Fuel efficiency is fast becoming the Holy Grail for the shipping industry, driven by both commercial and environmental factors.

The continuing rise in fuel costs and the recent introduction of new guidelines from the International Maritime Organisation (IMO), has meant that fuel efficiency remains top of mind for ship owners, operators and charterers. Despite the fact that there are now thousands of energy saving initiatives around the world, all of which claim to help deliver fuel efficiencies, the industry still remains sceptical – the big question is, why?

Han Wensink, Managing Director of BMT ARGOSS, a subsidiary of BMT Group, believes the only way this cynicism can be eradicated is by introducing effective measurement of vessel performance. By utilising independent, performance monitoring tools, ship owners, operators and charterers can feel confident that the energy savings which are being claimed are indeed valid and real tangible improvements can be made to operational efficiency. Only then will the industry start to embrace these initiatives and realise their true potential.

The monitoring, measurement and reporting of CO2 emissions is set to be the cornerstone of tomorrow’s shipping industry in its efforts to positively contribute towards the climate change challenges we face today. Indeed, the industry is already responding with the recent introduction of the IMO’s Energy Efficiency Design Index (EEDI) and Ship Energy Efficiency Management Plan (SEEMP) guidelines. Couple this with rising fuel costs and the assessment of fuel consumption is fast becoming an integral part of ship owners, operators and charterers’ operational strategies.

To secure market share, suppliers are now clambering over themselves to provide a multitude of initiatives such as energy saving devices (ESDs) to help the shipping industry save on its fuel costs. From inexpensive and simple solutions through to multi-million pound investments, these initiatives can include air lubrication systems, flettner rotors, integrated propulsion systems and weather route optimisation.

Implementing these various ESDs can, according to suppliers, result in net savings of anything between one and ten percent – but if you aren’t measuring their performance, how are you able to demonstrate their effectiveness? Equally, if you decide to bring together a multitude of these devices in order to enhance the potential net savings to more than 50 percent, how can you be sure that the combination of these initiatives isn’t in fact, counteracting against one another, with the net effect worse than intended?
This is the situation that many owners and operators are now finding themselves in and it is quickly leading to scepticism and reluctance to change. Some owners believe that delivering fuel efficiency is not an exact science. Indeed, it’s true to say that in all science, there is always going to be a level of uncertainty therefore, developing approaches to cope with those uncertainties is paramount so that new technologies can be embraced. For example, automated landing systems within the aviation industry still have to deal with a level of uncertainty, but it hasn’t hampered the adoption of these systems which have the ability to take into account the motions, speed and surrounding environmental conditions of the plane.

Eradicating this cynicism is crucial in order to give the shipping industry a fighting chance of securing real, long term improvements in operational efficiency. This can only be achieved through independently monitoring, reporting, verifying and analysing vessel and fleet performance, providing complete performance visibility on-board and on-shore. By introducing accurate on board sensor technology, owners and operators can effectively obtain data related to the vessel’s outputs including shaft torque meter, GPS, speed log, ECDIS and fuel flow meters.

However, despite there being similar forms of measurement in the industry, what they fail to do is integrate with the associated environmental conditions. Any measurements must fully align with sophisticated metocean data. Sailing a vessel in conditions where there are no waves or currents for example, could possibly mean much less consumption of fuel than that of a vessel travelling under more ferocious forcing conditions such as high winds. Measuring the vessel parameters without taking into account the forcing environmental conditions that the vessel experiences throughout its voyage will not give you a true indicator of the ship’s actual performance.

To measure is to know, to know is to understand and to understand is to improve.