



- **Education & Training: Practical - Time for a Rethink Perhaps...**





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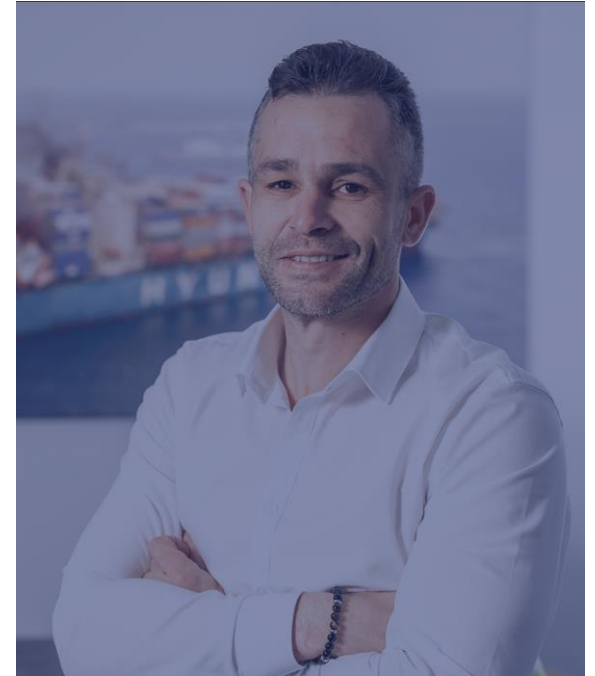
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# Introduction

React Emergency Response is founded in 2019, with a view to establishing the highest quality team of specialists available.

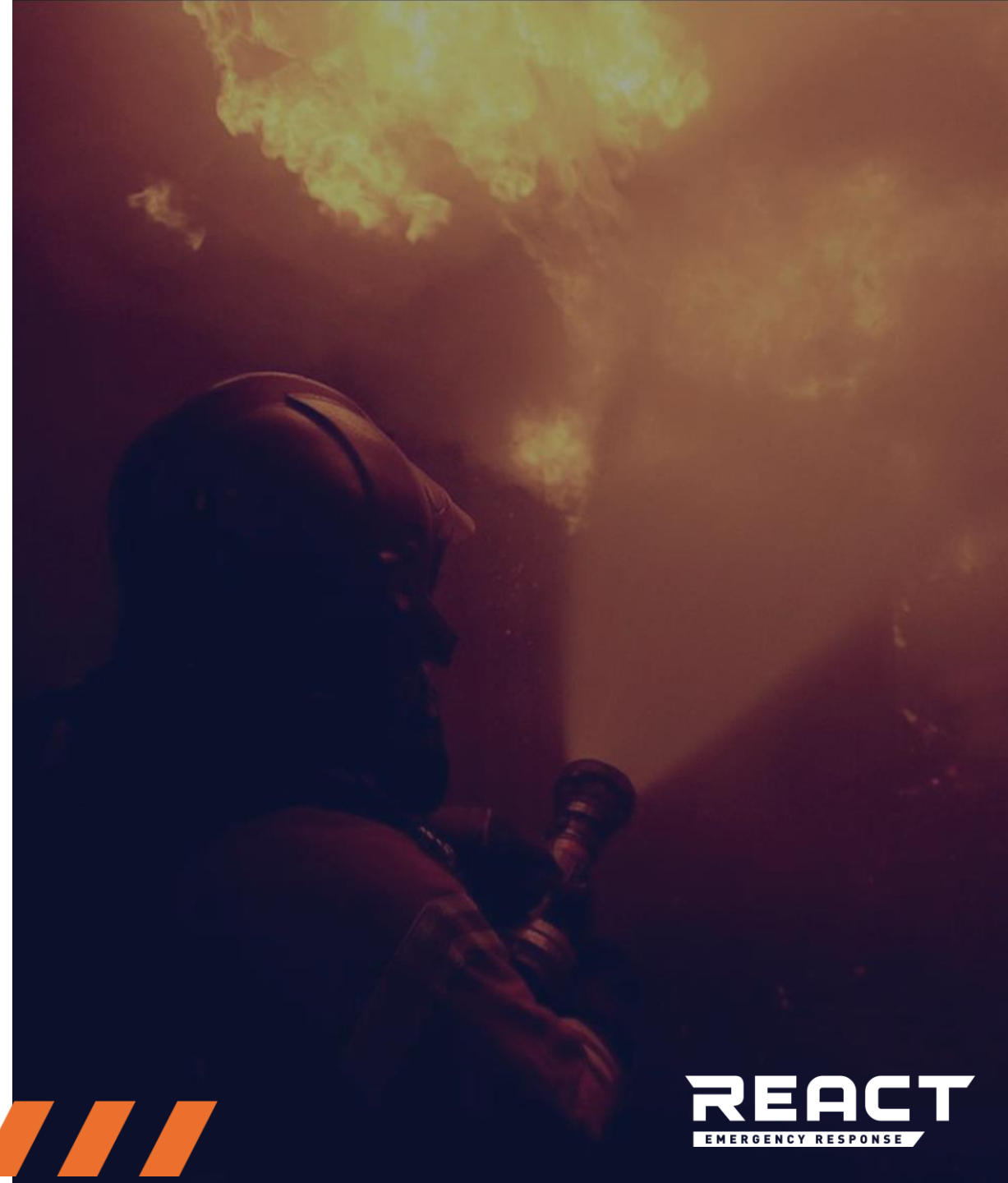
Our team currently comprises skilled maritime incident controllers, whose experience dates to 2003. The teams have backgrounds in various disciplines, including shipping, firefighting and hazardous materials experts. This level of diversity enables React to compose a perfect mix when selecting the best possible team for deployment.

All share a joint mission: to do their utmost to prevent loss of life, material and economic loss and ecological damage in the event of maritime incidents.



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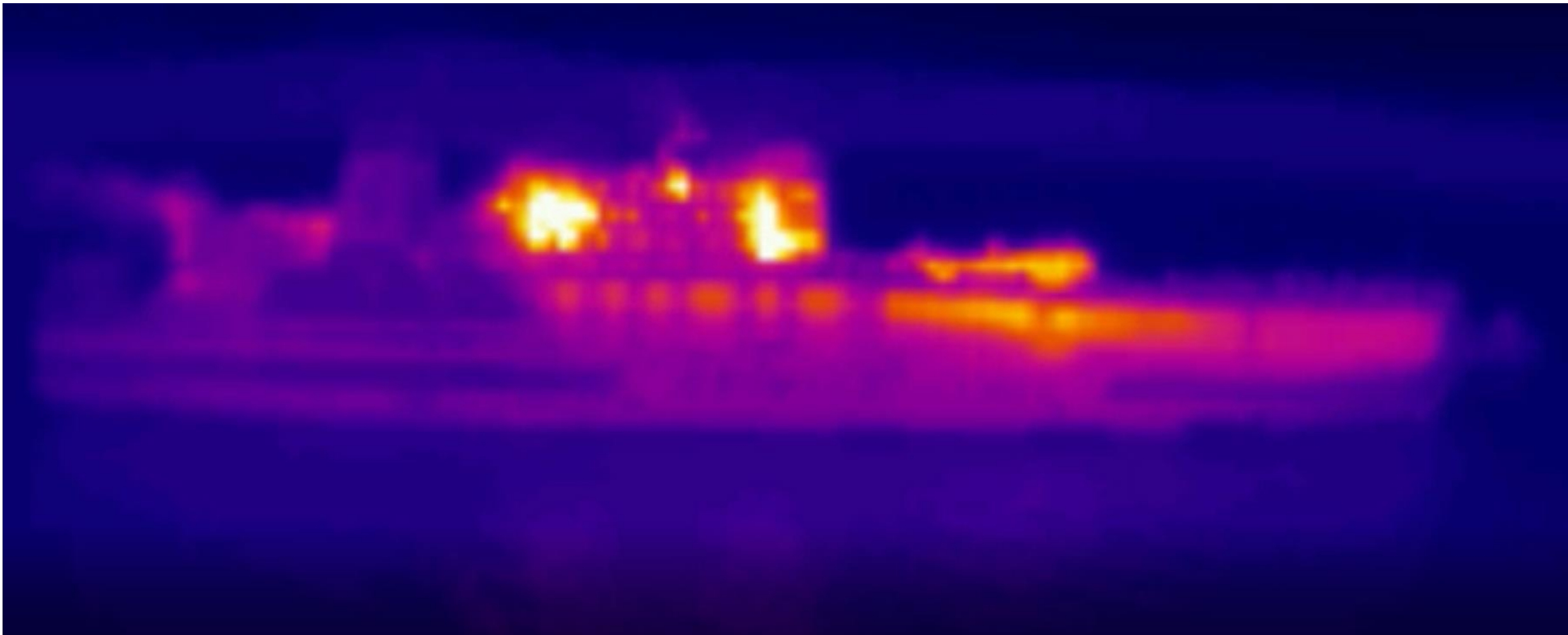


## The Salvage Challenges with Ro-Pax – Longitudinal Decks, High Freeboard...

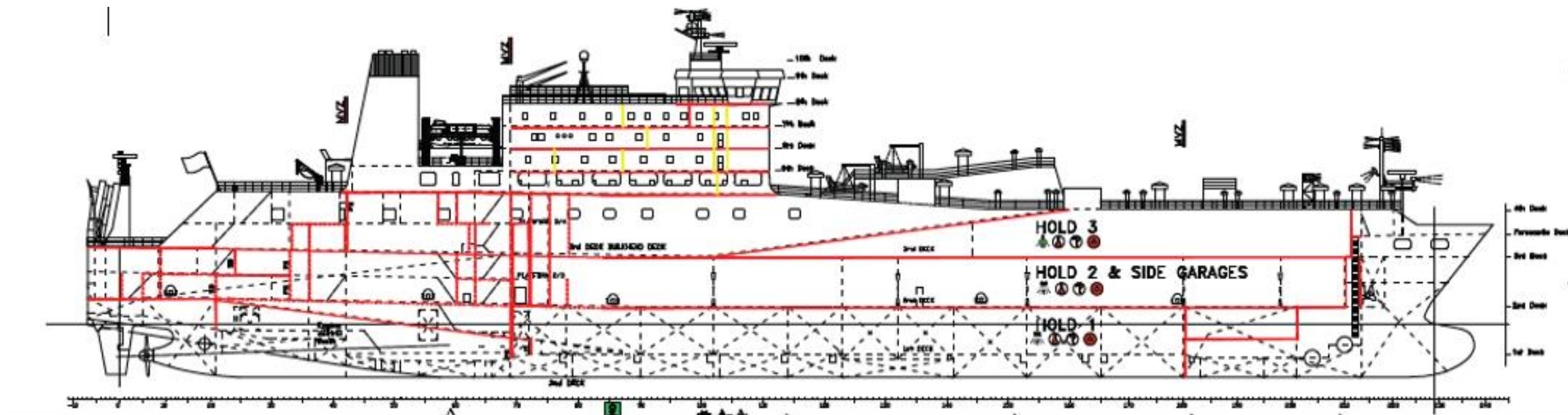




When the fire is within the car deck, it is enclosed completely – Limited Options



# GENERAL ARRANGEMENT PLAN Ro-Pax – FIRE ZONES – MAINLY LONGITUDINAL!



## CONSIDERATIONS –

- In the first instance – Containment shouldn't really be a problem where the spaces are enclosed...
- **BUT:**
- Enclosed decks with difficulty to access (generally from forward, midships or aft only); possible mix of fixed installation (Drenchers and CO2);
- External fire fighting is unlikely to have much effect other than boundary cooling;
- High windage so likely affected by winds and swell if engines are lost or ship is abandoned.
- Difficult ability to access the vessel.
- Once a fire takes hold, the deck becomes like an oven as it insulates the fire and can cause decks to buckle very quickly.
- My favourite statement heard this week regarding EV Fires – *“You don't pour water on the roof of your house if the kitchen is on fire – do you?”*



## Having the vessel alongside a berth will assist the situation to a point.



*While the vessel alongside will certainly assist, it doesn't mean that the fire can be dealt with as you might expect.*



*Potential problems with Stability due to collected water and/or blocked drains and scuppers will require constant monitoring by Naval Architects.*











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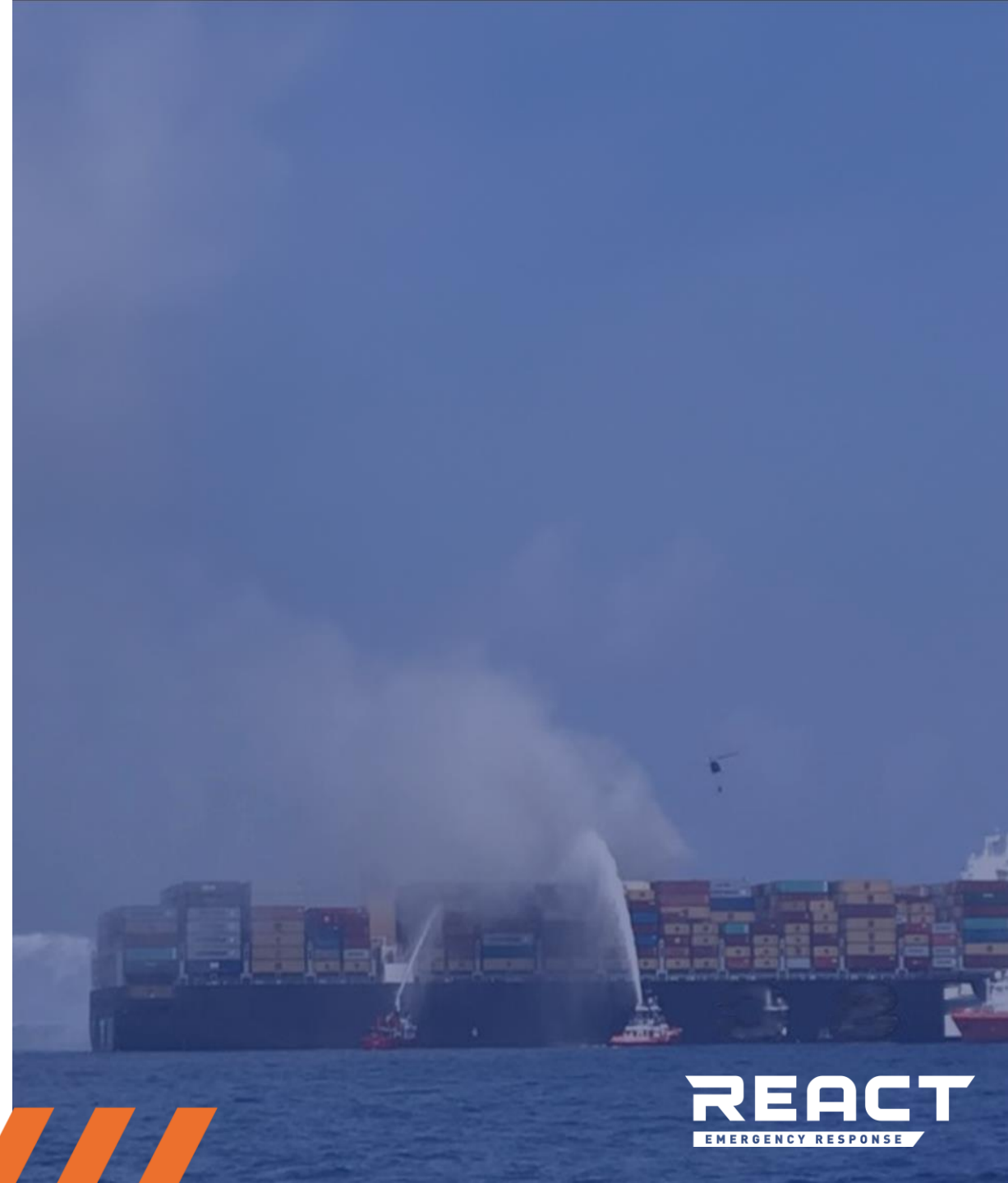
# Marine Fire fighting at Sea





# Marine Fire fighting at Sea

- **Complexity**
- **Limited recourses**
- **Rapid escalation**
- **Stability & External factors**



# Marine Fire fighting at Sea

## Complexity

- Vessel structure
- Industrial fire fighting
- High-rise Fire fighting
- Accommodation Fire fighting
- Enclosed spaces
- HazMat (DG)
- High temperatures

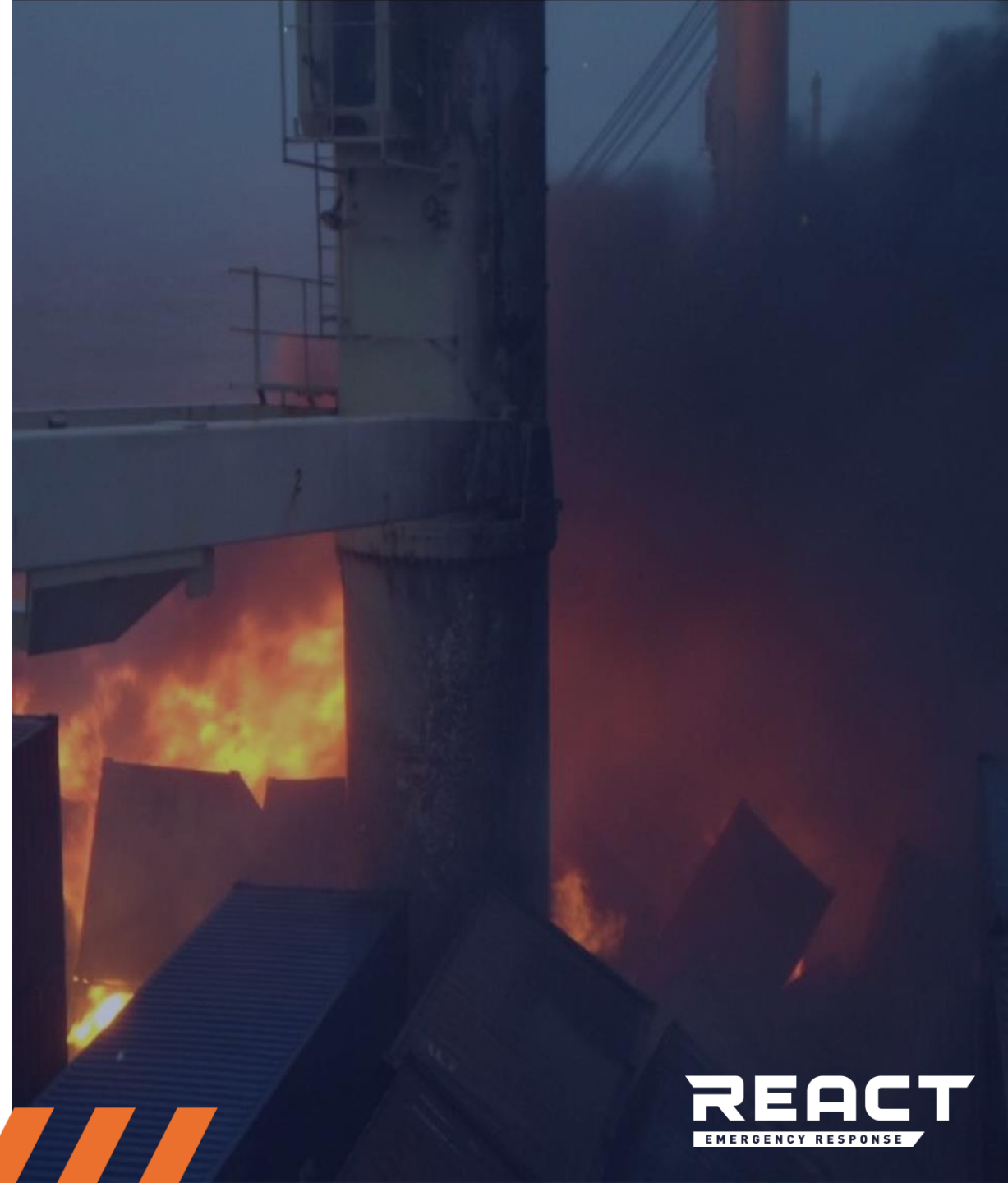




# Marine Fire fighting at Sea

## Limited recourses

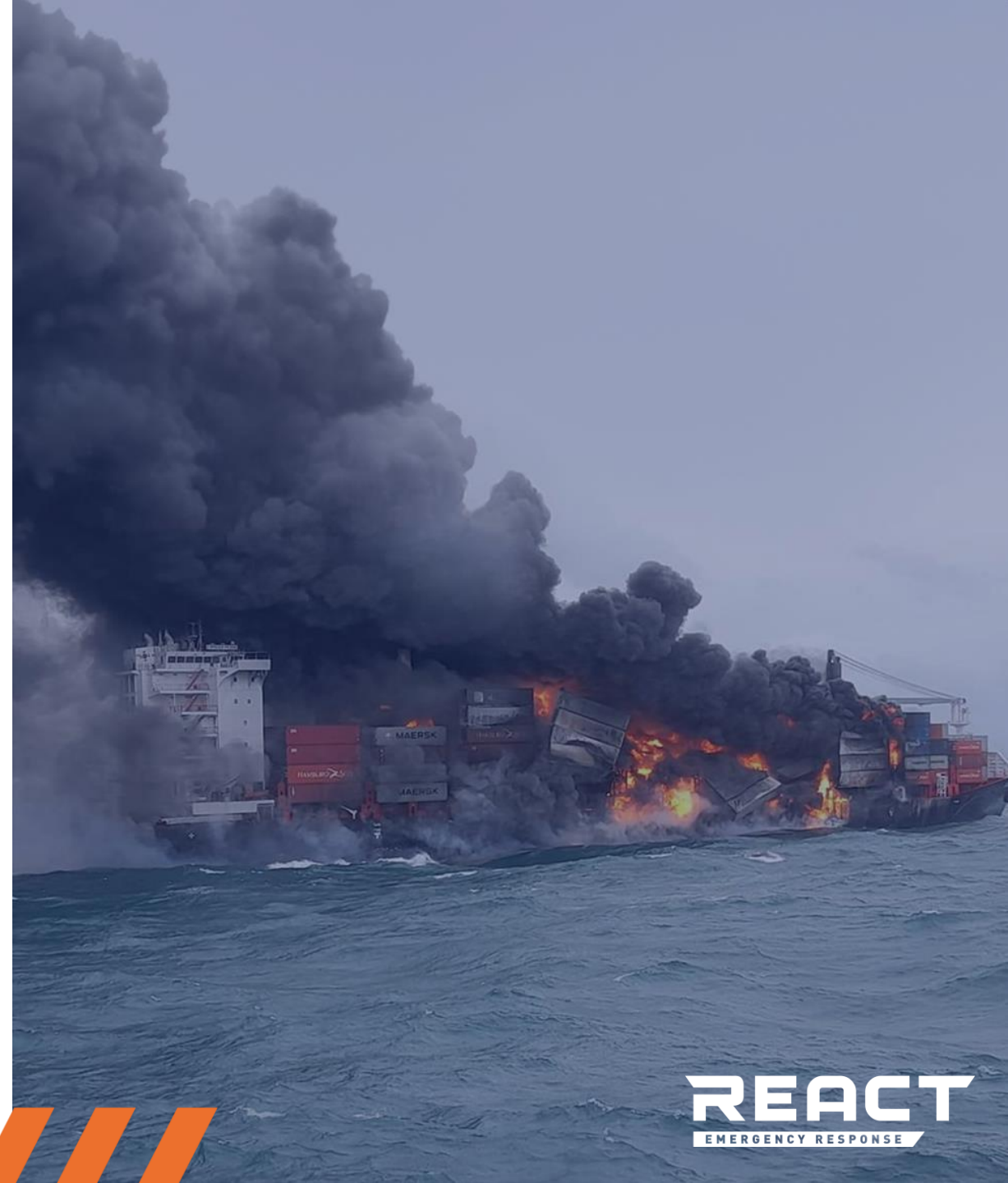
- Stand Alone
- Equipment
- Exhaustion crew / No Back-up



# Marine Fire fighting at Sea

## Rapid escalation

- Dangerous goods
- Weather & Swell
- Withdraw options?





# Marine Fire fighting at Sea

## Stability & external factors

- Fi-Fi capacity Tugs
- Expertise external parties
- Communication



# Impact of modern industrie

The pursuit of Global Sustainability, ensures change during incidents at sea and emergency response.

- Alternative fuels, dangerous goods and lithium-ion create faster fire development and additional risks.
- The complexity of ships and cargo is increasing
- Seafarers are expected to know more about cargo and its risks (new insights)
- The transport of hazardous materials is increasing, with ships at large certified to carry them



# Offensive Approach

## Direct attack a starting fire

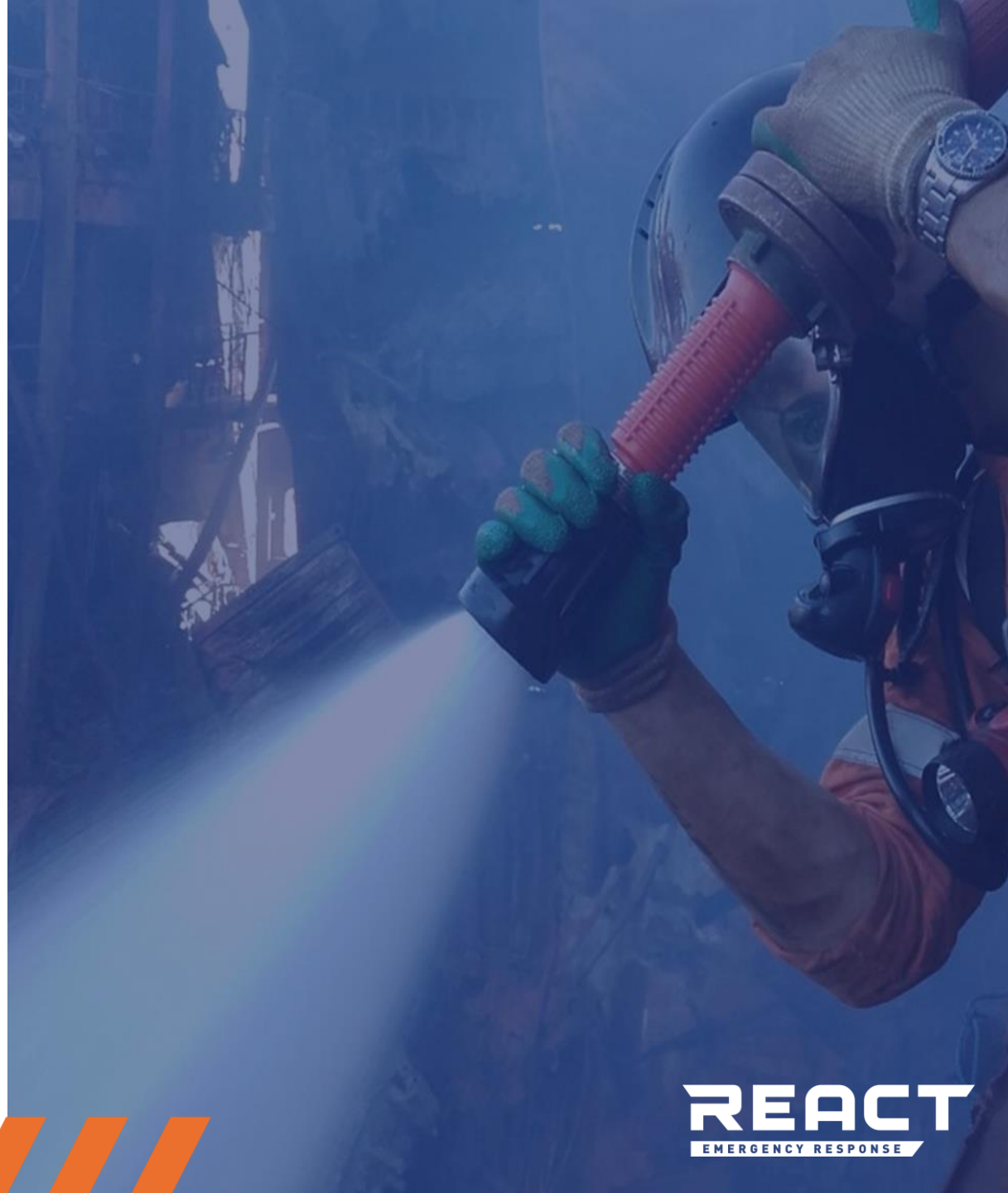
- Quick response (prevent development)
- Accessibility.
- Suitable medium for extinguishment.
- Equipment
- Crew & Training



# Deffensive Approach

## Containment

- Interpretation of situation.
- Quick release fixed systems.
- Use all assets to contain fire.
- Monitor situation.
- External help?





# Deffensive Approach

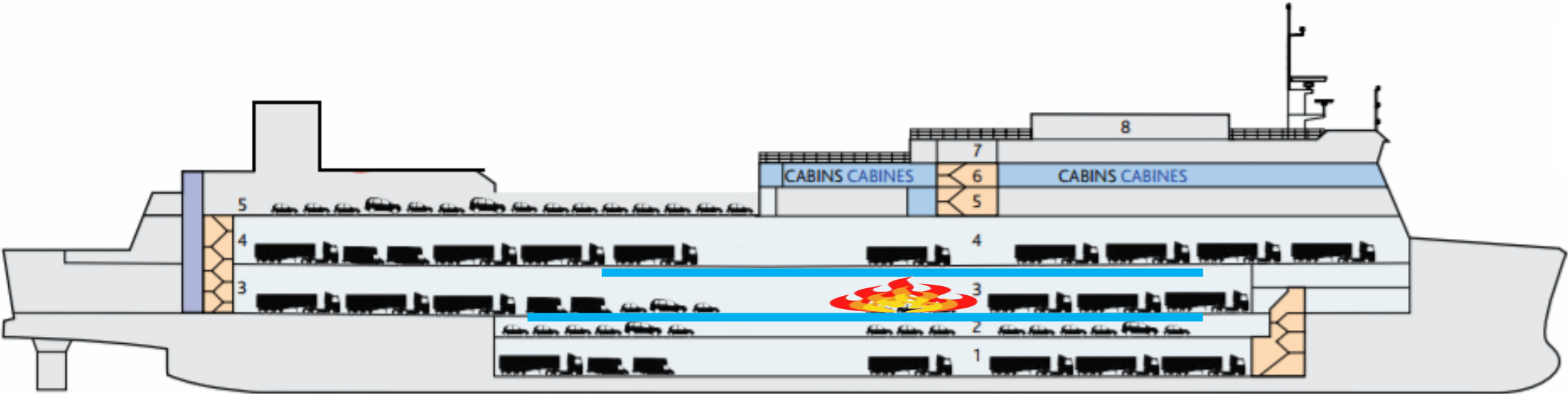
Example





# Deffensive Approach

## Example





# Professional opinion

If we are not sure that we can extinguish the fire quickly, due to special cargo, access to the incident or sufficient material and responders, it is wise to first focus on containment.

A fixed system is the greatest strength on board. If we lose too much time, the effect is less, and the chance of complete escalation is very present.

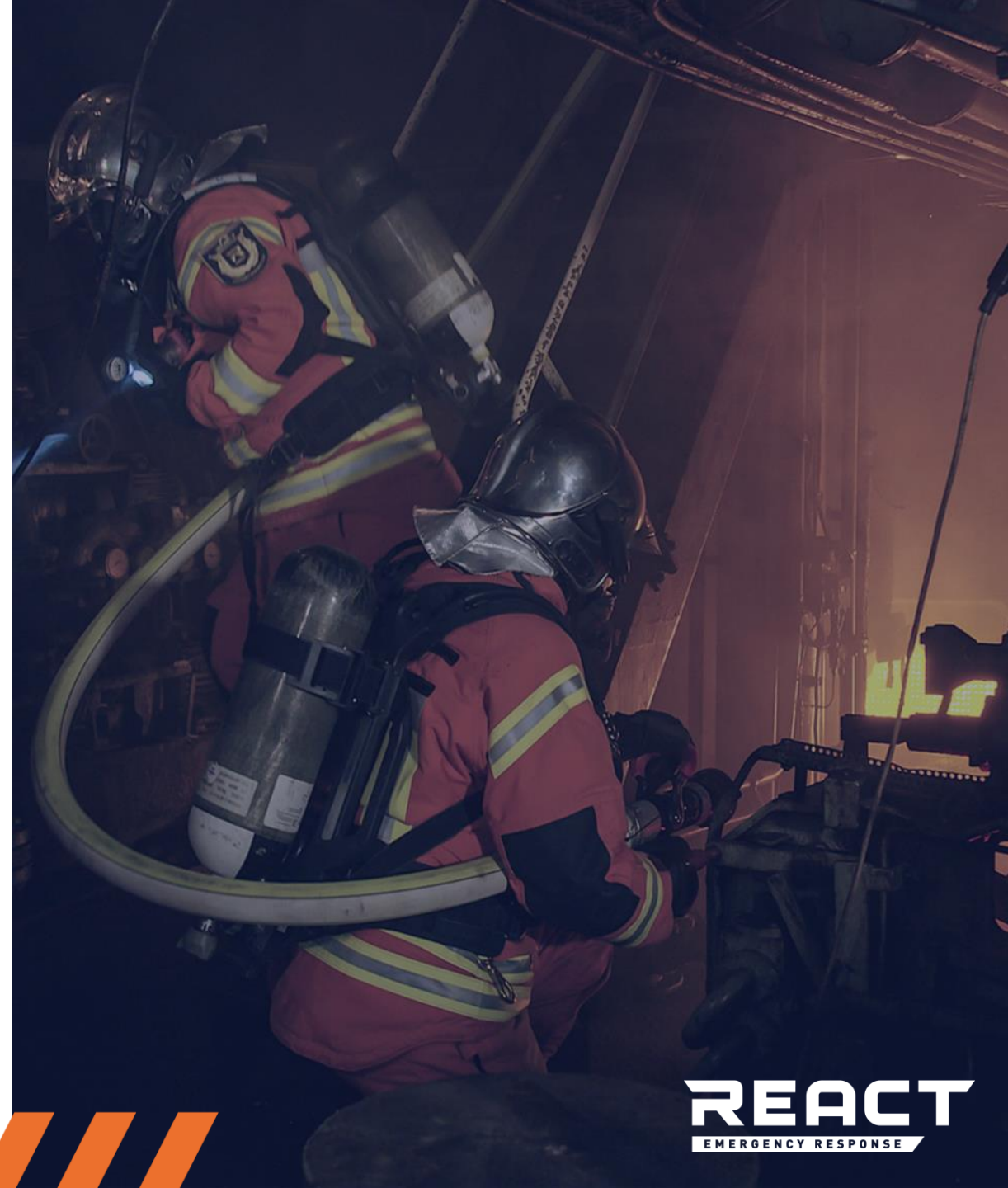
When the containment is effective, we can responsibly reduce the affected area with the help of external help or combat the incident with the right equipment.



# Professional opinion

## Considerations

- Procedures.
- Professional Remote assistance.
- Training
- Professional support



*THANK YOU FOR YOUR TIME*

*ANY QUESTIONS?*

