



A computer rendering of the 'Citadel' building which will soon arise in The Hague's hinterland/ Photo: Waterstudio.nl

The city of tomorrow may be built on water

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A Dutch architect imagines entire cities being built in water. In The Hague's hinterland, this vision will soon become reality.

By Tracy Metz

Save the world, build on water, that is Koen Olthuis' core business in a nutshell. His architectural studio Waterstudio.nl designs waterborne schools, parks, roads and houses, pretty much anything actually.

Waterborne structures are easy to move. Once they are required elsewhere, a push and a tug suffice for a change of scenery.

Olthuis has even coined a term for it: 'scarless development.' A method of urban planning that makes for truly dynamic cities. Waterborne structures are not only useful to adapt to the fickle demands of citizens, they are also flexible enough to deal with the changing climate.



Koen Olthuis

Time Magazine named Olthuis as one of the most influential people in the world in 2007. But he has been greeted with "typically Dutch" scepticism at home. His vision of the future is by no means utopian, the architect said sitting in his office in Rijswijk, a suburb of The Hague. Olthuis feels his designs are very realistic.

Fata morganas in Dubai

His first clients were the ambitious and - then - very rich project developers of Dubai. At their request, Olthuis designed floating islands shaped like verses of Arabic poetry, a waterborne rotating tower hotel, and villas situated on the famous Palm Islands. The sky was the limit. Was, since none of these projects have actually been realised yet. "One project that still stands a good chance of being built is a floating mosque. The building is very energy efficient as it uses seawater for cooling and translucent pillars let in natural light," Olthuis said.

The Dubai-fantasies were mostly a way for Waterstudio.nl to establish its credentials. Today, the studio directs its efforts at tackling a fundamental issue many cities worldwide face. A problem made worse by the changing climate. "By 2050, 70 percent of the world's population will live in urban areas. Since approximately 90 percent of the world's largest cities are located on the waterfront, we need to find new ways of dealing with water in a manmade environment," Olthuis said. "We have to plan for change."

Olthuis believes in a future where ten percent of the planet's urban water surface will serve as a foundation for waterborne buildings. Floating real estate will prove particularly attractive where building space is scarce. Olthuis envisions Lego-like urban architecture, with floating modules that need only be dicked onto their new moorings after being pulled to a new waterfront destination.

As a partner in the company Dutch Docklands, Olthuis has been party to the design of a new type of floating foundation: a concrete slab with a polystyrene core. The material can easily be mass produced and allows for straightforward construction. This waterborne 'carpet' can serve as a foundation for sporting grounds, schools, or anything else required. The buildings can be removed as easily as they were built. Olthuis believes temporary structures are the way of the future. "Urban architects like to see themselves as God, building for all eternity. The reality is that buildings are being used for ever shorter time spans," he said.

Water: pretty and practical

The architect feels water has become too much of an aesthetic consideration in urban areas. The Dutch historic canals have been reduced to an aquafied part of real estate agents' sales pitches. "Only two generations ago water was used as a means of transportation," Olthuis said. In many cities, most famously Amsterdam, local canal networks served as a backbone of local infrastructure. But waterborne construction should not be seen as a faddish plaything for urban planners, Olthuis warned. He cited the recent construction of a floating neighbourhood in Rotterdam's historic port - only reachable by boat - as an example of waterborne architecture gone awry. In Rotterdam, living on water is presented as a niche market, catering only to a happy few. "Solutions need to have a permanent character. It should not be 'special' to build on water," Olthuis said. "It will only become accepted as a construction method once it offers the same comfort durability as construction on land at the same price. Technically, we are already there, but the image still needs changing."

Practical matters also need to be tended to. Waterborne construction requires clear and consistent regulations for all sorts of things, including insurance, financing, water, gas and electricity hook-ups, acceptable levels of water pollution and legal aspects.

Olthuis has built 50 floating homes since he founded Waterstudio.nl in 2003, together with business partner Rolf Peters. Their oeuvre ranges from an 'amphibian' villa in the country, to two houses on a newly constructed island near Amsterdam. Olthuis has only recently started working on his first large scale project in the Netherlands which he hope will prove the viability of his ideas. His studio is designing the urban layout for 80 hectares of reclaimed land in the hinterland of The Hague that will soon be re-flooded. Half of the 1,200 houses planned will be built on land, the other half on water. It is the first project of its scale and kind in the Netherlands.

"Floating is not dogma," Olthuis said. "We only use it were it makes sense economically or practically. This project is our testing ground for a construction method well suited to the Netherlands wet, marshy landscape."