

GNI Technical Assistance Request
Autonomous, chemical-free vegetation management

The problem: Vegetation management is the #1 component of O&M costs for utility-scale solar power plants. Robotic mowers can clear the majority of vegetation in a solar field, but can't manage weeds growing around the mounting posts. Left unchecked, these weeds will degrade plant power output and cause premature infrastructure corrosion.



Because string trimmers cannot be used (flying debris would damage solar panels), the standard practice today is broad application of herbicides in those areas that cannot be mowed. This introduces health, safety, and environmental risks, is expensive, and contributes to erosion, which can shift mounting hardware.



The solution: GNI's revolutionary Directed Energy Flora Control technology kills weeds with light energy. GNI will work with Renu Robotics and Rixan Automation to develop a robotic arm implement that autonomously kills vegetation growing around mounting hardware, without chemicals.

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Technical Assistance Requests:

- Seeking American Made Network suppliers for both prototype and production needs. Both electrical and mechanical fabrication services will be needed, and potentially sub-assembly and final assembly services, to complement GNI's in-house capabilities.
- Seeking research organization with an understanding of biological testing practices, to conduct independent tests measuring the solution's efficacy. Testing should be applied across a variety of vegetation, representing flora in common regions where utility-scale solar power plants are present.
- Seeking market research services to identify end-user product needs and document in the form of a comprehensive product specification. A strong direct understanding of and/or access to solar power plant O&M functions is required to thoroughly capture end-user requirements and preferences.