

Case Study: Pullmantur Cruises

When Pullmantur Cruises decided on an upgrade path from their Philips SM30 emergency sound systems, they required a fully digital emergency and SOLAS certified solution for their rapidly increasing fleet. There was a need to choose a modern system that integrated bespoke technology with ease of use and full integration with existing safety systems and equipment.

This case study details how NTE designed, supplied and project managed the installation of Bosch Praesideo emergency sound systems into the MS Empress and the MS Sovereign.

Customer Background

Pullmantur Cruises is Spain's largest cruise line and one of the most rapidly growing cruise lines in the world. This hugely successful Spanish firm was virtually unknown outside its native country until late 2006 when Royal Caribbean announced that it had purchased the company.



MV Empress

The company specifically caters to Spanish passengers, although Pullmantur cruises are also marketed by travel operators outside the Spanish-speaking world.

Pullmantur offers high-value, high-quality cruising with a Spanish-Mediterranean flair. While Pullmantur markets mainly in Spain, the company welcomes international passengers and the onboard product is largely bilingual with printed materials and other information in English.

The Project Brief

During 2008 Royal Caribbean transferred the “Empress of the Seas” and the “MS Sovereign of the Seas” to the Pullmantur fleet. The renamed MS Empress has a gross tonnage of 48,563 tons, a length of 211m, has 9 decks, capacity for 1,850 passengers and a speed of 19.5 knots. The renamed MS Sovereign has a gross tonnage of 73,192 tons, a length of 268m, 7 decks, capacity for 2,852 passengers and a speed of 21.5 knots.

Both ships had legacy Philips SM30, SQ45 amplifiers and associated equipment installed as the ship’s public address and emergency sound system. Although the SM30 and SQ45 is well known to be extremely robust and reliable, a planned upgrade to the SOLAS approved Bosch Praesideo was required to take advantage of improved digital technology and changes to safety regulations. Maintenance of critical components was also becoming an issue as SM30 control equipment and SM30 microphone Callstations had ceased production and spare parts were becoming difficult to locate.

In 2002, Robert Bosch GmbH acquired Philips Communications and Security Inc (Philips CSI) . The Bosch Praesideo is the direct replacement and upgrade path for the Philips SM30 and has been designed to integrate with existing installed SM30 so that a gradual changeover from SM30 to Praesideo can be achieved without replacing the ship’s complete safety and evacuation systems.

This project looked at replacing the SM30 control equipment and custom built SM30 Callstations with two Praesideo NC’s (Network Controllers), to provide full redundancy, yet retain the Philips SQ45 amplifiers that power the ships loudspeakers. Minimising disruption and upgrade costs.

The installation of two Praesideo NC’s would comply with the latest maritime standards for evacuation at sea and maintain full functionality of the system, in the unlikely event of failure of any single Praesideo NC.

The Solution

Creating a pleasant atmosphere for passengers and ensuring their safety in the event of an evacuation are crucial considerations for a public address system on cruise ships.

Praesideo complies with all treaties for commercial ships engaged in international service, and is recognised by all major maritime nations.

Praesideo is SOLAS (Safety of Life at Sea) certified by Germanischer Lloyd.

Praesideo includes standard maritime alarm tones, and interfaces with fire alarm control, weather alarm, security alarm and other third party systems.



TUV, the independent German quality and safety organisation has certified Praesideo as compliant to IEC60849, EN 54-16, ISO 7240-16, BS60849 & BS5839.

The solution for both ships was to upgrade the existing SM30 control system to two Praesideo NC's (Network Controllers). This would increase the reliability and robustness of the SM30 as it would provide a fully redundant system. The fully redundant system is an improvement to safety standards and satisfies the latest requirements of SOLAS. A fully redundant system ensures that in the unlikely event of a fault to any single Praesideo NC, the system will still function without any loss of performance.



Racks of Philips SQ45 amplifiers
onboard the MS Sovereign

The new Praesideo control system would interface with the existing SQ45 loudspeaker amplifiers, prolonging the investment of the installed equipment.

The SM30 microphones or 'Callstations' would be replaced with a mix of custom built Praesideo Callstations and Bosch factory built equipment.

The solution would provide a digital platform using today's technology and the ability to replace Philips SQ45 amplifiers with Bosch Praesideo amplifiers should the need arise.

The Praesideo upgrade path would enable the installation to be carried out in a few days and not when the ship was due for a major refit.

The Installation

The format and schedule for the Praesideo upgrades on both ships was very similar and consisted of:

1. Assembly of custom builds callstations and full factory testing of the Praesideo NC's working in full redundancy at the NTE factory in the UK.
2. Delivery to a pre-designated port in readiness for installation with the ships when they were in port for a few days.
3. Installation of the new Praesideo control system into the equipment room and connection of new callstations and ancillary equipment with the outgoing Philips SM30 system in full operation.
4. Programming of the system, integration with all third party safety equipment and full testing of system.
5. Liaison with all ships crew on the new system and when satisfied, changeover from SM30 to Praesideo. Several test announcements to adjust volume controls.
6. Full safety GA (General Alarm) activation after the Captain has made an explanatory announcement to the ship's crew.

The installation and commissioning was carried out by a Bosch accredited engineer Alan Simpson of NTE. Alan explains that, 'there is a lot of consideration and planning involved in the upgrade. Training the ships crew is very important as sometimes people are nervous of new equipment and they need reassurance and support. The actual switchover process to the live Praesideo has to be carefully co-ordinated with the technicians, crew and the Captain so that everyone knows what is going on'.

The Praesideo upgrades were completed on the MS Sovereign and the MS Empress within the allocated time frame and both ships' safety systems are now controlled by Praesideo. Praesideo provides digital technology, multi zone configuration and a much larger number of audio channels than Philips SM30. The digital building blocks of Praesideo will ensure compliance with the changing needs of the customer and maritime safety requirements for many years to come.



MV Sovereign

For more information about Praesideo or any of the other products or services that NTE offer, please do not hesitate to contact us.

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