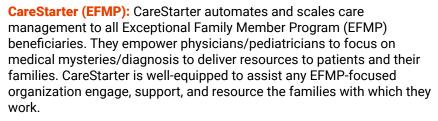# PHOENIX SPARK
TRAVIS AFB INNOVATION

Who we are: At Phoenix Spark, we are dedicated to finding innovative solutions to our Airmen's challenges. We serve to bridge the gap between the war-fighter and the innovation ecosystem through collaborative partnerships with industry and academia.

Mission: Create and promote a culture of innovation.

Vision: Empowered Airmen innovating at the speed of relevance to enhance the Team Travis mission.

AR/VR Security Forces Training: Virtual scenario training that allows security forces members to train/develop situational experiences in a controlled environment.

CareStarter (EFMP): CareStarter automates and scales care management to all Exceptional Family Member Program (EFMP) beneficiaries. They empower physicians/pediatricians to focus on medical mysteries/diagnosis to deliver resources to patients and their families. CareStarter is well-equipped to assist any EFMP-focused organization engage, support, and resource the families with which they work.

Puckboard Digital Scheduling: It's difficult to maintain a working schedule without constant input or flexibility. Puckboard aims to apply digital collaboration to make scheduling an easier solution that can easily disseminate information to applicable members.

ARES Security Base Assessments: Develop, install and demonstrate a prototype AVERT Virtual Tabletop and AVERT Virtual Reality Training solution at Travis AFB. Evaluate the use of AVERT Virtual Tabletop and AVERT Virtual Reality Training to improve security training effectiveness and fit to Travis AFB Security needs.

Enduvo AR/VR Medical Training: Virtual ORs created in deployed environments allow our Airmen the ability to practice medical readiness anywhere in the world. Medical staff can use equipment that is not physically located on site or perform medical tasks in VR, reducing risk and saving time in real world scenarios.

Robotire: Changing tires on fleet vehicles often takes a significant amount of time and manpower and is inherently unsafe. However, robots can do the same tasks in a fraction of the time! With the help of Robotire, LRS hopes to better fulfill maintenance and tire repairs on vehicles.

Easy Aerial Small Unmanned Aerial Systems (sUAS) Force Protection

Problem: Human response time to base security incidents does not compare to the high speed of sUAS that can be employed for relatively low cost. As technology improves and we encounter more advanced sUAS systems entering military airspace, we do no want to be playing catchup in this quickly advancing field.

Solution: Easy Aerial's sUAS allow rapid response to triggered visual or thermal identification and can conduct autonomous patrols that can be transmitted back to a SF command and control room. These capabilities allow for a faster and better security protocol.

Where we are: Easy Aerial is working with the Travis sUAS working group to enter a phase III SBIR contract with the 60th SFS to continue development. The 60th SFS currently has 5 working drones. We are also pursuing a SBIR Phase II R&D effort with the 60th MXG to retrofit the drones with cameras that could help with aircraft maintenance inspection and documentation reducing overall inspection time while increasing safety.

Platform One Digital Aircrew Initiative

Problem: Aircrew all over the world operate at the edge of the AFNET and lack a secure method to (1) *collaborate* with each other and with the Air Operations Center, (2) rapidly build, accredit, and deliver squadron operations solutions *at scale*.

Solution: Utilize & scale Platform One Enterprise Collaboration tools, such as Mattermost, to address secure C2 and collaboration. This solution allows accredited access to FOUO information globally with WiFi or cellular data. Simultaneously, build an end-to-end training pipeline via Tron for building a community of digitally-adept Airmen at the wings. This initiative will provide a mechanism for Airmen to learn, prototype, build, and deploy accredited applications on a military network, while paving a way to connect AMC crews to the Advanced Battle Management System (ABMS) via the EFB.

Where we are: Travis, McGuire, Charleston, and Hickam have pioneered using Mattermost to conduct C2 of operational missions at home and deployed, to include integration testing with the 618 AOC for rapidly & securely delivering crew papers to EFBs during mission execution. These wings are also collectively building a suite of modern software for addressing squadron operations via Puckboard, and are working with ABMS to build a scalable digital training model for Airmen. These efforts were pushed forward by Gen Van Ovost for Air Force adoption via Spark Tank for long term support and funding.

Sketchbox 3D VR Training Augmentation

Problem: Increased student sizes and decreased instructor availability has limited the resources and man hours available for traditional training methods. Many Major Weapon Systems currently have a large backlog of students waiting for upgrades (Example: C-5 loadmaster student backlog) and are struggling to get in front of requirements to replace qualified aircrew members.

Solution: Sketchbox 3D's Virtual Reality (VR) software allows "distance learning" without the need for physical aircraft systems or multiple instructors, speeding up the load master pipeline and cutting costs training on the aircraft. One instructor can teach multiple students in a VR space, where they can physically interact with training materials. The technology is fully scalable for use with other airframes with proper funding.

Where we are: Sketchbox 3D has created two training modules for proof of concept that are already being used to educate C-5M loadmaster students. Transitioning and scaling this model will require acquisitions assistance to build an SBIR Phase III contract and obtain funding for AMC-wide access to Sketchbox 3-D modules.