HOORDAD ENERGY

# HOORDAD ENERGY ORBIT

## Physics-informed operational intelligence for buildings.

- Understand building conditions.
- Anticipate change.
- Recommend bounded actions.
- Verify outcomes.

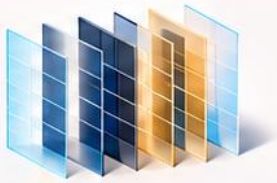



***Nature's Wisdom.***
***Tomorrow's Architecture.***

**ORBIT**
Operational intelligence
Now




**PRISM**
Active surfaces
R&D



**ATLAS**
Portfolio intelligence
Future



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# The Missing Intelligence Layer

Buildings generate data, but rarely turn it into verified operational decisions.

The building market is full of fragmented systems: BMS, HVAC, PV, sensors, meters, dashboards and ESG tools. But they rarely operate as one continuous intelligence loop.



01 Measurement → 02 Decision → 03 Action → 04 Proof

### Fragmented measurement
Data lives in silos with inconsistent quality and limited context.

### Slow decision-making
Manual analysis and static rules delay or block action.

### Isolated action
Systems act alone without coordination or optimization.

### Missing performance proof
No verified outcomes, baselines or audit-ready impact trail.

### Underused glass/ façade potential
Façades generate data and energy, but intelligence is missing.

**The opportunity is not only to collect building data. It is to make buildings act, prove and improve.**

- Software-first de-risking
- Measurable control loop
- Pilot-driven proof path
- Strategic fit with glass, energy & automation players

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# Cooler, Smarter, Measurable Buildings

## Produce. Temper. Prove.

Hoordad turns buildings into controllable, comfortable and verifiable energy assets.



### Orbit
AI operational intelligence

Control • Optimize • Prove

First commercial product

### Prism
Active surfaces

Produce • Tint • Display

Photovoltaic and adaptive glazing expansion

### Atlas
Portfolio intelligence

Compare • Optimize • Supervise

Multi-site performance layer

**Hoordad AI is not generic generative AI.**
It is operational, edge-aware, energy-focused and measurable.

**Vector**
Real-time decision intelligence

**Horizon**
Predictive intelligence

Both integrated into Orbit.

Hoordad dynamically manages light, heat and indoor comfort, with measurable proof.

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# The Market Is Accelerating

The building is becoming the next **active energy infrastructure.**

**Buildings account for approximately 40% of energy consumption in the European Union.**

Source: European Commission.



### Regulatory pressure

EPBD, tertiary building obligations, CSRD, energy-performance reporting

### Energy volatility

Rising pressure on operating costs, comfort, cooling and resilience

### Electrification

HVAC, mobility, storage and local energy make buildings harder to orchsetrate

### AI and automation

The value shifts from passive reporting to measurable control

As buildings become more active, energy decisions must become **more coordinated** and **verifiable.**

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# From Pilot Revenue to Recurring Software Value

Integration opens **access** to the building. Software creates **recurrence.** Verified results support **expansion.**



## 01 PILOT & INTEGRATION

- Site qualification
- Interfaces and connectivity
- Configuration
- Deployment

**Project revenue**

## 02 ORBIT SUBSCRIPTION

- Software as a Service (SaaS)
- Monitoring and forecasting
- Decision support
- Reporting

**Recurring revenue**

## 03 ADVANCED SERVICES

- Measurement and verification (M&V)
- Additional integrations
- Advanced analysis

**Complementary revenue**

**Recurring value**

- **Better-informed comfort management**
- **Coordinated energy decisions**
- **Documented and verifiable outcomes**

Customer → Integration → Software Service → Renewal

## Future Extensions

- **PRISM** — Active-surfaces R&D
- **ATLAS** — Future portfolio intelligence

*Outside the current recurring-revenue base*

*Field integration creates the first revenue. Software creates **recurrence.***

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# A Rare Convergence

The market still separates what Hoordad connects:
AI, active envelope, energy control and proof.

| Category | Main Limitation | What Is Missing |
|---|---|---|
| BMS / BEMS | Heavy systems | Limited AI-native intelligence |
| EMS software | Dashboards | Limited operational proof |
| BIPV / glass players | Specialized hardware | Limited data and AI layer |
| ESG platforms | Reporting | Limited real-time control |
| **Hoordad** | **AI + active envelope** | **Proof + traceability** |




Hoordad connects data, action, envelope and proof.

# Start With Complex Buildings.

Our first market is technically complex commercial buildings, where energy, comfort, weather and operations intersect.

## Priority Customer Segments

**Commercial Real Estate & Offices**
Office portfolios, institutional assets and multi-site operators.

**Public Buildings**
Administration, healthcare, education and cultural assets.

**Hospitality, Retail & Museums**
Buildings with demanding comfort and operating requirements.



## Buyers, Users & Partners

**BUYER**
Property owner, REIT or energy director.
Defines business need and contracting.

**OPERATIONAL USER**
Building operations lead or facility manager.
Provides operating constraints and validates use.

**IMPLEMENTATION PARTNER**
Energy-services company, building automation integrator or technical maintainer.
Provides systems access, integration and support.

## Go-to-Market Flow (access and value creation)

**Use Case**
Define the need and objectives.

→ **Pilot**
Deploy on a site (with defined scope).

→ **Verified Results**
Evaluate effects and validate performance (M&V).

→ **Orbit Subscription**
Software as a Service (SaaS) with monitoring and recommendations.

→ **Multi-Site Deployment**
Progressive rollout across additional sites.

ⓘ Target organizations and potential channels. No commercial relationship is implied.

*One relevant building. One reproducible proof. Then scale.*

# Architecture Defined. Prototype Ready for Validation.

Orbit demonstrates an end-to-end operational decision workflow. Its industrial value must now be established using real building data and systems.

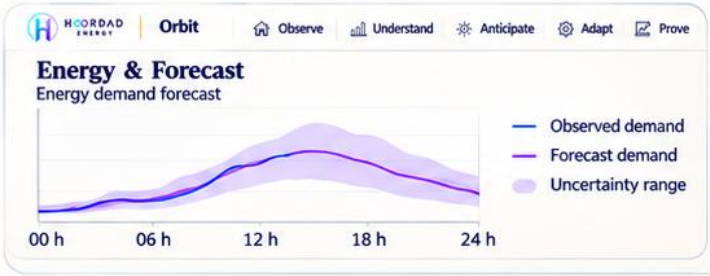
### 01 – ARCHITECTURE
Defined: data, models, decisions and evidence.

### 02 – APPLICATION
Demonstrable Orbit software prototype.

### 03 – FIELD INTEGRATION
To be qualified: building management systems, HVAC, sensors and live data.

### 04 – PILOT & MEASUREMENT
Pending: operational validation and measurement & verification.







https://hoordad-orbit-demo.vercel.app/solar

Software demonstrator: simulated and modelled data; no equipment currently connected.

*The prototype demonstrates the method. The pilot must demonstrate performance.*

# A Pilot Built to Produce Verifiable Evidence

Define the use case, integrate the necessary systems, measure outcomes and assess repeatability.

**Use-case definition**
Scope, objectives and success criteria.

›

**System and data assessment**
Available systems, interfaces and data quality.

›

**Pilot implementation**
Configure Orbit, integrate systems and operate the pilot.

›

**Measurement & verification**
Collect and analyse data to verify results.

›

**Deployment decision**
Confirm value, repeatability and next steps.

**KEY EVIDENCE**

- Data completeness and provenance
- Forecast accuracy and uncertainty
- Operational constraints and safety
- Energy and comfort measurement
- Integration effort and deployment cost

**OPTIONAL COMMERCIAL ASSUMPTIONS**
(Management assumptions, not negotiated customer prices.)

**Indicative pilot/integration fee:** €35K–€45K

**Indicative Orbit subscription:** €55K–€70K per site annually.

**One validated pilot can establish the conditions for repeatable deployment.**

# A Structured Route to Industrial Validation

Connect Orbit to relevant building systems and establish measurable technical and commercial evidence.

## PARTNER CONTRIBUTIONS

- Relevant technology or system access
- Samples or compatible equipment where appropriate
- Interface documentation
- Technical expertise
- Potential access to a pilot site

## JOINT VALIDATION

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Integration → Operational Testing → Measured Evidence

## HOORDAD CONTRIBUTIONS

- Orbit software architecture
- Data integration and modelling
- Forecasting and constrained recommendations
- Traceability and evidence reporting
- Pilot-validation framework

## EXPECTED OUTCOME

- Jointly defined use case
- Qualified integration
- Agreed acceptance criteria
- Documented results
- Decision on further collaboration

**Start with a bounded technical scope. Expand on verified evidence.**

# Founder-Led Execution Across Three Core Expertises



## MARYAM ROODSARI

**Founder & President**

- Astrophysics, scientific software engineering, data science and physics-informed modelling.
- Product strategy, Orbit architecture and execution.



## ARASH NIKNIAZI

**R&D Engineer — Optics**

- Materials, optics and active-surfaces research.



## JACQUES LEUGER

**Senior Financial & Strategic Advisor**

- Financial structuring, capital strategy and executive guidance.

## HOORDAD ENERGY

- Orbit product leadership
- Technical coordination
- Pilot preparation

## Ecosystem & Key Engagements

**PhenyTech** — Cloud / data architecture discussions — In discussion

**Witekio** — Firmware and embedded connectivity discussions; confidentiality agreement signed. — NDA signed

**Remolab** — Incubation and entrepreneurial ecosystem — Incubation

## Engagement Types

- **Discussion** – exploration of collaboration and scope.
- **Confidentiality agreement (NDA)** – enables in-depth technical exchanges.
- **Formal contract** – not yet in place.

*Founder-led execution, with expertise aligned to the present stage of development.*

# Four Routes to Industrial Collaboration

A flexible collaboration model aligned with the partner's technology, assets and commercial priorities.

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**ORBIT**

Operational Intelligence

## 01 · Technology Integration

Validate Orbit against an existing system, device or building data interface.

## 02 · Joint Demonstrator

Combine relevant equipment or materials with Orbit's software capabilities.

## 03 · Instrumented Pilot

Define one real building, agreed operating constraints and measurable acceptance criteria.

## 04 · Strategic Co-Development

Explore a longer-term technical or commercial roadmap after initial validation.

**Define the scope together. Validate the results. Then decide how to scale.**

Confidentiality agreement and technical workshop as the natural next step.

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# 12-Month Milestones

The foundations are secured.
We are entering the **demonstrator** and **proof** phase.

Each step converts **risk** into **proof**: architecture, prototype, field data, pilots and partners.

WE ARE HERE

**01** — **0–3 months**
quotes, locked architecture, partners, pilot brief
ACHIEVED

**02** — **3–6 months**
MVP EMS/Edge, specification, prototype
LARGELY DEFINED

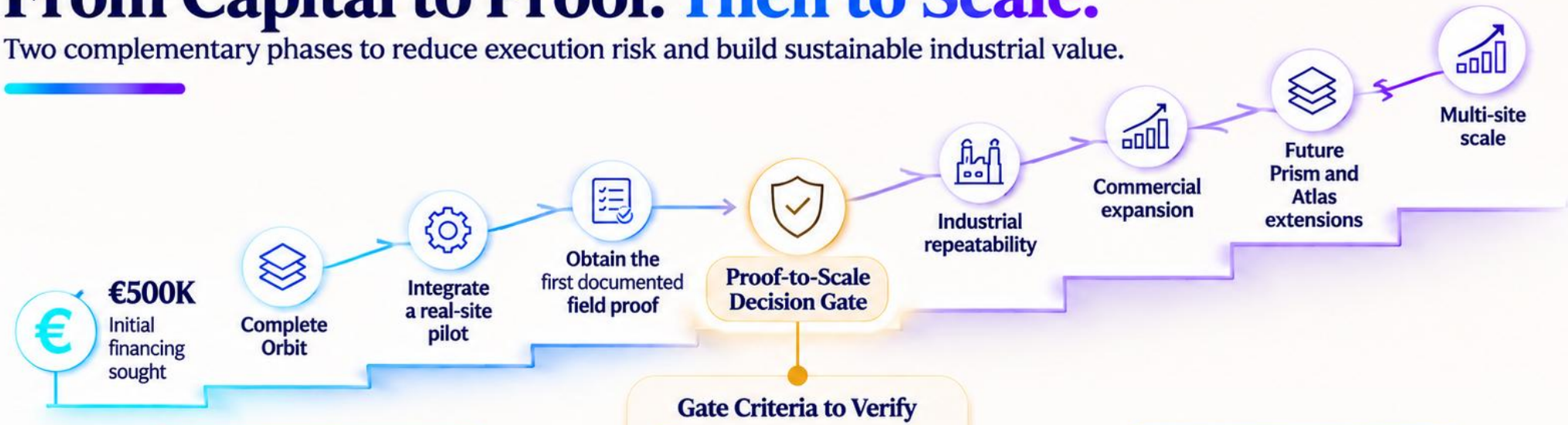
**03** — **6–9 months**
demonstrator, live data, proof module
IN PROGRESS

**04** — **9–12 months**
validated pilot, LOI, industrial data room
COMING NEXT

**Architecture → Prototype → Data → Pilot : a clear de-risking trajectory.**

# From Capital to Proof. Then to Scale.

Two complementary phases to reduce execution risk and build sustainable industrial value.




## PHASE 1 — PROOF

**€500K initial financing sought**

Complete Orbit, run a real-site pilot and obtain the first documented field proof.

### Gate Criteria to Verify

- [ ] Data quality
- [ ] Validated models
- [ ] Security
- [ ] Documented field results
- [ ] Integration cost
- [ ] Evidence of willingness to pay

## PHASE 2 — SCALE

**€2.5M future financing envisaged**

Build industrial repeatability, expand commercially and add future Prism and Atlas extensions.

**Every euro should resolve an uncertainty that matters for deployment.**

# Let's Build the First Field Proof.

Explore Orbit and identify a concrete use case where our capabilities can be validated together.

## 01 · DISCOVER ORBIT

https://www.hoordad-energy-ariyan.eu/partner-access

## 02 · SCOPING CALL

20-minute discussion to identify the relevant systems, operating requirements and potential use case.

## 03 · TECHNICAL WORKSHOP UNDER NDA

Review available data, interfaces, constraints, acceptance criteria and measurement protocol.

## THREE COLLABORATION ROUTES :

- **Building Pilot**
- **Technology Co-Development**
- **Strategic Industrial Partnership**

**ORBIT** — Now | **PRISM** — R&D | **ATLAS** — Future

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**From software demonstration to measurable field evidence.**