

# the Naledi3d Factory

## Water sampling and filtration maintenance (2007)

### Purpose:

To improve artisan training, The Rand Water Board (RWB) have embarked on an ambitious programme to integrate focused, VR-based simulations into their on-going training activities. The use of VR, coupled with appropriate pedagogy leads to a rich and engaging learning experience, improved comprehension and longer learning retention.



**Partner:**  
**Rand Water Board**



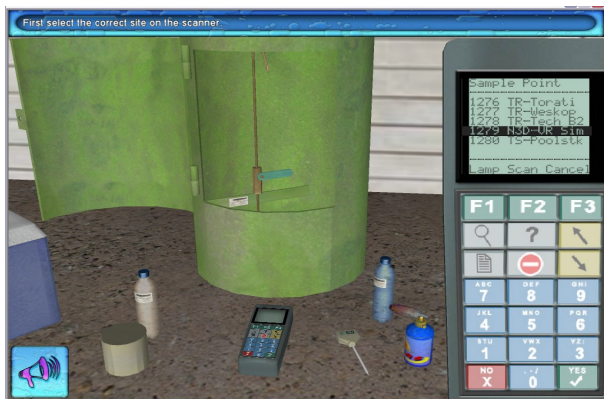
### In a Nutshell:

In this second project with RWB, VR simulations (as *interactive3d learning objects*) were developed to demonstrate two processes:

- How to collect water samples correctly
- Filtration systems, their main components and the correct backwash / cleaning procedure

### Water sampling:

The importance of correct sampling becomes clear when an average of R3000 is spent on chemicals and consumables to analyze one sample; when 1.2m samples are taken a year and that test results can only as good as the sample taken. Two simulations show how to take samples from taps (kiosk sample points) and from surface water (dams etc). The simulations help learners to understand the step-wise procedure, including using a data scanner and the importance of maintaining sterile equipment.



### Water filtration:

Filtration is one of the principal operations in the treatment of potable water. The most common type of filtration medium is finely graded sand and entails passing water through the bed. Suspended matter remains behind in the filter bed and clear water passes through. This simulation shows the main components of a filtration system, how to trouble-shoot and how to correctly backwash the filter bed.

