ISSUE
09
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YOUR SOURCE FOR
WATER, SANITATION,
& FOOD SECURITY
INNOVATION INFO

Water Life

this issue

water life systems

What We Do

WATER TREATMENT & SUPPLY

Water is life... for both people and business. Our scalable prefabricated systems treat ground, surface, and wastewater sources to supply:

- Drinking / Domestic Water
- Industrial / Process Water
- Agricultural / Irrigation Water

SANITATION & HYGIENE

The COVID-19 pandemic has raised the awareness of global water challenges and the lack of proper sanitation. Public health conditions related to clean drinking water, and adequate treatment and disposal of human excreta and sewage, are our top priority. Our systems are designed to provide Urban, Per-Urban, and Rural populations with proper sanitation and hygiene services.

FOOD SECURITY

We recover water and nutrients, among other resources, from wastewater for reuse and closed-loop plumbing infrastructure in agriculture and aquaculture-controlled environment operations.

IoT CONNECTED

Our Wi-Fi, Lo-Ra, and Satellite IoT Connected arsenal of digital pathogen, heavy metals and nutrient sensors make our solutions revolutionary.

Its First 100 Years – The Challenge Facing China

In the January 2020 Water Life edition, we examined Harvard Political Review article, "*Water is China's Greatest Weapon and its Achilles Heel*". The article lays out the mixed results, at best, of China's rapid industrialization and urbanization in easing problems of water scarcity, with water pollution intensifying across the nation, and its increasing use of water diversion to oppress its neighbors.

China is diverting entire major river flows to hydropower dams and dryer regions of the nation, as 50% of the country's population lives in an area that contain only 20% of the country's freshwater resources. This leaves populations downstream – entire nations and billions of people – without the source of life that has allowed them to survive and thrive for millennia.

At a July 1, 2021 event marking the centenary of the ruling Communist Party, **China's President Xi Jinping stated that foreign powers will "get their heads bashed" if they attempt to bully or influence the country, and that "No one should underestimate the resolve, the will and ability of the Chinese people to defend their national sovereignty and territorial integrity,"**

In a recent National Review article, **"China Is Turning Its Water-Scarcity Crisis into a Weapon"** by Therese Shaheen, China's ongoing water crisis and weaponization of water is well documented. **Instead of building trust, cooperation, and support with its neighbors and the world to address its water-scarcity crisis, "the PRC seems to be on a path to addressing the problem through its customary blend of audacity, hubris, superhuman scale industrial projects, and disrespect for its neighbors and its own citizens. This combination of behaviors has become the defining trait of the CCP."**

Even though China is the source of a dozen major rivers that supplies some 18 countries and two billion people or more with water to survive, **the nation has not yet joined the UN Watercourses Convention** that establishes principles for equitable water utilization, transboundary cooperation, and pollution prevention.

This is how water wars begin. Happy 100 years, China.

water life systems
Water, Sanitation & Food Security

OUR MARKETS

INDUSTRIAL

Agriculture | Aquaculture | Automotive | Commercial Livestock | Disaster Management | Environmental Rehab | Food & Beverage | Military | Mining | Oil & Gas | Paper & Pulp | Petrochemical | Pharma | Power | Specialized Industry | Steel | Tourism

MUNICIPAL

Urban, Peri-Urban & Rural Utilities | Commercial Buildings | Public Facilities | Mixed-Use Buildings | Developments | Multi-Tenant Residences | Single Homes

OUR GUARANTEE

Water Life Systems guarantees that you will receive enhanced security and higher quality with Water Life Systems' products and services. The service starts with customizing our solutions to your specific needs and continues through equipment delivery and life cycle maintenance. We back up what we design and manufacture to ensure that you receive complete technical and process support on-demand.

CASE STUDY

A Policy Initiative: Distributed Pathogen Sensor Integration in the Built and Natural Environments

In the June Water Life issue, we discussed the ISO 30500 and 31800 onsite wastewater treatment standards, and Water Life Systems various treatment and monitoring solutions. Let us take a closer look at the monitoring initiatives being pursued by WLS.

The United Nations SDG Help Desk recently published a policy brief authored by WLS President, Thomas Murphy, that provides a starting point for pathogen monitoring initiatives in the built and natural environments.

The goal of this paper is to provide policy makers, urban planners, and other pandemic-related prevention and response interests with the justification to proactively integrate distributed microchip bioelectrical sensors into the Fourth Industrial Revolution (4IR)-supported built and natural environments. Sensors are outfitted with Internet of Things (IoT) networking via mobile Wi-Fi, Lo-Ra, or satellite communications for air and liquid pathogen detection in centralized and decentralized water supplies, wastewater treatment systems, and other distributed applications.

Urban populations are the most susceptible to pathogen spread in part due to interconnected infrastructure and population density. From a wastewater treatment standpoint, fecal transmission pathways via the aerosolization of liquid waste is now known to transmit COVID-19, with a virus survival timeline in water and sewage between numerous days and weeks. Aerosolization of human excrement can take place at any point of the wastewater service chain, such as during the flush of a toilet, in pipeline leaks, and wastewater treatment plant effluent discharge.

The global systemic risks associated with the COVID-19 pandemic and rapid global urbanization can have debilitating effects on life and activities within human populations. COVID-19, caused by a new strain of the coronavirus family, SARS-CoV-2, starting at the onset of 2020, became the latest infectious disease to rapidly evolve into a global pandemic. As of the week of Dec 15, 2020, there were over 70 million cumulative COVID-19 cases and 1.6 million deaths reported globally since the start of the pandemic. Of the 195 countries recognized by the United Nations (2020), only 11 have reported no COVID-19 cases.

The full policy brief can be viewed and downloaded at http://sdghelpdesk.unescap.org/technical-assistance/best-practices/policy-initiative-distributed-pathogen-sensor-integration-built

SUSTAINABLE DEVELOPMENT GOALS

#WeCanSaveTheWorld

The core mission of WLS is to increase global resiliency and sustainability in water, sanitation, and food security systems.

The world's rapid population growth, coupled with rapid climate change, is increasing the competition for resources. At WLS, we're committed to doing our part to operate sustainably. Our innovative solutions provide resource conservation, energy savings, the reuse of water, food security, and better population well-being and health outcomes.

Advanced **O3In-Gen™** technology is one example of WLS' focus on cost savings and increased treatment effectiveness. **O3In-Gen™** is used in WLS' **PureBOX™** distributed / decentralized package plants and controlled environment food production systems. The systems are ideally suited for a scalable solution to provide clean water, wastewater treatment, and food security for all by 2030 in a world where billions of people do not have access to sufficient water supply and sanitation services. We envision a world without waterborne pollution and the abundance of freshwater for all using our water treatment and monitoring systems, which correspond most directly to the United Nations Sustainable Development Goals SDG 6 - Clean Water and Sanitation.

At WLS, we're committed achieving the United Nations Sustainable Development Goals (SDGs) by the 2030 goal date. This collection of 17 global goals is designed to be a "blueprint to achieve a better and more sustainable future for all." Our operations and solutions contribute to all the UN's SDGs.

This Issue's SDG Provided by Water Life Systems

World Economic Forum 2020: "The global water crisis is one of the greatest threats to humanity."

The "traditional" way of living is not sustainable for life on Earth. Water Life Systems leadership, in living through their own climate-caused near disasters, being Vancouver 100-year drought in 2015 and the 2017-18 Day Zero scare in Cape Town, South Africa, have developed water supply, sanitation, and food security Micro-Utility solutions that can be deployed into the built environment on a global scale. Tech components can be integrated into centralized systems.

WLS systems are at the core of providing water stressed populations with clean water and sanitation services. Currently some 2.2 billion people worldwide do not have sufficient drinking water services, 4.2 billion people do not have safely managed sanitation services, and 3 billion lack basic handwashing facilities.

Much of the world is not set to meet United Nations Sustainable Development Goals with current systems thinking. No single solution will result in universal access by 2030. A range of adaptable and scalable solutions are needed to overcome geography, gender, and socioeconomic barriers.

SDG 6
Clean Water & Sanitation

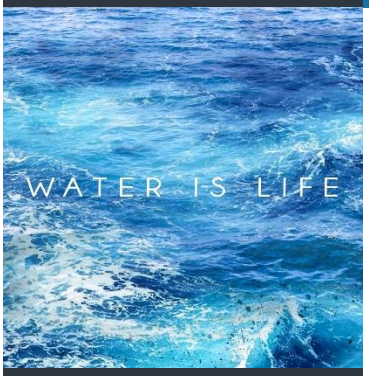
6.1 Target
By 2030, achieve universal and equitable access to safe and affordable drinking water for all.
6.1.1 Indicators
Proportion of population using safely managed drinking water services.

6.2 Target
By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations.
6.2.1 Indicators
Proportion of population using safely managed sanitation services, including a hand-washing facility with soap and water.

6.3 Target
By 2030, improve water quality by reducing pollution, eliminating dumping, and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater, and substantially increasing recycling and safe reuse globally.
6.3.1 Indicators
Proportion of wastewater safely treated
6.3.2
Proportion of bodies of water with good ambient water quality

6.4 Target
By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity.
6.4.1 Indicators
Change in water-use efficiency over time.
6.4.2
Level of water stress: freshwater withdrawal as a proportion of available freshwater resources.

6.6 Target
By 2020, protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers, and lakes.
6.6.1 Indicators
Change in the extent of water-related ecosystems over time.



Would you like to participate in the WLS Investor & Partnership Program? Please fill out the application to help us determine how to best approach the partnership to ensure mutual success.

Partnership Tracks

WLS offers various partnership solutions including:

- **Integrated product distribution**
- **Individual tech component licensing**
- **Complete tech transfer programs for national solution integration**

Technical expertise, geography and solution area of your business will determine which track best fits your business model. Partners can participate in one or more tracks, based on expertise and available production facilities.

[Click here for more information and to complete the inquiry form]

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