



## ENVIRO-PURE FOUNDATION

PRESENTS:

### **smartDUTCH WATER SOLUTIONS = smart DRINKING WATER PRODUCTION**

#### **WHERE WE COME FROM:**

The Netherlands is famous for its expertise in solving water-related issues, such as flood-control, land-reclamation, protection against sea-water intrusion as far back as 1150 AD, almost 900 years ago!

We treat water from even the most polluted rivers to highest drinking water standards, purify ground-and lake-water to meet demand for clean, safe water for consumption, industry, aquaculture and horticulture.

**ENVIRO-PURE FOUNDATION** is a continuation of **Enviro-Pure Environmental Technologies** established in 1977, a successful enterprise with Ultraviolet(UV) Disinfection, Ultrafiltration(UF), heavy metals / metalloids removal solutions.

With > 45 years of experience, working with leading manufacturers and supported by universities and other knowledge centres from our world-wide network as active members of IDA, IWA and IUVA, our systems have been installed in countries in Africa, Asia, Europe, Middle East, and South-America, producing day-in-day-out, clean and safe drinking water to WHO-standards from any fresh- or brackish-water source.

From our base in Thailand, together with highly specialized and experienced partners in **Europe, ASEAN and Australia** we offer a full range of unique water-treatment and sanitation [**WASH**] solutions that **excel in simplicity, performance, lowest operational costs and low maintenance**, designed for use in tropical environments even in the most remote and difficult to reach areas, with choice of power from solar-panels to wind-turbines, diesel/gasoline/LPG/CNG generators to micro-hydro turbines, or grid. Plug-and-Play.

***Lowest energy-requirement, highest yield, lowest reject, fully automated. Field Tested and Approved, easy to transport, install and operate, locally supported by experts.***

#### **WHAT WE CAN DO FOR YOU, WE DO IT THE DUTCH WAY!**

We cooperate with others; **we don't need to re-invent the wheel!** With well-established partners, and a network of well-trained regional or national distributors and representatives we are here to serve you and provide safe and clean water for rural villages, small to medium sized cities, refugee-camps, shelters for disaster survivors, islands, hospitals, clinics, hotels, resorts, condominiums, villa's, dairy-farms, industry etc. using the most **appropriate** technologies.

Operating since 2008 from our base in Thailand we offer in-depth knowledge of, and experience with, water-challenges common in the region, presenting our solutions in **ASEAN, ASIA-PACIFIC and AFRICA** in cooperation with local representatives, giving demonstrations, presentations, seminars and designing for, and supporting our existing and future customer-base in the region. We have hundreds of systems operational in Asia, thousands worldwide!

#### **SMART PRODUCTS and PARTNERS:**

**smartUF** by **Akvoregia**, a Dutch design-, development- and consultancy-company with > 35 years of experience in manufacturing and application of UF-membranes for the water-, effluent-, and beverage-industry.

Fully automatic **smartUF** systems are available in capacities from 300-15,000 L/h.

Multiple systems combined produce > 7,000 Tons/day of safe drinking water from almost any fresh water source.

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**smartINTEGRATION** by **ENVIRO-PURE, designers / integrators / engineers** since 1977 in water-and waste water industry in Europe, Africa, America's, Middle- and Far East, integrating proven technologies from all continents through lateral approach and out-of-the-box thinking, resulting in **smartSOLUTIONS** achieving standards not possible by standalone equipment (**1+1=3**).

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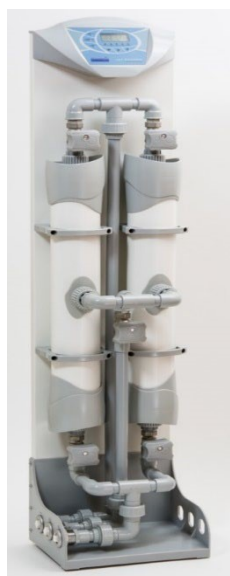
#### **smartENVIRO-PURE H2O TECH: RIVER WATER PURIFICATION for LARGE VILLAGES and CITIES:**

For governments wishing to provide citizens with clean water to **International standards** at 120 l/day/per person, our **smartENVIRO-PURE H2O TECH** with localized water-kiosks is the optimal solution.

Designed by leading drinking water experts in The Netherlands with >40 years of experience, including in Asia. The **SYSTEM** has **CAPEX of 50% of conventional or comparable systems, and 70% of OPEX, copes with seasonal fluctuations of TSS in rivers up to 3,000+, is made with 80% local (ASEAN) content. No mixers or**

compressors required, 50% footprint! Short building time (50% less concrete). WHO Compliant potable water. Capacities from 20 – 800 L/second for populations of 10,000-750,000 inhabitants. Modular design.

## **"ONE STEP FROM RIVER TO TAP"**



smartUF5024/5040



smartUF-MMU-SDE-20



smartENVIRO-PURE H2O TECH surface water purifier

### **Example: *smartENVIRO-PURE H2O TECH with smartUF***

*smartUF* is used when TDS < 500 ppm, NTU < 500 ppm, TSS < 500 ppm and/or high Arsenic or Fluoride levels are present. Permeate (clean water) will be free of micro-organisms (bacteria, viruses, cysts, protozoa, worm eggs, amoeba etc.), TSS < 0.1, NTU < 0.3, TDS unchanged or slightly lower than input due to co-precipitation.

There is a distinct difference between the concepts of tap water and drinking water production.

Tap water will be mostly free of particles and Fecal Coliforms.

Drinking water has a higher level of purification and must have 0 Coliforms and viruses, but why water your garden, clean the floors and flush the toilets with drinking water? Each person needs 2.5 Litre/day of drinking water, so by treating the available fresh water from lake, river or other source at low production cost and purify and bottle a part of this water to highest standards, both requirements are fulfilled more economically.

## **More smart WATER SOLUTIONS**

*smartSTORAGE*, and *smartWTP*, in cooperation with our Australian partners we offer complete **WASH** solutions: **FLAT PAK TANKS**, developed by **GreenCo Water in Melbourne, Made in Thailand**:

### **UNIQUE INVENTION TO COPE WITH LOGISTICS AFTER DISASTERS OR INSTALL SAFE WATER STORAGE IN REMOTE, HARD TO REACH LOCATIONS**

Folding tanks that come in pallet-size boxes of 14 cm high and 26 Kg only, assembled in 10 minutes to form an insect-free water storage of 1,000 L!

14 tanks fit on a pallet to create 14,000 L of volume. Available from stock in Bangkok area; already installed all over Asia-Pacific.



*smartWTP*, by *ENVORINEX* of *TASMANIA*, called *BIPU*:



**BIPU**, Lego-style blocks of recycled plastic form compact easy to transport and install SEPTIC tanks, PRIMARY & SECONDARtreatment and DESLUDING for Remote Locations.



Refugee-Camps, Army-Facilities and Disaster Mitigation. 50,000 were installed after the Tsunami in 2004 in Aceh-Indonesia and many more in Papua New Guinea, East Timor(UN), Fiji, etc. Complete packages including robust shelters, drinking water supply, bathing and ablution, wastewater treatment available.

## smartSEPARATOR

Purifying water from natural sources to produce safe, clean drinking water can be challenging, especially in remote areas and where no trained/schooled operators are available. To solve this problem other **smartSOLUTIONS** have been added to our program from worldwide renown manufacturers:



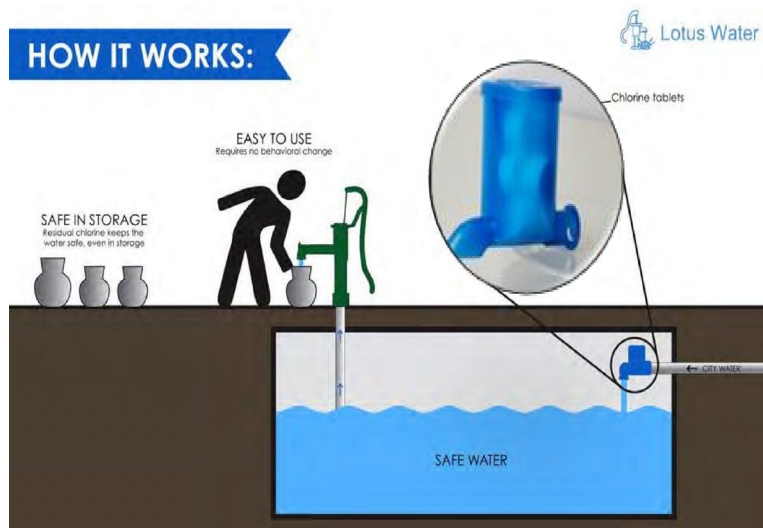
The MultiCyclone is a novel version of the well known hydrocyclone particle-separator. By using multiple small inserts a very compact design with highest efficiency has resulted. We have adapted the MultiCyclone to work with our **smartUF** systems, removing > 80% of all particles > 30 micron from river water prior to UF, thus extending backwash intervals and removing the bulk of TSS/NTU without replaceable cartridges or other filter media. We developed a unique, simple system to supply filtered and disinfected water for personal hygiene, laundry, cleaning, toilet flushing etc. while at the same time producing drinking water to WHO-standards.

**2 systems in 1**

**smartDUTCH WATER SOLUTIONS! by ENVIRO-PURE FOUNDATION**

## smartDISINFECTOR

Following our philosophy: **“Make it Smart and Keep it Simple”** we have teamed-up with the world’s largest manufacturers of disinfection tablets and granulates to preserve the quality of our perfectly clean drinking water after treatment. Chlorine, if used correctly without causing a serious taste problem, prevents re-contamination of safe water during storage and transport, in tanks, pipes, hoses and containers. Slow dissolving tablets or granulates are safe to use by people without knowledge of chemicals, and easy to transport and store, contrary to liquid or powder chlorine and infinitely safer than chlorine gas. Our partners from Ireland manufacture a range of slow dissolving Cl tablets with millions produced annually and > 25 billion litres of water treated every year; internationally approved and certified, used by many NGOs. The natural match of our systems with a smart and simple post-disinfection system brought us together.



Aquatabs InLine System in combination with *smartUF*, *smartSEPARATOR* and Flat Pak Tanks.

**Australia, Ireland, The Netherlands and Thailand**

Joining hands to offer the most appropriate and tested water technologies to the developing world.



World Health Organization

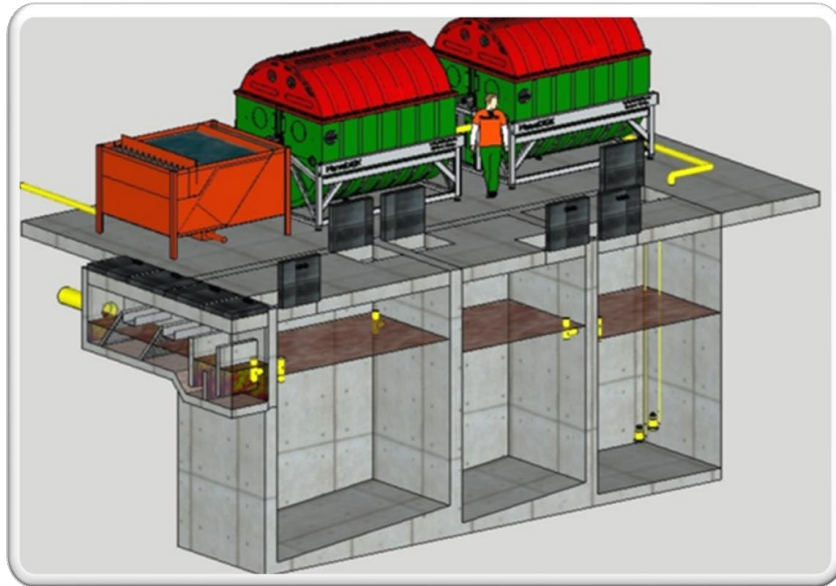


**USAID**  
FROM THE AMERICAN PEOPLE



Automatic granulate dissolving systems to produce **HOCI-hydrochlorousacid**, the most potent chlorine based disinfectant with a residual time in storage and distribution pipelines of up to 72 hours. **No chlorates formation. For industry, water treatment stations, distribution networks.**

**NEW: smartRBC: Rotating Biological Contactor by PLANETTEK™**



*The RBC was invented > 50 years ago in Germany as an alternative to trickling filters for domestic wastewater treatment. Thousands have been successfully installed worldwide. In 2005 a complete redesign took place substantially improving operating, performance and maintenance, lowering energy requirement. Complete with Inlet-screens and sludge treatment. Lowest CAPEX & OPEX. Available fully containerized, Solar powered, Plug-and-Play.*

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