Asia IT&C Project Summary Sheet

Project: 21-05; Contract: ASI/B7-301/97/0126-43

Title: Intelligent Computation Applied to Manufacturing Systems (ICAMS)

Programme Component: Liaise with European IT&C Initiatives and Programmes

Area of Activity: I-Manufacturing

Duration of the Project: 36 months

EC Co-financing (€): €289.000 79,78%

Start date: September 30, 2002

Project Abstract:
The main purpose of this project is to demonstrate the benefits associated with the introduction and application of Intelligent Computation paradigms such as Neural Networks, Fuzzy Logic, Expert Systems and other Artificial Intelligence tools in Manufacturing Systems, thereby increasing the awareness amongst Small and Medium Enterprises (SMEs) and research institutions in Asia of advanced methods for intelligent manufacturing. Activities during the project will be carried out in the Technology Demonstration Centres established in Sri Lanka. Pilot projects will be conducted in these centers, a network of interested parties established, workshops and seminars will be organised and a web-based information portal and discussion forum produced.

Objectives:
The main objectives of the project is to provide the support for adopting Intelligent Computation methods in Manufacturing Engineering in Asian SMEs and to conduct pilot applications to show SMEs how they may benefit from the utilisation of intelligent manufacturing approaches:

- to build technology demonstration centres (TDC) to do a feasibility study of Intelligent Computation methods applied to Manufacturing Systems and to disseminate information about these techniques;
- to develop two pilot applications focusing on using Intelligent Computation methods such as Neural Networks, Fuzzy Logic, Expert Systems, and other Artificial Intelligence tools in order to tackle and solve manufacturing systems problems;
- to increase the awareness of Asian SMEs of the capabilities of Intelligent Computation methods for manufacturing systems problem solving and to demonstrate AI tools (Expert Systems, Neural Networks, Fuzzy Logic, etc.) as new technologies for Design, Planning, Manufacturing and Quality Control;
- to increase the Asian companies' awareness of Intelligent Computation methods as a future strategy using advanced IT tools to solve problems in manufacturing systems;
- to enable Asian SMEs to estimate the benefits associated with the implementation of Intelligent Computation solutions to manufacturing system problems.

Description of the work:

- Establishment of technology demonstration centres (TDC) in Asia to bring together European and Asian Research organisations in the exchange of information and applications of intelligent computation tools for manufacturing engineering.
- Identification of a planning and production problems, selection of appropriate intelligent computation tools and development of pilot applicaions (solution of planning and production problems).
- Creation of an Intelligent Manufacturing Network.
- Dissemination and exploitation to increase awareness of the utilization of intelligent computation tools for manufacturing engineering applications throughout Asia and to enable companies and research institutes to estimate benefits associated with the implementation of intelligent manufacturing.

Milestones:

Milestone 1: Establishment of TDC, publication of first newsletters (project month 8);
Milestone 2: Creation of Website and mailing list for network (project month 16);
Milestone 3: Development of Intelligent Manufacturing Systems from the two Asian SMEs (project month 28).
Milestone 4: Final workshops hosted disseminating results of project (project month 36)

Main contact: **Applicant**

Name:	Prof. Roberto Teti
Organisation:	Department of Materials and Production Engineering (DIMP), University of Naples Federico II
✉**Address:**	Piazzale Tecchio 80, 80125 Naples
Country:	Italy
Tel:	+39 081 7682371
Fax:	+39 081 7682362
E-mail:	tetiro@unina.it

List of Partners:

Partner Organisation name	**Country**	**Contact name/e-mail**
Ecole Nationale Supérieure d'Arts et Métiers (ENSAM)	France	Name: Prof. P. Martin E-mail: patrick.martin@metz.ensam.fr
Faculty of Engineering, Kasetsart University	Thailand	Name: Dr. Anan Mungwattana E-mail: fenganm@ku.ac.th
National Engineering Research and Development Centre of Sri Lanka	Sri Lanka	Name: Dr. Nihal Somaratna E-mail: gerdo@sri.lanka.net