CHARGEWHEEL

SEED ROUND · 2026 · CONFIDENTIAL

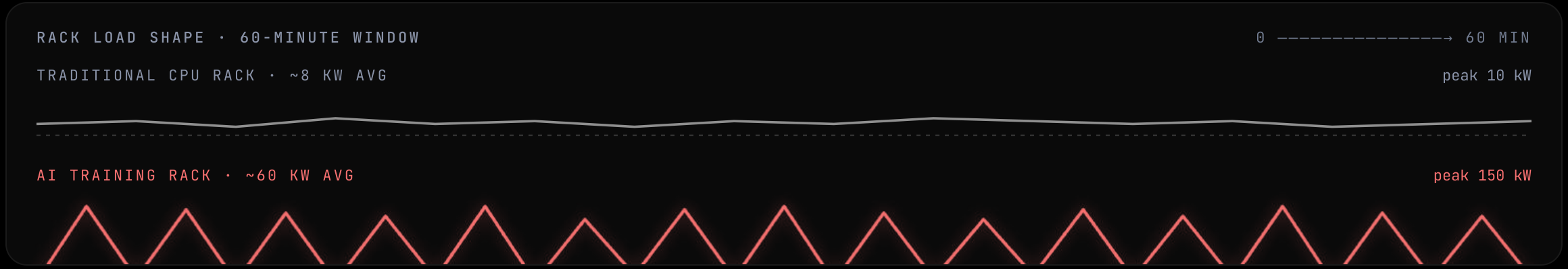
MORE POWER BEHIND THE METER. NO UTILITY UPGRADE.

~**$250B+** of AI, fleet, and industrial power-infrastructure spend is bottlenecked on a utility timeline that runs **4–10 years**. UpGrid is the only behind-the-meter platform shipping that capacity in **90 days** — modular cabinet + AI dispatch software, certified, in market today.

01 · THE ANCHOR PROBLEM

AI racks aren't just hungry. They're volatile.

Modern AI training jobs spike **5–10×** idle in seconds. Inference loads pulse with traffic. The shape breaks every assumption legacy power infrastructure was built on — and it's about to ship in volume.



~120 kW

Per modern AI rack

Up from 5–10 kW per traditional CPU rack — 10–15× density step.

5–10×

Spike-to-idle ratio

Training-job bursts and inference pulses move within seconds.

Seconds

Transition window

Faster than utility metering, faster than legacy switchgear can respond.

Demand charges punish the spike, not the energy.

Utility pricing is structured around peak draw, not energy delivered. A spiky AI load on a flat-rate meter forces operators to over-provision capacity they'll rarely use — and pay every month for the right to spike.

WHAT THE BILL ACTUALLY PAYS FOR

10 MW DATA CENTER · MONTHLY

ENERGY DELIVERED · $/KWH

~$430K / mo

7.2 GWh × $0.06/kWh — what you actually use.

DEMAND CHARGE · $/KW PEAK

~$200K / mo

10 MW × $20/kW·mo — what one spike costs all month long.

A SINGLE 10-SECOND SPIKE SETS THE DEMAND LINE FOR 30 DAYS

~30%+ of every bill is paid for peak, not power.

~$2.4M/yr

Demand-charge tax

On a 10 MW campus at $20/kW·mo — paid for the right to spike, every year.

5×

Capacity over-provisioning

Service sized to the rare peak, not the average load.

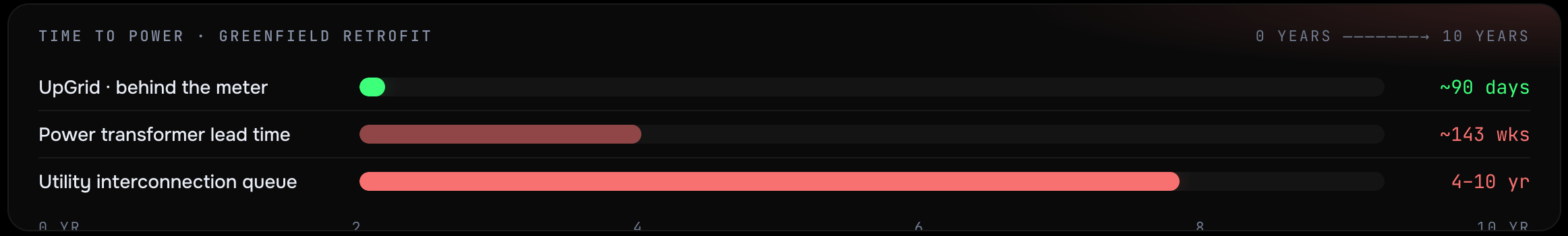
Up

Demand-charge rates rising

Utilities are repricing volatility into peak tariffs nationally.

AI ships native 800V DC.
Most data centers are still AC.

NVIDIA's reference architecture for AI factories is native 800V DC at the rack. The installed base is 480V AC. Retrofit needs a new MV transformer, a rectifier farm, switchgear room, *and* an interconnect upgrade — 4 to 10 years on the utility's clock.



24×

Transformer lead-time growth

5-year increase across US utility procurement.

13%

Of interconnect requests reach operation

The other 87% are abandoned, withdrawn, or stuck in queue.

5 stages

AC → DC conversion losses

Each adds 2–5% loss + a single point of failure between meter and GPU.

Same pattern.
Three markets converging.

AI data centers are the anchor — the highest-density, fastest-growing, most expensive segment. But the load-volatility + pricing-trap + architecture-gap problem repeats wherever megawatts meet legacy grids.

ANCHOR

AI data centers

120 kW racks. 5–10× load swings. 800V DC native. Demand charges scaling with every spike.

$33M/YR UNLOCKED / 10 MW CAMPUS

SAME PATTERN

EV fleet charging

350 kW dispensers. 4–8 plug-ins per hour. Demand-charge spikes every session. Existing depot service caps the fleet plan.

5× MORE CHARGERS / SAME METER

SAME PATTERN

Industrial & mfg

Motor inrush, shift starts, robotics. UPS + BESS + diesel today. Reshoring lands new lines behind 1990s grid capacity.

3 SYSTEMS → 1 CABINET · 50–60% CAPEX

THE WEDGE APPLIES WHEREVER THE LOAD IS FASTER THAN THE GRID

Three buyers · one cabinet · one OS · **$250B+ addressable spend →**

Three segments. One bottleneck. $250B+ category.

Behind-the-meter power-infrastructure spend is held hostage by utility timelines. ~$30B is addressable in the first 5 years of US capture. The full category scales to $250B+ globally over the decade as AI, fleet, and reshoring all converge on the same hardware wedge.

PRIMARY — AI DATA CENTERS

$15–20B

800V DC retrofits and behind-the-meter capacity for AI compute campuses, 5-year horizon.

SITES	AVG SPEND
~5,000	$3.5M

Hyperscaler announcements + neocloud expansion drive **$100B+ annual capex**; we capture the BTM power slice.

PRIMARY — MANUFACTURING

$5–8B

Reshoring + CHIPS Act + tariffs driving brownfield BESS at industrial sites with stranded grid capacity.

SITES	AVG SPEND
~7,000	$1M

3-systems-in-1 cabinet replaces UPS + BESS + diesel; **50–60% capex reduction** drives plant-level standardization.

ADJACENT — EV CHARGING

$2–4B

Fleet, transit, and last-mile depots needing megawatt-scale charging without utility upgrades.

SITES	AVG SPEND
~5,000	$0.5M

Pull-through for cabinets already sized for industrial loads. **Attach play**, not the lead market.

CAPTURE LADDER

~$30B US 5-yr capture · **~$80B** global 5-yr · **$250B+** category over the decade

06 · SOLUTION

UpGrid: the wedge into a $250B+ category.

A modular battery + AI dispatch platform behind the meter. Removes the binding constraint — utility time-to-serve — in three megawatt-hungry markets. Same cabinet, same UL packet, same UpGrid OS: **2.5–5×** amplification, 90-day deploy, shipping today.

2.5–5×

Behind-the-meter amplification

Workload-tuned. Same utility bill, more delivered power.

90 days

PO to commissioned

No utility queue. No transformer wait. No AC switchgear rebuild.

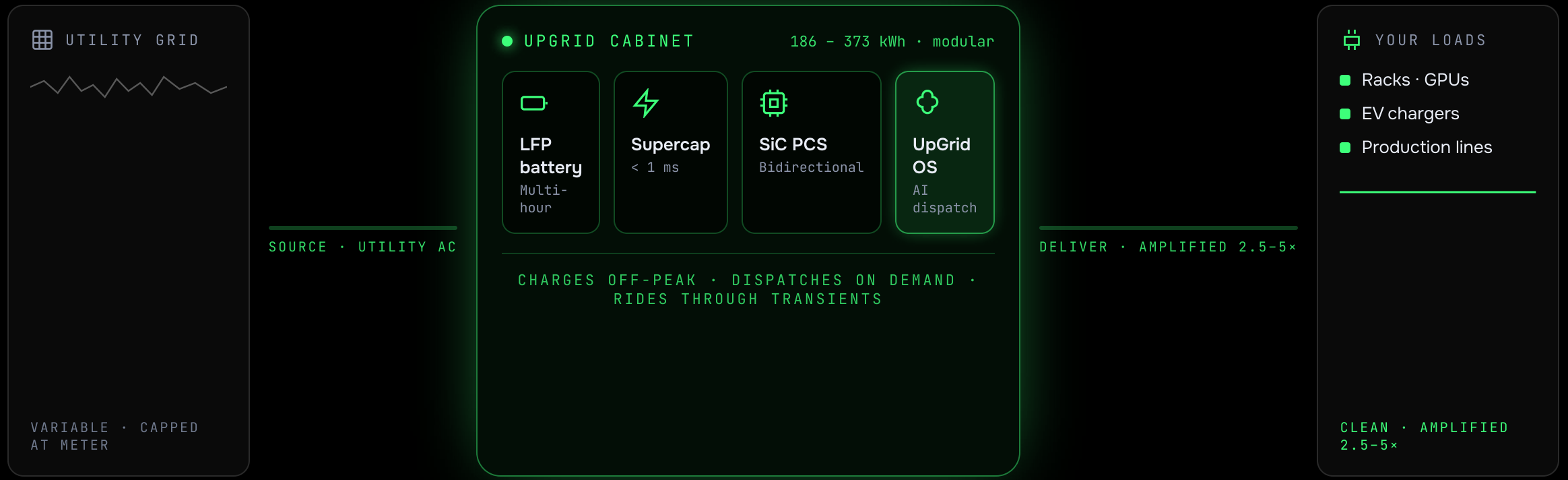
UL ✓

AHJ-ready packet, day one

UL 1973 · 9540A · 2202 · NFPA 855 · CSA. Plan reviewers won't blink.

- BEHIND-THE-METER
- DC-COUPLED · 800V NATIVE
- MODULAR · STACK TO 3 MWH

One cabinet. Utility AC in, amplified DC/AC out.



WHAT THE UTILITY METER SEES

● Flat · well-behaved · below tariff ceiling

Three revenue lines.
One install motion.

Hardware capex lands the account. Software ARR scales with site count. Service annuity holds the relationship for 15 years. One install crew, one vendor, one dashboard — three contract lines.

UPGRID BESS

Modular hardware

LFP cells, supercap buffer, SiC bidirectional PCS. Liquid-cooled, IP54 outdoor. Stack one cabinet to multi-MWh racks.

Cabinet line	180 · 280 · 370
Energy / cabinet	186 – 373 kWh
DC bus	800 V native
Round-trip	≥ 92%
Cycle life	≥ 6,000 @ 80% DoD

HARDWARE · CAPEX DRIVER

UPGRID OS

The behaving brain

Real-time EMS. Forecasts the load curve, dispatches the battery, defends a tariff ceiling, integrates with EMS / DCIM / OCPP / Modbus.

Dispatch	AI · sub-second
Protocols	OCPP · Modbus TCP · REST
Dashboard	Per-site SCADA
Updates	Cloud OTA
Service contract	Bundled

SAAS · ARR LAYER

EV CHARGERS

Pull-through hardware

ETL-certified DC fast chargers, CW 60 → CW 350M. OCPP 2.0.1, ISO 15118 plug-and-charge, integrate natively with UpGrid OS.

CW 60	Light fleet
CW 150	Buses · mid-fleet
CW 350 / 350M	Class-8 · transit
Connectors	CCS1 · NACS
Cert	UL 2202 · CSA · ETL

HARDWARE · ATTACH

Dispatchable load, based on power availability.

UpGrid OS sees the AI workload before it spikes and dispatches the battery to match — the cabinet handles the spike, the meter stays flat, the data center scales.

Workload-aware forecast

"Next predicted peak" sees the AI workload before it spikes — 45 min ahead, 220 kW.

Sub-second dispatch

Site-wide flow: battery → 800V DC bus → GPU rack. Supercap ride-through for transients.

Fleet view, per-cabinet detail

8/8 cabinets · ride-through active · alerts triaged. One operator scales a 10-cabinet site.

Plugs into the customer stack

OCPP · Modbus TCP · REST · SNMP — drops into existing DCIM/EMS without middleware.

ARR ECONOMICS

~$10K/cabinet/yr · 60%+ attach · 92% gross margin · 15-yr asset life = compounding revenue engine

2027 EXPANSION · UPGRID OS STANDALONE FOR 3RD-PARTY BESS · SOFTWARE TAM INDEPENDENT OF CABINET SHIPMENTS

Four structural moats.
Each one a year-plus catch-up.

Native 800V DC — no inverter penalty

AC-COUPLED BESS ~85%

UPGRID NATIVE 800V DC ~92%

END-TO-END EFFICIENCY +7 PP

Most BESS double-converts between battery and load. UpGrid ships native 800V DC — NVIDIA's reference for AI factories — eliminating an inverter stage and ~5% of bill-to-load loss.

One cabinet replaces UPS + BESS + Diesel

UPS
BESS
DIESEL

→ UPGRID
1 cabinet

VENDORS / CONTRACTS 3 → 1

Industrial sites run three stacks today: UPS for ride-through, BESS for peak-shave, diesel for backup. UpGrid consolidates all three. Capex -50–60% vs separately procured.

Behind-the-meter — no utility approval

UTILITY SIDE
Queue · permits

·meter·

YOUR SIDE
All UpGrid happens here

UTILITY APPROVALS 0

Skip the interconnect queue, the transformer order, the AC switchgear rebuild. The customer deploys on their schedule, not the grid's.

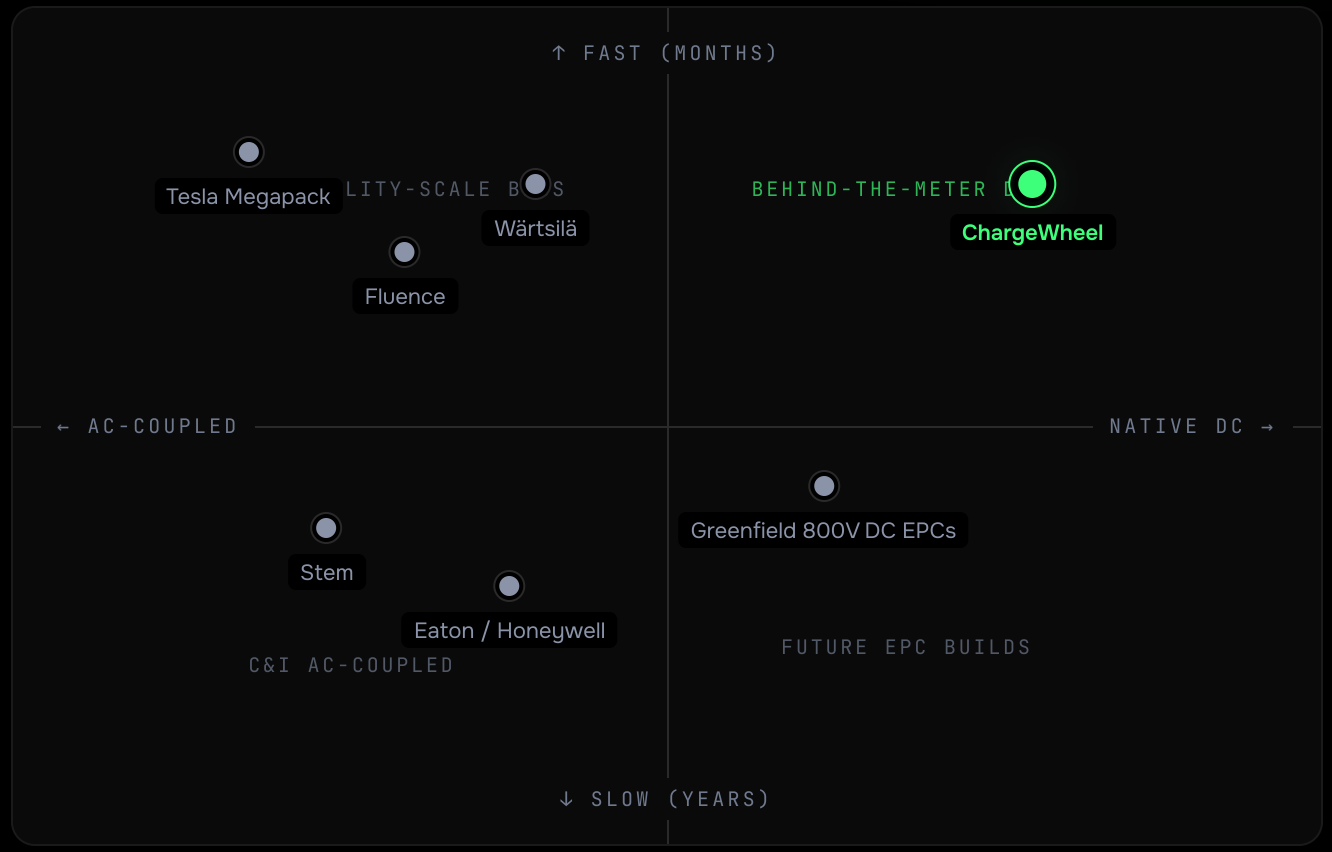
AHJ packet ready, day one

UL 1973 · UL 9540A · UL 2202 · NFPA 855 · CSA

PLAN REVIEWER SIGNOFF DAYS, NOT MONTHS

UL 9540A tested at the unit level — no module-to-module thermal-runaway propagation. NFPA 855 setbacks ship with every system. Pre-cleared for US + Canadian commercial deployment.

Fast and DC-native.
The corner of the map nobody owns.



SPEED AXIS

90-day modular installs vs 12–24 month utility-scale and EPC builds. The category we define ships while incumbents are still engineering.

DC-COUPLING AXIS

Native 800V DC matches NVIDIA's reference for AI factories. AC-coupled incumbents pay an inverter penalty on every conversion — a structural cost disadvantage.

WHY WE WIN

We define the behind-the-meter DC-coupled category. AC incumbents pay the inverter penalty; utility-scale BESS plays the wrong game (in front of the meter, wrong customer).

Built. Certified. Shipping today.

Manufacturability proven. Regulatory de-risked. Live cross-segment validation. Three structural risks already removed before a single seed dollar gets committed.

UPGRID BESS · CABINET

UL 1973 + 9540A · 800 V DC native

Liquid-cooled, IP54 outdoor. 186–373 kWh per cabinet, stack to 3 MWh.

PORSCHE · LIVE DEPLOYMENT

Battery-buffered DC fast charging

350 kW DCFC sessions on the same utility service that used to cap session count.

FLEET ELECTRIFICATION · IN FIELD

Light-duty & last-mile depots

CW 60 / 150 dispensers integrated with UpGrid BESS for 5× depot capacity behind the meter.

STATUS

● Cabinets shipping · OS dispatching · AHJ packets pre-cleared · field-service network active

Two anchor accounts.
Two beachheads validated.

Brand-name deployments across our two highest-conviction segments prove the platform is cross-segment, not segment-specific. Same cabinet, same OS, two customer profiles.

Battery-buffered DC fast charging

Customer-facing deployment charging brand-new Taycans on the same utility service that used to cap session count. UpGrid handles the 350 kW peaks; the meter stays flat.

WORKLOAD	USE CASE	OUTCOME
350 kW DCFC	Premium retail charging	No throttling at peak

Brewery peak-shave + UPS + backup

Behind-the-meter storage supporting brewery operations: peak shaving against demand charges, UPS-class ride-through for production lines, multi-hour backup replacing on-site diesel.

WORKLOAD	USE CASE	OUTCOME
Industrial / line uptime	3-systems-in-1	Diesel retired

From certified cabinet to category standard.

2024 – 2025

Platform shipped

UpGrid BESS UL-certified (1973 / 9540A / 2202). UpGrid OS in production. First customers live: Porsche EV charging, AB InBev industrial.

2026 · SEED (NOW)

Capture first 10 sites

Scale to 10 deployments across data centers, manufacturing, and EV. Sign first hyperscaler design-in. Build US field-service network.

2027 · SERIES A

Standardize the SKU

Master-spec adoption at 2+ hyperscalers / fleet operators. Launch UpGrid OS as standalone EMS for 3rd-party BESS. $5–10M ARR.

2028+

International & next-gen

EU + Canada deployment at scale. Next-gen 1500V DC cabinet for utility-adjacent workloads. Autonomous edge / mobile fleet form factors.

2

Anchor customers live

Porsche (EV) + AB InBev (industrial). Cross-segment platform validated.

5

UL / NFPA / CSA certifications

Pre-cleared for US + Canadian commercial deployment.

$3.7M

SAFE capital raised to date

21 SAFEs across multiple vintages; current cap $25M post-money.

2030 CAPTURE TARGET

~1,000 cabinets/yr run-rate · ~$250M revenue · ~$50M ARR · ~5% category penetration

Three segments. One platform. All payback under two years.

LAYER 1 — AI DATA CENTER

2.5× rack power on existing AC

60 kW AC → **150 kW DC**

+ RACKS / 10 MW	TIME SAVED
+125	~4 yr

~**$33M/yr** unlocked GPU revenue per 10 MW campus, with ~**$960K/yr** demand-charge savings on top.

LAYER 2 — EV FLEET DEPOT

5× chargers on 1.5 MW service

4 ports → **20 ports**

ANNUAL REVENUE	PAYBACK
5×	~10 mo

~**$13.6M/yr** revenue uplift at 350 kW × 40% utilization × $0.40/kWh; ~10-month payback on a $500K cabinet.

LAYER 3 — MANUFACTURING

3 systems → 1 cabinet

UPS+BESS+Gen → **UpGrid**

CAPEX SAVING	INSTALL TIME
50–60%	-75%

5 MW facility: ~**$450K/yr** demand-charge savings + **$200K/yr** downtime avoided + capacity headroom for the next line.

PER-CABINET ASP TARGET

~**$500K hardware** · ~**$10K/yr SaaS** · 60%+ attach · 30%+ gross margin

Hardware capex. Software ARR. Service annuity.

Three revenue lines off one install. The cabinet is the wedge; the OS is the multiplier; the service contract holds the relationship for the life of the asset.

01 · HARDWARE

UpGrid BESS cabinet

~$500K / cabinet ASP

Initial capex sale, target **30%+ gross margin** at scale. Modular up to 3 MWh racks; sites grow by adding cabinets, not replacing them — every site has built-in expansion revenue.

LAND

02 · SOFTWARE

UpGrid OS subscription

~$10K / cabinet · year

Bundled at install with **60%+ target attach**. Forecasts load, dispatches the battery, defends the tariff ceiling, integrates with EMS/DCIM. Stickiness is operational — sites can't run without it.

EXPAND · ARR ENGINE

03 · SERVICE

Service & warranty

~10% / yr of hardware

Field-service network for warranty events, performance guarantees, OS roadmap delivery. Locks in the relationship for the **15+ year asset life** of every cabinet shipped.

HOLD

PER-ACCOUNT LIFETIME VALUE

~$1.4M LTV / cabinet × ~3× site-expansion multiplier = **~$4M LTV / customer relationship**

Capture mechanics: become the SKU on the master spec.

BEACHHEAD 1

AI data center retrofits

Operators with stranded AC service who can't get a transformer or interconnect upgrade in time. Sale = +125 racks unlocked per 10 MW.

DIRECT · ENTERPRISE

BEACHHEAD 2

Fleet EV depots

Transit, last-mile, Class-8. 4-port depots needing 20-port plans. Demand-charge savings prove ROI inside year one.

DIRECT + EPC PARTNER

BEACHHEAD 3

Industrial campuses

Plants running UPS + BESS + diesel and adding new lines. Three procurement contracts collapse into one cabinet program.

DIRECT + UTILITY PROGRAMS

CUSTOMER ACQUISITION MOTION

LAND → PROVE → STANDARDIZE → REPEAT

01 · LAND

Calculator-led web inbound + technical-CEO outbound to power-blocked accounts.

02 · PROVE

First cabinet: 90-day install, ROI proven on month-1 utility bill.

03 · STANDARDIZE

Master-spec adoption at the account. Cabinet becomes the default — structural lock-in.

04 · REPEAT

Every new site = follow-on order. EPC channel funded by attach + service revenue.

Founders who've shipped a UL-certified cabinet.

MH

FOUNDER & CEO

Muhammad Huzaifa

Systems integrator and product architect. Built the UpGrid platform end-to-end — cabinet, controls, safety, certification packet. Named inventor on US Patent **#16/586,061** (18 claims). Led **UL 2202, UL 1973, and UL 9540A** certification programs through TÜV Rheinland.

US PATENT · UL 1973 · UL 9540A · UL 2202 · NFPA 855 · POWER ELECTRONICS

SW

CO-FOUNDER & CTO

Dr. Seonghoon Peter Won

Power electronics PhD. Owns the SiC PCS, supercap buffer, and DC-bus architecture that make 800V native and sub-millisecond ride-through possible in a single cabinet. Drives R&D roadmap toward the next-gen 1500V DC platform.

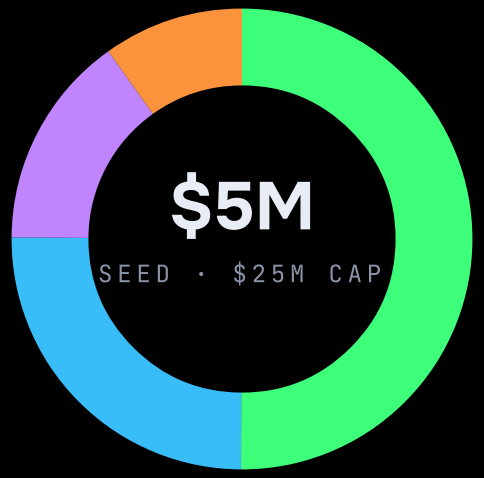
PHD · POWER ELECTRONICS · SIC PCS · 800V DC · SUPERCAP CONTROLS

OPERATING DISCIPLINE

Founder-led engineering · TÜV-cleared cabinet · AHJ-ready packet · field-deployed at Porsche & AB InBev

Raising $5M Seed at $25M post-money cap.

Capital converts directly to manufactured cabinets and signed deployments. Platform is built, certified, and live — this round funds the field motion that makes it the standard. Instrument: Post-Money SAFE.



50%	**Production scale-up** — UL-line throughput, inventory, second contract manufacturer.
25%	**Sales & deployment** — first 10 named-account installs, EPC partnerships, field-service network buildout.
15%	**R&D** — next-gen 1500V cabinet, UpGrid OS standalone product, additional certifications.
10%	**G&A** — operations, finance, legal, regulatory.

MILESTONES TO SERIES A (2027)

10 deployments live · 2 hyperscaler design-ins · $5M+ ARR · master-spec adoption

BEHIND THE METER.
AHEAD OF THE QUEUE.

AI capex, fleet electrification, and reshoring all need megawatts behind the meter — by next quarter, not next decade. UpGrid is the one platform shipping that capacity at **2.5–5×** the grid, in **90 days**, with the certifications in hand. The category is forming. We're the standard.

FOUNDER & CEO
Muhammad Huzaifa

EMAIL
h@chargewheel.com

WEB
chargewheel.com

HQ
Burlingame, California