INFORMS Conference will be successful as all the previous ones. EURO XVI will be held in Brussels from July 12 to July 15, 1998. Jacques Teghem and Benedetto Matarazzo will act as Chairmen of the Organizing and of the Program Committee, respectively. As for the EURO 2000 Conference, which will take place in 2000, the recent postal ballot among the European O.R. National Societies indicated Hungary as the country hosting such event.

The possibility to offer more support to the organizers of the EURO-k Conferences will be discussed in the next Council Meeting. Starting from the EURO XV-INFORMS XXXIV Conference of Barcelona, EURO will have a stand at each EURO-k Conference. This stand should allow participants to meet EURO officers, to experience our WWW page and to find several documents on the EURO organization.

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### Report from Past-President Paolo TOTH

#### European Summer/Winter Institutes

Four very successful EURO Summer/Winter Institutes (ESWI's) were held in 1995 and 1996: "OR Models of Maintenance", April 18-29, 1995, Greater Manchester, U.K., organized by A.H. Christer; "Locational Analysis", June 17-30, 1995, Puerto de La Cruz, Tenerife, Spain, organized by J. Barcelo' and J. Moreno; "Stochastic Optimization", Semmering, Austria, January 7-18, 1996, organized by G. Pflugg; "Environmental Planning", Piraeus, Greece, June 7-20, 1996, organized by C. Pappis. The next ESWI (on "Production Scheduling") will take place in Aosta Valley, Italy, from September 12 to September 26, 1997, and will be organized by R. Tadei.

#### EURO Gold Medals

At the Opening Session of EURO XIV in Jerusalem, Graham Rand, chairman of the Jury, laureated Dominique de Werra as winner of the 1995 EURO Gold Medal. It was really a pleasure for me to deliver such a prestigious prize to an exceptional researcher and friend as Dominique. Silvano Martello will act as Chairman of the Gold Medal Jury for 1997 (members of the Jury are C. Pappis, R. Slowinski, L. Van Wassenhove and K. Schittkovski). Luk Van Wassenhove will act as Chairman of the Gold Medal Jury for 1998 (members of the Jury are S. Axater, L. Wolsey, G. Mitchell, C. Schneeweiss, D. Bouyssou and S. Martello).

#### Publications

EJOR further increased its success. This is mainly due to the excellent job performed by its Editors Alan Mercer, Bernhard Tilanus and Hans Jurgen Zimmermann. All the members of the European OR societies are warmly invited to submit papers to EJOR. Costas Pappis (former Vice-President of EURO) edited

an handbook on OR/MS educational courses leading to M.Sc., M.B.A. and Ph.D. degrees in Europe. The handbook is available, both in paper and electronic format, to national OR Societies, university libraries and research institutions, manager associations, educational and other cultural organizations. The handbook has been granted both by the European Union and EURO. EURO will establish a procedure to regularly update the data base built by Costas. Philippe Van Asbroeck is continuing to take care of the publication of the EURO Bulletin, the EURO Directory, and the EURO Brochure. I wish to remind you that all these publications are available on Internet. Denis Bouyssou and Philippe Van Asbroeck have developed the EURO pages on the WWW. The updating of these pages should be made in cooperation with the EURO member societies, the EURO Working Groups and IFORS.

#### European Initiatives

The EURO Council (during its Meeting held in 1995) discussed the possibility for EURO to act as a clearing house for the European Union initiatives. In particular, it was decided to set up a EURO network for advance warning of new calls for tenders coming from the European Commission. For a period of two years, starting from the Fall 1995, Dr. Anita Tenenbaum of the Free University of Brussels is involved in the contacts with the European Union.

#### EURO-k Prize for the Best Applied Paper

A new EURO initiative started at EURO XIV, i.e. the Prize for the Best Applied Paper presented at the Conference. Luk Van Wassenhove acted as chairman of the Prize Jury for EURO-XIV (Jerusalem, July 1995). The winners of the first competition were N. Levin, J. Zahavi and M. Olitsky.

**Report continued**

The chairmen of the EURO-k Best Applied Paper Jury for EURO XV (Barcelona, July 1997) and EURO-XVI (Brussels, July 1998) are Marc Salomon and Maurice Shutler, respectively.

**Collaboration with Other Bodies**

The collaboration between EURO and IFORS (the International Federation of the Operational Research Societies) continues to be fruitful. This is mainly due to the efforts of Rainer Burkard (EURO Vice-President of IFORS) and of Peter Bell (IFORS President). Peter Bell proposed to set up an international magazine (called "OR/MS World") with a glossy international plus a part for each regional grouping. A first attempt has been performed in the June 1996 issue of the journal OR/MS Today. Comments on this experiment have been asked to the EURO National Societies. The final decision on the matter will be taken in the next Council Meeting of Barcelona. A collaboration with the Mathematical Programming Society (MPS) in the preparation of EURO-k and MPS conferences will start this year. In particular, invited sessions organized by MPS will be present at the EURO XV-INFORMS XXXIV Conference of Barcelona, and analogous sessions organized by the coordinators of the EURO Working Groups will be present at the XVI International Symposium on Mathematical Programming to be held in Lausanne from August 24 to August 29, 1997. A joint EURO-ALIO (the Latin Iberian American Association of Operations Research) Workshop on "Practical Combinatorial Optimization" has been held in Valparaiso (Chile) from November 11 to November 15, 1996.

**Elections**

I am really happy to report the election of Raymond Bisdorff as EURO Vice President 2, and the re-elections of Marino

Widmer and Denis Bouyssou as Treasurer and Secretary, respectively. They will serve in their office for the years 1997 and 1998. Raymond Bisdorff will succeed Tuula Kinnunen who served as Vice President 2 from 1993 to 1996. I congratulate Raymond, Marino and Denis for the appointment. I would like to warmly thank Tuula, she really did a great job for EURO during her office, and I hope she will continue to be close to us in the near future.

**Council Meetings**

The last EURO Council Meeting took place on July 7, 1996, during the IFORS Conference held in Vancouver. Many important matters were discussed in a really friendly atmosphere, as usually occurs in the EURO meetings. I would like to thank all the participants for their fruitful collaboration.

The next EURO Council Meeting will take place in Barcelona, on Sunday, July 13, from 14:00 to 16:00. I hope to meet many of you there.

Paolo Toth

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By E. A. FIELD

# BRAINSTORMING TO SUCCESS

One of the books I received for Christmas was entitled "The Witch Doctors", published by Heinemann. It provided the first critical assessment of the management gurus that I have read. The subject of brainstorming is mentioned twice in the book, first in a list of management theories and later when describing the art of Japanese management. Apparently some Japanese companies make frequent use of "brainstorming camps" - informal meetings held away from the work place - at which the participants indulge themselves, bathing drinking and eating, while brainstorming their projects. Apart from the bathing, it doesn't seem too different from a typical EURO meeting!

It was while attending a NATO research conference on Search Theory in 1979, that I first realised that although many people paid lip service to brainstorming, not everyone used it effectively. At that time I was working for a major international oil company which took the subject of management very seriously. It would evaluate each new management technique and, if it looked promising, propagate it among its management and employees. At some time most of the management techniques described in "the Witch Doctors" were tried out by my company.

## The brainstorming session

The basic steps in brainstorming are as follows :

### **1. Generating the initial ideas.**

This first step is concerned with extracting from a group of participants their ideas concerning the subject of interest. Although the session is unstructured, it can be made more productive if a member of the group acts as a co-ordinator and records each idea on a wall chart or board, *without any comment or analysis*. It is also useful for the co-ordinator to encourage all participants to contribute their ideas. The ideas are numbered consecutively as they are proposed.

### **2. Consolidating the ideas**

In step 2 similar ideas are grouped together. Starting with the first idea on the list, number 1, each of the other ideas in the list is checked against it to see whether or not they are similar. Those that are similar are re-numbered 1; all the others remain unchanged. This process of re-numbering is repeated with the next idea that retains its original number.

The process stops when no further unchecked numbers remain. At this



## Brainstorming

stage it is useful to copy all the ideas on to a new chart showing similar ideas grouped together.

### **3. Renaming the groups of ideas.**

The object of the third step is to identify for each group of similar ideas a common theme title. This may be provided by one of the original ideas or some simple derivative of it.

### **4. Expanding the number of ideas.**

In the fourth step the group takes each theme title in turn, examines the list of ideas included under it and seeks more ideas of a similar kind. The theme title and the current list of ideas act as positive prompts to the production of new ideas.

The co-ordinator continues to ensure that each member of the group makes a contribution.

### **5. Evaluating the ideas**

The fifth, and final step, is for the group to evaluate all the ideas obtained and agree further individual or collective action with respect to the subject of interest.

## **Speeding up the analysis**

Although brainstorming is best practised by a group, it can still prove useful to an individual. At this level the wall chart can be replaced by one of the many PC- Outline programmes. These enable you to quickly re-arrange the list of ideas, form headings,

split or join items and let the programme automatically re-number items to several levels of indentation. I find these support programmes invaluable and use them regularly.

I am less familiar with some of the new computer facilities, but there are now simple ways of projecting from a computer file to a wall chart. This would extend the value of PC-Outline programmes for supporting group brainstorming sessions. Also, once you are satisfied with the analytical result, it can be transferred for your PC-Outline programme, via an ASCII file, to your usual word processing programme for onward processing.

*Happy brainstorming for 1997.*

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By Anita Tenenbaum

## European Initiatives for R&D funding

### The ITC European R&D Programmes - Last Calls for Tender

#### ACTS - Advanced Communication technologies

*Last call foreseen for 17 June 1997 - Deadline : 1 October 1997*

Contact : ACTS Central Office :  
+32 2 295 06 54

The themes cover a.o. :  
high-speed networks,  
personal communications technologies and networks,  
intelligence in networks and service engineering,  
quality, security and reliability of communication services and systems.

#### Information Technologies - ESPRIT IV Programme

*Deadline for last calls foreseen for 15 October 1997 (themes 2, 3, 4.2, 6) and 15 December 1997 (themes 1, 3, 4.3, 5, 8)*

Contact : Mrs G. COLLING :  
Tel : +32 2 296 83 88

The themes are :

1. Software technologies;
2. Technologies for Components and Subsystems;
3. Multimedia Systems;
4. Long Term Research

- 4.1 : *Openness to Ideas;*
- 4.2 : *Reactivity to Industrial Needs;*
- 4.3 : *Proactiveness;*
5. Open Microprocessor Systems Initiative;
6. High Performance Computing and Networking;
7. Technologies for Business Processes;
8. Integration in Manufacturing

Open call for Preparatory, Support and Transfer Activities :

These initiatives are expected to concurrently complement any one of the R&D themes covered by the ESPRIT IV, through increased interactions between developers and users : s.a. demonstrations, trial applications, widen dissemination of results, ...

Tasks covered by this initiative :

- SME involvement through co-operative R&D
- Networks of Excellence bringing together industry, users, universities and research centres
- User Groups and Working Groups
- Concerted Actions
- Dissemination and Awareness Actions
- Demonstration Actions
- Analysis of possible socio-economic consequences



## On-going ESPRIT Projects

## Some on-going ESPRIT Projects which might be of interest for OR

### ESPRIT on the Web

The ESPRIT Website is hosted on the main CORDIS server (<http://www.cordis.lu>) and can be accessed directly at <http://www.cordis.lu/esprit/home.html>.

All the latest information can be found in the "Calls for Proposals" section.

"Results Zone" presents profiles of results originating from ESPRIT research projects.

### Complete support for group work activities

*A new software package enables the combination of effective workflow management with desktop conferencing facilities.*

#### Overview

Groupwork is vital to most organisations as their success depends on staff coordinating their efforts to reach shared goals. However, today's computing systems cannot adequately support collaborative activities : currently available systems such as file

sharing, e-mail and scheduling of meetings cover only 3-5% of user requirements. The multi-media toolbox for cooperative applications (MMTCA) system provides a complete solution to groupwork related requirements of organisations. More specifically, MMTCA supports desktop conferencing ie. real-time 'What-you-see-is-what-you-see', cooperation among any number of users in a Local Area Network. Users can employ any standard MS Windows application while cooperating.

#### Business Perspective

The business opportunities for all technologies that empower and extend communication between people are endless: a fact confirmed by the recent dramatic rise in the use of the Internet. MMTCA is just such a set of technologies. It allows people not only to communicate, but also to cooperate - ie. to communicate information in an orderly fashion so that a pre-agreed result may finally be achieved. The system supports both on-line (or synchronous) communication and cooperation, and off-line (or asynchronous) cooperation with its workflow support. Both these MMTCA technologies are very well suited for Internet and intranet environments, which are perceived by all leading analysts and researchers as the great wave of evolution in the computer industry.



**On-going ESPRIT Projects****Technical Perspective**

MMTCA is the result of two key technological breakthroughs. Firstly, the on-line cooperative is capable of supporting multiple participants running multiple applications over relatively slow communication lines (a satellite link was tested successfully). The mechanism is based on transmitting the actions of the user that is 'holding the floor' at any moment (mouse-movement, keyboard events) to all cooperating parties. Users can very easily request and exchange the floor by pressing an on-screen button. The mechanism works with any MS Windows application without requiring any modifications. Secondly, MMTCA enables the co-existence of an integrated workflow system which allows users to cooperate off-line in addition to the on-line facility.

**Applications**

Among its several applications, MMTCA has been used to design, execute and administrate banking procedures that involved multiple operators, documents and each instance may last for a (potentially) long time (e.g. applying for a loan).

MMTCA has been used to enable on-line communication and cooperation between off-shore and on-shore personnel in the shipping industry, enabling those on-board to deal more efficiently with emergencies.

In computer-integrated manufacturing, a senior CAD designer has employed MMTCA to provide help and guidance to multiple junior designers at the same time.

**Business Contacts :**

Karolos GIKAS  
Intrasoft SA  
Adrianou St  
GR-115 25 Athens  
Greece  
Tel : +30 1 640 8014  
Fax : +30 1 692 5259  
E-mail : gikas@isoft.intranet.gr

**Technical Contact :**

Alexis ARGYRIS  
as above  
E-mail : alexis@isoft.intranet.gr

**Research Area :**

Software Technologies

**Project :**

MMTCA 6310

**Related Results :**

6 COVISE; 28 DIVISAR; 210 SCOPES;  
236 ADVANCE; 316 COMIC

**Keywords :**

CSCW; group working; multimedia user interfaces

**Project Participants :**

Banco del Comercio	ES	A
Institut fur		
Seeverkerswirtschaft		
und Logistik	DE	A
Intracom SA	GR	A
Intrasoft SA	GR	C
Novosoft SA	ES	P
Robotiker SA	ES	P
University of Paisley	UK	P

## On-going ESPRIT Projects

## A platform for combinatorial and geometric computing

*A unique tool fills a gap for software developers in large application domains, such as traffic scheduling, resource management and image processing.*

### Overview

Combinatorial and geometric computing is a core area of computer science. Dealing with objects such as graphs, sequences, dictionaries, trees, points, flows, matchings, segments, shortest paths etc., the subject forms the basis for application areas such as discrete optimisation, resource scheduling, traffic control and computer-aided design. In contrast to other areas of computing, there is no standard library of the data structures and algorithms used.

Under the ALCOM project a comprehensive library of algorithms and data structures in this area of computing has been compiled in a form which is accessible to non-experts. The library, called LEDA (Library of Efficient Data Types and Algorithms), contains all of the relevant building blocks in an easy-to-use and efficient form. LEDA is implemented in C++, and can be used with almost any C++ compiler. It is continuously updated with the most recent and efficient implementations.

### Business perspective

LEDA has very broad application potential, particularly since no other library of its type currently exists. The algorithms and data types included are general and flexible, and can therefore be incorporated in a wide range of applications. This is illustrated by the fact that LEDA is used not only as a kernel or platform for a large variety of research purposes, but has found commercial applications in companies such as the Ford Motor Company, Sony Electronics, Lufthansa Systems and MCI Telecorporation.

LEDA is available, in both compiled and source code form, under licence for industrial and commercial use from LEDA Software GmbH. The system is also distributed free of charge, by ftp, for educational and academic research use (from ftp.mpi-sb.mpg.de in /pub/LEDA).

### Technical perspective

The LEDA (Library of Efficient Data Structures and Algorithms) essentially consists of four parts : Basic Data Structures, including most data types in the textbooks in the area of combinatorial computation; Graphs, including many graph and network algorithms written in the textbooks of the area; Geometric Computing, including many algorithms that use arbitrary precision arithmetic and which can handle degenerate cases; and Graphics, which can easily be adapted to many common interfaces (X11, Windows 32, MS/DOS, OS/2).



**On-going ESPRIT Projects****Applications**

LEDA is used in institutes for a wide range of disciplines, including astrophysics, biology, chemistry, computer science, electronics, evolution research, machine building, mathematics, microelectronics and social science.

Several telecommunications companies, for instance France Telecom, MCI (USA), Comptel (Finland) and E-Plus Mobilfunk (Germany), make use of the graph algorithms.

Several companies use the geometric part of Computer Aided Design, for instance Cadabra (Canada) and MUS (Germany).

**Optimising computer-controlled machining**

*A design system that reduces the need for specialist programmers to set-up computer-controlled machine tools improves shopfloor productivity and flexibility.*

**Overview**

FIRES has prototyped a new generation of computer-aided engineering (CAE) tool which supports an integrated approach to the rapid modelling, analysis and manufacture of complex mechanical components. The integration of these three separate disciplines allows engineers to optimise designs and keep manufacturing costs to a minimum.

**Business perspective**

The product is aimed to any engineering company designing and producing parts to be manufactured by computer-numerically controlled (CNC) milling and/or drilling, but has been tested in the specific area of mould tool manufacture.

The benefits to the user are :

- time savings for analysis (reduction in remodelling and mesh definition time);
- freedom to use less skilled employees for the analysis

**Business & Technical Contact :**

Christian UHRIG  
Max-Planck-Institut für Informatik (MPI)  
Im Stadtwald  
D-66123 Saarbrücken  
Germany  
Tel : +49 681 932 5123  
Fax : +49 681 932 5199  
E-mail : uhrig@mpi-sb.mpg.de

**WWW:**

<http://www.mpi-sb.mpg.de/LEDA/leda.html>

**Research Area :**

Long Term Research

**Project :**

ALCOM

**Related Results :**

62 LYNX; 174 THEDIS; 198 SOFTPAR; 216 PREPARE; 269 INSYDE; 370 MADE

**Keywords :**

algorithms, combinatorial computing; data structures, geometric computing

**Project Participants :**

Aarhus Universitet	DK	C
EHESS	FR	P
Freie Universität Berlin	DE	P
INRIA-Paris	FR	P
INRIA-Sophia Antipolis	FR	P
Max-Planck-Institut für Informatik	DE	M
Rijksuniversiteit Utrecht	NL	P
Università degli Studi di Roma "La Sapienza"	IT	P
Universität Paderborn	DE	P
Universität Politecnica de Catalunya	ES	P
University of Dublin	IR	P
University of Patras	GR	P
University of Warwick	UK	P

**On-going ESPRIT Projects**

- huge savings in the preparation of fully optimised CNC toolpaths
- no need for skilled process planners or part programmers;
- parts manufactured automatically from the original computer-aided design (CAD) model, eliminating scrap/reworking due to manual errors, and thus providing further cost savings.

**Technical perspective**

The FIRES prototype enables the user to do the following :

- Design mechanical engineering components more quickly than with traditional CAD.
- Perform analyses on these models quickly and automatically. Feature definition, forces, temperatures, fixed points etc., are incorporated directly from the CAD model.
- Generate a process plan from the CAD model, quickly and automatically, showing the manufacturing processes required, and optimised according to specified criteria (e.g. time, cost).
- Alter the process plan according to shopfloor criteria.
- Automatically generate CNC data to manufacture the component, from the process plan.
- Represent machining operations graphically on-screen.

The three main models : the Feature-based Modeller, the Process Planner and the Analysis Interface, are developments of existing software pack-

ages. The innovation is in the integration of these components via neural data structures that use information models based on STEP Resource Models and Application Protocols.

**Applications**

The prototype was tested in the area of mould tool design and commercialisation of the project will also concentrate on this area initially. A mould tool consists of a series of plates containing many holes, some of which must be manufactured to high quality (for slide fitting and sealing of plastic materials under pressure) and others to lower quality (for water cooling). There are often also arbitrarily-shaped pockets (which match with other sliding "side core" plates to cope with undercuts etc.). The FIRES prototype is

**Business & Technical Contact :**

Stuart WATSON  
Delcam International plc  
Talbot Way  
Small Heath Business Park  
Birmingham, B10 0HJ  
United Kingdom  
Tel : +44 121 766 5544  
Fax : +44 121 766 5511  
E-mail : saw@delcam.com

WWW :  
<http://www.delcam.com>

Research Area :  
Integration in Manufacturing

Project :  
FIRES

Related Results :  
132 HEDRA; 208 HEPHAESTOS; 226 FLECOM; 228 TORUS;  
242 CLEOPATRA - CONTROLLER; 244 ASPIC

Keywords :  
CAD; robotics; STEP technology

**Project Participants :**

Cetim-Etablissement		
De Senlis	FR	P
Cimdata	DE	P
Delcam International PLC	UK	C
Mares SA	ES	P
Technische Hochschule		
Darmstadt	DE	P
Tekniker	ES	P



#### On-going ESPRIT Projects

able to analyse and manufacture a component, completely with CNC, which is comprised of this combination of 3-axis milling and drilling (with multiple set-ups).

The effectiveness of the software modules has been tested in a range of industrial environments, and a set of commercially exploitable prototypes is under development.

### **Affordable manufacturing management systems**

*A modular approach to systems integration software design will make factory and corporate information systems more effective and cheaper to develop.*

#### Business perspective

Manufacturing processes increasingly rely on software control in order to optimise their use of time, personnel and physical resources. Accordingly, there is a large and fast-growing demand for information systems which will allow even relatively small businesses to benefit from the new technology. This IT market is one in which European designers need to gain a competitive edge, and this can be helped by the cheaper development process which FLEXQUAR will facilitate.

#### Overview

Many businesses now depend on sophisticated information systems to operate effectively, but these systems can often be complex and expensive. A low-cost set of software modules have been developed under the FLEXQUAR project, which render shop-floor operations responsive to changes in the manufacturing environment while maximising plant availability and reducing waste and stock shortages.

It has been estimated that the use of FLEXQUAR will lead to savings of at least 10% on projects involving investment costs of 1-3 MECU, giving rise to savings of some 100-300 KECU.

The growing importance and ubiquity of these information systems has seen them being applied in smaller businesses which lack large resources for investment. This has made it vital to develop new information systems cheaply and efficiently, so as to open them up to as wide a market as possible. The market for computer-integrated manufacturing (CIM) products is growing fast, and techniques such as those developed under FLEXQUAR will help European designers establish a competitive lead.

#### Technical perspective

FLEXQUAR allows CIM implementation on generic, low-cost, non-proprietary client-server architectures. The following modules have been developed, integrated and tested :

- the information server;
- the generic tool for developing management advisers (GLUE);
- a set of management advisers for production planning, maintenance and quality;

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- a set of generic knowledge-based tools for the solution of maintenance and quality problem.

The result is a computer-integrated manufacturing (CIM) architecture that is easy and fast to develop, and to integrate within the information environment of the factory where it is applied.

#### Applications

All the modules developed under FlexQuar have been integrated into demonstrations according to the GIM methodology, and have been tested in tyre production (Pirelli), aircraft manufacture (BAe) and automotive component manufacture (Valeo). A set of modules is now being developed from pre-industrial prototypes to commercially exploitable products.

#### **Business Contact :**

Piera CORTI  
ARS SpA  
Via Medici del Vascello 26  
I-20138 Milan  
Italy  
Tel : +39 2 5202 5327  
Fax : +39 2 5202 5423

#### **Technical Contact :**

Martino CORTI  
ARS SpA  
Via Medici del Vascello 26  
I-20138 Milan  
Italy  
Tel : +39 2 5202 5550  
Fax : +39 2 5202 5423  
E-mail : mcorti@ars.it

#### **Research Area :**

Integration in Manufacturing

#### **Project :**

FLEXQUAR

#### **Related Results :**

176 CIM-REFLEX; 184 UNIQUE; 232 CIM-OSA;  
246 COMPRESS

#### **Keywords :**

architecture synthesis tool; process management;  
shopfloor data updating systems

#### **Project Participants :**

ARS SPA	IT	C
British Aerospace (Military Aircraft) Ltd	UK	P
Clemessy SA	FR	P
Pirelli SPA	IT	P
Université de Bordeaux	FR	P



## Intelligent Manufacturing Systems

# INTELLIGENT MANUFACTURING SYSTEMS

The European Commission, DG III and DG XII, has published a call for proposals for RTD activities in the field of intelligent manufacturing systems (IMS). The call is a joint call involving the specific RTD programmes in the fields of Industrial and Materials Technologies (BRITE/EURAM) and Information Technologies (ESPRIT).

Activities in IMS are supported as a result of the Council Decision of 27 January 1997, approving the Agreement on international cooperation in the domain of IMS. The Agreement reached was signed by the European Community, Australia, Canada, Japan, The United States of America, Norway and Switzerland.

Proposals are invited for RTD activities, including demonstration projects, which fall within the scope of the ESPRIT and/or the BRITE/EURAM work programme, as well as within the technical themes for international cooperation laid down in the Agreement. These themes are :

- Total product life-cycle issues;
- Process issues;
- Strategy/planning/design;
- Human/organisational/social issues;
- Virtual/extended enterprise issues.

To be eligible for funding, projects should involve at least two partners from different Member States, or from one Member State and one associated state. In addition, there should be two partners from different regions among the third countries which are party to the Agreement.

Projects will be selected using a two-stage procedure. Outline proposals should be submitted first, with full proposals submitted later. A guide for proposers may be obtained from the European Commission. This gives full details of the submission procedure and the technical content of the call.

Outline proposals may be submitted at any time up to 21 January 1998. Full proposals must be submitted by 31 March 1998 (12.00) at the latest.

All correspondence relating to this call should be sent to :

European Commission  
European IMS Secretariat  
200 rue de la Loi (N-105 6/84)  
B-1049 Brussels  
OJ No C 117 of 15.4 1997. p. 41.

Contact : W. Van Puymbroeck  
Secretariat SFI européen  
CE DG III-F-7  
Fax : (32) 2 299 45 72

## European 4th Framework Programme

## Your participation to the European 4th Framework Programme

Dear EURO Member,

You have been asked through our letter of 31 December 1996, to tell us your personal experience(s) towards the submission procedure to the European R&D funding programmes. In particular, the following questions have been addressed :

1. Your degree of participation to the EEC programme
  - number of submissions;
  - effort requested in man power, time, money.
2. Your "return" in terms of
  - amount of funding obtained;
  - broadening of your collaborations and partnership through Europe.
3. Your degree of satisfaction/ dissatisfaction regarding the consortium policy implemented by the EEC, in particular regarding the degree of protection of your Intellectual Property Rights.
4. Your experience in terms of valorisation of your results obtained after a completed EEC funded project.

### *Here is an overview of your answers to our enquiry*

#### **Regarding Question 1 :**

For a small research department, it requires too much effort and resources to submit within a 1:10 lottery procedure.

For a large research group however, the submission procedure is considered as a good experience, even if characterised by a heavy bureaucracy.

Some experience was reported with a 1:5 acceptance rate, but with the observation that the success rate varies widely within tasks and within domains.

#### **Regarding Question 2 :**

For some university departments, the need for involving an industrial partner seems counter-productive.

However, for a larger group or a University Association, the need to have some industrial, regional and social partners proved satisfactory.

In addition, the multidisciplinary approach of a project - which results from this "consortium policy" was generally considered as very constructive.

#### **Regarding Question 3 :**

The political aspects of the participation have been mentioned.

It has been reported that if some state member or national R&D centre is influential and active in a particular field of research, it might be very "damageable" to forget this political partner in a project participation scheme ...

#### **Regarding Question 4 :**

This question proved to be of very low interest for most OR participants.

It seems that the valorization aspect is mostly a problem for the European Commission rather than for the participants ...

#### **Some conclusions**

Although there are apparently as many experiences as participants, each one having his particular "return", the heavy bureaucracy of the submission procedure seems "heavy" for everyone. The difference lies between the size of the team - the effort is manageable for large groups, but too costly - and effort consuming for a small team ...

This is most probably the reason of the low participating rate of SME's as well.

The political aspects raised by the submission procedure is a real problem - which might be addressed through EURO on a case by case basis.



From Raymond Bisdorff, EURO Vice-President 2

## Organising a Mini EURO Conference

In addition to the large EURO-k conferences considering all possible OR-subjects and as a supplement to the established EURO Working Groups, EURO initiated in 1984 the concept of Mini EURO Conference. Its objective is to assemble a limited number of specialists around a specific theme.

Any member of any member society of EURO can make a proposal for organising a Mini EURO conference. Guidelines are available from the Secretary of EURO or from vice-president 2. These proposals have to be approved by the EURO Executive Committee.

Mini EURO conferences should be open to specialists representing the entire OR community and not only address the organiser's "domestic market". In case a proposal is approved by the Executive Committee, EURO will grant a loan to the organisers. Its purpose is to help the organisers in printing and distributing a Call for Papers to all members of the National Societies and an invitation Programme to all those interested.

Up to now eight such Mini EURO conferences have been organised. J.P. Brans organised the last one on "Decision Support Systems, Groupware Multimedia and Electronic Commerce" in Bruges (Belgium) in March 1997. The next (9th) Mini EURO conference is being organised by the Yugoslav Operations Research Society on "Fuzzy Sets in Traffic & Transport Systems" and will take place September 1997 in BUDVA - Montenegro.

### EURO Vice-President 2 coordinates:

Pr. Raymond Bisdorff  
Cellule "Statistics & Decision"  
Centre de Recherche Public -  
Centre Universitaire  
13, rue de Bragance, L-1255  
LUXEMBOURG  
Tel: +352 44 58 85 / 44 01 95 Fax:  
+352 44 73 52  
E-mail: bisdorff@crpcu.lu

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**ANNOUNCEMENT AND CALL FOR PAPERS****6th Meeting of the EURO  
Working Group on  
Transportation****9 - 11 September 1998****School of Mathematics and Computing Sciences  
Chalmers University of Technology, Goteborg  
(Gothenburg), Sweden****International Scientific  
Committee:**

**Jaime Barcelo**  
barcelo@eio.upc.es  
**Michael Bell**  
m.g.h.bell@ncl.ac.uk  
**Maurizio Bielli**  
bielli@iasi.rm.cnr.it  
**Piet Bovy**  
BOVY@dutcvk4.tudelft.nl  
**David Boyce**  
dboyce@uic.edu  
**Martine Labbé**  
mlabbe@smg.ulb.ac.be  
**Jean-Baptiste Lesort**  
jean-baptiste.lesort@inrets.fr  
**Michael Patriksson**  
mipat@math.chalmers.se (chair)

**National Committee:**

**P-O Lindberg**  
polin@mai.liu.se  
**Jan Lundgren**  
jalun@mai.liu.se  
**Athanasios Migdalas**  
samig@mai.liu.se  
**Michael Patriksson**  
mipat@math.chalmers.se (chair)

**Funding:**

The Meeting is partially funded by EURO and KFB (The Swedish Transport and Communications Research Board).



**Scope:**

The Meeting aims to bring together researchers and students in all theoretical, computational and applied fields of transportation science within operations research to an interesting three days of inter-disciplinary exchanges of research advances. The late submission deadline facilitates the presentation of very recent results. The following is a list of some of the areas that will be represented at the Meeting:

- Transportation and Traffic Modelling
- Demand Modelling and Estimation
- Regional and Transportation Planning
- Network Optimization
- Traffic Assignment
- Traffic Management and Control
- Transport Network Analysis and Design
- Routing and Scheduling
- Simulation
- Expert Systems
- ITS Applications

The Meeting aims at an active student participation; in the event of a sufficient turnout special sessions for student presentations will be organized.

**Submission of papers:**

Those wishing to give a presentation should send five copies of an extended abstract (3-5 pages including figures and references) to the address below by 16 March 1998 for refereeing. Those just wishing to participate should send their contact details to the following address, also by 16 March 1998, in order to receive the registration material.

**Michael Patriksson**  
**Department of Mathematics**  
**Chalmers University of**  
**Technology**  
**S-412 96 Gothenburg, Sweden**

It is also possible to submit the extended abstract in Postscript form, via e-mail to the address: [mipat@math.chalmers.se](mailto:mipat@math.chalmers.se).

Make sure to include the following in the manuscript or cover letter: (1) the full postal address of the intended speaker; please also indicate if you are a student; (2) the intended speaker's e-mail address, fax number, and telephone number, if these are available. This latter information speeds up the notification process.

**Proceedings:**

All registered participants will be provided with the Extended Abstracts of all papers presented.

After the Meeting, selected papers will be published in a state-of-the-art monograph and in special issues of scientific journals. Observe that in order for a paper to be considered for inclusion in any form of publication following the meeting, the complete paper must be submitted at the meeting at the very latest.

**Important Dates:****16 March 1998**

Deadline for submission of extended abstracts

**30 April 1998**

Notification of acceptance of papers and distribution of registration material

**26 June 1998**

Deadline for registration

**9-11 September 1998**

5th Meeting of the EURO Working Group on Transportation

**Travel and hotel arrangements:**

Gothenburg has an international airport (Landvetter) which can be reached either directly or through the international airport of Copenhagen (35 minute by air).

Chalmers University of Technology has negotiated reduced rates at some of the nearby hotels for visitors to the University. We therefore recommend participants to arrange for the hotel reservations through us in order to receive the reduced rate, and to facilitate the overall planning. The necessary information (accompanying persons etc.) will be requested in the registration material.

*With wishes for a successful Meeting*

**Michael Patriksson  
Department of Mathematics  
Chalmers University of  
Technology  
S-412 96 Gothenburg, Sweden**

**Tel: +46 31 772 35 29**

**Fax: +46 31 16 19 73**

**URL: <http://www.math.chalmers.se/~mipat>**



## **Telecommunications in the 21st Century: A Challenge for OR Methodologies**

### **Pre - Announcement**

The Swiss OR Society  
(SVOR/ASRO), with the support  
of Pro Telecom (CH),  
is organizing the 5th Autumn  
Tutorial:

Telecommunications in the 21st  
Century:  
A Challenge for OR  
Methodologies

*September 22-23, 1997,*

Hotel Seepark, Seestr. 47,  
CH 3602 Thun,  
Switzerland.

For further information,  
please contact  
Organizing Committee  
Dr. Heinz Schiltknecht  
Tel. : +41 61 821 75 25  
Fax : +41 61 821 75 45  
E-mail : [hschilt@dial.eunet.ch](mailto:hschilt@dial.eunet.ch)

## **Inventory Modelling in Production and Supply Chains**

### **Third ISIR Summer School**

Inventory Modelling in Production  
and Supply Chains

*1 - 5 September 1997*

University of Ioannina, Greece

Organised by :

1. ISIR (International Society for  
Inventory Research)
2. University of Ioannina, Greece  
Department of Mathematics  
Statistics and O.R. Section

Interested persons can obtain  
information from :

Dr. Sotirios Papachristos  
University of Ioannina  
Department of Mathematics  
Probability, Statistics and O.R.  
Section

451 10 Ioannina, Greece  
Tel : +30 651 98242  
Fax : +30 651 98242  
E-mail : [spapachr@cc.uoi.gr](mailto:spapachr@cc.uoi.gr)  
<http://www.uoi.gr/CONF-SEM>