

Mine Drainage Solutions: a Small Scale System for South Africa (MINDS 4SA)

Mining has been a booming business in South Africa for the last 150 years. After closing of the mines, the mine shaft areas suffered from frequent flooding which polluted both surface and groundwater with chemicals, iron, various metals, radioactive materials, etc. This problem is referred to as acid mine drainage (AMD). Unlike the population in urban areas, the rural population in for example the agricultural sector currently lack adequate water filtration systems due to the high costs of certain systems. Therefore, the agricultural sector in the North West and Gauteng Province is suffering from contaminated water due to excessive mining. Especially poultry farmers are affected by the contaminated water supplies which is causing serious health, environmental and socio-economic problems.

Broadfield Security Services Holland (BSS), NRO Fusion and Alterra - Wageningen UR are implementing a project funded by the [Partners for Water](#) program. The program supports Dutch water sector organizations that work together to realize their international objectives in the field of water.

The goal of the project is to provide a complete solution for a cost-efficient, easy to install (plug and play) water filtration system that is able to effectively filter biological and chemical contaminants in waste water while retaining sufficient essential minerals. The system is combining standard (passive and active) filter techniques with high pressure Nano membrane filters which are easy to replace and are patented. The Nano fibers have a relatively large surface area which allows for a higher absorption rate of various constituents for improving water quality, a higher acid/basic and temperature resistance, environmental friendliness, and longer membrane life span and flexibility which enables the membrane to be formed into various membrane modules for larger commercial application.



Part of the water filter system

By using the water filtration system, farmers gain access to clean water which can be used for poultry. The increased quality of the water contributes to better poultry products to be sold by the farmer, making the agricultural sector more profitable.



AMD in Gauteng, South Africa

In this project TechForce Innovations has assisted in the entire process leading up to an application by advising in developing the project idea, writing the project proposal and submitting the application. TechForce Innovations is responsible for the project administration and reporting to the Dutch government on the progress of the project.

For more information on this project, please contact Steven Gajadin, s.gajadin@innovations.nl

News items on this project:

[BSS - Introducing MINDS 4SA](#)

[MINDS 4SA on the Dutch Water Sector](#)

[MINDS 4SA on RVO](#)