

**Business Summary:**

Yotta's mission is to help lead the world's transition to clean renewable energy by simplifying the keystone, energy storage. We do this through perfecting and delivering a revolutionary solar-panel level energy storage device with passive thermal regulation that finally makes energy storage as simple to install as solar.

**Customer Problem:**

Currently adding energy storage to solar PV projects demands trained installers, extensive dedicated space and custom site-specific design. Despite declining battery hardware prices, the soft costs of installation are still too high. The balance of system and soft costs can add over 40% to the overall cost of a typical energy storage system. Current systems are still lacking high level reliability due to poor battery health and thermal management as well as a lack in focus on safety in design.

**Product:**

Yotta Solar is building an industry 1<sup>st</sup> - behind the solar panel energy storage with passive temperature regulation. Yotta's unique offering removes all of the industry's current barriers to adopting energy storage and promotes the best in class value based on total installed cost:

- Remote survey and design
- No added space or dedicated footprint required
- Serves as ballast weight for net zero installation
- Extremely high reliability, safety & life
- Highest electrical efficiency

**Target Market:**

Yotta's initial focus is on the commercial rooftop (C&I) market where our unique design solves major installation challenges and creates the most initial customer value. The C&I energy storage annual capacity deployments are forecasted to grow from 732 MW globally in 2019 to 10,861 MW in 2027.

**Customers:**

Sweet spots for immediate market entry will be customers with limited space for storage and/or 30kWh – 300kWh projects, where the balance of system costs over burden the upside benefits of adding storage. Once our installation base increases and we grow to scale, our product cost drop and we will become the best solution for even larger projects, over 1MW.

**Sales/Marketing Strategy:**

Yotta has made several significant industry partners, including PanelClaw, a 40% market share holder in commercial racking systems. Our initial marketing strategy is to leverage our industry partners to identify channel development partners in high value markets where storage has strongest growth; CA, HI, NY, NJ, MA, CT and internationally Australia. Based on our initial pricing analysis we believe that we should be able to immediately access up to 15% of the existing C&I storage market.

**Business Model:**

Initial revenue streams will be a mix of product sales through channel development partners and internal project development as well as annually renewable software/service licensing fees for demand and smart response management control features. As our aggregated installation pool and firmware feature set grows we will expand into DER utility transitive markets for additional revenue streams.



**Contact Person:**

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**Company Advisors:**

Ron Van Dell – ViZn/SolarBridge  
Andrew Tanner – GreenSync/Geli  
John de Papp – PanelClaw  
Jesse Batista – Ginlong Technologies

**Capital Received and Sources:**

- \$1.53M USD Pre-Seed SAFE
- \$317,500 – Grants (NREL Wells Fargo IN2 Program, Austin Energy Business Innovation, Texas New Ventures Prize, CPS Energy, others)

**Capital Seeking:**

Asking for ≈ \$10M in Series A Equity Funding (Amount TBC)

**Uses of Next Fundraise:**

- Complete UL certification
- Shore up additional IP, expanding on core technology
- Validate accelerated lifetime testing and thermal performance testing with 3<sup>rd</sup> party labs
- Scale to capitalize on manufacturing efficiencies
- Complete 5 commercial installations, delivering \$1M in revenue

**Competitors:**

Companies have rushed to market with solutions to meet demand, but all miss some part of the solution:

- Modular storage players like; SolPAD or JLM Phazr. These designs have no thermal regulation and therefore poor reliability, safety & life.
- Centralized storage players like; Yunicos, LG Chem or TESLA PowerPACK. Each of these designs rely on centralized storage methods including parasitic cooling loads (liquid cooling or A/C), multiple inverter steps and dedicated fire suppression systems which makes them more expensive to install and maintain.

**Competitive Advantage:**

Yotta’s proprietary thermal exchange system uniquely enables a distributed energy format which leads to many benefits over the centralized status quo. The distributed format means that we can remove the need for a dedicated energy storage footprint, a major limitation in dense urban centers. Our modular format is uniformly scalable, meaning we soften learning curve for designing and installing energy storage projects, while also directly addresses the balance-of-system and soft costs that hinder energy storage adoption at a commercial scale. Yotta’s energy storage system is retrofittable and can work with any standard commercial inverter. A distributed format minimizes fire runaway risks and our reliance on the safest battery chemistry, Lithium Ion Phosphate, makes us the safest option for installing energy storage in occupied buildings.

**Founder Bios:**



**CEO – Omeed Badkoobeh** has been involved in sales and business development roles in both residential & commercial PV for over 10 years with over 2 MW of solar projects delivered. He conceived the concept of behind panel energy storage after installing many Solar+Storage systems in the Gulf South region. He is responsible for bringing Yotta's solution to market.



**CTO – Vikram Iyengar** is an electrical engineer with 13 years of research and development experience in Electric vehicle powertrain control systems, battery storage technologies and electrical systems development. He invented the concept of passive thermal regulation, Yotta’s enabling IP. He leads the design, development and testing of the SolarLEAF.

**Goals:**

Continue to build a strong network of strategic industry advocates, pilot project streams, channel developer/installer partnerships and potential investors.

**Validation and Milestones:**

- Ongoing field tests with alpha prototype proving base thermal technology
- Selected by Wells Fargo & NREL IN2 program for technology validation
- Patent granted for 17 core thermal IP claims
- 2 additional patents pending approval
- Multiple beta pilots planned for Sept. 2019
- Strong support from investors, partners and mentors
- C&I storage market outlook robust and growing:  
Navigant projections 732MW in 2019 => 10,861MW by 2027



**Partnerships:**

