INNOVATION AT H2O 2021
THE 19 WINNERS OF THE "INNOVATION AWARD" AND THE "H2O AWARD"

H2O is synonymous with innovation: as in previous editions of the event, this year ample space has been allocated to innovations proposed by component and equipment manufacturers in the Innovation Area. In particular, two initiatives – the "**Innovation Award**" and the "**H2O Award**" – showcase new products and innovations in the water and gas industries and the other sectors at the fair.

H2O intends to make the most advanced technological innovations available to operators in the sector by selecting the most innovative products presented by exhibitors. But that's not all: beginning at this edition, in fact, the new "**call for Proposals**" area is the stage where the latest technical-scientific advances, experimental technologies and patents are showcased, but also new organizational and business models that contribute to the innovation and sustainability of network services, presented by universities, utilities and companies that are not exhibiting at the event or that do not work solely in the water sector.

All the latest advances and innovations can be found in the **"Guide to the latest developments and innovations"** that represents the calling card of the 15th International Exhibition of Technologies for the Treatment and Distribution of Drinking Water and Wastewater, in Bologna. There are two categories in the catalogue, which can be consulted online: **INNOVATIONS** (basic and functional), in the case of innovations covered by regular patents or products that improve an existing product, and **NEW DEVELOPMENTS**, in the case of new products launched on the market. The products of the shortlisted exhibitors are nominated for the "**Innovation Award**". The **H2O Award** is the accolade that recognises innovations in products, processes and services.

The Awards will be assigned by a special Technical-Scientific Commission.

THE WINNERS

H20 - Software applications / Services Category

ARCODA NEXT
Terranova S.r.l.

Arcoda Next is the app that simplifies inspection tasks and visualises networks in augmented reality on the operator's smartphone. Using the information stored in the GIS layers, Arcoda Next positions the networks in the real environment, and the buried pipes appear virtually on the road surface. This allows the operator with a smartphone to quickly and easily conduct an assessment of what needs to be done. A new immersive and realistic way to explore networks.

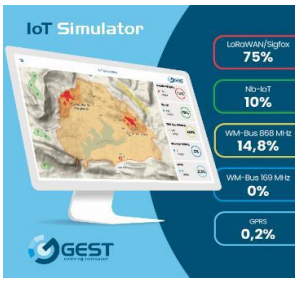
We have developed innovative data fusion techniques that combine algorithms usually used for robot orientation with absolute GPS positioning. We are thus able to construct a three-dimensional map of the environment directly on site, using only the smartphone, and to superimpose the buried pipelines with extreme precision on the video stream acquired by the phone. All without the need for an internet connection.

REAL TIME CRITICAL POINT (RTCP) WITH AI
Fast S.p.A.

Critical Point Pressure Regulation System based on Artificial Intelligence (Machine Learning), where the Peripheral (RTU) to the Regulator and the engine of M.L. are the active subjects while the RTU to the P.C. is only passive subject. The M.L. Algorithm models the prediction of the Pressure (processing the data transmitted by the two RTUs) and the Regulator applies the prediction in real time.

The Critical Point Pressure Regulation System using Machine Learning makes the regulation immediately feasible, eliminating the point-to-point communication between controller and P.C. with savings on infrastructure costs and battery consumption. The M.L. algorithm is fail-safe, adapting to new data by updating the Pressure vs. Flow Forecast and is robust even in the event of a leak and is robust even in the event of partial data loss.

IOT SIMULATOR
Gest S.r.l.



The simulator is a web tool that helps frontdesk to see the performance of each technology based on their characteristics and the infrastructure already present on the territory. It presents the data through user friendly graphical interfaces and maps. The Utility can use this tools for analizing data and choose the better tecnology to use, before supply. This is helpful for gaining the better performance, be sure to gain data and for optimization of investments.

The platform analyzes the GPS position and the location of (non-smart) meters, their distribution on the surface, the morphology of the territory. Using these calculations, it is able to identify, for each meter, which technology and protocol to use among those currently available on the market (Nb-IoT, LoRaWAN, Sigfox, WM-Bus 868 MHz, WM-Bus 169 MHz, GPRS) proposing Fixed Network and Walk-by/Drive-by solutions.

CONTROLTAG
Lektor S.r.l.

ControlTag is the verticalized software for the management of plant maintenance in the energy sector. The versatility and integration with external systems allows the use of any mobile device for management of interventions by operators engaged in maintenance activities. The integration between ControlTag and Zebra Technology's HD4000 augmented reality glasses allows the total innovation in information sharing between field workers and headquarters.

The integrated ControlTag application with Zebra's Augmented Reality HD4000 glasses enables field personnel to increase the efficiency of maintenance operations.Using the integrated viewer on the goggles, the documentation can be viewed in real time and provide immediate hands-free instructions to maintenance technicians for fast and error-free execution. The integrated video camera allows you to share with the head office what the operator is facing providing an accurate and detailed situation.

H2O - Conduits/Pipelines Category

WASTEWATER AIR VALVE SCF 2
CSA S.r.l.

The underground wastewater combination air valve is placed inside a pipe with removable cover, whose base includes an innovative sectioning device. A drainage composed of a 1" pipe stands out, rises vertically and ends with a threaded ball valve. The single chamber design, compact and reliable, can be equipped with the combination version, combination anti-hammer and air vacuum only on request.

Thanks to the case pipe and its other accessories, the air valve is installed on the pipeline, directly into the terrain, without any necessities of chambers or pits, with big savings; only a simple derivation from the main pipe and a manhole are required. The air valve can be easily extracted from the top for the maintenance by means of a handle after closing the sectioning device by a key for hydrants and discharging the internal pressure opening the ball valve at the top of the drainage pipe.

ENVIRAWRAP
Tesi S.p.A.

ENVIRAWRAP is an elastic, multilayer, polymer wrap applicable by induced tension. It allows to perform a durable corrosion protection of risers for off-shore platforms, piles of harbor piers, jetties, offshore wind farms and operating water pipeline's field joints; enabling rapid operations (for both installation and inspection), requiring minimal substrate preparation and without the aid of flames or particular tools.

ENVIRAWRAP includes an anticorrosive sealing layer, which makes it applicable even underwater or on pipes with a wet surface, by simply tightening the appropriate bolts. In this way, a permanent hoop tension is obtained, which keeps the wrap firmly in place and perfectly adherent to the surface of the structure to be protected, eliminating moisture and leaving it completely dry. It is intended to last for the entire life cycle of the structures themselves.

DUOFIT new
Nova Siria S.r.l.

Version 2.0 of the proven DUOFIT two-piece repair joint is ready, designed and manufactured by Nova Siria and successfully installed worldwide. More and more versatile, lighter, less bulky and with a tolerance exceeding 40 mm.

Greater tolerance, compact dimensions with reduced bulk, reduced weight.

H2O - Pumps/Machinery/Systems Category

GREEN VALVE SYSTEM
Pide S.r.l.

Green Valve System® is a self-sufficient system, capable to regulate the pressure required in a pipeline (like a PRFV valve) and at the same time to measure the flowrate without needing to be powered, using the energy gained from the fluid passing through the valve. Developed in collaboration with the hydraulic division of "Politecnico" university of Milano, it represents a game changer tool for improving the efficiency of water networks.

Energy self-sufficient system - regulation of downstream/upstream pressure or flow rate - regulation can be either autonomous with control logic (editable algorithms) or via manual remote control by a user - real-time flow data and pressure data can be displayed on a web GIS platform - possibility to use the extra energy produced by the valve to power other instruments, like chlorinators, battery rechargers, etc…

IDROSTOCK
Idrostock

Idrostock is a system consisting of a photocatalytic drainage pavement/soil/gravel base that collects and stores rainwater. This drains to the part below the surface, within a modular system of dry blocks confined within a pre-defined non-permeable space, capable of storing the water it receives.

The shape of the tank blocks guarantees high storage volumes and high compressive strength, allowing heavy vehicle transit. The modular structure allows multiple projects to be carried out, taking advantage of the three dimensions (containment tank, rainwater recovery, fire-fighting tank, lamination tanks, etc.). The photocatalytic cement surface reduces pollution by accelerating the oxidation of polluting compounds.

BALL VALVE QB FOR WATER CONNECTION WITH MINIMUM VITAL WATER FLOW
Rubinetterie Bresciane Bonomi S.p.A.

The ball valve of Rubinetterie Bresciane Bonomi S.p.A. QB (Patent-Pending) is designed and engineered to solve the need to supply the minimum vital water flow to defaulting users, as indicated in the DECREE OF THE PRESIDENT OF THE COUNCIL OF MINISTERS 13-10-2016. The valve is equipped with a flow limiter that allows you to dispense the minimum flow of water required, constant over time and independent of the variation of the pressure of the aqueduct.

The ball valve of Rubinetterie Bresciane Bonomi S.p.A. QB guarantees three operating modes: opening, closing and minimum vital water flow.Designed to meet the demands of the main distribution companies at national level, it has the following advantages:1-It guarantees a constant value of minimum vital water flow, following the pressure changes of the aqueduct 2-Simplicity and speed of activation of the vital flow rate without disassembling the maneuvering device and rotating the sphere of 180°.

"GR-FLUSH" AUTOMATIC RINSING BALL VALVE
Greiner S.p.A.

The main cause of the formation of legionella is due to a bacterium that is naturally present in water and one of the main risk factors for the growth of this bacterium is the stagnation of water in water systems. GREINER S.p.A. has designed and built a new brass ball valve that guarantees a complete, fast and automatic rinsing of all the internal parts of the valve itself, that are potentially stagnation areas in the standard versions.

Complete and automatic rinsing - 20 times shorter rinsing time compared to ball valves with a third hole - Avoiding eventual sanitation processes of the systems.N5

BolognaFiere spa
Viale della Fiera, 20 - 40127 Bologna, Italia
Tel. +39 051 282111 - Fax +39 051 6374004
segreteria.generale@bolognafiere.it
PEC bolognafiere@pec.bolognafiere.it
Capitale sociale 106.780.000,00 i.v.
C.F. - P.IVA e Reg. Imp. BO 00312600372 - REA BO367296

Show Office
Via Alfieri Maserati 16
40127 Bologna, Italia
Tel. +39 051 282868
accadueo@bolognafiere.it
www.accadueo.com

H2O – Instrumentation Category

HIGH FREQUENCY PRESSURE LOGGER
Suez Trattamento Acque S.p.A.

Inflowsys is a high frequency pressure sensor (128 measurements per second) with data logger and integrated communication with the Inflownet platform that allows to identify transient phenomena (water hammer), assess their severity and design mitigation actions.

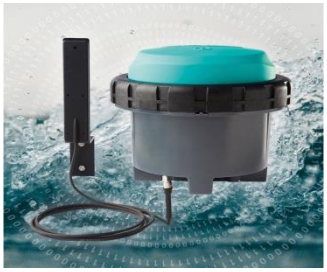
The main innovative features are represented by the management software of the sensor and data logger that despite the large amount of data it manages is able to safeguard energy consumption (guaranteed battery life 4 years). In addition, the algorithms and the use of artificial intelligence within the data analysis platform have made it possible to classify the network according to a very important indicator CPIS Cumulative Pressure Induced Stress.

HYDROSONIC-M1
B Meters S.r.l.

The new SMART meter HYDROSONIC-M1 is based on a physical principle of static measurement (of the last generation). It ensures high reliability and stability of the measurement over time. Its main features are: extremely compact to ensure installation in any position, large LCD display, measuring pipe without moving parts, brass case, IP68. Data are available both from display and remotely with flexible connectivity to the IoT world at short and long distances.

The ultrasonic meter HYDROSONIC-M1 finally integrates the NB-IoT technology and permits to all our customers to read and monitor the data consumptions and eventual alarms through any telephone operator network.

SOFREL NEO
Lacroix Sofrel S.r.l.



SOFREL NEO was designed to help Utilities with the challenges of monitoring their networks. It takes advantage of 4G M2M LTE-M & NB-IoT technologies, waterproof (IP68), battery powered, ruggedized and easy to install, this solution is designed for underground sites subject to submersion phenomena and adverse environments. It makes pre-calculation network monitoring data (volumes, overflows, ...), archives measurements on board, expanding the uses of an integrated modem data logger.

SOFREL NEO is designed for monitoring drinking water and wastewater networks. With integrated 4G M2M LTE-M & NB-IoT modem running with standard SIM, screwless opening system, battery or external source power supply and dedicated software, it is suitable for: the monitoring of drinking water networks; the reading of large users; leak detection; pollution detection; monitoring of rainwater collection networks; spill detection; water quality monitoring.

H2O-CH4 – Product Category

CODURE FLANGE
Rotech S.r.l.

In NoDig systems for pressure pipes, the weakest link is the connection between them. The CODURE flange overcomes this problem by being an innovative solution in the form of a fully anti-slip joint made of glass fibre reinforced polymers with a plug and play installation design. The result is a single, chemically coherent liner-connection entity, that meets the same requirements as the CIPP liner and it is totally independent from the existing pipeline.

CODURE flanges are the first step towards a new type of connection for pressure pipes. The system is completely non-slip: the liner and the connection polymerise simultaneously to become a single element. The flange is chemically coherent with the installed CIPP liner and the unit, CODURE-liner, is certified by durability tests. The installation takes place prior to the installation of the inversion liner and is quick, easy and generates no special stress on the liner.

SMART GRID BY AUTOMA
AUTOMA S.r.l.

In line with the objectives of increasing safety, reducing greenhouse gas emissions and digitalizing gas distribution networks, SMART GRID by AUTOMA is a project of technological innovation Industry 4.0 that aims at an automated and dynamic management of pressure regulation in the network. Through remote monitoring and control, both in the Final Reduction Groups and in the termination points, an efficient, totally smart and automated network is obtained.

Remote monitoring and control are established technologies in gas distribution networks. The innovative element of our project consists in using the result of the remote monitoring -the measurement- for the remote regulation of the Final Reduction Groups. The proposed system is therefore interconnected, dynamic and equipped with an intelligent engine with which perform a remote regulation (GOLEM technology) on the basis of what is actually measured (Data-driven management approach).

FITT BLUFORCE
Fitt S.p.A.

To know and measure the impact of FITT Bluforce on the environment, the Vicenza-based company uses the life cycle analysis (LCA), a scientific tool based on the collection and analysis of data, verified and certified by a third party through an Environmental Product Declaration (EPD). Last year, the FITT Bluforce and FITT Bluforce RJ PVC-A pipes were the first in Europe to obtain the environmental product declaration - EPD -, issued by SGS according to the ISO 14025 and UNI EN 15804 standards.

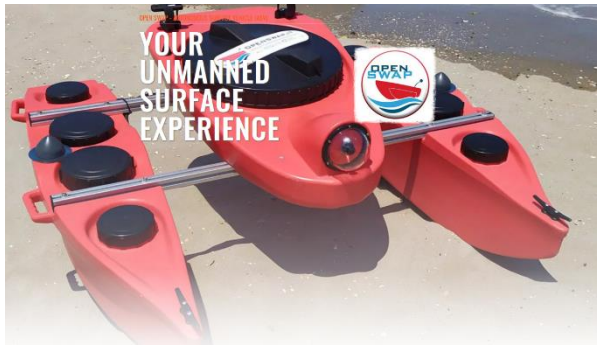
The new EN 15804:2012 + A2:2019 standard has introduced new rules for completing the LCA study in order to move closer to the European Product Environmental Footprint method: -the obligation to declare the end-of-life impacts of the product and the potential environmental benefits associated with the recycling of materials; -the impact categories change and increase; -more attention is paid to biogenic carbon fluxes; the impact of greenhouse gas emissions is now broken down into 4 subcategories.

NEOFLOW
George Fisher S.p.A.

NeoFlow is a water pressure regulating valve that prevents excess pressure in the pipes, guaranteeing a higher, precise and stable flow rate. The compact polymer body makes it 9 times lighter than metal valves, installation times are reduced by up to 40% compared to metal and it can also be installed in confined spaces. It is low maintenance and has a longer operating life. The design allows it to operate with an opening from 1% to 100%, with precision and stability.

The H2O Award goes to the project:

OPENSWAP
PROAMBIENTE S.c.r.l.
Tecnopolo Bologna CNR



Autonomous surface vehicle for geophysical monitoring of coastal areas and inland waters. The system consists of a small plastic catamaran with electric propulsion, modular and easily transportable. The basic equipment includes a GPS positioning system, an autonomous navigation system with integrated inertial sensors, a precision single beam sonar with seabed recognition function and an external video camera.

OpenSwap is based on open source platforms. This feature, combined with the versatility of the frame, allows simple interfacing with numerous instruments (e.g. side scan sonar, multi-parametric probes, sub-bottom profiler, multi-beam echo sounder), commercial and non-commercial, offering the possibility to expand the equipment already supplied. OpenSwap is the ASV - Autonomous surface Vehicle – completely developed and produced in Italy.

Communication and External Relations Manager
Isabella Bonvicini - isabella.bonvicini@bolognafiere.it
Tel. 051 282920 - cell. + 39 335 7995370

Ufficio stampa BolognaFiere SpA
Gregory Picco - gregory.picco@bolognafiere.it
Tel. +39 051 282862 - cell. +39 3346012743