

# SUSTAINABLE STUDENT HOUSING IN SMOOTH WATERS



*With its unique location in the harbour of Copenhagen, Urban Rigger takes student housing to a completely new level. The rigger consists of 12 apartments, and the entire construction is packed with sustainable solutions such as energy harvesting from waves and energy-efficient pumps.*

## THE SITUATION

Swaying in the harbour of Denmark's capital, Copenhagen, Urban Rigger is a truly innovative take on meeting the increasing demands for student housing in big cities. The rigger is designed by Bjarke Ingels (BIG) and consists of nine upcycled ship containers stacked on a concrete foundation with a total weight of 600 tonnes. The rigger consists of 12 apartments, each complete with a kitchen, bathroom and windows from floor to ceiling. Below sea level is a surprisingly large basement with a common area, washing facilities and individual lockers for each apartment.

However, constructing a floating micro-society detached from the public supply and wastewater discharge is a huge challenge. Hidden in the basement are the technical solutions that make life on the rigger safe and comfortable.



*Rasmus Rømeling, CEO of Urban Rigger, is immensely proud of Urban Rigger as a product, and he is grateful for the strong cooperation his company has enjoyed with a top-class partner like Grundfos.*



*“In the beginning, I often checked on the lifting stations to make sure everything was working properly. But I quickly realised that it wasn’t necessary, because they perform perfectly. It is a great relief”, says Peter Mayntzhusen, CTO of Urban Rigger, about the Grundfos Multilift MDG lifting stations.*

“It is very complex to understand and meet the demands of water supply, electricity and wastewater management from all 12 residents. Wastewater is particularly crucial. Since we are located at such a low level and in the water, we simply cannot connect to the public wastewater discharge. We need to raise the wastewater by several metres”, says Peter Mayntzhusen, CTO of Urban Rigger.

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<b>Continent:</b>	<i>Europe</i>
<b>Country:</b>	<i>Denmark</i>
<b>Market areas:</b>	<i>Residential buildings</i>
<b>Industry:</b>	<i>Building Services</i>
<b>Applications:</b>	<i>Wastewater, heating and water boosting</i>
<b>Products:</b>	<i>MDG Lifting station (wastewater), ALPHA2 (heating), SCALA2 (water boosting), UNILIFT KP (drainage)</i>
<b>Topic:</b>	<i>Wastewater handling on floating student housing</i>



*“When I wake up in my bed, I see nothing but water. I absolutely love living in a floating home and even though it is just 24 square metres, it contains everything I need. The community here already works very well, so it feels natural to open our doors and share moments with each other”, says Silke Danø Klingberg.*

## THE SOLUTION

Sustainability is an invariable focal point for Urban Rigger. The floating homes can be sailed around the world, while the construction and the products inside are energy-efficient and built to last.

“Our partners have supplied us with top-class solutions. For instance, Grundfos has not just supplied us with products, they have in fact been instrumental in developing the rigger, and they will continue to be so in the future”, says Rasmus Rømeling, CEO and responsible for the overall strategy of Urban Rigger.

Besides solar cells on the roof and a system to extract energy from the sea and turn it into heating, the rigger has been equipped with Grundfos Multilift MDG lifting stations to manage wastewater.

“The lifting stations have been running for a year without any trouble at all. In the beginning, I often checked on them to make

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*– Silke Danø Klingberg, Student and resident at Urban Rigger*

sure everything was working properly. But I quickly realised that it wasn’t necessary, because they perform perfectly. It is a great relief”, says Peter Mayntzhusen.

Apart from the lifting stations and two ALPHA2 circulator pumps for water supply, Urban Rigger has several Grundfos UNILIFT KP250 pumps installed as an important part of the security system. The submersible drainage pumps are placed in each corner of the basement, ready to remove any water if there is an overflow.



*The first ever Urban Rigger was inhabited by students in the summer of 2018. Soon, five more riggers will dock next to the original to create a dynamic environment on the waterways.*





Urban Rigger is designed by architect Bjarke Ingels (BIG) and features several common areas for the residents such as a centrally-located courtyard, an attractive rooftop terrace and an indoor lounge with a bar below sea level.

## THE OUTCOME

Displaying the characteristic green colour of old Danish fishing boats, the first Urban Rigger is an attractive construction. In fact, it draws so much attention from people passing by that the residents need to lock the gangway to ensure that they can study uninterrupted, either from their apartments or from the appealing rooftop terrace. Despite this, the inhabitants still love living on the rigger:

“It is really important to me that the area I live in focuses on sustainability. And as a student, it is pretty cool to say that your home features some of the newest technological solutions with regard to sustainability”, says Silke Danø Klingberg.

She is one of the first students to inhabit Urban Rigger, but soon, the community will grow rapidly. In 2019, five more riggers will be berthed next to the first one, creating a dynamic environment on the waterways. Furthermore, several other European cities have already showed an interest in the innovative student housing, and Urban Rigger is prepared to take the learnings from Copenhagen to the next step.

“In the future, we will continue to develop and optimise the rigger in close cooperation with our partners. Sustainability is key for us and in the long run it would be fantastic if Urban Rigger became completely independent and self-sufficient in terms of energy consumption”, says Rasmus Rømeling.

## GRUNDFOS SUPPLIED:

For Urban Rigger’s floating student homes, Grundfos has supplied MDG Lifting stations to handle the critical wastewater situation, as well as ALPHA2 circulators for heating and SCALA2 for water boosting.



Grundfos has supplied the Urban Rigger with several advanced and energy-efficient products. Besides lifting stations for wastewater and ALPHA2 circulators for water supply, several UNILIFT KP250 secure the rigger against water overflow.