

Test beds at John Deere: an engine named WINDEV

At the John Deere factory in Saran, the engine test beds are analyzed using applications developed with WinDev. Quite a success story!



JOHN DEERE

The company

John DEERE, founded in 1837, is the world's leading manufacturer of agricultural machines and equipment.

The Saran plant near Orléans employs over 800 people and manufactures Diesel engines of 3, 4 and 6 cylinders, such as the PowerTech engines in versions with 2 or 4 valves and up to 275 horsepower.

Project Leader

Alain Besse (on the left) and Sengsavang Bouvard (on the right)

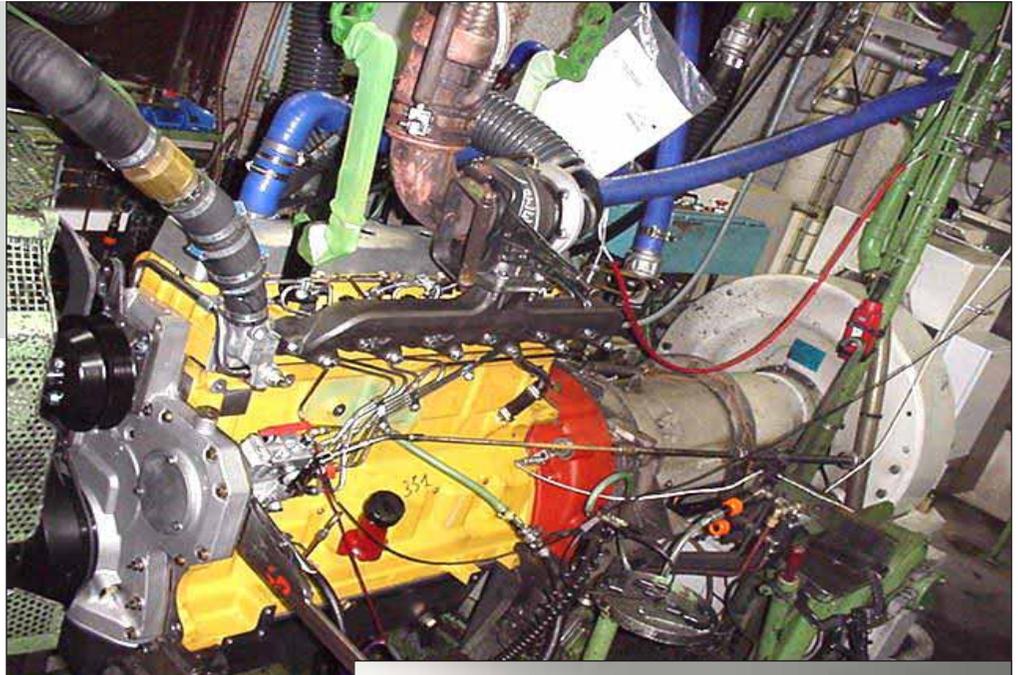


are respectively the programming analyst and engineer within the company.

ISO 9001 Test beds

The Saran plant (ISO 9001 certified, version 2000 and ISO 14001, version 2004) is a major European production and sales unit for diesel engines.

Some of the engines built are sent to factories that manufacture John



Deere tractors and combine harvesters. Others are used to equip a wide range of machines outside the group: air compressors, generators, fishing boats, construction machines, etc.

At Saran, the engineering department is responsible for approving parts from suppliers as well as for custom developments needed to meet customer specifications.

There are 12 endurance test beds, a gas analysis booth, a particle analyzer, a sound room to test engine noise levels, a cold room to test cold starting, etc.

Multithreading is now easy thanks to WINDEV

The objective of the computer department was to drive the test software by preparing the parameters specific to the test ordered, but also to ease the analysis of the test results.

"We chose WinDev for its exceptional qualities in terms of development productivity and its openness. The application developed using WinDev communicates via threads to transmit all the parameters to the test beds and then analyzes the results", explains Alain Besse.

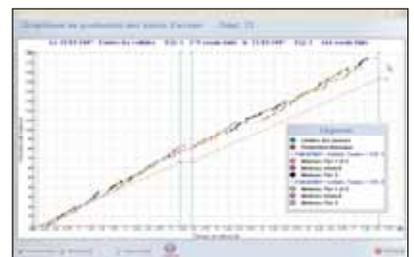
"When you have experienced the complexity of handling threads using 4GL, you really do appreciate the clarity of WinDev's 5GL instruc-



tions such as ThreadExecute or ThreadPriority. Thank God we used WinDev to develop these applications. It saved us from writing literally miles of code", he adds.

1 million engine tests analyzed thanks to WinDev!

All the data is stored in an Oracle database. "WinDev offers remarkable access performance", continues Alain Besse. "For each test, some 500 parameters are sent to the test bed and analyzed. These can relate to the power of the engine, consumption, exhaust fumes, maxi-





mum and minimum torque, idling RPM, oil pressure, etc. Since integrating these applications, the John Deere plant in Saran has recorded nearly one million engine tests”.

The information provided gives an instant snapshot of the performance of any engine. Action can thus be taken at any stage of the production process in order to achieve the objective of 100 % customer satisfaction.

Hyper File for skill management

In addition to the test center, other

applications have been built around WinDev. One of them handles the operators’ different skills.

These skills are classified in terms of engine part manufacturing, engine assembly, engine tests or engine painting.

This way trainers can follow an operator’s current and new skill set. All these characteristics are taken into account and stored in a Hyper File database: *“I don’t know any other database that’s easier to use than Hyper File: the 5GL functions are very powerful and clear compared to SQL, installation is very simple and there’s no administration: thanks to the automatic updater in the case of a change in structure, it’s all transparent”*, said Sengsavang Bouvard gladly.



An achieve-



ment that will make the Americans green with envy!

“These applications are a key element in the John Deere strategy. They have been very well received by the users in the plant too, from the production director to method technicians, the engineering team, the post sales and quality services”, declares Alain Besse.

He concludes by noting the interest that his American colleagues have shown in the applications: *“Our*

American colleagues were surprised by our responsiveness to user requirements as well as by our attractive interface”.