

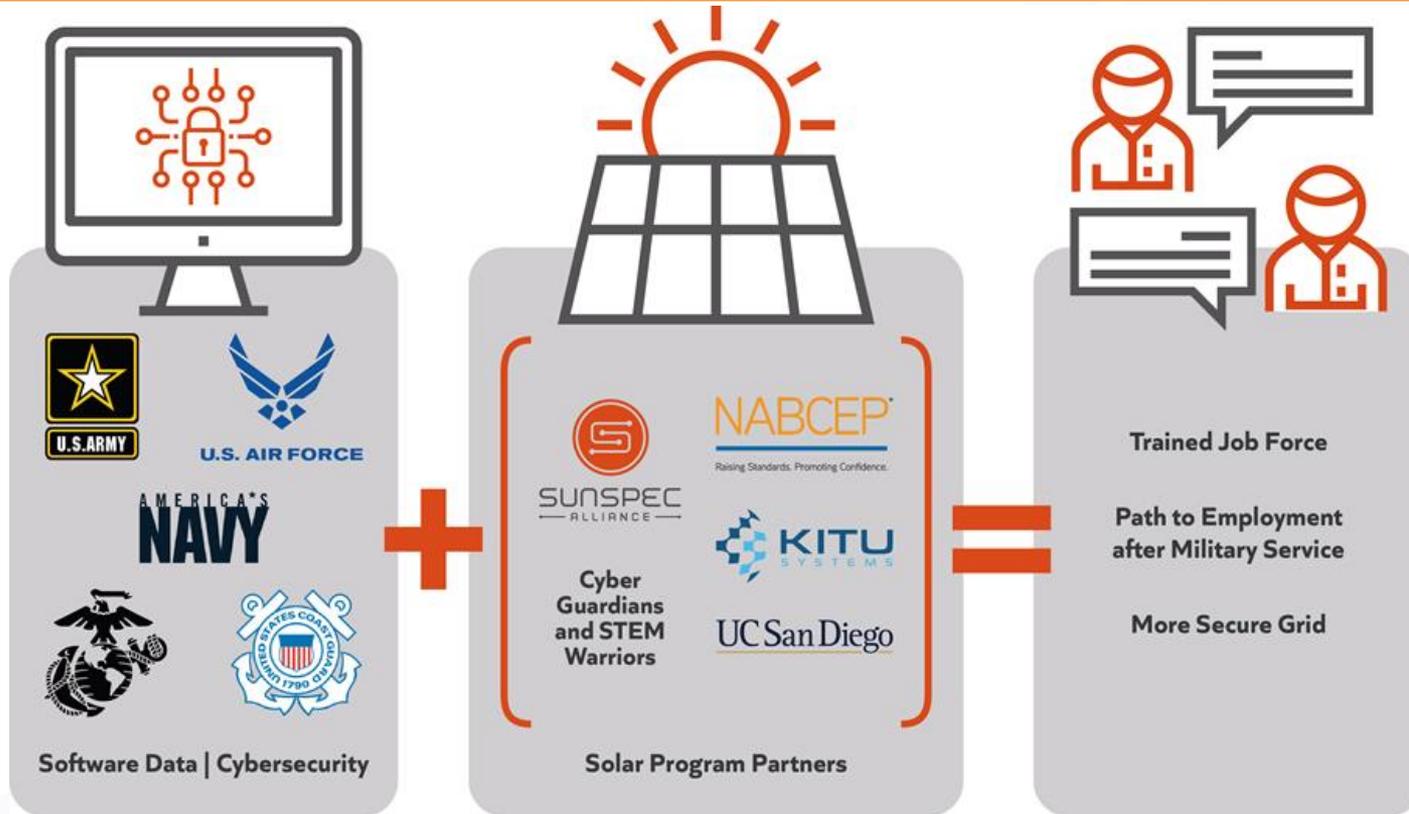
# SUNSPEC ALLIANCE

## Cyberguardians and STEM Warriors

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Thomas Tansy, Principle Investigator  
Venkat Prabhala, Business Manager

# Team Members and Their Roles



# SunSpec Alliance Background

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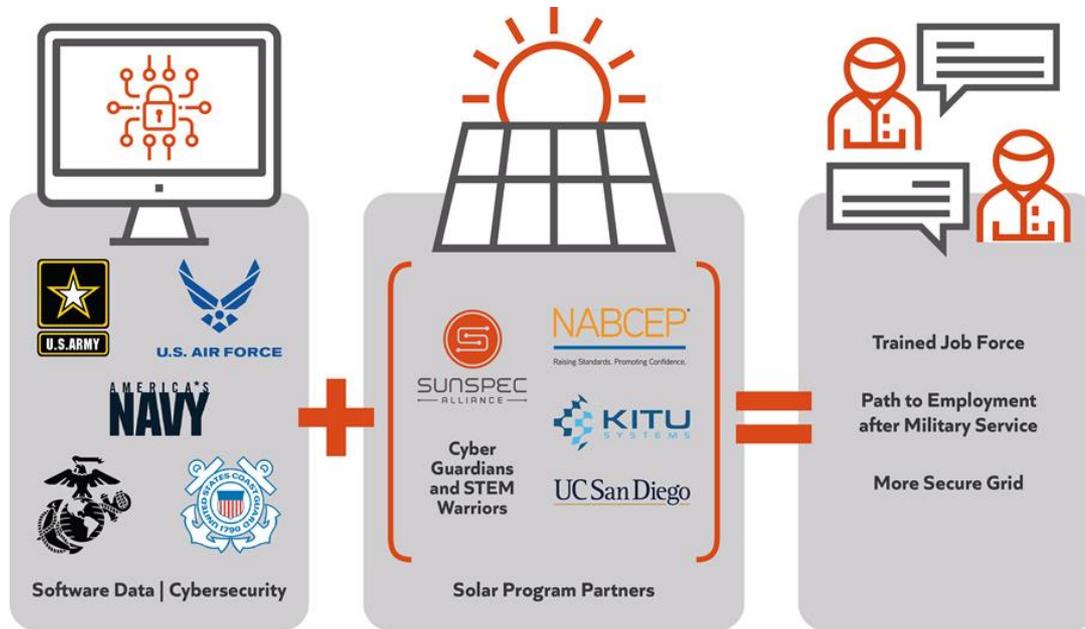


Global alliance of Distributed Energy Resource (DER) industry participants

Driver of industry growth and efficiency via open communication and information standards

Active programs for system- & device-level communication, financial & operational data exchange, and cybersecurity

# What does Success Look like?



## Project Outcomes

- **Online Courses** (9 Courses - 81 Academic Hours - Accredited and Available)
- **Education** (2 Universities and 6 Community Colleges offering coursework)
- **Trainers** (Total of 6 instructors trained in coursework and support)
- **Outreach Partners** (13 Partners and/or locations participating in program outreach to veterans)
- **Students** (620 students enrolled)
- **Job Applicants** (174 job applicants through job board)
- **Jobs** (51 job hires with at least 50% being veterans)

## Project Impact and Sustainability

- Mission critical training from experts at the leading edge of DER communication and cybersecurity.
- Job training and professional certification program with momentum to grow.
- Job placement platform for the industry to fill increasing demand for this highly specialized workforce.

# Project Objectives

**Train military veterans and other qualified individuals and facilitate their job placement in the DER communications and cybersecurity workforce.**

**Objective 1:** Develop robust, accredited curricula to address workforce gaps for DER data communications, networking and cybersecurity personnel.

**Objective 2:** Establish a holistic learning and career advancement system for veterans, transitioning military personnel and other qualified individuals into the DER workforce.

**Objective 3:** Match program graduates with employers seeking qualified personnel to generate jobs for veterans and other qualified individuals.

# Project Implementation

## Strategy

- **Multi-Disciplinary Team:** Assemble experts and organizations to contribute applicable DER and cybersecurity expertise, professional and educational accreditation and veteran outreach credentials.
- **Cutting Edge Curriculum:** Build curriculum in emerging “digital” disciplines in DER market.
- **Online Delivery:** Reach more students by delivering curriculum digitally.
- **Professional and Educational Accreditation:** Systematically accredit curriculum and tie it to relevant jobs to support credentials of job applicants.
- **Local Support:** Train community college and vocational training instructors to provide local support.
- **Veteran Outreach:** Engage organizations versed in reaching military veterans, shape content to targeted student groups and encourage participation of content partners to broaden program reach.

# Project Implementation

## Strategy

- **DER Employers:** Involve SunSpec members and industry employers in hiring platform.
- **SunSpec Job Board:** Create highly targeted online job board to match employers workforce needs to trained and certified applicants
  - Instrumentation Installation Technician
  - Network/Operations & Maintenance Specialist
  - Asset Manager
  - Software Systems Integration Specialist
  - Network/Cybersecurity Engineer
  - Electrical Engineer
  - System Design Engineer
  - Big Data Analyst

# Project Implementation

## Target Population

- **Ideal:** Military veterans with Military Occupational Specialty (MOS) training in OT/IT and cybersecurity.
  - Cyber related vocations in the military include such titles as Cyber Operations Offices, Cyber Network Defenders and Cyber Operations Specialists.
  - Specialists within the army who have data communications and OT/IT training include examples from the Army STEM Technology listings.
  - Such positions fulfill roles related to Information Technology, Radio and Communications, Test Measurements and Diagnostics and roles related to the electronic and physical security of U.S. and global forces.
- **Geographic:** Target educational institutions in regions of high concentration of military personnel.
- **Promising:** People entering junior college with a basic understanding of computing concepts.
- **Overall:** Military veterans and other qualified individuals with interest in solar and energy storage data communications, networking and cybersecurity.

# Project Implementation

## Three Curriculum Tracks / Example Topics

- 1. Technical/Professional:** Targeting engineers, managers, system deployment professionals, product developers, solution providers, and software developers. Courses could include topics such as:
  - **IEEE 1547-2018 operational and communication concepts:** Survey of key concepts addressed by the U.S. standard for Distributed Energy.
  - **Distributed Energy information and network standards:** Overview and comparison of communication standards for U.S. and global markets.
  - **Applying the IEEE 2030.5 standard to Distributed Energy:** Comprehensive review of the standard and its applications.
- 2. Operational:** Targeting Operations and Maintenance (O&M) managers and technicians, asset managers, network operators, and clerical staff. Courses could include topics such as:
  - **Analytics driven O&M:** Optimizing O&M programs for peak financial, operational, and customer satisfaction performance.
  - **Monthly operating reporting fundamentals:** Providing standardized operational- and financial performance data to financial institutions.
  - **Operating and maintaining administrative software systems:** Survey of typical information systems used by system operators and asset owners.

# Project Implementation

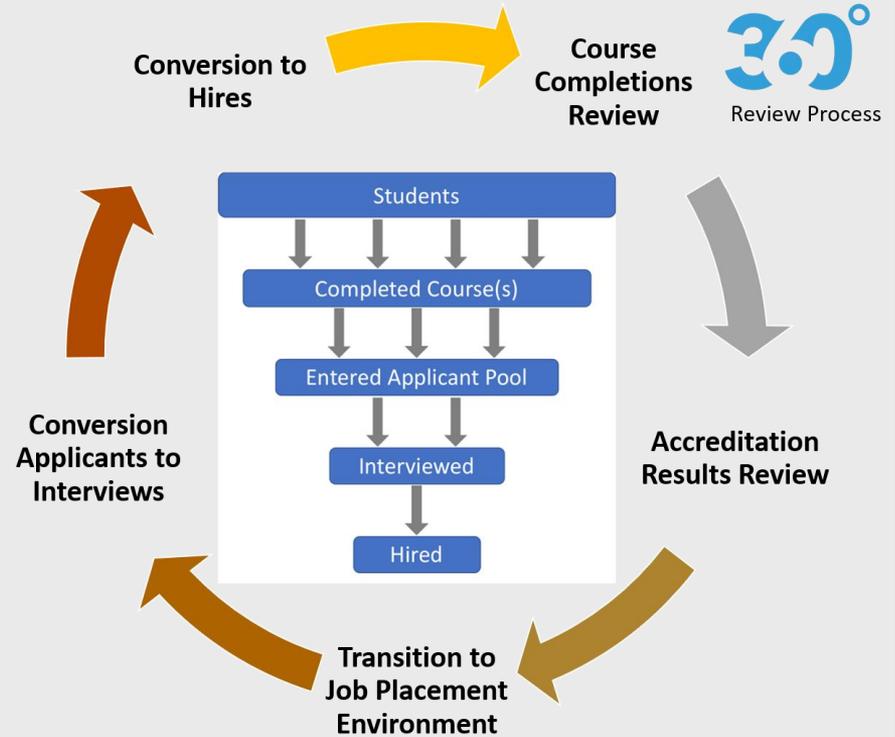
## Three Curriculum Tracks / Example Topics

- 3. Vocational:** Targeting installation technicians and related personnel including IT, networking and cybersecurity. Courses could include topics such as:
  - **IT/OT and networking fundamentals:** Survey of key concepts required to understand the basics of industrial computing.
  - **Telemetry and network installation:** Applying and installing IEEE 1547-2018 compliant DER networks and linking them to operations centers.
  - **Cybersecurity fundamentals:** Establishing and maintaining basic cybersecurity safeguards using industry standards and best practices.

# Project Implementation

## 360° Review & Improvement System

- Create review model to improve the hiring of veterans for DER data IT and cybersecurity positions.
- Synthesize data related to industry jobs needed, qualifications, job postings, student and educational institution feedback, hiring company and job applicant input.
- Identify improvements and integrate them back into the program.



# Project Results

## Online Courses Delivered

- 9 courses (equivalent to 81 academic hours) accredited and available via online from two universities and at least six community college and/or vocational training organizations.

## Trainers Trained

- Six or more community college and/or vocational instructors trained.

## Outreach Partners Contracted

- 13 Partners and/or locations participating in program outreach to veterans.

## Students Enrolled

- 620 unique students enrolled.

## Job Applicants Applying for Jobs

- 174 job applicants through job board.

## Veterans Employed

- 51 job hires with at least 50% being veterans.

# Thank you!

## SunSpec Alliance

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