Brief to Ohio Delegation
The Alliance for Human Effectiveness and Advancement (AHEAD)
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:

<table>
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<th>2010 - 2014</th>
<th>June, 2015</th>
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<tbody>
<tr>
<td>New Federal R&amp;D Contracts to Ohio</td>
<td>$67 million</td>
<td>$167 million</td>
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<tr>
<td>Est Private Sector Investment in Ohio</td>
<td>$115 million</td>
<td>$150 million</td>
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<tr>
<td>New Jobs to Ohio</td>
<td>435</td>
<td>575</td>
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<tr>
<td>Est Annual Payroll to Ohio</td>
<td>$35.7 million</td>
<td>$47.2 million</td>
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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
711th 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

WSU - Dennis Andersh
OSU - Marty Kress
CSU - Elad Granot
Concept to Support AFRL/GRC Mission Requirements and Emerging Commercial Opportunities

Red Items are Initial focus Areas.

Application Domains
- Aerospace Systems
  - Manned
  - Remotely Piloted
  - Hypersonic
- Space Systems
  - Manned
  - Unmanned
- Cyber Systems
  - IT
  - 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
  - Biosensors / Biomarkers
  - 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 Communications
- Tactical Communications
- RF Spectrum Management
- FCC
- Advanced Algorithms
- Digital Systems

Command, Control, Communications Computing Intelligence Surveillance & 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 Energy
- 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

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

NASIC Priorities
- Cyber
- Data analytics
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

Projected Growth Across Ohio in 3 years to > $250M Year
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.