

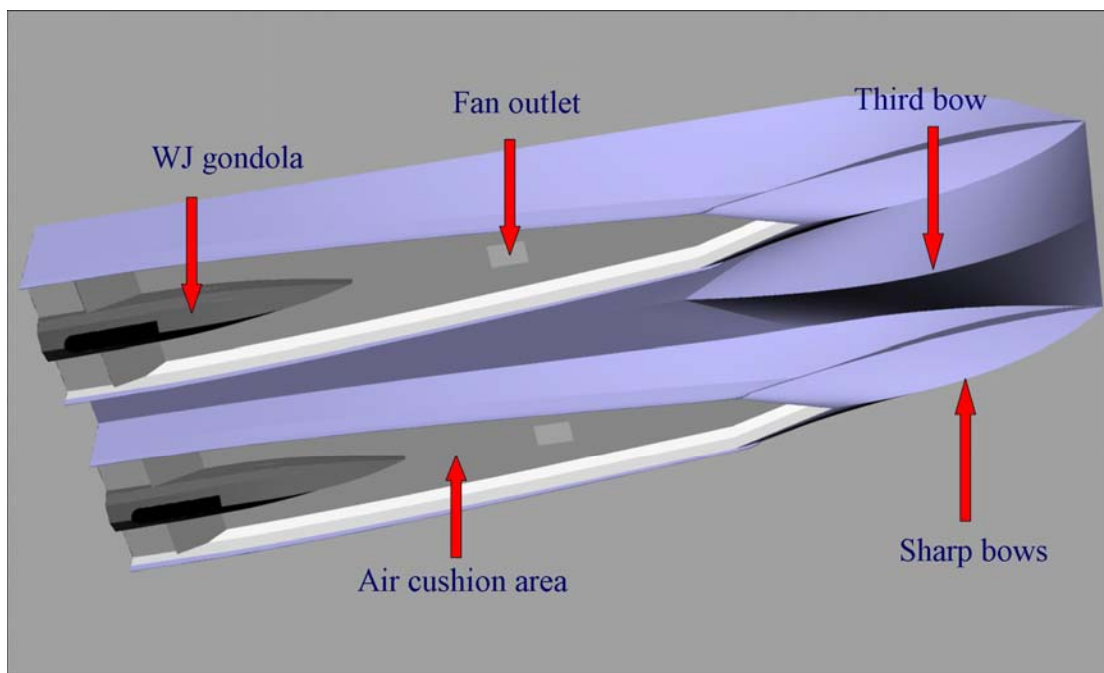
## How does it work?

In figure 1 please find a 3D model of one of the patented small/medium size catamarans to illustrate some of the general concept features.

The size and arrangement of the hull elements are designed to achieve as large an effect as possible for their respective lifting and motion damping properties, in order to give the vessel the intended advantageous characteristics in terms of speed, resistance and behaviour in waves.

By having a degree of freedom to position the centre of the upward forces in relation to the centre of gravity, the natural frequency of the vessel, when moving in a vertical plane, can be influenced.

All of the hull designs can be arranged such that aerodynamic lift on the superstructure and the hull tunnel (tunnels), on a multihull vessel, can be used to reduce the total resistance of the vessel. The effect increasing as the speed increases. The fact that the design has hull tunnels, and thus utilises aerodynamic lift, distinguishes the technology favourably from other types of air cushion vessels.



(figure 1)

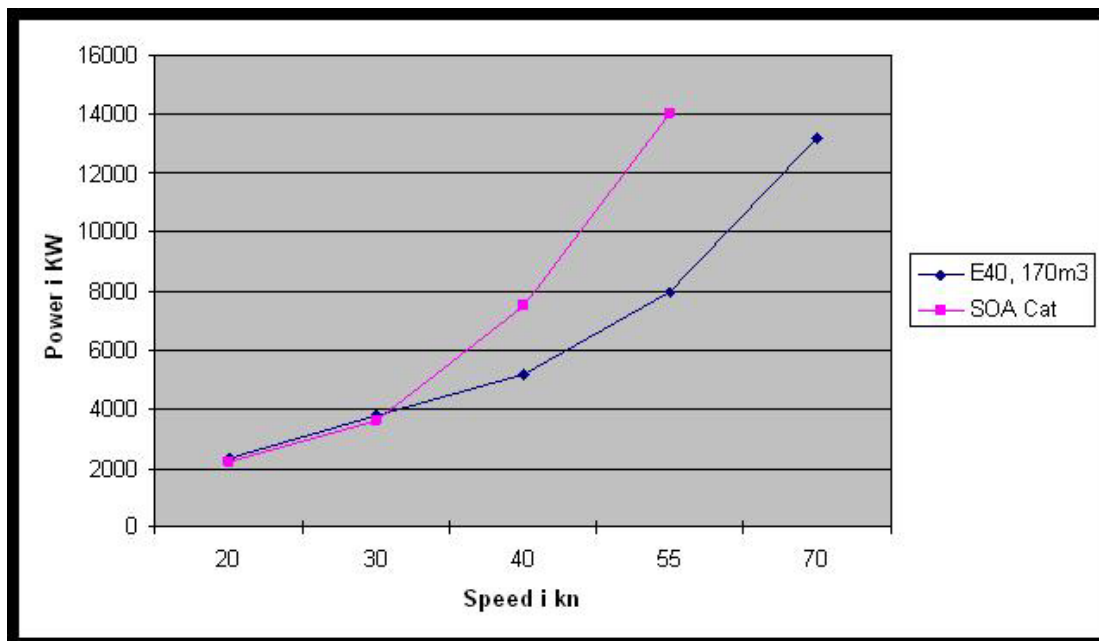
## ASV a cost saving concept.

With the patented ASV technology, the number of profitable High Speed Vessel operations, may be greatly increased. Further operational cost reduction and increased potential revenue will be obtained. The very tangible environmental benefits should not be forgotten.

The ASV's may be operated at reduced draft, with less wash/ wake, and the emission to water and air will be markedly reduced as a result of less fuel consumption. The tank testing documented fuel savings of up to 40% at high speed compared with current market leading conventional solutions.

Figure 2 showing a 40 meter ASV catamaran design, at 170m<sup>3</sup>, tested and compared with conventional SOA (stat of the art) catamaran. Test data for the SOA catamarans are only available for speeds up to 55 knots. Beyond 40 knots the speed vs. power gradient for a conventional catamaran is very steep.

Crossover in efficiency between a conventional catamaran and the ASV will be around 35 knots in a 40 m scale. Beyond this speed - the ASV will be increasingly more efficient compared with the SOA catamaran. At 55 knots the ASV will be around 40% more efficient, in other means require 40% less total installed power, propulsion and fan power combined, than the conventional catamaran.



(figure 2)