

PortalWall® Valuation & Business Plan

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(Please destroy all prior versions, including the draft dated September 9, 2025.)

Extreme Energy Efficiency — Responsible Deployment via the PortalWall® System

The original WDSATM design, without vertical framing, combines **continuous thermal modules and heat-sink, air & water barrier, and structural diaphragm surfaces, perfectly adjacent to and aligned with each other**, together with managed airflow and vapor stability in one unified solution. This foundational design has since been **enhanced through a new patent, PortalWall® ParallelsTM**, which extends the original spandrel assembly logic and **structurally reinforces and protects the thermal modules of the system**.

Keys to Energy Savings

The keys to energy savings are **robust thermal modules** — but there is more we can do. PortalWall® integrates these modules with **heat-sink, air barrier, water barrier, and structural diaphragm surfaces** — a **multiplicity of uses from one part** — all perfectly aligned with managed airflow and vapor stability. This makes the system not only thermally efficient but also stable, durable, health-supportive, and an **economical choice**.



Yonatan Zvi Margalit - 1 | Page
9/10/2025

1. Executive Summary

One of the keys to energy savings is preserving the latent energy stored in indoor water vapor. By keeping hidden surfaces outside the occupied zones above the dew point, vapor remains aloft instead of collapsing into condensation. That retained latent energy reduces heating and cooling demand, stabilizes indoor temperature, and minimizes energy waste.

This principle has been formalized as **WVATM (Water Vapor AloftTM)**. Rather than treating relative humidity as an abstract metric, WVATM defines a condition where vapor remains suspended in the occupied space instead of migrating into hidden cavities.

At the same time, PortalWall® protects occupant health, preserves artwork and furnishings, prevents mold, and ensures enclosure durability. With PortalWall®, the envelope isn't just a barrier — it is an active part of the building's performance.

There are two main components: **PortalWall® Fortified Opaque InfillTM** and the **PortalWall® WDSATM (Water Draining Spandrel Assembly)**. The benefits of this approach have been made clear in the granted patent **US 10,329,758 B2**. It is inexpensive to procure, assemble, and install — all key to deployment.

Valuation (September 2025):

- Present value: ~ \$10 million (conservative baseline).
- Five-year licensing revenue scenarios:
 - o \$15–30 million (low adoption)
 - o ~\$50 million (moderate adoption)
 - o \$100 million+ (high adoption)

Pathway Forward:

- Licensing agreements to scale quickly.
- Direct demonstration projects to show proof in real buildings.
- Sales origination by key enterprise stakeholders.



2. Intellectual Property

- **Granted Patent:** US 10,329,758 B2 — *Water Draining Spandrel Assembly & Insulated Panel Window Walls*.
- **Earlier Filings (2019):** Lock in priority and provide additional protection.
- **New Filings (2025):**
 - DelugeWall™
 - PortalWall® Parallels™
 - Extrusion Shapes (GEN3 dies and related profiles)
- **Trademarks Owned:** PortalWall®, Active-Wall™, DelugeWall™, ZUZALogic™, ZUZATherm™, Freed™ Air, MC²™, **PortalWall® Fortified Opaque Infill™**, WVA™, Opaque Infill™, and others listed in the “Public Documents” section of the website.
- **Trade Secrets:** GEN3 extrusion dies, condensation-management methods, and PortalWall® software design.

Note: All patents have been **applied for and are owned by the inventor, Yonatan Zvi Margalit, as an individual**. No rights have ever been transferred or assigned.

2A. Software Readiness

PortalWall® has a clear software plan first mapped out in 2018–2019. It is not fully built yet, but the roadmap is defined and can be completed quickly, especially now that AI tools make development faster and cheaper.

3. Science and Market Basis

The goal is simple: **deploy extreme thermal efficiency responsibly** — stop water vapor from leaving occupied spaces by keeping hidden surface temperature above the dew point. This way, the



latent energy stored in water vapor remains aloft in the occupied spaces — where it helps maintain temperature and stable, healthy conditions — instead of collapsing into condensation in hidden spaces.

PortalWall® holds the promise to achieve all of this efficiently — and to make it near to the job sites, a key metric in LEED, and in our case, here in the USA, the market we are focusing on now.

This principle has been formalized as **WVATM (Water Vapor AloftTM)**. Rather than treating relative humidity as an abstract metric, WVATM defines a condition where vapor remains suspended in the occupied space instead of migrating into hidden cavities. By keeping hidden surfaces above the dew point, WVATM ensures that vapor remains in the **breathing zone of the occupied space**. This is important for both **respiratory and general health**: stable indoor vapor supports the body's natural defenses, reduces airway irritation, and prevents the excessively dry conditions that contribute to illness. At the same time, keeping vapor in the breathing zone helps protect furnishings, artwork, and finishes from premature drying and damage.

B-Fluid has begun performing CFD analyses and issuing results. Early findings confirm that the system performs as designed, with little pressure drop in the airflow. These results align with the broader body of evidence supporting PortalWall®.

PortalWall® gives design teams and engineers practical tools. Airflow through the system creates buoyancy, lifting vapor away from surfaces that might otherwise cool below the dew point. The CFD testing confirms that portals built into the dry-side reinforcement do not block airflow in any meaningful way. The air moves as it should, and the system remains balanced.

Supporting Research:

- Dr. Stephanie Taylor: Indoor humidity at 40–60% improves health.
- Dr. Joseph Allen (Harvard): Clean air improves thinking and performance.
- Dr. Cristina Paduano: Endorses PortalWall® for reducing condensation risk.
- B-Fluid CFD analysis: Confirms PortalWall® keeps hidden surfaces dry.
- NYSERDA (2019): Submission showed extreme energy savings and integration with heat pumps.



In plain terms: PortalWall® ensures that hidden surfaces do not become cold traps. Instead, they remain part of the stable, reinforced system through the combined logic of WVATM and PortalWall® Fortified Opaque InfillTM.

4. How PortalWall® Is Different

- **Whole-wall logic:** Manages both visible and hidden areas.
- **WVATM (Water Vapor AloftTM):** Turns relative humidity into a tangible design condition.
- **PortalWall® Fortified Opaque InfillTM:** Branded opaque wall component that integrates reinforcement, thermal stability, and condensation control.
- **Beyond HVAC limits:** Protects hidden surfaces that mechanical systems do not address.
- **First of its kind:** No other system integrates these elements into a unified façade solution.

Competition:

- **Dextall:** Basic stud wall with mineral wool, built overseas, no known patents, no durability track record.
 - **Big manufacturers (Arconic, YKK, Kawneer, Schüco, Apogee):** Conventional methods, not a complete solution, no practical IP.
 - **PortalWall®:** Defined by MC²_{TM} logic (two major components), protected by US 10,329,758 B2 and trademarks (including WVATM and Fortified Opaque InfillTM). Assembly steps (see Figure 11 of US 10,329,758 B2) distill opaque façade construction into low-cost, scalable processes.
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5. Go-to-Market Plan

Licensing

- Non-exclusive agreements by geography or product category.
 - Royalties provide recurring income.
 - Sales originating fees add additional recurring income.
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Yonatan Zvi Margalit - 5 | Page
9/10/2025

- All IP remains under the inventor's control.

Licensing History

- Shared with The Related Companies' Head of Acquisitions in 2019, and with CEO Jeff Blau more recently.
- Communicated to Dextall's CEO in writing that I am the sole point of contact.
- Ongoing discussions with Kingspan (current supplier, potential partner).

Direct Demonstration Projects

- Pilot towers, municipal retrofits, and targeted partnerships to validate performance.

Supply Chain Readiness

- **KEYMARK** (extrusions)
- **KINGSPAN** (thermal modules)
- **Marino-Ware** (PortalSteelTM studs)
- Assembly partners committed (details confidential).

6. Financials and Valuation

Current Valuation

- Present value: ~ \$10 million (conservative baseline).

Revenue Model

1. Originating sales opportunities — direct project origination and supply-chain engagement.
2. Licensing agreements — structured by geography or product category, generating recurring royalties.

Five-Year Licensing Revenue Scenarios



- Low adoption: \$15–30 million
- Moderate adoption: ~\$50 million
- High adoption: \$100 million+

Capital Requirements

- Immediate need: \$2 million for GEN3 dies, prototypes, performance testing, marketing, and legal/IP protection.

Value Proposition

PortalWall® is applicable across a wide range of projects and markets. Built from proven components and reinforced by patents and trademarks (**WVATM**, **PortalWall® Fortified Opaque InfillTM**, **MC²TM**), it offers durability and IP protection lacking in low-cost imports.

7. Ownership and Rights

I, **Yonatan Zvi Margalit**, am the sole inventor and owner of PortalWall®.

- All patents have been applied for and are owned by me personally, as an individual inventor.
 - No rights have ever been transferred or assigned.
 - All patents, trademarks, and trade secrets remain under my ownership.
 - Licensing is non-exclusive and strictly controlled.
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8. Brand and Communication

PortalWall® has a strong public voice, supported by LinkedIn publications explaining the science in clear terms. These have generated interest from suppliers, consultants, and investors.

Topics Communicated:

- Why vapor control matters.
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Yonatan Zvi Margalit - 7 | Page
9/10/2025

- **WVA™ (Water Vapor Aloft™):** Reframing relative humidity as a practical condition.
 - **PortalWall® Fortified Opaque Infill™.**
 - NYSERDA submission (2019).
 - My industry history (since 1984).
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9. Next Steps

- System performance has been independently verified through B-Fluid CFD analysis.
 - Engineering judgments have been discussed and testing protocols defined with accredited labs.
 - **B-Fluid is continuing with final engineering simulations, including CFD for interior pressurized walls and rain, wind, and drainage performance.**
 - Lab testing will now provide conventional proof and certification.
 - Release GEN3 extrusion dies into production.
 - Expand supply-chain and partner commitments.
 - Secure and execute demonstration projects.
 - Raise **\$2 million** in capital to fund prototypes, testing, marketing, and legal/IP protection.
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Respectfully submitted,

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Yonatan Zvi Margalit - 8 | Page
9/10/2025