SOLARMELTS

'Throw & Go' solar-powered de-icer that melts ice on roads, bridges, & vehicles!

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Management Team:
Dr. Jared Day, CEO, Principal Scientist

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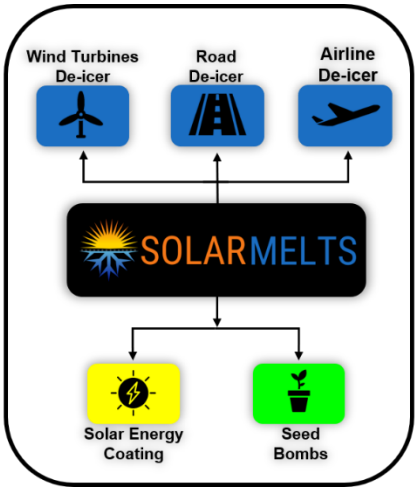
Industry:
Ice Melt/De-icer Industry

Founders: 3

Founded: June 2021

Status: Conducting Customer Discovery interviews, fundraising for Seed Round, finishing 2nd patent-able prototype **SkyMelt**

Financial Summary:
Stage: Seed Round
Seeking: **$280k**
Capital Raised: **$50k**



SolarMelts: **Target Markets** need non-hazardous & non-corrosive alternatives for heat absorbing applications.

Company Summary: We develop solar-activated products for the winter maintenance industry that are both environmentally friendly and non-corrosive to vehicles and machines. Our nanotechnology-based coatings serve a wide-range of heat absorbing applications that we use to license to leading manufacturers in their respective industries. Our goal is to make nano-fabrication techniques accessible to industries that need solar-powered coatings but are without the knowledge to incorporate nano-materials and nano-fabrication processes to their existing production line.

Customer Problem: Winter weather is a danger to our transportation channels and winter shutdowns across the entire U.S. snowbelt costs billions of dollars in lost wages a day. Winter maintenance is essential for people's safety and economic well-being but current industry solutions are harmful to our environment & vehicles. Roads need passive ice-melting solutions that do not damage our roadways, water supplies, or cause corrosion to our vehicles. Vehicles also need safe electrically powered solutions that can actively melt snow & ice quickly and safely.

SolarMelts' Solution: We developed a solar-activated coatings that can bind to the surface of any medium to convert solar energy to heat more efficiently. These coatings are bio-degradable and are not harmful to the environment. Since our coatings do not rely on chemical reactions to transfer heat, they will not rust property/vehicles exposed to outdoor conditions. We have developed a coated sand, **SolarSand** that can melt ice for roadways, and **SkyMelt**, a solar-powered spray-coating for airplanes and vehicles. Our thermal coatings can also be used to make solar collectors more efficient for solar energy applications. Alternatively, our technology can also be used as a protective shell arounds seeds to be used for the agricultural process of seed bombing.

Competitive Advantage: Our solar-activated coatings are a versatile tool across many industries including ice-melting, thermal paint applications, and agriculture because our coatings are bio-friendly and can coat any medium without causing harm to user or environment. **SolarMelts'** products are chemically inert so they do not dissolve over time eliminating the need for continuous re-application of product. **SolarMelts'** bio-friendly approach is a major advantage in a market with stunted growth due to the toxicity of its products. Our coatings can be tuned to absorb solar energy from shortwave (VIS-IR) radiation to longwave radiation (Far-IR/μW) using specific nano-particles to target wide-spread longwave energy. As classically trained nano-scientists we have a strong expertise in material science which allows us to use cutting-edge "bottom-up" nanotechnology processes to develop new technologies and enhance current manufacturing processes.

Business Model: Our model is to research, prototype/test, patent, and then license our technology to the highest bidder. We do not intend to manufacture any of our products. Payment to license our products AND brand will consist of an upfront lump sum fee with the rest of the payment coming in the form of royalties from future sales.

Competitors: Our main competitors are de-icer companies that specialize in liquid and dry salt compounds, sand companies, and local snow plowers. Dry salts and liquid de-icers are the most effective tools available against snow & ice but these are harmful to both the environment and vehicles. Normal sand cannot melt ice but is used as an abrasive that needs to be constantly re-applied to be effective. Snow plowing is the most basic ice-mitigating practice but this remains the most labor-intensive and time-consuming option. De-icer competitors include: Compass Minerals, Maine Salt, Kissner, NorthRock Minerals, Snow Joe, Green Gobbler.

ParleyUniverse.com is a programming hub that makes it easy to program your devices & apps together across different companies & brands. Our platform uses an IKEA-based approach to programming that is intuitive to novice users but still robust enough for advanced coders. We can easily program devices, apps, and custom code routines together in our graphical environment independent of the respective internal languages used. Our platform acts as a connecting bridge, or *parley*, for cross-platform device & app integration. By connecting devices & apps together across different brands we shield consumers from vendor “lock-in” problems and provide a solution for the lack of inter-compatibility plaguing the Internet of Things and device manufacturing markets.

Combining devices & software from competing brands often results in a product that is less than the sum of its parts (i.e. Apple + Windows). The lack of inter-compatibility across device companies is a huge problem for the Internet of Things marketplace and causes vendor "lock-in." To navigate around this hurdle companies hire expensive senior-level engineers for custom integration solutions for recurring integration problems.

ParleyUniverse.com is a programming hub that makes it easy to program your devices & apps together across different companies & brands. Our platform uses an IKEA-based approach to programming that is intuitive to novice users but still robust enough for advanced coders. Our user-friendly Javascript environment acts as a connecting bridge, or parley, between different device languages making device integration simple and therefore preventing vendor "lock-in." Users can use pre-made codeblocks to program their devices or make custom codeblocks using other programming languages.

Our unique vision of programming
with codeblocks makes complex tasks easily understandable while making it easy to share & exchange codeblocks for other tasks. Our component-based approach to programming closely mirrors the model embraced by Unity in the video game industry, will allow us to establish a marketplace for
codeblocks that will further help democratize IoT development and prevent vendor “lock-in.”

Industry Facts

- Winter Prep costs states ~20% of DOT budget
    - https://www.nbcnews.com/business/economy/road-salt-winters-2-3-billion-game-changer-n308416

- Winter storm shutdowns costs Billions of dollars a day in lost wages
    - Benefit–Cost of Various Winter Maintenance Strategies, Project 99006/CR13-03 September 2015, http://clearroads.org/wp-content/uploads/dlm_uploads/FR_CR.13-03_Final.pdf

Competitors

- Hydrophobic:
    - http://www.ecologicalcoatings.com/index.html