

Press release

PENTAIR, TENCATE AND WAVIN SUPPLY INNOVATIVE DRINKING WATER SYSTEM TO SOUTH AFRICA

The Sustainable Water Fund of the Dutch Ministry of Economic Affairs has commissioned Pentair, TenCate and Wavin jointly to install twenty sustainable drinking water systems in South Africa, called GreenSource.Sports for Water. The water treatment part of this integrated system will be produced by Pentair, the water buffering and pipe systems will be manufactured by Wavin and the high-grade synthetic turf and geotextiles by TenCate. The integration of the system will be carried out in South Africa by the firm Landscape Solutions with its local partner, Royal Turf South Africa. This innovative drinking water system will be installed in the South African province of North West with selected, local contractors. Saxion University of Applied Sciences, as a knowledge institute in both water and textile technology, will provide an important substantive contribution. Training and supervision of the proper use of the drinking water systems will be provided by Mmapula Community Development, with which company Saxion has been working for several years. The Advanced Materials Manufacturing Oost-Nederland (AMMON) foundation will monitor this innovation.

Many periods of severe drought have persuaded the provincial government in the north-west of South Africa and the South African Water Research Commission to acquire the best possible water management for both agriculture and drinking water through innovations. At present the acute lack of adequate, safe water, including groundwater, is regarded as a factor that allows poverty to persist and impedes economic progress. The provincial South African government also aims to increase the well-being of the local population by building more sports facilities near to schools. GreenSource enables both goals to be achieved in one go: on the one hand, sustainable water buffering, water filtration and water distribution, and on the other, high quality multi-sports activities on synthetic turf that is available for use all year round. Moreover, instruction in sanitation will help the population learn how to use water more effectively. The project relates to the entire North West Province, an area of approximately 105,000 square kilometres, where twenty multifunctional GreenSource systems will be installed locally. This has been made possible by the Sustainable Water Fund of the Dutch Ministry of Economic Affairs, which promotes public-private cooperation in the water sector. The aim is to improve the safety and security of water supplies in developing countries.

Water problem in South Africa

The North West Province of South Africa has an arid to semi-arid climate with irregular rainfall. The quality of most surface water ranges from moderate to extremely poor. Only 27% of households in the province have access to safe drinking water, and various local communities are even faced with a total lack of sustainable drinking water. Groundwater is becoming increasingly polluted, for example through intensive mining, industrial activities and unclean irrigation of agriculture. Another major challenge in water management is the

ability to grow sufficient healthy food to feed a growing and more affluent population and at the same time to satisfy the many other demands made on limited water resources. Efficient and productive water consumption is thus essential.

Water management by GreenSource.Sports for Water

The GreenSource project provides safe water storage that makes possible a continuous clean and safe water supply. The filtered water can be used for drinking, irrigation or for sanitary purposes. Rainwater, river water and groundwater can all be stored in the non-clean water tanks. The synthetic turf system can be used as a sports field for both children and adults. In this way the multifunctional GreenSource system combines synthetic turf with water management. Viruses and bacteria are removed by means of membrane technology. The filtration unit will be stored in a compact building, which will also have a small classroom for providing instruction on water and sanitation. The treated water will be stored in clean-water tanks and used for drinking water, the irrigation of agricultural crops and for spraying the synthetic turf sports pitch. The system can provide approximately 50 litres a minute of filtered, safe drinking water. When it is used for 16 hours a day, it can filter approximately 50,000 litres a day, or about 17 million litres annually. Solar panels provide the greater part of the energy for the pumps and lighting. The filtration membranes must be replaced every five years. The synthetic turf pitch should be replaced every ten years. If necessary, the non-clean water tanks can also be cleaned.

Pragmatic industrial approach

Since 2010 large companies in the Eastern Netherlands have been forming industrial partnerships within the AMMON foundation, with the aim of achieving technological innovations at an accelerated rate that involve new high-tech materials, products and systems and of rolling these out in international markets. South Africa is only one of these. The Dutch provinces of Overijssel and Gelderland support this targeted mode of industrial cooperation and have created attractive conditions by supporting the building of demonstrators and becoming a launch customer. The demonstrator forms the basis for the final product design, which is aimed at high-volume production. A demonstrator of the innovative GreenSource drinking water system was built earlier by OICAM, the Open Innovation Center Advanced Materials, and can be found on display in Nijverdal, the Netherlands. Through development cooperation in South Africa the Dutch government has now become a launch customer. The Advanced Materials Manufacturing Oost-Nederland (AMMON) foundation is monitoring the innovation, from business plan to the relevant market.

Technological innovation

From a rich industrial history, the Eastern Netherlands has evolved into a top technological region. The manufacturing industry is a key driver of the Dutch economy, including the knowledge economy. The region has one of the largest concentrations of high-tech companies in the Netherlands. Many of these companies are now faced with the challenge of moving from product to system innovation in order to safeguard their future earning potential. This requires targeted cooperation between companies involved in systems development, implementation and joint marketing - the reason for the establishment of AMMON.

AMMON foundation

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Advanced Materials Manufacturing Oost-Nederland

For further information:

Digital visual material is available on request on: media@tencate.com

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Pentair Advanced Water Technologies develops and applies innovative water treatment solutions.

Together with customers and partners, Pentair Advanced Water Technologies helps to solve problems relating to the environment, health and the shortage of safe drinking water. Pentair Advanced Water Technologies is a division of the US listed company Pentair and has production facilities in Enschede (NL) and Goa (India). Its products are successfully marketed through a global network of sales offices and

service centres, agents and distributors. The innovative X-Flow membrane technology, both ultra- and nanotechnology, and Codeline pressure vessels form the core of its product portfolio.

Royal Ten Cate (TenCate) is a multinational company that combines textile technology with chemical processes and material technology in the development and production of functional materials with distinctive characteristics. TenCate products are sold throughout the world. Systems and materials from TenCate come under four areas of application: safety and protection; space and aerospace; infrastructure and the environment; sport and recreation. TenCate occupies leading positions in protective fabrics, composites for space and aerospace, antiballistics, geosynthetics and synthetic turf. TenCate is listed on NYSE Euronext (AMX).

Wavin is the market leader in plastic pipe systems in Europe. The company supplies modern, flexible solutions that are essential for among other things the provision of drinking water, surface heating and cooling, rainwater and stormwater collection, water and gas distribution and telecom applications. Wavin has its headquarters in Zwolle (NL). The company has operations in 24 European countries and outside Europe it has a network of licensees and distributors. Since mid-2012 Wavin has been part of the Mexichem Group, the market leader in the field of plastic pipe systems and in the chemical and petrochemical industry in Latin America.

Landscape Solutions was founded in 2003 and is the first European company to focus entirely on the development, production and marketing of true-to-nature synthetic turf for individuals, companies and government agencies. Its key objective is the optimal imitation of natural grass without the drawbacks, such as mowing, watering and fertilizing. Landscape Solutions markets these synthetic turf systems under the brand name Royal Grass.

Saxion is a University of Applied Sciences: an international knowledge institute/institution focusing on Living Technology. This means that Saxion enables young professionals during their studies to become acquainted with the successful application of technological developments in their particular field. This is possible in application-oriented education through collaboration with various areas of expertise.

Advanced Materials Manufacturing Oost-Nederland (AMMON) is an independent foundation with an industry-led innovation programme. Its long-term objective is to develop a more powerful industrial-technological infrastructure for the Eastern Netherlands. Cooperation between companies is essential for real innovation in business. AMMON enables industrial companies in the Eastern Netherlands through partnerships to market more distinctive materials, products or systems more effectively and faster. A secondary objective is to create an industrial community in the Eastern Netherlands in which companies are familiar with each other's business opportunities and technological capabilities. Close cooperation and co-creation are the basis for the rapid establishment of future consortia.

AMMON focuses on the Eastern Netherlands and is also an open system: consortia are built on power, with the best possible players. By applying focus AMMON is working towards the establishment of a limited number of business areas for which a concrete business case can be developed. The AMMON innovation



Advanced Materials Manufacturing Oost-Nederland

programme is owned by the Industrial Board, on which board members of large companies have a seat. At least thirty Dutch companies from the Eastern Netherlands are involved in AMMON.

The Industrial Board of AMMON is composed as follows:

- Geert Braaksma, vice president, Sensors Europe of Sensata Technologies
- Jürgen von Hollen MBA, vice president, Pentair Advanced Water Technologies
- Wybren Jouwsma, technical director and co-owner of Bronkhorst High-Tech
- Alexander van der Lof, CEO, TKH Group
- Maarten Roef, CEO, Wavin
- Loek de Vries, president and CEO, Royal Ten Cate (TenCate)
- Alfred Siemes, chairman of the board, Reef Infra
- Martin Dibbets, deputy director, VIRO Engineering

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