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When FORCE is REQUIRED

A comprehensive guide in the use of force
for security executives and officers p.28

The Rise of HDTV Surveillance will
continue to look better and better p.20

SOC Design From lighting to
ergonomics, we've got it covered p.24

**Wanted: New
Security Leaders**

Do you have what
it takes? p.36

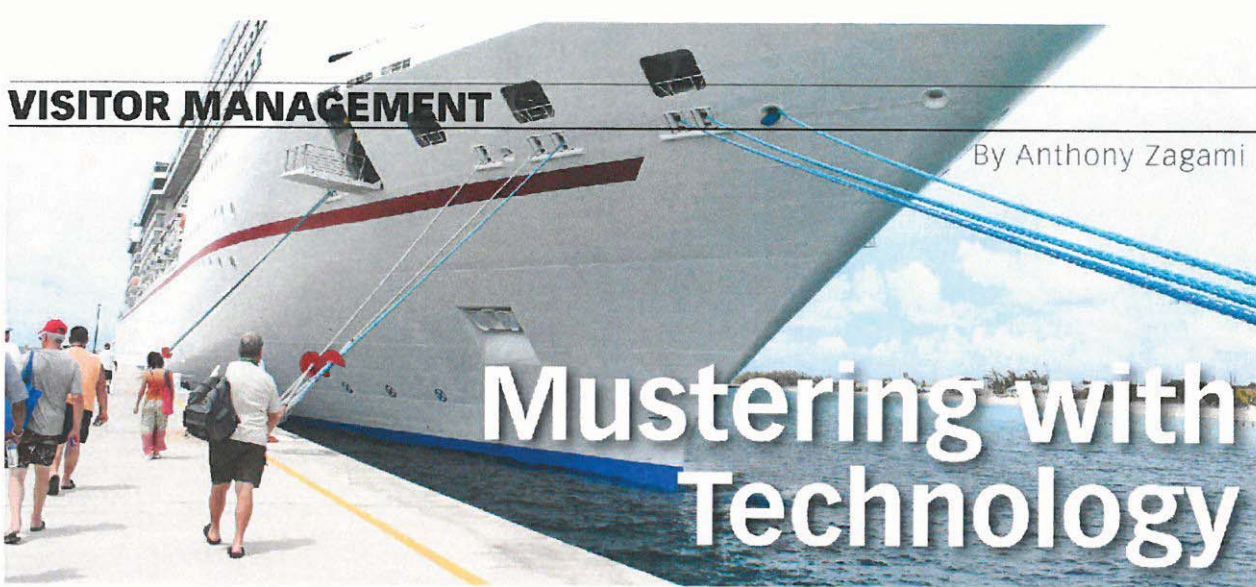
BIG DATA How to
take advantage of
every byte p.10

ISC WEST PREVIEW

70+ products direct from
the show floor! p.48

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Electronics have revolutionized how the cruise industry tracks passengers

This year, more than 10 million Americans are expected to enjoy a cruise, making it one of the most popular vacation choices. As you might imagine, today's large cruise ships present visitor management challenges. The ships are virtual small cities that travel from port to port, covering hundreds or often thousands of miles of open seas. Some can have a population of more than 8,000 passengers and employees. With that many people, there are always opportunities for things to go awry.

New developments in electronic technology are making the gargantuan task of tracking all these people simpler — and security executives in other industries can learn from the cruise industry on how to use these technologies to get a leg up on emergency visitor and employee tracking and management.

Abandoning the Paper Trail

Tracking everyone on a ship is vital to safety and security. Here are a few examples:

- A ship pulls into port in the Bahamas for a day of shopping and entertainment in Nassau. The ship's crew needs to know who has gone ashore and who stayed on board in case of emergency. The captain wants to know when the ship leaves port that evening that everyone is safely back aboard.

- A foreign couple that joined a cruise in another country now wants to disembark in the United States. Have U.S. Immigration and Customs Enforcement (ICE) officials cleared them? Should a crewmember make the decision to let them leave the ship or risk upsetting them with an unnecessary delay?

- An emergency situation on the ship requires passengers and crew to report to their muster station. But a few passengers enjoying a good time in a bar at one end of the ship decide to stop at the first station they see rather than walking the length of the vessel to their assigned area. Multiply that many times over and imagine the crew's potential nightmare accounting for all passengers in a timely manner.

Fortunately, nearly all cruise lines have turned in their clipboards and paper lists in favor of computer-based ship management systems. These systems work

on the same principles as the visitor management systems found in schools, hospitals and other commercial and government buildings. Cruise ship operators have many of the same needs; and ship management systems are also proving popular with the growing riverboat cruise industry with its much smaller vessels that typically carry 200 to 300 passengers.

The scalable architecture of these ship-based systems support multiple applications across departmental and other functional areas, providing real-time reporting of mission-critical data regarding passengers, crew and visitors for maritime security and safety. The systems also integrate with an operator's shore-based visitor management system, providing an enterprise-wide record of each passenger and employee.

Using a dock or wireless networking, all data is automatically synchronized with a central server. The systems also provide custom reports and centralized administration of mobile units. The portability of handheld units is especially important when full accountability for passengers and crew is needed at a moment's notice.

How They Work

For many passengers, the first encounter with a ship management system occurs as they board a vessel. Typically, passengers trickle aboard over a period of hours. At the gangway, passengers swipe the cruise line-issued identification card they will carry throughout their vacation to verify they have boarded. A portable kiosk unit has a wide slot to make it easy for young children and the elderly to complete the task. Both laser and barcode readers read each side of the card simultaneously.

Occasionally, large numbers of passengers arrive simultaneously. In that case, crewmembers can use mobile PDA readers to assist in boarding everyone as quickly as possible. The PDAs provide all the functionality of the kiosk. The ship's employees go through a similar boarding process at their own gangway.

Cruise lines follow regulations known as Safety of Life at Sea (SOLAS) that require a safety brief-

ing immediately before or after sailing. That briefing includes instructions detailing passenger actions during an emergency. Within 24 hours of embarkation, passengers must be present for a muster drill, during which time they are shown how to put on lifejackets and board lifeboats. Many cruise lines conduct this drill prior to sailing.

As they arrive at their assigned muster station, each passenger will again swipe his or her card through a handheld unit maintained by a crewmember. The system provides a record of those completing the presentation. Anyone not attending will be contacted by a crewmember to attend another drill. Prior to the advent of ship management systems, keeping track of who did and who did not attend the presentations could be a logistical nightmare.

The ship management system can create batches of individual passenger, crew and visitor ID cards complete with barcodes and magnetic tracking data. These cards can be used for all shipboard operations such as access control to passenger cabins and restricted areas. Only authorized crewmembers would have access to operational areas such as the bridge, engine room or medical inventory storeroom. The cards can also track onboard purchases.

This technology can be applied to any industry where tracking of employees and visitors in an emergency evacuation is essential — such as in large office building environments.

The Benefits

Here are several other areas where an electronic ship management system can provide added safety and security for passengers and crew.

- **Mustering:** The value of the system really shines in the event of an emergency. With passengers frequently heading to the closest — not their assigned — muster station, the crew needs to know quickly who has not reported at any location. As mobile readers at each station read the IDs, the system continually updates the list. If passengers have not reported in a reasonable amount of time, crewmembers can be dispatched to check cabins and other common areas. The system will show the last time and location a

passenger's ID card was used.

The system also has an offline mode that stores information if the network is not available during an emergency. Data is automatically synchronized once the network is back online. It can also apply medical codes to passengers for real-time triage tracking.

- **Immigration:** The system can provide rapid verification of passenger immigration clearance. Clearance is added to the ID card, thus eliminating the need for crewmembers to process the passengers other than having them swipe their cards as they leave the ship. An audible alarm will sound at the gangway if a passenger has not cleared immigration. The system provides a complete and accurate audit trail of each passenger's status, which meets all International Maritime Organization and U.S. Coast Guard, ICE and Customs and Border Protection requirements.

- **Age Verification:** When an ID card is swiped through a system kiosk or mobile PDA, the passenger's basic

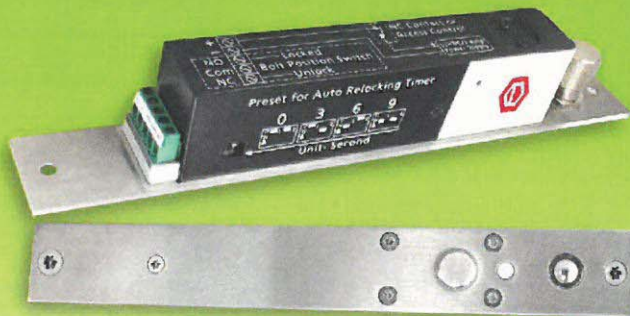
information and high-resolution photo are displayed. This enables the system to provide instant age verification for any venue such as lounges where alcohol is served, helping to reduce the cruise line's legal liability.

- **Excursion/Event Tracking:** Another challenge for cruise personnel is making sure that all passengers disembarking for a day excursion are back on board that evening. The system helps track passengers throughout the day as they board water taxis or even land-based buses. When they return to the ship, a swipe of a card shows the passengers that have returned. A failure to check in at any point notifies the crew to begin searching for the missing person(s). ■



Anthony Zagami is the founder and chief executive officer of the West Palm Beach, Fla.-based Security Identifications Systems Corp. (SISCO), maker of the A-PASS ship management system.

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