



Famic Technologies 2000 Inc.



# Galvanisation in Canada



## The Client - GALVANO

The company **GALVANO** is part of the **INFASCO group**, all the companies of which manufacture, finish and distribute a wide range of standard and made-to-order fastening products on an international scale.

The **GALVANO** coating and galvanizing factory has been awarded the certificate of compliance with the ISO 9002 standard.

**GALVANO** controls the delivery and the quality of its products while guaranteeing that the finishing process does not cause any damage to the mechanical qualities of the fastening products.

Its electrogalvanizing capacity is 45,000 tonnes of product per year. A new computer-driven, high-speed electrogalvanizing line can process 150 tonnes of product daily. The company sells its electrogalvanizing and hot galvanizing services all over North America.

At **GALVANO**, a program of 40 hours mandatory training per year for the employees allows their knowledge of electrogalvanizing, galvanizing, pneumatics, hydraulics, electronics and health and safety to be permanently kept up to date.

## The participant - FAMIC Technologies 2000 Inc.

**FAMIC Technologies 2000 Inc.** offers services and consulting in information technology and automation. It sells high quality software packages which are known world-wide. Since 1986, its IT and automation engineers have been designing and developing innovative solutions for clients working in a variety of industrial fields.

Thanks to the numerous projects already completed, its consultants can understand end users needs and provide solutions adapted to their requirements. Its experience and skills enable potential difficulties arising from a project to be identified.

It can therefore respond to demand with an organized plan which anticipates all the development aspects. Unlike other companies, **FAMIC Technologies 2000 Inc.** responds using recognized skills and proven methods.

The result: user-friendly solutions which meet the expressed requirements within the planned time limits.

**FAMIC Technologies 2000 Inc.** is called on to play a dominant and continuously growing role in the development of strategic systems for its clients. These systems improve productivity enabling a better return on investment.

Its achievements have enabled them to win clients confidence and to establish a strong international reputation. This is why **FAMIC Technologies 2000 Inc.** can design, develop, integrate and sell innovative and efficient IT solutions to satisfy your company's requirements in terms of training, operations and automation.



**Famic Technologies 2000 Inc.** covers the following sectors of activity:

- ✓ Services and consulting in software engineering
- ✓ Electronic document management
- ✓ Automation of industrial processes
- ✓ Design and development of CAD and simulation
- ✓ Electronic catalogues and technical configurators
- ✓ Multimedia applications
- ✓ Computer-assisted training applications

**Famic Technologies 2000 Inc.** distributes **ARC Informatique's PcVue** monitoring software in Canada (in particular **PcVue 32**) and also acts as integrator for these products. Moreover, this company has brought the **LINNHOF** turnkey project to a successful conclusion (for the **GALVANO** company).

It handled the technical management of the project, drew up the functional specifications, wrote the programming standards, developed the automatic and monitoring operations, implemented equipment and quality assurance on the site.



## LINNHOFF project context

This project concerns the control of the main electrogalvanizing line for **GALVANO** in Canada.



The **Linnhof** process is an automated galvanizing system accounting for approximately 150 tonnes of parts per day (nuts, bolts, etc.). It boasts its own supply and material handling system using belt conveyors and baskets. The material is transferred to drums and subjected to a series of processes in different tanks. The drums are maneuvered by 5 overhead travelling cranes working simultaneously on the same line.



The scope of the project requires the replacement of the old programmable logic controllers (PLC) and UNIX production management system to improve performance levels. The solution will allow a future extension of the line, leading to increased production and an optimized operation.

	Niveau de pliage	Niveau de décapage	Niveau de rinçage
Niveau de pliage	OK	OK	OK
Niveau de décapage	OK	OK	OK
Niveau de rinçage	OK	OK	OK
Niveau de séchage	OK	OK	OK
Niveau de refroidissement	OK	OK	OK
Niveau de lubrification	OK	OK	OK
Niveau de stockage	OK	OK	OK
Niveau de livraison	OK	OK	OK
Niveau de maintenance	OK	OK	OK
Niveau de sécurité	OK	OK	OK
Niveau de qualité	OK	OK	OK
Niveau de production	OK	OK	OK
Niveau de gestion	OK	OK	OK
Niveau de suivi	OK	OK	OK
Niveau de contrôle	OK	OK	OK
Niveau de surveillance	OK	OK	OK
Niveau de diagnostic	OK	OK	OK
Niveau de maintenance préventive	OK	OK	OK

## Description of the solution

The process includes 800 input/outputs (Remote I/O and DeviceNet), a BALOGH positioning system, bar code management and plating rectifier control. The line is controlled by two Allen-Bradley PLC/5-80 programmable controllers, connected by a Data-Highway+ network. Programming is performed by Grafset (SFC) using CADEPA software.

The monitoring software is **PcVue 32** running under **Windows NT**. It acts

as both operator interface and communication system between the production management station and the PLCs. This monitoring system and CAPM are based on client/server architecture. Entering manufacturing campaign



production and sequencing lists is carried out using an ACCESS database with a direct "DDE-block" link to **PcVue 32**. The result provides a complete manufacturing management system.

The database includes 3,500 variables. The animations group together 80 mimics, 45 user programs (SCADA BASIC) and 12 associated Visual Basic subroutines that allow the management of production data exchange.

Twenty trend displays monitor the temperature of the ovens, the plating levels and the voltage on the tank anodes.

The Linnhof process groups together 3 network workstations, including 2 client stations. Over the entire site, this increases the number of **PcVue 32** licenses to 7.

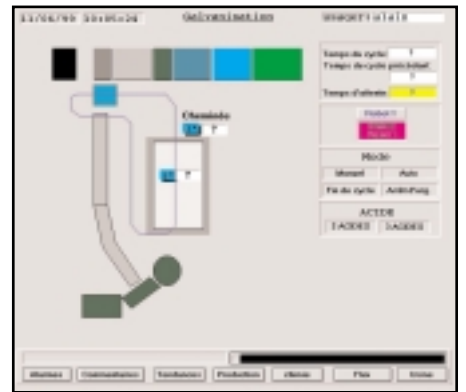
## Assessment - the highlighted advantages

Following an operational probation period and sufficient time interval to measure the effects of this retrofit, **GALVANO** has noted the following results:

- ✓ Increased line productivity (+10%).
- ✓ Improved general quality of the product.
- ✓ Reinforcement of statistical measurement tools to meet ISO 9000 standards.
- ✓ Switchover to the production of plated material at 2/10,000" (approx. 5 microns).
- ✓ Increased control over the consumption of raw materials.
- ✓ Production autonomy increased to 24 hours.
- ✓ Respect of production and delivery deadlines.
- ✓ Complete breakdown diagnostic.
- ✓ Anti-collision management for overhead travelling cranes.
- ✓ Production cycle entirely reprogrammable by the client.

The client has begun extending the monitoring to its waste water treatment system, hot plating line and 4 small galvanization lines.

The automatic control systems used are SCHNEIDER MODICON in a Modbus Plus network. The applications developed under **PcVue 2** were transferred to **PcVue 32** in the autumn of 1998. Each station contains about 350 equipment variables.



This is an example of a project that was performed by a skilled partner in conjunction with **ARC Informatique** using **PcVue 32** as the core of the application.

**ARC Informatique**  
 Tél : (33) 141143600  
 Fax : (33) 146238602  
 E-Mail : soft@arcinfo.com  
 Web : www.arcinfo.com