

# **Brief to Ohio Delegation**

The Alliance for Human Effectiveness and Advancement (AHEAD)

# **Overall Summary**

- State of Ohio through the Third Frontier Commission (\$5M) and Ohio General Assembly (OBR \$16M & ODS \$6M) have provided Wright State University funds for:
  - Developing a new business model to expand the Alliance for Human Effectiveness and Advancement (AHEAD) to Support Human Performance and Health Care
  - Workforce development to grow human performance research and development
  - Job creation to better support Wright-Patterson Air Force Base
  - Technology transition and commercialization
- The return on state investment to date and projected thru June 2015:

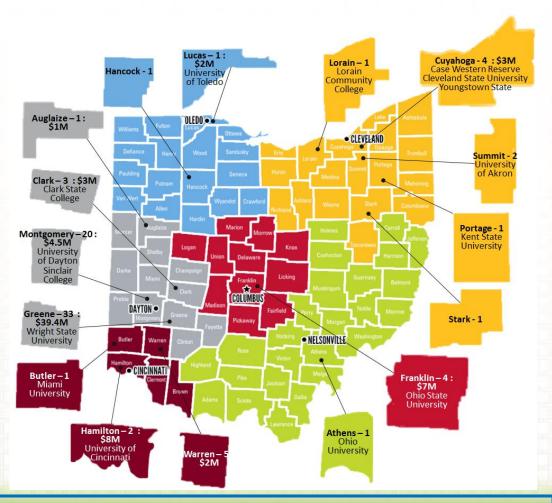
	<u> 2010 - 2014</u>	June, 2015
New Federal R&D Contracts to Ohio	\$67 million	\$167 million
Est Private Sector Investment in Ohio	\$115 million	\$150 million
New Jobs to Ohio	435	575
Est Annual Payroll to Ohio	\$35.7 million	\$47.2 million

- Activities are ongoing to expand this collaborative business model across other AFRL, NASIC directorates and technology areas.
  - Data Analytics, Unmanned Systems, Cyber, ISR, Sensors, Defense Intelligence, Materials and Manufacturing, Geospatial, and Aerospace Systems



## **AHEAD Collaboration Across Ohio**

711<sup>th</sup> Human Performance Wing Annual Funding \$85M / Year ~\$74M Now Stays in Ohio Because of AHEAD



Entities Participating in Each County: Total Yearly Revenue Per County
University Participation in Each County



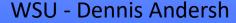
# LVC Regional Enterprise Created as a part of AHEAD



# Ohio Federal Jobs and Military Commission (OFJMC) Commission Support Improving Ohio's Economy Through R&D









OSU - Marty Kress



CSU - Elad Granot



# **Concept to Support AFRL/GRC Mission Requirements** and Emerging Commercial Opportunities

Red Items are Initial focus Areas.

#### **Aerospace Systems**

- Manned
- Remotely Piloted
- Hypersonic

#### **Space Systems**

- Manned
- Unmanned

#### **Cyber Systems**

- Weapon Systems

Commercialization & **Technology Transition** Small / Med Business Growth **Connections to Business** 

#### **Workforce Development**

- STEM
- Skilled
- Unskilled

# **Technology Focus Area Centers of Excellence (COE)**

Human Performance and Health Sciences

#### Autonomy

- LVC Training
- Neuroscience
- Aerospace **Physiology** /Toxicology
- Bisensors / **Biomakers**
- Human Machine **Teaming**
- RPA
- **Operations**

#### **Power and Propulsion**

- Hybrid Electric Power and **Propulsion**
- Solar Electric Power and Propulsion
- Advanced Turbine Engines
- Energy / Fuels
- Energy Storage / Retrieval
- On-board Power Systems

#### Materials and **Manufacturing**

- Nanomaterials Sustainment Additive
- Manufacturing Ceramics
- Composites
- Materials for Adverse **Conditions**
- Flexible **Electronics**

#### **Advanced Communications**

- Space
- Tactical
- RF Spectrum Management
- FCC
- Advanced **Algorithms**
- Digital Systems

#### Control, Communications Computing Intelligence Surveillance &

Command,

Reconnaissance (C4ISR)

#### • Human-Centered ISR

- Data Compression / **Analytics**
- Processing **Exploitations** and Dissemination
- Infrared (IR). **Electro-optical** (EO), Laser, RF, Hyperspectral, Acoustic. & **Radar Sensors**
- Space Situational **Awareness**

Data Analytics

**Precision Navigation and** Targeting (PNT) and Electronics Warfare (EW)

- Directed
- Offensive and **Defensive EW**
- Novel
- **Payloads** Avionics
- Next Gen Global **Positioning** Systems (GPS)



# Joint AFRL/NASA Glenn Priorities

### Strategy and Prioritization meeting Held on Feb 5

Reviewed and Refined FMJC Research Priorities

## AFRL Priorities

- Human Performance/ Health Care
- Hypersonics
- Directed Energy Weapons (Lasers)
- Autonomy
- **■**C4ISR
- LVC
- Materials/ Manufacturing
- Propulsion

# NASIC Priorities

- Cyber
- Data analytics

## NASA Glenn Priorities

- Hybrid Electric Propulsion
- Advanced Communications
- Solar Electric Propulsion
- Energy Storage (Enabler for others)
- Materials and Manufacturing



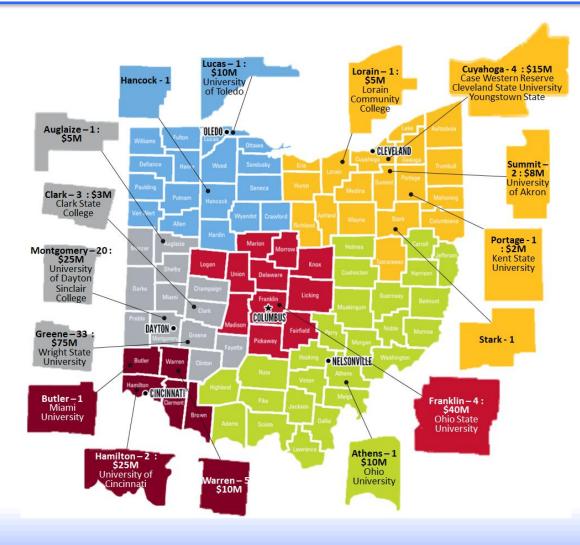
# Projected Growth Across Ohio Focused OFMJC University and Small Business Funding

Total AFRL Funding in Ohio today is \$458M/Yr

**Projected:** \$650M/Yr

Total AFRL Small Business Funding in Ohio today is \$210M/Yr

**Projected:** \$300M/Yr



Total NASA Funding in Ohio today is \$50M/Yr

**Projected:** \$100M/Yr

Total
AFRL/AFOSR
Basic Research
Funding in Ohio
today is only
\$11M/Yr

**Projected:** \$30M/Yr



# FY 16 / FY17 Ohio Biennium Request

- Increase OBOR line from previous biennium to \$10 million/yr to support AHEAD, R&D, tech commercialization with WPAFB. Language included to clarify Wright State Applied Research Corporation (WSARC) role as lead for IUC with WPAFB and GRC. (Line item 5JCO 235668 Section 371.50.65 formerly named Defense Aerospace Workforce Development Initiative)
- Language suggested: Of the foregoing appropriation, funds will be used by Wright State Applied Research Corporation to lead statewide collaborations in research, workforce development and technology commercialization between Wright-Patterson Air force Base, NASA Glenn, the University System of Ohio, including state assisted universities, and the private sector.
- Work with Senate and House leadership to identify most appropriate funding source(s). Senate Leadership suggests excess liquor profits.
- Overall goal to collaborate with Senate to fund OFMJ statewide strategy at \$50 million/yr.