

Industry: Chemicals, Agriculture

# Bayer CropScience AG

www.bayercropscience.fr



*“The choice of Wonderware was in this project a major step and we can now measure all of the flexibility that this has provided us with in the implementation of this robot.”*

Martine ZUCCO  
Manager, Robotics Team, Bayer Cropscience France

## Wonderware and SITAM participate in increasing the plant treatment productivity with the FROGSS project (Fungicide ROTating Greenhouse Spraying System)

by Wonderware France

### Goals:

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

### Challenges:

- Referral agent partners for each business involved in the project;
- BAYER / SITAM work group: a commitment for the success of the project;
- An open software environment.

### Wonderware Solution:

- ActiveFactory software;
- InTouch HMI;
- Wonderware Historian.

### Results:

- Comply with priorities and deadlines in implementing and deploying the solution;
- Cost of the solution controlled thanks to the stringency of the SITAM management processes;
- Quick familiarization;
- Control and transparency of the information: factors for successful collaboration.

**La Dargoire (Lyon), France** - Bayer is an international group of which the core businesses fall within the health, nutrition and high-performance materials sectors.

Bayer CropScience AG, a subsidiary of Bayer AG, with an annual sales figure of about 6.4 billion euro (2008), is a company leading the way in innovation worldwide 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 benefited from a part of this investment in 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 customer's request was to obtain a tool that was able to change easily according to needs identified during the course of the project without jeopardizing what already exists. Their choice was quickly orientated to a Wonderware solution which offers a modular and open architecture based on market standards.

The FROGSS project consists in automating:

- the spraying of plant sets from a loading zone;
- the drying for sprayed solutions in a drying tunnel;
- the classification of plants by disease in trolleys;

- the washing and storing of the sets used in a storage zone;
- the transporting of sets to the various zones mentioned above;
- the identification of treated sets and pots.

The sequencing of all of these treatments is called a 'Run'. This automation 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, DataMatrix code readers, etc.

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

The IT portion's architecture is articulated around a Wonderware solution interfaced with the customer's 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 events or alarms for those in the past or 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 possibility via Wonderware to*

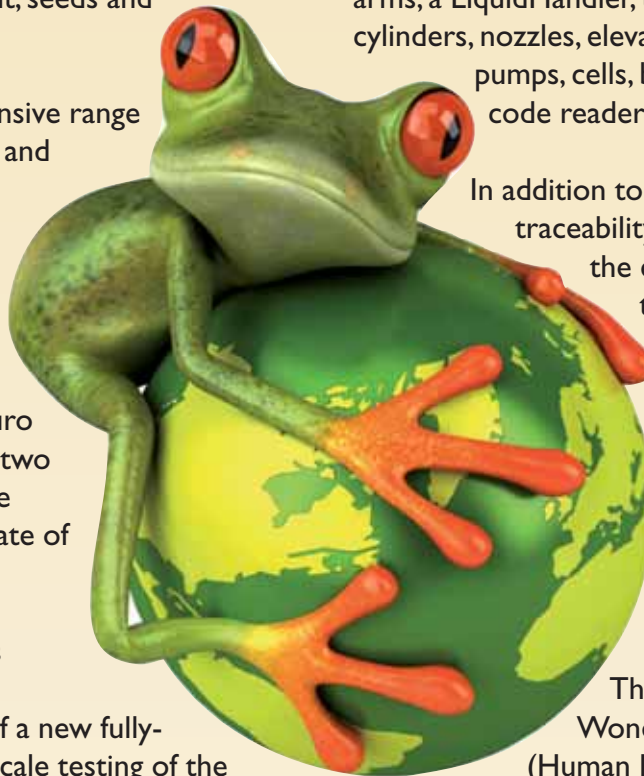




Figure 1: Precision seed drill.

*secure the access by setting up different user levels was a major criterion in our choice*” states Martine Zucco, Manager, Robotics Team, Bayer CropScience France.

The InTouch HMI supervision interface was designed in such a way as to provide operators with optimal facility and user-friendliness in use.

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 getting familiar with this new tool is directly correlated with the excellent ergonomics of the different HMI screens,”* states a user at Bayer CropScience.

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