



Ecological sanitation within GTZ's main building in Eschborn – a demonstration and research project

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ecosan program, division 44 – environment and infrastructure



commissioned by



Federal Ministry
for Economic Cooperation
and Development

Background

- **GTZ main office building had to be renovated (06/04-06/06)**
- **The building provides offices facilities for 650 employees, canteen, meeting rooms and conference facilities**
- **Opportunity to introduce a high comfort innovative urban ecosan system**



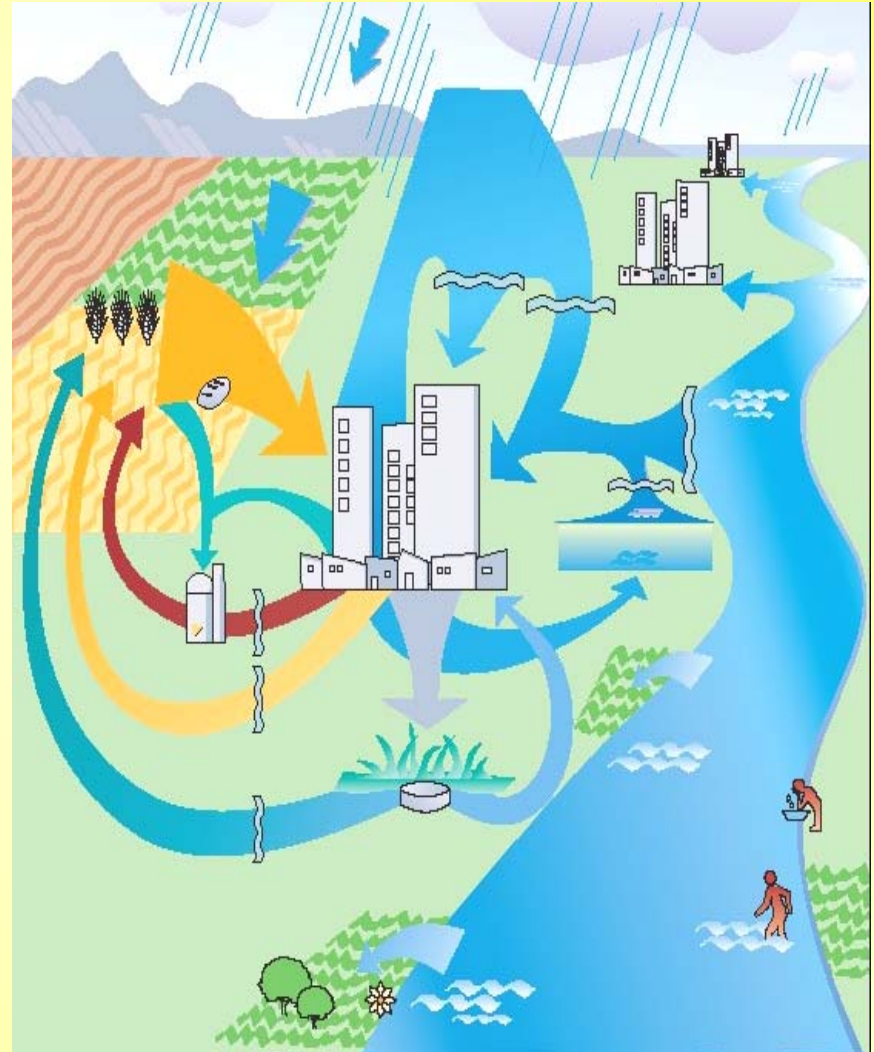
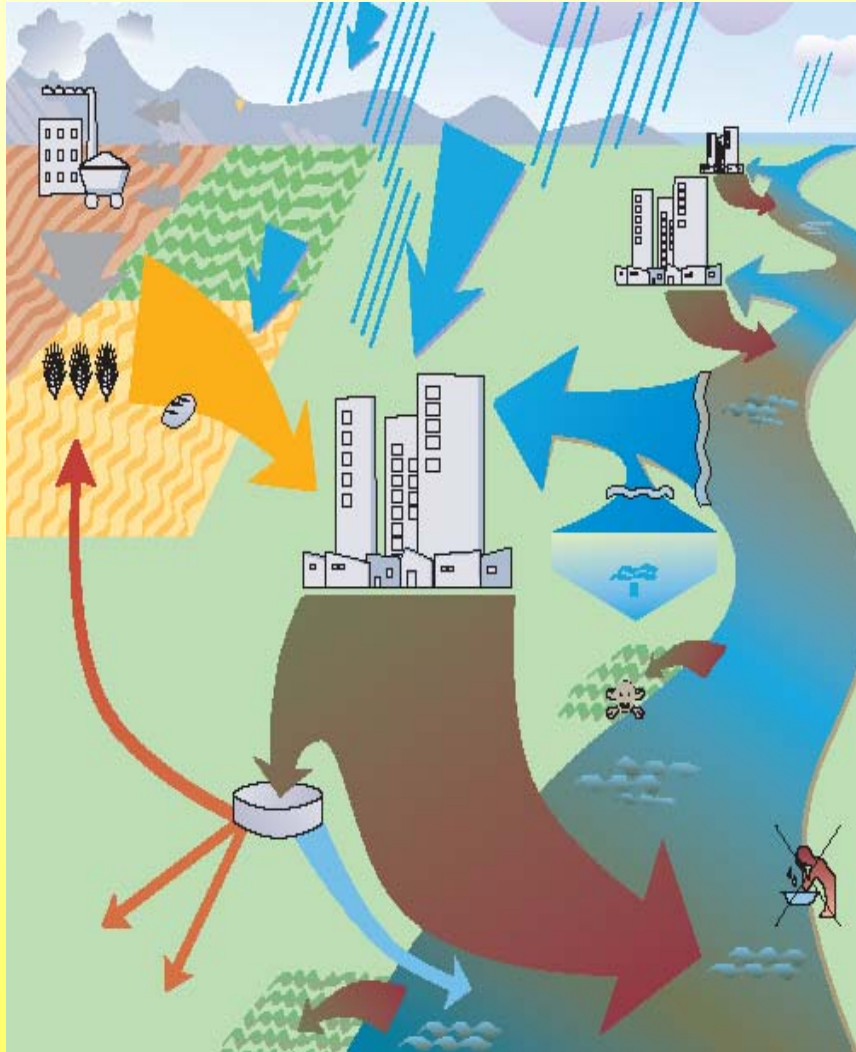
source: GTZ

GTZ main office building under construction (GTZ)

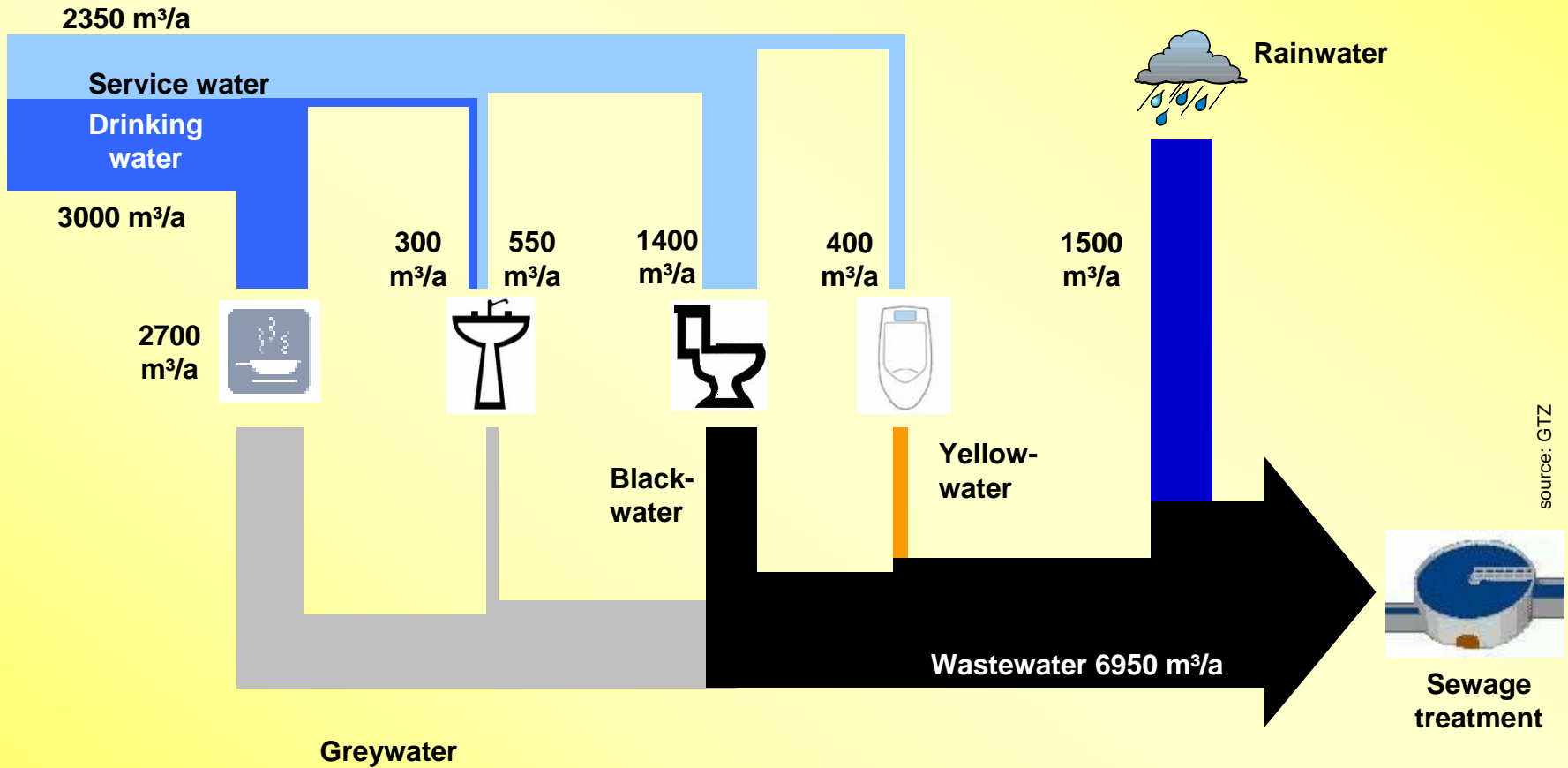


source: (ftsp-HWP-Seidel)

New design of the GTZ main building

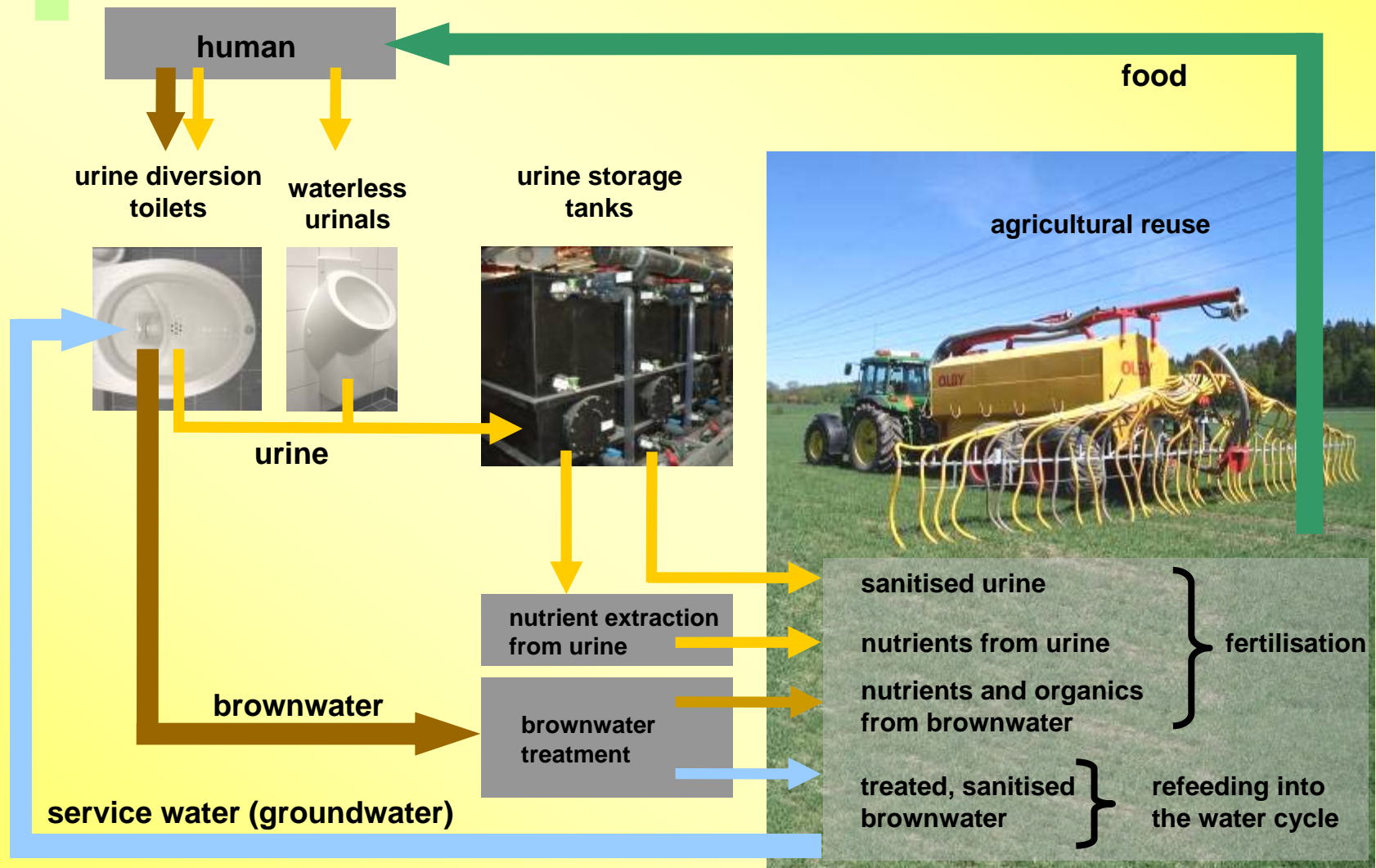


Previous conventional system

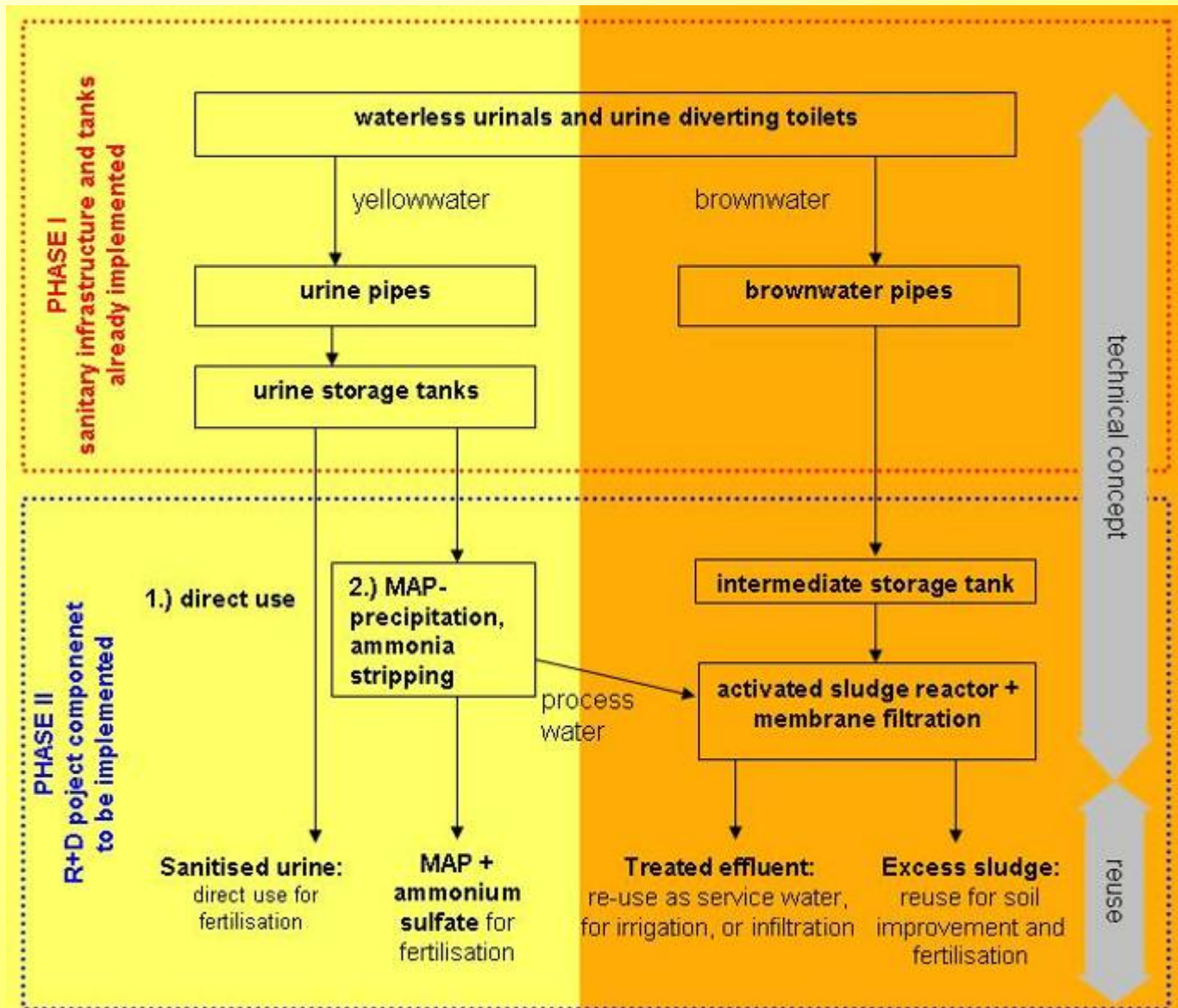


source: GTZ

Scheme of flowstream separation, treatment and reuse



The two phases of the project





ecosan Toilet carbine
at the GTZ head quarters

User information about
urine separation toilets
and waterless urinals



gtz Mehr als Wasser sparen!

Die neuen Separationstoiletten und wasserlosen Urinale im Mittelbau von Haus T sparen Wasser und erlauben die getrennte Sammlung von Urin für die Wasserverwertung in der Landwirtschaft. Sie sind Teil der ökologischen Sanikette ecosan.

Dank der Trennungsfunktion, benutzen Sie bitte die Toiletten sitzend. Ihr Geruch öffnet ein kleineren Bereich der Toilettenschüssel und der Urinalmündung durch eine separate Leitung in den Spülkanal im Keller.

Ansprechend spülen Sie wie gewohnt. Mit der Zuel-Knopf-Spülzeile können Sie auch direkt mit viel oder einem Über spülen.

Für alle Herren, die auf den „Komfort“ des Stehens nicht verzichten möchten, gibt es wasserlose Urinale, die ebenfalls die Urinrinne, Erhaltung der Urin erlauben und zur Einsparung von Wasser beitragen.

source: GTZ

- **Phase I**
Construction of urine separation system within the renovation works (financed by GTZ and supported by the Ministry of Environment of the State Hessen)
→ implemented and in use
- **Phase II**
Implementation of urine and brownwater treatment and reuse within a research project (to be financed by the German Federal Ministry for Education and Research)
→ to be implemented

source: GTZ

Technical components of the urine and brownwater reuse system

urine separation toilet



waterless urinal



urine pipes



storage tanks



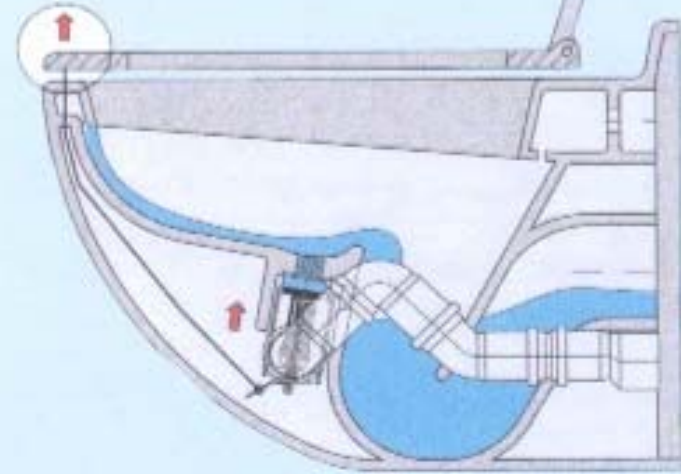
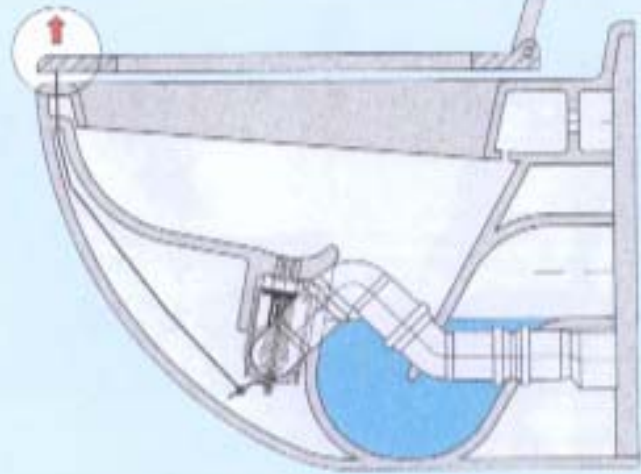
docking station for tank trucks



Technical components for collection and storage implemented at the GTZ building (top)

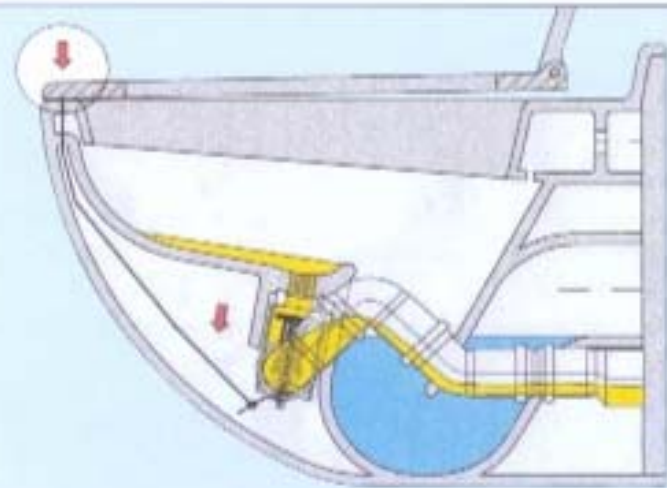
Technical components for the treatment and reuse of urine and brownwater (right)





source: ROEDIGER

Roediger “No – Mix – Toilet”



- **Ideal location for a demonstration project**
- **Special demonstration room and guided tours**
- **Good complementarity with the ecosan project in the KfW building in Frankfurt**



visit of a delegation from China



design model of the KfW building complex

Model solution for:

- modern office buildings
- new urban settlements / extension areas
- situations where the extension of conventional sanitation infrastructure cannot keep pace with fast urbanisation



Visions for ecosan in urban areas

Thank you very much for your attention!



**For more information, please visit our website:
www.gtz.de/ecosan**