



"The choice of Wonderware for this project was a major step forward and we can now measure the flexibility that this solution has provided us with the implementation of this robot."

Martine Zucco
Robotics Team

Wonderware and SITAM Increase Plant Treatment Productivity with the FROGSS Project (Fungicide Rotating Greenhouse Spraying System)

Goals

- Increase the treatment capacity of the Biology department
- Reduce biologists' contact with the treated plants
- Implement a new organization within 18 months
- Provide operators with tools that are easy to use

Challenges

- Referral agent partners for each business are involved in the project
- Bayer/SITAM work group - a commitment for the success of the project
- An open software environment

Solutions and Products

- Wonderware ActiveFactory
- Wonderware InTouch HMI
- Wonderware Historian

Results

- Complied with all priorities and deadlines for implementing and deploying the solution
- Cost of the solution was controlled thanks to the stringency of the SITAM management processes
- Quick familiarization with the system
- Control and transparency of the information which enabled successful collaboration



La Dargoire (Lyon), France – Bayer AG is an international group with core businesses in the health, nutrition and high-performance materials sectors.

Bayer CropScience AG, a subsidiary of Bayer AG, with annual sales figures of about 6.4 billion euro (2008), is leading the way in worldwide innovation in the fields of crop protection, non-agricultural pest management, seeds and plant biotechnologies.

The company offers an extensive range of complementary products and services for modern and sustainable agriculture, as well as solutions for non-agricultural applications.

Bayer CropScience has invested nearly 10 million euro at La Dargoire over the last two years in order to provide the existing laboratories with state-of-the-art equipment.

The Biology department has benefitted from this investment with the creation of a new, fully-robotized system for large-scale testing of the effectiveness of new molecules on plant diseases.

The FROGSS (Fungicide Rotating Greenhouse Spraying System) project was born. Its functional scope concerning the steering monitoring solution remains to be defined.

The company requested a tool that was able to change easily according to needs identified during the course of the project, without jeopardizing what already existed. Their options were quickly narrowed to a Wonderware solution which offered a modular and open architecture based on market standards.

The FROGSS project automates:

- spraying of plant sets from a loading zone
- drying of sprayed solutions in a drying tunnel
- classification of plants, by disease, in trolleys
- washing and storing of the sets used in a storage zone
- transporting of sets to the various zones mentioned above
- identification of treated sets and pots

The sequencing of all of these treatments is called a “Run.” This automation process implements several elements: computers, automatic devices, conveyors, robotic arms, a LiquidHandler, trolleys, carts, doors, valves, cylinders, nozzles, elevators, lifts, shafts, motors, pumps, cells, barcode readers and DataMatrix code and readers.

In addition to automating the process, traceability is accomplished throughout the entire installation from taking the set, to arranging the pots, including spraying.

The IT architecture is built around a Wonderware solution that interfaces with the Bayer CropScience management system (BCS).

The solution, developed with the Wonderware InTouch HMI (Human Machine Interface) and Wonderware Historian allows the following functions to be provided:

- Representation of the process structured in the form of block diagrams
- Real-time acquisition of process parameters
- Visualization of safety elements
- Acquisition of safety data
- Alarm management
- Recording and sorting of past events or alarms and for those currently in progress
- Management of manufacturing program parameters
- Configuration for the “Run”
- Traceability management
- Exchanges with the BCS system



“The management of alarms in the event of a default, their traceability and the facility for repair is a notable advantage. In addition, the option, via Wonderware, to secure access by setting up different user levels was a major criteria in our choice,” said Martine Zucco, a manager with the Robotics Team at Bayer Cropscience France.

The InTouch HMI supervision interface was designed to provide operators with optimal facility visibility, as well as to be as user-friendly as possible.

A geographical representation of the equipment allows for a complete view of the monitored installation. Navigation guarantees access to the information, with a minimum number of mouse clicks, either from the geographical location of the equipment, or via shortcut buttons or a contextual menu. The interface is configured automatically via user profiles, which allows each person to retrieve their working environment.

“It is certain that the speed of users becoming familiar with this new tool is directly correlated to the excellent ergonomics of the different HMI screens,” said a user at Bayer Cropscience.





Invensys Operations Management • 5601 Granite Parkway III, #1000, Plano, TX 75024 • Tel: (469) 365-6400 • Fax: (469) 365-6401 • iom.invensys.com

Invensys, the Invensys logo, ArchestrA, Avantis, Eurotherm, Foxboro, IMServ, InFusion, SimSci-Esscor, Skelta, Triconex, and Wonderware are trademarks of Invensys plc, its subsidiaries or affiliates. All other brands and product names may be the trademarks or service marks of their representative owners.

© 2010 Invensys Systems, Inc. All rights reserved. No part of the material protected by this copyright may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying, recording, broadcasting, or by any information storage and retrieval system, without permission in writing from Invensys Systems, Inc.