



Addressing tomorrow's risk challenges

What are we thinking?

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STORAGE OF CLASS 1, 2, 3, 4 AND PLASTIC COMMODITIES

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RESEARCH TECHNICAL REPORT
*Gravity Smoke Vents in
Storage Occupancies*



Mutual



Specialty
Insurer



Protecting today
and tomorrow



Service delivered
globally



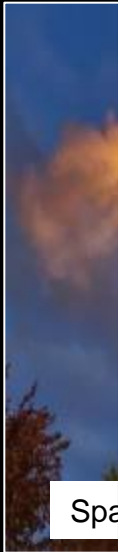


Building envelopes and structures

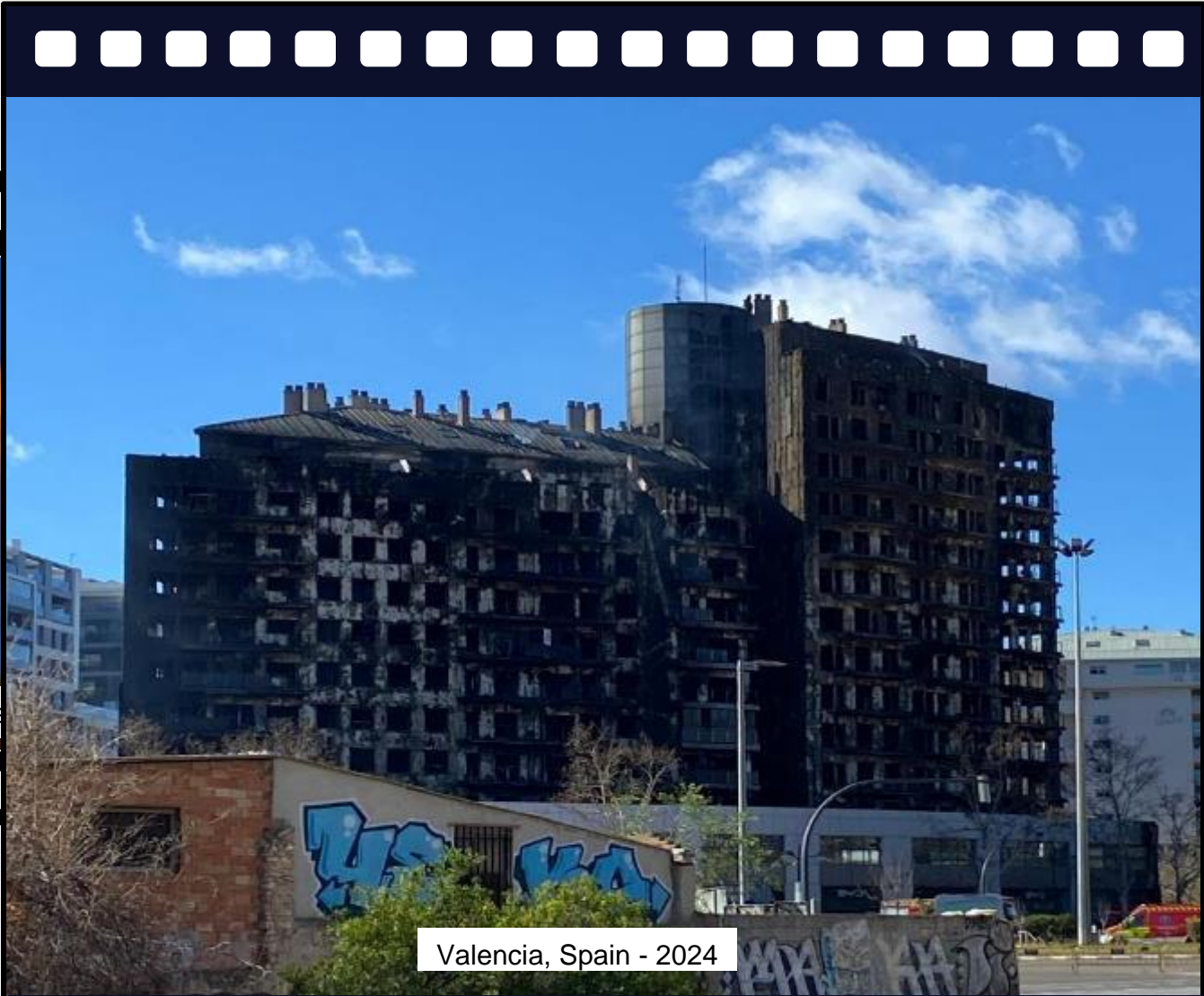
A lot of recent incidents



Korea - 2020



Spa



Valencia, Spain - 2024

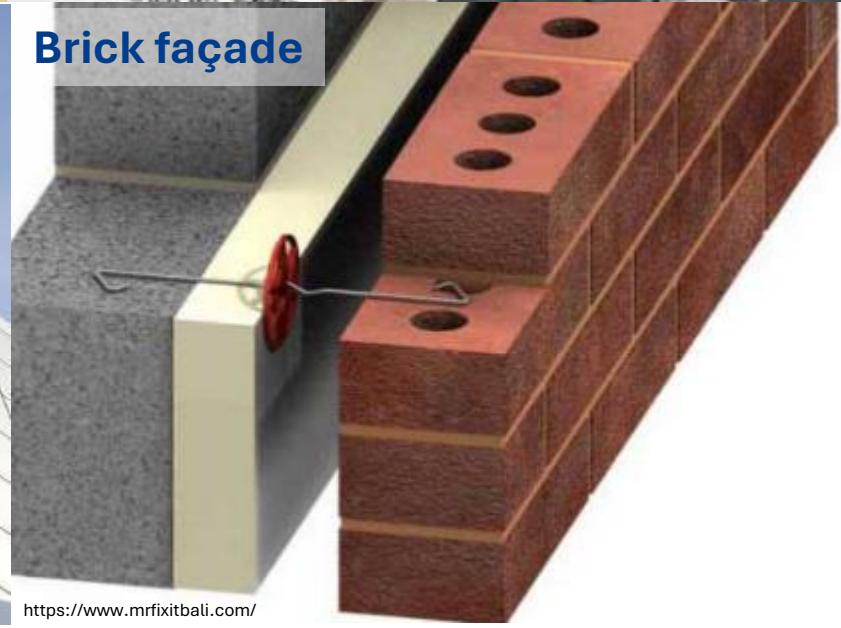
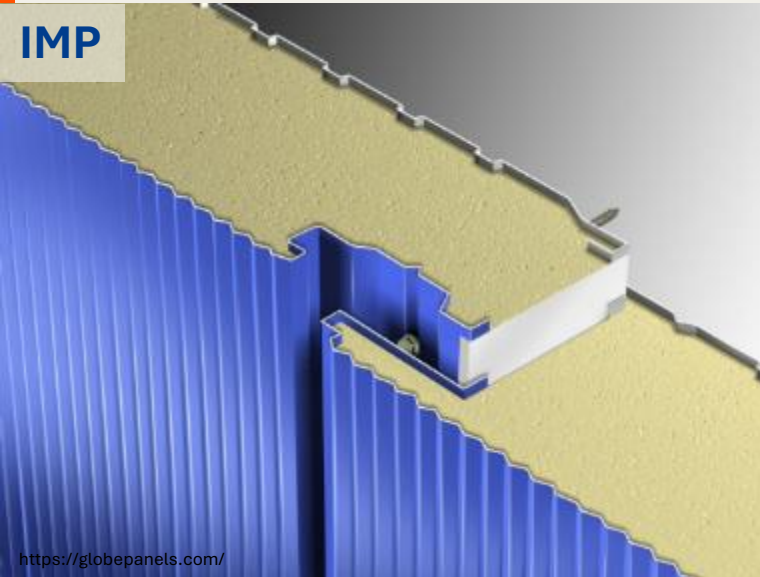


2022



UAE 2023

Construction materials have changed



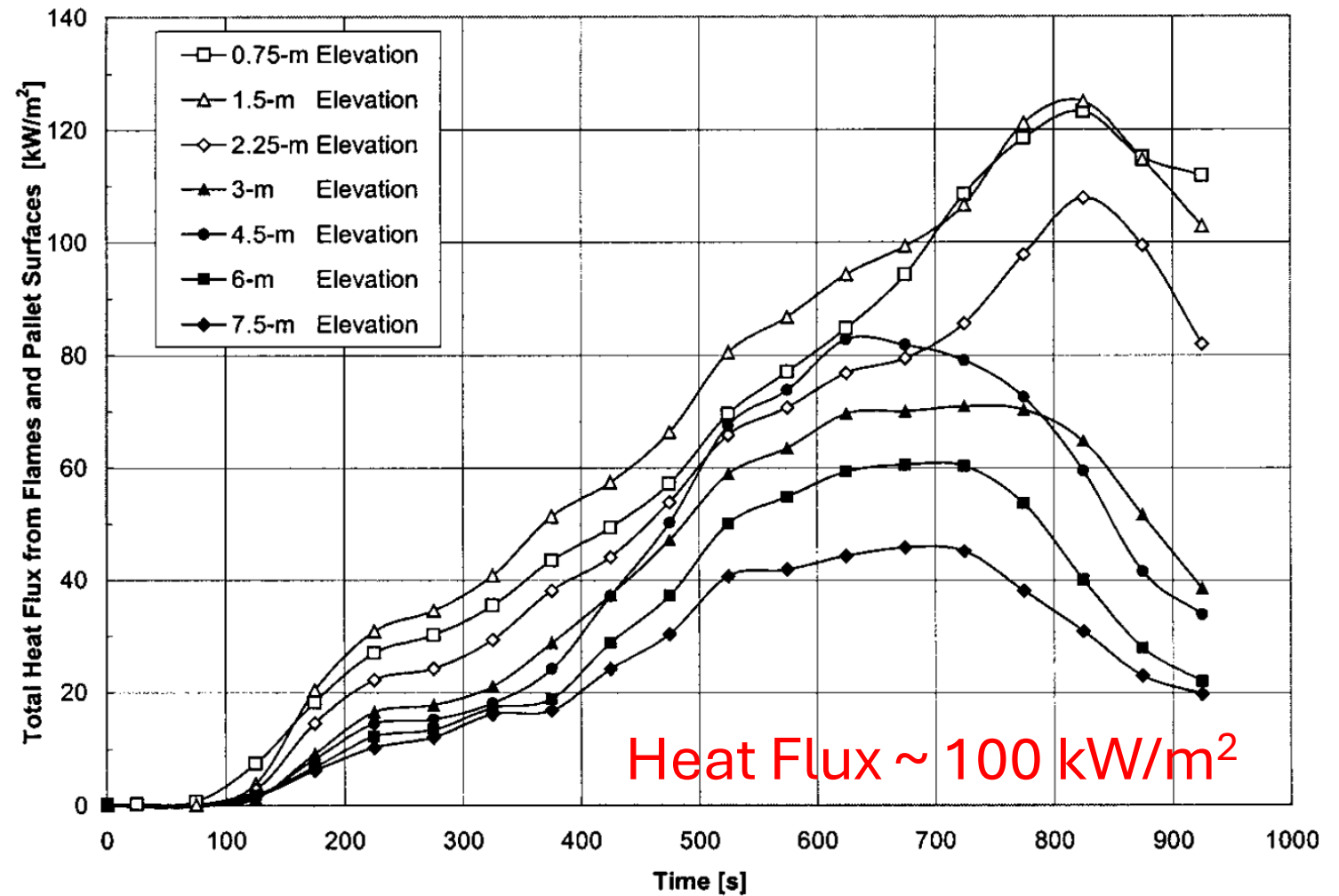
Green Building Construction



Whatever next?



Tests needed to match reality of fire attack



History of testing systems

Metal panels

**Non-inert
panels**

ETICS

Cavity Systems

BIPVs



Ahead or behind?



Thoughts

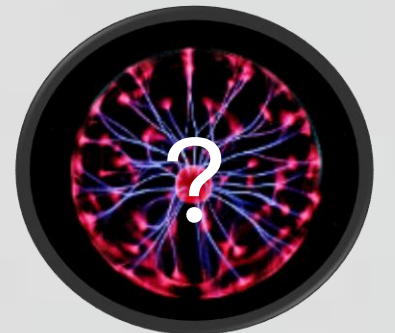
Application running ahead of research

Importance of full-scale testing

Stay awake – more to come

Can we repair it?

How does it really perform?





Photovoltaics

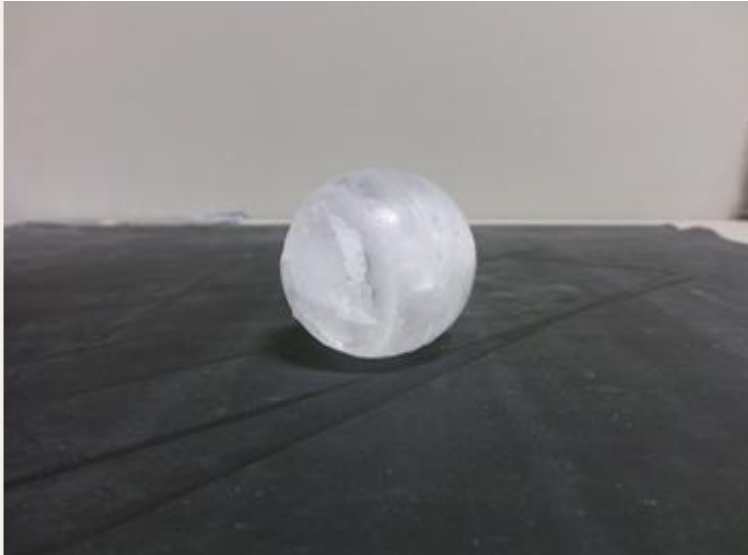


Changes the fire dynamics

Changes the fire dynamics



Not just fire – what about the elements?



What happens when you use them on a wall?



What happens when you use them on a wall?



What happens when you use them on a wall?



BIPV back glass

Air cavity with wires

Mineral wool

Thoughts

Fire performance as a system

Its not just fire!

Foils and printables – an issue?

BIPV – time to think carefully

Are we learning lessons?





Energy Storage - Batteries

Growing need to store electricity



LFP @ 83 kWh

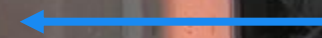
Lithium iron phosphate

125 kWh?

Water covered area



Fire damage



Its only the fire hazard – right?



You are putting them where?

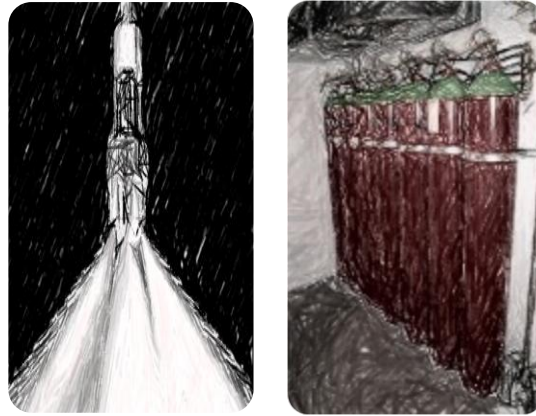


No single bullet - layers of protection

Save the Building



Save the Equipment



In-module Protection

System Design

Prevent the Incident

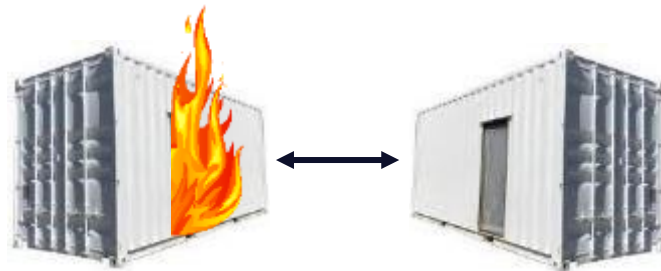
BMS

Product Design

Early Detection

Address Other Hazards

Fire Incident Response



Reducing the potential impact



FM Research approach



Loss Prevention

Thoughts

Batteries – are essential

Storage systems are in buildings.

It is not just fire!!

What does “let it burn” look like in a high rise?

Distributed power systems





Research



Data

Lagerung von Lagergütern der Brandgefahrenklassen 1, 2, 3, 4 und Kunststoff

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Actionable Advice

Thank you. Any questions?

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