GLOBAL SANITATION SOLUTIONS
Investing In A Better Future
2.4 BILLION PEOPLE LACK ACCESS TO PROPER SANITATION

800 CHILDREN UNDER 5 DIE EVERY DAY FROM DIARRHEAL DISEASES

ECONOMIC LOSSES ESTIMATED AT US$223 BILLION IN 2015

950 MILLION PEOPLE DEFECATE IN THE OPEN ON A DAILY BASIS

THE CHALLENGES WE FACE

An estimated 2.4 billion people – one out of every three in the world today – live without access to proper sanitation. Approximately 950 million still defecate in the open on a daily basis. These are figures with a devastating human cost: An estimated 800 children under 5 years of age die every day from diarrheal disease caused by a lack of hygienic water and sanitary living conditions.

Insufficient sanitation in schools is also one of the leading reasons young girls drop out of education early, creating a vicious cycle of a lack of education and poverty. In addition to being embarrassing for women and girls to defecate in the open, having to find a place away from school or home to relieve themselves increases the risk of harassment and assault. Girls also fall behind because they do not have a place at school to dispose of sanitary napkins during their menstrual cycles, forcing them to stay away from class.

The impact of this sanitation crisis is felt throughout entire nations and regions, crippling opportunities for growth and development. According to research conducted with Oxford Economics, global economic losses from poor sanitation were estimated at US$223 billion in 2015, an increase of more than 20 percent from five years earlier. For the Asia-Pacific region the figure was $172 billion, followed by $22.2 billion in Latin America and the Caribbean, and $19.3 billion in Africa.

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LIXIL has pledged to provide better sanitation to 100 million people by 2020. As the global leader in sanitary ware, we are taking the expertise we have developed in markets such as Japan, Europe and the United States and applying it to the sanitation challenge.

We are also teaming with partners such as UNICEF, the Japan International Cooperation Agency (JICA) and WaterAid to ensure our efforts reach as many people as possible. In addition, LIXIL is a steering committee member of the Toilet Board Coalition, a global alliance of leading companies, government agencies, sanitation experts and non-profit organizations that aims to develop sustainable, scalable measures to tackle the sanitation crisis.

The global sanitation issue is a daunting one, so large and complex that no one solution can hope to solve the entire problem. LIXIL is therefore developing a number of products to fit different markets, infrastructure and income levels in developing nations.

Our primary solutions comprise the SATO (Safe Toilet) series, the Micro Flush Toilet System, the Green Toilet System and Portable Toilet System. Each represents LIXIL’s dedication to improving the quality of people’s daily lives, delivering safe and comfortable products through responsible, sustainable innovation.

Supporters’ Voices

“Seeing a smile on somebody’s face, seeing someone’s dignity up, is satisfaction.”

Brenda Achiro Muthemba
Water for People, Uganda

“I dream to see the girls from Mukuru going to school, finishing school, getting good jobs so that they can change where they grow from. So the passion in me is that I’m part of change.”

Dorice Bosiburi Moseti
Community activist, Mukuru, Nairobi, Kenya

Users’ Voices

“Today I’m very happy because my life will improve. I won’t get flies on my food, and my children and I will be healthier.”

Fred Sekamate
New user in Namagera Village, Wakiso, Uganda

“We used to put up a curtain and queue outside waiting to use the toilet. We used to get injured by the broken iron sheets. The ones we have now, they are very good. Boys can’t see us; they’re clean.”

Teresia Soykau John, 13 years old, Mukuru, Nairobi, Kenya
REAL SOLUTIONS FOR REAL PEOPLE

SATO

Preventing the transmission of disease and odors, and reducing open defecation

Millions of people in rural areas around the world still have to defecate in the open, over a pit latrine or into a pit, exposing them to noxious smells and the risk of disease. To address this critical problem, LIXIL has created the SATO (Safe Toilet) series of bathroom products, utilizing a design approach widely known as “frugal innovation,” which seeks original solutions that are affordable, simple and sustainable.

The first SATO model was developed with funding from the Bill and Melinda Gates Foundation and launched in Bangladesh in 2013.

Easily installed and extremely inexpensive to buy – less than $2 per unit in Bangladesh – SATO products need only a small amount of water for each flush. They are safe for children to use and feature smooth, easy-to-clean surfaces. More than 1 million units are already in use around the world, benefiting 5 million people through their simple yet powerful designs.

The SATO series was honored with a “Patents for Humanity” award from the U.S. Department of Commerce in 2015.

Our current models feature an airtight, counterweighted trap door that quickly seals to prevent the passage of odors and flying insects. Less than 500 milliliters of water is needed for each flush.

1. After relieving themselves, users pour water into the pan.
2. The water opens the trap door and the waste falls through.
3. The trap then closes back up, blocking insects and unpleasant odors.

Power in Simplicity

REAL SOLUTIONS FOR REAL PEOPLE

Each product in the SATO series is designed to suit the needs and preferences of users in different areas. Certain models, for example, are tailored to areas where concrete is not widely used in the construction of latrines, while another is intended for places where a seat is culturally preferred to a squat toilet. All are affordably priced, to allow as many people as possible to benefit.
More than 1 million units already in place

SATO BRAND PRODUCTS ARE SPREADING AROUND THE WORLD – ALREADY THEY HAVE IMPROVED THE LIVES OF 5 MILLION PEOPLE IN MORE THAN 10 COUNTRIES.

As of July 2016
**MICRO FLUSH TOILET SYSTEM**

Using far less water per flush than a regular toilet, and recycling sewage water to assist the flow in outside pipes, the Micro Flush Toilet System significantly reduces the consumption of precious clean water. If this system were installed in 100,000 households in Mombasa, it could save 2.5 million tons of water annually, equivalent to 11% of the city’s water supply.

The Micro Flush Toilet System is particularly aimed at mitigating problems related to scarce or unreliable water resources and the environment in urban areas, where the population is rapidly increasing. Suitable for both stand-alone homes and multi-unit buildings, it avoids clogging of the sewage system. It also features a comfortable sitting-type toilet that is easy to clean and maintain.

A flapper valve in the toilet bowl is operated with a handle, and the valve and accumulated water prevent odors from entering the room. A steeply angled pipe connected to the toilet and the sewage water system assists the overall flow of waste.

Given its infrastructure needs, the Micro Flush Toilet System should be incorporated into a building’s overall structure in the initial phase of its design. It is best suited to locations where legal and financial support is available, such as areas being redeveloped under city planning guidelines.

**GREEN TOILET SYSTEM**

The Green Toilet System converts waste into value, safely processing human excrement into fertilizer and providing that value to farmers through the creation of a viable business model.

Solid and liquid waste are separated to prevent odors and prepare for its subsequent conversion into fertilizer, with maintenance workers collecting the waste from different tanks behind the toilet and transporting it to a compost facility.

Currently under development, the Green Toilet System is aimed at communities with no water and sewage infrastructure, or that are too spread out to justify a large sewage system. No water is used to transport the waste, circumventing the need for a traditional sewage system, including a treatment plant or septic tank, and protecting groundwater and other resources from contamination.

Excavation is unnecessary, as all Green Toilet facilities are constructed above ground, and minimum energy input is involved since electricity and fuel are not required to burn human waste.

The system also creates employment for collection services and compost facilities, providing a financial incentive to prevent dumping.

In addition to private households, the Green Toilet System can also help to improve sanitation in schools. Such initiatives will enable girls to continue their education by rectifying the unhygienic conditions and lack of privacy that force so many to drop out, limiting their future job opportunities and earning potential.

**PORTABLE TOILET SYSTEM**

The Portable Toilet System is an in-home sanitation solution designed for urban slums that lack proper sanitation infrastructure. It is being developed and field-tested to offer disadvantaged households an ‘odorless’ toilet from which human waste can be collected and treated hygienically and efficiently.

The system consists of a compact, attractive, stand-alone toilet and a collection station. The toilet, which has a mechanism for minimizing odors, can be easily placed in any household. It is equipped with a removable cartridge, which is transported from individual homes to a designated collection station, where the waste inside the cartridge is deposited and the cartridge cleaned. Professional waste treatment companies then collect the accumulated waste from the station and transport it to an offsite treatment site.

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LIXIL is the most comprehensive, connected global company in the housing and building industry, with operations encompassing more than 80,000 employees in 150 countries.

Born in 2011 through a merger of five leading Japanese firms, LIXIL has expanded internationally by acquiring such trusted names as American Standard, GROHE, and the Permasteelisa Group. We are dedicated to the creation of what we call “Living Technology,” world-class innovations that make a real difference to individual people.