**PROJECT OVERVIEW**

**Project Statement:** Develop a USAF bioengineering compliant finishing structure for the Ellsworth Air Force Base 28th maintenance squadron's nacelle re-finishing procedures.

**Needs:**
- Portable and collapsible with modulating height.
- Contain 90-100% of air particulates.
- Assembled by 2 people in under 2 hours.
- Adapt current USAF equipment and PPE.
- Integrate a decontamination room.

---

**TEAM MEMBERS**

Travus Clark  
Eric Apgar  
Hernan Velazquez-Munoz  
Daniel Murillo  
Joshua Pasco

---

**ABOUT THE SPONSOR**

**USAF:** Preeminent force in air, space and cyberspace dedicated to win through innovation, problem solving and execution.

**NSIN:** U.S. Defense problem solving network driven to combine defense, academic and entrepreneurial innovators to combat national security problems.

---

**PROTOTYPE EVOLUTION**

- Initial Sketches
- CAD Revision A
- 3D Printed Prototype
- 3D Print w/ Figures
- Initial Assembly

---

**REQUIREMENT VERIFICATION**

Deflection plot of a 25lb load to correlate simulation and testing.

SDSU team members at Ellsworth AFB performing on-site demo and testing.

---

**FINAL DESIGN SOLUTION**

---

**ACKNOWLEDGMENTS**

We thank the following teams and individuals for their support, contribution and mentorship throughout the development of this project.

**USAF Ellsworth Team:**
- TSgt Aguiar  
- SrA Mendoza  
- MSgt Parker

**SDSU:**
- Dr. Scott Shaffar  
- Dr. John Abraham  
- Julie Smitherman

**NSIN Team:**
- Jason Combs  
- Cassandra HeymanSchrum  
- Patience Lowery  
- Luis Martinez  
- Larsa Summerville

Team Spray n’ Prey

Spring 2023