

Modular Tarp Support Structure

Meet the Team



Gloria Martinez Orozco
Knowledge Management Lead



Jane West
People Management Lead



Mitchell Brimhall
Design Engineer



Alicia Olvera
Manufacturing Engineer

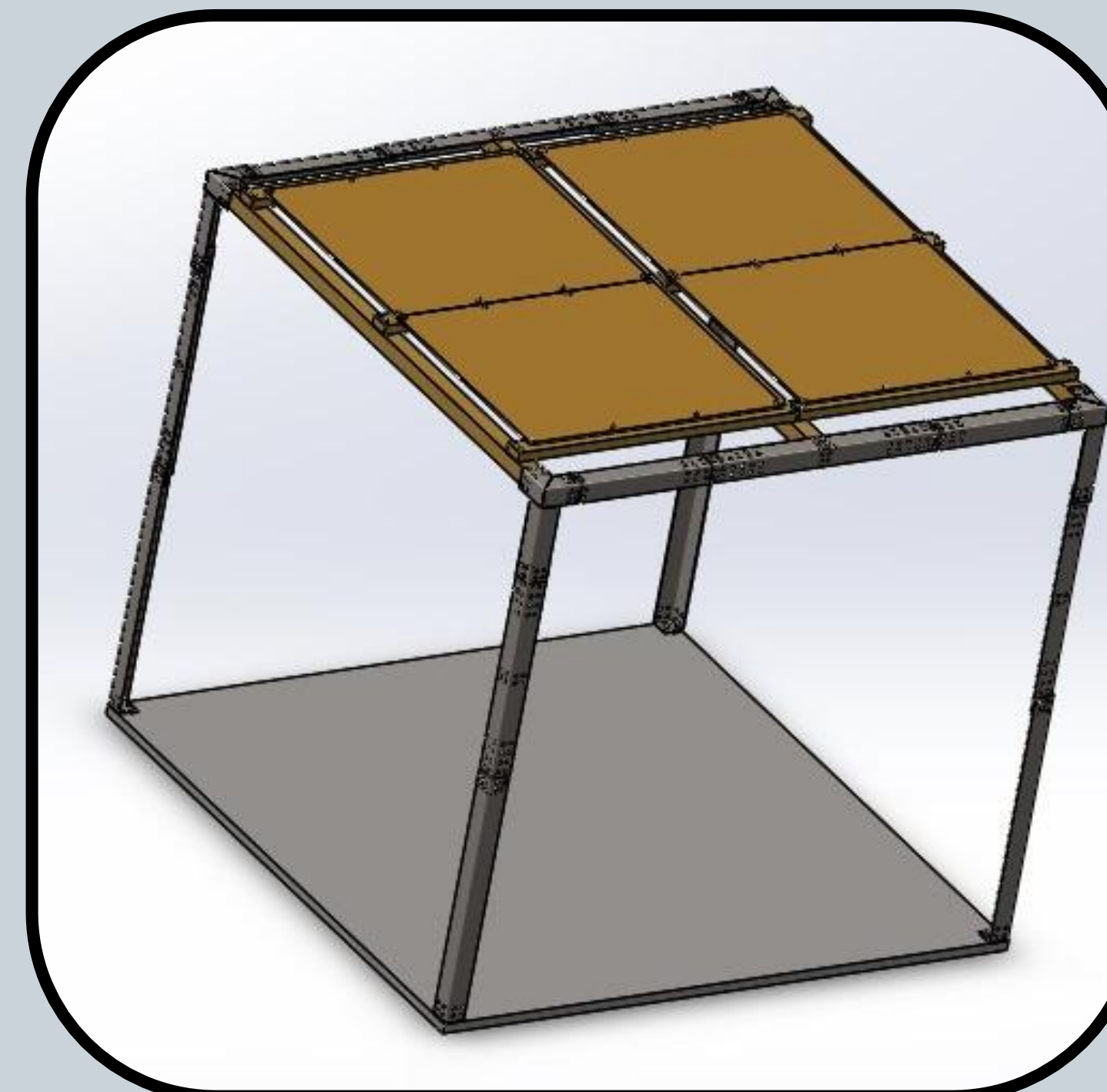


Victor Duran
Test Engineer

Current Solution



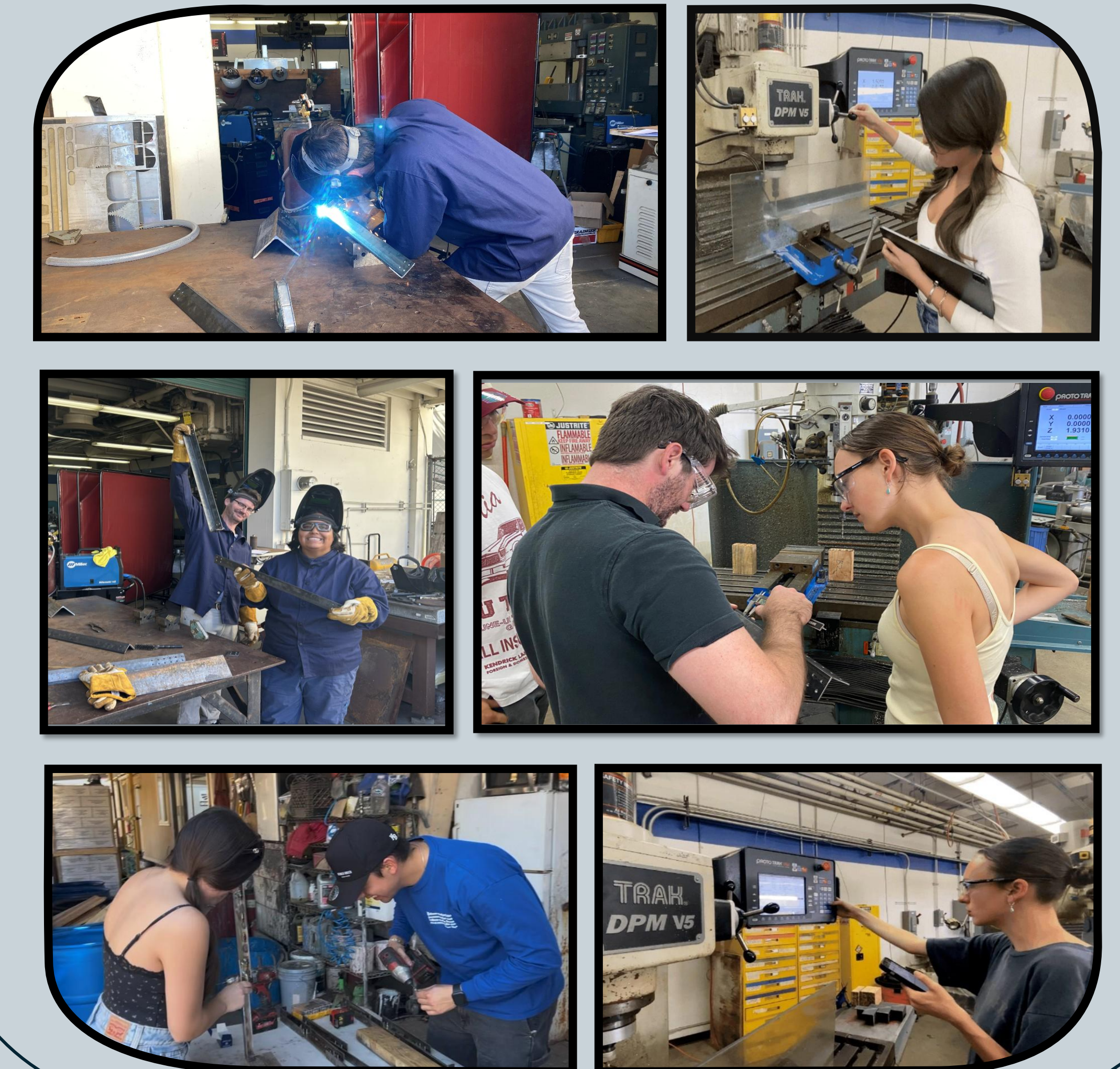
Final Solution



Project Overview

- Problem:** Solar Turbines currently uses a custom, wooden structure to ship turbine and generator systems and machinery. Each build costs the company up around \$30,000/unit and adds 1-2 days of lead time.
- Need:** Introduce a modular system made up of standardized parts that can be utilized for varying package geometry. The build will lower cost for the company while also reducing lead time

Manufacturing



Acknowledgements

The team would like to thank the following people and institutions in helping with the development of our frame:

San Diego State University

Scott Shaffar, Ph.D.

Solar Turbines

Jim Hickle: Director of PSO

Dayanara Gonzalez: Administrative Assistant

Donovan Vick: Manager, pipes & structures, PSO

Ryan Nieblas: senior manufacturing engineer

Key Takeaways

Modular: Due to the variability of Solar Turbines' shipping needs, the team focused on designing a durable and flexible frame that can operate as a reliable solution for any possible shipping geometry. The design produced covers all possible required shipping sizes up to the legal interstate oversized limits with a strict factor of safety.

Cost Efficient: Solar Turbines originally used a custom wooden frame that added two days of lead time and up to \$30,000 to construct. The new frame uses standard parts made up of angle irons as a base with a wooden roof; drastically lowering part numbers. The total cost of a frame large enough would be around \$5,000 in material and take a team of two-three no longer than 3 hours to construct it. This saves the company a little over 80% of the original material cost along with any cost associated with two days of contracted work.

