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Major equipment supplier consolidates cruise ship solutions



Special Report
International Cruise Ship Industry

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Floating platform 'Magic Carpet' can be clearly seen on 'Celebrity Edge'. Photo credit - Bernard Biger, Chantiers de l'Atlantique

Consolidation of MacGregor's cruise ship activities comes at a critical moment when owners need suppliers who can step up to be early-stage design partners, writes Mats Olsson, the company's Cruise Segment General Manager.

With latest estimates indicating that 120 large cruise ships worth €65 bill are on order, plus a surge in demand for expedition cruises, which has brought contracts for over 40 sub-200 m length ships, the outlook is bright for technology partners in this specialised market.

The positives are not lost on MacGregor as it consolidates the cruise activities brought in through last year's acquisition of the TTS Group marine and offshore businesses.

Both companies have been serving a prolonged building boom as 'mega' cruise newbuildings have continued to scale-up and a new breed of expedition ships has emerged. MacGregor's 56-vessel reference list includes 23 ships on order, while TTS's portfolio includes 60 vessels, as well as 15 future deliveries.

With capabilities extending to doors, platforms, mooring systems, cranes and winches, this consolidation broadens the MacGregor offering to include gangways and it also expands its shell door and platform portfolio. In addition, it creates opportunities to enhance lean delivery of standard equipment to yard schedules, and strengthens the company's 24/7 global service support capability.

Equally significantly, the rise in scale of the largest ships and the sheer variety of expedition ship designs have demanded equipment innovations to match boldness in owner ambitions.

MacGregor has increasingly become a solutions provider converting owner visions into handling systems reality, and believes the MacGregor/TTS consolidation creates a technical partner truly positioned to add value from the earliest stages of cruise ship design.

Engineering principals

Already, on the very largest ships, the 'wow' factor provided by attractions never before



MacGregor's Cruise Segment General Manager, Mats Olsson

considered for deployment at sea must be based on design and engineering principles that work on oceangoing structures. High profile examples include the 'Magic Carpet' on the starboard side of 'Celebrity Edge', which was a project conceived in co-operation with the shipyard.

With seating, a bar and space for live music, the 110 x 20 ft platform can be raised above the top deck for 'Dinner on the Edge', aligned with Deck 14's main pool, lowered to Deck 5 to extend the 'Raw on 5' restaurant or descend to Deck 2 as a luxury embarkation station.

The main plus point is that the equipment supplier's role began two years before the ship's delivery and involved close collaboration with the naval architect and the yard to achieve maximum impact within the design limits.

This approach echoes the one taken by MacGregor in developing 'North Star' for the first 'Quantum' class cruise ship in 2015 - a



A tender seen alongside a large cruise ship

crane and gondola lifting 14 guests some 91 m above sea level to give them panoramic views of the ship, sea and ports of call.

Here, early project participation ensured this spectacular innovation could be delivered using proven technology, including 100% power unit redundancy and a diesel emergency pack, automatic cut outs and safety valve overload protection, as well as the stabilising system to dampen sway for ride comfort.

If MacGregor's earlier involvement in the cruise ship design process is not yet the norm, it is certainly the trend, and it is one that is as apparent for expedition vessels, as it is at the 'mega' ship end of the market.

An example was the brainstorming experienced as part of MacGregor's work with a major cruise line to develop a foldaway platform for a series of expedition ships. From the guests point of view, the outcome is an opportunity to truly immerse themselves in the Arctic spectacle. For the engineer, what is required is a sophisticated foldable winged platform, which can be extended 3 m outside the vessel's profile to provide a viewing

balcony with clearance behind for a gangway system.

For mega ships and expedition ships alike, MacGregor is also working increasingly closely with owners and naval architects to optimise embarkation, cargo and provision flows. In the case of mega-ships, simulation software helps model the sometimes unpredictable behaviour of crowds, for example, to optimise logistics solutions so that flow-through points don't become the cause of congestion. In a recent case, its use led to a doubling of passenger screening points.

Partner demand

With next generation cruise ships heading for new destinations, the demand for technical partners to be involved early in the design project relates to hardware, as well as software. Polar Class ships must be able to achieve safety and sustainability in a highly regulated environment, for example, which has consequences for watertight doors and materials, and for preferences on mechanical solutions.

Recent references include weather tight,

reinforced hangar doors on board a series of expedition ships to be used for helicopters and hatch doors for submarines. Watertight doors have also been supplied for an ultra-luxury PC6 Polar Class expedition ship.

MacGregor also markets its own range of 'Eco' lubrication oils, but has also been focusing on all-electric shell doors where, for reputational reasons, guests visiting the pristine waters of the Arctic are likely to have zero tolerance for hydraulic oil spills.

Less expensive to install than their hydraulically operated counterparts, all-electric shell doors are also less noisy in operation. In fact, the all-electric option is gaining ground in other parts of the cruise industry where the environmental imperative takes precedence; examples are the LNG-fuelled ships for both AIDA and Costa Crociere. It is also worth noting here that MacGregor has developed a special LNG bunkering door with a class-approved design.

In the case of passenger access, too, early-stage involvement in the design process

suggests that MacGregor will increasingly be seen as a technology partner rather than simply an equipment supplier. One example has been ground-breaking work to develop internal telescopic passenger gangways, which offer 15 degrees of movement up and down to accommodate a 5 m - 6 m tidal range, such as those seen on TUI Cruises 'Mein Schiff' series, as well sideloading systems which 'follow the quay', where platforms are raised/lowered to align for deliveries.

In summary, it is fair to say that when considering all the things that they want of a new cruise ship, MacGregor may not be at the forefront of an owner's thinking. What is also fair to say is that owners increasingly recognise that their technology partners can help them optimise features before they go ahead and order.

When they do, they will also want to know, whether delivering big ticket attractions that work safely at sea, or the new features that open up new destinations while aligning with the aims of sustainable tourism, that they are in experienced hands.



MacGregor is the supplier of the marine platform, heli-hangar door, submarine hatch and side shell doors for the 'Crystal Endeavor' project

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