

 **ThermoVerse**



ThermoVerse

Where Building Intelligence Meets Grid Resilience





Unlocked Capacity

**1 MWh Tesla
Megapack's Worth**

= 40 EV chargers | 100 TWh VPP



Our Story

Genesis of the Business

From Ph.D. Engineer facing heat-stress during the pandemic to industry leader shaping the grid edge for AI expansion.



\$ 1.3 million

Raised significant non-dilutive grant funding



2 Patents

Secured for the world's most compact, in-unit thermal storage



First Revenue

Earned first revenue within 1 year of product development



Problem

AI data center



AI data center energy usage by 2026

= 100,000
households

- *Pew Research Center*



Who's Impacted

- Building owners
- Residents
- Municipalities
- Utilities

267%

increase in energy
cost **shared by**
utility customers





LATCHES™

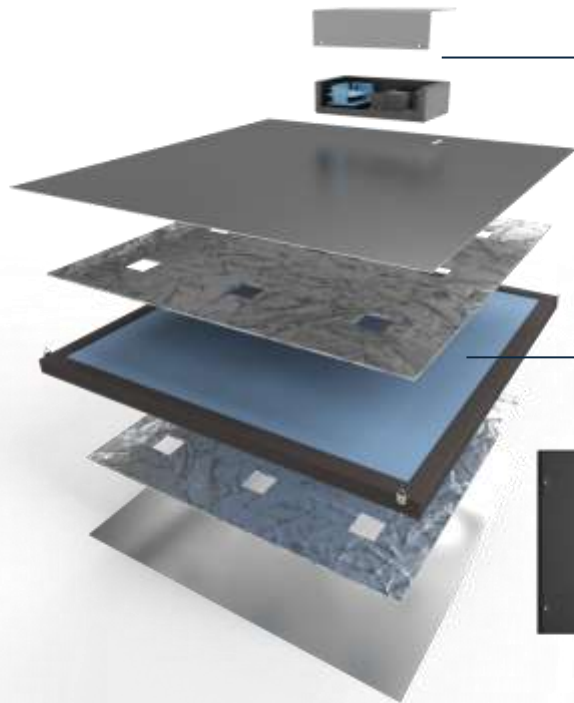
**The World's Most Compact,
Thermal Battery** that is
integrated behind-the-meter
to manage peak HVAC
demand.

Booth #942!





Faster. Cheaper. Scalable Capacity.



- **Smart Controller**

Use smart control to intelligently move heat so that we don't have to rely heavily on the HVAC.

- **Tunable Thermal Storage**

Absorbs heat and cold and release the energy to maintain temperature.

- **Seamless Integration**

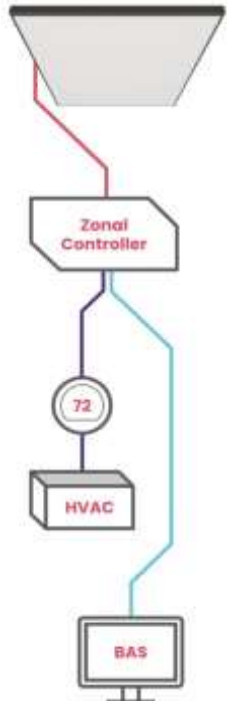
Integrates seamlessly with existing building systems for easy installation and to enabled advanced control strategies.



Differentiation

LATCHES

Passive TES



Features	ThermoVerse	ThermaCool	Energain by Dupont	Templok by Armstrong	AIRTITE Radiant Ceiling Systems by Metalworks	SHIFT Thermal
Active Temperature Regulation	✓	X	X	X	✓	
Demand Response*	✓	X	X	X	X	✓
Time-of-use (TOU) rates Optimization*	✓	X	X	X	X	✓
Thermal Storage	✓	✓		✓		✓
Seamless Integration	✓				✓	✓
Compact	✓	✓	✓	✓	✓	
Maintenance-Free	✓	✓	✓	✓	✓	

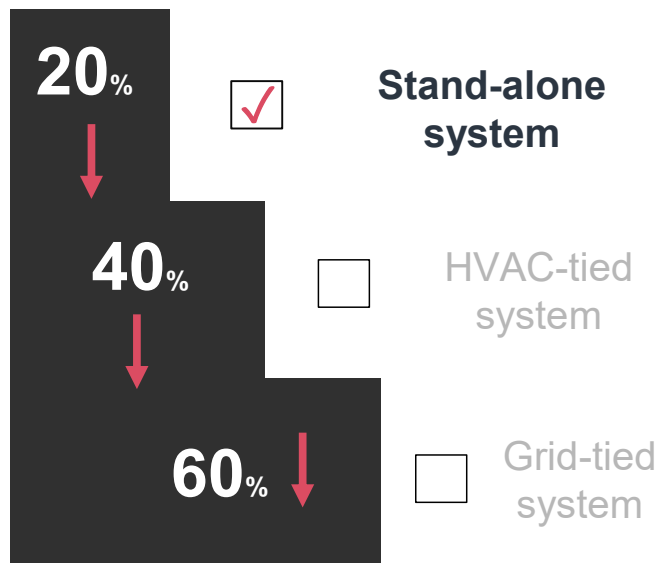
*Grid-interactive features

Dispatchable
TES



Tech Validation

Small-scale pilot launched in commercial building in Detroit, MI, a market with a 19 M ft² retrofit potential.

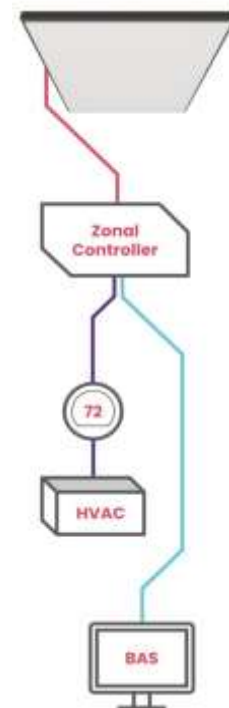


Target ROI

15 years

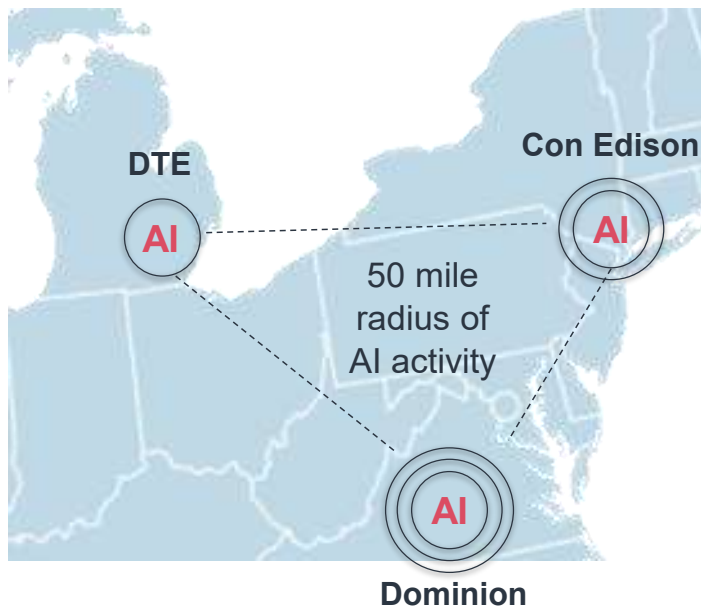
8 years

3 years

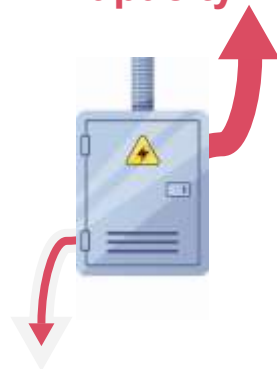


Path Forward

Active deployment in commercial buildings across MISO / PJM / NYISO in 2027.



**1 MWh Surplus
Capacity**



**More electrical
headroom!**

2026

Partner with utilities to provide 40-60% discounted pilots

2027

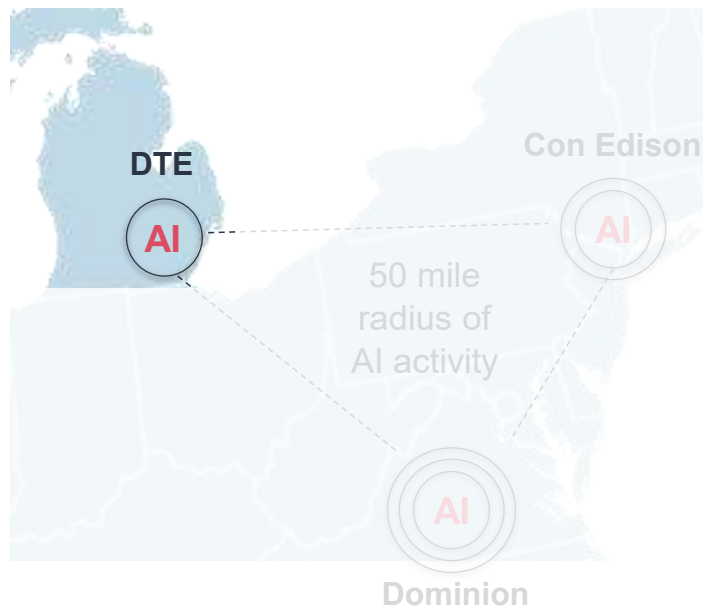
Produce and distribute LATCHES across MISO / PJM.

2028

Aggregate demand through hardware-enabled EMaaS.*

Use Case: “MI”

For **market-driven buyers**, we are showing how **1 MWh Surplus** can be redirected.



**1 MWh Surplus
Capacity**



2026

Completed 4 ceiling tiles pilot as a standalone system

2027

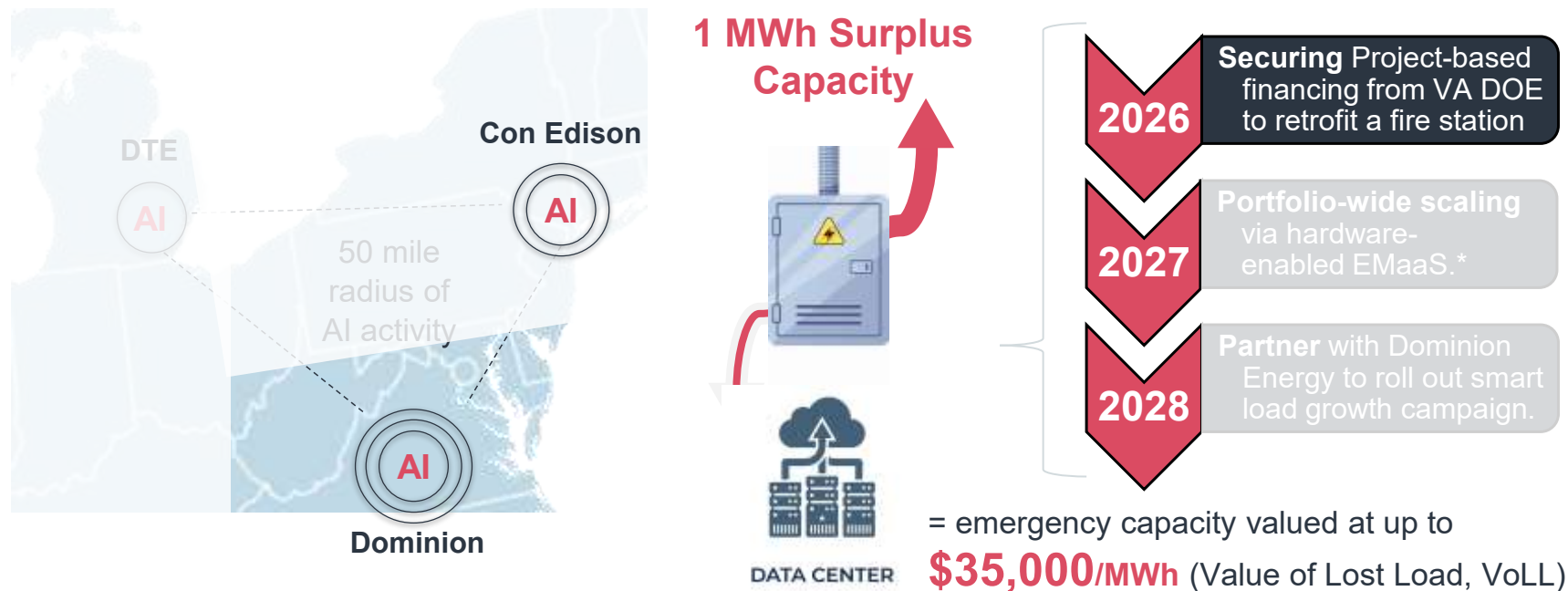
Produce LATCHES to grow from a 100 ceiling tiles pilot to portfolio

2028

Partner with DTE to provide 40-60% rebates / incentives.

Use Case: “VA”

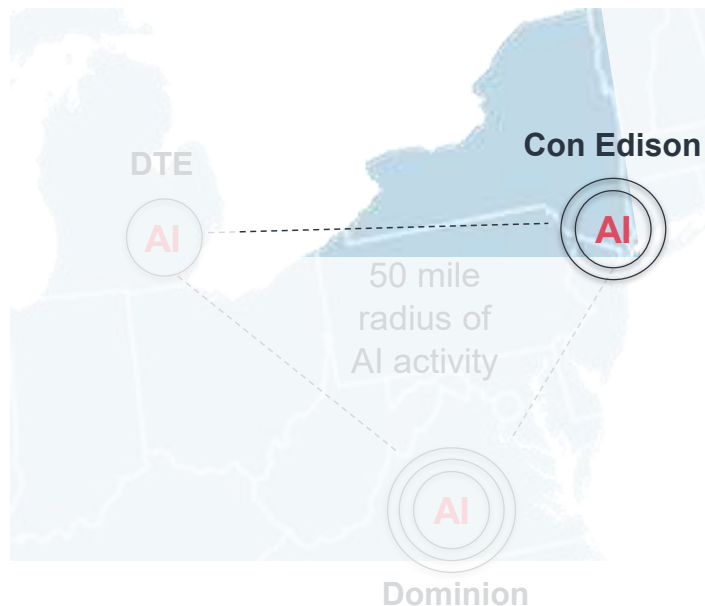
For **AI-driven buyers**, we are showing how **1 MWh Surplus** enhances grid resilience.





Use Case: “NY”

For **sustainability-driven buyers**, we are showing how **1 MWh Surplus** reduces fines.



**1 MWh Surplus
Capacity**



2026

Site/ project scoping
with NYC customer

2027

**Partner with ConEd /
Willdan to provide
60% discounted pilot**

2028

Portfolio-wide scaling
via hardware- enabled
EMaaS.*

1 metric ton of *regulatory* CO₂ daily
= \$100,000 avoided LL97 fines

Team

- 1 Seasoned HVAC Professional
- 2 Manufacturing & Supply Chain Experts
- 3 Certified BPI Building Analyst Professionals
- 5⁺¹ Impact-driven, First-principles engineers

One Mission!

Business Development



Dr. Shantonio Birch,
Founder & CEO



Harnieka Rachmala, MBA,
Engineering & Business Op.



Fang Xie, MBA
Account Executive



Paixun Lin, MSc,
Controls Engineer



Sainadh Sathi, MSc,
Manufacturing Engin.



Khush Kapadia, MSc,
HVAC Engineer



Research & Development

Hidden Grid Capacity

Thermal Storage = faster,



cheaper,



scalable capacity





Shantonio Birch | CEO & Founder

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Booth #942!

Thank You!

Partnerships



U.S. DEPARTMENT OF
ENERGY



CORPS
NSF Innovation Corps

INNOVATION
CROSSROADS
ORNL INNOVATION ACCELERATOR



**THE
ENGINE**
Built by MIT

Newlab
MICHIGAN CENTRAL

**Michigan
SBDC**

NYC / EDC



Accelerator
CENTROPOLIS
at Lawrence Technological University

**urban tech
xchange**

SyracuseCoE
Syracuse University
Environmental and Energy Systems
New York State's Center of Excellence

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ACCELERATOR**

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pin partnership
for inclusive
innovation

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