



**United
Technologies**

Building & Industrial Systems

Turning expertise and innovations
into marine solutions



This is United Technologies

United Technologies

United Technologies (UTC) provides a broad range of high-technology products and services to the global aerospace and building systems industries. UTC companies employ more than 212,000 people around the world.

UTC ranks among the world's most respected and innovative companies.

To maintain its market leadership, UTC continues to make substantial investments in the development of game-changing technologies and operates a central research organization to leverage technological breakthroughs across its companies. UTC was included among the world's 100 most innovative companies by Thomson Reuters in 2013 for the second consecutive year.

Sikorsky and UTC Propulsion & Aerospace Systems

UTC is one of the world's largest suppliers of advanced aerospace and defense products and solutions and serves commercial and military markets around the world.

UTC aerospace businesses are Pratt & Whitney aircraft propulsion systems, Sikorsky aircrafts and UTC Propulsion & Aerospace Systems aerospace and defense products, which includes the Hamilton Sundstrand and Goodrich brands.

UTC Building & Industrial Systems

UTC Building & Industrial Systems is the world's largest provider of building technologies. Its elevator, escalator, fire safety, security, building automation, heating, ventilation, air conditioning and refrigeration systems and services promote integrated, high performance buildings that are safer, smarter and sustainable.

Our commitment to the marine industry

Several of our companies in the UTC Building & Industrial Systems have been suppliers to the international maritime and offshore industries for decades, and by coordinating our activities under one marine umbrella we are able to utilize our latest technology and offer a wide portfolio of marine solutions, services and expertise to ship builders, ship owners and operators worldwide.

UTC Building & Industrial Systems

- 120,000 employees
- 24 factories
- 49 R&D centers
- Approximately 2,500 branch offices around the world



World leading companies under UTC Building & Industrial Systems

Otis

Otis is the world's leading manufacturer of elevators, escalators and moving walkways. After 150 years in business, There are approximately 2.5 million Otis elevators and escalators in operation worldwide and more than 1.8 million elevators and escalators serviced by Otis worldwide.

As early as 1915, the U.S. Navy contracted Otis for an elevator system that would accurately stop and level in a rolling sea. Since that time, Otis has provided numerous marine elevators for ships around the world.

Otis is now taking its advanced high rise building technology into the maritime segment through the acquisition of the Spanish Enor elevator company in 2012. Otis is strengthening its position in the maritime industry by combining marine elevator and escalator expertise, services and customized solutions with a global presence and innovative solutions for improved performance and reduced energy consumption.

Carrier

From its beginning in 1902, Carrier has cultivated a history of proven innovation in the heating, air-conditioning and refrigeration industries, enabling global comfort and efficiency. Since the construction of the "Liberty" class ships, Carrier has been committed to the maritime industry by providing automated air conditioning and refrigeration solutions for tens of thousands of vessels launched worldwide.

By adapting its energy saving Hourly Analysis Program, Carrier today provides highly innovative and sustainable solutions in heating, air conditioning, refrigeration, building automation and energy services. Carrier has become the Heating, Ventilation and Air Conditioning (HVAC) system expert and problem solver for customers within the shipbuilding and shipping industries.

Autronica

Everyone needs to sleep safely at night. Especially those who haven't seen shore for days. Since 1957, Autronica has been a leading innovator, manufacturer and supplier of fire and gas safety worldwide. Autronica's products ensure safety in applications on land, sea and in the petrochemical, oil and gas sectors.

Autronica employs more than 450 people handling the complete value chain, from idea, development and manufacturing to the marketing, sales and servicing of their products. In the maritime market, Autronica equipment is installed on thousands of vessels all over the world, making sure tens of thousands of crew and passengers are safe.

Marioff

Marioff was the first company to invent and develop high pressure water mist fire protection in early 1990 and started its journey by certifying and introducing its HI-FOG® system to the maritime and offshore industries. Since early 1990 the spirit lives on in a story of continuous growth, and today Marioff's HI-FOG® is the leading brand among water mist fire protection systems both on land and at sea.

Numerous shipyards, ship owners and offshore operators have realized the benefits of HI-FOG® and have decided to use HI-FOG® as the primary fire protection system for machinery spaces as well as for accommodation areas.

This is UTC Building & Industrial Systems' product and solution portfolio for the marine industry:

UTC Building & Industrial Systems offers a comprehensive range of fire and security, controls and automation, elevators and escalators and Heating, Ventilation, Air Conditioning and Refrigeration products and solutions to the marine industry through trusted brands including Autronica, Carrier, Marioff, Onity and Otis.



Fire and gas detection

We are the leading provider of fire detection systems to the marine and offshore oil and gas market. Our wide and comprehensive portfolio of fire detection solutions range from heat, flame, smoke and gas detectors to Integrated Safety and Emergency Management Systems (ISEMS).



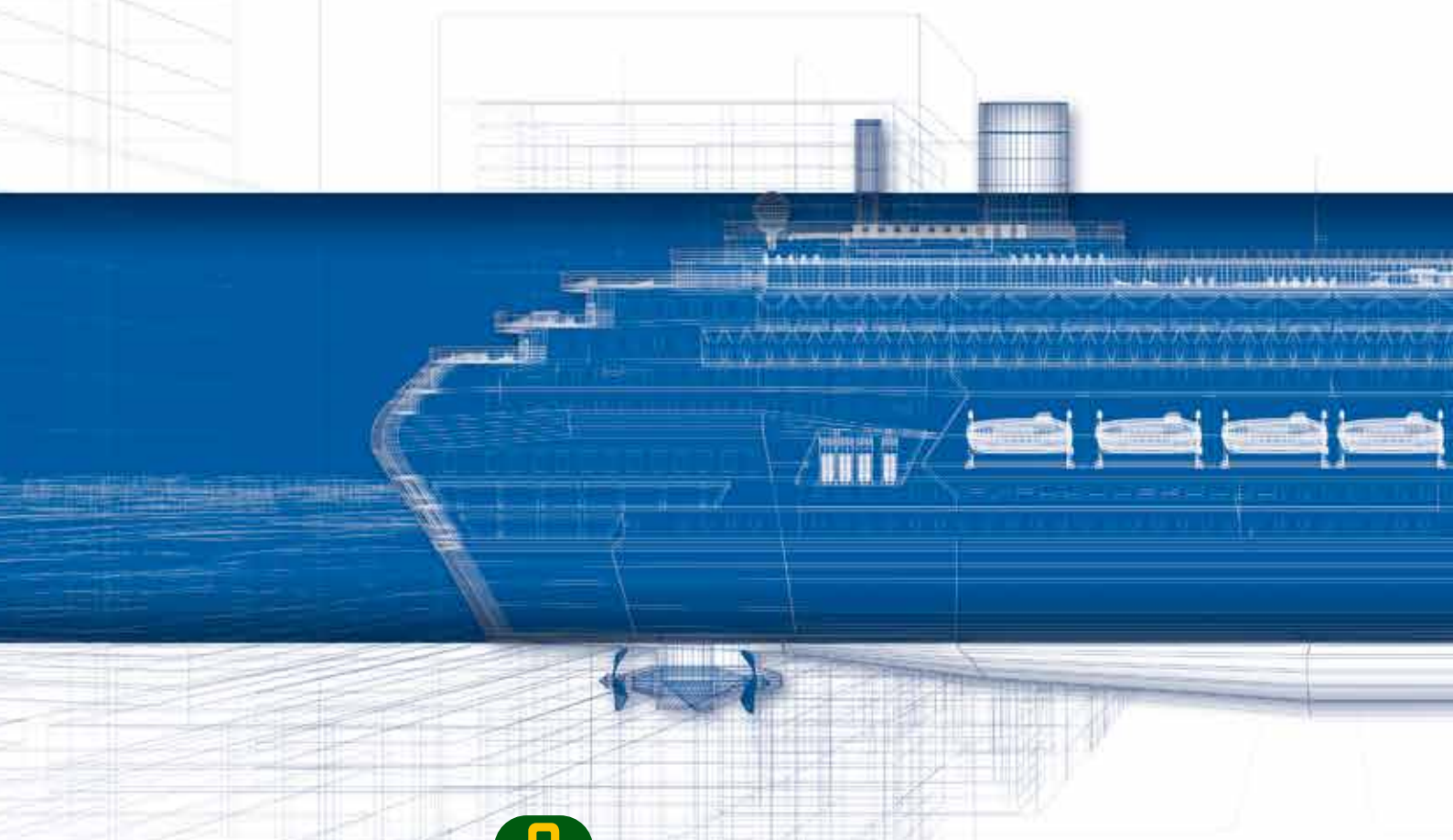
Fire suppression

We further provide a broad range of fire suppression solutions, from conventional CO₂ gas suppression to HI-FOG® high pressure water mist sprinkler solutions both for protection of machinery spaces as well as accommodation, public and service areas.



Fire fighting

Our complete range of fire extinguishing equipment is designed and certified to meet the specific marine requirements of the different locations, types of ships and types of potential fires.





Access control

Our Lenel access control portfolio ranges from hardware solutions embedded with intrusion detection to software solutions with integrated video, and is scalable from small to multi-site and multi-national environments. Additionally, our Onity facility management solutions such as electronic locks or cabin safes complement this offering.



Video surveillance

We offer a full range of commercial and enterprise video surveillance solutions: local, distributed and centralised digital recording, indoor and outdoor Pan-Tilt-Zoom dome and fixed cameras and all other accessories needed to build analogue, hybrid or full IP video solutions.



Heating, ventilation, air conditioning and refrigeration

We provide a complete line of reliable products for all marine refrigeration and air conditioning applications through Carrier Marine & Offshore Systems, a total solutions provider committed to optimizing the efficiency and performance of your entire ship.



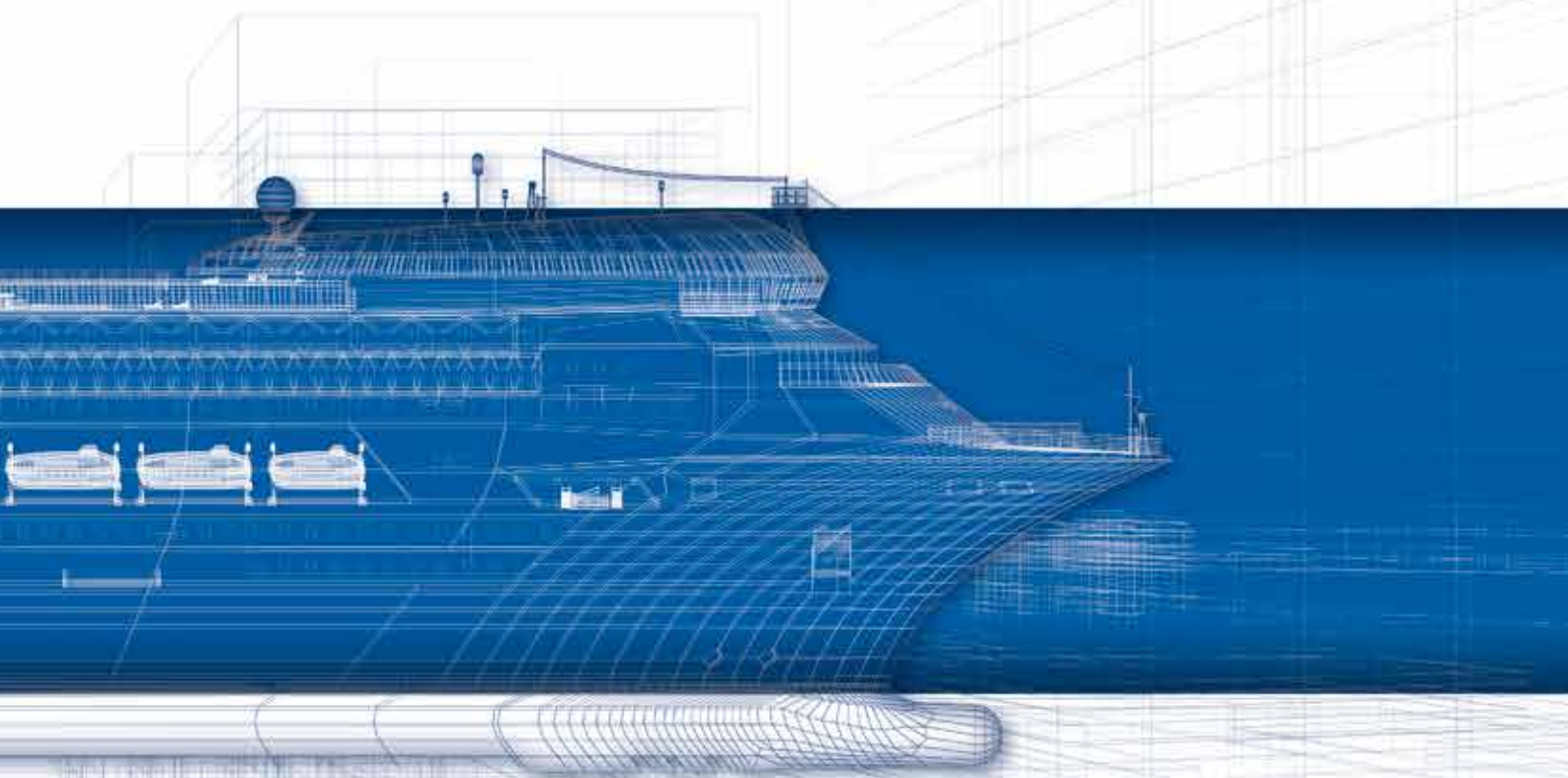
Elevators and escalators

We offer a comprehensive line of elevator choices designed to meet the vertical transportation needs of every type and design. Whether you need an energy efficient elevator for a passenger vessel or a special elevator for classified areas, Otis supplies an array of elevators to meet your project's needs.



Automation

We developed automation software integrating environmental, energy, security and safety systems into powerful management tools. Our systems deliver workplace comfort and energy savings by controlling HVAC, lighting, and critical processes.



UTC Building & Industrial Systems certified for the marine industry

Committed to compliance and marine regulations

In response to an increasingly challenging regulatory environment, UTC Building & Industrial Systems ensures that its marine product range evolves accordingly in order to meet worldwide standards and regulations, such as IMO/SOLAS and marine classification societies and flag authorities.

Solutions fit for purpose

Bringing tailored market solutions to customers is all about “solving problems”. UTC Building & Industrial Systems deploys leading-edge technology to develop reliable and customised solutions. Its international research and development teams keep abreast of technology developments in order to provide best-fit and cost effective solutions.

Local support, global reach

UTC Building & Industrial Systems manufactures, distributes and services its products and solutions with worldwide sales and support operations. The group is represented in more than 60 countries with approximately 2,500 branches, serving customers locally. We also have a network of distributors and partners within the marine industry.



References

UTC Building & Industrial Systems has become a trusted partner for national and multinational companies serving a broad range of market segments. We work closely with our customers to understand continuously changing needs and provide solutions, via our extensive partner network. We fine-tune concepts and product solutions to meet customers' requirements, independent of project size or location and we are proud to share key case studies upon request.



Oasis of the Seas®

The world's largest cruise ships, Oasis of the Seas and Allure of the Seas, are both equipped with UTC products and solutions as follows:

- Autronica's fire detection system combined with AutoMaster Integrated Safety and Emergency System (ISEMS)



Allure of the Seas®

- Marioff's HI-FOG® water mist suppression system protecting all machinery, service and accommodation spaces
- Carrier chillers providing refrigeration for the ships HVAC systems



Carnival Glory®

Carnival Cruise Lines contracted Marioff to upgrade the fire protection of the machinery spaces on all of its 24 ships with a HI-FOG® full coverage system. The contracts are accomplished as turn-key projects while the ships are in operation. 12 of these are fitted with Autronica fire detection system which are extended in the same occasion.



Helicopter Carrier Juan Carlos

Helicopter carrier Juan Carlos has been equipped with Otis (Enor) solutions as follows:

- two cargo elevators
- one ammunition elevator
- hydraulically operated automatic hatch and garage type watertight doors
- two passengers elevators
- one goods-lift



Koan Maru

In 1937 the world's first fully air-conditioned ship, the 8000-ton passenger liner Koan Maru, was launched with Carrier air conditioning systems onboard.



SS Leviathan

In 1923 Otis equipped the passenger liner SS Leviathan with 11 elevators: four self-leveling passenger elevators and seven service and freight elevators.



Automated Logic

Automated Logic Corporation provides innovative building-management solutions that maximize energy efficiency and sustainable building operation while ensuring comfort.

www.automatedlogic.com



Autronica

Autronica has since 1957 been a leading innovator, manufacturer and supplier of fire and gas safety worldwide, with products ensuring safety in applications on land, sea and in the petrochemical, oil and gas sectors.

www.autronicafire.com



Carrier

Founded by the inventor of modern air conditioning, Carrier is the world's leader in high-technology heating, air-conditioning and refrigeration solutions.

www.marinesystems.carrier.com



Gloria

Gloria's position as Europe's leading manufacturer and distributor of fire extinguishers and other fire protection products is based on tradition, experience and know-how that dates back to the year 1945.

www.gloria.de



Lenel

Lenel provides enterprise software, integrated systems and access control systems to manage multiple security systems, real-time intelligent video content analysis, biometric access, smart card applications and visitor management systems for corporate and government security customers.

www.lenel.com



Marioff

Marioff is the world's leading supplier of water mist fire protection technology, with unrivalled experience supplying system solutions worldwide under the HI-FOG® brand.

www.marioff.com



Onity

Onity supports the marine hospitality, commercial, education and military segments with a full spectrum of products that include electronic locks, electronic safes and energy management solutions.

www.onity.com



Otis

Otis Elevator Company is the world's largest manufacturer and maintainer of people-moving products, including elevators, escalators and moving walkways.

www.otis.es