

# NATIONAL ELECTRIC AVIATION SUMMIT

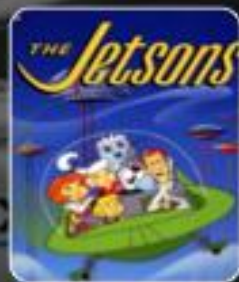
3 June 2026 • 9am - 4pm



*(A Skyportz company)*

Contact [info@aeroberm.com](mailto:info@aeroberm.com) or call +61 411 255 179

[www.aeroberm.com](http://www.aeroberm.com)



The dream of flight in personal vertical take off and landing aircraft has been alive for decades.

## Flying prototypes





The frontrunners have spent billions of dollars... and we still do not have commercially certified air taxis .

# High profile collapses.

Lilium and Volocopter.

Over 1000 aircraft in development.

Most will never make it to commercial production.

Those that do will be more expensive than a similar capacity helicopter with less range.

New infrastructure requirements add to the up front capital investment.





*The Uber Air concept 2019 – a fantasy*



skyp<sup>o</sup>rtz

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skyportz



skyportz

PASCALL  
+WATSON

CONTRERAS EARL  
Architecture



PASCALL  
+WATSON

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Architecture









# ***THE MARKET FOR VERTIPORTS***

1. Upgrade existing airports and helipads.
  - Australia 2600+ airports and 1100+ heliports
  - USA 19 900+ airports 5600+ heliports
  - UK 460+ airports and 90+ heliports
  - Europe 2100+ airports and 1750+ heliports
  - India 400+ and 1140+ heliports
  - Brazil 2500+ and 1768 heliports
  - Canada 500+ airports and 296 heliports
  - Japan 90+ airports and 80+ heliports



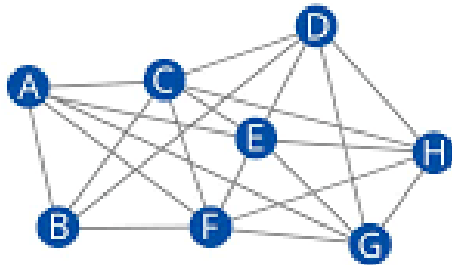
# **THE MARKET** **FOR VERTIPORTS**

2. New vertiports outside of existing aviation infrastructure is virtually limitless. Retail, commercial and industrial areas will provide future vertiport sites.

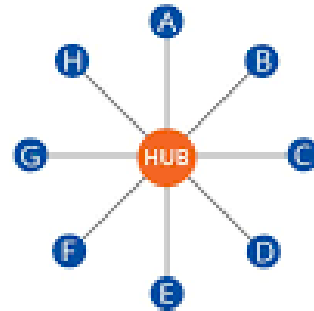
# ***Vertiport/vertihub/vertistops***

***Hierarchy of uses can keep costs contained***

Point-to-Point



Hub and Spoke



## Executive Summary | AAM passenger market ~\$5.7B across five frontier<sup>1</sup> cities by 2045, ~\$200M market for modular vertipads

The **AAM passenger market represents a ~\$5.7B annual opportunity** across five frontier cities, with over 200 million annual trips by 2045, driven by three key use cases<sup>2</sup>:

- **Urban services are a ~\$2.6B market by 2045** (18% annual growth 2030-45), driven by increasing attractiveness relative to private ride-share and reducing unit costs of eVTOL aircraft (from \$3.50 per pax KM to \$1.50 by 2045)
- **Intercity & Regional services are a ~\$2.9B market by 2045** (17% annual growth 2030-45), driven by increasing range of eVTOL aircraft (from ~100km to ~250km by 2045) and growing eVTOL ridership share for intercity commuters (to 0.5-2% by 2045)
- **Airport shuttle is a ~\$0.2B market by 2045** (16% annual growth 2030-45), driven by increase airport enplanements and growing eVTOL ridership share (to 5% of premium cabin passengers by 2045 in most advanced markets)

This translates to a **~\$200M annual market for modular vertipads by 2045** across these five cities, with vast majority of pad build-out serving urban and intercity markets:

- **~80% of market in urban vertipads**, given relatively high ratio of aircraft to passengers (due to short trip times) and need for vast network
- **~20% of market in intercity & regional-related vertipads** and ~1% related to airport and sightseeing locations, given limited routes offered by airport shuttle services



1. Frontier cities throughout the pack refers to New York, Brisbane, Shenzhen, Dubai & Delhi. 2. Also sized sightseeing market as ~\$30M by 2045, excluded here given relative size.

## Important Context

- This document seeks to quantify the **AAM and Vertiports opportunity in 5 "frontier" cities: New York, Brisbane, Shenzhen, Dubai & Delhi**
- These cities have been selected for their **attractiveness and relevance to Skyportz's current commercial opportunity pipeline**
- The **global opportunity is at least 10-20 times larger** than numbers quoted in this document

# AEROBERM™ VERTIPAD



# ***THE SKYPORTZ VERTIPAD PATENTED SOLUTIONS***

1. **Turbulence – amelioration of downwash and outwash.**
2. **Reduce property footprint requirements by enabling safer operations at scale.**
3. **Noise reduction.**
4. **Firefighting.**
5. **Environmental impacts following fire suppression.**
6. **Regenerative power capture.**
7. **Power storage.**
8. **Delivery of power source to the aircraft.**
9. **Assisted blown lift technology to reduce energy draw from on-board battery.**
10. **Micro wind data display and communication to aircraft.**
11. **Debris hazard collection.**
12. **Bird detect and deter.**
13. **Insurance premium reductions.**

# Blocking Urban Vertiport Approvals

*No one has yet solved the three core barriers to new urban vertiport approvals:*

**01**

## Downwash & Outwash

High-velocity rotor wash endangers people, vehicles and structures in surrounding areas

**02**

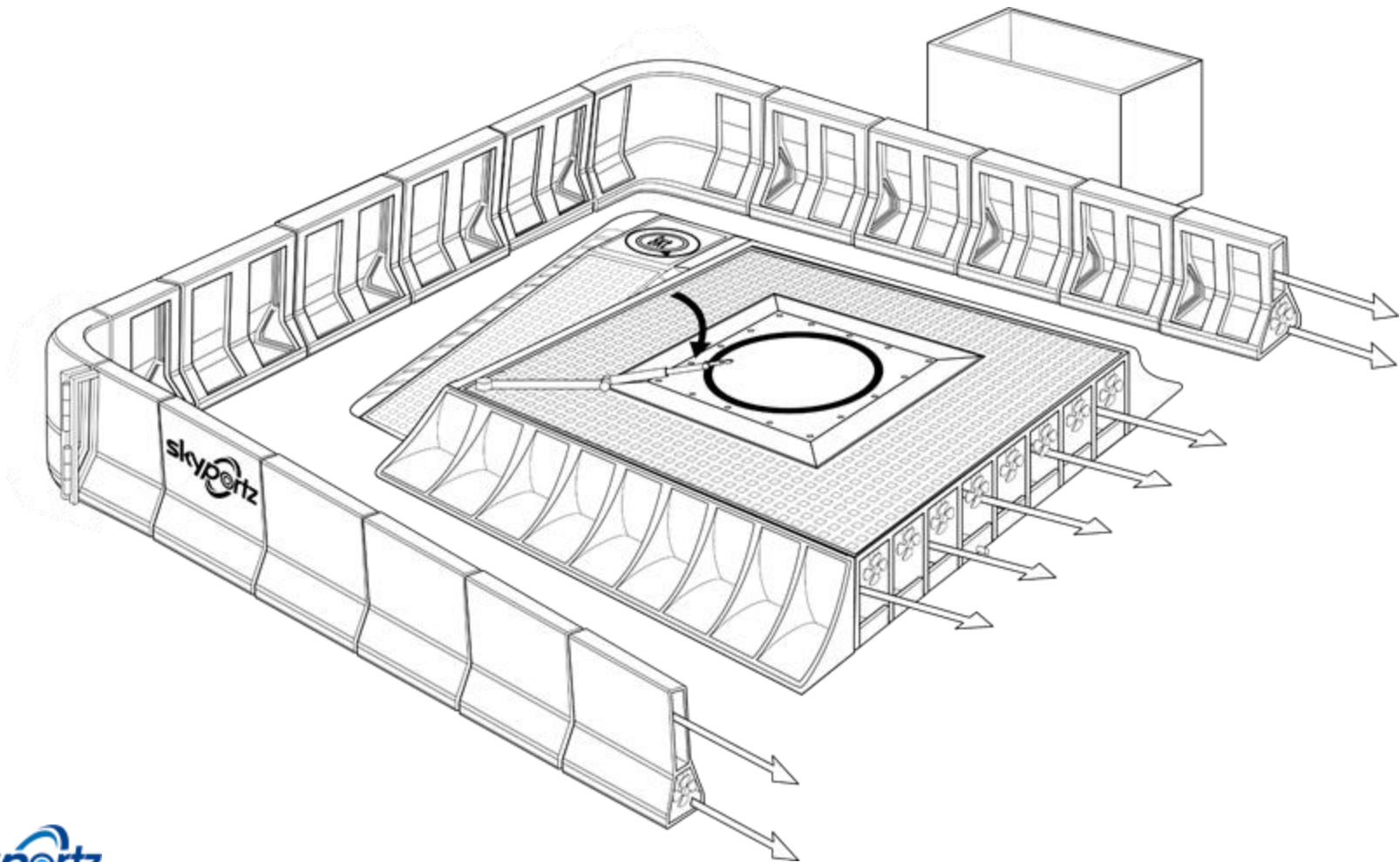
## Noise

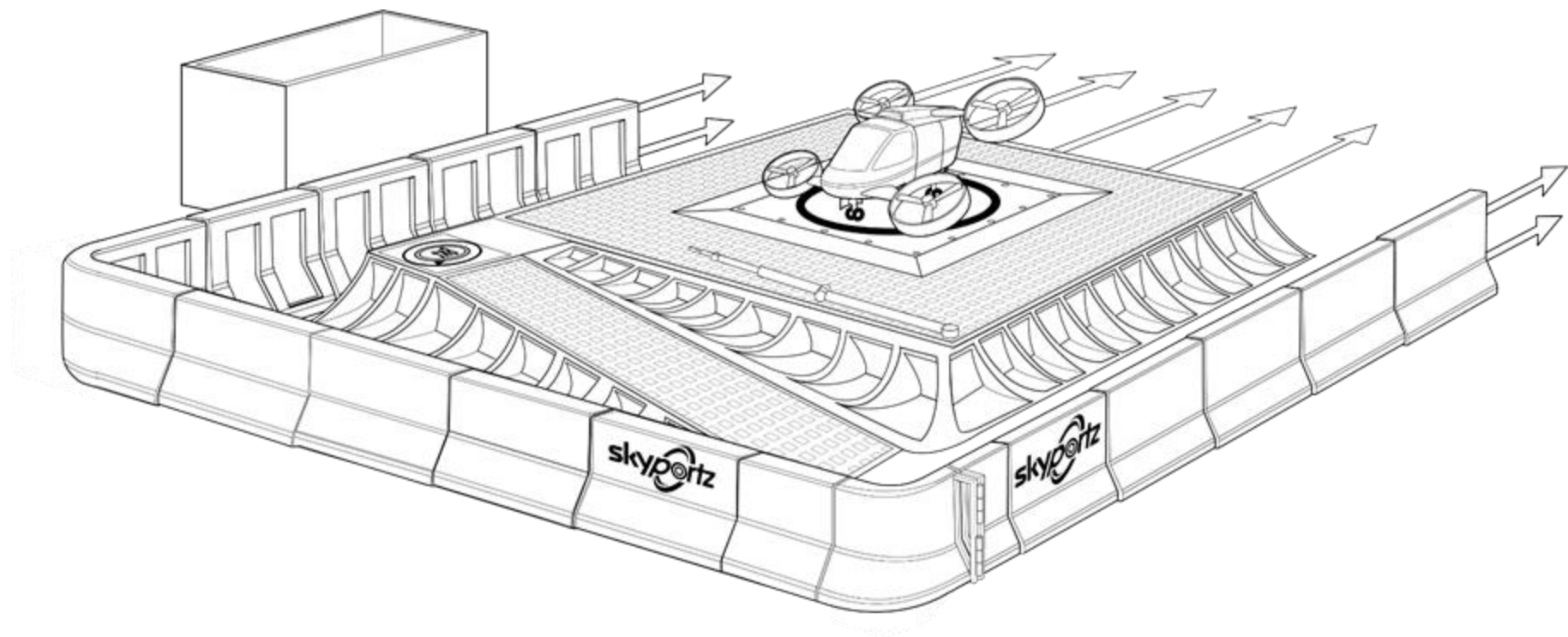
Rotors operating in ground effect are measurably louder; community acceptance is one of the biggest planning risks

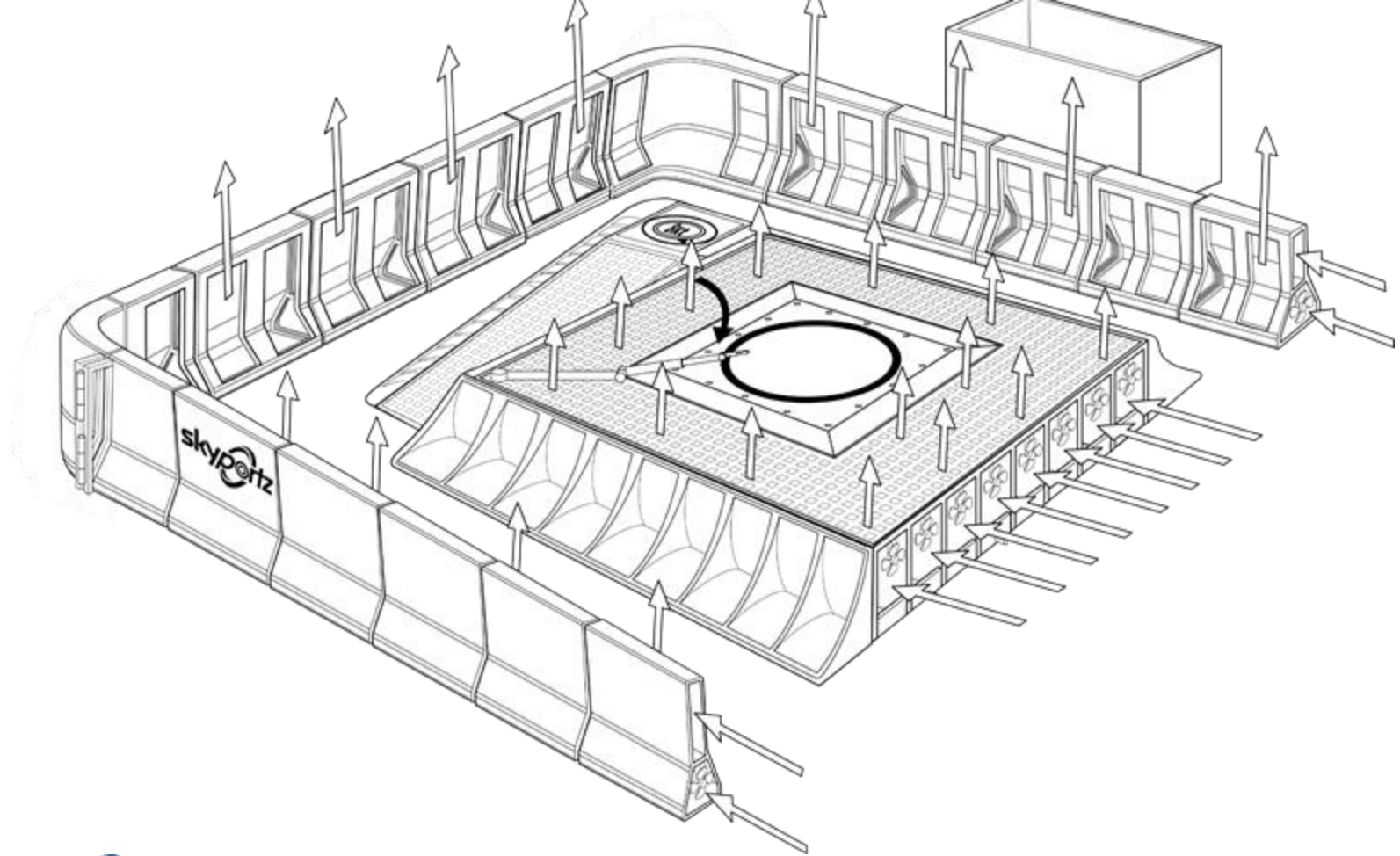
**03**

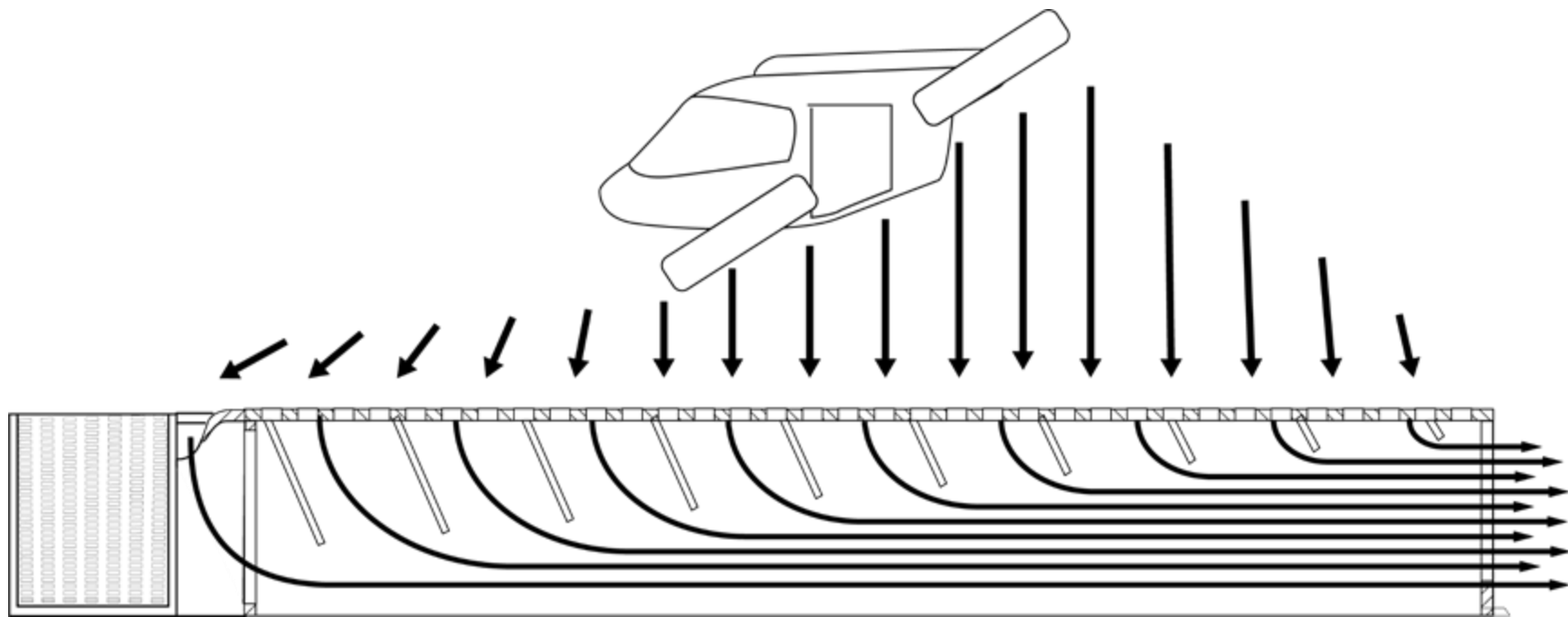
## Fire Safety

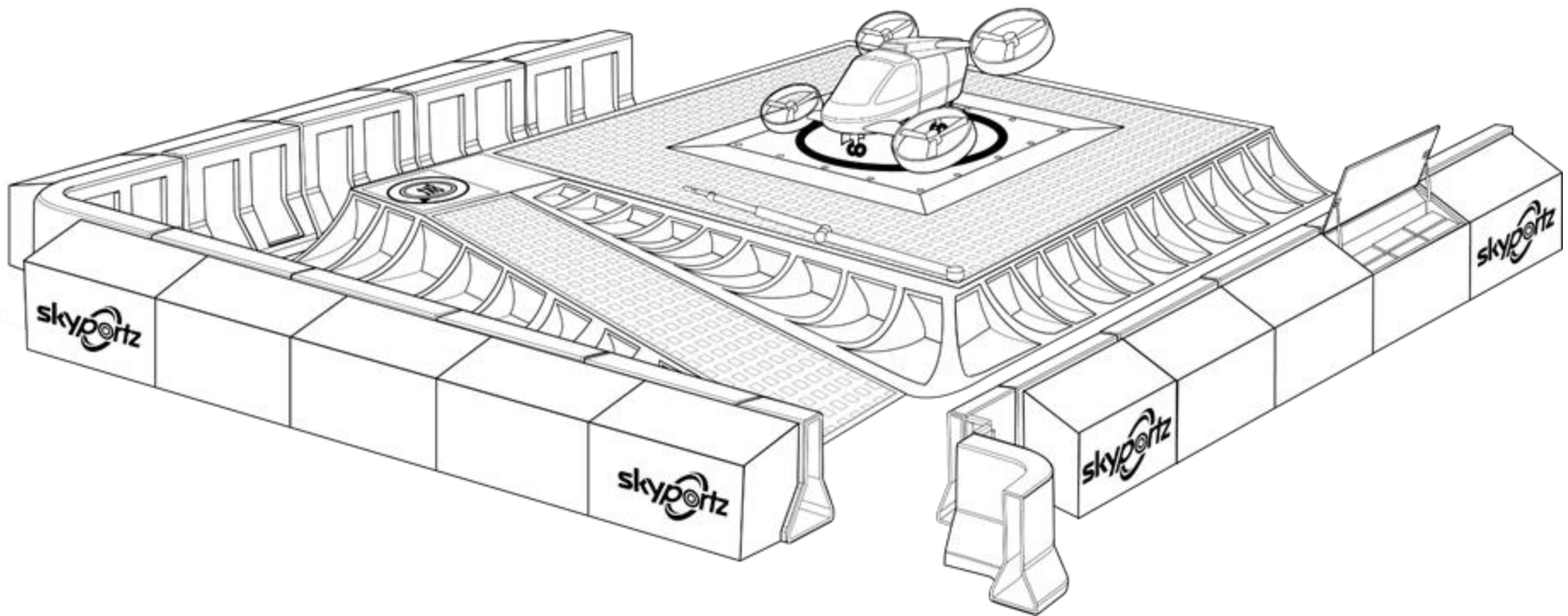
Lithium-ion battery thermal runaway in dense urban environments has no adequate containment solution



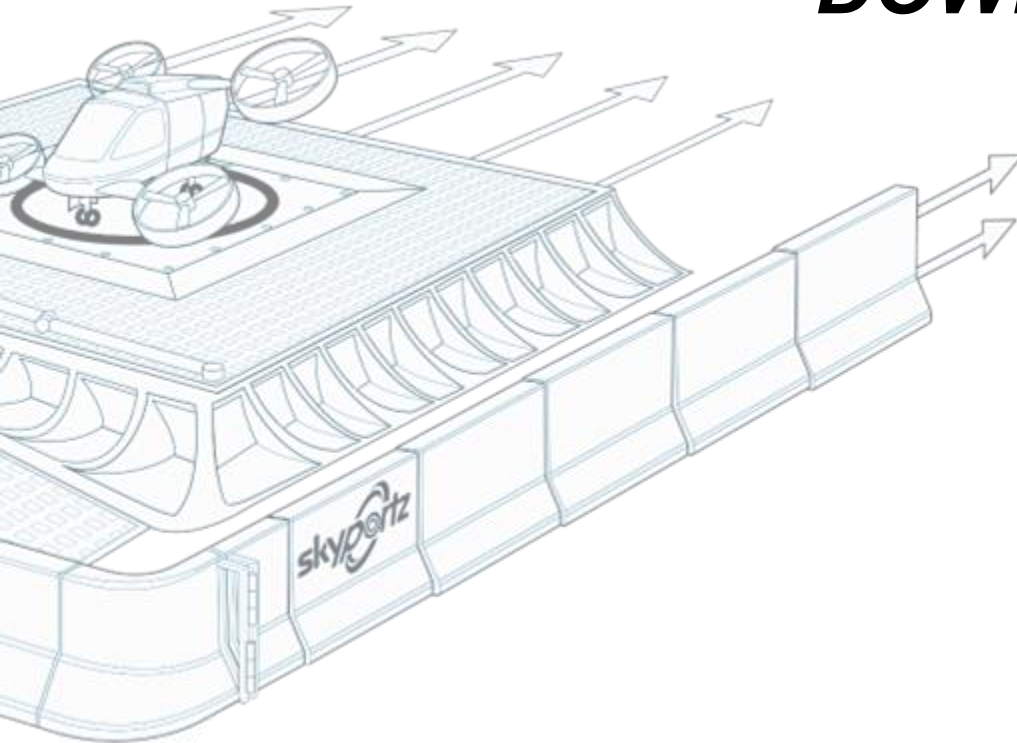








# DOWNWASH & OUTWASH SOLUTIONS



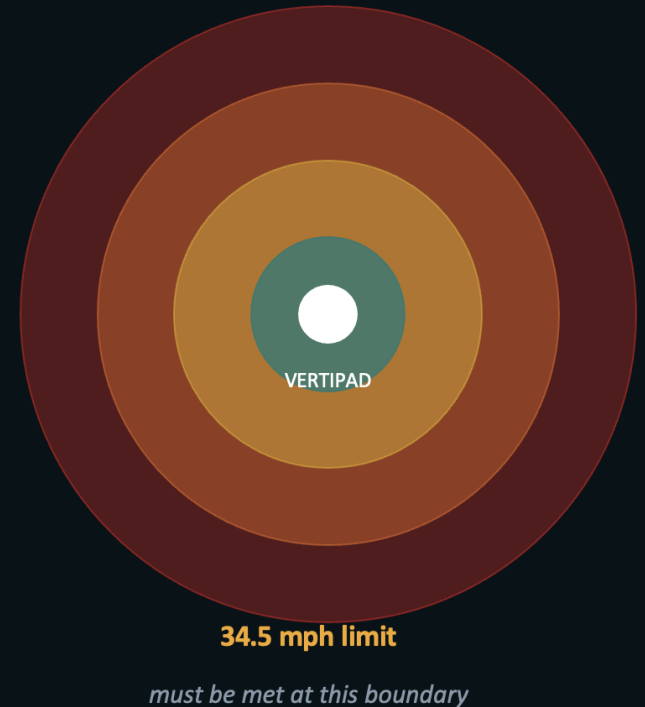
- Vertipad collects and directs downwash and outwash away from people and other aircraft and equipment.
- Downwash is collected through grates on the landing surface.
- Fins around the exterior of the vertipad also collect and direct downwash
- Outwash is collected by the Aeroberm™ surrounding wall.

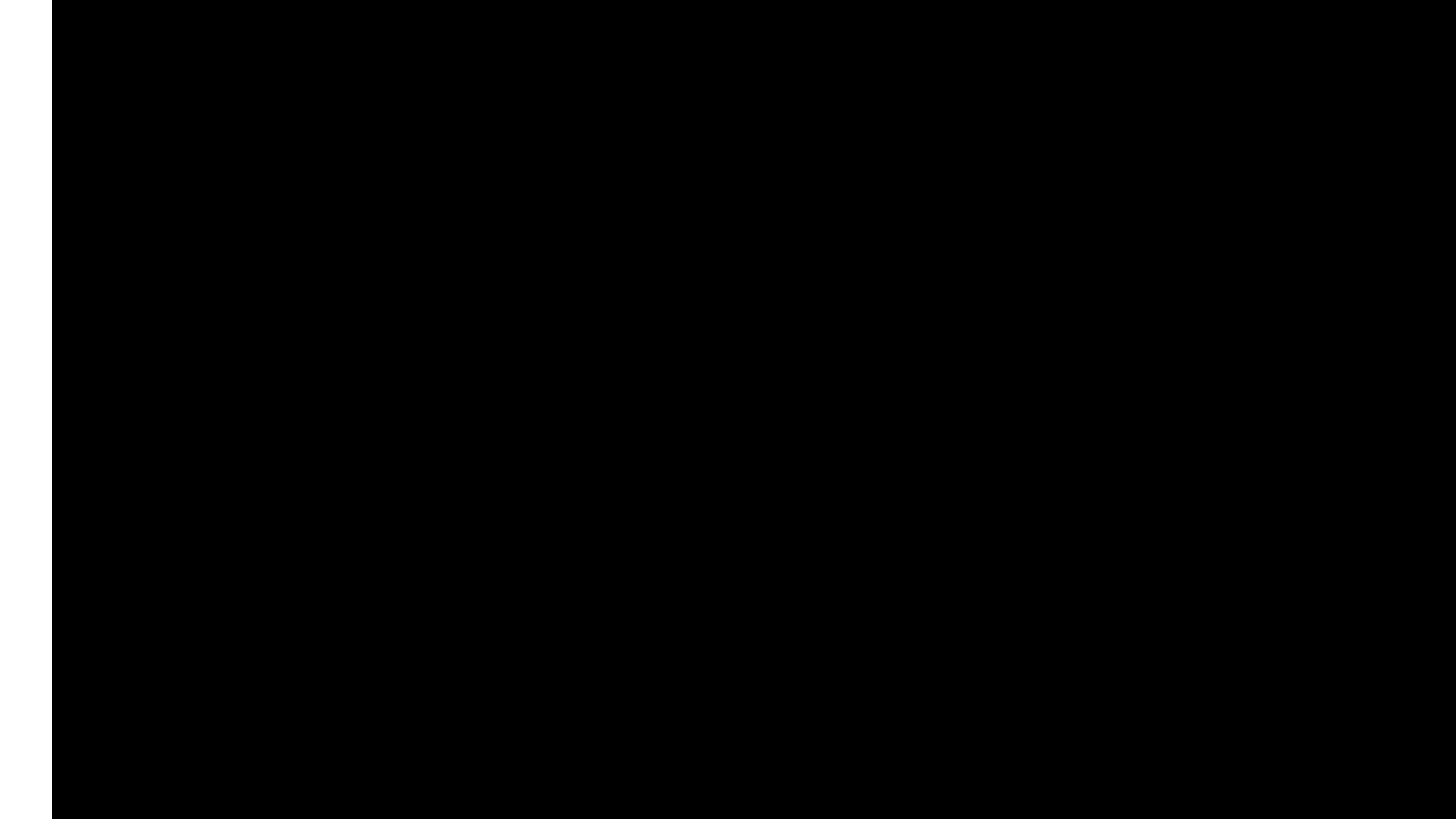
## FAA Engineering Brief 105A

**34.5 mph** (15.4 m/s)

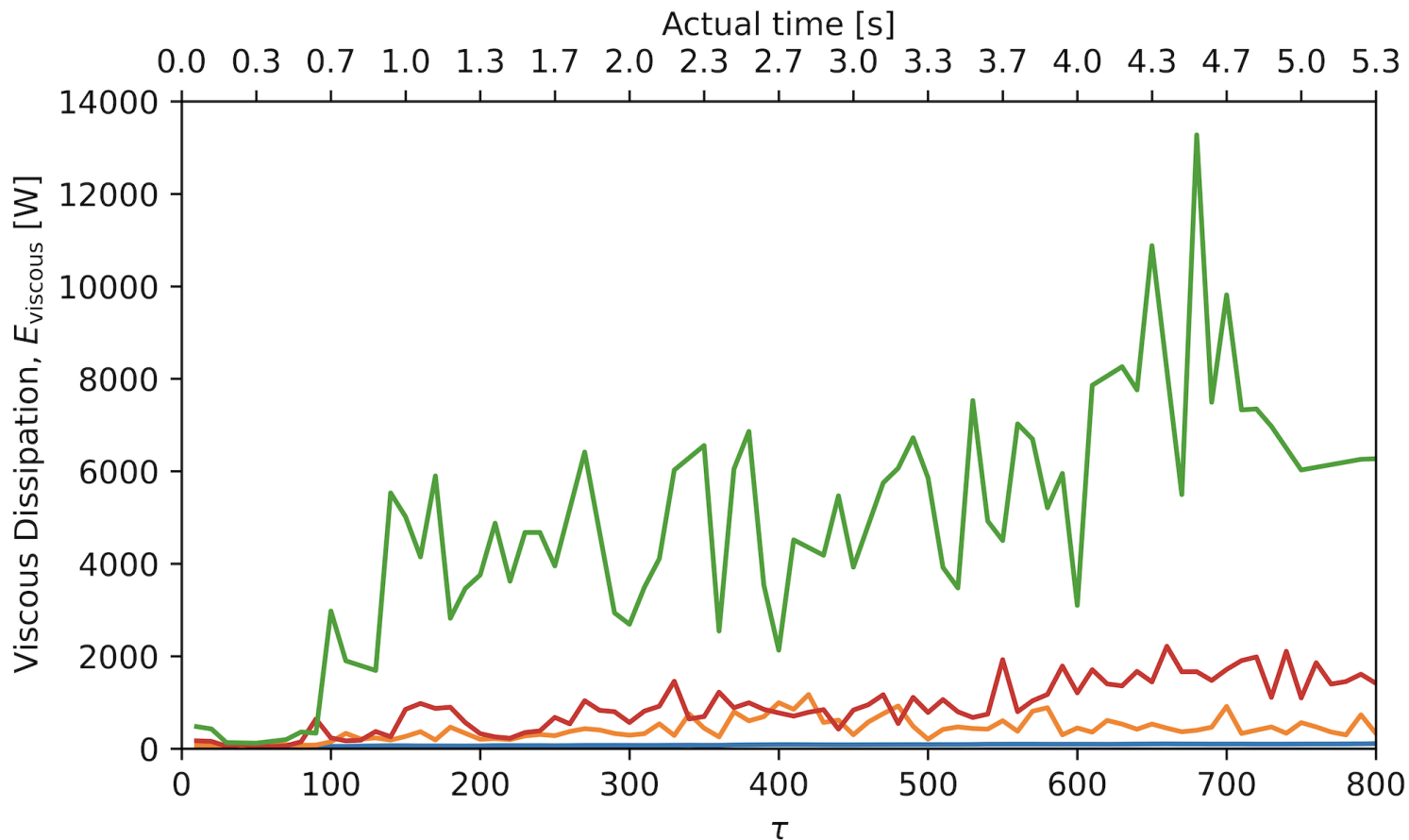
*Maximum outwash at vertiport safety zone*

- This standard exists. It is measurable.
- Meeting it on tarmac requires enormous buffer distances.
- Those distances make urban and rooftop vertiports commercially unviable.
- The only path to dense urban deployment is to reduce outwash at source — at the vertipad surface itself.
- That is precisely what the Aeroberm fractal panel is designed to do.





# Viscous dissipation history for 0.76m height vertipads + straight vane skirt



# **A Computational Study of Outwash Mitigation using Surface Modification on Vertipads**

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Product Design Engineering,  
Swinburne University of  
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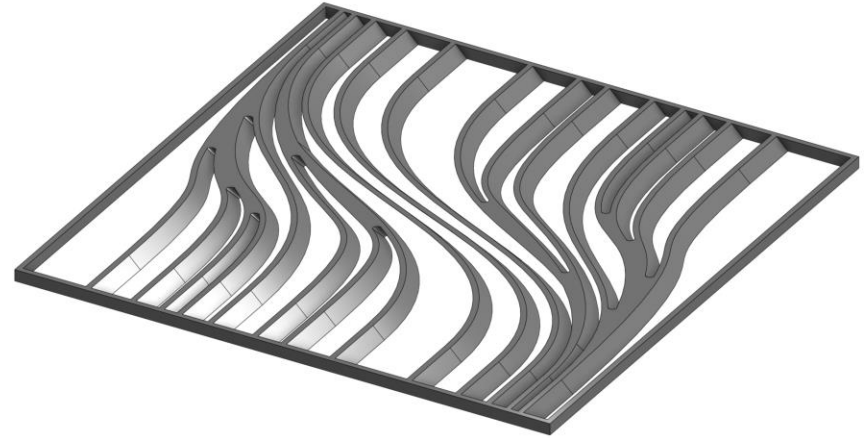
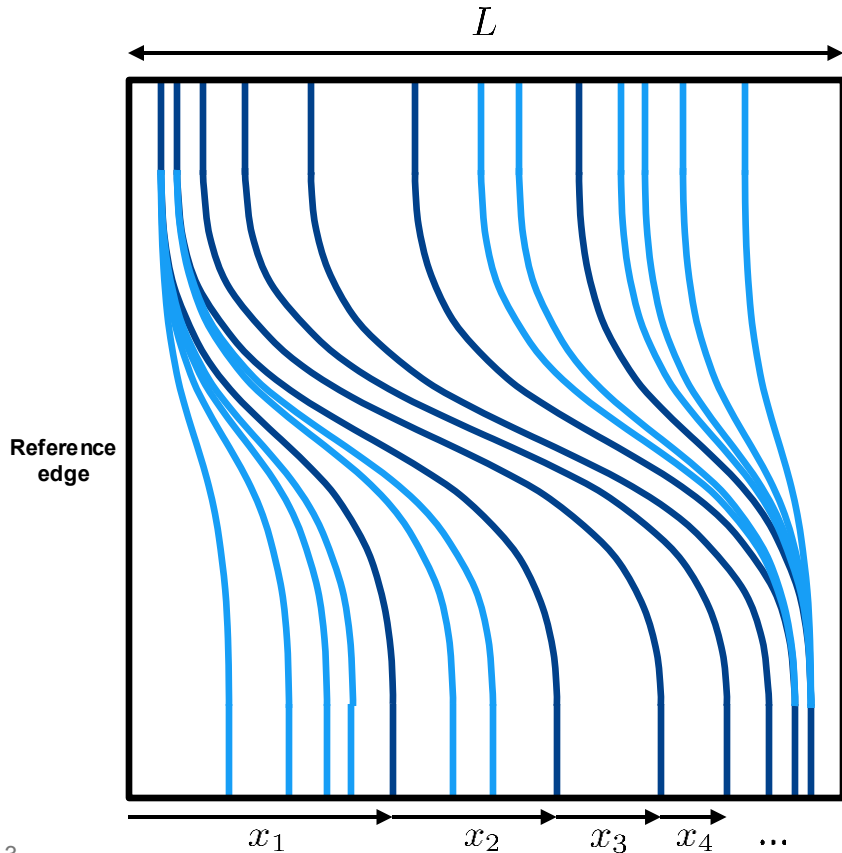
**Clem Newton-Brown**

Director  
Skyportz Pty Ltd  
Melbourne, Australia

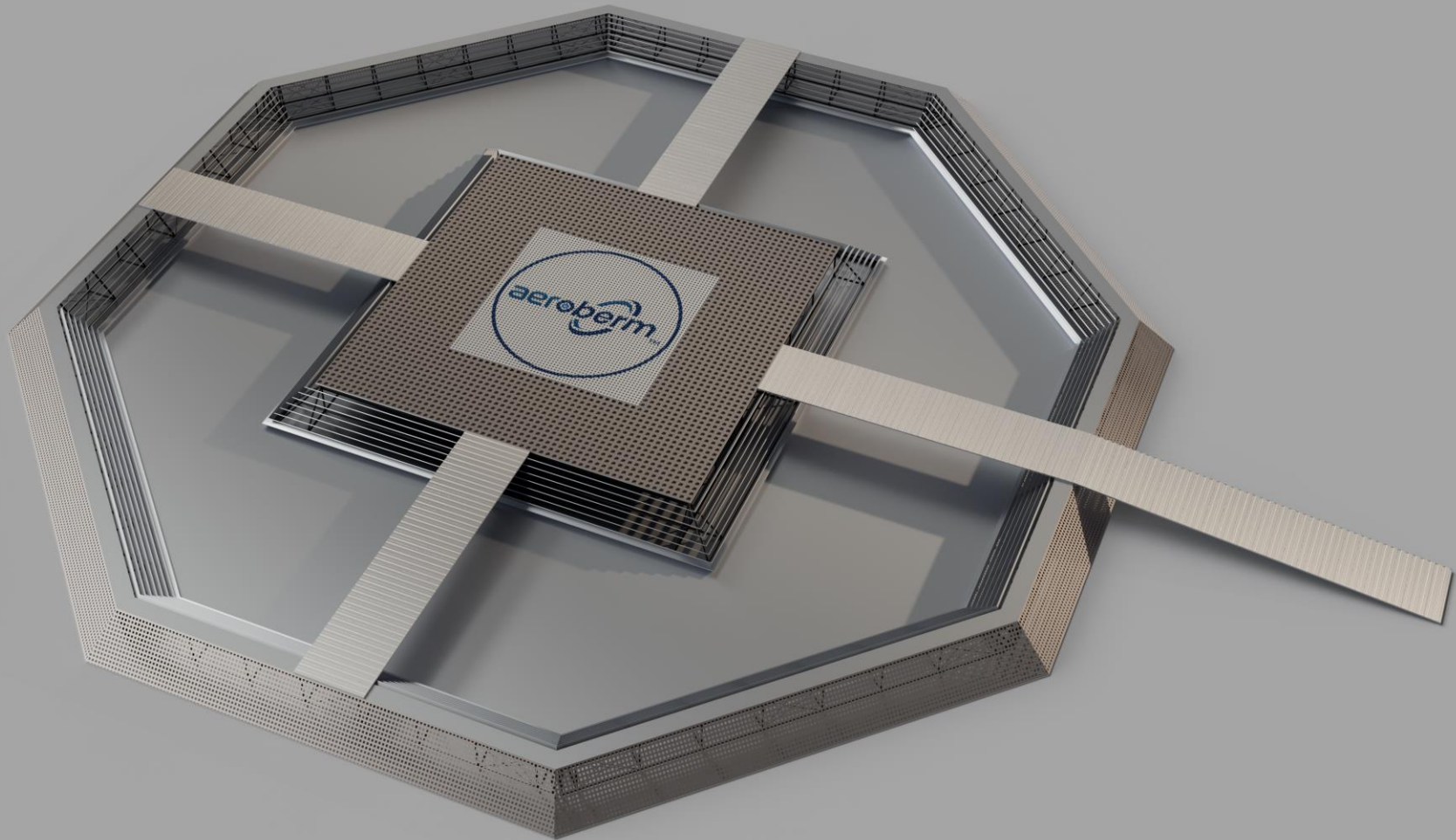
## **ABSTRACT**

This paper presents a computational fluid dynamics (CFD) investigation of vertipad surface configurations for mitigation of e-VTOL rotor outwash. The outwash is modelled as a coherent vortex train embedded in a wall jet, simulated using 2D and 3D Large Eddy Simulation (LES). In 2D simulations, a tilted vane surface is shown to break up the coherent vortex train and induces recirculation beneath the vertipad, producing a sustained viscous energy dissipation rate approximately four times higher than the no-vertipad case. 3D simulations evaluate a novel fractal panel concept, comparing it against flat surface, grated panel, and no-vertipad configurations. The fractal panel produces the highest rates of vortex fragmentation and viscous energy dissipation, with sustained rates 90 % higher than the no-vertipad configuration, and 30 % higher than the next-best-performing grated panel. The results demonstrate that passive vertipad surface modification is an effective outwash mitigation strategy.

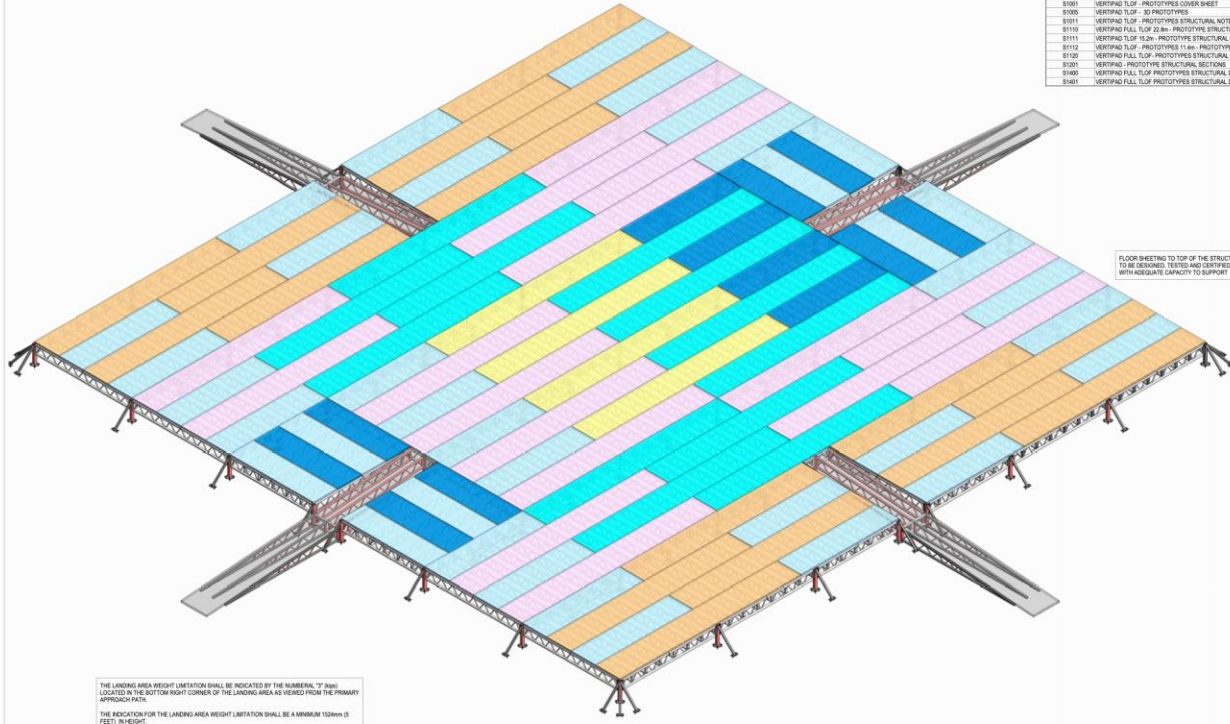
# The Aeroberm™ Fractal Panel design concept



- Fractal spacing in the flow direction targets dissipation across a range of scales
- Waviness to break up and disperse vortices
- Vanes to help redirect flow towards the ground and through the vertipad



STRUCTURAL DRAWING REGISTER		
SHEET NUMBER	SHEET NAME	REV
S1001	VERTIPAD TLOF - PROTOTYPES COVER SHEET	01
S1000	VERTIPAD TLOF - 3D PROTOTYPES	01
S1001	VERTIPAD TLOF - PROTOTYPES STRUCTURAL NOTES - GENERAL	01
S1110	VERTIPAD FULL TLOF 22.8m - PROTOTYPE STRUCTURAL PLANS	01
S1111	VERTIPAD TLOF 15.2m - PROTOTYPE STRUCTURAL PLANS	01
S1112	VERTIPAD TLOF - PROTOTYPES 11.4m - PROTOTYPE STRUCTURAL PLANS	01
S1100	VERTIPAD FULL TLOF - PROTOTYPES STRUCTURAL FLOOR SHEET LAYOUT	01
S2001	VERTIPAD - PROTOTYPE STRUCTURAL SECTIONS	01
S2002	VERTIPAD FULL TLOF PROTOTYPES STRUCTURAL DETAILS - STEEL SHEET 01	01
S2001	VERTIPAD FULL TLOF PROTOTYPES STRUCTURAL DETAILS - STEEL SHEET 02	01



FLOOR SHEETING TO TOP OF THE STRUCTURAL FRAME TO BE DESIGNED, TESTED AND CERTIFIED BY THE MANUFACTURER WITH ADEQUATE CAPACITY TO SUPPORT HYDOL AIRCRAFT

THE LANDING AREA HEIGHT LIMITATION SHALL BE INDICATED BY THE NUMERICAL "T" SIGN LOCATED IN THE BOTTOM RIGHT CORNER OF THE LANDING AREA AS VIEWED FROM THE PRIMARY APPROACH PATH.  
THE INDICATOR FOR THE LANDING AREA HEIGHT LIMITATION SHALL BE A MINIMUM 152mm (6 FEET) IN HEIGHT.

VERTIPAD - PROTOTYPE - 22.8m x 22.8m

THIS FRAME IS INTENDED TO BE USED FOR RESEARCH AND DEVELOPMENT PURPOSES ONLY WITH THE PRELIMINARY INTENTION TO TEST VARIOUS FLOOR GRILL PATTERNS FOR DISSIPATION OF DOWNWASH FORCES.  
THE SIZE OF THE VERTIPAD HAS BEEN DEVELOPED IN REFERENCE TO A REGULATED HELICOPTER LANDING PAD (22.8m x 22.8m) WITH POTENTIAL FOR EXPANSION IN MODULAR CONFIGURATION.

**CAPACITY LOAD BASIS**  
PLATFORMS DESIGNED FOR HYDOL AIRCRAFT TAKE OFF AND LANDING  
FACTOR OF SAFETY = 2.35

VERTIPAD STRUCTURAL FRAME:  
DISTRIBUTED LOAD CAPACITY: 330kpa (200psf)  
CONCENTRATED LOAD CAPACITY: 13.4kn (3.4kn)

REFERENCES  
AIRCRAFT: MAXIMUM TAKE OFF WEIGHT (MTOW) = 2400kg (5300lb)  
1. ENGINEERING BRIEF EB 105 (FAM 2020)  
2. SYSTEMED DESIGN BUILDING CODE - 08-2021 CH 16 - 1007.6  
DISTRIBUTED LOAD CAPACITY = 2.8kPa (60psf)  
CONCENTRATED LOAD CAPACITY = 13.4kn (3.0kips) OVER  
1146mm x 1146mm (4.5' x 4.5')

01 29/03/2020 PRELIMINARY  
REV DATE AMENDMENT

SKYPORTZ PROTOTYPE AUSTRALIA

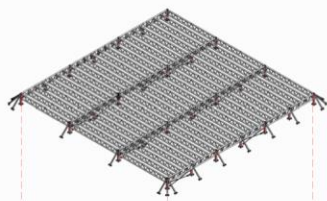
CLIENT



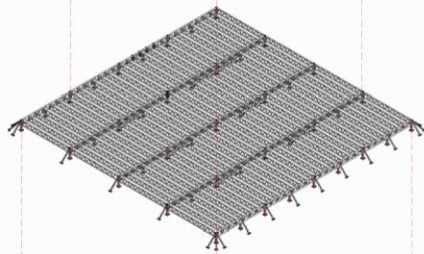
CHECKED APPROVED  
- -  
DESIGNED DRAWN  
SM MJC  
SHEET TITLE

VERTIPAD TLOF - PROTOTYPES COVER SHEET

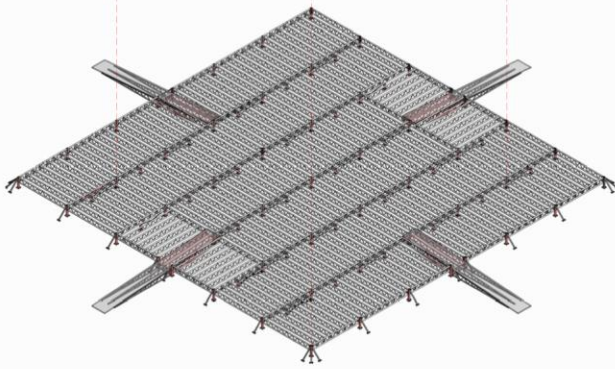
PROJECT NO. SCALE  
10000  
DRAWING NO. REVISION  
S1001 01



3D VIEW 11.4 x 11. PROTOTYPE ON 3.8m STANDARD GRIDS



3D VIEW 15.2 x 15.2 PROTOTYPE ON 3.8m STANDARD GRIDS



VERTIPAD - PROTOTYPE - 22.8m x 22.8m ON 3.8m STANDARD GRIDS

**MODULAR FRAMING SYSTEM**  
 - CONSISTENT LOAD CAPACITY  
 - CONSISTENT COLUMN GRIDS  
 - CONSISTENT BEAM SIZES  
 - CONSISTENT CONNECTION DETAILS

**STANDARISED  
 REPEATABLE  
 PREDICTABLE**

REV	DATE	AMENDMENT
01	29/03/2008	PRELIMINARY

SKYPORTZ PROTOTYPE AUSTRALIA



CHECKED	APPROVED
SM	MJC
DESIGNED	DRAWN
SM	MJC

SHEET TITLE

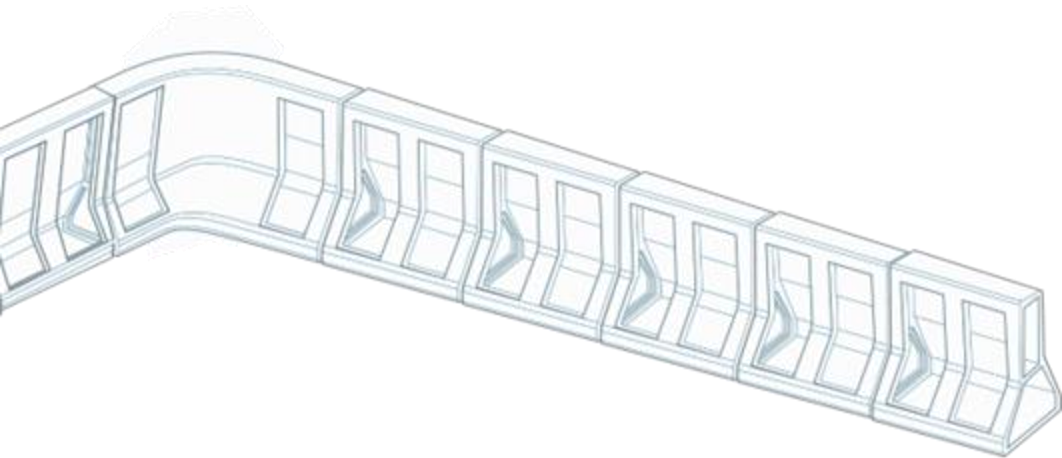
VERTIPAD TLOF - 3D PROTOTYPES

PROJECT NO.	SCALE
DRAWING NO.	REVISION
S1005	01



## 2. ***REDUCTION OF PROPERTY FOOTPRINT REQUIREMENTS***

- Due to controlled turbulence, vertipads can be placed in more confined sites and also safely be placed closer together in multi-pad sites.
- Reduces capital cost of land required and/or enables more intensive use of the property footprint.

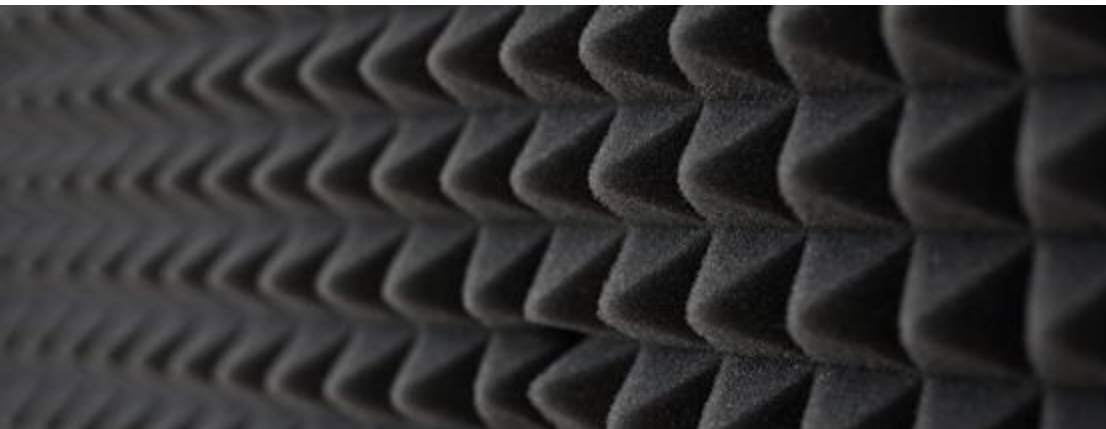


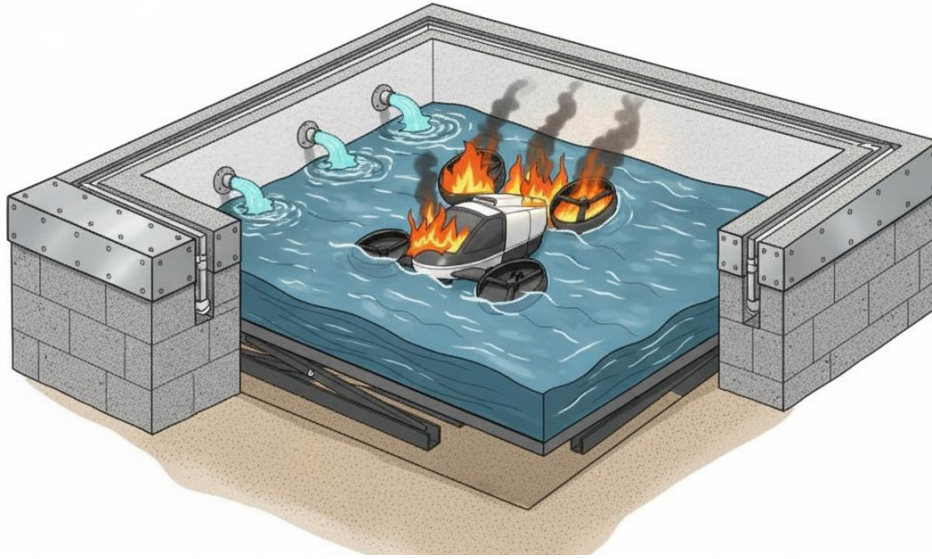
# ***NOISE REDUCTION***

- Aircraft noise increases closer to the ground

<https://aerospaceamerica.aiaa.org/study-points-to-ideas-for-reducing-noise-at-the-coming-air-taxi-vertiports/>

- The various shapes, fins, vents and grates reduce and channel the noise away from sensitive areas.
- Reduced noise means vertiports may be acceptably established in more locations and help to gain community acceptance.





# ***FIREFIGHTING***

**There is no way to extinguish a battery fire through spraying water or foam.**

**Immersion in water is the ONLY way to extinguish a battery fire to flood the cells and halt thermal runaway.**

“Is dunking an aircraft in water really the best we can do?

It sounds dramatic, but there’s a strong case that total immersion may be the only method that actually stops a lithium-ion battery fire dead in its tracks, rather than merely containing it”

David Ison PhD  
Aviation Planner  
Washington State Department of Transportation.

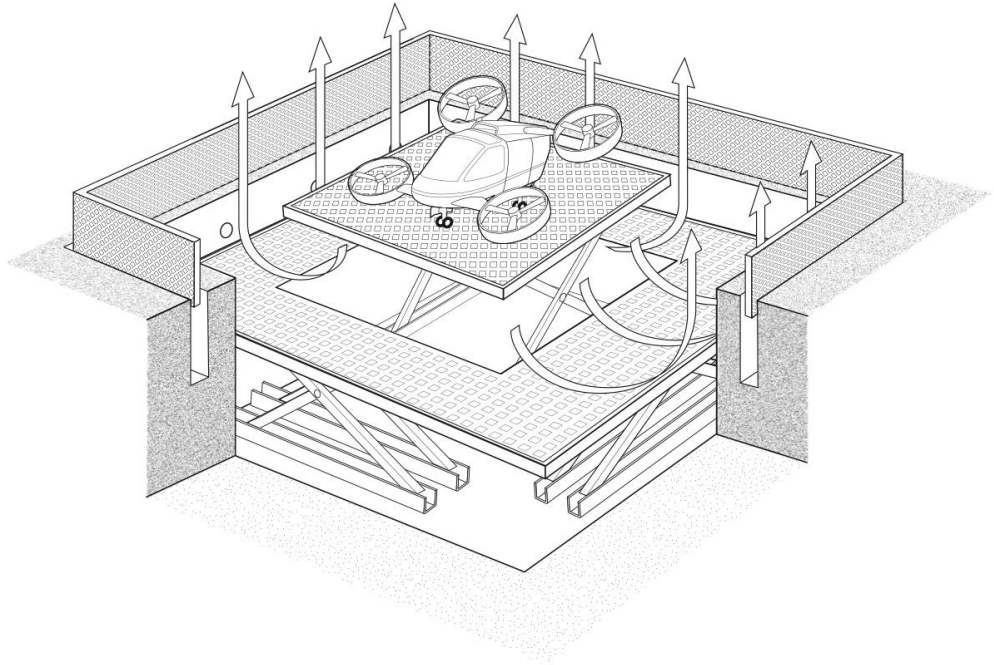




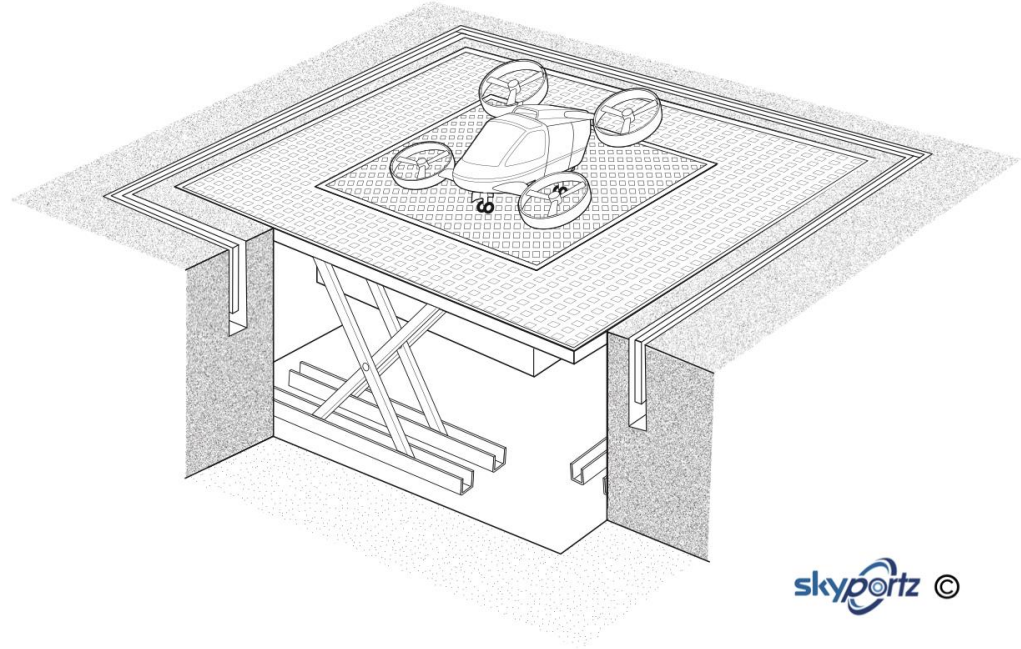
# ***ENVIRONMENTAL IMPACT FOLLOWING FIRE SUPPRESSION***

- **Water and other substances used to suppress fires become contaminated and are toxic to the environment.**
- **Water used in the sprinkler system and the Fireberm™ collects under the vertipad in a holding basin for pumping and safe disposal.**

New patent  
release:  
Airport  
vertiport

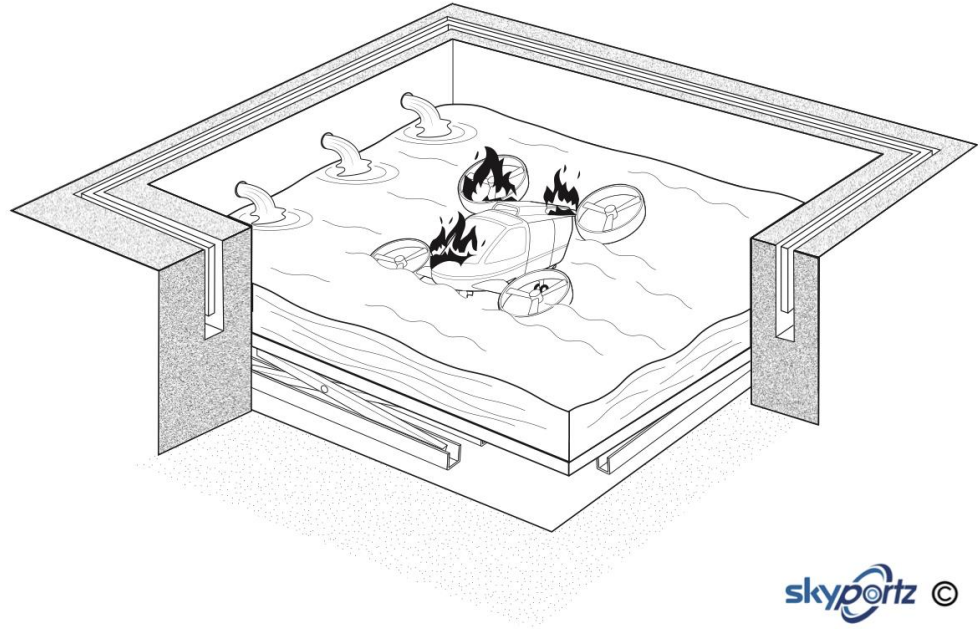


Ground level  
roll on / roll  
off



skyportz ©

Immersion  
pit for  
battery fires



# *Insurance premium reductions*

“Vertiports bring a complex risk profile for insurers to assess. Some risks will be unique to electrified aviation such as charging and battery fires, though other risks are likely to be carried over from conventional aerodromes.

Vertiport designers can therefore maximise safety by learning from the factors that have historically led to insurance losses at conventional aerodromes. The Skyportz design is an example of this principle, addressing three of the more common risk trends (though this list is by no means comprehensive):

- 1) Collision of ground vehicles with aircraft. The physical barrier surrounding the TLOF area increases separation.
- 2) Bodily injury caused by impact with propellers or rotors. The raised TLOF area of the Skyportz design may reduce the likelihood of people accidentally walking into dangerous areas.
- 3) Collision of aircraft with other aircraft. Physical barriers between the separate Skyportz TLOF areas may help to increase separation between aircraft movements”

**Alistair Blundy**  
**CEO and Lead Underwriter**

**Advanced Technology Assurance**  
Leaders in AAM Insurance

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3 June 2026 • 9am - 4pm



*(A Skyportz company)*

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[www.aeroberm.com](http://www.aeroberm.com)