

The Hymar project comes to a successful end with a new version of Autoprop developed; hybrid and purely electric vessels being the undoubted winners. Plus there is a big bonus too for owners of some diesel powered displacement motor boats

It's already acknowledged that Autoprops are highly efficient because of their ability to auto pitch depending on engine speed and weather and sea conditions; an ability that provides optimum thrust at all times. But with purely solar, or with hybrid power, the list of advantages provided by the new Autoprop Eco*Star Propeller is further extended.

Electric motors, unlike diesels, provide a constant torque from zero to maximum rpm. Only the Autoprop Eco*Star Propeller, using its unique auto pitching ability, can match its own efficiency curve with that of the electric motor. The result, a considerable improvement in the economy deliveries available compared with other propellers. Put simply, more boat speed but using much less energy.

On sailing yachts, when speed is not an issue, but increasing battery energy is, the Autoprop Eco*Star Propeller can be allowed to turn in the vessels wake and the drive motor automatically becomes a generator recharging the batteries. Up to 1Kw of power can be regenerated in this way.

All the original Autoprop benefits are still available with the Autoprop Eco*Star propeller. Backing down is much more efficient thanks to the propeller blades being the same optimum shape in astern as they are ahead.

Drag when sailing with the Autoprop Eco*Star propellers blades feathered is reduced by up to 85%, providing speed increases of up to one knot.

An additional benefit for some diesel powered displacement craft has also resulted from the HYMAR research. To quote the final document, "the INSEAN/Bruntons work developed a modified propeller design, (INSEAN II), that develops significantly more thrust at lower propeller shaft speeds. This moves the region of operation into a more efficient area of the engine's fuel map, achieving the HYMAR project's 'off design' efficiency targets, albeit through improved engine efficiency rather than through improved propeller efficiency. It should also be noted that this gain is not unique to a hybrid system: **it will also occur if one of these propellers is installed in a conventional system.**

For existing vessels the Autoprop Eco*Star Propeller is 'retrofitable'. It comes already assembled to fit on an existing shaft or saildrive leg. It is silent in operation and optimises its pitch fully automatically. In short it provides the most environmentally responsible and efficient propulsion for any vessel powered by hybrid or solar systems.