

COE TTHP 5th Annual Virtual Administrative Meeting

Year 5 – Center Overview

Dean Martha Banz (OU)

Lisa Haggard (WiSU)

Associate Dean Steve Hampton (ERAU)



**Center of Excellence for
Technical Training &
Human Performance**

Year 5 Activities & Accomplishments

- Onboarding of new project sponsors: Dr. Sheri Baxter, FAA Flight Program Operations and Susan O'Hara, FAA Air Traffic Organization Training Technologies Group
- Introduction of new research topics: 1) Safety assessments and 2) Mobile learning evaluations
- Engagement of industry and government partners in research: Essential Aero, Rigil Corporation, Garmin International, Delta Air Lines, Virtual Flight Academy, U.S. Air Force Pilot Training Next, Army Gaming Studio, and FAA Civil Medical Aerospace Institute
- Multi-institution collaborations: UAS studies -- Oklahoma State and Oklahoma (2) and Mobile Learning study: Akron, Auburn, IAU, Ohio State, Oklahoma, Purdue, TCC, UND, UNO, and WiSU (10)
- Ongoing interest in assisting the FAA with addressing COVID-19:
 - Remote training options for FAA ATC/Tech Ops
 - Pilot and airline crew safety (cockpit)
 - FAA facility and staffing protocols

At-A-Glance Metrics	Outcomes
# Core Institutions	15
# Research/PM Grants	80+
# Principal Investigators	60
# Subject Matter Experts	55
# Student Researchers	125+
# Industry Partners	50+
# Affiliate/Associate Members	12

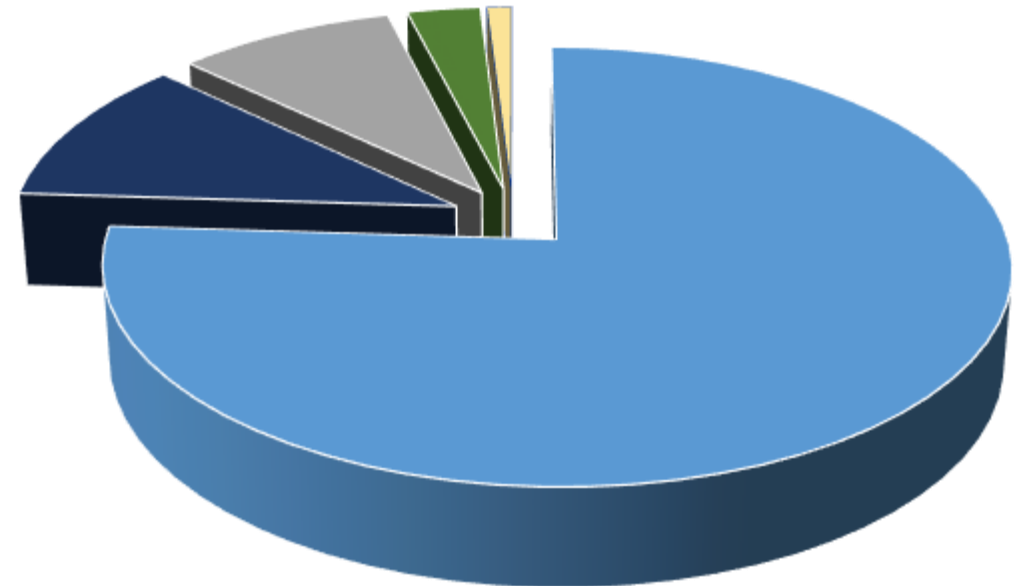
Center Industry and Government Partners

- 1st American Systems and Service
- Adacel
- Addx Corporation
- Air Traffic Simulation, Inc.
- **American Airlines (IAB Chair)**
- Army Gaming Studio
- ATA, LLC.
- ATAC
- AVT Simulation
- Blackboard
- **C² Technologies (IAB)**
- Ceros Solutions
- Chickasaw Nation Industries
- **Choctaw Nation of Oklahoma (IAB)**
- CI² Aviation
- **Computer System Designers (IAB)**
- CSSI
- Crew Training International
- Delta Air Lines
- FAA Civil Medical Aerospace Institute
- Florida NextGen Test Bed
- **Eduworks Corporation (IAB)**
- Essential Aero
- Frasca International, Inc.
- Garmin International
- General Dynamics IT
- Hucon Global
- Instructure, Inc. & Canvas Network
- Infina, Ltd.
- **JMA Solutions (IAB)**
- **KeyBridge Technologies (IAB)**
- **Leidos (IAB)**
- Metacraft
- Northrop Grumman
- Orion America Technologies
- Pilot Training System
- **Rigil Corporation (IAB)**
- **Robinson Aviation (IAB)**
- RTSync
- SAIC
- Serco
- SkySoft ATM
- Skymantics LLC
- Stinson and Associates
- TetraTech
- The Ritz Group
- TransLumen Technologies
- UFA, Inc
- U.S. Air Force Pilot Training Next
- **Veracity Engineering (IAB)**
- Virtual Flight Academy
- Volpe Center
- **Washington Consulting Group, Inc. (IAB)**

Federal Funding - 2016 to 2020 (\$7,385,203)

Federal Aviation Administration

- Air Traffic Organization (~\$5.614M)
 - 32 projects, 16 institutions (Akron, Auburn, Drexel, ERAU, IAU, Ohio State, OK State, OU, Purdue, TCC, TState, UND, UNO, West Mich, Wisc Mad, and WiSU)
- NextGen (~\$650K)
 - 1 project, 1 institution (Auburn)
- Flight Standards (~\$254K)
 - 3 projects, 5 institutions (Auburn, ERAU, IAU, Ohio State, OU)
- Flight Program Operations (~\$837K)
 - 9 projects, 5 institutions (Akron, ERAU, Ohio State, OK State, OU)
- Aircraft Certification Services/ Enterprise Operations (~\$30K)
 - 1 project, 1 institution (ERAU)



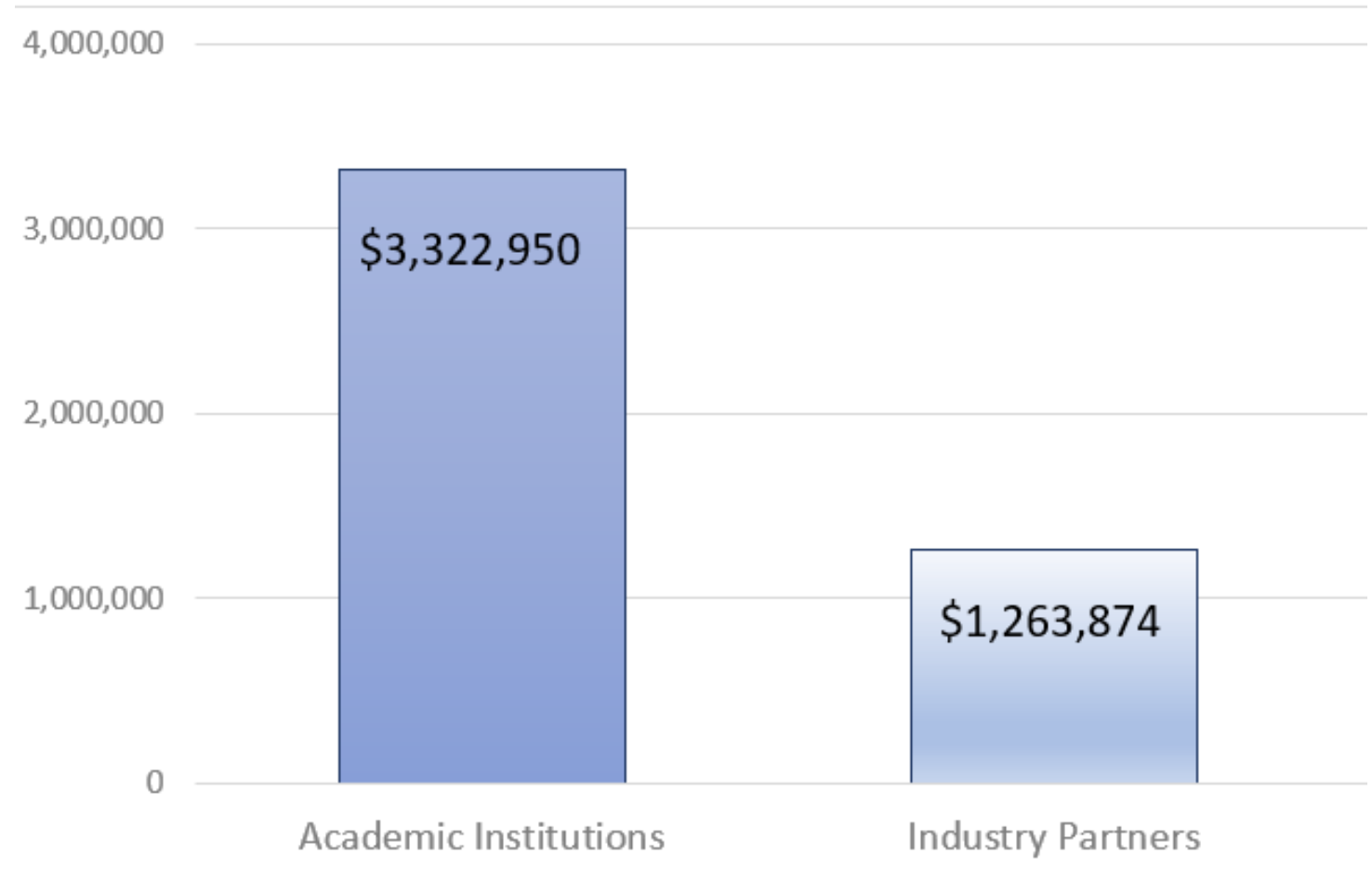
■ ATO ■ FPO ■ NextGen ■ Flight Standards ■ AIR

**** Per Public Law 101-508: The federal share shall be 50% of the costs of conducting research activities.**

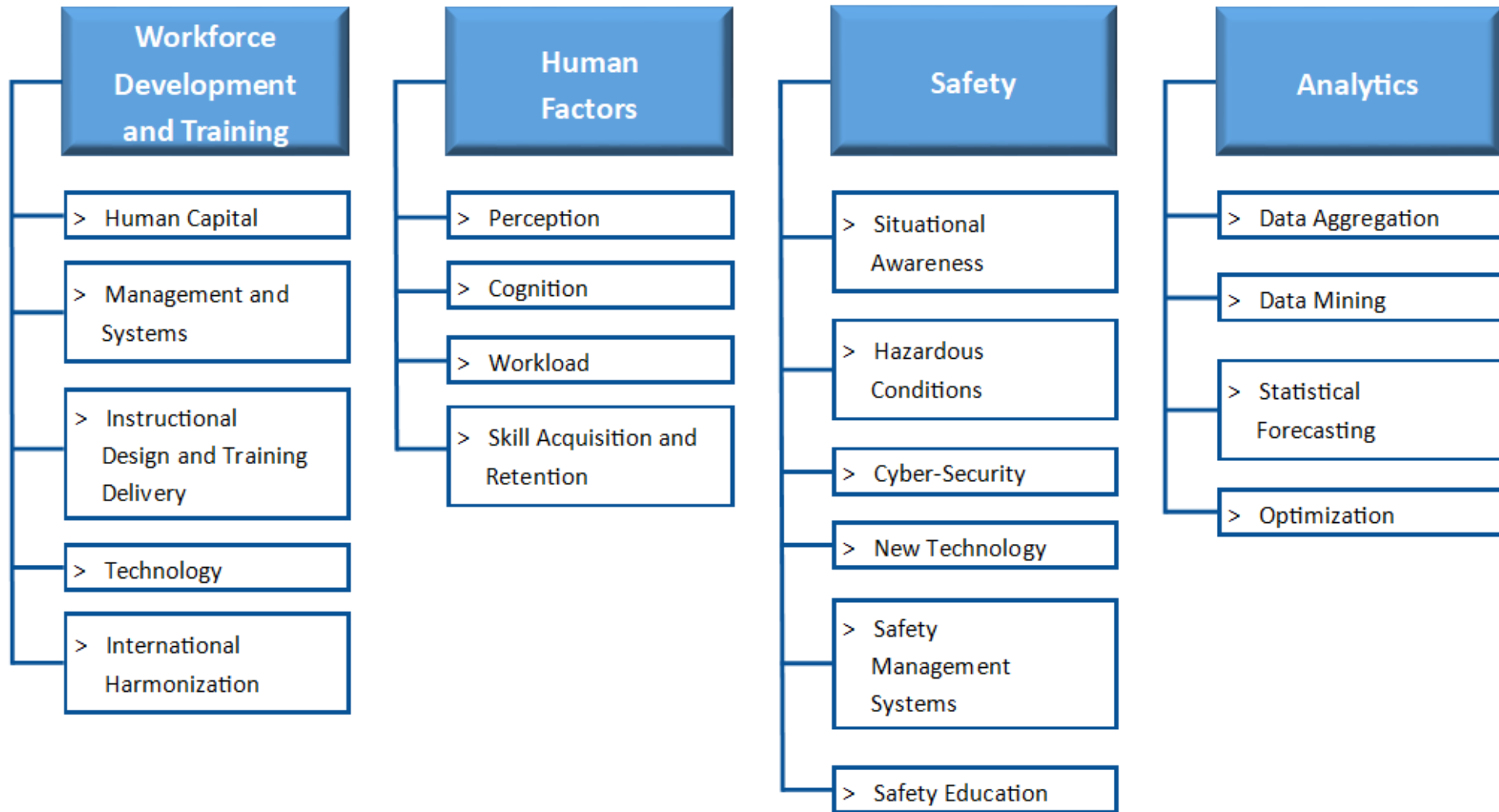
Matching Contributions as of Fall 2020 (\$4,586,824)

Thank you to the following industry partners for your matching contributions:

Adacel, ATSI, American Airlines, C2 Technologies, Ceros Solutions, Ci2 Aviation, CNI Aviation, Computer System Designers, Eduworks, KeyBridge Technologies, Orion America Technologies, Robinson Aviation, and Veracity Engineering



Updated Research Roadmap (2020)



COE TTHP Research Deliverables and Outcomes

1. Courses, Training and Training Technology

Adaptive Learning
Air Worthiness Training
AR/VR Training Solutions
Competency-Based Learning
Course Development
Field Training Standardization
Mobile Learning Applications
Modular Curriculum
Optimized ATC Simulation
Tech Ops Part-Task Training
Use of Gamification

2. Human Factors Solutions and Increased Employee Performance

Applied Game Theory
Evaluation of Cognitive Workload and Impacts of Fatigue
Motivation and Engagement Strategies for the Emerging Pilot Workforce
Weather and Risk-Based Decision-Making Strategies for ATCs and Pilots
Visual Scanning Strategies for ATC Low /High-Fidelity Simulation

3. Analytics and Safety Solutions

Antenna Modeling & Simulation
Fleet Modernization Plan
HR/Employee Training Database
International Training Benchmarking
Job Task Analysis & Database
Learner Data Management Plan
Technical Training Benchmarking
Tech Ops Training Analysis
UAS-Based Flight Inspection
UAS Combat Flight Inspection Plan

Update from our Industry Advisory Board *(Captain Scott Shankland – IAB Chair, American Airlines)*

