

Customer: Veolia Water Systems

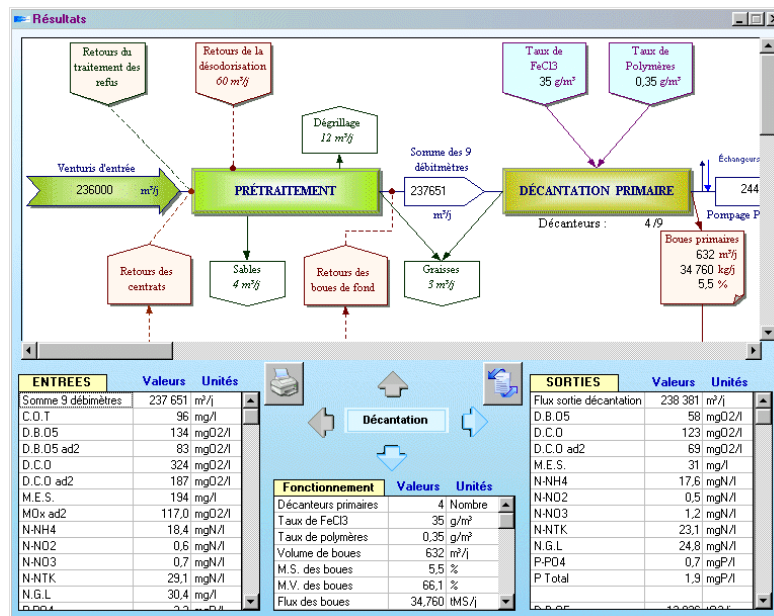
Veolia Water Systems, (formerly Vivendi Waters) is a subsidiary of Veolia Environment and the world leader in water treatment. The company has provided delegated management of public utilities for drinking water production and distribution and waste water treatment for 150 years. To be close to its customers, the company has established a network of a hundred subsidiaries spread in almost 50 countries. With 69,000 employees they serve 110 million customers. Jean-Pierre Gremes is the Director of Assessment and Development at Veolia.

Business Problem:

Water treatment involves the use of highly specialized industrial processes which generate an enormous amount of data such as concentrations, outputs, flows and yields. Current environmental regulations call for managers of drinking water plants, seawater desalination plants and waste water treatment plants to provide greater insight into their industrial processes. In 1999 Jean-Pierre Gremes was tasked with analyzing four years worth of operations of a waste water treatment plant north of Paris. He did not intend to redesign the industrial process, his team was just supposed to assess its relevance and efficiency on the basis of reliable statistics.

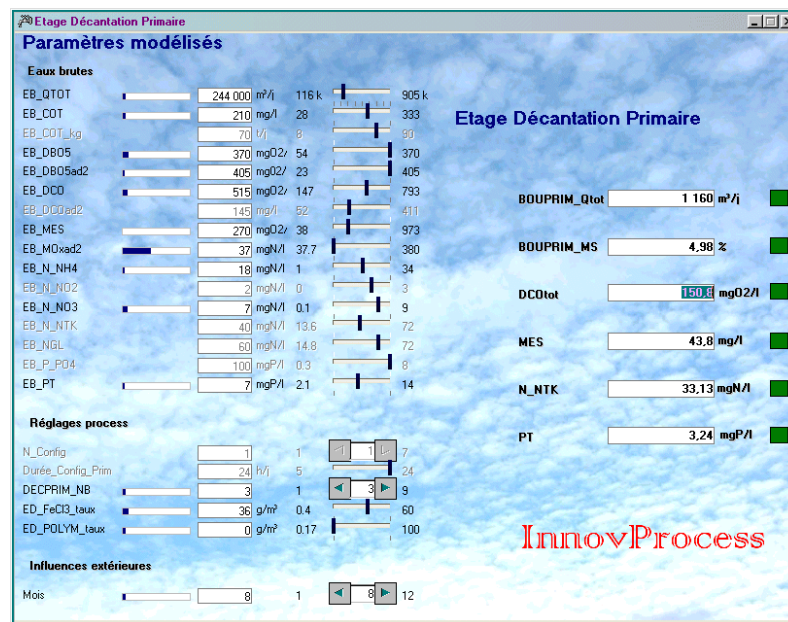
KXEN Solution:

Jean-Pierre Gremes' team initially turned to mathematical tools for their analysis. However, it quickly turned out that these were ineffective since the approach required knowledge of the related activities. In 2001 Veolia engaged a systems integrator who introduced KXEN. Several preliminary models were produced to assess the merit of KXEN's Analytic Framework. The results were almost immediate and very convincing. Patrick Guyon, Project Manager at Veolia Water Systems proceeded to develop a pilot for two specific areas: a physical process, involving equations and transformations and a biological process where functions are not easily applicable due to the complex organic activities.



Veolia's analysts were pleasantly surprised by the quality of the results for the biological process, a field where results are generally random as opposed to a system where the expected results are both linear and coherent. Almost 300 models were developed in just four months, addressing each level of water treatment.

Results:



The complete application went live at the Paris plant in June 2003. An intuitive graphical user interface allows managers to control plant operations and predict the result of the water preparation processes. Among other critical functionality the system determines which machinery is being overused and indicates daily operating costs. It also provides simulations for the prediction of industrial risk to achieve cost control.

"KXEN enables us to control both risk and cost and is clearly a tool unlike any other", declares Jean-Pierre Gremes who adds that the application also serves to provide background information. The industrial process has been recorded in the KXEN models which allows them to benefit from past experience. This provides back-up for the plant manager who can better deal with employee turnover.

The next phase involves a wider implementation and rollout of the system to other Veolia water processing plants.