

AQUATECH INNOVATION AWARD 2019

AQUA
TECH
 AMSTERDAM



JURY REPORT

AWARDS DEMONSTRATE CONTINUED GLOBAL WATER SECTOR INNOVATION

The Aquatech Innovation Award showcase water technology developments which have the potential to create real change. In a market driven by population growth, climate change and ageing infrastructure, now is the time where game-changing solutions are needed more than ever.

“What always amazes the jury is that every two years there are so many new innovations,” commented jury chairman Professor Cees Buisman, Scientific Director of Wetsus, European centre of excellence for sustainable water technology. “We are always surprised by the enormous, innovative potential of the water sector that is highlighted by these awards.”

The Aquatech Innovation Award recognizes world-class innovation and technologies that have the potential to move the global water market forward. A total of 12 innovative technologies were selected from an impressive number of entries by an expert jury. Category winners, as well as the overall winner of the Aquatech Innovation Award 2019, were revealed at the opening ceremony of the Amsterdam International Water Week and Aquatech Amsterdam.

“We noticed two major trends across the entries this year,” added Buisman. “The first was a rise in the number and ability for sensors to measure online parameters that were not possible before. This gives the potential for greater automation of the water sector.

“The second trend we spotted was urbanization. There is now an increasing difference between cities and the countryside because of the heat, waste and resource recovery challenges facing urban areas. Water technology innovations are helping to bring solutions to the challenges of urbanization.”

AND THE OVERALL WINNER IS...

Kaamera Nereda® Gum – Royal HaskoningDHV

The overall winner of the Aquatech Innovation Award was the Kaamera Nereda® Gum, a valuable resource that can be extracted from the wastewater treatment process. A biological raw material, the gum can retain as well as repel water, giving it great potential to be used in agriculture, as well as the paper and construction industries.

“This was by far the biggest innovative step from all of the entries received,” adds Buisman enthusiastically. “It’s completely new and hasn’t been done before. In an urbanizing world, it’s going to have much impact to help enable a circular economy.”

The development of Kaamera is the result of a collaboration between multiple stakeholders: Royal HaskoningDHV, TU Delft, STOWA (Stichting Toegepast Onderzoek Waterbeheer), the Vallei en Veluwe Water Authority, the Rijn en IJssel Water Authority, Chaincraft and the Energy and Raw Materials Factory (EFGF).

The award judges were impressed that the market potential has already been demonstrated. In the autumn of 2019, a factory will open in Zutphen that will extract Kaamera from residual water from the dairy industry. The second plant in Epe will be operational by the spring of 2020 and will extract Kaamera from municipal sewage water. It’s estimated that a medium-sized wastewater treatment plant can produce up to 2000 tons of Kaamera each year.

“Usually with these type of resource innovations you need several tonnes of material to get clients using it – it’s a chicken and egg scenario,” says Buisman. “In this case, there is a company who is taking the risk of building a plant and another taking the risk of selling the material. Together that accelerates the speed of scale-up and adoption.”



AQUATECH INNOVATION AWARD 2019 – THE RESULTS

Nominees in the category: Not yet to market

- **Category & Overall Winner: Kaumera Nereda® Gum - Royal HaskoningDHV – the Netherlands**
- flowIQ® 2200 - Kamstrup - Denmark
- PipeDiver Laser - Xylem Europe GmbH - Canada

Nominees in the category: Process control technology & process automation

- **Category Winner: GoAigua's IoT and Big Data platform - GoAigua – Spain**
- DropletSens-NO3 - SouthWestSensor Limited - United Kingdom
- OPTIWAVE 1400 C - Krohne Nederland - France



Nominees in the category: Waste water treatment

- **Category Winner: ABX - Aquafortus - United States**
- Special Mention: Sewtree - ATB WATER GmbH – Germany
- Flowrox Corona - Flowrox Oy - Finland



Nominees in the category: Water supply (drinking water, clean water, including point of use)

- **Category Winner: MPC-Nanobubble - LG Sonic algae control - the Netherlands**
- BactoSense - SIGRIST-PHOTOMETER AG - Switzerland
- Self-cleaning Metalmembranes - Metalmembranes.com B.V. - the Netherlands

HOW THE ENTRIES WERE JUDGED

Entries to the Aquatech Innovation Award 2019 were judged in four categories: Innovation – not yet to market; Process control technology & Process automation; Waste water treatment; Water supply (drinking water, clean water, including point of use). An independent jury evaluated the

entries based on: originality (50%); practicality (technical, economic, feasibility – 25%); and sustainability (environment, security, energy and efficiency – 25%). The jury selected one winner from each category and then chose the overall winner from these category winners.



THE 2019 JURY

- Prof.dr.ir. C.J.N. Buisman (Wetsus – Chairman of the Jury)
- Ir.C.A. Uijterlinde (Stowa)
- Ir.P. Kamp (retired - formerly PWN Technologies)
- W.F. Volmer BSc (Nmi Certin BV)
- Prof. M. Kennedy, PhD (IHE Delft, Institute for Water Education)
- J.S. Vrouwenvelder (King Abdullah University of Science and Technology (KAUST))
- Prof.dr.ir. A.J.H. Janssen (Shell)
- Drs. H.J. Gastkemper (Stichting RIONED)

Supporting AMREF Flying Doctors

Clean water and safe sanitation in Homa Bay, Kenya

Aquatech Amsterdam donates the registration fees received from entrants to the Aquatech Innovation Award to health organization AMREF Flying Doctors. AMREF works with partners Dunea and Homawasco, on sustainable solutions for clean drinking water in Homa Bay, Kenya. Together they ensure that 134.000 people with a low income are having safe toilets

and clean water. Amref gives education on the importance of clean water, safe toilets and good hygiene. Dutch water company Dunea, together with local water company Homawasco, provides the water supply and drainage of the water in the region. By joining forces, they work on a truly sustainable solution for better living conditions in the communities in Kenya.



THE JURY'S VERDICTS ON THE CATEGORY WINNERS

CATEGORY WINNER

NOT-YET-TO-MARKET

Kaamera Nereda® Gum, Royal HaskoningDHV

Demonstrating modern resource recovery, Kaamera is one of the potential valuable products to originate from the wastewater treatment process. What impressed the judges was an entire factory is being built – demonstrating faith in the market potential, as well as the resource. The Gum was called “high impact and very innovative” by the judges.



CATEGORY WINNER

IoT & Big Data Platform
go-aigua



PROCESS CONTROL TECHNOLOGY & PROCESS AUTOMATION

GoAigua's IoT and Big Data platform, GoAigua

This entry is very relevant, with the Internet of Things (IoT) and Big Data currently in demand and digitization becoming a key driver for water utilities. The jury commented that the solution is not only “user-friendly” but also that the platform was unique because it can connect with many different platforms and systems.

CATEGORY WINNER

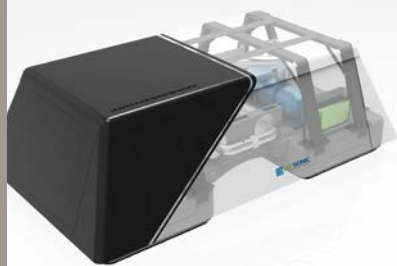
WASTEWATER TREATMENT

ABX, Aquafortus Technologies Limited

This technology is a novel solvent extraction solution that crystallizes out salts from brine while recovering the water for reuse. The jury remarked that brine treatment solutions are in need around the world and that this solution is innovative due to the solvent dosing, as well as being sustainable with 90 per cent claimed less energy use.



CATEGORY WINNER



WATER SUPPLY (DRINKING WATER, CLEAN WATER, INCLUDING POINT OF USE)

MPC - Nanobubble, LG Sonic algae control

MPC is the first nanobubble system that increases oxygen levels in lakes based on real-time data on a movable pontoon. The jury was impressed by the simplicity and low energy requirements of the nanobubble application, calling it a “very elegant solution”. The combination with solar energy means the impact of this innovation is high, the jury remarked.

SPECIAL MENTION

Sewtree, ATB WATER GmbH

Sewtree is a natural purification and buffering system for stormwater run-off that provides safe wastewater treatment in urban areas/large cities. By using plants to transport, filter and purify water, the system is “attractive and innovative”, the jury commented. They added that Sewtree has the potential to create high impact by making water treatment visible, offering social relevance and community value.



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