

NUnode



We produce a “drop-in” high capacity anode nanomaterials in a low cost and ecofriendly manner for battery manufacturers.

Our Opportunity

Problem worth solving

As more devices become “smarter” and begin to gain wireless capabilities, battery reliability becomes an increasing need and graphite anodes need to be improved to meet these demands with higher capacity at a lower cost

Our solution

Our customers will save time and money by using batteries that last 3 times longer than standard batteries available in the market

Target market

1. Internet of Things
2. Home Security
3. 1.5-3 V rechargeable batteries

Competitors	How our solution is better
Targray	Higher Capacity, Lower Cost
Shenzhen BTR	Higher Capacity, Lower Cost
Hitachi Chemical Co.	Higher Capacity, Lower Cost
Mitsubishi Chemical	Higher Capacity, Lower Cost
Shanshan Tech. Co.	Higher Capacity, Lower Cost

Funding needed

\$ **1.2M**

Funds will be used to develop and optimize prototype, establish scaling up process at Argonne, and pilot test with anode manufacturers

Sales and Marketing

Sales channels

We will be directly selling to the battery anode manufacturers and also working closely with anode manufacturers by providing a service that will add value by increasing the capacity of their anodes

Marketing activities

We will attend battery conferences to present and connect with potential customers. We will also develop online presence through a website.

Forecast

Revenue streams

Major costs

We will be selling products directly to the anode manufacturers and providing a service to add value to their existing products via our patented technology

The major costs will be related to acquiring and operating the equipment, as well as renting space to develop our nanocomposites. As our company grows, the bulk production will lower the cost of our product.

Milestones



Optimization of Nanocomposite

Sep 1, 2020



Structural Characterization

Feb 1, 2021



Prototype Full Cell Development

Jun 1, 2021



Pilot Testing

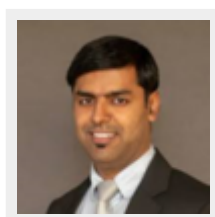
Feb 1, 2022

Team and Key Roles



Cesar Villa
Co-founder, CTO

5th year Doctoral Candidate in Materials Science & Engineering, 6 years hands on lab experience in energy material processing and analysis



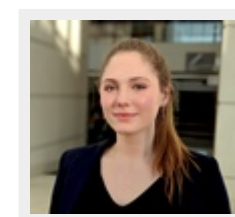
Dr. Vikas Nandwana
Co-founder, CEO

Award winning researcher/inventor in the field of functional nanomaterials. With more than 40 journal articles, book chapters, and 7 patents



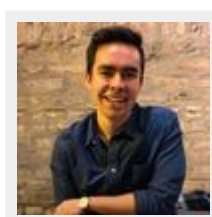
Linggang Jiang
Business Development

The Chinese Institute of Certified Public Accountant; 3 years experience in Deloitte as a senior auditor; 1 year experience investment banking



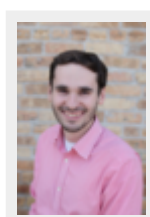
Gabrielle Stein
Operations

Senior Undergraduate in Chemical Engineering; Certificate in Sustainability and Energy; 3 years developing/managing operations for BrewBike



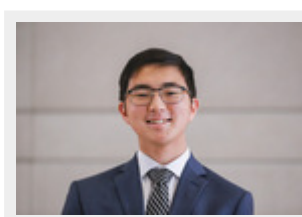
Troy Daley
Product Development

Senior Undergraduate in Chemical Engineering, Certificate in Sustainability/Energy; 1 year experience commercializing national lab tech



Kyle Owen
Product Development

Master's student in Chemical Engineering, 5 years experience in project engineering and validation engineering at large pharmaceutical site



Joshua Kim
IP Strategist

Master's student in Chemical Engineering; 2 years computational models to assess energy transfer + battery performance, process engineering



Professor Vinayak P. Dravid
Technical Advisory Board

Abraham Harris Chaired Professor of Materials Science & Engineering at Northwestern University. Founding director of the NUANCE Center.

Partners and Resources



Argonne National Lab
MERF

Manufacturing engineering research facility to assist with scale up

