



Technical Assistance Request



The **Pure Solar** team is developing an **automated solar panel waste recycling system**. This automated solar recycling system involves the use of robotics, microcontrollers, sensors, and machine vision to effectively break down silicon based PV panels and thin-film panels to the core materials, allowing for reuse.

Currently our team has a place to work through our connector, **JMU X-Labs**. We have some industry connections through the College of Integrated Science and Engineering at James Madison University. We are also in contact with a global marketing firm, TVTY, who can provide us with advice in regards to spreading our ideas, gaining traction, and reaching potential customers.

Listed are areas that we request assistance:

- 1. Methods for silicon purification and chemical isolation**
 - a. We would need help from a capable laboratory to explore the proper processes for silicon purification and chemical isolation. Automating the separation of materials is a feasible process, however incorporating the proper procedure for silicon purification, and chemical isolation into the process is quite a challenge.
- 2. Production line methodologies for efficiency and compliance with industry standards**
 - a. We would like to speak with industry experts who run automated assembly and disassembly processes. We are attempting to build a system that is productive from an efficiency standpoint. This same system must meet industry standards, which will allow for its use in a widespread fashion.
 - b. Getting in touch with industry experts will provide us with an opportunity to learn about implementing quality assurance and the key role it plays in any successful production system
- 3. Economic assessment to maximize long-term profitability and sustainability**
 - a. While one of our team members runs a small-scale technology company, it would help to have some assistance in the realm of conducting an economic assessment and incorporate some business modeling/planning. This will allow us to predict various scenarios and aim to maximize long-term profitability and maintain success in a sustainable manner.
 - b. This aspect can be combined with the marketing plan that is set to be complete by the Set! Contest deadline

Thank you,

- The Pure Solar Team