

**“ Aerospace Renaissance – Ripe for
Research to Impact the Industry”**

**ERAU and U.S. Department of Commerce
Collaboration to Promote Student Research**

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How Do We Grow U.S. Aviation & Aerospace Exports?



- **The U.S. is the world's largest exporter of aviation and aerospace technology.**
- **Many other nations have made inroads into these industries and are changing the landscape for American commercial interests.**
- **We will look at several topics which could be utilized to promote U.S. exports and commercial involvement in the aviation and aerospace industries.**
- **We will discuss several countries of interest to the U.S. from a manufacturing and global supply chain management perspective.**
- **We will look at incentives for U.S. and foreign firms to start new programs and partnerships.**



The Center for Aviation and Aerospace Leadership (CAAL) was founded in 2008 to capture, create, and share relevant information on leadership in the aviation and aerospace industry

The AIR is developed and published in collaboration with the Aerospace Industries Association and includes:

- Information on the status of aerospace manufacturing in the United States and state of the economy
- An in-depth review of sales across the various sectors of the industry, employment trends, key international trade statistics, financial information on the industry & major aerospace firms, trends to watch, and a forecast for the future based on a review of what the major aerospace firms are predicting

<http://worldwide.erau.edu/caal/>



THE CAAL STUDENT INDEPENDENT RESEARCH PROJECT

- **Established to further prepare leaders in aviation/aerospace**
- **Enable students to gain insightful practical experience in government/industry sponsored projects**
 - May require Program Chair approval
 - May actively participate both physically or virtually
 - May include a stipend
 - May require U.S. Citizenship

THE CAAL STUDENT INDEPENDENT RESEARCH PROJECT

- **Student Benefits include:**
 - Invitation for poster presentations at summits/conferences
 - Recognition of “*Best Student Independent Research Project*” Award at the sponsor level
 - Recognition of “*Best Student Independent Research Project*” of the Year Award



THE CAAL STUDENT INDEPENDENT RESEARCH PROJECTS

- **CAAL/ERAU Benefits:**

- Increase the presence and involvement of ERAU in government and industry
- Elevate the reputation and increase public awareness of CAAL & ERAU as the premier leader in aviation and aerospace
- Opportunities for Faculty to further develop student research

- **Sponsor Benefits:**

- Sponsor receives quality research at minimal cost
- Recognition of the sponsor at various meetings, conferences, summits
- Build strong, long-lasting partnerships with CAAL & ERAU



EXAMPLES OF STUDENT RESEARCH STUDY PROJECTS



POTENTIAL U.S. DOC STUDENT RESEARCH STUDY PROJECTS TO HELP PROMOTE U.S. EXPORTS AND COMMERCIAL INVOLVEMENT



AEROSPACE FDI IN THE U.S.



- Investigate the major sources of Foreign Direct Investment (FDI) in the U.S. aerospace sector by country of origin.
- **Within each country of origin, research:**
 - History of purchases
 - Partnerships and levels of investment
 - History of activity
 - What subsectors of the aerospace industry the investments fall under
 - The level of success these firms have had and what factors contributed most to their success or failure



MARKET STUDY OF THE EUROPEAN SPACE INDUSTRY



- **Analyze Europe's space industry & research:**
 - Government involvement
 - Different membership and funding across the European Space Agency and EU's space programs/policies
 - Key players, funding, priorities, and opportunities for U.S. commercial involvement in some of the programs

AEROSPACE CLUSTER DEVELOPMENT IN BRAZIL/MEXICO

- **Will Mexico pull ahead of Brazil in manufacturing parts and components for the global supply chain? The purpose of this report would be to:**
 - Compare the aviation manufacturing industries in both countries, with special attention to the capabilities of manufacturers in each market
 - Shed some light on the participation of foreign firms
 - Determine what is leading to the recent rise in investment in Mexico and how that compares to activity in Brazil, with attention to federal, state, and private sector initiatives that may be helping cluster development

- **FAA's certification division may come under increasing strain due to the large number of new projects and the increasingly international nature of the aerospace supply chain. This report would analyze if:**
 - There is a bottleneck and any potential impact on the decisions of U.S. and foreign aircraft manufacturers regarding where to locate future aircraft programs.
 - For example, in general aviation, an FAA backlog might create an incentive for U.S. and foreign firms to start new programs in other countries, particularly countries that have Bilateral Air Safety Agreements (BASAs) with the United States



INDIA VERSUS INDONESIA MARKET ANALYSIS



- **A general report researching the status of the aviation industries in both countries:**
 - Characteristics
 - Limitations
 - Physical locations of the aviation/aerospace clusters
 - The capabilities and products made
 - Market potential
 - Any specific market access barriers for U.S. aerospace companies seeking to export to those markets from the U.S.



CYBER SECURITY IN AVIATION SECURITY



- **As air traffic management moves towards a System-Wide Information Management (SWIM) environment dependent on technologies like Automatic Dependent Surveillance-Broadcast (ADS-B), the question of the security of networks that support these innovations becomes ever more relevant. This report would analyze:**
 - Cyber-related vulnerabilities
 - Threats faced by NextGen, SESAR, and other advanced air traffic systems
 - Examine the market opportunities for cyber security companies to meet these threats



QUESTIONS



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Thank You For Attending!