SPECIAL LOADS, SHARED RESPONSIBILITY

Securing flight safety across the air cargo supply chain

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WHAT MAKES A LOAD SPECIAL ?

A LOAD THAT REQUIRES SPECIAL HANDLING AND SECURING / RESTRAINING WITHIN THE LIMITATIONS SPECIFIED IN THE AIRCRAFT WEIGHT AND BALANCE MANUAL.

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OFFSET CARGO

OUTSIZED CARGO

OVER WEIGHT CARGO

OVERHANGING OR PIERCING CARGO

MOTOR VEHICLES / OTHER WHEELED CARGO

FLOATING LOADS OR CARGO NOT RESTRAINED BY AIRCRAFT STANDARD LOCKING SYSTEM

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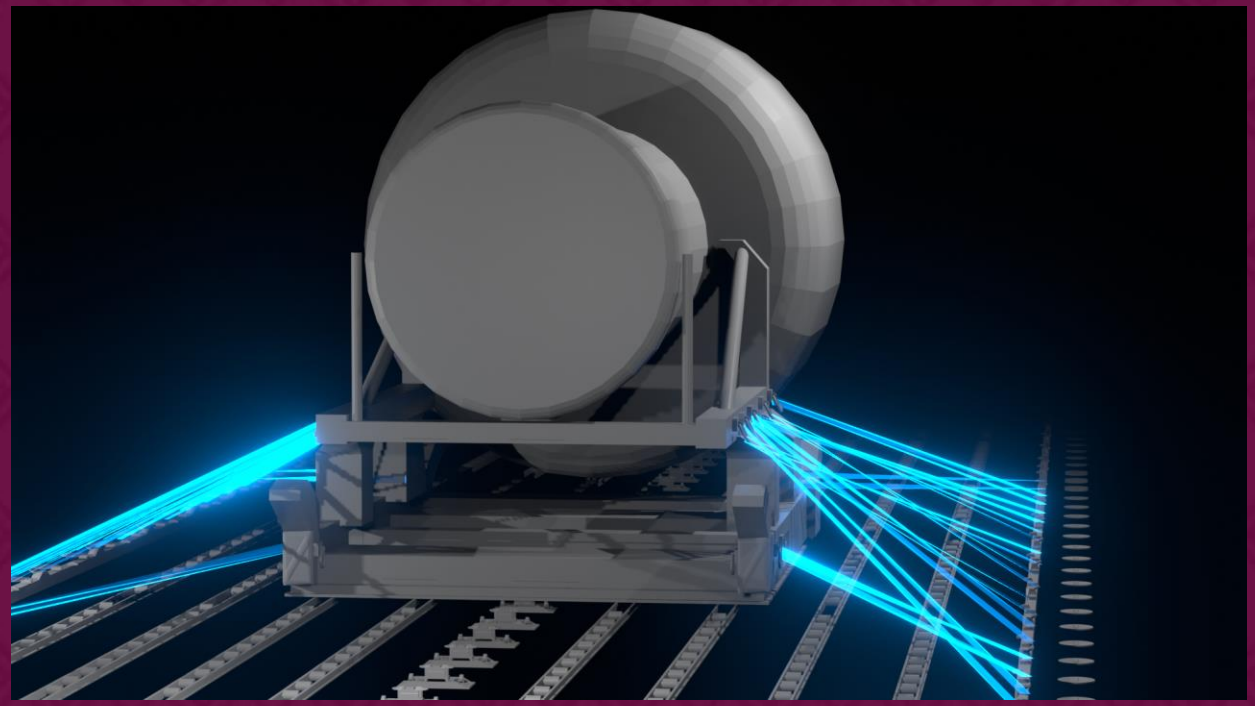

FLOATING LOADS OR CARGO NOT RESTRAINED BY AIRCRAFT STANDARD LOCKING SYSTEM

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WHEN DOES SPECIAL CARGO QUALIFY AS SPECIAL LOADS ?

ANY TIME, SPECIAL CARGO, REQUIRES SPECIAL HANDLING AND SECURING / RESTRAINING WITHIN THE LIMITATIONS SPECIFIED IN THE AIRCRAFT WEIGHT AND BALANCE MANUAL.

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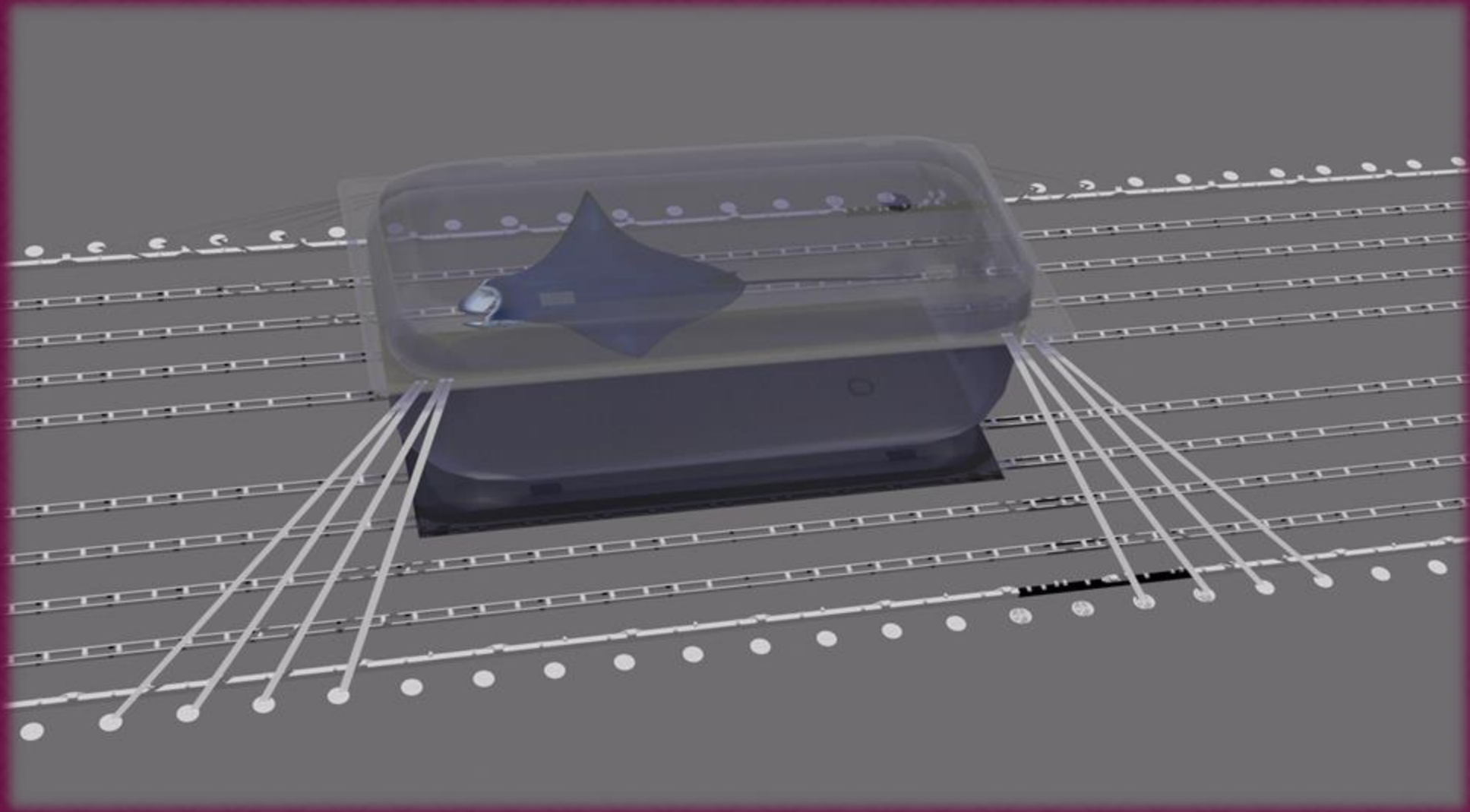
EXAMPLE

GIANT MANTA RAY IN A 14 TON WATER TANK



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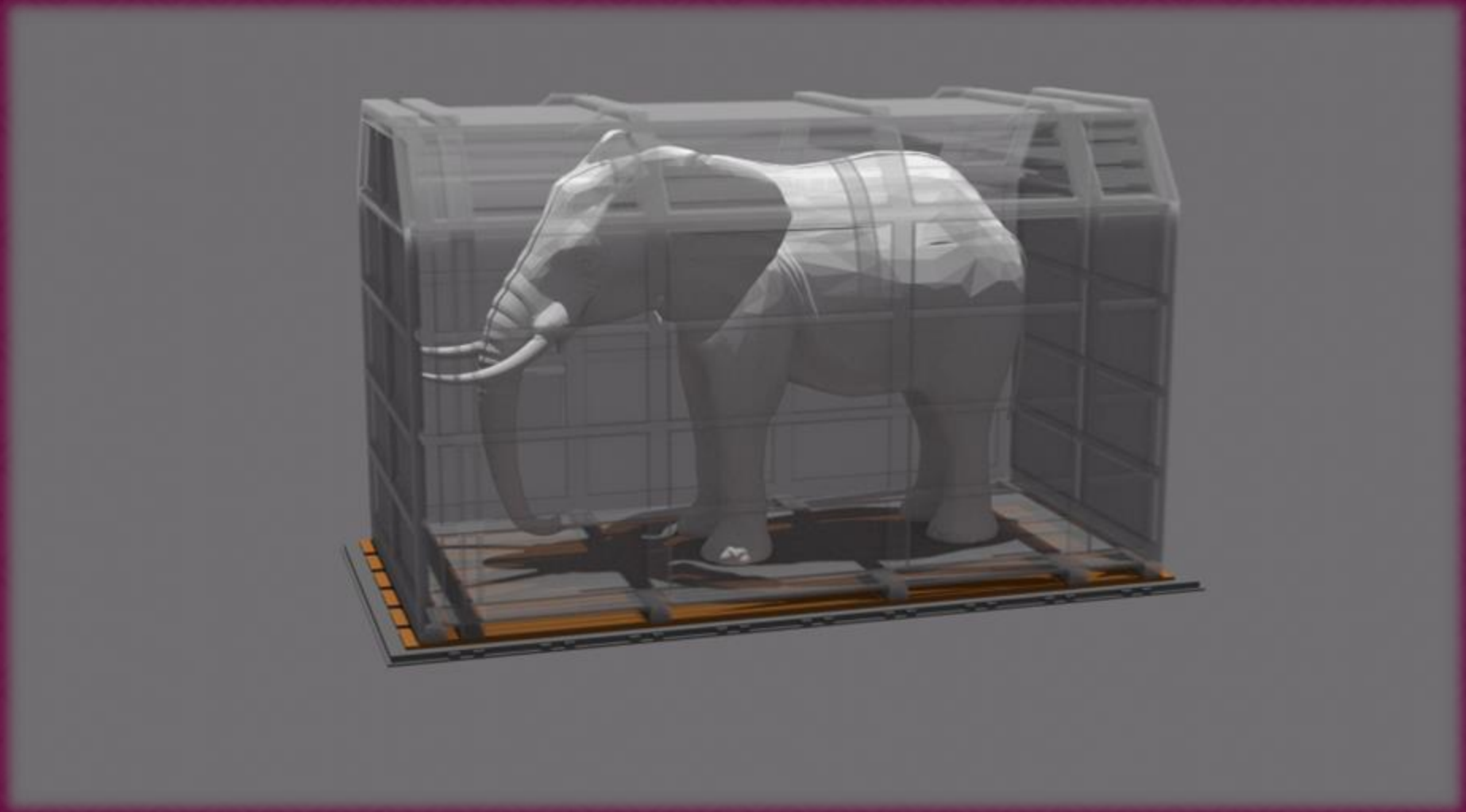
EXAMPLE

BULL ELEPHANT IN A 7 TON CAGE



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Critical Vulnerabilities in the Supply Chain

Our industry's safety is challenged by common, systemic failure points that affect both freighter and passenger operations:

Incomplete Data

Shippers / Freighter Forwards not providing the necessary technical details for safe planning and handling, possibly due not realizing how important the attention to details may be.

Procedural Non-Compliance

Handling teams taking shortcuts or using improper techniques during restraint application.

Communication Gaps

Critical information being lost between stakeholders in the supply chain.

These vulnerabilities exist across both freighter and passenger operations, creating systemic risk throughout the air cargo ecosystem.

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A Critical Blind Spot: The Passenger Aircraft Risk Amplifier

The Misconception
Special Loads are primarily a "freighter-only" concern.

The Reality
Complex Special Loads are regularly transported in the cargo holds of passenger aircraft.

On passenger flights, handling failures are amplified due to:

Confined Spaces
Limited room for proper handling and securing.

Fewer Restraint Options
Less flexibility compared to main deck operations.

The Human Element
Lack of realization of severity and consequences

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The Passenger Aircraft Special Load

Canoes

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The Passenger Aircraft Special Load

Electric Wheelchairs

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The Passenger Aircraft Special Load

Pole vaults

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The Passenger Aircraft Special Load

Cars

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Real-World Consequence: Vehicle Loaded in PAX Wide Body

The Hazard

A vehicle with sharp-edged rims is loaded onto a passenger aircraft.

The Failure

Straps were tightened directly over the sharp edges, without any cushioning material, inflight movement and vibration caused the straps them to be cut

The Consequence

The vehicle became a free-rolling mass inside the hold, damaging itself, other cargo and shifting the aircraft CG

The Lesson: A procedural violation with potential catastrophic consequences

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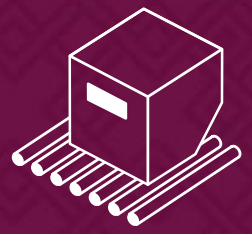
The Theoretical Chain of Responsibility

In theory, a chain of safety defenses protects every shipment:

Shipper / Freight Forwarder
Provides accurate data, proper packaging and Ensures correct documentation and booking

Ground Service Provider
Verifies cargo and applies proper restraint as per Airline Instructions



Airline
Provides Final Oversight and compliance checks

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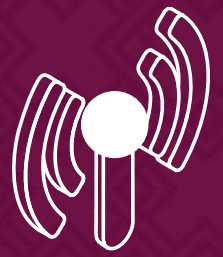
The Reality: A Fragmented System

In practice, these responsibilities often exist in silos, with limited communication and a lack of holistic risk awareness between them.

Siloed Knowledge
Each stakeholder understands only their part of the process, not the full risk picture



Broken Communication
Critical information is lost or diluted as it passes through the chain.

Inconsistent Standards
Different stakeholders follow different procedures for the same type of cargo.

This Fragmentation creates gaps in our collective Safety defenses, allowing hazards to pass through undetected

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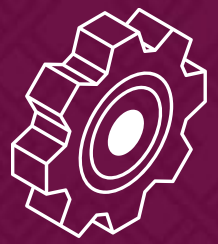
How System Failures Happen: The Swiss Cheese Model

In the air cargo supply chain, these slices represent:

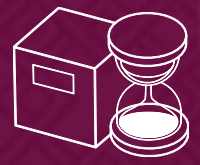
Shipper Data
Hole: Incomplete technical information

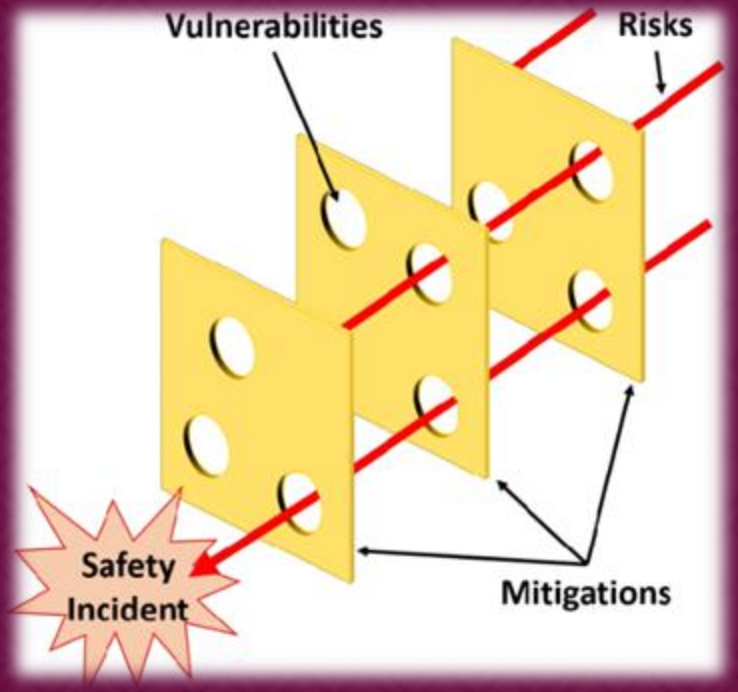
Handler Inspection
Hole: Skipped physical verification

Restraint Application
Hole: Improper technique or materials



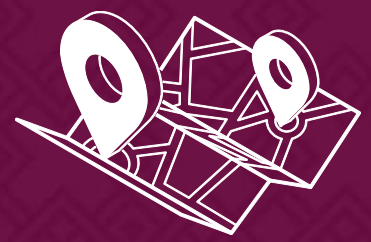
Final Oversight
Hole: Rushed or absent verification for quick flight turn-around





The Swiss Cheese Model illustrates how accidents occur when multiple defenses fail simultaneously
Each “slice” is a safety defense, and each “hole” is a latent failure or weakness

The Impact of Fragmentation on All Operations



The fragmentation of responsibility creates critical system-wide vulnerabilities:

Normalization of Deviance
Procedural shortcuts become routine because the full, system-wide risk is not understood by all parties.

Erosion of Safety Margins
Each small failure erodes the overall safety buffer for both freighter and passenger flights.

Failures typically originate with incomplete data at the start of the chain.

Critical Questions for the Industry

This session is not about providing all the answers, but about asking the right questions to provoke necessary conversation.

- Does every stakeholder in the chain truly understand how their role impacts the flight safety?
- How do we bridge the communication gaps between shippers / Freighter Forwarders, GSPs, and Airlines?
- Do we see a requirement of an international forum that is willing to lead the supply chain stakeholders in this mission ?
- How do we move from a culture of siloed tasks to one of genuine, integrated, and shared safety responsibility?

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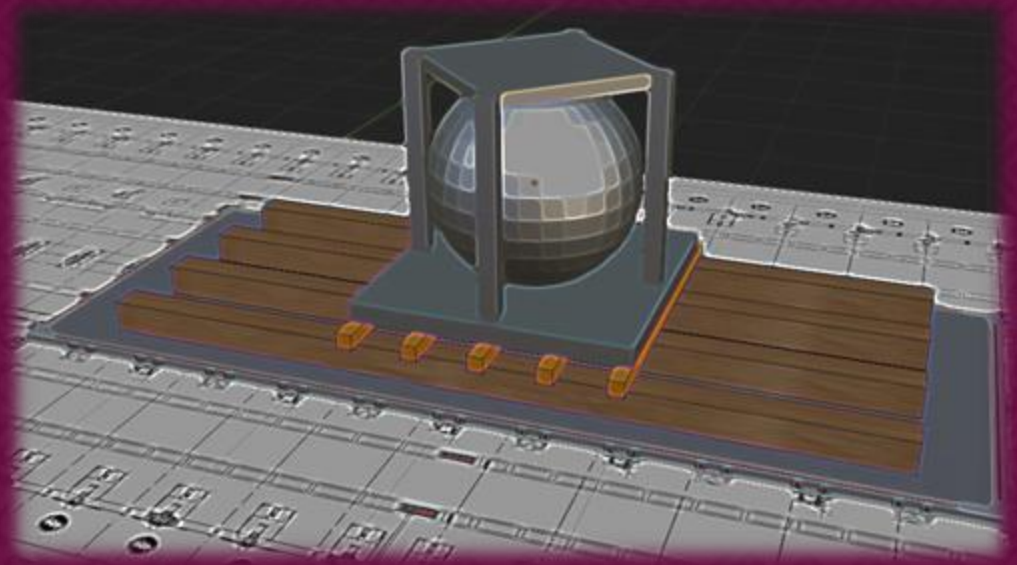
Conclusion: The Path Forward

The first step toward solving a problem is acknowledging its full scope.



The safety of our skies—freighter and passenger alike—depends on our collective willingness to confront these systemic shortcomings.

The goal is to spark a necessary industry-wide dialogue to foster a deeper culture of holistic safety awareness and collaborative action.

Safety is a Shared, Non-Negotiable Responsibility

Thank You

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