

# salt Stories

Salt Story no. 1 2013

## GROUNDBREAKING PROPULSION SYSTEM

*Salt Ship Design's experienced Naval Architect, Bjørn Nøstbakken, is in his element at sea with sounds of seagulls and waves all around. It was his many fishing trips that inspired the innovative CRP solution.*

### Unique solution

In a world that is rapidly developing, it is important to be at the forefront. We need to be able to come up with new ideas where others have settled for existing solutions. Current solutions are not necessarily optimal, and can often be improved. Salt Ship Design's CRP is that kind of product - combining solutions that already exist with new technologies. The combined solution is unique.

*"I have great respect for the ocean, and I know that solutions must work - they cannot fail"*

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## Leading ship designer

Salt Ship Design is a leading global player. Our team includes a number of skilled engineers, based both in Norway and Poland. Among them is Bjørn Nøstbakken, Senior Naval Architect, fisherman and the developer of the CRP solution. With his almost thirty years of experience as a fisherman, he possesses valuable knowledge of what is doable in practice when it comes to designing ships. - My take on ship design is perhaps slightly unusual. On our computers, six meters from sea level to helideck may look like a lot, but it's not. I have great respect for the ocean and I know that solutions must work - they cannot fail, he explains.



These journeys leave plenty of time for reflection.

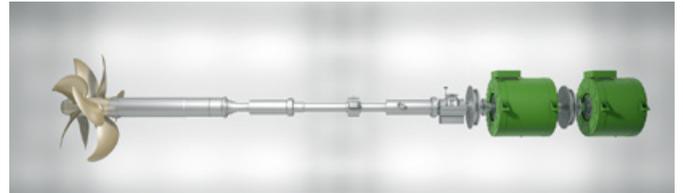
## Efficiency

On their fishing trips, it may take Bjørn and his colleagues as much as five or six days to reach their destination. These journeys leave plenty of time for reflection, and it was here - far to the North of Norway, under the midnight sun, that Bjørn came up with the idea of CRP. How can already fast moving ships become even more efficient?

- I am intrigued by the possibility of finding ways to use less energy and make things more efficient. And out there you do have some time to think, he says, smiling.

## The CRP solution

CRP stands for Contra-Rotating Propulsions, integrated in an optimised ship. The solution consists of two propellers rotating in[5] the same shaft line, and they are directly driven by one permanent magnet motor each. Because of this, the solution has very few components that can fail, and if one of the shaft lines falls out, the remaining propeller will provide the ship with efficient propulsion capacity. This makes CRP more robust than alternative solutions. As an added benefit, the maintenance costs are significantly reduced.



## The environment

One of shipping's greatest challenges is the efficient use of energy. What can be done to become more eco-friendly? All over the globe, staggering amounts of money are invested in product development aimed at lowering emissions. Bjørn is also concerned about the environment. The CRP solution has shown significant efficiency improvement compared to similar vessels. The fuel consumption of a platform supply vessel designed by Salt, will be reduced from 9.7 to 7.1 tons per day. Energy consumption and environmental emissions will decrease by 25%, resulting in a cost reduction of approximately NOK 5 million per year.

## CRP in the future

- The energy efficiency is vital, and I believe that the CRP solution has great potential, Bjørn says. Today the solution is used in a platform supply vessel, SALT 100 PSV, built on contract for Uglund Offshore. This vessel is being built by Kleven AS, and will be completed in January 2014. Bjørn is convinced that the solution will be used on other types of vessels as well, such as anchor handling and seismic vessels, and of course merchant vessels with long transits.

- I believe there is much more to be gained from the solution. It's on a high technological level and is definitely cutting edge, he says.



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