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| **American-Made Solar Prize**  **TECH ASSIST FOR GO!** |
| **PROJECT NAME**  **Back-contacted silicon modules at the cost of PERC**  *Back-contact modules, aluminum interconnects, conductive backsheets*  **TEAM: Sunflex Solar**  Kathryn Fisher, Tempe, AZ, 85281, kathryn.fisher@asu.edu, ([Kate's Linkedin)](https://www.linkedin.com/in/kate-kathryn-fisher-95970441)  Zachary Holman, Tempe, AZ, 85281, zachary.holman@asu.edu, ([Zak's Linkedin](https://www.linkedin.com/in/zachary-holman-0644b026))  Barry Hartweg, Tempe, AZ, 85281, bhartweg@asu.edu, ([Barry's Linkedin](https://www.linkedin.com/in/barryhartweg))  Zhengshan (Jason) Yu, Tempe, AZ, 85251, zhengshan.yu@asu.edu ([Jason's Linkedin)](https://www.linkedin.com/in/z-jason-yu-7205a44b)  **PARTNERS AND AMERICAN-MADE NETWORK**  Arizona State University: [www.asu.edu](http://www.asu.edu) IPG Photonics: <https://www.ipgphotonics.com>  Laser Marking Technologies: <https://lasermarktech.com/>  CelLink: <https://cellinkcircuits.com/>  ISC Konstanz: <http://isc-konstanz.de/>  Violet Power: <https://www.linkedin.com/company/violet-power/about/>  Powerhouse: <https://www.powerhouse.fund/> |

[Sunflex Solar 120-second video](https://youtu.be/YPE1Ncce7Ms)

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#### *technical assistance request for go!*

During the READY! Phase of the American Made Solar Challenge, Solar Prize Round 2, we built a proof-of-concept prototype of a new back-contact module interconnect scheme. During the SET! phase we refined our cost modelling and showed that the bill of materials and tool set that would be used to produce PV modules with our technology is almost as cheap as that of PERC but results in higher efficiency modules. Because of this we have been able to generate substantial interest in our module technology among module manufacturers and have entered into a JDA with a manufacturing partner that culminates in a pilot production run of our technology in their facilities.

Under the JDA, our plan for the GO! phase is to identify the optimal bill of materials and tool set needed to fabricate 60-cell modules that pass a series of accelerated environmental tests designed to target the cell-to-interconnects and interconnect-to-interconnect nodes, as well as the encapsulant materials that result in minimal PID.

We are therefore seeking help form national labs and connectors in the network that can provide the following:

1. Laser processing facilities capable of handling full size module
2. IEC 61215 qualification test for 60-cell, crystalline Si PV modules
3. Combined Accelerated Stress testing that has been shown to induce more interconnect failure modes than the standard IEC tests
4. Field testing of a full string of modules, preferably in 2 different climate zones

We are also seeking module component manufacturers who are interested in having their products incorporated into such a module test run. These include but are not limited to:

* Anti-reflection coated front glass
* Encapsulants
* Rear glass or transparent backsheets
* Junction boxes and potting agent for either of the above



EFFICIENCY RISING