

Institute **IWAR** of TU Darmstadt at the EXPO 2010

The Institute **IWAR** of Technische Universität Darmstadt (TUD) will be exhibiting this new type of infrastructure system for supplying water and disposing of sewage at the “EXPO 2010”, Shanghai. Semicentralized systems can be flexibly adapted to changing conditions at rapidly growing cities in newly industrializing and developing countries. The TUD will be the only German University to have its own exhibition stand at the Shanghai World Fair.

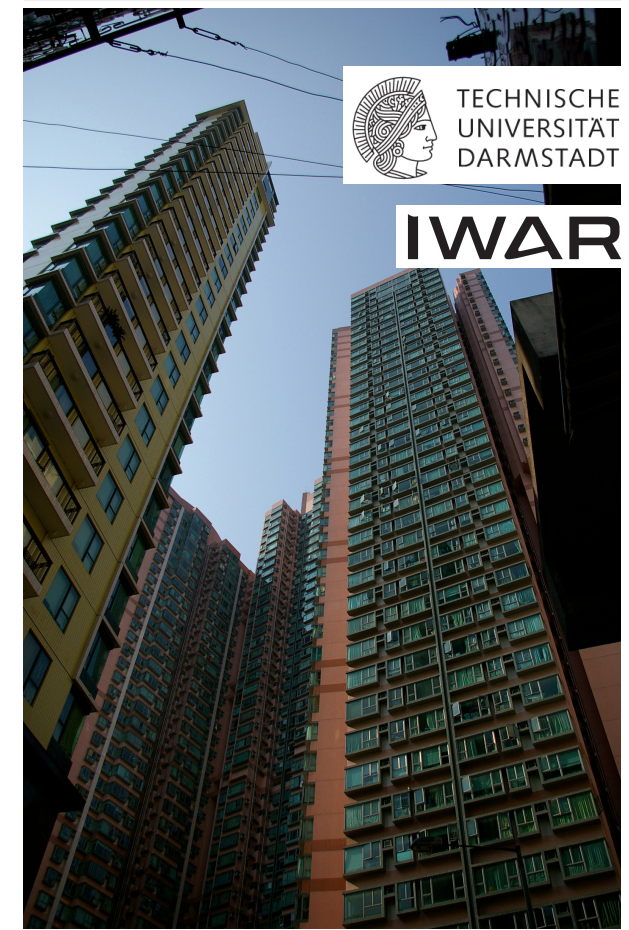
Complementary to the stand at URBAN PLANET at the world EXPO site the institute presents innovative infrastructure solutions at the “Experience the quality of life“ Exhibition at the German Centre Shanghai.



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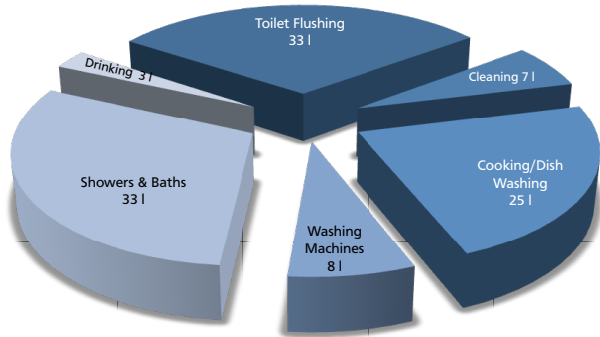


Water Reuse within "Semizentral"

Wastewater contains water - a valuable resource- in concentrations of more than 99.5 %. Thus, water reuse is an essential component of integrated water resource management, not only in arid and in water deficient areas, but increasingly also in densely populated urban areas, where water demand and supply diverge widely.

Intra-urban reuse of water for utilizations which do not require drinking water quality offers a high potential to save valuable water resources and reduce wastewater discharge. However, water reuse requires the transition from conventional, centralized to nodal, semicentralized supply and treatment systems with short distances from the firsthand user to the treatment units and back to the secondhand reuse.

By reusing adequately treated water, the demand of potable water could already be reduced by 30 %.



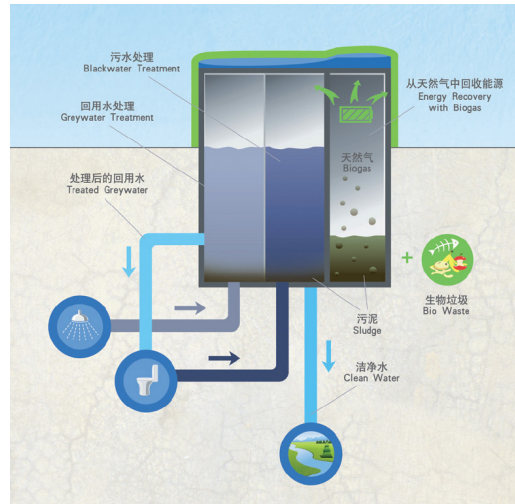
Water Consumption per Person and Day (case of Qingdao)

At the same time, the amount of wastewater to be treated would decrease by the same amount. Intra-urban water reuse not only preserves valuable resources, but often is more energy-efficient and more cost-effective.

Semizentral @ URBAN PLANET Pavilion

In collaboration with the National Engineering Research Center for Urban Pollution Control at its partner university, Shanghai's Tongji University, the TU Darmstadt's Institute IWAR has investigated the engineering and organizational options for more flexibly configuring the necessary infrastructural systems in such a way that they will make more efficient use of the available resources. Their investigations have resulted in the SEMIZENTRAL approach, which will be presented to an international audience as an exemplary means for dealing with water and energy resources in the Chinese "URBAN PLANET" pavilion at the forthcoming Shanghai World Fair.

SEMIZENTRAL is based on compact supply and treatment systems that may be expanded whenever necessary and thereby adapted to match current conditions.



Semicentralized Supply & Treatment Centre

SEMIZENTRAL is both: economical and climate-friendly, and may make major contributions to improving healthcare and the quality of life in future Mega-Cities.

Semizentral @ German Centre Shanghai

The TU Darmstadt is one of Germany's leading technical universities. Around 270 professors, 3,500 employees, and 21,000 students devote their talents and best efforts to significant, futuristic fields, such as energy, mobility, communications and information technologies, housing, and improving the quality of life. The wide variety of disciplines represented are all focused on technology, as viewed from the vantage point of engineering, the natural sciences, the humanities, and the social sciences, and cover the full range of academic endeavor, from the origination of basic concepts to practical, everyday applications.



Booth @ German Centre