

Mein Schiff 3 features Martin Audio speakers and LED technology

Ebb and flow

Mike Clark gauges the current state of the cruise liner market and finds out the technologies that are making their way on board

Key Points

- The new-build schedule shows upswing following a slack period in recent years
- Reducing power (and fuel) consumption boosts wide adoption of LED technology
- Fibre-based signal transport and faster networks are becoming standard
- There's big interest in IPTV and streaming technology - and 4K looks to be the next step in the passenger experience

As the cruise liner market switches from one focused on retrofits to new projects, and as the size of new builds continues to grow, the demand for AV equipment that can perform in difficult conditions and contribute to lower costs is flourishing.

Alan Edwards, principal audio design consultant at international theatre consulting and lighting design firm Nautilus Entertainment Design, outlines the broad market trends: "The late '90s to early 2000s saw a strong new-build market. When this declined, refit work picked up around 2011. The decline in new-build work allowed us to work more closely with operations, giving ourselves (and the rest of the industry) a first-hand look at what is needed in the ever-changing AV sector of the cruise industry. Now, we're seeing the new-build market pick up again and the AV market is thriving currently, as most vessels are built in Europe, particularly Germany, Italy and Finland."

His colleague Brian Pratt, director of design at NED, adds: "It's difficult to say if the increase in new-builds is adversely affecting the refit work, but I wouldn't be surprised if some of the large

refit projects we have seen recently taper off as industry focus is on new-builds."

Franco Zini, general manager at HMS Italia, is a member of the Videlio group that is responsible for verifying technical specs, producing the engineering necessary for installation (including custom material), supplying and integrating hardware and carrying out system start-ups before consigning ships to the cruise companies.

Although confirming a considerable slackening in new-builds in recent years, and a current upswing, with quite a number on the books for coming years, Zini prefers to describe the cruise liner AV situation as "transforming" rather than rising or falling. "At HMS, we're taking digital technology even further - like on the P&O flagship Britannia and on future projects, such as the new (2017) MSC liners, ships will be more and more digital. This is a positive sign, as things are moving from carbon copies of previous ships to something really new."

Zini confirms a big demand as far as the entire video chain goes, including content, which HMS now also produces. As far as audio is concerned, signal transport over fibre optics is becoming standard and systems like QSC's Q-Sys are part

of the transformation.

Zini also offers a word of advice to would-be cruise integrators: "With the technology currently used on-board cruise ships, huge investments are involved, so anybody considering entering this market from scratch must have a very big organisation behind them."



'Anybody considering entering this market from scratch must have a very big organisation behind them'
Franco Zini, HMS Italia

Power saving

Hand in hand with the trend to digital is a trend to greater energy efficiency. Pratt states: "Power saving is a no-brainer for an industry that can quickly equate any reduction in power requirements directly into fuel savings. In keeping

with this theme, anything that reduces power consumption, heat loads, weight and physical size is popular – the availability of Class D audio amplifiers and powerful DSPs is a fine example.”

Leif Witte, MD at German full-service media systems solutions provider Amptown System Company (ASC), agrees: “The cruise industry is providing a considerable boost to Europe’s economic recovery and Germany’s cruise market seems to be the most dynamic. Currently, there is a trend towards using more LED and video technology. As electricity for a cruise ship is produced on-board, ways to save power are more than welcome.”

Special features of ASC projects with Royal Caribbean’s Quantum class cater to this requirement and on the Anthem and Quantum of the Seas, the company replaced all conventional lamps with LED equivalents in the Royal Theatre.

“The shift to LED technology has enabled us to follow new paths in terms of electricity: there are no dimmers on board and custom ASC racks were installed for current distribution and electricity can now be remotely controlled in groups, in order to avoid having to run the whole rig for a bingo game, for example.”

Making a display

Large-scale LED displays have become a prominent addition to AV needs on cruise liners. For NED this has been the case both from a theatrical standpoint in show rooms and for a cinematic experience on the main pool deck.

US LD Brian Monahan has been consulting for Holland America Line since 2003 and Carnival Cruise Line since 2011, and designing lighting for main theatre shows across both fleets.

“Both lines have embraced LED technology, installing large walls and moving panels to replace traditional scenery. The transformation started with the spike in fuel costs a few years ago which led to a major push to reduce power consumption.”

The new HAL Koningsdam has a ground-breaking theatre design with floor to ceiling 5mm LED walls surrounding the room. Carnival’s new Carnival Vista also has a new theatre

design with 5mm LED walls and panels for stage productions.

Lighting levels

For Holland America, lighting chosen includes Robe, Altman, SGM and Chroma Q LED fixtures, whereas Carnival has a long-standing relationship with Martin, so there are Quantum LED moving spots, Aura LED moving wash fixtures, Rush LED Zoom PARs and Entour 350 units.

Monahan enthuses: “It’s been an exciting time for me to be involved in these two projects, bringing new technology to the cruise industry and helping to drive it into a green, cost-saving future.”

Canadian LD Chris Moylan has been designing for TUI Cruises for about five years and has operated as chief lighting designer for all TUI Cruises shows, as well as complete entertainment lighting systems designer for the Mein Schiff 3 and 4.

He has also seen the shift to LED at first hand. “The big factor as far as lighting is concerned is efficiency and power usage,” he explains. “Almost all lighting on the newer ships has been converted to LED, which of course offers much longer life and lower power consumption and heat output. We have no conventional dimmers, and our ‘dimmer room’ is filled with network racks instead, routing our extensive Art-Net and video network around our theatres.”

As TUI produces all its shows in house, very modular multifaceted theatre stages have been designed, integrating products from established manufacturers, such as MA Lighting consoles, coolux media servers, Martin and Robe lights.

Regarding new liners, TUI Cruises’ Mein Schiff 5 is scheduled to be ready in 2016, followed by a new ship each year until Mein Schiff 8.

Multipurpose spaces

Torsten Hirche, sound designer and technical director for TUI Cruises Entertainment Berlin, comments: “Cruise liner companies are constantly searching for the ‘new wow effect’, to differentiate them from competitors, and another important factor is multi-functionality. Space on ships is limited so designers often try to ensure a single space has multiple functions.



The Emerald Theatre on Costa Diadema

For example, our Klanghaus room enables guests to enjoy live classical music with the audio characteristics of an opera house, thanks to its integrated audio modelling system. A few hours later, there will be a theatre show with live actors, in the evening it can become a lounge or movie theatre, and the next morning host a presentation of the next destination – all in one room!

No official ship refit statistics are available, but Cruise Lines International Association member companies (over 60) report a new-build schedule rising from six ocean ships in 2015 to nine in 2016 and a total of 36 by 2020.

Source: CLIA UK

“We consider ourselves to be at the forefront when it comes to our theatres’ lighting, video, sound and kinetics technologies and have chosen Martin Audio speakers (fitted in all key areas across the 15 decks on TU’s two newest ships – Mein Schiff 3 and 4 and with the marine debut of MLA systems), MC2 amplifiers, XTA processing and DiGiCo consoles.”

For NED, all-in-one presentation switcher/scalers are another popular item for spaces that handle a wide variety of events, and there’s also an increase in the use of AV transports via IP such as Dante. The decreasing cost of using fibre-based technologies is also becoming very important as the ships grow in size and required bandwidth.

Edwards adds: “Now that newer protocols have been developed for faster networks, such as Audinate’s Dante, bidirectional audio distribution to and from and between venues becomes more viable. Control of AV devices, whether remotely or locally using WiFi devices, is among the more recent implementations we see today.”

Paolo Campanelli, executive technical-artistic specialist with Costa Crociere, states that, as far as Costa is concerned, investment in AV technology is definitely increasing.


“On the Costa Diadema, which we inaugurated in November 2014, the TV control room has already been completely redesigned, testing new innovative products, such as Panasonic’s AV-HS60C production switcher.”

Global ocean cruise passengers rose from 17.8 million in 2009 to 23 million in 2015. Global impact: \$117 billion and 891,000 full-time jobs

Source: CLIA 2015 Cruise Industry Outlook

Campanelli has no doubts as to the most interesting technologies being integrated on board: “IPTV and streaming technologies are definitely the most interesting at present and, although not technologically new, current ‘firsts’ for some of our liners are 5m x 10m full LED walls being used in retrofit projects for our production shows. We also began working with Clay Paky recently, and a lot of its products are already on

our ships, such as the B-Eye, Stormy LED strobes and (we hope) soon Mythos fixtures.”

All Costa liners are crossing over from SD to HD, according to a pre-programmed schedule, and moving to DVB-T or IPTV. There are big new-build projects planned and, on that front, there is considerable discussion regarding the adoption of 4K. 



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