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Göran Sundholm, the owner of the **MariGroup** companies, has a long track record of engineering innovations, resulting in numerous families of patents to his name. Equally long is his connection to the shipbuilding industry, having started GS-Hydo in 1973 and its high-pressure non-welding piping technology. It was followed by Marioff Corporation, which is known throughout the cruise ship industry for its landmark HI-FOG® water-mist fire suppression system started in 1991. His fertile mind has not been idle, and now with MariMatic®, Sundholm has again developed revolutionary applications for the maritime market with a range of vacuum conveying systems.

"The vacuum conveying technology is proven by various solutions we have for onshore cities, and cruise ships nowadays are like floating towns," comments Ismo Viitanen, MariMatic's Vice President of Sales & Projects "Actually, the existing concept for these new cruise ships surprised us, due to the huge amount of laundry to be handled in such a short time using service lifts and manual conveying by trolleys. The Metro Taifun® Chute 247 solves the problem by conveying laundry from passenger spaces smoothly by air-like pneumatic post directly to the ship's laundry room with minimal manual work."

The vacuum system for the purpose of collecting laundry is simplicity itself, which results in savings in time, money and greater efficiency — especially in man-power demand. The laundry concept will be unique when it becomes a standard feature aboard cruise ships.

MetroTaifun® Chute 247 enables cabin attendants on each deck to use chutes simultaneously. On reaching the laundry collection rooms in seconds, laundry is ready to be washed during the next voyage of five days. Instead of being a fire risk, occupying hundreds of square meters



Taifun® Galley conveys waste hygienically to the centralized waste tank



Waste bags are sorted automatically by their color or RFID tags

of corridors. Benefits cut not only time, but also number of trolleys and labor so cabins can be cleaned more quickly and crew then deployed for passenger-related services - vital at turnaround time for cruise ships.

"The same principles apply to handling solid waste," says Viitanen. "Typically, MariMatic's vacuum conveying systems for solid waste for city districts' sorting and vacuuming are for, say, 20,000 people, and therefore our solutions are proven for large cruise ships, too. The brilliant thing now is that RFID coded solid waste bags arrive for immediate sorting by robots in the garbage room. A lot of manual work in the garbage room becomes unnecessary".

"Closed vacuum pipelines for laundry and solid waste are also an important fire safety and hygiene issue for a passenger ship. Burning or contaminated materials do not remain in public areas, but are instead safely in a closed pipe system, which can be fitted with automatic fire safety and sanitization apparatus. Furthermore, several hundred square meters are saved due to the fact that the number of laundry and waste trolleys will be reduced," adds Viitanen.

"Our Taifun Vacuum conveying systems for food waste from ship galleys were adopted by the market back in 1988 onboard the cruise ship Costa Atlantica. We are the company which developed the vacuum conveying technology for ship galleys, and thanks to our odyssey, the food industry has over 1,000 Taifun systems in operation."

Time and money are great attractions, but MariMatic's vacuum systems for laundry, solid and food waste are an invaluable green asset for marketing, too. "Curiosity can be a strength or a weakness, but for us it has been a way to see the world differently, and thanks to it, our customers are invited to a 'seeing is believing' demonstration at our R&D center in Finland, where we can show our one-stop shop for these three green waste-handling systems," Viitanen concludes.

MariGroup welcomes everyone to visit their stand **B5/110** at **SMM 2018** and it is guaranteed you will not waste your time! ■

MariMatic
vacuum
systems save
time, money
and the
environment



MetroTaifun® Chute 247 enables continuous collection of laundry and solid waste by the buffer zones

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MariGroup www.marigroup.com MariElectronics knows the way



Elsi® Sensor Floor provides 24/7 safety support



In the corridors, MILS® Evacuation & Emergency Lighting guides passengers to the safest exit

As part of MariGroup, the maker of vacuum delivery systems, MariElectronics has come up with two novel ideas that increase passenger safety onboard.

The first one is an advanced evacuation system that shows passengers the safest route to muster stations or another secure place in case of hazard or fire, where smoke is reducing visibility. MILS® is described by the company's COO **Jari Ekblad** as being the "best on the market solution based on LED technology. It is easy to install and needs almost no maintenance, which are critical factors for cruise ship companies, as time is money."

MILS® comes with several options. The most common on the market is static, where the statutory green lights are lit simultaneously. "Our advanced system guides evacuees by dynamically pointing them in the right direction, which our software will indicate to the safest area as it has built-in, pre-planned evacuation routes and scenarios. Both can also be equipped with emergency lighting in the stripe."

So not only newbuildings can be outfitted but retrofits, too, as it is a simple procedure of fitting the lights into the floor or skirting boards – the lowest point as smoke billows down from top to bottom. "The static system fulfills current regulations. Our dynamic version also exceeds those and is clearly ideal for people to find their way around a ship in a

bad visibility situation," comments Ekblad.

Elsi® is a sensed floor that knows where people are and their movements. "For marine applications, we are promoting it in cabins as an extra monitoring safety feature—as an option that can be turned on, if ordered. The cabin occupant(s) then get a 24/7 nurse who knows if a passenger has fallen and does not get up, as it raises the alarm to friends, relatives or medical staff after no movement is detected after a time period."

Inside shower and toilet areas, an optical sensor is used similarly if occupation goes over a certain length of time. And it may be so programmed if the occupant has stayed in bed for too long and not touched the floor. MILS® and Elsi® can work together to assist evacuations if, during an emergency, movement is detected in cabins; then help can be sent. Around muster stations, Elsi® can indicate the traffic in corridors. Equally, it can be a security application detecting people in areas where they should not be.

Lastly, there is a helpful potential for elevator makers and users: Floor areas around elevators can optimize flow and energy-use by determining how many await and if capacity is insufficient. Then elevators will not stop, but return when they can take all those waiting. Ekblad hints that elevator makers are indeed interested in sharing this information. ■



Elsi Sensor Floor improves passenger flow and energy efficiency

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