



2014 GREENTEC AWARDS



GreenTec Awards
04th of May 2014, Munich

- Involvement
- Competition
- Online Voting
- Categories
- Automobility
- Construction & Living
- Energy
- Galileo Wissenspreis
- Green Music Award
- Intelligent urbanization
- Communication
- Lifestyle
- Aviation
- Production
- Recycling & Resources
- Start-up
- Water & Sewage
- Green Wall of Fame
- Process
- Jury
- Quality label
- Awards 2013
- Service
- Media Center




Water & Sewage

Clean water is a valuable resource and unfortunately still a luxury good to millions of people. Besides people, animals and plants need clean water, and we also rely on it in the areas of households, businesses and industry. Daily water consumption in Germany is currently some 122 liters per resident. The supply of high-quality water, the proper and responsible handling of water, and the environmentally compatible disposal of sewage are a prerequisite for sustainable development, not only in Germany but also around the world. Ideas are needed that promote the responsible use of water, that lead to improvements in the processing of drinking and industrial water and sewage treatment, or that contribute to the improvement of waterway development in other ways.


Criteria of the jury

- Is the submitted idea technological and innovative?
- How does the idea contribute to using water in a sustainable manner? Both qualitative and quantitative aspects will be taken into account
- How economical is it to implement the idea, and what administrative work is involved? Is the idea scalable and thus conferrable to further uses, or utilizable in different markets?
- Are the idea and the corresponding team adequate for advertising a more careful use of water?

Guardian of the category




Green Wall of Fame



The GreenTec Awards honor the most innovative green products, projects and environmental technologies. In our Green Wall of Fame you will find all laureates since 2008.

[To the Green Wall of Fame](#)

Quality label



All GreenTec Awards nominees and laureates are exclusively offered the opportunity to acquire the licence of a quality label which was developed in cooperation with WirtschaftsWoche Green.

[To the quality label](#)

presented by













hosted by



2014 GREEN TEC CATEGORIES

<p>Automobility</p> 	<p>Construction & Living</p> 	<p>Energy</p> 
<p>Communication</p> 	<p>Lifestyle</p> 	<p>Aviation</p> 
<p>Production</p> 	<p>Recycling & Ressourcen</p> 	<p>Water & Sewage</p> 

Water & Sewage Category – Finalists

				
<p>akvoFloat™ allows more sustainable and affordable desalination akvolution</p>	<p>Automatic Leak Detection Technology for Water & Sewerage Pipes Electro Scan Inc.</p>	<p>Filter Drainage Channel System for Pollutant Removal from Stormwater Runoff Hauraton & Co. KG</p>	<p>Filterfree light liquid separator ACO Oleosmart ACO Beton</p>	<p>IM-MS Integrated Mixer and Membrane Separator Lenzing Technik</p>
				
<p>myCleaner- the first online booking platform for mobile vehicle cleaning Cleaner</p>	<p>N2O Wastewater System Unisense A/S</p>	<p>Optimized operation of membrane bioreactor wastewater treatment plants. Freudenberg Filtration Technologies SE & Co. KG</p>	<p>Power-saving wastewater treatment plant ATB Umwelttechnologien</p>	<p>WISY Systems in Sport Facilities - Soccer World Cup 2014 in Rio de Janeiro WISY AG</p>

2014 Green Tec Award - Water & Sewerage

<http://www.greentec-awards.com/en/competition/categories.html>

FINALISTS**1. akvoFloat™ allows more sustainable and affordable desalination
akvolution GmbH (Germany)**

We have made it our goal to make seawater desalination affordable and sustainable, because we think it is essential to the future development of mankind in terms of society, environment and economy. Water scarcity is a huge problem and desalination has made seawater an inexhaustible source of freshwater. Unfortunately, seawater contains many contaminants that have to be removed in order to make desalination possible, and that is exactly what our technology does. akvoFloat™ is a pretreatment technology that enables seawater desalination plants to produce cheaper freshwater in a very reliable way.

www.akvolution.de

**2. Automatic Leak Detection Technology for Water & Sewerage Pipes
Electro Scan Inc. (United States)**

Over 3 billion people live in water-stressed areas either losing up to 60% of their treated water supply or drinking water from unsafe sources. While legacy methods for detecting leaks have provided generalized locations, their inability to accurately & precisely locate leaks have limited their effectiveness. By measuring the variation of an electric current, inside a pipe, Electro Scan automatically detects leaks by mapping and measuring defects that allow water flows to either enter or exit a pipe.

www.electroscan.com

**3. Filter Drainage Channel System for Pollutant Removal from Stormwater Runoff
Hauraton GmbH & Co. KG (Germany)**

By linking surface drainage and pollutant removal in one filter channel system, loss of surface area can be avoided. A special filter substrate combines high binding capacity for dissolved pollutants with an excellent retention of solids. A big retention volume within the channel system allows the buffering of runoff peaks during heavy rain storms. Continuous discharge avoids permanent ponding and hence anaerobe rotting of organic substances creating dissolved, oxygen-depleting degradation products. By using existing technical standards the system can be adapted to any local requirements.

www.hauraton.com

**4. Filterfree light liquid separator ACO Oleosmart
ACO Beton GmbH (Germany)**

ACO creates smart system solutions that work in both directions: they protect human from the water - and vice versa. The filter free light liquid separator Oleosmart cleans the water best possible from hydrocarbons and sediments. Its technology is based on an innovative flow system of the water, is blockage-free and safe to operate. Problems as they occur with conventional light liquid separators with filters do no longer exist. When using the Oleosmart, oil- and particle-containing wastewaters have no chance to pollute the environment!

www.aco.com

**5. IM-MS Integrated Mixer and Membrane Separator
Lenzing Technik GmbH (Germany)**

IM-MS stands for integrated mixer and membrane separator. Advantages in the operation and control of the IM-MS reactor are just as important as comparable or higher reduction rates. The economic efficiency of the IM-MS system is guaranteed by low investment cost, efficient utilization of the clarification section volume, simplified design and lower operating costs. Automatic testing and control of the sludge content in the reactor by a combination of continuous measurement of the sludge blanket and speed control of the hyperboloid mixers are

a guarantee for stable and reliable reactor operation
www.lenzig-technik.com

**6. myCleaner- the first online booking platform for mobile vehicle cleaning
Cleaner GmbH (Germany)**

Especially in times of mobility regarding the growing trend of consumer and corporate car sharing there is a rising demand for a solution to clean vehicle fleets which are spread all over the city. Our service is the perfect answer for this change of needs. We are already responsible for three huge car clubs in Germany and have saved 17 million litres of valuable drinking water by now. Therefore we supplement the principal of sustainability which car clubs follow through out the whole life cycle of a vehicle.

www.mycleaner.com

**7. N2O Wastewater System
Unisense A/S (Denmark)**

Nitrous Oxide accounts for up to 80% of GHG emissions from wastewater treatment plants. The Unisense N2O Wastewater System is the world's first and only system to measure dissolved N2O dynamics directly in bulk waters for on-site, real-time monitoring and control. Until recently, off-gas measurements were the only technology available, but this method is expensive, highly complicated and vulnerable, so therefore its use has been very limited. The robust N2O Wastewater Sensor has costs reduced by 80% in comparison to complicated off-gas setups and is ideal for long-term N2O emission optimization.

www.unisense.com

**8. Optimized operation of membrane bioreactor wastewater treatment plants.
Freudenberg Filtration Technologies SE & Co. KG (Germany)**

Freudenberg's 2 types of aerobic crossflow membrane bioreactors (MBRs), using tubular ultrafiltration membranes, are the most compact and cost-effective MBR systems available. The AMBR™ uses high crossflow to achieve 3-10 times higher flux rates than other MBR's. Advantages: Very compact plants, reduced footprint and lower capital costs. The new AMBR LE™ is developed to optimize energy use relative to the plant load but still achieves 2-5 times higher flux rates than other MBR's. Advantages: Very compact plants, low energy, flexible operation, optimal membrane replacement costs.

www.freudenberg-filter.de

**9. Power-saving wastewater treatment plant
ATB Umwelttechnologien GmbH (Germany)**

At least 12 million households in Europe are not connected to the public sewer system and need their own small wastewater treatment plant for the treatment of their wastewater. Existing facilities are not always easy to use, are difficult to maintain and are expensive, especially in the area of power consumption. ATB, as a long standing expert and market leader in Germany, has developed a system that has eliminated all the shortcomings of current systems, requires less electrical components and - in comparison to most other treatment systems - consumes at least 50% less power: PUROO

www.atbnet.eu

**10. WISY Systems in Sport Facilities - Soccer World Cup 2014 in Rio de Janeiro
WISY AG (Germany)**

WISY rainwater harvesting already takes part today. 18 Vortex-Fine-Filter WFF 300 provide clean rainwater for watering the lawn and for the lavatories in the new Maracana Stadium in Brazil. We care about reliable Solutions.

www.wisy.de

WATER & SEWERAGE CATEGORY GUARDIAN - The German Water Association
<http://en.dwa.de/organisation-en.html>

JURY

The members of the jury are independent experts from culture and media, science and professional practice.

The GreenTec Awards jury consists of fifty (50) representatives from the economy, science, organizations, and the media, who determine the nominees and laureates of the competition. The organizers of the GreenTec Awards appoint the members of the jury. After all applications have been submitted and the TOP 10 have been determined, the jury nominates two (2) projects per category in a first round of voting.

In addition, a third project is elected in a simultaneous public Online Voting to open January 4, 2014.
<http://www.greentec-awards.com/en/competition/online-voting.html>

In total, three nominees per category thus enter the second and final round of the GreenTec Awards, in which the jury then chooses the winner in each category. At the jury meeting, all nominees are presented, discussed and anonymously evaluated.



Prof. Dr. Carsten Agert, Director NEXT ENERGY EWE-Forschungszentrum e.V.



Ralf Bauer, Actor / Presenter



Dirk Baur, Managing Director International Division UNIVERSAL MUSIC Deutschland



Dr.-Ing. Klaus Bonhoff, Member of the Executive Board NOW GmbH - Nationale Organisation Wasserstoff- und Brennstoffzellentechnologie



Béatrice Backlo, Director Communication Germany Boeing Operations International, Inc. a subsidiary of the Boeing Company



Michael Bueltmann, Member of the Executive Board Nokia GmbH



Joachim Buse, Vice President Aviation Biofuel Deutsche Lufthansa AG



Sabine Christiansen, Media entrepreneur



Richard Clemens, Chief Executive, VDMA Fachverband Verfahrenstechnische Maschinen und Apparate



Dr. Ulrich Eichhorn, Member of the Executive Board VDA Verband der Automobilindustrie e.V.



Nina Eichinger, Presenter / Actress



Till F. Esser, Director of Institutional Relations, BU Central Europe NH Hoteles Deutschland GmbH



Prof. Dr.-Ing. Martin Faulstich, Chairman, Sachverständigenrat für Umweltfragen



Ronald Focken, Partner Serviceplan Gruppe für innovative Kommunikation GmbH & Co. KG



Dr.-Ing. Stefan Franzke, Member of the Executive Board Innovationszentrum Niedersachsen GmbH



Rea Garvey, Singer and songwriter



Stefan Gödde, Presenter, ProSieben



Katja Hahn, Chief Editor Galileo, ProSiebenSat.1 AG



Patrick Hasenkamp, Vice President, VKU - Verband Kommunaler Unternehmen



Dr. Christopher Hebling, Divisional Director Electrical Engineering Fraunhofer ISE - Institut für

Solare Energiesysteme



Mareile Höppner, Presenter, Erstes Deutsches Fernsehen ARD



Dr. Reinhard Hüppe, Executive of the Professional Association AUTOMATION / ZVEI - Zentralverband Elektrotechnik- und Elektronikindustrie e.V.



Prof. Dr. Claudia Kemfert, Energy expert and professor,
DIW Deutsches Institut für Wirtschaftsforschung, Hertie School of Governance



Dr. Michael Kerkloh, President of the Executive Board Flughafen München GmbH



Dr. Johannes F. Kirchhoff, Executive partner, FAUN Umwelttechnik



Dr. Karlhorst Klotz, Chief Editor, Energy 2.0, Mobility 2.0 & Urban 2.0



Franziska Knappe, Model



Christoph Körfer, Deputy General Manager Spokesperson, ProSieben



Florian Kohler, Chief Executive and owner, Büttenpapierfabrik Gmund GmbH & Co. KG



Prof. Dr.-Ing. Reinhard Kolke, Head of Testing and Technology, ADAC



Michael Kuhndt, Member of the Executive Board, UNEP / Wuppertal Institute Collaborating CSCP - Centre on Sustainable Consumption and Production gGmbH



Dr. Michael Kummermehr, Partner economics law firm, Wegner Ullrich Müller-Helle



Peter Kurth, President BDE, Bundesverband der Deutschen Entsorgungs- Wasser- und Rohstoffwirtschaft e.V.



Nela Lee, Presenter, ProSieben



Sebastian Matthes, Chief Editor Green WiWo, WirtschaftsWoche



Christoph Metzelder, former football professional and donator



Prof. Dr. Alexander Michaelis, Head of Institute, Fraunhofer IKTS - Institut für Keramische Technologien und Systeme



Thomas Moucka, President, VAK - Verband der Arbeitsgeräte- und Kommunalfahrzeug-Industrie e.V.



Dr.-Ing. Detlef Müller-Wiesner, Senior Vice President, EADS Deutschland GmbH (European Aeronautic Defence and Space Company)



Luis Neves, Head Corporate Responsibility, Deutsche Telekom AG



Martin Oldeland, Member of the Board, B.A.U.M. e.V. - Bundesdeutscher Arbeitskreis für Umweltbewusstes Management



Prof. Dr. Susanne Rexroth, Architect and professor, HTW Hochschule für Technik und Wirtschaft Berlin



Volker Sach, Chief Executive, F.A.Z. - Institut für Management-, Markt- und Medieninformation GmbH



Otto Schaaf, President, DWA – Deutsche Vereinigung für Wasserwirtschaft, Abwasser und Abfall e.V.



Nicole Scheer, Head Sustainability, Strategy, and Reporting, Fraport AG



Herbert Schein, Chairman, VARTA Micro AG



Dr. Heike Schiffler, Member of the Executive Board, Tetra Pak Deutschland GmbH



Malte Schneider, Director, Climate-KIC Deutschland



Boris Schucht, Head of the Executive Board, 50Hertz Transmission GmbH



Karsten Schwanke, Presenter and meteorologist, Erstes Deutsches Fernsehen ARD



Dirk Seifert, Country Manager, Ecover Deutschland GmbH



Prof. Dr.-Ing. Friedrich Sick, Dean / Professor, HTW - Hochschule für Technik und Wirtschaft Berlin



Dr. Dirk Stenkamp, Member of the Board, TÜV NORD AG



Christina Sternitzke, Member of the Executive Board, EUROFORUM Deutschland SE



Prof. Dr.-Ing. Joachim Szodruch, Head of the Aviation Cluster Hamburg e.V. and President for Science and Research at aireg - Aviation Initiative of Renewable Energy in Germany e.V.



Philipp A. Thode, Founder of the media initiative Love Green and Strategy Director at UnitedSenses GmbH



Marco Vollmar, Member of the Executive Board, WWF Deutschland



Prof. Dr. Eicke R. Weber, Director Fraunhofer ISE



Dr. Oliver Weinmann, Member of the Executive Board, Vattenfall Europe Innovation GmbH



Matthias Willenbacher, Member of the Board, juwi Holding AG



Prof. Dr.-Ing. Johann-Dietrich Wörner, Head of the Board, Deutsches Zentrum für Luft- und Raumfahrt e.V. (DLR)



ENGLISH VERSION

1. Title of the project

Automatic Leak Detection Technology for Water & Sewerage Pipelines

2. Description short*

(600 characters max. including spaces)

Over 3 billion people live in water-stressed areas either losing up to 60% of their treated water supply or drinking water from unsafe sources; caused by leaking water & sewer pipes. While legacy methods for detecting leaks have provided generalized locations their inability to accurately locate & precisely leaks have limited their effectiveness. Electro Scan represents a disruptive technology. By measuring the variation of electric current, inside a pipe, Electro Scan automatically detects leaks by mapping and measuring defects that allow water flows to either enter or exit a pipe.

Characters with Spaces: 591

3. Description long*

(1300 characters max. including spaces)

Background information for the jury

Accurate location and measurement of water & sewerage defects are essential for cost-effective pipeline repairs, renewal, and new construction. Commonly used methods for leak detection include acoustic pressure waves, helium injection, infrared thermography, fiber optic sensors, and visual inspection; however, their inability to locate and measure leaks has limited their use in remediation and rehabilitation.

In contrast, Electro Scan's breakthrough technology accurately locates and precisely measures leaks. Utilizing its proprietary technology, Electro Scan's probe emits a constantly dispersed, low voltage/high frequency current, that releases in a focused 360° electrical array inside of a pipe. Traveling at the rate of 15-20m per minute and collecting over 5,000 data points every 100m inside a pipe, Electro Scan automatically maps and measures defects where water flows enter or exit a pipe.

Due to its high rate of accuracy, Electro Scan often contradicts previously collected leak location data requiring CAPEX decisions and renewal plans to be re-prioritized. As the first technology to detect leaks in sewers and certify pipe relining & repair projects, Electro Scan helps eliminate infiltration, directly reducing pumping costs and lowering carbon footprints of treatment plants.

Characters with Spaces: 1296

1300 Max With Spaces

Please answer these questions additionally

300 characters max. including spaces each

4. Please describe the project's present effect on environmental protection, if possible add numerical data.*

Water lost is water wasted. When water is treated & delivered (or sewerage collected & transported) and fails to reach the end user (or treatment plant) it wastes a valuable resource (and risks contamination). In the next 20 years the quantity of drinkable water is predicted to decrease by 30%.

Number of Characters With Spaces: 296**5. Please describe the potential of the project for environmental protection, if possible add numerical data.***

Reliable leak detection technology can recoup (contain) up to 20% of the world's water supply (sewer catchment); however, absence of a political ribbon-cutting event, focus by engineers to build rather than fix infrastructure, and managers that close revenue gaps by lower CAPEX will delay success.

Number of Characters With Spaces: 300**6. What is the status of realization of the project? How do you estimate the chances of success? (please add an explanation)?***

Successful benchmark projects, including over 300,000m of pipe evaluations, have been completed in England, Japan, New Zealand, and USA. Disruptive technologies, like Electro Scan, do not succeed in the water business until adopted by internationally recognized utilities; now taking place.

Number of Characters With Spaces: 290**7. How was the idea for this project conceived?***

Early R&D was undertaken by the German government and later abandoned after commercial prototypes were unable to deliver consistent results. U.S. software entrepreneur, Charles Hansen, pioneer of modern-day water & sewer asset management systems, acquired the IP and re-engineered the solution.

Number of Characters With Spaces: 299

GERMAN VERSION**1. Title of the project**

Automatische Leckortungstechnologie für Wasser- & Abwasserrohrleitungen

2. Description short*

(600 characters max. including spaces)

Mehr als 3 Milliarden Menschen leben in Gebieten, in denen Wasserknappheit herrscht, und verlieren entweder bis zu 60% des aufbereiteten Wassers oder des aus unsicheren Quellen stammenden Trinkwassers. Grund dafür sind Lecks in Wasser- und Abwasserrohrleitungen. Mit herkömmlichen Leckortungsverfahren waren Lecks zwar näherungsweise lokalisierbar, die Effizienz dieser Verfahren war jedoch begrenzt, da damit keine korrekte und präzise Ortung möglich war. Electro Scan ist eine bahnbrechende Technologie. Durch Messen der Veränderung des Stromflusses in einer Rohrleitung identifiziert Electro Scan Leckstellen automatisch und lokalisiert und misst Schäden, durch die Wasser in eine Rohrleitung ein- oder aus dieser austreten kann.

3. Description long*

(1300 characters max. including spaces)

Background information for the jury

Für die Kosteneffizienz der Reparaturen, der Erneuerung oder des Neubaus von Rohrleitungen ist eine korrekte Ortung und Messung von Wasser- & Abwasserrohrleitungsschäden unerlässlich. Zu den gebräuchlichen Leckortungsverfahren zählen akustische Druckwellen, Helium-Einspeisung, Infrarot-Thermografie, faseroptische Sensoren und Sichtprüfungen. Da sich Lecks damit nicht orten und messen lassen, kommen diese Verfahren bei Sanierungen nur begrenzt zum Einsatz.

Im Gegensatz dazu leistet Electro Scans bahnbrechende Technologie eine präzise Leckortung und -messung. Mithilfe der proprietären Technologie gibt die Electro Scan-Sonde laufend Schwachstrom/Hochfrequenzstrom ab, der in einem gebündelten elektrischen Feld von 360 Grad im Inneren einer Rohrleitung austritt. Bei einer Geschwindigkeit von 15-20m pro Minute erfasst Electro Scan alle 100m mehr als 5000 Datenpunkte in einer Rohrleitung und lokalisiert und misst automatisch defekte Stellen, an denen Wasser in die Rohrleitung ein- oder aus dieser austritt.

Aufgrund seiner hohen Präzision liefert Electro Scan häufig andere Ergebnisse als frühere Leckortungen, was eine Neuordnung der Prioritäten bei Investitionsentscheidungen und Erneuerungsplänen erforderlich macht. Als erste Technologie zur Ortung von Lecks in Abwasserrohren und Zertifizierung von Rohrrelining-/Reparaturprojekten trägt Electro Scan zur Beseitigung von Infiltrationen, zur unmittelbaren Senkung von Pumpkosten und zur Verbesserung der CO2-Bilanz von Aufbereitungsanlagen bei.

Please answer these questions additionally

300 characters max. including spaces each

4. Please describe the project's present effect on environmental protection, if possible add numerical data.*

Leckstellen bedeuten Wasserverschwendung. Wenn Wasser aufbereitet und geliefert (oder Abwasser gesammelt und transportiert) wird, den Endverbraucher (oder die Aufbereitungsanlage) jedoch nicht erreicht, wird eine wertvolle Ressource verschwendet (droht eine Verunreinigung). In den kommenden 20 Jahren wird die Menge an verfügbarem Trinkwasser Vorhersagen zufolge um 30% sinken.

Number of Characters With Spaces: 296**5. Please describe the potential of the project for environmental protection, if possible add numerical data.***

Eine zuverlässige Leckortungstechnologie kann bis zu 20% der weltweiten Wasserversorgung (der aufgefangenen Abwassermenge) sichern (erhalten). Ein solcher Erfolg wird jedoch durch das Fehlen einer politischen Präsentationsveranstaltung, die Fokussierung der Ingenieure auf Infrastrukturbau statt -reparatur und die Praxis von Managern, fehlende Einnahmen durch Kürzung der Investitionsausgaben auszugleichen, verzögert.

6. What is the status of realization of the project? How do you estimate the chances of success? (please add an explanation)?*

In England, Japan, Neuseeland und den USA wurden erfolgreiche Referenzprojekte, darunter die Prüfung von über 300 000 m Rohrleitungen, abgeschlossen. Bahnbrechende Technologien, wie Electro Scan, können sich im Wassersektor erst durchsetzen, wenn sie von international anerkannten Wasserversorgungsunternehmen eingesetzt werden. Das ist nun der Fall.

Number of Characters With Spaces: 290**7. How was the idea for this project conceived?***

Frühe FuE-Projekte des deutschen Staates wurden aufgegeben, als die kommerziellen Prototypen keine konsistenten Ergebnisse lieferten. Der US-amerikanische Software-Unternehmer, Charles Hansen, ein Pionier moderner Asset-Management-Systeme im Bereich der Wasser- und Abwasserwirtschaft, erwarb die Rechte daran und überarbeitete die Technologie.

Number of Characters With Spaces: 299