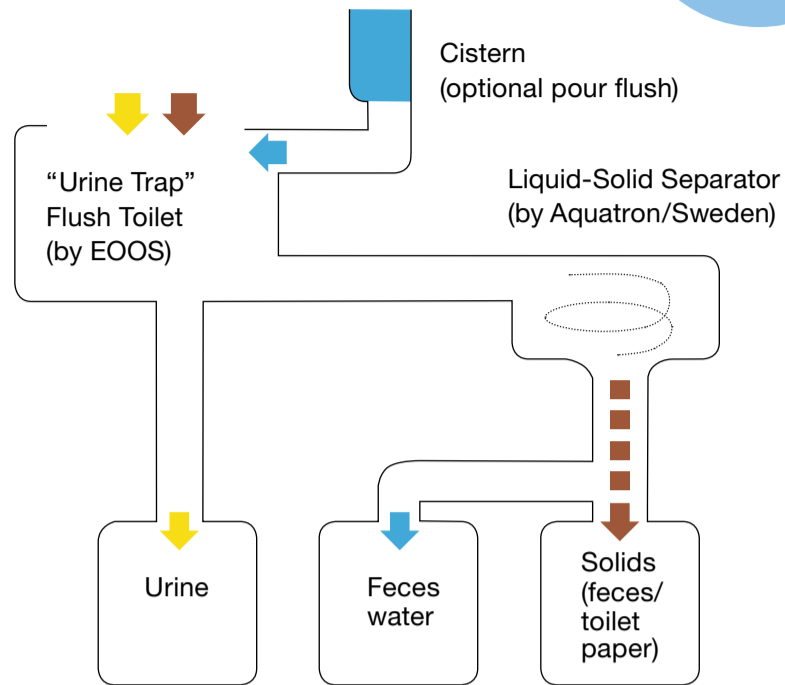


# Urine trap

by: E00S

Patent pending

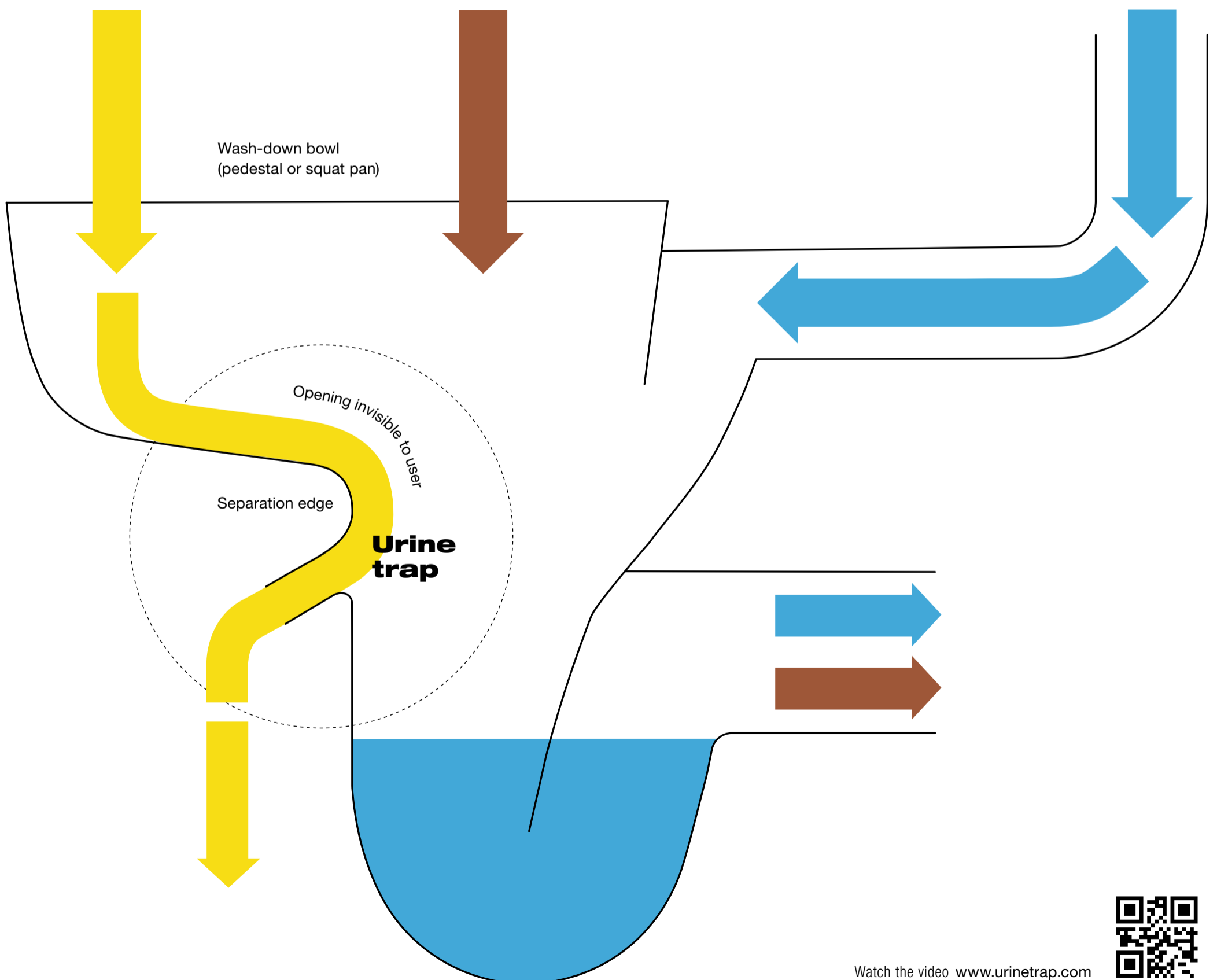


## Scheme of a Three-Stream Separation System

In order to separate urine, solids, and water for further treatment in backend systems, the system combines a urine diverting flush toilet as a frontend technology and a liquid solid separator. In the first treatment step the "Urine Trap" separates urine from flush water and feces at source. In a second treatment step a liquid-solid separator (in the test setup a commercially available product from Aquatron in Sweden) separates the liquid fraction (feces water) from the solids (feces and toilet paper).

Backend technologies profit from significantly reduced nitrogen and phosphorous loads in the feces water stream as well as from a nearly undiluted urine stream. Solids have only little water content for further treatment. The three-stream separation system reduces the energy required for further backend treatment processes.

"A breakthrough technology for urine diversion in flush toilets."



Watch the video [www.urinetrap.com](http://www.urinetrap.com)



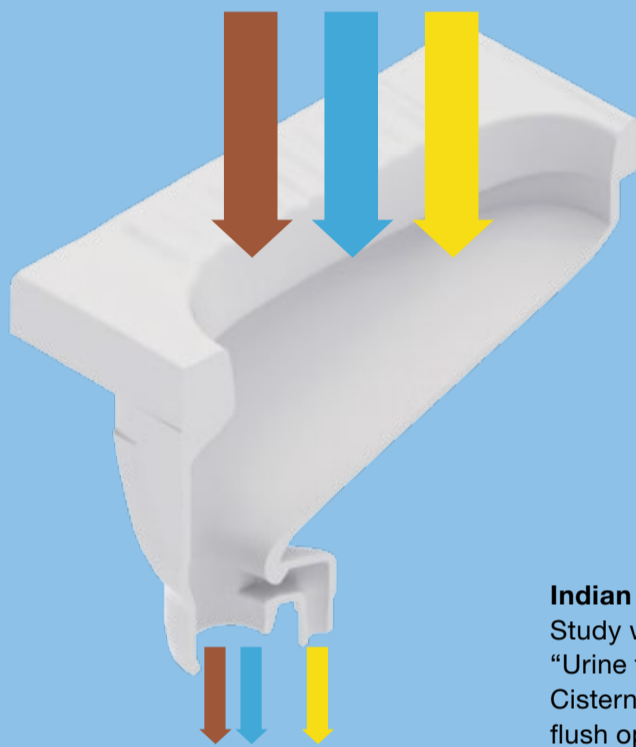
With a grant from the Bill & Melinda Gates Foundation in its “Reinvent the Toilet Challenge”, EOOS developed a three-stream separation system to support transformative off-grid, high-tech sanitation with an attractive next generation frontend for sitting and squatting.

The core development is a “Urine Trap” (patent pending) which separates the urine at the source in the bowl of flush toilets and can be implemented in all

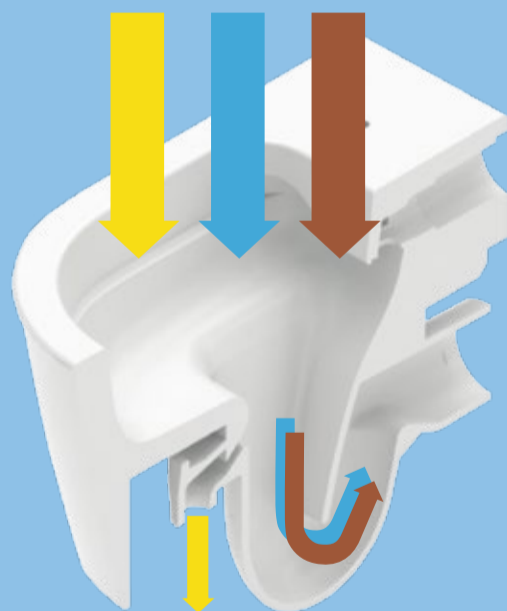
types of toilets. After a second stage treatment with a liquid-solid separator three streams remain for further treatment. EOOS surpasses the current flush toilet paradigm with user-friendly urine separation that supports easy nitrogen recovery and avoids environmental damage of aquatic systems through eutrophication.

#### Universal Application

The “Urine Trap” can be universally applied to all typologies of wash-down toilet designs: pedestal or squat pan, cistern flush or pour flush, washers or wipers.

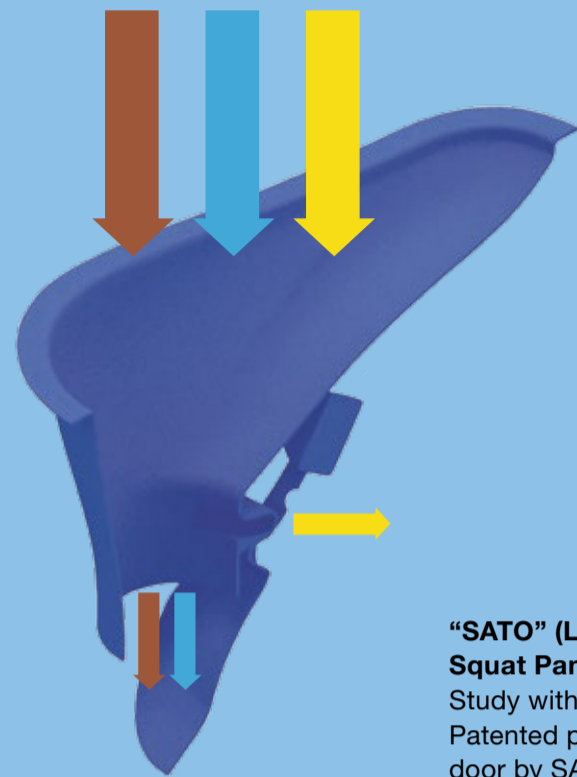


**Indian Squat Pan**  
Study with integrated “Urine trap”.  
Cistern flush or pour flush operation.



**“Durban Toilet”**  
Field test model of pedestal with “Urine trap”.  
Wall mounted version with wall-integrated cistern.

“...a truly aspirational next generation product that everyone will want to use – in developed as well as developing nations.”



**“SATO” (LIXIL) Squat Pan**  
Study with integrated “Urine trap”.  
Patented pour flush operated trap door by SATO.

#### System Benefits

- ✓ Clean toilet bowl, feces and toilet paper do not cross contaminate urine stream
- ✓ Passive separation system, no energy for separation required
- ✓ No moving parts
- ✓ System applicable to all different types of user interfaces
- ✓ No behavior change of users
- ✓ Energy reduction in high-tech back end treatment technologies
- ✓ Possibility to use low-tech (biological) treatment options for the streams

#### Imprint

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#### Global access

Commercialization and distribution in non-global access countries demonstrate that the “Urine Trap” technology is a solution for developing countries with unsafely managed sanitation but also a

next generation solution for developed countries that treat urine separately in their sewer systems. Urine diversion reduces the nitrogen load in aquatic systems and prevents eutrophication. The reuse of nitrogen and phosphorus for agricultural purposes follows a circular economy thinking.