



# Containership Fires From Insurers' Perspective

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# Agenda



1. SOLAS objectives
2. Fires in numbers and severity
3. Causes: Cargo and Ship
4. Fire detection and fire fighting today
5. The need for change



# 1. Fire safety objectives of SOLAS

SOLAS Regulation II-2/2.1.1



1. Prevent fire and explosion
2. Reduce the risk to life caused by fire
3. Reduce the risk of damage by fire to ship, cargo and environment
4. Contain, control and suppress fire and explosion in compartment of origin
5. Provide adequate and readily accessible means of escape

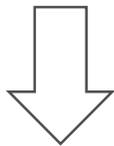
**- Are these objectives met?**

## 2. Fires in numbers and severity: The Fire Count



Statistics:

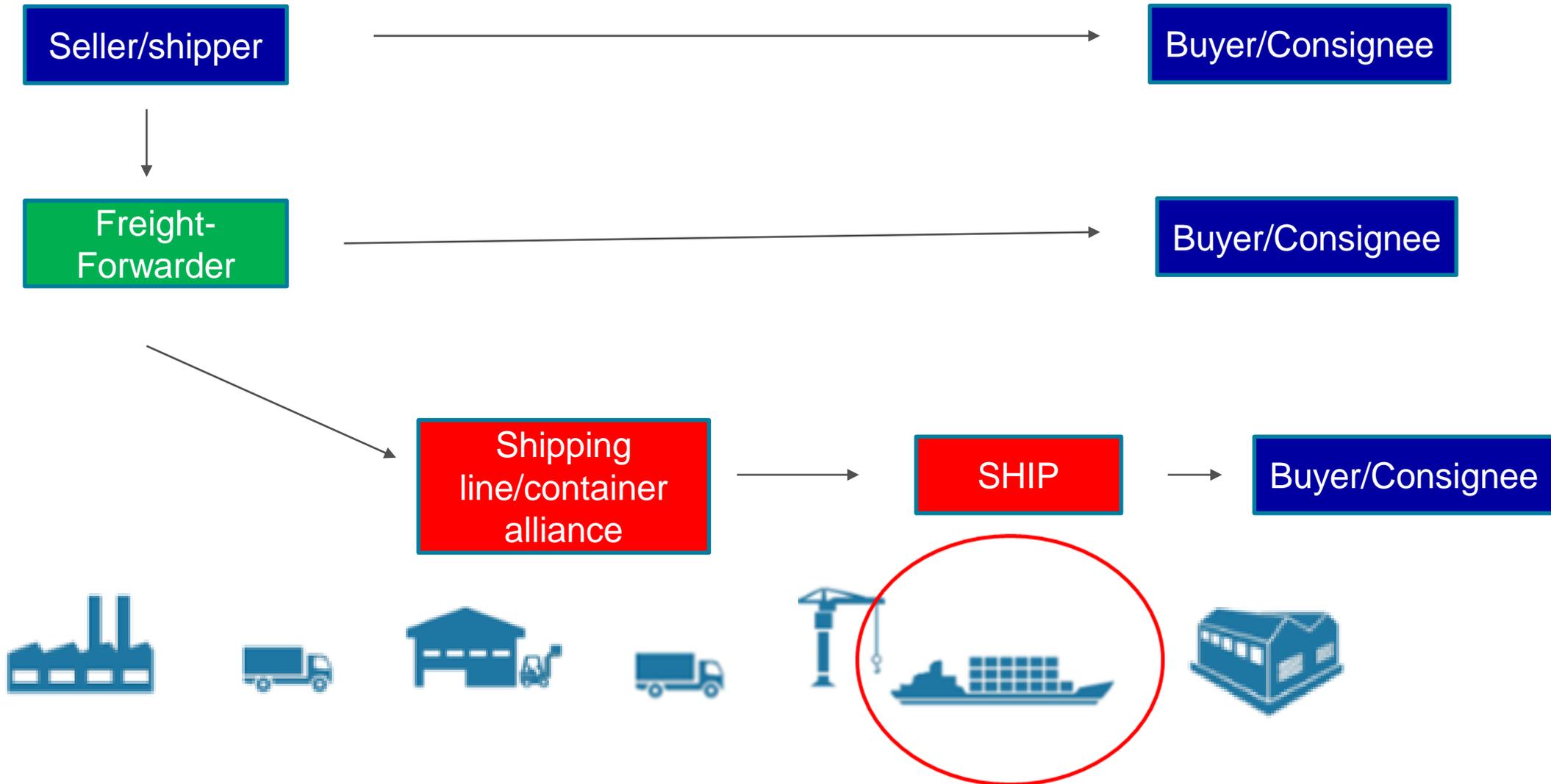
- 40 cargo related fires in 2019 – **one every 10 days**
- Smaller fires and near misses not reported
- Including:
  - Yantian Express
  - APL Vancouver
  - Grande America
  - KMTTC Hong Kong



**Frequency and severity at all time high**



# 3.1. Causes: the Container Cargo Trade



# Extent of misdeclaration and packing/securing



- Project: physical inspections of 500 containers targeted by container lines in the US (both import and export) to review 1. Declaration and 2. Packing/Securing

## INSPECTION RESULTS

Grand total	Failed	Failure rate	Failed Securing
500	274	55%	217 (43%)

DG	Total	Failed	Failure rate	Failed Securing	Failed placards/mks	Failed Docs/Misdeclared
DG Imports	158	109	69%	69 (44%)	61 (39%)	12 (8%)
DG Exports	105	40	38%	26 (25%)	16 (15%)	5 (5%)

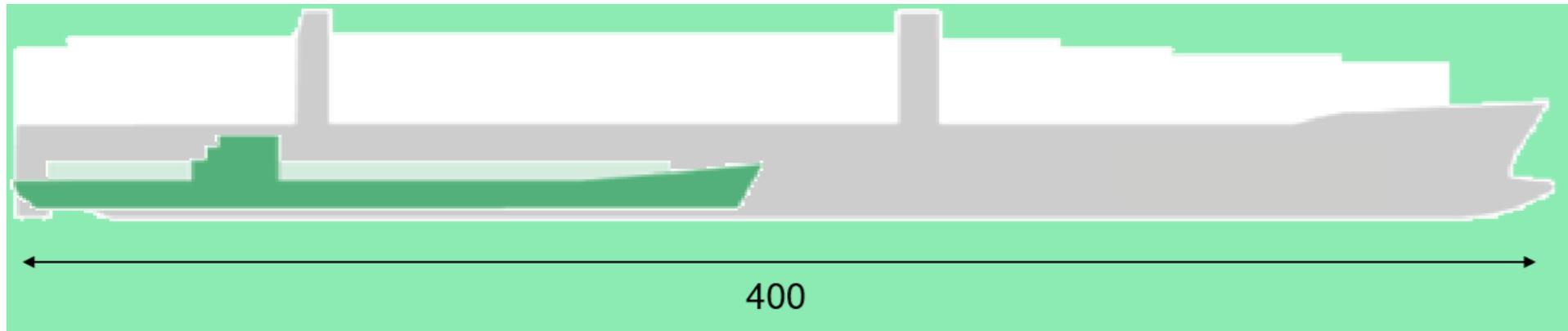
Non DG	Total	Failed Securing	Failure rate
Non DG Imports	187	96	51%
Non DG Exports	50	29	58%

## 3.2. Causes: The Containership

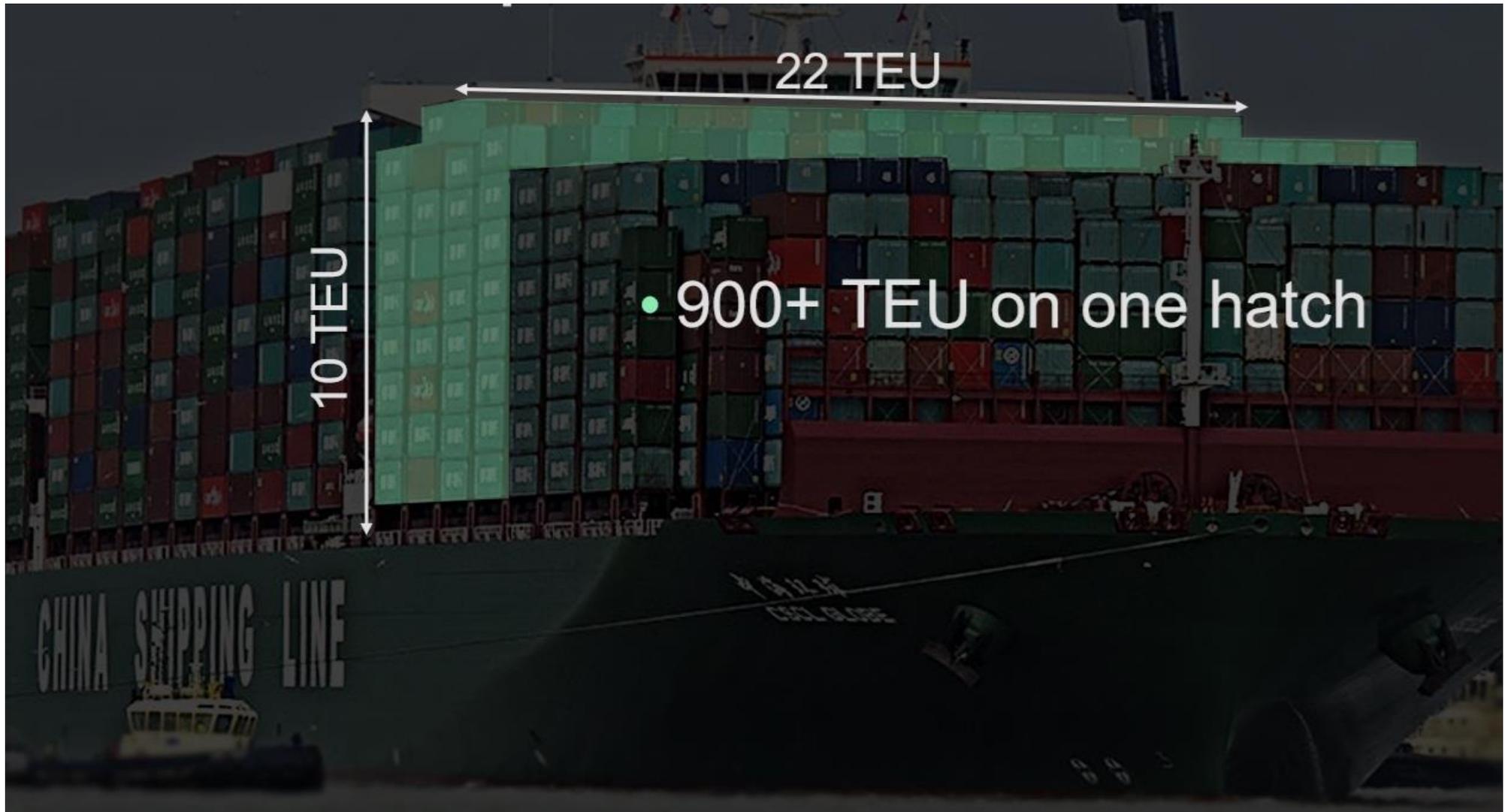
A booming development, but something does not add up...



	1970	2020
Beam	35m	60m
Length	150m	400m
TEU capacity	1,000	24,000
Crew	30	23
Fire fighting equipment	1 hose	2 hoses + 2-4 portable monitors



# Size does matter

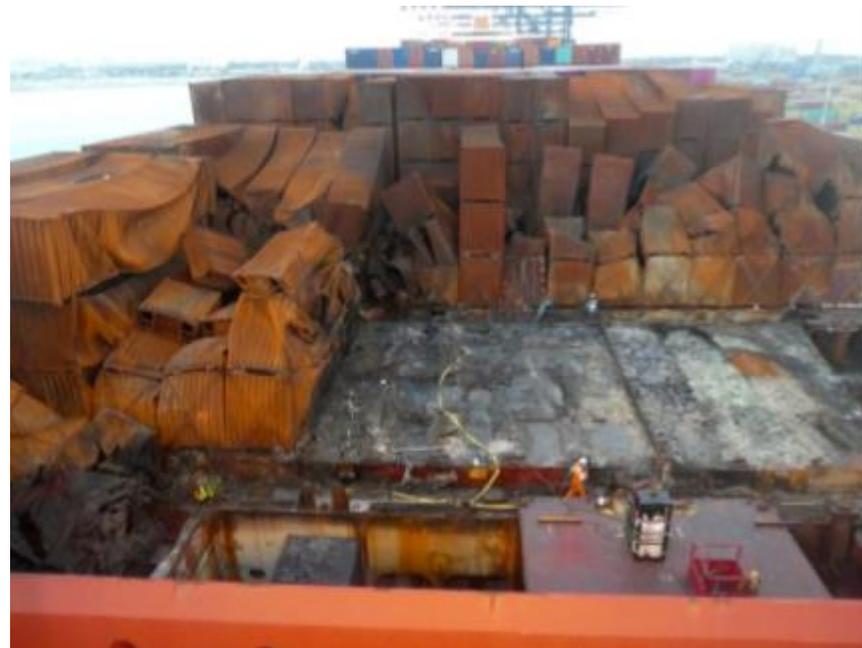


## 4. Fire detection and fire fighting

Yantian Express Flag State Report (dated January 30, 2020)

*“The fire was detected when two containers were already fully ablaze. Since there are usually no fire detectors installed on the deck and rounds of the large deck area are not continually made during the night or day, fire detection at this stage of fire development is not unusual”.*

**Were the vessel and crew in a position to respond adequately at that time?**



## 4. Fire detection and fire fighting

### Status



#### ON DECK:

- Detection: **None**/manual
- Fire Fighting: Portable hoses and monitors with **limited research as to adequacy** on current container carriers

#### IN CARGO HOLDS:

- Detection: Smoke – “*Sample extraction smoke detection systems*”. **Takes time**: Fire too mature to send people to the scene.
- Fire Fighting:
  - CO<sub>2</sub> proves **insufficient** inside containers
  - cargo holds are far from airtight
  - CO<sub>2</sub> has no cooling effect.

# The targeted fire fighting operation...



# The result...



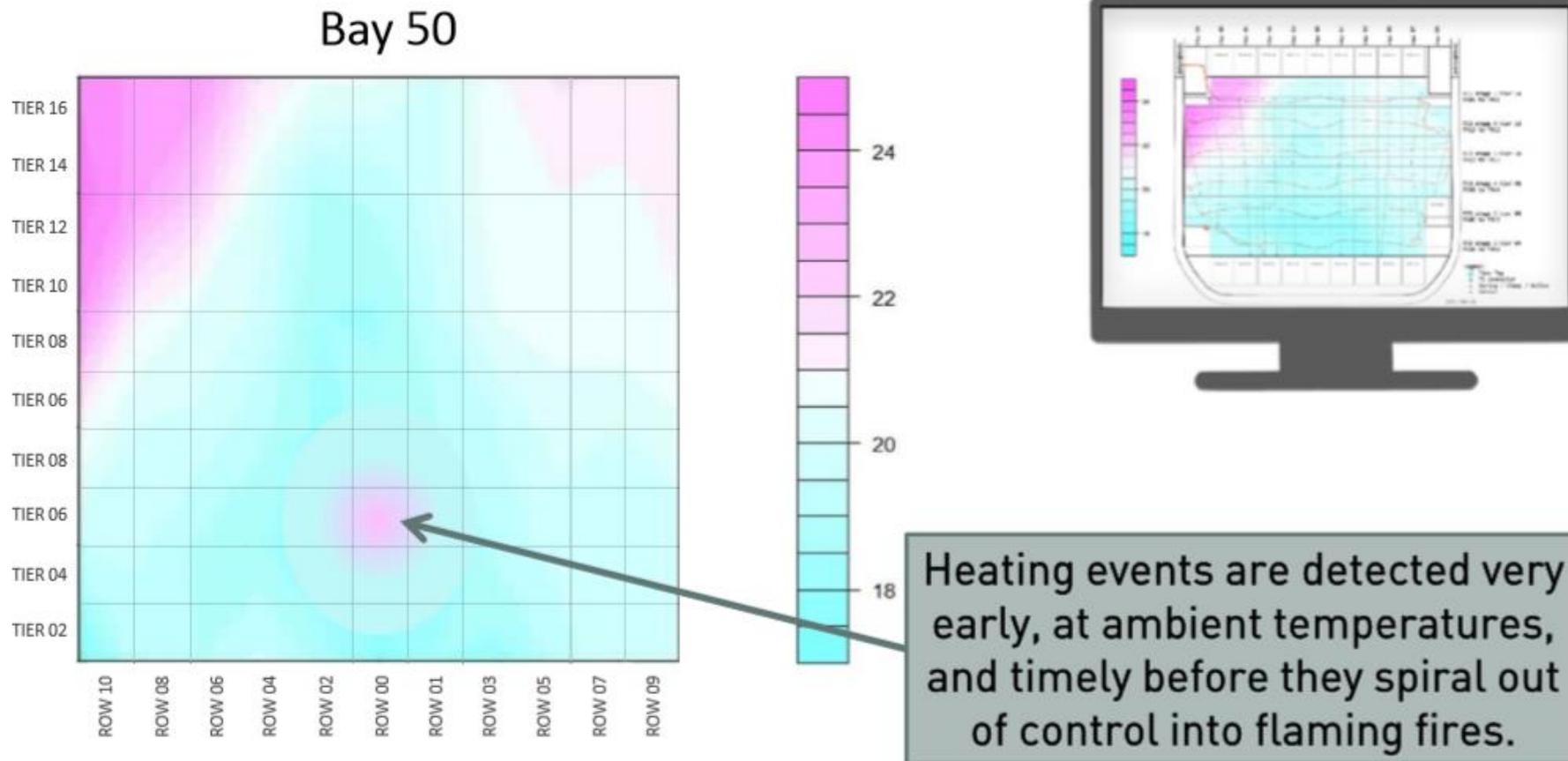
## 5. The solutions



1. «The Cargo Conundrum»:
  - Manufacturing, declaring, booking, securing, packing, accepting cargo for safe transport
  
2. Regulatory review and improvement of technical requirements for fire detection and fire response

# Technology is available

Temperature monitoring in cargo holds and individual containers?



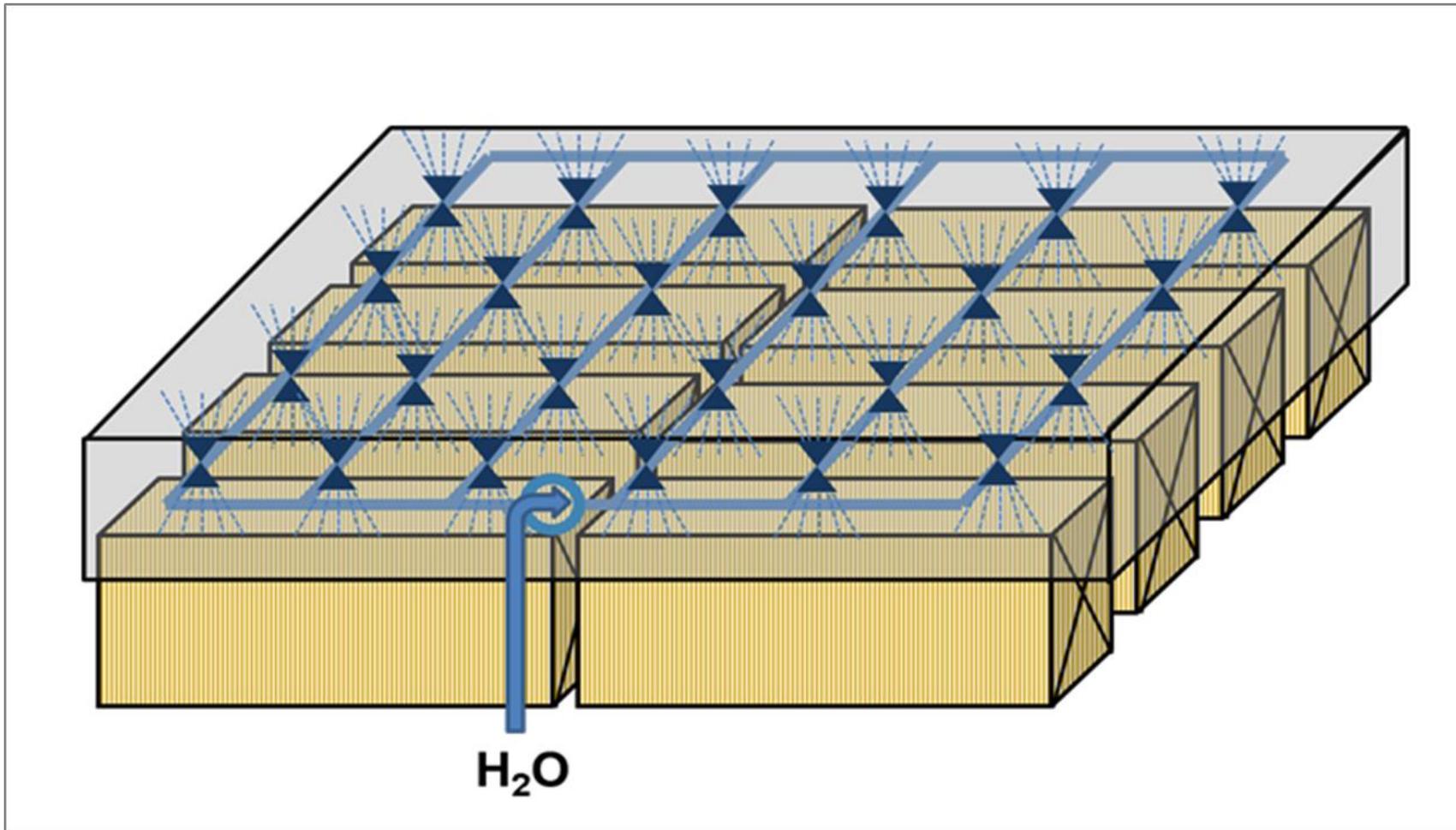
# Technology is available

Water spray/mist in connection with CO<sub>2</sub> in cargo holds?



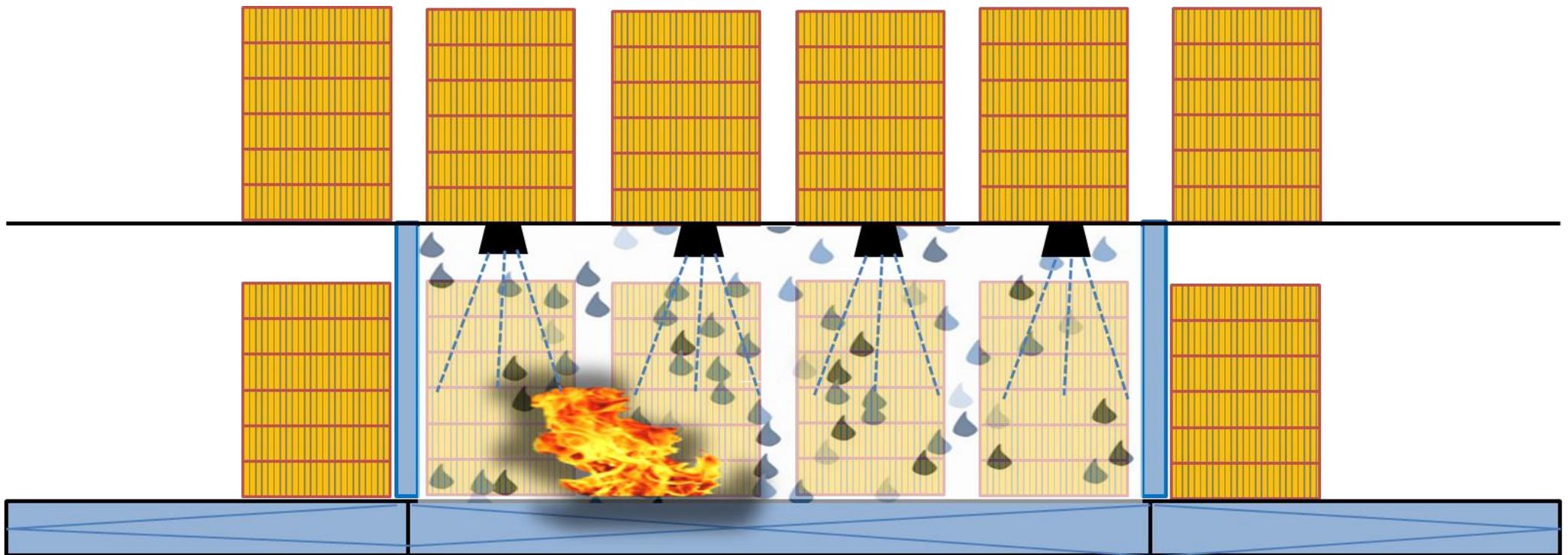
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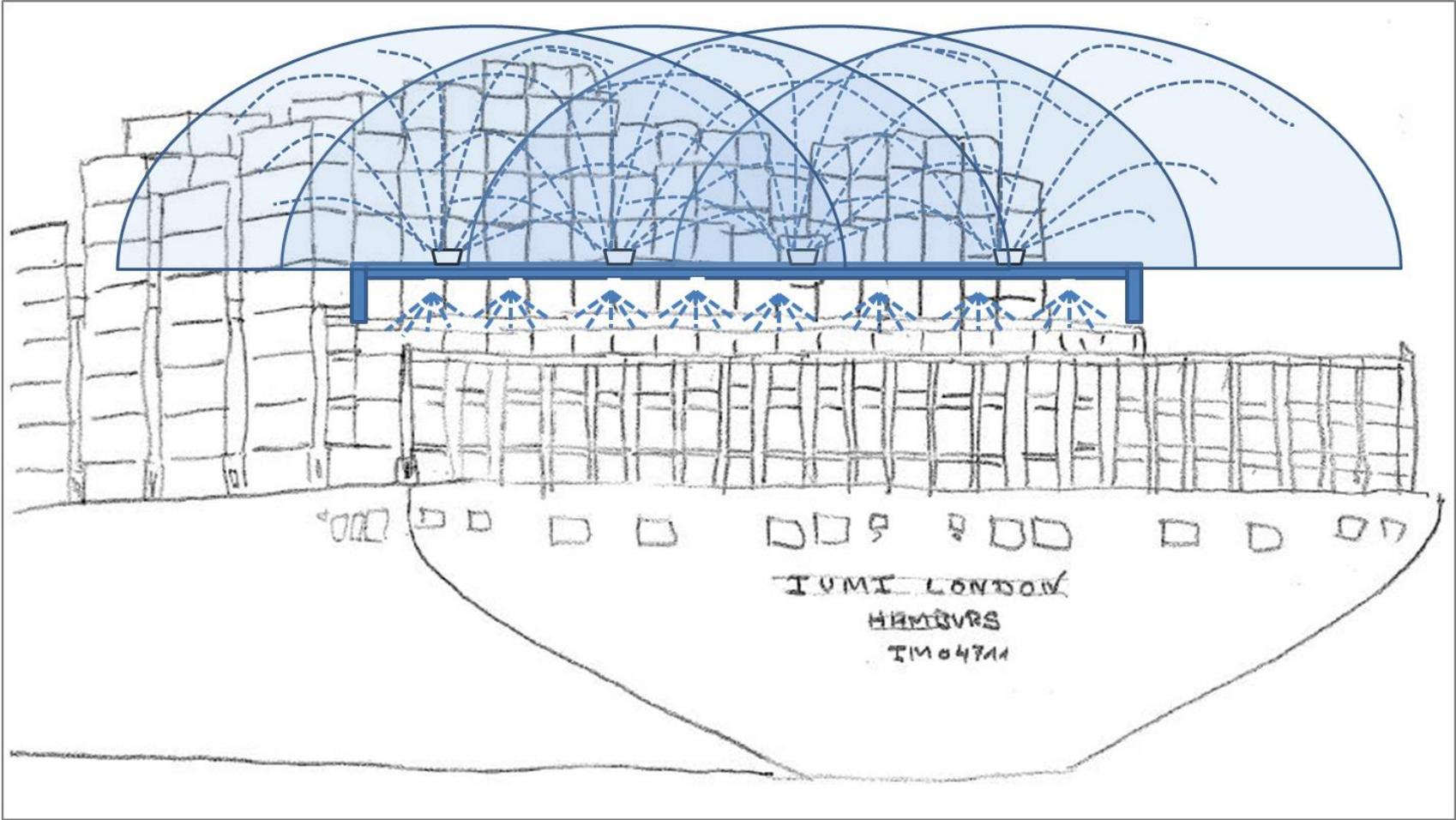
# Technology is available

Remote fire fighting inside containers



# Technology is available

Active fire fighting on deck: water curtains, water screens, fixed water monitors



# Technology is available

Active fire fighting on deck: water curtains, water screens, fixed water monitors



# Technology is available

Active fire fighting on deck: water curtains, water screens, fixed water monitors



# Summary



- We cannot continue to:
  - count increasing numbers of fires
  - jeopardize safety of vessels and their crew
  - bear enormous losses



**Modernization of the regulatory framework** is of utmost importance to make container transport **sustainable and safe.**

# THANK YOU FOR YOUR ATTENTION!



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