

The bigger picture

Many shipowners find themselves in a quandary between balancing the costs of investing in a state-of-the-art HVAC system upfront, or upgrading later on. Knud E. Hansen's team talks through the issues with Jon Ingleton

An unspecified off-the-shelf HVAC system installed by the yard costs x , while an intuitive intelligent system specified by the discerning owner might cost $2x$ but deliver quarterly savings of $x/3$. You don't have to be Fibonacci to calculate that only a short sequence of sailings with the latter system type equals an impressive ROI, so why do so many newbuild projects opt for the former?

"Many newbuild budgets don't stretch to the price point of the most up-to-date system," explains Knud E. Hansen's CEO Finn Wollesen. "But it's not uncommon for us to get a call to upgrade the system after the warranty period has expired, when the ship is in the hands of the marine operations department."

This isn't a case of negligence; it's the reality of the complexity of newbuild financing. "The marine operations team have a different budget from a different source and with different demands," says Wollesen. "Shipowners spend a lot of money testing various money-saving schemes in order to save small percentages. But on a cruise ship, the airconditioning

and cooling accounts for around 30% of the total energy consumption of the vessel. So if owners can cut down 30% of these costs, they might be looking at a 10% reduction in energy spend. This could represent savings in the millions of dollars across even a small fleet."

Improved HVAC efficiency is not solely found from within the system itself. There are further gains to be realised elsewhere with the guidance of an informed practitioner. Claes Bølge, the company's automation manager, cites onboard lighting as an easy example. "If you have a lighting system that generates less heat, you require less airconditioning and less cooling, thus saving money," he says. "This approach could be adopted to reduce heat and save on HVAC use."

Bølge references countless similar examples and is eager to point out that big savings can also be realised with an older fleet. "Investigate what you have and what's on the market," he advises. "Go for the many 'low-hanging fruit' enhancements to achieve immediate savings but don't ignore the opportunities to enjoy medium- and long-term payback with more complicated projects at the same time."

The challenges are complex (shifting occupancy volumes, disparate needs from room to room, high humidity and moisture levels, variable outside conditions) and the risks if you get it wrong are serious.

"Our HVAC offer starts with what is essentially an HVAC audit," says Stéphane Geslin, general manager of HVAC. "For newbuilds, we carry out a comprehensive pre-study, while existing systems receive a detailed investigation from our team to seek out every conceivable improvement, which is then presented to the owner with transparent itemised costs and the associated ROI."

Due to the 'out of sight, out of mind' nature of HVAC systems, it's often only when problems arise that the experts are called. "With airconditioning, if you don't hear anything about it then you have done a good job," says Geslin. "If nobody's complaining that it's too hot, cold or smelly, then that's good. Very few passengers will come and say, 'This is a very good airconditioning system!' If you hear nothing, you've actually succeeded." Doubtless he does receive a 'thank you' card from the owners' accountant. **C&F**



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