

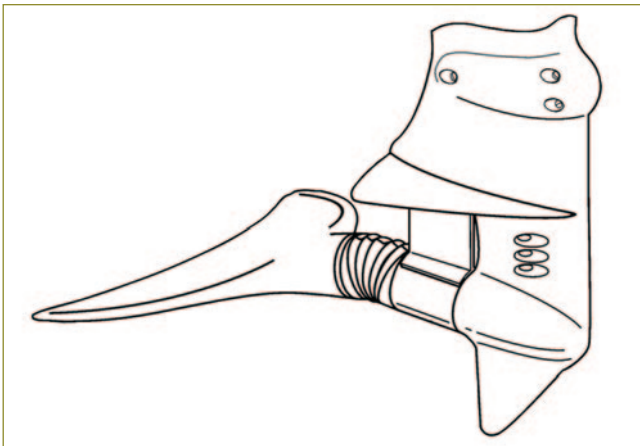
Flipper-mimetics

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Imagine if we could mimic Nature?

More people would be able to afford leisure boating thanks to increased fuel efficiency and the decreased cost due to smaller engines. Even small electrical engines would be sufficient enough to propel normal sized vessels. Combining these engines with solar panels the vessel could be self-sufficient. Can it be done? It's already being done.



Compared with a propeller that revolves rapidly at high revs, a dolphin's flippers go back and forth at a relatively slow rate. Using this energy-efficient process, a dolphin can top 30knots at one horsepower. Now this principle is being transferred to boat engines that are being driven by flippers instead of a propeller.

"If we can get this working as well as it does in nature, there'll be a whole new industry with loads of jobs," says Thomas Jemt, CEO of Dolprop Industries. "Our challenge is to show that it really works."

Dolprop was formed in 2007 and in 2010 it received a grant from VINNOVA, Swedish Governmental Agency for Innovation Systems. Backed up by a patented invention, it is now a case of developing the technology all the way to a commercial product.

The company has constructed a test pool on Ekero Island in Sweden's Lake Malaren. In the 5m x 2.5m elliptical pool, water streams around a permanent rig. Here, drive devices in different



materials, sizes and designs are tested out. Stage one is to develop electric powered outboards for smaller motorboats and sail craft.

At a time when increasing numbers of people are searching for environmentally friendly alternatives, Thomas Jemt believes there is a market for small, high-performance electric motors. If all goes according to plan, the first of them will be launched onto the market in 2015.

Benefits of flipper drive

- More efficient: Transfer of injected energy into thrust much more efficient than traditional propellers;
- Safer: Propeller accidents are avoided as the propeller is replaced with a soft flipper;
- Quieter: The noise created by a propeller rotating at a high speed disappears. Dolprop's patented Fluke Propulsion Device replaces the propeller with a flipper; and
- Eco-friendly: Can be powered even by hand.



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