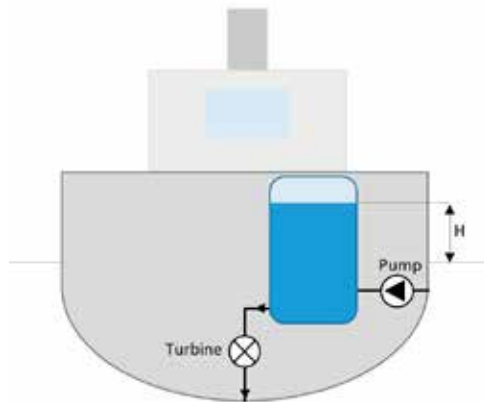


Background

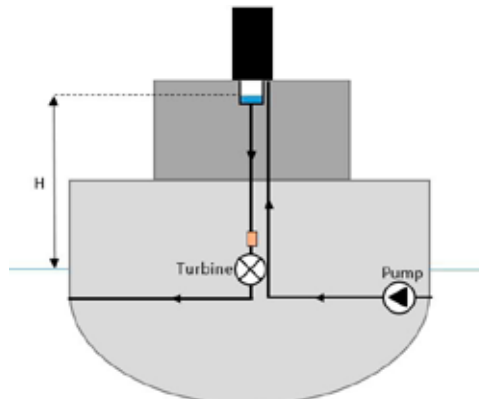
This thesis considers an axial turbine provided by QRRNT, which is a company that are developing turbines to recover kinetic energy in ship's systems to save fuel and reduce emissions.

One of QRRNT's ideas is to utilize a hydro turbine in well boats, which have huge fish tanks that continuously have to circulate the water flow due to the fish. This specific prototype was designed for installation at the outlet of a fishing tank on a well boat (see illustration below to the left).



The main goal has been to measure the prototype turbine's efficiency by laboratory testing and do modifications to increase the efficiency. This was done by setting up a test rig in the Waterpower Laboratory and replicating the conditions on the ship and mapping the turbine performance.

Future work will be to create new custom design for different boats and estimate their performance by CFD-simulations. This thesis include designing a new turbine to be utilized in the scrubber system of large ships (see illustration below to the right).



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**Design of a turbine
which utilizes the spill
water of large ships**

Supervisor:

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Trivedi

In cooperation with:

QRRNT AS

