
A Domistat Initiative
VOLUMATRIX: The New Geometry of Solar
Extending the Daily Harvest Window through 3D Tracking
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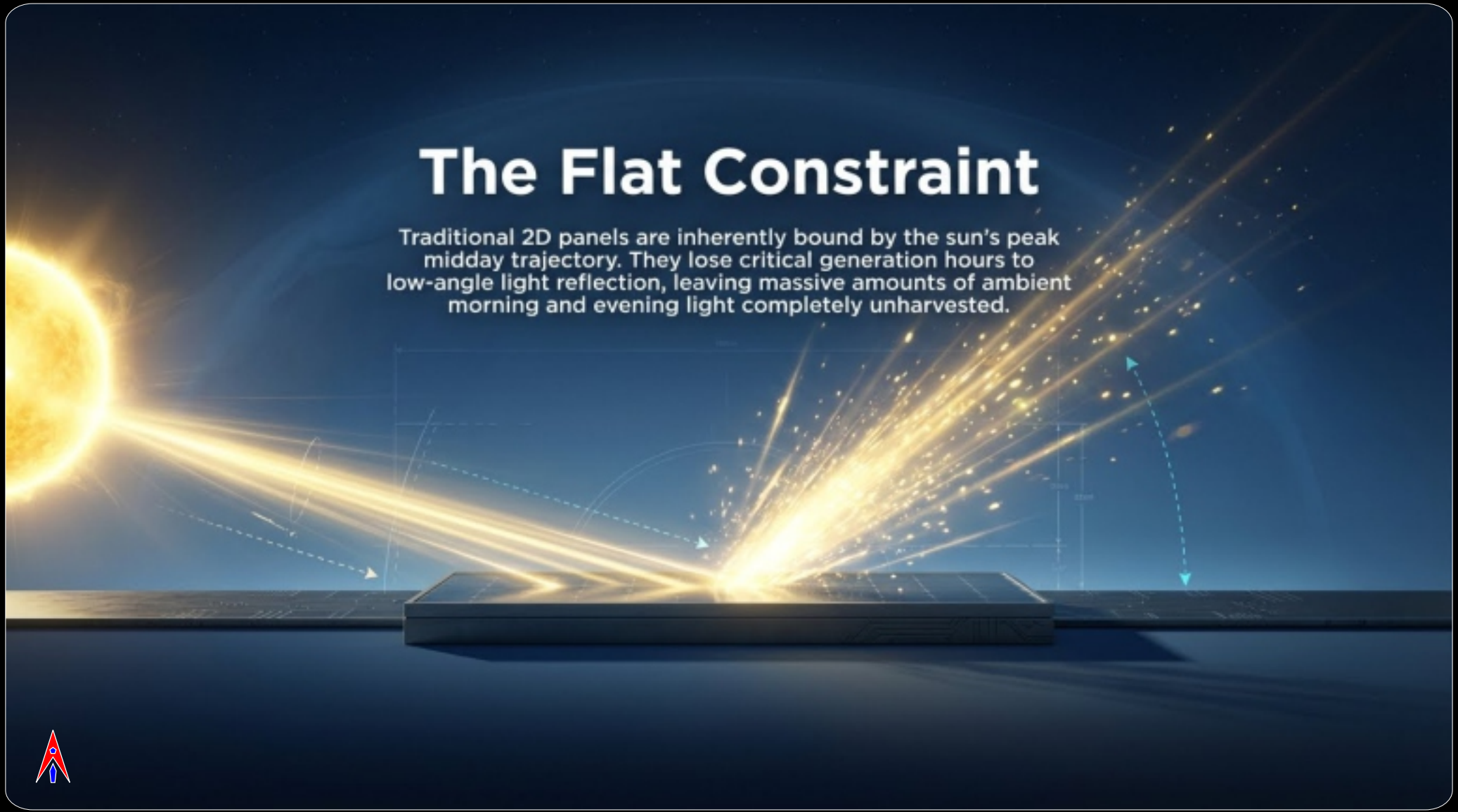

The Flat Constraint
Traditional 2D panels are inherently bound by the sun's peak midday trajectory. They lose critical generation hours to low-angle light reflection, leaving massive amounts of ambient morning and evening light completely unharvested.

VOLUMETRIC SOLAR HARVESTING

By combining omnidirectional geometry with intelligent tracking, we stop waiting for the sun to peak and start following it.

THE MIT FOUNDATION

Based on core MIT research, simple 3D configurations capture multi-surface exposure through internal reflections.

THE OMNIDIRECTIONAL MULTIPLIER

Multi-faced geometric designs generate 2 to 20 times more power per base area than traditional flat panels, specifically excelling in low-light and non-equatorial conditions.

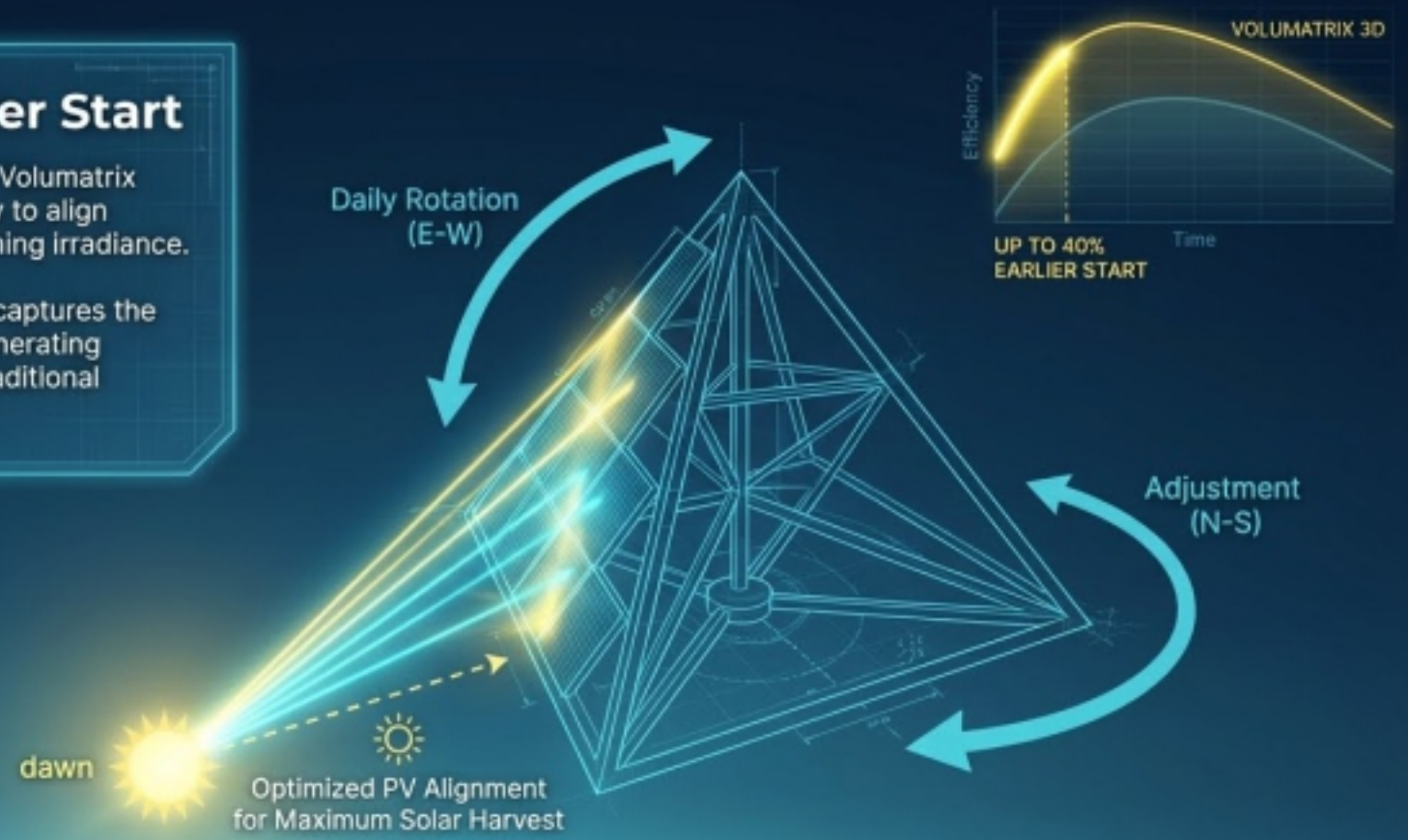
The Extended Harvest Window

Redefining the boundaries of daily solar generation. Output remains consistent from dawn to dusk, effectively doubling peak generation hours without relying on massive horizontal land expansion.

Up to 40% Earlier Start

While flat panels lie dormant, Volumatrix E-W tracking rotates the array to align vertically with low-angle morning irradiance.

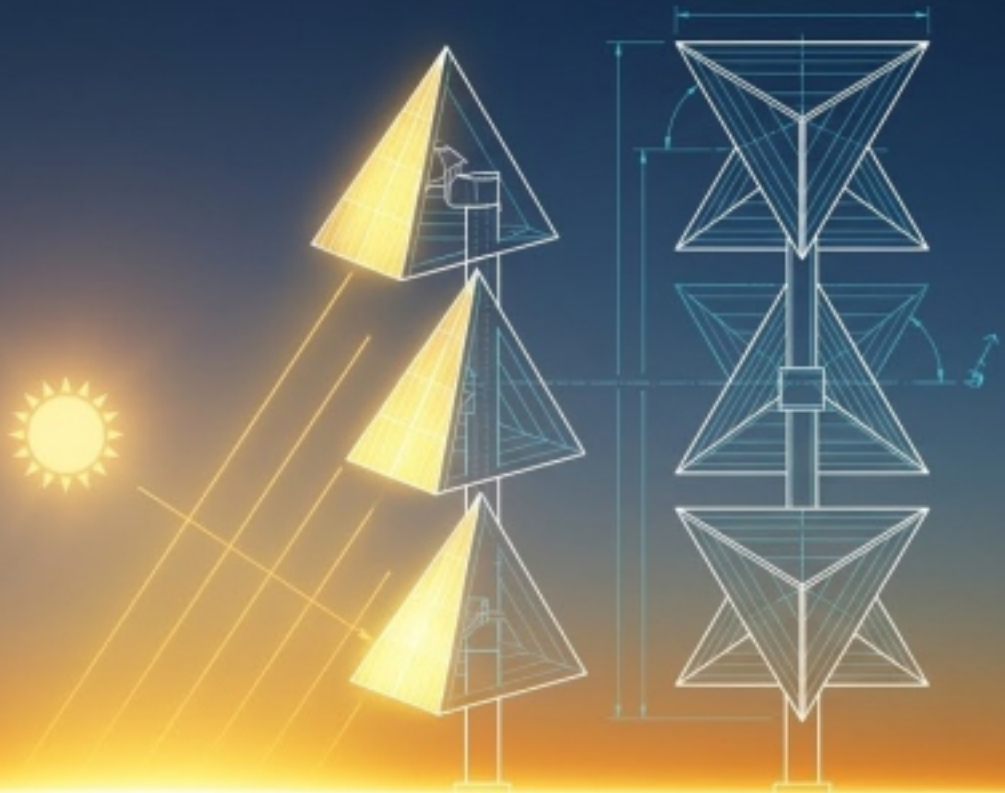
This optimized PV alignment captures the earliest available photons, generating usable power hours before traditional systems wake up.



150-200% Higher Peak Density

Vertical scaling unlocks spatial efficiency. Stacking solar cells geometrically multiplies photon absorption per acre. Even under suboptimal cloud cover, the multi-surface exposure captures vastly more energy within the exact same land footprint.

The Luminous Horizon



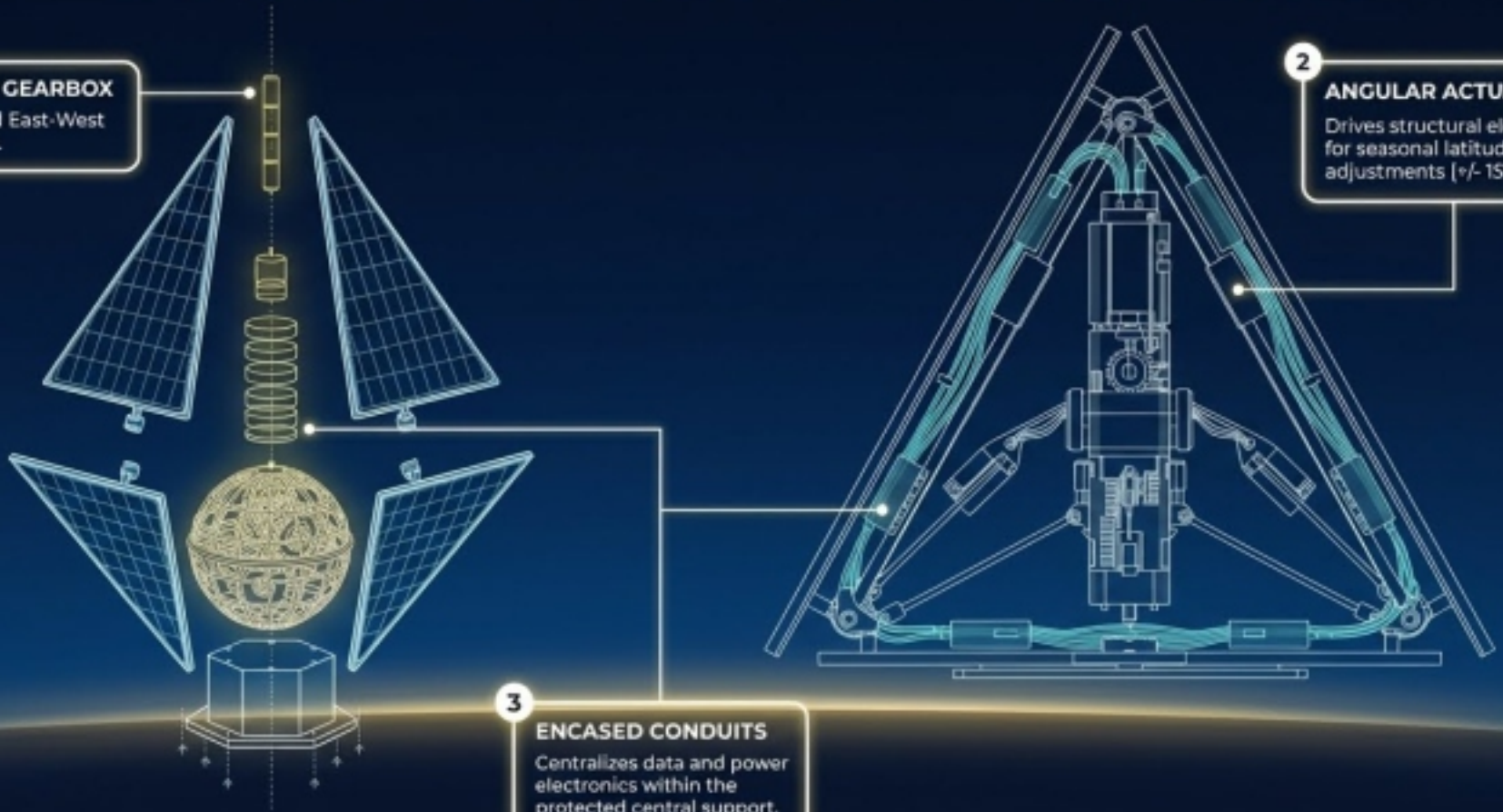
Up to 30% Later Shutdown

The system mechanically stretches for the final rays of sun, adapting its face view perfectly to the horizon.

Grid Impact: The Duck Curve Antidote

This extended generation bridges the critical gap during peak evening grid demand, **improving overall grid integration via highly predictable, late-day generation.**

THE MECHANICS OF MOTION



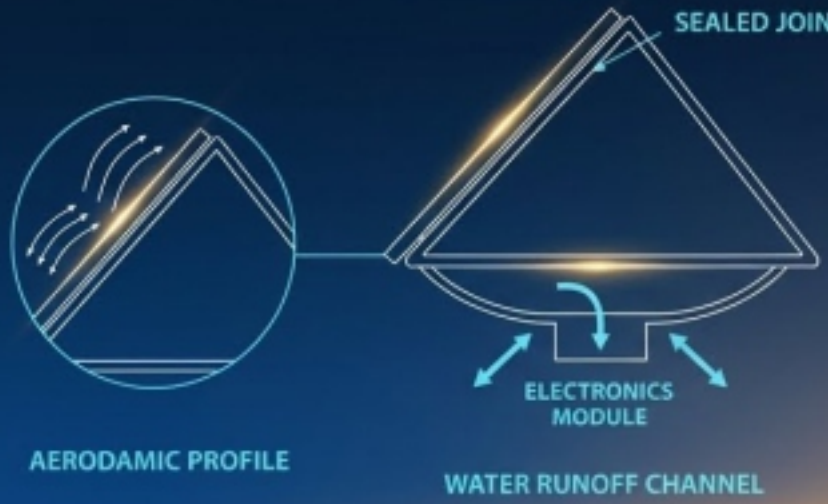
1 **ROTATION GEARBOX**
Enables fluid East-West daily pursuit.

2 **ANGULAR ACTUATORS**
Drives structural elevation for seasonal latitude adjustments (+/- 15° range).

3 **ENCASED CONDUITS**
Centralizes data and power electronics within the protected central support.

Uninterrupted Operation

The extended harvest window isn't closed by adverse weather. Sealed aerodynamic profiles seamlessly shed water and minimize wind resistance. In extreme conditions, hydraulic pistons deploy a low-profile stowed position, reducing surface area to ensure structural survival.



Wind/Precipitation Stowed Position:
Minimized Surface Area

Modular Deployment at Grid Scale

Designed for rapid scalability. Accordion-style, flat-pack deployable units—utilizing standard high-efficiency panels like the SUNO K (345Wp)—link via **underground power conduits**. Systems effortlessly scale from 100kWp single remote units to 5MWp+ commercial arrays overseen by a Master Power Distribution Unit.

The Three-Dimensional Advantage

	Traditional 2D Flat	Volumatrix 3D
Daily Start Time	Late Morning	Up to 40% Earlier
Daily Shutdown	Early Evening	Up to 30% Later
Energy Per Acre	1X Baseline	1.5X - 2X (150-200% Higher)
Grid Integration	Volatile (Duck Curve)	Consistent & Predictable


Maximize Every Ray.
Every Minute. Every Acre.