

MONDO

THE FUTURE OF OCEAN ENTERTAINMENT



STAR OF THE SEAS





PERFECT DAY

STAR OF THE SHOW

Royal Caribbean presents
'Star of the Seas.'

MONDO-DR last caught up with the Royal Caribbean team over a year ago, just after the launch of the lead ship in its newest class, *Icon of the Seas*. Whilst it was setting sail with resounding success, the building of *Icon's* sister ship was already well underway.

This second ship, named *Star of the Seas*, arrived in August, and, similarly to its predecessor, houses a whole host of entertainment venues. Inside is an abundance of bars, restaurants, lounges, and unique offerings, such as the Absolute Zero ice rink, the AquaTheater aqua performance amphitheatre, and the Royal Theater, which stages the first-ever production of 'Back to the Future: The Musical' put to sea.

Star's ability to provide high-quality, fresh entertainment is sustained by the comprehensive audiovisual solutions behind every venue. As on *Icon of the Seas*, *Star's* AV systems were created with Christopher Vlassopoulos, Manager, Sound & Light, New Building & Innovation at Royal Caribbean, at the helm.

Vlassopoulos does not work alone, however; the entertainment technology solutions are designed and deployed by what Sascha Lang, Vice President of Architectural and Design, New Building & Innovation at Royal Caribbean Group, affectionately calls "CV's (Christopher Vlassopoulos') army."

Vlassopoulos explained that this AV army spans a wide breadth of disciplines; he noted that installer Control AV was "a huge part" of this team, specifying and positioning the greatest amount of lighting, sound, and visual systems on the ship, with integrators Tennagels stepping in to reinforce these designs.

Additionally, Media Tailor implemented the ship's entire broadcast and media networks, and Project International brought in a combination of architectural and entertainment lighting.

The rigging teams were key to ship success too, with Videlio HMS and SKS Control providing the stage machinery and the rigging control, respectively.

"Everyone had their own part to play, and they did it brilliantly," Vlassopoulos commented. "We rely on a lot of external partners. For Matt DeJong, the Lead Design Associate, and me, this army of installers, consultants, and professionals is absolutely crucial to our success." Being only the second in the Icon Class series, *Star* is essentially a 'twin' to its sister *Icon*. This means that the AV equipment and the spaces inside the ship are relatively similar, though upgrades and advancements have been made, either to usher in newly released technology or to better suit exclusive features of *Star*.

Vlassopoulos revealed that this made the building process



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significantly smoother than *Icon's*, stating, "Most of the team hadn't changed between *Icon* and *Star of the Seas*, so everyone involved knew what the design was, was aware of the guidelines, and understood that if we met the Icon Class standards, it would be a success." He continued, "Creating the first ship in a new class can be daunting. You start with a blank sheet of paper, and there's no reference to reinforce decisions with. This is not to say that the construction of *Star* was simple, though. The work doesn't stop after the lead ship in a fleet is complete; it's then about tweaking and evolving the design to make sure it remains modern and relevant." The largest factor in ensuring that Royal Caribbean integrates only the latest and greatest technology in every new ship, as Vlassopoulos said, is strong relationships. The organisation keeps in close contact with its technology manufacturers, which he noted, "forms a secure partnership that allows Royal Caribbean to get exclusive looks at upcoming products and series from brands."

This benefits both the fleet and the manufacturer, as a huge, new ship showcasing a company's outdated technology would reflect poorly on both parties.

"When Control AV and I began specifying the equipment for *Star of the Seas*, our connections with our manufacturers proved extremely helpful, as they were able to inform us of their most recent product changes or upgrades. These relationships are so important to us – the manufacturers are an extension of the CV army," he added.

"We've been so lucky with the audiovisual brands we've been associated with. Everyone has offered heaps of support. For example, Absen once flew across the world to fix a damaged LED! We've had this sort of advocacy from all of our manufacturer partners." Vlassopoulos concluded by again thanking the teams behind *Star of the Seas'* now-thriving 20 decks. "This sort of installation is so complicated, so having the correct crews and technologies involved is critical."

This special edition of MONDO-DR aims to highlight these installers, manufacturers, and professionals whose expertise underpins every aspect of the ship's premium entertainment offerings. ■

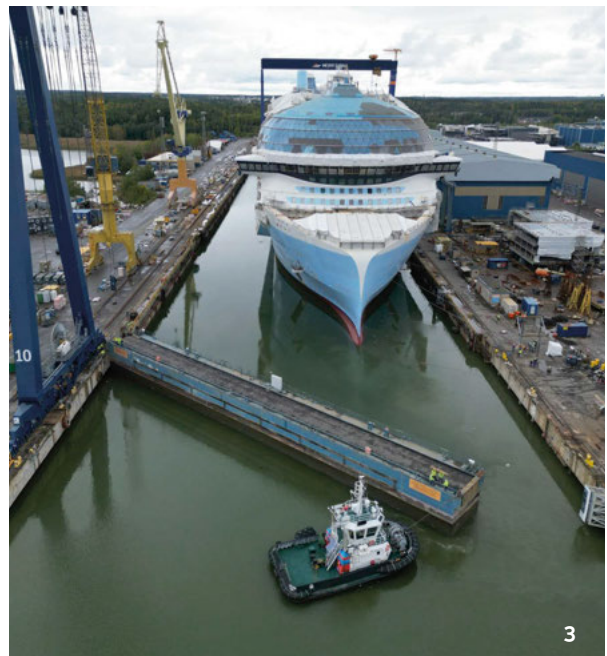
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Left: Christopher Vlassopoulos, Manager of New Building & Innovation at Royal Caribbean Group.
1,3: The Meyer Turku shipyard in Finland, home of *Star of the Seas* during the building phase.
2: The Meyer Turku team at the start of *Star of the Seas'* production.

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CONTROL AV

Above: Star of the Seas' Swim and Tonic bar, one of the many areas on board influenced by Control AV's technological expertise.

Next page : Star's upper deck, offering scenic views.

Behind every great entertainment venue is a great audiovisual system, something that experienced designer and installer, Control AV, knows all too well. The Miami-based integrators were brought on as part of Royal Caribbean's core team for the build of its Icon Class of ship early in the fleet's lifetime. After successfully delivering the bulk of the AV solutions for *Icon of the Seas'* 68 leisure and entertainment spaces, Control AV was asked to reprise its role for *Star of the Seas*.

Control AV's President, Amir El Yordi, and CEO, Douglas Ellis, began by reminiscing on *Icon of the Seas'* triumph. El Yordi explained: "We have evolved as a company since our affiliation with Royal Caribbean. I believe that because of *Icon*, we've been put on the map. We've previously worked on a multitude of exciting ships, but now that we've been recognised for our work on *Icon*, we're really able to get involved with the latest and greatest ships. We really have the opportunity to set the standard when it comes to entertainment technology at sea."

Even though Control AV as an establishment is relatively young, having been established in 2013, its team is rich in experience. Most of the professionals within the company have reportedly been active in the maritime industry since 1998, being involved in the creation of Royal Caribbean's *Voyager of the Seas*. "We're lucky in that our staff is intimately familiar with the Royal Caribbean brand," El Yordi said.

"Not only this, but Control AV has a really deep understanding of other cruise lines, too, so we are aware of the latest trends, opportunities, and



challenges across the at-sea entertainment sector. This is what these sorts of projects need – such large and complex integrations require the designers to be mindful of the ship's goals and demographics." The president noted that the employees behind the installer have advanced in tandem with the company; across the years of Control AV's operation, technical assistants have graduated to lead technicians, and then to head engineers. Mika Tuomi was a significant example here, beginning to work with El Yordi and CEO Douglas Ellis in 1999, and now acting as Technical Director. El Yordi went on to comment that the integrator's experience on *Icon* was beneficial when it came time to design for *Star of the Seas*. "We learnt some important lessons during the *Icon* project, and after too, when we saw it handed over to the client for its maiden voyage. I think it's clear that we've grown from our initial designs for the first-in-class ship."

The differences between *Star* and *Icon of the Seas* are subtle, but the changes implemented are proof of Control AV and Royal Caribbean's drive to utilise the most advanced, modern technology available. "The Icon Class will consistently evolve, as entertainment technology is always evolving. With every ship, we want to try to get the best possible product from each manufacturer, meaning that ship designs will change as the market does."

The largest difference between *Star* and *Icon's* entertainment venues

can be found in their respective Royal Theaters. *Icon of the Seas'* Royal Theater was introduced with a Broadway-ready version of 'The Wizard of Oz' as its main attraction, whereas a similarly high-quality production of 'Back to the Future: The Musical' has found a home on *Star's* stage.

'Back to the Future: The Musical' has a slew of high-tech requirements that led the president, Mika Tuomi, and Károly Molnár, Project Director at Control AV, to need to redesign the audiovisual and staging solutions for *Star's* theatre. El Yordi said this system "was a lot more challenging to put together, but we did it, and the result is amazing."

Notably, the famous 'Back to the Future' scene featuring the DeLorean transforming into a time machine and travelling through space was initially a technical obstacle. Working alongside rigging teams, sound engineers, and mechanical staging experts, Control AV had to figure out a way to make a car appear to fly, all within the unique constraints of a theatre at sea.

"After a concentrated and thoughtful design period, we managed it," stated El Yordi. "The lighting, sound, video, and rigging in *Star's* Royal Theater make 'Back to the Future: The Musical' an incredibly immersive experience, just as it is on Broadway or the West-End." For a closer look at the audiovisual solutions at the core of 'Back to the Future: The Musical', turn to page 16 for a report on Gareth



Owen's role as Sound Designer, which he performed alongside Control AV. Installations at the magnitude of *Star of the Seas* require a different approach from a typical land-based, single-purpose venue. With cruise ships containing a long and exhaustive list of all the entertainment and leisure spaces that a guest could possibly want, integrators must begin crafting solutions years in advance.

"We're already working on the systems that will be deployed on the fifth ship in the Icon Class, to be launched in 2028," El Yordi said.

Asked how Control AV continues to specify relevant and future-proof solutions for its maritime projects, El Yordi replied: "We're thankful to have close relationships with the manufacturers we work with. This allows us to test and check out products that aren't on the market yet, with some even still in the research and development phase. This helps us understand what technology will be significant in years to come – it's like seeing into the future.

"It's a really interesting facet of our design process. We make sure that we're only working with manufacturers we truly trust, as we're specifying technology from them that does not yet exist, so we need to be confident that it will actually come to fruition!"

One of the key ways the company stays connected to its partner brands is through a dedicated side project. El Yordi explained:

"Myself and a couple of industry friends noticed that there was no organisation targeted towards professionals in the cruise ship entertainment industry, so we formed ICSEPA, the International Cruise Ship Entertainment Professional Association."

Christopher Vlassopoulos, Manager, Sound & Light, New Building & Innovation at Royal Caribbean, has supported ICSEPA since the start, which El Yordi said he is extremely grateful for. "ICSEPA exists to try

and educate, help, and connect people who are either already in the cruise ship industry or want to get involved in it," he continued. "The maritime sector is different from the land-based venue world, so we saw that it was important for there to be a dedicated space for the professionals within it.

"ICSEPA looks to bring together manufacturers, integrators, and end users. It can be difficult to find solutions for the specific challenges presented by at-sea entertainment venues; with this organisation, we're trying to facilitate the communication and cross-pollination of knowledge, making things a bit easier for everyone."

The association hosts networking events across trade shows internationally, with its biggest function happening during SeaTrade, Miami. "The members of ICSEPA, such as L-Acoustics, Martin Lighting, DAS Audio, Robe, Absen, Allen & Heath, and Shure, host meet and greets at their stands to promote the operation and create a space for professionals to chat and connect with the industry."

Next for Control AV is a focus on the upcoming Icon Class ships, with the company contracted as the installer for all foreseeable ships in the fleet. El Yordi wrapped up the conversation by saying: "It's an exciting time. We've had great feedback so far from both *Star* and *Icon*, and we expect the rest of the class to be received just as positively.

"I want to conclude by thanking Christopher Vlassopoulos and Matt DeJong, Royal Caribbean's Lead Design Associate. Their expertise is what truly guides the right technology onto the ships." ■

www.controlav.pro

www.icsepa.com

Q-SYS

As the audio, video, and control needs of cruise ships evolve, technology needs to evolve alongside them. Torsten Haack, Q-SYS Sales Director for Marine & Theme Parks EMEA, sits down with MONDO-DR to discuss how the manufacturer has grown to become a key partner in Royal Caribbean's Icon Class, leading to a reflective conversation about the maritime AV industry as a whole.

Can you introduce me to the partnership between Royal Caribbean and Q-SYS?

Haack: Royal Caribbean has established itself as one of the most innovative cruise lines in the industry. Each consecutive ship is renowned for its record-breaking design and revolutionary integration of technology, providing guests with unforgettable and unparalleled voyages. Q-SYS has this same commitment to innovation and aims to deliver similarly extraordinary experiences. In this way, our core values could not be better aligned. Our partnership began with *Quantum of the Seas*, which had its maiden voyage in 2014. At that time, the Q-SYS platform was in its infancy, and it has since evolved into the full stack AV platform it is today. As the audio, video and control needs of the fleets evolve, the software-based nature of Q-SYS means we can evolve along with it. Each new ship provides an exciting opportunity to collaborate and enhance the marine AV environment. Additionally, both Q-SYS and Royal Caribbean take pride in empowering teams through training. With standardisation being key, the training we provide ensures consistency across Royal Caribbean's fleet of ships, while also ensuring every type of new ship benefits from the latest AV advancements. This has resulted in a strong and long-lasting relationship that is a testament to the enduring power of collaboration in the cruise ship industry.

Inside *Star of the Seas*, what Q-SYS solutions can be found?

Star of the Seas' AV infrastructure is built around the Q-SYS full stack AV platform, which handles audio, video, and control across the ship's public spaces.

While the technology itself remains largely invisible to guests, it plays a central role in shaping their experience, from the clarity of sound in a lounge to the seamless control of lighting and media in a theatre.

More than a dozen mid-sized Q-SYS Cores are deployed throughout the ship, each managing a cluster of zones. These are supported by CX-Q amplifiers and a range of audio I/O devices, all of which are, by nature of Q-SYS, networked and software-driven. This architecture allows for flexibility in how spaces are used and adapted, whether for entertainment, communication, or ambient control.



Above and next page: *Star of the Seas*' Overlook, with audio, video, and control supported by Q-SYS.

Below: The 1400 Lobby Bar, also managed by Q-SYS.





What entertainment purposes are these Q-SYS systems serving across the ship?

Q-SYS is present in nearly every public area on *Star of the Seas*. From bars and restaurants to theatres and sports centres, the platform supports a wide range of entertainment formats, often switching between live performance and ambient audio with minimal intervention. More than 90 touch panels are installed across the ship, giving crew members intuitive control over their environments. One of the most complex zones is the AquaDome, the space housing the AquaTheater. As well as the performance space, the dome also accommodates bars, restaurants, and retail spaces. A single Core 510i manages this entire area, distributing audio to the front PA, delay lines, and surround loudspeakers, while also supporting the adjacent venues. This kind of integration allows for a cohesive guest experience, even as the function of the space shifts throughout the day.

During *Star's* development, how closely did the Q-SYS team collaborate with the AV integrators and Royal Caribbean's design team?

The success of *Star of the Seas* was built on close collaboration between Q-SYS, Royal Caribbean themselves, and the ship's AV installers. This meant working hand-in-hand with Control AV and Tennagels Medientechnik, whose teams were deeply involved in the detailed planning and execution of each entertainment venue. The role of Q-SYS extended beyond supplying technology. The team was involved early in the design phase, offering training and technical orientation to the team at Royal Caribbean. These sessions helped

define what was possible with the Q-SYS platform and shaped the scope of the AV systems before any hardware was specified. Once the design was locked in, Q-SYS remained closely connected throughout procurement and installation, ensuring that the systems were not only technically sound but also aligned with operational needs.

How is Q-SYS technology positioned to perform reliably at sea?

A maritime environment is a relentless test of endurance for every piece of technology on the ship. Salt air, moisture, constant vibration, and fluctuating power sources challenge even the most robust systems.

We see these challenges not as obstacles, but as an opportunity for our solutions to prove their durability. Q-SYS is engineered to minimise these risks with hardware designed to withstand the harshest conditions, and software-based flexibility that allows the system to adapt. Being at the heart of the system, many of our products benefit from living in climate-controlled technical rooms that offer a measure of protection, but even these feature redundancy, ensuring reliability and consistency.

Other components, loudspeakers in particular, must face the elements head-on. Our AD-DWL loudspeakers, for example, are subjected to rigorous testing, from salt-mist exposure to ingress protection, and comply with MIL-SPEC requirements. Years of service in similarly harsh environments have allowed us to fine-tune the balance between excellent sonic performance and peak durability.



Looking at the cruise industry more broadly, what do you see as the biggest opportunities or challenges for maritime AV technology?

Cruise ships are practically floating cities, and their public spaces are expected to deliver high-quality entertainment around the clock. Maintaining those standards not only relies on the technology, but also on the people who operate it.

Finding skilled AV personnel who understand both the technical systems and the unique demands of maritime environments is one of the biggest challenges facing the industry. Ships rely on teams who can troubleshoot, adapt, and keep things running smoothly, often with limited access to spare parts or external support.

This challenge opens the door to innovation from those in the industry. There's a growing opportunity to simplify AV systems, not by reducing their capabilities, but by making them easier to use and maintain. Automating routine tasks, streamlining user interfaces, and introducing intelligent features like AI-assisted show control or remote monitoring and management can help reduce the burden on crew members and ensure consistency across the fleet.

How involved is Q-SYS in the cruise sector overall, and do you expect its presence in this area of the industry to grow or change?

Over the past fifteen years, we've seen Q-SYS become a familiar name in the cruise sector, largely owing to the Q-SYS platform and its innate ability to handle complex hospitality and entertainment environments. Today, it's rare to find a new-build cruise ship that doesn't include Q-SYS as part of its AV infrastructure. This level of involvement is the

result of consistent collaboration with shipbuilders, integrators, and cruise operators who are looking for systems that can keep pace with the demands of modern maritime entertainment. The nature of cruise ship construction means that decisions made during the design phase can shape operations for a decade or more. With that in mind, Q-SYS has focused on building long-term relationships and offering tools that are flexible enough to evolve over time.

Looking ahead, though, there's still room for growth. As cruise lines continue to expand their fleets and explore new ways to elevate the onboard experience, the demand for scalable and reliable AV systems expands with it.

What does it mean for Q-SYS to be on board *Star of the Seas*?

Being involved in *Star of the Seas* has been a milestone for our team, not just because of the scale of the project, but because of what it represents. This ship is a convergence of entertainment, engineering, and guest experience at its highest level, and we're proud that Q-SYS plays a role in making that possible.

Our technology supports a wide range of spaces, each with its own requirements. It's a privilege to contribute to something that brings people together in such a memorable way, and to do so in collaboration with partners who share our commitment to quality and innovation. ■

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