PLUMBING CONNECTION

DOES WATERMARK PASS THE PUB TEST?

FROM BOG STANDARD TO NON-STANDARD BOGS

Toilet technologies are primed to be the focus in bathrooms for the next few years. **Adelle King** looks at a new design that could revolutionise the aged care and disability sectors.

Gone are the days when sanitary ware was considered an ugly but necessary part of our lives. Now, these fixtures have become a lifestyle statement and the focal point in designer bathrooms thanks to improved aesthetic appeal.

While many of the improvements seen in toilet design over the past decade have tended to focus on the look of the product, there is now a push towards incorporating features that improve the system or enhance user comfort.

The high-tech and 'smart' toilet market is growing around the world and there are now toilets out there that provide lighting, antimicrobial, warming, deodorising, quiet closing, self-cleaning, Bluetooth connectivity and cleansing options.

Technology has taken over our lives and we expect it to improve every activity we perform, even those in the bathroom. As the Internet of Things (IoT) expands, people are also willing to have every appliance integrated and connected to monitor their habits. In fact, a survey by Intel and market research company Penn Schoen Berland (PSB) found 70% of people in eight countries would be willing to share data from their smart toilet if it would lower healthcare costs.

Japan is where this high-tech toilet trend began so it's no surprise that Asia-Pacific accounted for 53.9% of the global smart toilet market in 2016, according to consulting company Research Nester in its *Smart (Intelligent) Toilet Market: Global Demand Analysis and Opportunity Outlook 2024* report.

However, demand is not only being seen in Asia, and globally the report says the market is expected to register a compound annual growth rate of approximately 13% to 2024.

The popularity of smart toilets was on display at the 2017 ISH expo in Germany, with a number of products being shown by exhibitors. These included Duravit's BioTracer and Roca's Inspira In-Wash smart toilet.

The BioTracer, which is still in development, analyses urine tests via an app for smart phones and then provides advice on how users can correct their diet or training schedule. Users simply start the app on their phone before using the toilet and a small amount of urine is injected into a sealed dipstick tester that is stored in a removable cartridge under the bowl.

The test strip is scanned via an optical scanner and the data sent to the smart phone for analysis based on 10 urine values, such as the number of white cells, protein count, and pH and glucose levels.

Roca's Inspira In-Wash smart toilet is more focused on user comfort, with an intuitive design that features a presence detection sensor, night light, adjustable water temperature and pressure, adjustable drying temperature and lateral keypad with basic settings. It also has an auto-cleaning retractable nozzle, soft close seat, one single water inlet and easy-to-install remote control support.

These toilets are revolutionising the aged care and disability sectors in particular, enhancing medical care and giving people more independence thanks to automatic and hygienic cleaning.

Yet one area that, until now, has been forgotten about in toilet technology innovation is mobility and the ability of people to get to the toilet.

Often, home modifications including knocking out walls, widening hallways and doorways, and building new bathroom additions are undertaken to provide access to the bathroom. However, Movabowl founder and inventor Jay Akar wondered why the toilet couldn't just be brought to them instead.

The US patented Movabowl is a moveable, flushable toilet that has been designed to help people with mobility issues who cannot walk to the toilet.

"Movabowl rolls out to where the person is located so it can be used outside the bathroom," says Jay.

"In most cases it will eliminate the use of bedpans, commode chairs and diapers, reduce the risk of falls and prevent people from avoiding eating and drinking just to avoid the toilet. It will also preserve dignity and make care-taking easier."

Movbowl consists of two parts – a docking station and mobile toilet bowl. The docking station is permanently plumbed to the water supply and sewage drain just like a standard toilet. The bowl is separate from the rest of the toilet, allowing it to be rolled away, used by the bedside and rolled back to connect to the docking base. Waste is flushed away in the same way as a standard toilet and there is no need for the carer to manually handle the waste.

Automatic, mechanically-operated valves seal off the clean water and sewage waste channels when the bowl is moved and automatically open them again when the bowl returns to the base. When in the closed position, the toilet seat seals to prevent odours escaping and water sloshing out during transit. Additionally, a wide base prevents it tipping to the side and wheel locks keep it stationary when it's moved to the patient. Once the bowl has returned to the docking station, a spray of water rinses it, as well as under the seat cover.

It has been designed so that any toilet in the home can be removed and replaced with a Movabowl without any special installation. It is installed exactly like a standard toilet and has the function, look and feel of a standard toilet.

Caster wheels under the toilet bowl are what make Movabowl mobile, and these can travel on a variety of different surfaces, including carpet, wood and tiles.

For user comfort, there are foldable arm rests, a seat cover that can serve as a back rest and a safety belt to assist with upper body stability issues.

Jay says the idea for Movabowl came about after working in the accessibility field making home modifications to help get patients to and from the bathroom.

"I noticed a great need for a solution to make it easier to use the toilet and thought why not just bring the toilet to them?

"Since I have plumbing and mechanical knowledge, as well as experience working with people with a disability, I was quickly able to see this opportunity. I am now determined to make Movabowl a product that will be sold around the world to help those with disabilities and the ageing population."

According to the United Nations Department of Economic and Social Affairs, there will be 2.1 billion people aged 60-years or older by 2050. In Australia alone the population of people aged 65-years or older is projected to grow from 3.7 million to 8.7 million by 2056, according to the Australian Institute of Health and Welfare.

The Institute found the proportion of this group receiving aged care services as in-home care has risen from 18% in 2006 to 26% in 2016, indicating that demand for products that enable 'ageing in place' will grow alongside the population.

Considering these statistics and the ongoing National Disability Insurance Scheme (NDIS) funding announced in the Federal Budget, there is clearly going to be a demand for products like Movabowl.

Jay is currently looking for investors and licensing agreements to commercialise the product and bring it to market.

"I believe that this innovation will improve healthcare and change what a toilet can do. I also believe that the benefits of a separating toilet may someday replace the almost same standard toilet that we all have been using for the past 200 years." ∎

Publisher's note: With the recently announced Royal Commission into aged care, hopefully projects like this will attract more investment for further development.

Movabowl
www.movabowl.com