

INTEGRATING EMBEDDED DATA COLLECTION TERMINALS & BAR-CODING WITH ERP

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Intelligent and Flexible Integrating Embedded Data Collection Terminals and Barcoding at a supplier of industrial metal products has increased efficiency, Quality and JIT production

Integrated Manufacturing Operations is a comprehensive family of products and services specifically tailored for the factory. It combines your factory floor data with the business information systems in an integrated information architecture capable of meeting your broader plant requirements and closing the information gap between Production Systems and Business Applications.

CIM (Computer Integrated Manufacturing) enables the implementation of “Open Systems”. This allows the multivendor computing environment – usually found in the plant – to work together as a single, unique integrated system. This means more than simply establishing network links; it means that applications, such as manufacturing and business planning, exchange complex information in “real time” to perform tasks and operations that are tightly integrated with factory control and management, data collection and statistical process control.

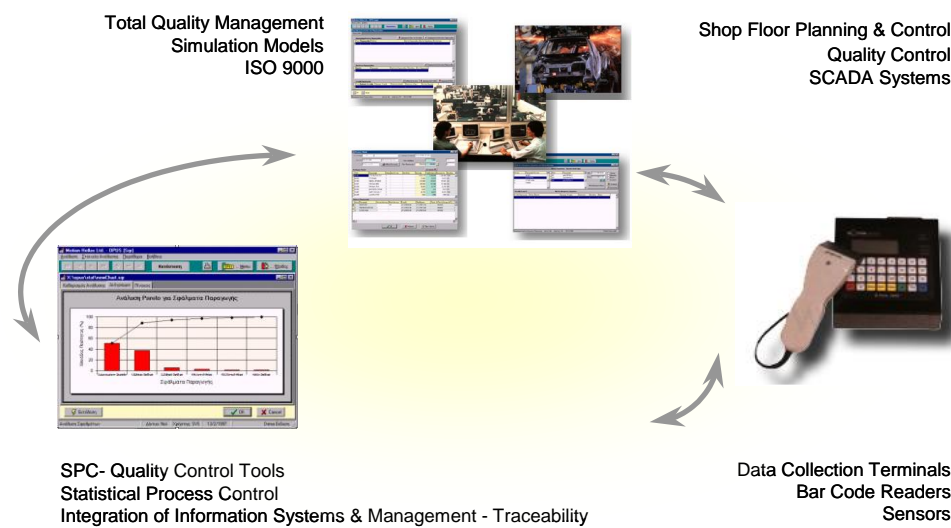
With Integrated Manufacturing Operations and Automation Systems **OPUS & Q-Term** products and services, MOTION Hellas provides an enterprise – wide foundation for information of manufacturing control. Successful companies of the future will be able to easily adapt to rapid changes in the manufacturing environment. Production flexibility, cost control and resource management rely entirely on timely, accurate and complete enterprise – wide information.



I&E PAPADAKIS is experienced in the field of industrial metal products and packaging, aiming the production of metal quality industry parts, using advanced materials and production techniques (CAD/CAM).

To monitor the production process in greater detail and increase efficiency, I&E PAPADAKIS, an ISO 9002 certified company, used OPUS and Q-TERM products to integrate a new Production Planning and Control system by using Barcode and Data Collection Terminals (Q-TERM). These services have been offered to I&E PAPADAKIS, by MOTION Hellas and its partners under TRANSTECH programme

Q-TERM is an universal fully programmable industrial terminal, designed to fulfil the most demanding needs in the field of industrial automation. **Q-TERM** is a portable terminal designed for the most complex 'on-line' data collection application. Data can be entered through the alphanumeric keypad or through any device that use the RS-232 communication protocol (i.e. bar code readers, magnetic stripe readers etc). Also **Q-TERM** can have real time control on the 'on-board' digital I/Os, analogue input channels, analogue output channels, and counters. Thus, it makes it ideal for use in industrial environments to control, critical for the production line, signals. (Features: 80296 50MHz Intel CPU, 128 KB Flash EEPROM, 256 KB Battery Backup RAM, Membrane Keyboard with 32 Alphanumeric, Keys including 9 Function Keys, LCD Display with 4 linesx20 characters, Real Time Clock, 3 Full Modem, High Speed, RS-232 Ports, 2 High Speed, RS-485 Ports, 1 Parallel Port, Ethernet TCP/IP, Modbus Compatible etc.)



Increasing operation efficiency

The system I&E PAPADAKIS used to book orders and manage stock consisted of various programs with no shared system standard and RDBMS. Stock tracking and production planning and control were done manually with the help of a PC. One uniform system was essential. I&E PAPADAKIS decided to implement the OPUS programme across the company by MOTION Hellas. The OPUS system was capable of handling all aspects of production, shop floor control, capacity planning and quality control.

“This type of system only operates properly if it receives up-to-date production data” explained Mr.Manolis Papadakis head of Data Processing of the organization. “Metal production represented a particular challenge. Here, 25-30 people work in one hall, but they have only been trained to use the CNC machine, to remove products from the machine, examine them for possible defects and place them into a container. It would be very difficult to obtain data on operation efficiency, as this would call for intensive training sessions and the installation of terminals”

The CNC operator appeared to be the only interface between the production and the storage processes, but Mr.M.Papadakis knew that the CNC operator would not have enough time to step down from the CNC machine to obtain data. Therefore, the metal products and the pallets had to be labeled with barcodes. The CNC operator now only had to scan the information into a terminal that was mounted onto the CNC machine. The bar code label has information about the order ID, the machine, the production phase, the number of the products etc

The OPUS system is a user friendly Optimised Production Planning system which includes a set of functions that are needed to represent a valid simulation of reality of the Manufacturing process. It has IT tools for the production Management and real time control. The various cells consisting the

Production information and planning system involves a flexible and user friendly database input for all the information coming from lower levels (orders, machines, jobs, daily capacity profiles etc.) in order to analyse the manufacturing process. OPUS label design software, allows the integration of barcodes into existing enterprise resource planning (ERP) systems and other business applications such as stock monitoring, warehouse logistics and financial management. OPUS software works real time with the existing ERP system and the Data Collection Terminals.

From the experience in the use of the OPUS system and the Real Time Data acquisition from the production line, for over two years, in the I&E PAPADAKIS industry, it appears they help:

- Reduce the product development cycle by at least 25%
- Reduce engineering change handling time by at least 30%
- Reduce the time to introduce new products
- Improve Quality of products and services (TQM)