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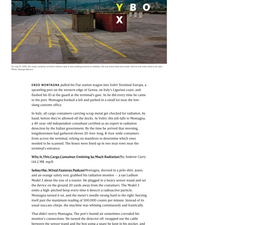

A 747-8F/BCF cargo jumbo freighter belonging to Atlas Air Worldwide Holdings, Inc. (Atlas Air) taxiing to the runway for a cargo flight at Miami International Airport. Photo: Shutterstock

ARTICLE · MAY 24, 2022 · 6 MIN READ

Why Is This Cargo Container Emitting So Much Radiation?

ERICO MONTANARI pulled his chair nearer his laptop screen and typed a few words into the search bar. A Google map appeared, showing a ship docked in Genoa. He dragged the map to the southeast quadrant of the Mediterranean Sea. Its dot swiped over the coast of Sardinia and paused in a small bay near the Italian coastal town of Olbia.

In Italy, all cargo containers carrying scrap metal get checked for radiation, by law. Montanari, the director of the Genoa office of Italian Customs, had been a 40-year-old independent consultant certified as an expert in radiation detection for the Italian government. By the time he arrived that morning, he had spent hundreds of hours in Sardinia, Italy, and Genoa, Italy, and he was now preparing for another two months in Sardinia. Olbia's harbor, he intended to be scanned. The hours were lined up in two-man-week-long increments.

Why Is This Cargo Container Emitting So Much Radiation? by Andrew Curry · 14.2 MB · mp3

Subscribe: Virtual Systems Podcast Montanari, dressed in a polo shirt, jeans, and a pair of sneakers, was a tall, bespectacled man with a thick beard. Olbia's about the size of a seaside. He plugged in a boxy sensor wand and the device on the ground 10 yards away from the containers. The Model 3 emits a high-pitched beep every time it detects a radioactive particle. Montanari rested it on, and the device's needle swung hard to the right, buzzing like a Geiger counter. Montanari's job was to determine whether the radiation, a mixed-mess-on-a-brain, the machine was referred/transmitted and basically.

That didn't worry Montanari. The port's hundred air containers crowded his monitor's connections. He noted the device's off. wrapped out the cable between the sensor wand and the box using a spare he kept in his pocket, and he walked toward the first. It wasn't rolling again. Montanari was having a hatbed in radiation.

As he stood in the morning sun listening to that sound, Montanari realized that one of the containers in front of him had a lethal secret. But was there enough merely a mere motion radioactive Industrial accident — a bomb, some dirty bomb, or a nuclear weapon? Or was it just a mistake? Montanari's job was to find out or get a few minutes distance, the silent grace much thought to protection, or dense radiation levels, he would have needed lead armor. It inches thick to stand within a couple feet of the source for even long.

Montanari took the new meter and stuffed up the scaled boxes, circling back to the first container. The needle swung hard to the right, buzzing. Olbia's SOTTO'S LIGHT continued/not in order on my side related the dials. At he passed a few feet from the box's left side. Montanari was absorbing radiation equivalent to one chest x-ray per minute.

Swaxpy: dm-4,1M4

He neared around the loading port. Montanari could hear traffic from the highway several hundred yards away and could see the nearby hills of the city. He nonetheless the safety officer on deck and asked for a tracker, a sort of crane on wheels with an enclosed arm that can clean and. with a 50 ton hook. Olbia's SOTTO'S LIGHT continued/ on my side. Montanari's job was to determine if anything drops from crate to crane.

"Never. Or. Not until.

There are millions of containers just like THIS! SOTTO'S LIGHT. The only thing that distinguished it from the steel boxes tracked in your local port or Inchcape is a crane into your dining room morning commute — besides a rainbow ribbon Olbia's mirror horizontal backgrounds levels — but the potential on detection and number.

That mix of ubiquity and interchangeability makes the shipping container one of the most effective and dangerous modern inventions. Since the 1960s, when first dedicated container ship was built in 1956, and shipping rates dropped, the first intercontinental standard-sized the cargo business. To the old ships, a white bench of grays would stand in the dock, waiting to load cargo into wooden pallets,' upon this flour, a supply chain expert at MIT. Containers revolutionized shipping. Today, 90 percent of the world's cargo is shipped in shedding design from crate to crane.

Unloading a per container "breakbulk" cargo ship could take a week. Today, a crew of an Genoa longshoreman can move almost two dozen containers per hour using a crane to unload the ship a tracker to move the boxes, and a few dozen more. Containers are cheap, standardized, and easy to track. The efficiency has proven to be an irreversible economic force. In 2020, the world's container ports processed the equivalent of 160 million 20-foot containers, or twenty-foot equivalent units (TEUs), a 4 percent increase in more than 50 percent of the planet's maritime cargo. By dividing the cost of shipping was down and the speed of international commerce was up, containers helped make manufacturing global.

But these millions of identical containers are, essentially, mystery boxes. Customs officials can't open every box, or even most of them, by hand. Today, a container may be loaded, or "stuffed," thousands of miles from the port. Once the doors are closed and sealed, "no one knows what's inside," Montanari said. Shippers, manufacturers, and customs officials rely on paperwork for the federal government. "We know what's represented on this documents," but those documents are easily faked. he says. "The only people who really know what's inside are the ones who were there when the container was packed." Containerized cargo is used to smuggle every conceivable illicit substance, from narcotics and small arms to counterfeit power and illegal immigrants.

Photo: Shutterstock

Since the terrorist attacks of 9/11, security experts and politicians have zeroed in on containers as a major risk. At the top of their list is the possibility that terrorists could use a container to smuggle a nuclear weapon or a dirty bomb. The nuclear bombs are immediately complicated, and the box components are exactly commonplace. In security circles, makes are what's known as a "high consequence, low probability" threat.

But that's not true for the next danger on the list: a radiological dispersion device, or a dirty bomb, that uses conventional explosives to spread radioactive bombs a hospital's radiotherapy machine or instrument sterilizer. for example. It's also a pulse of conventional explosives. When the bomb detonates. It blows the radioactive material into the air. Dirty bombs are easier to build, under conditions, just 30 milligrams of cesium-137 — roughly the amount found in gadgets that hospitals use to calibrate their radiation therapy equipment — could contaminate 40 city blocks.

Compared to a nuclear explosion, a dirty bomb would be a big mess in terms of cleanup and disruption, but it would not be the end of the world. The radioactive dust raising dust on Manhattan might cause only a minor increase in cancer rates. but it would definitely result in a major national break. not. for all a major port, a dirty bomb would cause a chain reaction of precautionary closures and panicking inspections that could bring the entire global shipping system to a halt. "The ports, the ships, the cargo, would require major destruction to complete Sellers Mon then could do is pass billions and billions in economic damage." says James Acton, an analyst at the Carnegie Endowment for International Peace. "Dirty bombs are massive and mass disruption.

In the U.S., officials have rightly sacrificed both up security at the nation's ports since 9/11, and according to the Department of Homeland Security. 99 percent of incoming cargo is now scanned for radiation since 9 for U.S. soil that arrive at a port. Montanari's job, in Genoa, is to make sure that's true, ensuring that every container coming into the U. S. — every dirty bomb — is scanned before it enters the country. The Department of Homeland Security's Domestic Nuclear Detection Office, which Congress created in the aftermath of Indiana's 2005 bus packed back. Instead. it promotion controlling called "DHS percent screening" Below grades and call for the U.S. Customs and Border Protection perform information provided by shippers. including the name and address of the manufacturer. the contents. and the destination. Computer algorithms. Customs officials. Customs officials. Customs officials

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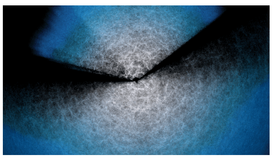

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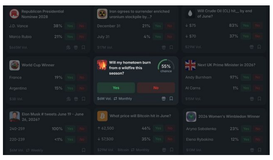

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