CSIR—National Environmental Engineering Research Institute (NEERI), Nagpur has developed a low-cost automatic mechanical urinal toilet flusher, a smart toilet solution for rural India.

According to the Ministry of Drinking Water and Sanitation, around 40% of the population does not have proper sanitation facility and around 60% population lacks improved sanitation facility in rural areas; 99.8% deaths occur globally due to diarrhea according to the World Health Organization (WHO), caused due to poor sanitation.

In order to provide a cost-effective and hygienic alternative for flushing, CSIR-NEERI has developed this technology under its ‘CSIR 800’ project scheme.

Conventional flush urinals require 4-14 litres of water at every flush and proper maintenance from time to time, which are cost-intensive. With this urinal, the catastrophic hurdles like lack of water, unavailable flushing system, and lack of maintenance are avoided. The system has zero dependency on electricity and works on the simple mechanism of spring. A platform near the urinal is attached to an overhead water storage tank. When a person stands on the platform to urinate, water automatically starts getting loaded in the flusher. Once the person steps out, water dispenses in the urinal from the flusher.

The flusher reduces the requirement of water by 75% as only one litre of water gets dispensed automatically into the urinal. The system becomes an asset for sanitation in water-deprived areas. NEERI estimates that with an average of 1000 people in any establishment like office or school, up to Rs. 2 lakh will be saved annually on water utilisation. It comes as a boon for many municipalities which often face many challenges to build public toilets.

Two units have already been installed within the NEERI campus for public use. Apart from that four units are also placed in Maharashtra’s Kharri village as part of the testing phase. The potential areas where the urinal can be introduced in both rural as well as urban areas are railway stations, schools, municipal toilets and various tourist spots.