PROJECT NAME:

SMART portable power enabled with IoT and sensors

Cleantech, charging station, IoT, AI, mobility

TEAM

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PARTNERS AND AMERICAN-MADE NETWORK

Microsoft, Tech Valley Center of Gravity, and Innovate 518.

Our need for technical assistance

SolarFi has a unique need for hardware and software. The optimal facility to further our development is at the Greentown labs. Greentown labs will provide the necessary environment, partners, and manufacturing assistance for optimal rapid prototyping. It will also help us to de-risk our business. We understand that they have worked with some solar companies that have gone out of business. In turn, we can learn from their mistakes. We have built our initial prototypes with the help of RPI and UMass. With the help of the NREL, and Greentown Labs, we will be able to incorporate hydraulics. Features. The doors of the solar panels need to open up with an app or a touch pad similar to a garage door, however more like a transformer which will create another level to generate solar energy from a larger array of solar panels. We want to top to be in the form of a Pyramid to create a unique appearance to attract users.

Generating as much more as possible from a small area is essential. We would be able to attract EVs. E-bikes have already been accounted for.

We are currently working out of a marker space called the Tech Valley Center of Gravity in Troy, NY. Ideally, we would like to use a facility that has a crane.

Protecting our innovation is something that we would like to work with NREL and connector partners on the best way to go about obtaining a patent.

Primary Goals

1. To design, prototype, and build a solar-powered business in a box.
2. To make a solar unit that is flat packed and will be assembled where deployed.
3. Weather resistant, dustproof and can handle humidity and moisture.
4. To mitigate the noise disturbance in our facility.

Specific Goals:

To develop a prototype of solar charging machine that fulfills the following goals:

1. To make an easy to use system.
2. To use some biodegradable material.
3. Have built in TV monitor to allow for streaming of educational content and advertising so that people can learn while their phone is charging.

Test Bed Hardware

- Server
- WiFi hub
- 3G carrier connection
- IoT controller
- Test locks
- Voltmeter sensor
- Environmental sensor (heat, humidity)
- Motion sensor
- Various cables
- UPS with API

Software engineering Needs: Seven Roles

Kiosk Engineering

- Verify Linux provision on AWS will port to Kiosk server
- Provide APIs for IoT device control
- Build a testbed

AWS/Heroku admin

- Provision web server
- Android app development platform (Balsamiq, Ionic, etc.)
- Provision Stand-alone Linux server
- Provision three database

Database administrator

- Provision database schema
- Language localization
- Distributed Ledger
- User records
- Payment system and scratch card management
- Ad and offer management
- Media library

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- Language localization
- Distributed Ledger
- User records
- Payment system and scratch card management
- Ad and offer management
- Media library
- Kiosk status and performance history
- Locker status and scheduling

Android developer

- Build wireframe with localization
- build "Find a kiosk" with a live map
- Connect to a SolarFi Wi-Fi hotspot
- Detect and Launch (or download) SolarFi app on the connection
- Integrate Ad and offer content
- 15 minutes free charge
- 15 minutes free WiFi
- Retrieve modify and save user preferences
- Select and integrate API for user-to-user chat

The video below showcases our MVP SolarFi cart, and SolarFi box which

Cart Video: https://youtu.be/B9RMZArAGfY

VIDEO PITCH: SHOWCASE YOUR IDEA IN 120 SECONDS

Post your publicly accessible video online (e.g. YouTube, Vimeo, etc.). Be creative and produce a video that conveys the required information in exciting and interesting ways but do not focus on time consuming activities that only improve production values (i.e. technical elements such as décor, lighting, and cinematic techniques). The American-Made Network may be able to help you with creating your video.

Our video is here

Cart Video: https://youtu.be/B9RMZArAGfY

Online public video – Your innovation's proof-of-concept in 120 seconds	
Suggested content you provide • The real-world problem you are solving • Features and demonstration of your innovation's proof-of-concept • Who you are and why you have a competitive edge	**Judges score each statement on a 1-6 scale** • The video explains a compelling real-world problem. • The video demonstrates a proof-of-concept for an exciting innovation • The video shows a knowledgeable and skillful team

FOUR QUESTION WRITTEN NARRATIVE

Answer each of the following four questions:

1. ***Problem** - What is the problem and why is solving it important?*
2. ***Innovation** - What is your solution and why will it be successful?*
3. ***Team** - What have you done to date and what qualities give you a competitive edge?*
4. ***Plan** – What is your plan to achieve your goals?*

For convenience, these questions are provided in the headings of the tables on pages 3-6 along with suggested content (and corresponding judging statements) to help guide your responses. You decide where to focus your answers.

*The individual answers to the four questions do not have a word limit, however, the **aggregate response to these four questions must not exceed 2,500 words**. You may also include up to five supporting images, figures, or graphs. The judges will score the questions based on the content you have provided. **Responses should not be***

entered into the existing table format for each question *(Question tables may be deleted prior to submission).*

Question 1: *Problem* – What is the problem and why is solving it important?	
Suggested content you provide	**Judges score each statement on a 1-6 scale**
• Describe the problem, quantify its significance with metrics, and explain why now is the right time to solve it. • Explain why existing solutions are inadequate. • Show how you know this is a significant problem using evidence-based validation (e.g., interviews with users, case studies, literature).	• The competitor quantifies a critical problem using important metrics and a compelling analysis of why now is the right time to address it. • The competitor's assignment of current solutions and their limitations show a comprehensive understanding of the problem-solution space. • The competitor uses real-world evidence to validate key assumptions about the industry need.

Response to Question 1:

As cities aim to be smart and sustainable. The uses of food trucks are increasing. The. CO2 generated from food trucks is more than that of 20 cars.

Pop up stores/street vendors have difficulty getting power. They either have to bring a noisy generator, rent power at a high-cost from the festival or not use electricity at all. A case study was done on how vendors at farmers struggle with energy as well as the Boston Green Fest. One member sold oatmeal crips. However, she wanted to be able to ice cream to generate more sales. Many people enjoy eating oatmeal crisps with Vanilla ice cream. Our new SolarFi cart enables vendors to have portable power anywhere, anytime in a compartmentalized, aesthetic way for all of the items they are selling.

One of our advisors is a former trustee of NY Power Authority and has mentioned that the state is looking for solutions like this. NY state has a

goal to generate 50% of its energy from renewable energy by 2030. SolarFi's solutions is a step in the right direction

We have met with the following:

Pop up stores/Street vendors

Festival organizers

Municipalities

Gas stations

Department of Transportation

The Dormitory Department of NY State

Question 2: *Innovation* – What is your solution and why will it be successful?	
Suggested content you provide	**Judges score each statement on a 1-6 scale**
• Describe your innovation and how it is better than existing products or emerging solutions. • Describe your innovation's unique value propositions and how it leads to a sustainable business with paying customers. • Describe your proof-of-concept, what it can demonstrate, and the critical failures that you resolved. • Describe who gave you feedback on your proof-of-concept, why it's important, and what you learned.	• The solution represents an innovative approach built on reasonable assumptions, valid technical foundation, and lessons learned from experience gained. • The competitor is pursuing an innovative and compelling solution that will lead to a sustainable business with paying customers. • The proof-of-concept resolves critical technical risks. • A rigorous customer discovery process was performed to uncover key insights and relevant feedback on the proof-of-concept.

Response to Question 2:

The main product is the SolarFi Box, a mobile energy pavilion, that can be used in many different ways, and that is 100% eco-friendly. It's instant power, anywhere, anytime, it's 100% solar and most importantly 100% American.
The SolarFi box is a charging station for e-bikes and other light e-mobility.

Whether it's for product presentations, roadshows or typical sales counters, SolarFi offers a great many possibilities for individual design. Simple to operate, highly mobile and with numerous fitting-out options, colors, and branding; all open up entirely new perspectives. SolarFi brings together capability in the design of modular and mobile spatial solutions with corresponding expertise in the latest technology for generating and storing green solar electricity. The SolarFi platform substantially increases the efficiency of the customer acquisition process.
SolarFI box is an autonomous, mobile sales unit. Thanks to its unique construction, which is both extremely strong yet also readily transportable, it's ready for immediate deployment practically anywhere. Be it indoors at a trade fair or outdoors at a big, open-air event, a SolarFi center always cuts a dash. There are no laborious set-up or removal like with conventional kiosks, no need for specialized staff training. SolarFi is ready in a jiffy, delivers renewable energy, and provides for your guests enabled with IoT and Machine learning sensors to embody smart cities.

As cities look to become smart and renewable, they will look to SolarFi for to help them achieve this.

Other partners (if any)

Question 3: *Team* – What have you done to date and what qualities give you a competitive edge?	
Suggested content you provide	**Judges score each statement on a 1-6 scale**
• Introduce your team, explain how it came together, and highlight the knowledge and skills that make it uniquely capable of achieving success. • Highlight your team's experience in trying new things, solving difficult problems, and overcoming barriers to bring ideas to reality. • Describe what drives your team to realize this innovation despite difficulties. • Explain why winning the Set! Contest will substantively change the likelihood of your success. • Describe your efforts to create your proof-of-concept over the contest period and highlight key engagements, relationships and milestones.	• The team's track record demonstrates notable entrepreneurial qualities such as adaptability, creativity, decisiveness, and resourcefulness. • The team's drive, knowledge, and complementary skillsets provide a strong competitive edge towards realizing this solution in the near future. • Winning the Ready! Contest will significantly increase the team's chances of creating a viable business based on this solution. • A considerable amount of high-quality effort was put into building a proof-of-concept and advancing the innovation. • This team strives to get help and input from people with a broad range of experiences.

Response to Question 3:

Jerry and Antonio met five years ago through a mutual friend. Antonio founded a pico-solar company. Moreover, a friend said that if you want to expand internationally that Jerry Shaye is the most connected person number. The two met and hit it off. They have been to several African countries together.

Antonio met Jean when he saw Jean working on an exciting solar/IoT project and that he has experience coding. Antonio recruited him in December.

Dr. Shah is an adjunct professor who oversaw the eight-member multi-disciplinary team at Rennslaer Polytechnic Institute. Dr. Shah loved the mission of the company and sat down with Antonio to see the company's long term vision. Dr. Shah was from India and understood the issues, and felt that this was a noble cause to get involved.

- Recognized Expert in Electrical Machines & Systems

- 2015 IEEE-IAS Gerald Kliman Innovator Award

- 2012 IEEE Nikola Tesla Award Recipient - Highest International award in Electric Power

- 2012 GE Research's Coolidge Fellowship Award - Highest Research Award in GE

- 2012 GE APAF (Asian & Pacific American Forum) Technical Achievement Award

- 2010 & 2013 GE Research Technical Achievement Awards

- 2003 IEEE Fellow for Contributions to Electromagnetic Design and Analysis of Electric Machines

- 1991 GE Energy: Most Outstanding Technical Contribution and Individual Achievement Award

-1987-2015 Multiple awards throughout GE career

-67+ US (& many international) patents with several pending

- 45+ IEEE publications

Dr. Ekwow Spio-Garbrah and Antonio met seven years ago at the Global Entrepreneurship congress. Antonio through a party for a group of Africans that wasn't ready to fork out $150 a person for the after party. He offered everyone to come to his penthouse for a party, people had a good time, and he learned about issues facing Africa. He invited Antonio to Ghana and has pretty much adopted Antonio. Antonio served as a special assistant to him while he was a cabinet minister of trade and industry. Antonio also worked on Dr. Spio-Garbrah's Presidential campaign and have been all over the world together. Dr. Ekwow Spio-Garbrah is the former CEO of the Commonwealth Telecommunications Organisation (CTO) based in London.

He is one of Africa's pre-eminent civil servants, and an authority on mass communications who has held several high profile positions in the field.

He is a former Minister of Communication, one-time Ambassador of Ghana to the United States and Mexico, Minister of Education, Minister responsible for Mines and Energy and a member of UNESCO Executive Board in Paris.

Before his appointment at the CTO, he was Chief Executive of his own business consulting firm, Spio-Garbrah & Associates.

Dr. Spio-Garbrah served as a Director of Telkom SA Ltd. from September. He served as Director of Vodacom Group (Pty) Ltd.

Jean was recruited by Antonio while he was working on a solar IoT project for New York Independent System Operator and was quite impressed with his skills. Jean recently graduated with an electrical engineering degree and worked with SolarFi directly after graduating. Jean is able to build his own computer and devices.

Blanca responded to an engineering ad. She is product developer is a recent graduate in Electrical engineering from Cornell University with a Masters. Her experience is in UX/ UI design. She has knowledge of CV and cloud computing, did side work as app dev. Mostly use java, HTML, CSS, js. At Microsoft. research in Asia she designed the end-to-end architecture and prototype of a WeChat application “Microsoft Langman” using Axure PR, led a team of 10 developers to develop this app until release, held inner and collaborated meeting with vendor company, helped partner company find Azure cloud solution to boost the digital transformation of their business. The application used NLP technology and machine diagnose to assess speaking English and has 1000+ users. This project was based on cooperation with Pearson. Blanca is driven by making high-tech products beautifully designed.

Antonio Dixon, an expert in surgical lasers, he has owned several businesses including laboratories, medical, entertainment, and telecommunications. His experience in technology include’s Cisco, MPLS networks, solar & kinetic energy, and surgical lasers for gynecology, aesthetics, dermatology, and dentistry. Dixon has over 15 years sales, branding, and marketing experience working with the world's leading medical device companies in the United States and Europe including Biolase and Dentsply Sirona. Mr. Dixon founded SunPowerd, a renewable energy company focused on lighting up developing countries. He has already built another company that was able to scale to over 15 international markets selling millions of dollars in solar lamps. He led the company from ideation to design, manufacturing, and sales.

Once we get to $250,000 in funding. We can bring on Mr. Alain Vignard to handle the large advertising contracts. He is the former CMO for Optimum Media Prime where he led the sales and marketing of Metro TV programs in Ghana and transformed them into a leading FTA Tv channel. Prior to OMP he was at Insight Management Group where he launched and supervised an IP TV, and launched the first francophone music channel. He was the CEO of Zoom - Ogilvy, and a Co-Creative director of over 50 TV clips, and 50 promotions. Mr. Vignard was also general sales and marketing director at Coca-Cola.

Amera Stacy is a New York native with an MBA from the University at Buffalo. She has worked in sales and marketing for two of the worlds largest broadcast media companies.

Amera has 5+ years experience working in the digital media industry for Fox TV, CBS TV and ESPN radio stations.

She currently sits on the board for the Alliance for Women in Media, is a member of the National Society of Leadership and Success and serves as a mentor for young professionals.

Amera values feeling reward and fulfillment in a career. She requires feeling empowered in a sales role and wants to help others overcome difficult barriers and labels in the professional selling world.

All of us have a mission to make this world a better place, we see Solar as a major component of that. We all come from different countries. Peru, USA, Ghana, Jamaica, China, Peru, Kenya, The UK, and France. We have a. Unique sense to solve complex problems.

Question 4: *Plan* – What is your plan to achieve your goals?	
Suggested content you provide	**Judges score each statement on a 1-6 scale**
• Provide the goals submitted in the Ready! Contest submission package and describe the actual outcomes. Update the goals for the Go! Demo Day and define goals for the next 180 and 365 days (**see special instructions from Official Rules**). • Describe your team's readiness to meet your goals and if additional talent and/or resources are needed. • Describe the specific functional improvements your prototype will demonstrate at the next demo day. • Provide a high-level budget and plan to meet your goals for the next 180 days including how you will leverage program resources, members of the American-Made Network, or other entities.	• The competitors are successfully meeting prior goals and demonstrating continued critical progress towards testing and validating the functionality and market demand of the innovation. • Stated Go! Contest Demo Day goals, 180- and 365-day goals are ambitious, risk-reducing and show a commitment to an accelerated solution development cycle. • The competitors' approach to complete their proposed plan is well-reasoned and feasible. • This innovation, team, and plan should be strongly considered for a Set! Contest Prize (score only a 1 or a 6).

Response to Question 4:

We need to recruit a supply chain expert. We have identified the people, however, we don't currently have the funding to pay them.

November 1st to launch a pilot project with Comcast at their Central headquarter in Atlanta and further develop our IoT/AI solutions at Microsoft's insiders lab in Washington. This will also improve our sensors and ad technology.

December: to launch a pilot with the Clinton Foundation in Puerto Rico to provide charging stations in communities that were affected by the hurricane. Communities will utilize our SolarFi centers to charge phones, provide internet, and a digital library for kids to further their education.

February: We look to increase the modular design to be able to power gas stations. Shell is interested in doing a pilot at their gas stations on a power purchase agreement model. We will be paid similar to an electric company.

Shell also has an investment fund that have agreed to invest $300,000-$500,000 for growth funding. While we don't have a supporting letter from them, the Managing Director is happy to take phone calls.

April: We will utilize our SolarFi stations in rural communities to provide tele-medicine services for millions of people that live very far from the doctor. We are already in discussions with leading medical supply companies. Our goal will be to treat 50-100 patients a day. SolarFi will be the infrastructure for these projects.

Other solutions that we plan on improving is refrigeration, efficiency of the fridge, the fridges are especially needed in developing countries where an organization like FEMA uses SolarFi to deploy for emergency situations in which case vaccines need to be cooled at optimal temperatures.

In the USA, lockers need to open from payment. Remote monitoring needs to be improved upon. Facial recognition and the detection of nearby criminals. Weather and air pollution sensors need to be tested.

We need implement a hydraulics system.

SUPPLEMENTARY INFORMATION

FOUR QUESTION NARRATIVE WORD COUNT: _____ total words

TECHNICAL ASSISTANCE REQUEST (2 pages, including images, will be made public)

Provide a two-page description of the unique challenges and needs a national lab, private facility, and/or member of the American-Made Network could potentially help you resolve if you win the Go! Contest. The Prize Administrator will make this request broadly available so members of the American-Made Network can understand your needs and assist you through the voucher program or otherwise.

SUBMISSION SUMMARY SLIDE (a PowerPoint slide, will be made public)

Make your own public-facing one-slide submission summary that contains technically specific details but can be understood by most people. There is no template, so feel free to present the information as you see fit. Please make any text readable in a standard printout and conference room projection.

VOUCHER WORK SLIDE (a PowerPoint slide)

Describe how you will use your voucher funds including the entities you hope to engage and what they will do with the voucher funds. Provide on slide per entity you hope to engage. No limit on the number of slides. Provide a slide for the national lab voucher and the private facility voucher if applicable.

LETTERS OF COMMITMENT OR SUPPORT (optional)

Attach one-page letters (of support, intent, or commitment) from other relevant entities (e.g., potential users of the proposed innovation) to provide context. Letters of Support from partners or others that are critical to the success of your proposed solution will likely increase your score. General letters of support from parties that are not critical to the execution of your solution will likely not factor into your score. Please do not submit multi-page letters.

DEMO DAY PITCH AND DEMO

You are required to present and demonstrate your innovation’s proof-of-concept, and answer questions in front of a panel of judges during a public demo day event. Judges review your submitted material before demo day and, based on your performance, finalize their scoring and select winners on demo day. Competitors are required to organize their own travel and accommodations to participate in the in-person demo day. Presence of at least one representative of the team at the demo day is mandatory to be considered for the Set! Prize.