Ohio Federal and Military Jobs Commission (OFMJC) Support
Improving Ohio’s Economy Through R&D

WSU - Dennis Andersh  OSU - Marty Kress  CSU – Jerzy Sawicki

Sept 11, 2015
Requested Approvals On Sept 11th

- Budget Allocations for FRN Network
- Organizational Construct to support FRN
- Charters for ERB and TRC
- ERB and TRC Participants
- White Paper Review Team and Process
- COI for ERB, TRC and White Paper Review Teams
- Overall Schedule and Plans going Forward

- Next Step: Review and Approve White Papers Presented at the Oct 8th FMJC commission meeting.
Budget Allocation for FRN
## Budget Outlook

<table>
<thead>
<tr>
<th>Budget Lines</th>
<th>FY16 7/1/2015 - 6/30/2016</th>
<th>FY17 7/1/2015 - 6/30/2016</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>OBOR Workforce Development (WFD) Applied Research Corp (ARC)</td>
<td>$10M (AHEAD, APDC, Jobs Ohio, STEM) (FRN COEs, other)</td>
<td>$10M (AHEAD, APDC, Jobs Ohio, STEM) (FRN COEs, other)</td>
<td>$20M</td>
</tr>
<tr>
<td>OBOR Federal Research Network (FRN) The Ohio State University (OSU)</td>
<td>$0M</td>
<td>$5M (FRN)</td>
<td>$5M</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td><strong>$25M</strong></td>
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</tbody>
</table>

The current budget was signed by Governor’s Office on June 30th and has the current budget line items to support the Federal Research Network for Wright Patterson AFB (WPAFB) and NASA Glenn Research Center (GRC).
Amounts For Consideration By Leadership Team

Total State Operating Funding for FY 16 and 17 = $25 M
- Aerospace Workforce Development Legacy Programs = $(3 M)
- FRN Admin., Financial and Organizational Support = $(2 M)
- Tech Commercialization/Workforce Dev Support (LCCC/CSU) ** = $(2 M)

- Funding Available for 6 COE’s Research and Business Plans = $18 M

** Also Will Require White Paper and Proposal
# FRN COE Milestones and Funding Profile

## Funds

<table>
<thead>
<tr>
<th>Available/Projected</th>
<th>July 1, 2015</th>
<th>July 1, 2016</th>
<th>July 1, 2017</th>
<th>July 1, 2018</th>
<th>July 1, 2019</th>
<th>July 1, 2020</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$7.5M</td>
<td>$12.5M</td>
<td>$13M</td>
<td>$16M</td>
<td>$16M</td>
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<td>$65M</td>
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</tbody>
</table>

Not all COEs will necessarily get the same level of funding in year one and year two. Funding will be based on the merit of the proposal – the linkage to AFRL, NASIC and GRC requirements – and the ability to create some jobs in the not too distant future – emphasis on some jobs – not hundreds or thousands.

It is our intent to secure out year funds – to do that – we need near term results – a satisfied and energized set of government customers – some key industry partners (large and preferably small and mid sized), and we need some state organizations as champions.

## Key Dates

- **7/1/15**: State Budget Support 
- **FY 16/17**: COE Quarterly Reviews
- **9/30/15**: RD1 COE White Papers Due
- **10/15/15-11/30/15**: RD1 COE Proposals Due
- **10/15/16**: COE Funding Released Phase I
- **1/16**: RD1 COE Funding Released Phase II
- **10/15/16**: COE Funding Released Phase III
- **10/15/17**: COE Funding Released Phase IV
- **1/15/18**: RD2 COE White Papers Due
- **2/15/16-3/30/16**: RD2 COE Proposals Due
- **5/15/16**: RD2 COE Funding Released Phase I
- **10/15/17**: COE Funding Released Phase II
- **10/15/18**: COE 6 Month Reviews
- **1/15/19**: RD1 COE Funding Released Phase II
- **7/15/19**: COE 6 Month Reviews
- **10/15/19**: COE Funding Released Phase III
- **1/15/20**: RD1 COE Funding Released Phase III
- **7/15/20**: COE 6 Month Reviews
- **10/15/20**: COE Funding Released Phase IV

**Legend**

- Funds Available
- Funds Proposed
- COE Reviews
- Milestones

White Paper Decision Gate
Iteration (as required) with Leadership Team BEFORE proposal development/submission

Funding released as projects are accepted by review boards
Round 1 and Round 2 Funding Plans

- Have Allocated ~$3M for each COE over the next 2 years.
- Actual COE funding will be determined by the proposal quality and how well the proposals satisfy the evaluation criteria.
  - Incremental funding will be provided based upon an agreed upon delivery milestone schedule and quantitative research performance metrics results.
- Round 1 and Round 2 Funding will be initially equally divided.
  - If we do not get enough quality research proposals we may establish a Round 3 in late CY 16.
  - We might also increase funding for Round 1 Teams if warranted.

- All funding changes will be review and approved by FMJC Commission.
State funding of $25M over the Biennium will put a premium on the FRN to produce a return on investment (ROI) to continue the program. Specifically the COE plan must address:

- Does the proposed project meet the applications/user driven requirements derived from emerging mission priorities of NASA and DOD. **This is a go/no go for each project.**
- The degree of alignment with Ohio industries and potential to impact job creation. If there is no industry cost share, then the long term impact to Ohio industry should be considered. **This is a go/no go for each project.**
- The Level of collaboration between the universities and with industry. Is the project a collection of independent sub-projects or is it truly an integrated approach to meeting a technical objective of a federal agency or company?

Resource Allocation Process is Important and each COE Plan will require FRN Executive Review Board (ERB) and Technical Review Council (TRC) approval.

- Need to prioritize the $20M Aerospace Workforce Development funding in FY 16 and FY17 to increase ROI. Continuation of existing programs and invest in FRN start-up and business plans.
- Need to prioritize the $5M in FY17 to support overall FRN objectives and increase the ROI
Organizational Construct
Construct for Ohio Centric Center of Excellence (COE) Federal Research Network (FRN)

**Air Force Research Laboratory (AFRL) Priorities**
- Human Performance/Health Care
- Hypersonics
- Directed Energy Weapons (Lasers)
- Autonomy
- C4ISR
- LVC
- Materials/Manufacturing
- Propulsion

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

**Executive Review Board**
- 3 WP and GRC Reps (Ex Officio)
- 1 OFMJC Commissioner
- 1 JobsOhio Rep
- 4 Private Industry
- 4 University (1 State Supported, 3 State Funded)
  Rotates every 2 years.

**Technical Review Council**
- 3 WP and GRC Reps (Ex Officio)
- 4 Rotating VP of Research or Deans of Engineering at Ohio Universities
- 4 Private Industry CTO or Dir of Engineering
- 1 Third Frontier Rep
  Rotates every two years.

**State of Ohio**

**Wright State University Applied Research Corporation**

**Human Performance and Human Sciences COE**
- WSU
  (Dr. Tim Broderick / Mr. Aaron Miller)

**Power and Propulsion COE**
- Ohio State University
  (Dr. Mike Benzakein)

**Materials and Adv Manufacturing COE**
- University of Dayton
  (Dr. John Leland)

**Advanced Communications, COE**
- Ohio University
  (Mr. Trent Skidmore / Dr. Shawn Ostermann)

**C4ISR and Data Analytics COE**
- WSU/OSU
  (Mr. Colin Morrow / Dr. Greg Creech)

**Energy Storage and Integration COE**
- Case Western Reserve U.
  (Dr. Alexis Abramson)

**National Air and Space Intelligence Center (NASIC) Priorities**
- Cyber
- Data analytics
- C4ISR
- Modeling/Simulation/Analysis
- Hypersonics
- Directed Energy

**Commercialization and Workforce Development Support**
- (Dr. Jerzy Sawicki/CSU)
  Ms. Tracy Green(LCCC))
State of Ohio

WP/GRC Executive Review Board
Applied Research Corporation
Technical Review Council

Human Performance and Human Sciences AHEAD COE
Power and Propulsion COE
Materials and Manufacturing COE
Advanced Communications COE
ISR and Data Analytics COE
Energy Storage COE

Commercialization and Workforce COE

Chapter 2: Expand Small Business Contracting
Chapter 3: Create Workforce Placement Center for FMJ
Center of Excellence on TOPIC:
Catalyzing high priority research areas in TOPIC to support WPAFB, NASA GRC needs and grow Ohio economic opportunities

Governance (Director and Board)
- Allocate limited resources
- Effective collaboration
- Ensure organizations invest in most valuable projects
- Create economies of scale for service offering

Measurement, Marketing, and External Communications
- Deliver valued results
- Justify creation through use of output metrics
- Support and attract growth opportunities through effective communications

Internal Support (Staff)
- Industry/Commercialization Manager
- Proposal Developer
- Operations

Technical Guidance (Researchers)
- Roadmaps & Pilot Project Prioritization
- Technical Advisory Boards (composed of Univ researchers, GRC, WP)

Activities
- Workshops
- Research Seed Funding for pilot teams
- Education

Collective Resources among RCoEs and Universities
Equipment, Facilities, Templates, Knowledge Repositories, Standards and Methodologies, Shared Staff (marketing, web, IP)
The WSARC will act as the contracting and program management agent for FRN. Specifically the WSARC will:

- Lead and oversee all procurement, contracting and financial reporting activities.
- Nominate the ERB and TRC members that will require FMJC Commission approval.
- Organize and provide support to ERB and TRC review teams.
- Manage and mitigate ERB and TRC COIs.
- Be the funding agent for all COEs.
- Be the repository of all deliverables under this program.
- Provide Business Development and Market Research Support to COEs.

Bottom Line: We will be fully compliant with State and Federal Policies, Rules, Regulations and accounting procedures.
Proposed Charters & Members for ERC & TRC
The WP/GRC Executive Review Board is responsible to oversee the development, funding and performance of the Ohio Federal Research Network (FRN) of the Federal and Military Jobs Commission. The Executive Review Board (ERB) will provide ongoing oversight of the FRN to support the research priorities of the federal installations and build capabilities within Ohio to expand and focus research, workforce development and technology commercialization. The Executive Review Board will:

- Ensure that the research agenda for the Federal Research Network advances the state of the art, supports the federal missions of Wright-Patterson and NASA GRC, aggressively pursues commercialization opportunities in Ohio, and maximizes productivity through cross program and infrastructure leverage.

- Review and approve the Federal Research Network technology framework establishing the context and focus of research programs, highlight relationships between them and map the research activities of other organizations to identify opportunities for synergy and collaboration.

- Review and approve roadmaps for core Federal Research Network technologies and programs to support the prioritization of programs, monitor progress and link them to Air Force, NASA and private industry market requirements.

- Review key funding opportunities and proposals for Federal Research Network research programs to ensure alignment with federal and state strategic and operational plans.
The TRC is responsible to the FMJC and the ERB for comprehensive oversight of the portfolio of technologies that are used and developed by the Research Centers of Excellence (COE) as part of the Ohio Federal Research Network (FRN) in the execution of their programs, including the following specific duties and responsibilities:

- Assessing proposed architectures and roadmaps for technologies used by the COEs are effectively aligned with WPAFB and GRC missions and priorities
- Collaborating with COE technology teams to establish common capabilities to support collaboration across the FRN and its public and private partners
- Reviewing proposals for technology investments by COEs to realize opportunities for synergy and leverage of technologies and other resources between centers
- Ensuring that a consistent level of security and compliance is achieved across the FRN and in engagements with outside organizations
- Evaluating the technical merit, broader applicability and commercialization potential for the technologies developed through COE research programs within both the public and private sectors
- TRC will review the COE proposals and they will be evaluated using the following criteria, listed in descending order of importance
Proposed ERB and TRC Composition

Review Team for Proposals

<table>
<thead>
<tr>
<th>Executive Review Board</th>
<th>Designee</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ohio University Dean of Engineering</td>
<td>Dr Dennis Irwin</td>
</tr>
<tr>
<td>Cleveland State Pres Ron Bergmann</td>
<td></td>
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<tr>
<td>Ohio State University Dean of Engineering</td>
<td>Dr Dave Williams</td>
</tr>
<tr>
<td>Wright State University Pres Dave Hopkins</td>
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<tr>
<td>Case Western Reserve VP of Research</td>
<td>Dr Suzanne Rivera</td>
</tr>
<tr>
<td>Lorain County Community College Pres Roy Church</td>
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<tr>
<td>Ohio Federal Military Jobs Commission</td>
<td>Gary OcConnell</td>
</tr>
<tr>
<td>NASA Glenn Jim Free</td>
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<tr>
<td>AFRL Jack Blackhurst</td>
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<tr>
<td>NASIC Curt Rowland</td>
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<tr>
<td>Jobs Ohio John Miner or Glenn Richardson</td>
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<tr>
<td>Industry 1</td>
<td>Pete Hennessy</td>
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<tr>
<td>Industry 2</td>
<td>Joe Sciabica</td>
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<td>Industry 5</td>
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<table>
<thead>
<tr>
<th>Technical Review Council</th>
<th>Designee</th>
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<tbody>
<tr>
<td>University of Toledo VP of Research</td>
<td>Dr Bill Messer</td>
</tr>
<tr>
<td>University of Cincinnati VP of Research</td>
<td>MD William Ball</td>
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<tr>
<td>Cleveland State University VP of Research</td>
<td>Dr Jerzy Sawicki</td>
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<tr>
<td>University of Akron VP of Research</td>
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<td>Ohio State University VP of Research</td>
<td>Dr Carol Whitaker</td>
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<td>University of Dayton TBD</td>
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<td>WSU</td>
<td>Dr Bob Fyffe</td>
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<td>Ohio Federal Military Jobs Commission</td>
<td>Don Campbell</td>
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<tr>
<td>NASA Glenn</td>
<td>Dr John Sankovic</td>
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<tr>
<td>AFRL</td>
<td>Dr Morley Stone</td>
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<td>Industry 1</td>
<td>Ricky Peters</td>
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<td>Carlos Gradsinsky</td>
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Proposed White Paper
Review Team and Proces
### Proposed White Paper Review Team

<table>
<thead>
<tr>
<th>Organization</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>AFRL</td>
<td>Jack Blackhurst</td>
</tr>
<tr>
<td>AFRL</td>
<td>Chris Ristich</td>
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<td>CSU</td>
<td>Jerzy Sawicki</td>
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<td>NASA</td>
<td>Jim Free</td>
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<td>NASA</td>
<td>Joe Shaw</td>
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<td>NASIC</td>
<td>Curt Rowland</td>
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<tr>
<td>NASIC</td>
<td>Steve Hayden</td>
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<tr>
<td>OFMJC</td>
<td>Gary O’Connell (Chair)</td>
</tr>
<tr>
<td>OFMJC</td>
<td>Don Campbell (Co-Chair)</td>
</tr>
<tr>
<td>OSU</td>
<td>Marty Kress</td>
</tr>
<tr>
<td>WSU</td>
<td>Dennis Andersh</td>
</tr>
<tr>
<td>STATE</td>
<td>Glenn Richardson, Jobs Ohio</td>
</tr>
<tr>
<td>STATE</td>
<td>, Third Frontier</td>
</tr>
</tbody>
</table>
Initial Step-Preparation of White Paper

Due date: NLT 9/30/15

Guidelines/Requirements:
- Single integrated white paper for each COE.

The topics the white papers MUST address are:
- The composition of their COE
  - PI’s by name and institution
  - For each PI the area (s) of expertise/past performance
- The candidate set of projects proposed for detailed development (not to exceed 6)
  - Project title and description
  - Mapping against Government requirement(s) including short description and Government requirement owner(s)
- Potential commercialization opportunities
  - Sector of economy for opportunity (e.g. aerospace, advanced energy, IT, automotive)
  - Candidate commercialization partners identified in conjunction with Commercialization and Workforce COE including any identified opportunities for cost sharing in technology development
  - Potential federal government laboratory partnerships (including description of partnerships)
- Proposed TOP level schedule with deliverables, major milestones, and first order cost estimate
- Project team composition for proposed effort
- Key federal procurement activities that can leverage the State COE funding

Identified cost sharing by COE team members to stand up and execute COE.

Identified opportunities to explore collaboration between other FRN COE’s to achieve project success. (This will secure bonus points on the evaluation)

Identified possibilities of external to COE partnerships that would contribute to COE objectives.

Ensure that FRN monies will not to be used to finance projects that were previously funded by AFRL, NASIC, or NASA but that have now been terminated by that Agency.
Following Approval of COE White Papers COEs have up to 45 Days to Submit Detailed Proposal:

- **Guidelines/Requirements:**
  - Expanded White Paper Outline with Details
  - Detailed plans for each specific COE research project(s) approved.
  - Detailed description of each project
    - Milestone schedule with key performance metrics and decision gates
    - List of all deliverables
    - Resource requirements phasing plan
      - State government funding
      - Commercial partner investments (if any)
  - Federal government partnership description (if any)
  - Other COE partnership description (if any)
  - Intellectual property management plan
    - Plan for managing the COE and need (if any) for resources to develop and maintain the logistics and administrative aspects of the COE
  - Identified commercialization opportunities
    - Sector of economy for opportunity (i.e. aerospace, advanced energy, automotive)
    - Commercialization partner(s) including cost sharing in technology development
White Paper Evaluation Criteria

1. Do the proposed projects of the COE meet the applications/user driven requirements derived from emerging mission focus areas of NASA and DOD? Does the project have a government sponsor at one of the national labs? Each project needs to identify their sponsor by name and organization and provide their contact information. **This is a go/no go for each project.**
   - The appropriate Federal laboratory will provide the evaluation and feedback as to whether or not the criteria has been met.

2. The number of jobs the project will create (12 months, 24 months, and 36 months respectively). If there is no industry cost share, then the long-term impact to Ohio industry should be considered. What industry/government contracts will subject matter experts, new capability or capacity potentially support? What is the proposed projects degree of alignment with Ohio industries and its potential to impact job creation? Cost share from industry partners would be a measure of alignment. **This is a go/no go for each project.**

3. The FRN will utilize best practices adopted by JobsOhio and affiliated regional economic development organizations in the state to evaluate this criteria based on validated data provided by participating companies and organization through the COE’s.

4. What is the proposed level of collaboration between the university partners? Is the project a collection of independent sub-projects or is it truly an integrated approach to meeting a technical objective of a federal agency or company?

5. As the state funds are an investment intended to attract additional federal, foundation or industry funding – what are some of the key procurement targets each project has to secure additional funding? Targets should be called out by name and agency/organization. How does the project improve the long-term competitiveness of Ohio’s universities, federal labs or industries?
COI for FRN
The FRN will maintain the highest level of integrity and each non-government member of the FRN Executive Review Committee and Technical Review Committee will be asked to signed a COI Statement (See attached).

It will be the policy of the FRN that no member of the ERC and TRC will be disqualified from dealing with the financial transactions of the FRN provided the interested party does not participate in or vote at any meetings of the FRN which authorizes the financial arrangement.

The ERC and TRC members will be obligated to disclose their financial interests to the Chairs of the respective committees.

The policy in effect applies to the industry, association, and university participants on the ERC and TRC.

State and Federal Government Officials are exempted.
Schedule and Go Forward Plans
Near-Term and Longer-Term
Important Upcoming Near Term Dates

- Aug 20th - COE Leads Follow-up Meeting
- Aug 21st - Telecon with all Universities.
- Sept 30th - Technical COE White Papers due to Chapter 1 Team.
- Oct 15th - COE White Paper Review and feedback by Team
- Nov 30th - COE Detailed Proposals Due
- Dec 15th - ERB and TRC review complete on Detailed Proposals
- Jan 1 - Round 1 Phase 1 Funding
<table>
<thead>
<tr>
<th>Event</th>
<th>Date</th>
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<tbody>
<tr>
<td>Announcement of FRN COE Call for White Papers</td>
<td>August 31, 2015</td>
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<tr>
<td>Round 1 FRN COE White Papers Due</td>
<td>September 30, 2015</td>
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<tr>
<td>Round 1 White Paper Review by FRN Executive Team</td>
<td>October 1-15, 2015</td>
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<tr>
<td>Round 1 and 2 COE Lead Meeting in preparation of RFP Process</td>
<td>Week of October 12, 2015</td>
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<tr>
<td>Round 1 Invitation to Submit White Papers</td>
<td>October 15, 2015</td>
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<tr>
<td>Round 1 COE RFP Response Deadline for Funding Business Plan Proposals</td>
<td>November 30, 2015</td>
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<td>Round 1 RFP Review by TRC and ERB</td>
<td>December 1-31, 2015</td>
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<td>Round 1 Award Approval from OFMJC Commission</td>
<td>December 2015</td>
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<tr>
<td>Round 1 Notification of RFP Selection COE Awards</td>
<td>January 7, 2016</td>
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<td>Round 1 COE Funding Release Phase 1</td>
<td>January 15, 2016</td>
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<td>Round 2 FRN COE White Papers Due</td>
<td>January 30, 2016</td>
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<tr>
<td>Round 2 COE Lead Meeting in preparation of RFP Process</td>
<td>Week of February 12, 2012</td>
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<td>Round 2 invitation to Submit White Papers</td>
<td>February 15, 2016</td>
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<td>Round 2 COE RFP Response Deadline for Funding Business Plan Proposals</td>
<td>March 30, 2016</td>
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<tr>
<td>Round 2 RFP Review by TRC and ERB</td>
<td>April 1-31, 2016</td>
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<td>Round 2 Notification of RFP Selection COE Awards</td>
<td>May 1, 2016</td>
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<td>Round 2 COE Funding Release Phase I</td>
<td>May 15, 2016</td>
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<td>Round 1 COE Quarterly Review with FRN Leadership Team</td>
<td>April 15, 2016</td>
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<td>Round 1 and 2 COE Quarterly Review</td>
<td>July 15, 2016</td>
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<td>Round 1 and 2 COE Funding Release Phase II</td>
<td>October 15, 2016</td>
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<td>Round 1 and 2 COE Quarterly Review with FRN Leadership Team</td>
<td>April 15, 2017</td>
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<tr>
<td>Round 1 and 2 COE Quarterly Review</td>
<td>July 15, 2017</td>
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<tr>
<td>Round 1 and 2 COE Funding Released Phase III</td>
<td>October 15, 2017</td>
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Requested FMJC Actions
Requested Approvals

The FRN Leadership Team requests that the FMJC take the following actions:

- Approve Budget Allocations for FRN Network
- Approve Organizations Construct to Support FRN
- Approve Charters for ERB and TRC
- Approve Proposed ERB and TRC Participants
- Approve White Paper Review Team and Process
- Approve Proposed COI for FRN
- Approve Overall Schedule and Plans Going Forwards
- Approve Recommendations of White Paper Review Teams at Oct 8 FMJC Meeting
Back Up Slides
Joint WPAFB/NASA Glenn Priorities

Strategy and Prioritization meeting Held on Feb 5
Reviewed and Refined FMJC Research Priorities

▪ **AFRL Priorities**
  ▪ Human Performance/ Health Sciences
  ▪ 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
  ▪ C4ISR
  ▪ Modeling/Simulation/Analysis
  ▪ Hypersonics
  ▪ Directed Energy
Projected Growth over 5 years: 2,500 new jobs for Ohioans
$350 million in new federal research contracts to Ohio based universities and companies

### Application Domains

#### 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 Turbo 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

#### Energy Storage/Integration
- Batteries
- Supercapacitors
- Green Technologies
- Rapid charge/discharge cycling
- Micro-devices

#### Command, Control, Communications Computing Intelligence Surveillance & Reconnaissance (C4ISR)
- Human-Centered ISR
- Data Analytics
- Data Compression / Analytics
- Processing Exploitations and Dissemination
- Infrared (IR), Electro-optical (EO), Laser, RF, Hyperspectral, Acoustic, & Radar Sensors
- Space Situational Awareness
- Electronics Warfare (EW)

#### Power and Propulsion
- Hybrid Electric Power and Propulsion
- Solar Electric Power and Propulsion
- Advanced Turbo 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

#### Energy Storage/Integration
- Batteries
- Supercapacitors
- Green Technologies
- Rapid charge/discharge cycling
- Micro-devices

#### Command, Control, Communications Computing Intelligence Surveillance & Reconnaissance (C4ISR)
- Human-Centered ISR
- Data Analytics
- Data Compression / Analytics
- Processing Exploitations and Dissemination
- Infrared (IR), Electro-optical (EO), Laser, RF, Hyperspectral, Acoustic, & Radar Sensors
- Space Situational Awareness
- Electronics Warfare (EW)

### Workforce Development
- STEM
- Skilled
- Unskilled

Primary Support: All Universities to specifically include UC, UD, KSU, Miami, BGSU, Central WSU, Stark State, Clark, UA, UT, CSU, Lorain, Case, Sinclair, OU, OSU

Lead: WSU
Primary Support: UC, UT, OSU, Case, UD, KSU, CSU, Sinclair, Lorain, Clark, John Carroll, YSU
Contracts Awarded: $187M
Private Sector Investment: $50M
Expected 5% 5Y Growth

Lead: OSU
Primary Support: UC, UD, UA, UT, CSU, Lorain
Potential Jobs: 400
Potential Contracts: $100M
Potential Private Sector Investment: $50M

Lead: UD
Primary Support: YSU, OSU, UA, Case, UC, UT, CSU, KSU, Lorain, Sinclair, Clark, Central
Potential Jobs: 600
Potential Contracts: $150M
Potential Private Sector Investment: $75M

Lead: Case
Primary Support: UT, OSU, UD, UC, CSU, Lorain, Sinclair, Clark, Central
Potential Jobs: 600
Potential Contracts: $50M
Potential Private Sector Investment: $10M

Lead: WSU/OSU
Primary Support: UD, OU, BGSU, Case, UT, UC, Miami, Lorain, Sinclair, Clark, Central, Stark State, UA, UT, CSU, Lorain, Case, Sinclair, OU, OSU
Potential Jobs: 600
Potential Contracts: $50M
Potential Private Sector Investment: $10M

Lead: WSU
Primary Support: UC, UT, OSU, Case, UD, KSU, Sinclair, Lorain, Clark, John Carroll, YSU
Contracts Awarded: $187M
Private Sector Investment: $50M
Expected 5% 5Y Growth

Lead: OU
Primary Support: WSU, OSU, KSU, UD, Miami, Lorain, Sinclair, Clark, Central
Potential Jobs: 300
Potential Contracts: $75M
Potential Private Sector Investment: $25M
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To access this portion of the site, navigate to: http://ofmjc.atichcd.org

At the top of the page, there will be a site password of "OHFRN7"

Once you enter the documents page, any documents on the Center of Excellence section will require a username and password.

Your username will be your first initial last name followed by @ofmjc.atichcd.org

Your initial password will be your last name followed by "2015Jobs!"

Example for Jane Doe:
Username: jdoe@ofmjc.atichcd.org
Password: Doe2015Jobs! - this portion is case sensitive. You will also be prompted to change your password at this point.

Once you have signed in, you will be able to access the COE portion of the OFMJC site. Each COE has a web-page assigned to it.

From the landing page of each COE, you can view, download and open documents. If you would like to upload or edit a document, please select the Open link, for example "Open Human Performance/Health Science folder" and you will be taken to the directory for that COE.

Please email Erin Holden at erin.holden@wright.edu for questions