VT MAE MRO Hangar Project

Briefing Book

October, 2016

Briefing Book

VT Mobile Aerospace Engineering, Inc. (VT MAE)
Development of Maintenance, Repair Overhaul (MRO) Hangar at Pensacola International Airport

I. Historical Perspective and Timeline

Action	Date
Discussions between City of Pensacola and representatives from ST Aerospace Mobile, Inc. commence	Fall, 2012
Proposal from City to ST Aerospace Mobile, Inc. to construct two (2) 73,000 square foot MRO hangars	January 7, 2013
City accepts FDOT grant in the amount of $11,090,000 for airport infrastructure development	June 13, 2013
Negotiations re-commence between City and ST Aerospace Mobile, Inc.	August 2013
Non-binding Memorandum of Understanding signed between City of Pensacola and VT MAE to construct a 160,000 square foot MRO hangar at a construction cost not to exceed $37,344,300.	November 12, 2013
Public Open house at Vickery Center to share conceptual development plans, begin public outreach for workforce development and respond to questions from the public.	February 18, 2014
Interlocal Agreement signed between Escambia County Board of County Commissioners and City of Pensacola related to funding of VT MAE project .	March 10, 2014
VT MAE job fair to discuss potential future employment opportunities; over 330 people show up.	March 20, 2014
Final Lease Agreement signed (approved by City Council) between City of Pensacola and VT MAE. Guaranteed Maximum Price not to exceed $37,344,300.	September 9, 2014
Commencement of work orders for Environmental Assessment.	October – December 2014
Commencement of RFQ process for selection of Construction Manager at Risk and for A&E services. Selection of Review Committee, submission and review of proposals, determination of finalists and oral presentations.	December 2014 – May 2015

Selection of Greenhut Construction Company, Inc. as the Construction Manager at Risk (CMAR) and selection of Atkins for A&E services.	July 16, 2015
City accepts FDOT grant in the amount of $1,531,546 for construction of taxiways and cargo apron, a major portion of which ($1,121,242) is used to connect VT MAE to runway.	September 17, 2015
Expanded hangar configuration (from 160,000 sq. ft. to 173,452 sq. ft.) agreed to and established as the new Basis of Design. 30% design documents completed.	October 23, 2015

Value engineering process undertaken based on 30% design documents.	December 2015 – February 2016
City accepts FDOT grant in the amount of $2,975,305 for the construction of taxiway connector at Pensacola International Airport.	March 17, 2016
City accepts FDOT grant in the amount of $8,599,600 for the construction of a hangar at Pensacola International Airport.	April 14, 2016
60% design documents completed on June 3, 2016 and bid packages solicited. Guaranteed maximum price (GMP) based on 60% design determined to be approximately $1.7M above maximum construction budget.	July 1, 2016
95% design documents completed on July 22, 2016 and bid packages solicited. GMP based on 95% design packages determined to be approximately $497K above maximum construction budget. Scope reductions agreed to and GMP of $37,576,696 finalized.	August 16, 2016
City initiates bridge financing to cover construction costs until the FDOT grant begins in FY 2018/19.	September 22, 2016
Final Amendment to Real Property Lease signed by all parties.	September 22, 2016
Notice to Proceed issued to Greenhut Construction Company, Inc.	October 15, 2016
Groundbreaking Ceremony	October 28, 2016

II. VT MAE/City of Pensacola Real Property Lease – Summary of key provisions Approved: September 22, 2016

- Initial leased premises equal 19.84 acres and initial ground rent is $.30 per square foot. 1ST year ground rent is approximately $259,000. Annual increases based on CPI, limited to 2% per year. Lease term is 30 years. VT MAE to provide a letter of credit in the amount of the annual ground rent in order to secure payment of ground rent. The City owns title to all leased premises (land and building).

- VT MAE has right of first refusal to lease Additional Land that can be used for a Phase II build out (approximately +/- 17 acres). Consideration for right of first refusal is $0 for first 5 years, 25% of ground rent for next 5 years and 50% of ground rent for next 5 years. If not exercised within 15 years, right of first refusal terminates.

- Lease is a triple net lease, meaning VT MAE has the sole and entire responsibility to provide routine and customary repairs, maintenance and replacements to the facilities and surrounding premises, to provide all insurance coverage, pay all taxes (real, personal property, sales tax, etc.) and to return the premises to the City at the end of the lease term in the same condition as of the date of beneficial occupancy, except for reasonable wear and tear. Conversely, City has no financial responsibility for the maintenance, repair and replacement of the leased premises during the lease term.

- At end of 30-year lease term, VT MAE has the option to purchase the building (not land) for FMV with proportionate credit for initial equity contribution. Purchase is contingent upon entering into a new ground lease.

- City is responsible for construction, once all baseline environmental approvals and assessments are complete. Estimated Project cost is to be $46.0 million. Funding as follows:

Industry Recruitment, Retention and Expansion Fund	$7,00,0000
Escambia County and City of Pensacola	$8,000,000
Florida Department of Transportation (FDOT)	$11,090,000
City – FDOT allocable to Airport	$4,096,547
City - FDOT allocable to Airport	$8,599,600
VT MAE equity contribution	$7,244,300
TOTAL FUNDS AVAILABLE	**$46,030,447**

The additional FDOT grant becomes available in FY 2018/19 and therefore the City has secured interim financing, the cost of which is part of the Project Cost. To the extent Project Costs are less than $46,030,447, the additional FDOT grant will be reduced.

- As a material inducement for this lease, VT MAE shall maintain a minimum employment level of 300 full time employees with an average annual wage of at least $41,000. If VT MAE does not maintain at least 300 full time employees, VT MAE will repay a calculated "claw back" amount per employee, for as long as annual employment remains below 300 employees. Further, in consideration of the additional FDOT grant, VTMAE agrees to maintain an additional 100 full time employees (total 400) in accordance with the terms of the IRREF agreement.

- VT MAE may not assign or sublease the leased premises without the express written consent of the City. The City has sole and absolute discretion in matters of assignment and sub-leasing. Further, City may charge an assignment approval fee in its sole discretion based on various factors, including the consideration furnished under the proposed sublease. Notwithstanding any sublease or assignment, VT MAE remains primarily liable for all obligations under the lease.

- Several actions by the Company could cause an act of default. In the event of default, remedies include repossession of the leased premises, termination of the lease, recovery of unpaid rent and damages associated with the termination and re-leasing of the leased premises.

- As condition of the use of Airport services and facilities, VT MAE shall implement an affirmative action program as required by FAA regulations and shall comply with the federal requirements for "Participation by Minority Business Enterprise in Department of Transportation Programs", Title 49, CFR, Part 23.

- The City will use commercially reasonable efforts to extend Runway 17-35 to a length of approximately eight thousand (8,000) feet subject to approvals and availability of ninety percent (90%) grant funding to pay the costs of planning and constructing the runway extension.

- Rights of Termination – As long as there is no event of default, VT MAE has the right to terminate the lease without cause after 10 years. City has the right to terminate the lease without cause after 20 years.

- At the end of VT MAE's use and occupancy of the leased premises VT MAE must environmentally remediate the site to it original condition.

III. The Team

The VT MAE project is a complex matter involving a global organization with a sophisticated management hierarchy, several governmental and quasi-governmental agencies and a number of subject matter experts for the City of Pensacola and VT MAE. The following individuals have played and continue to play a significant role in the ongoing development of this specific project, as well as the ongoing and hoped for expanding relationship with VT MAE. On behalf of the Mayor and City Council, the following professionals have been actively involved and have played a key role in advancing this project to fruition:

Dan Flynn – Airport Director, Pensacola International Airport
Project Oversight and direct management of all team activities

Mike Moroney – MGM Associates, Inc.
Airport financial consultant and contract negotiations

John Daniel, Esq. – Partner, Beggs & Lane
Contracts and all legal matters

David Penzone – Penzone Enterprises, LLC
City of Pensacola consultant, financial matters and strategy development

Scott Luth – FloridaWest
Economic and Workforce development, Economic Incentives

Mike Broussard – Mott McDonald
Construction Administration representing City of Pensacola

Jeff Helms and Tom Roda – Atkins Global
Engineering Services

Robert Rice – Bullock Tice
Architectural Services

Bill Greenhut, CEO – Greenhut Construction Company, Inc.
Construction Manager at Risk responsible for delivery of the project at the guaranteed maximum price

Randy Talcott – Greenhut Construction Company, Inc.
Director of Pre-Construction responsible for bid process

Kevin Spellman – Greenhut Construction Company, Inc.
Senior Project Manager responsible for construction of the MRO hangar and coordination of all subcontractors

Mayor Hayward played an important role in maintaining and developing relationships with top executives at VT MAE and has been a strong advocate for the City of Pensacola to receive state incentives and other funding sources to support this project.

For VT MAE, a number of professionals have been involved at various stages throughout the project, but the key players who have consistently represented VT MAE's interests are as follows:

Bill Hafner, President and Chief Operating Officer of VT MAE

Stephen Lim, President, VT Aerospace and Executive Director of VT MAE

Ricky Brown, Facilities Manager

Warren Matthews, Esq. – Partner, Burr Forman LLP
Outside legal counsel to VT MAE

The following local elected officials played a key role in providing funds to support the project. Special acknowledgement goes to:

Escambia County Board of County Commissioners	City of Pensacola Mayor and City Council Members
Commissioner Wilson Robertson, District 1	Mayor Ashton J. Hayward, III
Commissioner Doug Underhill, District 2	Council President Charles Bare
Commissioner Lumon May, District 3	Councilmember P.C. Wu, District 1
Commissioner Grover Robinson, District 4	Councilmember Sherri Myers, District 2
Commissioner Steven Barry, District 5	Councilmember Andy Terhaar, District 3
	Councilmember Larry Johnson, District 4
	Councilmember Gerald Wingate, District 5
	Councilmember Brian Spencer, District 6
	Councilmember Jewel Cannada-Wynn, District 7

Revised 10/13/16

IV. Local Community Business participation in Bid Process

A. Small Business and Minority Business Enterprise participation

On June 3, 2016, Greenhut received construction drawings from the design team at 60% completion. At that time, 30 major bid packages were distributed to 250 subcontractors/vendors. Nearly 17% were distributed to SBE's and over 5% were distributed to MBE's. Of those 250+/- bids solicited, 100+/- bids were received and 32 of those bids were from either SBE's or MBE's. Certain bid packages were awarded at this time to lock in escalating prices.

On July 22, Greenhut received construction drawings from the design team at 95% completion. At that time, the remaining 20+/- major bid packages were distributed to 140+/- subcontractor/vendors. Nearly 14% were distributed to SBE's and over 5% were distributed to MBE's. Of those 140+/- bids solicited, 50+/- bids were received and 26 of those bids received were from SBE's or MBE's.

Overall the results of the bid process and award of construction contracts were as follows:

Summary

30 Major bid packages awarded

12 SBE or MBE sub contractors were recommended for award

Total Direct Construction costs for project	$32,256,834
Total awarded to SBE or MBE businesses	$9,685,699

B. Local and Regional business participation

30 Major bid packages awarded

19 awarded to sub/vendors located in Escambia County

3 awarded to subs/vendors located in Santa Rosa, Okaloosa and Walton County

5 awarded to subs/vendors located in Baldwin County – Mobile

2 awarded to subs/vendors in Alabama

1 awarded to sub/vendor in Northeast US

Total Direct Construction costs for project	$32,256,834
Total awarded to Escambia County subs/vendors	$9,234,908

GREENHUT
CONSTRUCTION COMPANY, INC.

GENERAL CONTRACTORS • CONSTRUCTION MANAGERS • DESIGN-BUILD CONTRACTORS

VT Mobile Aerospace Engineering MRO Facility at Pensacola International Airport
95% Construction Document GMP Estimate

Summary Report Bidding Process
August 31, 2016

Greenhut Construction Company Inc (GCCI) was selected as CMaR for the above named project with a contract executed on 9/10/2015 between the City of Pensacola and GCCI. A GMP estimate and scope of work was initially agreed upon in a meeting with the City of Pensacola, VT MAE and GCCI on August 16, 2016. A summary of the entire preconstruction budgeting and bidding process is below.

Schematic Design:
On September 9, 2015 GCCI received Basis of Design preliminary documents from the Design Team and on September 22, 2015 our preconstruction team provided a "rough order of magnitude" (ROM) budget of $45,510,032.There was a concentrated effort by the entire project team to identify scopes of work that had been implemented into the scope of work but not included in the lease terms between the City of Pensacola and VT MAE. The added scope of work identified was $5,951,888. Taking out this additional scope of work reduced the ROM budget effectively to $39,558,144. During this schematic budgeting effort, GCCI solicited budgeting assistance from over 100 subcontractors and vendors. Our team received 47 budgetary quotes at the Schematic phase. Budgetary quotes were received from All Tanks, Baroco Electric, Bayside Structures, Bell Steel, BDI, Blast Wall, Bradley Masonry, Brown Const, Catalyst CR, Century Fire, Covenant Steel, CSUSA, Cygnus Solutions, Dunn Bldg Co, Empire Concrete, Evan Fall Protection, FHS, Fisher Cabinet, Foster, GA West, Gallo Mech, Griffin Traffic, HH Jordan, Hill Enterprises, IDC, Ingram, Interbay, JB Donaghey, Jeffco, Jewers, Junot, L Pugh, Mills Mechanical, MMI, Panhandle Grading & Paving, Pensacola Glass, RC Paint, Roads Inc, Sanders Bros, Schwob, SE Material Handling, Specialty Contractors, Stonhard, Translift, Warren HM, Well Bilt and Wilson Floors.

Due to budget constraints, our team immediately started the process of evaluating the design and assisting the design team with cost saving ideas and opportunities in order to reduce overall costs.

30% Construction Documents:
On October 23, 2015 GCCI received 30% Construction Documents from the Design Team and on November 13, 2015, our preconstruction team issued a 30% design document estimate of $38,843,578. We solicited costing assistance from over 200 subcontractors and vendors. Our team received 93 quotes at the 30% Construction Documents phase. Quotes were received from ABG, All Tanks, American Deep Foundations, American Garage Door, American Imperial Fence, Angelini Tile, Ard, Ardor, Arrow, Artcrete, Baroco Electric, Bayside Structures, Bell Steel, BDI, Berkel, Big Bend Rebar, Blast Wall, Bradley Masonry, Brown Const, Building Specialties, Catalyst CR, Cavotec, Century Fire, Covenant Steel, Craftsmen, Craftsman Concrete, Creative Flooring, CSUSA, Cygnus Solutions,

Diversified Fall Protection, Dunn Bldg Co, Eastern Crane, Empire Acoustical, Empire Concrete, Evan Fall Protection, FHS, Fisher Cabinet, Fleming Steel, Foster, GA West, Gallo Mech, HH Jordan, HJ Foundation, Hill Enterprises, Hufcor, HySafe, IDC, Indek, Interbay, Ivey, JB Donaghey, Jeffco, Jewers, J Hebert, Junot, L Pugh, KMC, Kone, Living Water, Lowery Industrial, Mark Const, MasterTec, McFatter, Mid Atlantic Crane, MidSouth Paving, Moodys Electric, Mills Mechanical, MMI, Moses Electric, Norco, Otis, Panhandle Grading & Paving, Peidmont Hoist, Pensacola Glass, Peterson Paint, Pettibone Concrete, Rayford, RC Paint, Roads Inc, Sabel Steel, Sanders Bros, Schwob, Scott Steel, SE Material Handling, Southern Industrial, Specialty Contractors, SpecDor, Stonhard, TK, Translift, Turnstiles US, Warren HM and Well Bilt.

The 30% estimated cost was still over the City of Pensacola's available funds forcing the design team to put the project on temporary hold. During the months of December 2015, January and February 2016, the project underwent a series of value engineering and cost reduction charettes. GCCI created several estimates reflecting different scopes of work in an attempt to reduce the estimated cost of the project to within project budget constraints. The team finally arrived at a $37,764,769 budget on March 29, 2016 by taking some arbitrary cuts, of which, some were never realized or implemented due to FDOT, FAA, ASHRAE or Building Code restrictions, codes and or compliance regulations. The delay in design necessitated the early selection of the largest single trade package, the PEMB.

The Pre-Engineered Metal Building (PEMB) design and fabrication was publically advertised for qualified PEMB Fabricator/Erectors in a (2) part process beginning April 1, 2016. Part (1) was a prequalification process that yielded (8) submissions with (4) bidders meeting the requirements to be qualified for part (2), the competitive bid process. The (4) qualified bidders were issued basis of design documents and competitive bids were received on May 16, 2016 with Covenant Building Systems being the lowest scoped, complete and competitive bid received for $11,470,600, which was ($95,469) under the established PEMB trade package budget. Part (1) qualifications submissions received from GA West, Sure Steel, Scott Steel, Covenant Steel, Mark Construction, Steel Worx, Dunn Building Co and SCI. Part (2) bids received from GA West, Sure Steel, Scott Steel and Covenant Building Systems. A notice was sent from the City of Pensacola on May 23, 2016 as consent to the selection of Covenant Building Systems for the PEMB Fabrication/Erection bid package.

60% Preliminary GMP Construction Documents:

On June 3, 2016 GCCI received 60% Construction Documents from the Design Team and on July 1, 2016, Greenhut Construction Company issued a 60% Preliminary GMP design document estimate of $39,323,096. In comparison to the 30% construction document budget, the majority of the bid packages were either under or very close to the 30% construction estimate established in March 2016. With the local construction market becoming flooded with projects and shortages of manpower starting to affect projects, it was deemed necessary to award the following bid packages in order to lock in pricing and secure viable subcontractors for scheduling purposes. Bid packages awarded that were competitively bid are foundations-piling (award to HH Jordan $474,250), concrete paving (award to Empire Concrete $2,239,000), cast in place concrete (award to Empire Concrete $2,449,900), concrete polishing (award to Jeffco $190,875), masonry (award to Bradley Masonry $483,869), millwork (award to Linn's Prestige Kitchens $28,247), applied fireproofing (award to Safway $32,015), glass & glazing (award to Hanssen $36,964), drywall-metal framing (award to Keller $193,019), painting (award to Peterson Paint $192,897), fall protection (award to Hy-Safe $52,835), elevator (award to TK $75,241), fire suppression (award to S&S Fire $592,205), plumbing (award to MMI $606,530),

mechanical (award to Bayou $1,882,000) and electrical systems (award to Moody's $2,745,046). All contractors with awards were asked to update and confirm prices for the forthcoming 95% GMP Construction documents.

We solicited bids from over 251 subcontractors and vendors. Our team received 96 bids at the 60% Preliminary GMP Construction Documents phase. Bids received were from ABG, Aero, All Tanks, American Deep Foundations, ACT Scheduling, Ard, Applied Flooring, Big Ass Fans, Baroco Electric, Bayou Mechanical, Bayside Structures, Bell Steel, Berkel, Big Bend Rebar, Bradley Masonry, Bormon, Brownsville, Catalyst CR, Cavotec, Craftsmen, Creative Flooring, CSUSA, Cygnus Solutions, Dynamic Concrete, Empire Concrete, Etheridge, Evan Fall Protection, EJ Company, Executive, FCX, FDS, FHS, Fisher Cabinet, FL Crane, Flametech, Floor Tech, Foster, GAC, Gallo Mech, Gerdau, Hanssen, Harris Rebar, Hayward, HH Jordan, HJ Foundation, Hill Enterprises, Hufcor, HySafe, Indek, Interbay, Ivey, JB Donaghey, Jeffco, Linn's Prestige Kitchens, Keller, Junot, L Pugh, Lees Glass, LG Barcus, Living Water, Lowery Industrial, McCarthy, MCM, Merritt, Mid Atlantic Crane, MidSouth Paving, Moodys Electric, Mills Mechanical, MMI, Moses Electric, Nova, Otis, OxBlue, Phoenix, Pensacola Glass, Peterson Paint, Pettibone Concrete, Ready Mix USA, RC Paint, Roads Inc, Sabel Steel, Safway, Schindler, S&S Fire, SE Material Handling, SW Microwave, Specialty Contractors, Southern Utility, Slone Door, Terracon, TK, Translift, VFP Fire, Universal Engineering, Unitron, Warren HM, Warrington and Williams Scottsman.

95% GMP Construction Documents:
On July 22, 2016 GCCI received 95% GMP Construction Documents from the Design Team and on August 16, 2016, Greenhut Construction Company issued a GMP estimate with a cost of $38,097,543 which was still above the revised construction budget of $37,600,000. During a meeting on August 16, 2016 the entire project team including VT MAE, reached agreements reducing scope which further reduced costs in the amount of $476,398 (unburdened costs) allowing the GMP estimate to reach $37,576,696, which was ($23,307) under the revised construction budget. Based upon the decisions agreed upon in that meeting, GCCI has finalized the GMP estimate based on the 95% design documents along with the qualifications and assumptions that were provided in the GMP Proposal.

Bid packages awarded that were competitively bid are material testing (award to Terracon $148,500), earthwork (award to Panhandle Paving & Grading $2,914,479), underground utilities (award to Warrington $1,751,216), asphalt paving (award to Panhandle Paving & Grading $2,194,041), security fencing (award to American Imperial Fence $246,532), landscape & irrigation (award to Prestige Landscape $88,280), waterproofing-joint sealants (award to All Stop Waterproofing $207,223), spray foam insulation (award to Top Foam Insulation $48,000), doors-frames-hardware (award to Slone Door $128,754), coiling doors-dock leveler (award to Hill Enterprises $118,261), acoustical ceilings (award to Specialty Contractors $37,870), flooring (award to MaterTec $18,438), ceramic tile (award to Angelini Tile $84,839), folding partitions (award to Hill Enterprises $34,000).

We solicited bids from over 138 subcontractors and vendors for the remaining bid packages not previously awarded at 60% Preliminary GMP documents phase. Our team received 49 bids at the 95% GMP Construction Documents phase and confirmation bids from the previously awarded bidders. Bids received were from ABG, All Stop, American Imperial, Angelini, Bayou Mech, Bhate, Bradley Masonry, Bldg & Earth, Catalyst CR, Covenant Building Systems, Creative Flooring, Cygnus, East Bay Landscape, Empire, Executive, FDS, FCX, Foster, Green Procedures, Hanssen, HH Jordan, Hill Enterprise, HO Weaver, Hufcor, HySafe, Interbay, Jacobs, Jeffco, Keller, MasterTec, Midsouth, MMI, Moody's, Prestige

Landscape, Phillips & Jordan, Panhandle Grading & Paving, Phoenix, Roads Inc., Slone Door, Southern Utility, Southern Foam, Terracon, TK, Top Foam, Translift, Universal Engineering, The Wallace Co, Warren HM, Warrington and Wayne Dalton.

Small Business and Minority Business Participation:
Over 80 subcontractors and or vendors who are either SBE or MBE classified were solicited for bids during the last (2) bidding phases. Of the 30 major bid packages awarded during both the 60% and 95% bidding processes, 13 subcontractors, either small business enterprises or minority business enterprises, have been recommended for award.

Bidders Solicited:
A bidders list for the last (2) bidding phases was submitted under TAB 3 in the 95% GMP proposal submitted August 2016.

Bids Received:
A bid tabulation for each bid package indicating bids received for the last (2) bidding phases was submitted under TAB 3 in the 95% GMP proposal submitted August 2016.

Costs Negotiated:
A bid tabulation indicating budget, recommended awardee and costs negotiated for the last (2) bidding phases was submitted under TAB 3 in the 95% GMP proposal submitted August 2016. The 95% bidding phase list was updated and sent via email to HMM on August 31, 2016 after scope interviews were completed.

Recommended Subcontractors or Vendors:
A subcontractor and vendor recommendation report dated 7/21/16 was issued via email to HMM on 7/22/16 for the 60% bidding phase. A subcontractor and vendor recommendation report dated 8/30/16 was issued via email to HMM on 8/31/16 for the 95% bidding phase.

Report made this day August 31, 2016.

Randy Talcott

Randy Talcott

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GREENHUT
CONSTRUCTION COMPANY, INC.

GENERAL CONTRACTORS • CONSTRUCTION MANAGERS • DESIGN-BUILD CONTRACTORS

VT Mobile Aerospace Engineering MRO Facility at Pensacola International Airport
95% Construction Document GMP Estimate

Summary of the GMP

Greenhut Construction Company is pleased to present the final GMP estimate for the above named project. In summary, on November 13, 2015, Greenhut Construction Company issued a 30% design document budget at $38,843,578.00. During the months of December 2015, January and February 2016, the project underwent a series of value engineering and cost reduction charettes, creating several different scenarios in an attempt to reduce the overall cost of the project. The team arrived at a $37,764,769.00 budget taking some arbitrary cuts, of which, some were never realized or implemented due to FDOT, FAA, ASHRAE or Building Code restrictions, codes and or compliance regulations. On July 1, 2016, Greenhut Construction Company issued a 60% design document Preliminary GMP at $39,323,096.00. On August 16, 2016, Greenhut Construction Company issued a GMP estimate with a cost of $38,097,543 which was above the construction budget of $37,600,000. During a meeting on August 16, 2016 with the entire project team including VT MAE, further cost reductions in the amount of $476,398 (unburdened costs) was agreed upon. Based upon the decisions agreed upon in that meeting, we have finalized our GMP estimate based on the 95% design documents and the qualifications and assumptions provided in the GMP Proposal:

GMP Construction Costs $37,576,696.00

Construction Contingency: At this stage/phase of construction documents, we are carrying a 2% construction contingency as allowed by our Contract Agreement.

95% Design Documents:

- Documents prepared by Atkins, Bullock Tice Associates dated July 2016
- Design Narrative dated July 2016
- Project Manual Volume 1, 2 and 3 dated July 2016

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EXHIBIT B
ESTIMATED CONSTRUCTION MANAGER'S
DIRECT CONSTRUCTION COST
Based on 95% Contract Documents as of 8/12/16

CONSTRUCTION COSTS

Item#	Description	Cost Estimate
DC-1	Material Testing BID	$311,862
DC-2	Augercast Piling BID (awarded HH Jordan)	$604,219
DC-3	Earthwork BID	$2,914,479
DC-4	Asphalt Paving BID	$2,194,041
DC-5	Concrete Paving BID (awarded Empire Concrete)	$2,229,500
DC-6	Underground Utilities BID	$1,751,216
DC-7	Fencing BID	$246,532
DC-8	Landscape and Irrigation BID	$88,280
DC-9	Concrete BID (awarded Empire Concrete)	$2,728,550
DC-10	Polished Concrete Floor BID (awarded Jeffco Concrete)	$0
DC-11	CMU BID (awarded Bradley Masonry)	$492,134
DC-12	Architectural Millwork BID (awarded Linn's Prestige)	$42,144
DC-13	Waterproof BID	$207,223
DC-16	Spray Applied Insulation BID	$48,000
DC-17	Fireproofing BID (awarded Safway)	$32,015
DC-18	Firesafing BID	$21,400
DC-19	Doors, Frames and Hardware BID	$128,754
DC-20	Colling Doors BID	$113,961
DC-21	Glass & Glazing BID (awarded Hanssen Glass)	$36,964
DC-22	Drywall/Framing/Insulation BID (awarded Keller Construction)	$193,019
DC-23	Tile BID	$84,839
DC-24	Acoustical Ceiling BID	$37,870
DC-25	Carpet & Resilient BID	$18,438
DC-26	Painting BID (awarded Peterson Precision Paint)	$268,508
DC-27	Bathroom Partitions BID	$15,569
DC-28	Signage	$6,753
DC-29	Lockers BID	$10,226
DC-30	Fire Extinguisher/ Cabinets BID	$4,711
DC-31	Toilet and Bath Accessories BID	$14,518
DC-32	Movable Wall System BID	$34,000
DC-33	Fall Protection BID (awarded Hy-Safe Technologies)	$52,835
DC-34	Dock Leveler BID	$4,300
DC-35	PEMB - Hangar (awarded Covenant Building Systems)	$11,481,680
DC-36	Elevator BID (awarded ThyssenKrupp Elevator Company)	$75,241
DC-37	Fire Protection BID (awarded S&S Sprinkler)	$592,670
DC-38	Plumbing BID (awarded MMI Mechanical)	$559,962
DC-39	HVAC BID (awarded Bayou Mechanical)	$1,910,050
DC-40	Electrical BID (awarded Moody's Electric)	$2,670,884
DC-41	Termite Treatment	$29,487
TOTAL ESTIMATED DIRECT CONSTRUCTION COST		**$32,256,834**

EXHIBIT C
CONSTRUCTION MANAGER'S GENERAL CONDITIONS
DIRECT CONSTRUCTION COST

Included in GMP

Item#	Description	Cost
GC-1.0	***On-Site Offices***	
	Office Trailer - Set up & Breakdown sgl	$7,500
	Office Trailer	$18,870
	Office Trailer Water Line	$800
	Office Supplies & Equip	$17,000
	Storage Vans	$5,400
	Temporary Site Signage	$8,500
	Project Sign	$1,700
	Office computers/fax/furniture	$5,000
	Postage & Shipping	$2,550
	Telephone	$2,975
	Telephone Installation	$1,500
	iPad	$1,600
	Internet Set up/ Service	$3,400
	Reproducible drawings	$3,000
	Temp toilets	$9,800
	Ice & Cups	$5,100
	Sales Tax on General Conditions Materials	$29,657
GC-2.0	***Temporary Utilities***	
	Temporary Power	$11,050
	Temporary Water	$2,550
	Perm Power (.13/sf per mo)	$67,646
GC-3.0	***Temporary Construction Services***	
	Superintendent	$167,612
	Assistant Superintendent	$129,402
	Sr. Project Manager	$132,720
	Project Manager	$167,612
	Admin	$55,742
	Phones	$9,705
	Fuel for Vehicles	$26,000
	Supt/PM Vehicle	$32,500
	Video and Aerials	$7,140
	CPM/Schedule	$42,500
	Layout Services & Survey	$6,000
	Miscellaneous Layout & Batter Boards	$5,000

	Skilled Carpenters and Foremen	$207,130
	Laborers	$164,073
GC-4.0	***Clean Up***	
	Final Clean-up and Clean Glass	$43,363
	Floor Protection	$17,345
GC-5.0	***Safety***	
	Safety Officer	$119,448
	Safety and Barricades	$20,000
	Drug Testing	$2,000
	Temp Const Fencing	$56,400
GC-6.0	***Testing & Inspection***	
	Inspection and Punch Out	$10,000
	Call Back and Warranty Work	$25,000
GC-7.0	***Fees & Permits***	
	Building Permit	$47,446
	Builders Risk Insurance	$324,735
	General Liability Insurance	$240,019
	Subcontractor Bonds	$276,945
	P&P Bond	$232,181
	General Conditions (GC's, Equipment, Field Labor) Markup	$128,544
	CM Fee	$1,645,375
	Contractor Contingency	$650,676
GC-8.0	***Equipment***	
	Misc.Monthly Purchases	$5,950
	Miscellaneous Equipment Rental	$12,000
	Job Tools	$8,000
	Ride On Sweeper	$12,000
	Forklift Shooting Boom 9,000 lb	$33,600
	Backhoe 4WD Extendahoe	$6,100
	Dumpster Picks	$36,000
	Fuel for Equipment	$4,800
	Equip Repairs & Maint.	$3,200
	Total General Conditions	$5,319,862

EXHIBIT D

GMP SUMMARY

Based on 95% Contract Documents as of 8/12/16

Project # **15-009**

Project Name: **VT Mobile Aerospace Engineering Inc Project at Penscacola International Airport - Construction Manager at Risk Services**

GMP Summary				Amount
A.	Cost of Work (Labor, Materials, Equipment, Warranty)			$32,256,834
INDIRECT COSTS			RATE	
B.	CM Contingency		1.73%	$650,676
C.	Construction Fee		4.72%	$1,773,919
D.	General Conditions		7.70%	$2,895,267
D1	Payment and Performance Bond	$232,181	0.62%	
D2	Insurance	$564,754	1.50%	
E.	Sales Taxes		not tax exempt	included
			F. TOTAL GMP	**$37,576,696**
			G. Owner's Contingency	not included

V. Sources and Uses of Funds

Funds Available	
FDOT grant allocable to Airport	11,090,000
VT MAE	7,244,300
IRREF	7,000,000
City - FDOT grant allocable to Airport	8,599,600
City - FDOT grant allocable to Airport	4,096,547
City Funds (Payable on 12/31/2019)	3,200,000
County funds	4,800,000
Total Funds available	46,030,447
Grant Adjustment (matching funds)	(2,300,000)
City - Airport Capital funds	1,400,000
Total Construction Funds Available	45,130,447
Project Development Costs	
Pre-Construction	
Design, Geotech and Environmental Assessment	(2,743,000)
Contract Administration	(308,000)
FAA Project pre-funding (Relocation of navigational equipment)	(92,500)
	(263,000)
Sub-total Pre-construction	(3,406,500)
Construction - Non-Greenhut GMP	
FAA Project (Relocation of navigational equipment)	(539,000)
A&E Construction Design Services	(650,000)
Construction Administration	(972,000)
Bridge Financing costs	(750,000)
Owner Contingency	(886,251)
Testing and Parking Lights	(300,000)
Professional Services	(50,000)
Sub-total Construction - Non Greenhut GMP	(4,147,251)
Net Funds Available for Construction Costs	**37,576,696**
Guaranteed Maximum Price (GMP) from Construction Manager at Risk	**37,576,696**

Construction Schedule and Sources and Uses of Funds

The following schedules reflect the construction timeline and an estimate of the expenditure of funds required throughout the project. The estimated duration of construction is 16 months. As all grants have a 50/50 match, therefore the expenditure of local funds necessarily occurs in tandem with the distribution of grant funds in the project.

Interim financing in the amount of $6,299,000 has been obtained by the City and will be drawn as needed based on the construction schedule. This loan is secured by an FDOT grant in the amount of $8,599,000. The remaining $2.3M will be available to be drawn for eligible expenses with a local match. The additional $1,400,000 included in the County/City contribution is from the Airport Capital Improvement Account and covers expenditures, if incurred, not otherwise eligible for matching grant funds.

Also included in this tab is an analysis of the detailed expenditures previously provided to the BOCC showing total expenditures of $2,097,356. These expenditures cover services from January 2014 through June 2016. The total cost breakdown is as follows:

Architectural and engineering services	$1,504,184
Construction Administration	$200,056
CM@R Fees	$50,000
FAA Pre-fund – Navigational Equipment	$92,500
Legal fees	$106,400
Consulting fees	$143,078
Miscellaneous	$1,138
Total	$2,097,356

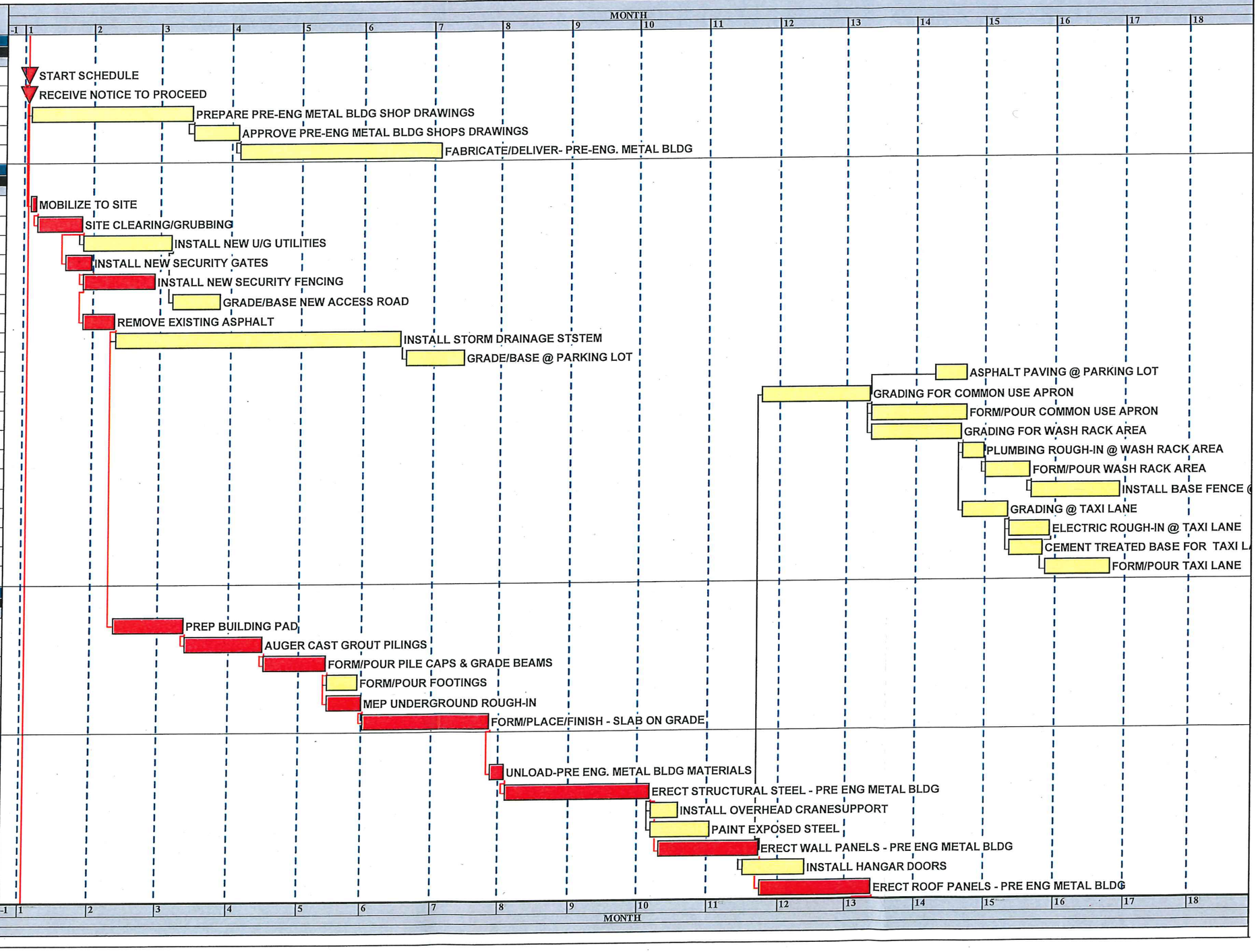
GREENHUT CONSTRUCTION CO., INC.
SEPTEMBER 12, 2016

PENSACOLA VT MAE HANGAR
PRELIMINARY

PRELIMINARY OVERALL PROJECT SCHEDULE
(1A of 2A)

TPC

Activity ID	Description	Work Days
PRECON/MATERIAL PROCUREMENT		
990	START SCHEDULE	0
1000	RECEIVE NOTICE TO PROCEED	0
1030	PREPARE PRE-ENG METAL BLDG SHOP DRAWINGS	50
1060	APPROVE PRE-ENG METAL BLDG SHOPS DRAWINGS	14
1090	FABRICATE/DELIVER- PRE-ENG. METAL BLDG	64
SITEWORK		
2000	MOBILIZE TO SITE	3
2030	SITE CLEARING/GRUBBING	15
2060	INSTALL NEW U/G UTILITIES	25
2090	INSTALL NEW SECURITY GATES	8
2120	INSTALL NEW SECURITY FENCING	20
2150	GRADE/BASE NEW ACCESS ROAD	15
2180	REMOVE EXISTING ASPHALT	10
2210	INSTALL STORM DRAINAGE STSTEM	88
2240	GRADE/BASE @ PARKING LOT	20
2270	ASPHALT PAVING @ PARKING LOT	10
2300	GRADING FOR COMMON USE APRON	35
2330	FORM/POUR COMMON USE APRON	30
2360	GRADING FOR WASH RACK AREA	28
2390	PLUMBING ROUGH-IN @ WASH RACK AREA	8
2420	FORM/POUR WASH RACK AREA	15
2450	INSTALL BASE FENCE @WASH RACK AREA	25
2480	GRADING @ TAXI LANE	15
2510	ELECTRIC ROUGH-IN @ TAXI LANE	13
2540	CEMENT TREATED BASE FOR TAXI LANE	10
2570	FORM/POUR TAXI LANE	20
BUILDING FOUNDATIONS/SLAB ON GRADE		
3000	PREP BUILDING PAD	20
3030	AUGER CAST GROUT PILINGS	24
3060	FORM/POUR PILE CAPS & GRADE BEAMS	20
3090	FORM/POUR FOOTINGS	10
3120	MEP UNDERGROUND ROUGH-IN	12
3150	FORM/PLACE/FINISH - SLAB ON GRADE	40
PRE-ENGINEERED METAL BUILDING		
4000	UNLOAD-PRE ENG. METAL BLDG MATERIALS	5
4030	ERECT STRUCTURAL STEEL - PRE ENG METAL BLDG	45
4060	INSTALL OVERHEAD CRANESUPPORT	9
4090	PAINT EXPOSED STEEL	19
4120	ERECT WALL PANELS - PRE ENG METAL BLDG	32
4150	INSTALL HANGAR DOORS	20
4180	ERECT ROOF PANELS - PRE ENG METAL BLDG	36



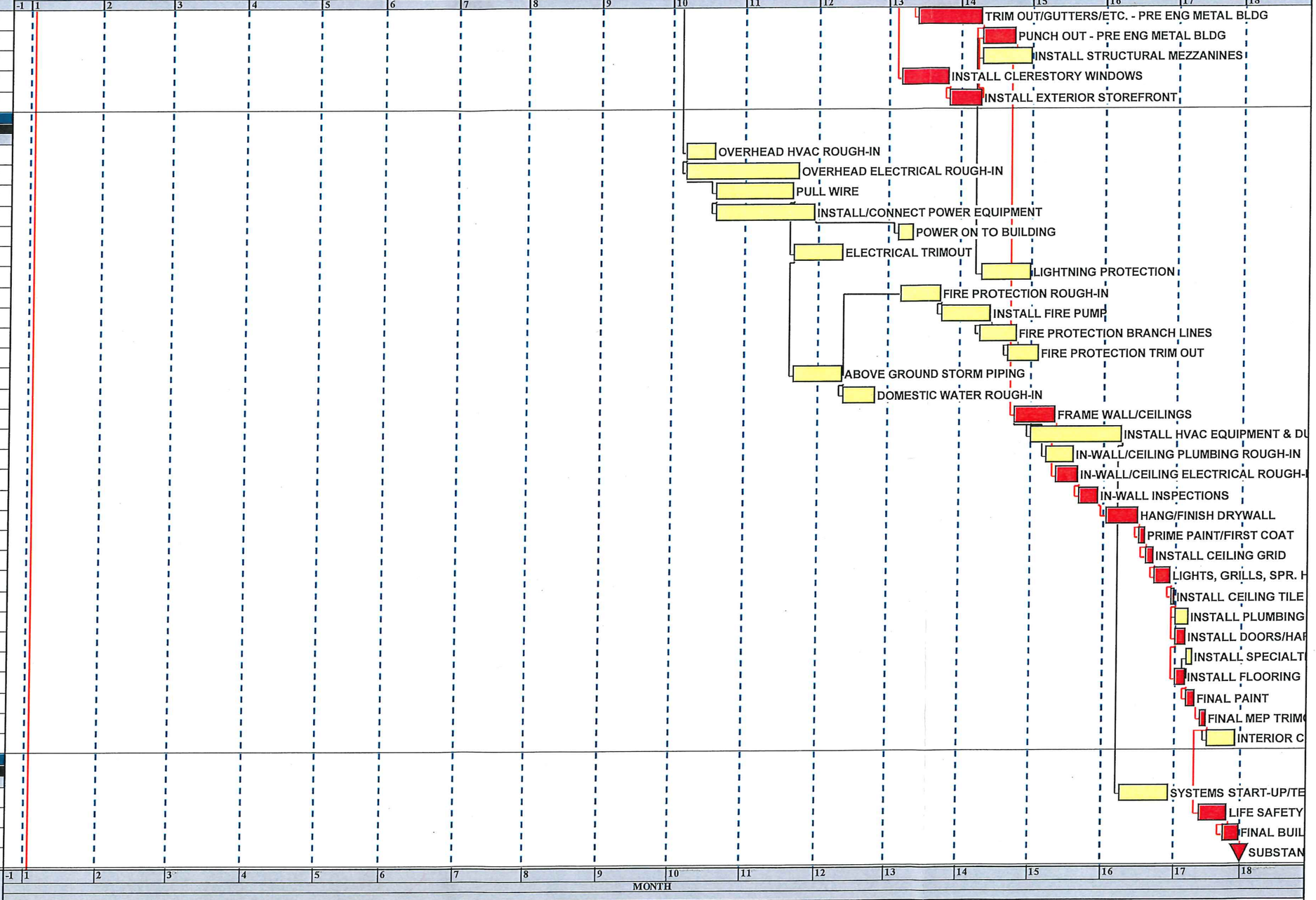
GREENHUT CONSTRUCTION CO., INC.
SEPTEMBER 12, 2016

PENSACOLA VT MAE HANGAR
PRELIMINARY

PRELIMINARY OVERALL PROJECT SCHEDULE
(2A of 2A)

TPC

Activity ID	Description	Work Days
4210	TRIM OUT/GUTTERS/ETC. - PRE ENG METAL BLDG	20
4240	PUNCH OUT - PRE ENG METAL BLDG	10
4270	INSTALL STRUCTURAL MEZZANINES	15
4300	INSTALL CLERESTORY WINDOWS	15
4330	INSTALL EXTERIOR STOREFRONT	10
BUILDING INTERIOR		
5000	OVERHEAD HVAC ROUGH-IN	9
5030	OVERHEAD ELECTRICAL ROUGH-IN	34
5060	PULL WIRE	23
5090	INSTALL/CONNECT POWER EQUIPMENT	30
5120	POWER ON TO BUILDING	5
5150	ELECTRICAL TRIMOUT	15
5180	LIGHTNING PROTECTION	15
5210	FIRE PROTECTION ROUGH-IN	12
5240	INSTALL FIRE PUMP	15
5270	FIRE PROTECTION BRANCH LINES	12
5300	FIRE PROTECTION TRIM OUT	10
5330	ABOVE GROUND STORM PIPING	15
5360	DOMESTIC WATER ROUGH-IN	10
5390	FRAME WALL/CEILINGS	12
5420	INSTALL HVAC EQUIPMENT & DUCTWORK	25
5450	IN-WALL/CEILING PLUMBING ROUGH-IN	8
5480	IN-WALL/CEILING ELECTRICAL ROUGH-IN	8
5510	IN-WALL INSPECTIONS	5
5540	HANG/FINISH DRYWALL	10
5570	PRIME PAINT/FIRST COAT	3
5600	INSTALL CEILING GRID	2
5630	LIGHTS, GRILLS, SPR. HEADS @ GRID	5
5660	INSTALL CEILING TILE	2
5690	INSTALL PLUMBING FIXTURES	4
5720	INSTALL DOORS/HARDWARE	3
5750	INSTALL SPECIALTIES	3
5780	INSTALL FLOORING	3
5810	FINAL PAINT	4
5840	FINAL MEP TRIMOUT	3
5870	INTERIOR CLEAN/PUNCH	8
GENERAL BUILDING		
9000	SYSTEMS START-UP/TESTING	15
9030	LIFE SAFETY TESTING	10
9090	FINAL BUILDING INSPECTION	5
9150	SUBSTANTIAL COMPLETION	0



Projected Project Draft

VTMAE Aircraft Maintenance-Repair-Overhaul Facility
Pensacola International Airport

Monthly Billing			Total	October	November	December	January	February	March	April	May	June	July	August	September	October	November	December	January	Total
Year				2016	2016	2016	2016	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2018	
# of Payment Applications				1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
Construction Phase Expenses			$ 37,576,696	188,563	377,126	659,971	942,815	1,225,659	1,791,348	2,394,750	3,167,859	3,865,542	3,884,398	3,695,835	3,488,415	3,205,571	3,073,577	2,922,726	2,692,541	$ 37,576,696
Sources of funds	Funding	Non Greenhut Project Expenses Incl. Bridge Loan Expense & Contingencies	Greenhut Construction Spend	Projected Project Draws																Greenhut Construction Spend
IRREF	$ 7,000,000	$ -	7,000,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 341,231	$ 1,942,199	$ 1,847,918	$ 1,744,208	$ 1,124,444	$ -	$ -	$ -	$ 7,000,000
County/City Contribution	$ 8,000,000	$ 2,644,000	5,356,000	$ 94,282	$ 188,563	$ 329,985	$ 471,407	$ 612,830	$ 895,674	$ 1,197,375	$ 1,565,884		-	-	-	-	-	-	-	5,356,000
Airport Capital Improvement	1,400,000		1,400,000								18,045	1,381,955								1,400,000
VT MAE	7,244,300	2,311,751	4,932,549	-	-	-	-	-	-	-	-	209,621	-	-	-	478,377	1,536,789	1,461,363	1,246,399	4,932,549
State Project Grant No. 1	11,090,000	1,651,000	9,439,000	-	-	-	-	-	-	627,388	1,583,929	1,932,771	1,942,186	1,847,918	1,504,808	-	-	-	-	9,439,000
State FDOT Grant No. 2 through 5	4,096,547	947,000	3,149,547	94,282	188,563	329,985	471,407	612,830	895,674	556,806	-	-				-	-	-	-	3,149,547
State Project Grant No. 6 - Bank Loan	6,299,600	-	6,299,600	-	-	-	-	-	-	13,728	-	-	-	-	239,400	1,602,785	1,536,789	1,461,363	1,445,535	6,299,600
Total	$ 45,130,447	$ 7,553,751	$ 37,576,696	$ 188,564	$ 377,126	$ 659,970	$ 942,814	$ 1,225,660	$ 1,791,348	$ 2,395,297	$ 3,167,858	$ 3,865,578	$ 3,884,385	$ 3,695,836	$ 3,488,416	$ 3,205,606	$ 3,073,578	$ 2,922,726	$ 2,691,934	$ 37,576,696

VI. Economic Impact of New Jobs – Escambia County and Region

In late 2012 when valid data was needed to make good decisions about the amount of government incentives to be provided in exchange for job creation the Haas Center, located at UWF, performed a Comprehensive Economic Impact Assessment to analyze the impact of new jobs for what was then referred to as the ST Project. We now know the actual number of jobs to be created is 400 new jobs with an average salary of $41,000. However at the time of the Haas Center report the number of new jobs projected was 450 at an average salary of $41,000, so the forecasted impact numbers in their report are slightly higher. Notwithstanding this minor difference, the employment results from their report summarized below are compelling:

Number of New Jobs

Industry	Escambia	Florida
Manufacturing	451	438
Construction	105	120
Health Care and Social Assistance	54	61
Retail Trade	52	62
Wholesale Trade	49	50
Administrative and Waste Services	46	53
Other Services, except Public administration	38	46
Accommodation and Food Services	34	39
Professional and Technical Services	27	39
Real Estate and Rental and Leasing	22	29

The total new jobs created by the effect of creating 450 new jobs has a ripple effect across all industries and actually results in the creation of a total of 878 new jobs. If this number is scaled down to reflect 400 new jobs, the ripple effect is a total of 780 new jobs for Escambia County residents. In addition to jobs, there is also an increased demand for housing, more goods and services, greater capital investments and a broader tax base for the county. These fiscal impacts are also outlined in the following Haas Center report.

Also included for information is a May 2016 article (from ThinkKentucky) which echoes the Haas report and in clear language talks about the "Economic Impact of 100 jobs".

The Economic Impact of ST Aerospace

A Comprehensive Economic Impact Assessment

HAAS CENTER
INNOVATIVE RESEARCH • INTELLIGENT SOLUTIONS
A Center of the University of West Florida

Final - August 10, 2012

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ABOUT US

Located on University of West Florida's Emerald Coast Campus in Fort Walton Beach, Florida, the Haas Center collects, analyzes, and distributes economic data for clients seeking expert economic advice. We exist to help entrepreneurs and industry leaders--from traditional manufacturing to emerging technologies--meet their information needs in the modern economy.

The Haas Center specializes in data analysis for the purposes of economic forecasting, marketing research, business expansion, tourism, and real estate development as well as industry and academic studies. The Haas Center's staff combine academic credentials with varied experience, ranging from economists to survey specialists. Each professional combines innovation with attention to detail to produce high-quality research products for Center clients.

For further information please visit our website at haas.uwf.edu or contact Rod Lewis at clewis2@uwf.edu.

HAAS CENTER
INNOVATIVE RESEARCH • INTELLIGENT SOLUTIONS

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PROJECT OVERVIEW

This document provides an economic impact analysis of a proposed aircraft maintenance and modification operation to be located in Escambia County. The plan is to build 2 aircraft hangars, 500 parking spaces, an administrative building, and a hangar apron/taxiway area. The expected cost of the project is approximately $54.4 million. Construction is likely to start in 2013 and be completed within 17 months.

Once construction is underway it is projected that a total of 450 employees will be hired in the aircraft manufacturing industry (NAICS 33641). The average wage for these employees is expected to be $40,913. Given the military installations and educational institutions in the Pensacola region, specialized workforce needs should be met by the local labor force.

ECONOMIC IMPACT ESTIMATES

Overview. Before presenting our estimates of the economic impacts in Escambia County, we provide a brief description of the modeling strategy and definitions of economic indicators used to analyze this project. Given the time constraints of 2012 and the necessary land acquisition and surveying requirements, we initialize 2013 as the starting date for construction. Construction is expected to take 15 – 17 months with the second hangar completed in 2014. We modeled employment with 150 employees starting in 2014, and an additional 150 employees hired in 2015 and 2016 for a total of 450 manufacturing jobs. The table to the right illustrates the inputs we used in the model in terms of construction spending and jobs added in Escambia County.

Table 1
Proposed Project Timeline

	2013	2014	2015	2016
Multipurpose Construction Spending ($mil)	$10.9	-	-	-
Single Tenant Construction Spending ($mil)	$24.6	$10.9	-	-
Total Employment	-	150	300	450

The Model. The results provided in this document are produced using an economic modeling program developed by REMI (Regional Economic Modeling Incorporated). There are several reasons we utilized this model relative to others available. First, REMI is a dynamic general equilibrium model, allowing us to model changes to the economy over time. Second, the model is capable of estimating changes in each region in context of changes in other regions in the model. Therefore, we could estimate the impacts of the project in Escambia County, other regional Counties, or the state of Florida.

Defining the Results. The results from our model are presented in terms of three economic indicators: gross regional product, demand, and employment. These economic indicators, when differenced due to induced chang-

es, are indicators of economic impact. We define the indicators below.

Gross Regional Product. The gross regional product (GRP) is equivalent to the gross domestic product (GDP) at the national level. It is a measure of the total value of all goods and services produced in a selected region over a defined period. This can be thought of as a "value added" concept. If the amount of services and goods produced in a region increases, the GRP will rise as well. Changes to an economy that cause more goods and services to be produced within the region have a positive effect on GRP. Changes to an economy that result in less goods or services produced within the region have a negative effect on GRP.

Demand. Another measure of economic impact is demand. Demand is the total value (direct, indirect, and induced) of goods and services demanded as a result of some activity. Some of this demand will be met by increased production within the region, while the rest will be met by goods and services imported into the region. Demand can roughly be thought of as total sales.

Employment. Employment is defined as the total number of jobs either existing in a region or generated by changes in the local economy. Impacts of the construction and operation of an aerospace manufacturing facility are for Escambia County.

Impact Estimates. The impact estimates for both Escambia County and Florida over the next ten years are presented in the table below (for a 20 year forecast see Appendix A). As the data indicate, the impacts are beneficial for both the County and State. The first year of construction alone will have an impact of 373 jobs and demand of over $51 million in the county.

Table 2
Economic Impacts
(In Millions 2012 USD)

Escambia County	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Demand	$51.8	$74.4	$121.6	$188.6	$198.0	$205.9	$211.7	$217.8	$223.7	$229.7
GDP	$19.8	$37.7	$65.9	$102.6	$106.8	$110.8	$114.2	$117.4	$120.2	$123.0
Employment	373	434	657	1,007	1,038	1,054	1,058	1,059	1,060	1,063
Florida	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**
Demand	$55.7	$78.5	$127.9	$198.5	$209.4	$218.4	$225.1	$231.6	$238.2	$244.8
GDP	$21.7	$39.7	$68.7	$107.1	$111.8	$116.1	$120.0	$123.4	$126.2	$129.4
Employment	407	470	711	1,090	1,131	1,154	1,161	1,165	1,167	1,173

Once construction is complete and the facility is at full production in 2016, this project is expected to add over 1,000 total jobs to Escambia County. This would increase the demand and GRP for the county by over $188 million and $102 million, respectively.

The table to the right displays the top 10 Escambia County and State jobs impact across industries in 2016. It should be no surprise that the majority of job creation will come from construction and manufacturing after the facility is completed. The next largest industry that would be affected by this project in Escambia County is Health Care and Social Assistance.

Table 3
Sector Employment

Industry	Escambia County	Florida
Manufacturing	451	438
Construction	105	120
Health Care and Social Assistance	54	61
Retail Trade	52	62
Wholesale Trade	49	50
Administrative and Waste Services	46	53
Other Services, except Public Administration	38	46
Accommodation and Food Services	34	39
Professional and Technical Services	27	39
Real Estate and Rental and Leasing	22	29

Fiscal Impacts. The table below displays the County and State fiscal impacts of this project from 2013 to 2022. Approximately $1 million in revenue would be collected by the state and local governments during the construction phase in 2013. After completion of construction, fiscal revenues are estimated to reach over $7.5 million (2022) for the County and an additional $0.7 million outside the County. Overall, if we compare fiscal revenues to expenditures we see that each year is a net benefit to Escambia County.

Table 4
Fiscal Impacts
(In Millions 2012 USD)

Escambia County	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Revenue	$0.9	$2.2	$4.0	$6.1	$6.3	$6.6	$6.8	$7.1	$7.3	$7.5
Expenditures	-$0.7	-$0.2	$0.0	$0.3	$1.6	$2.8	$4.0	$5.0	$5.9	$6.7
Florida	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**
Revenue	$1.0	$2.4	$4.2	$6.4	$6.8	$7.1	$7.4	$7.7	$8.0	$8.2
Expenditures	-$0.8	-$0.4	-$0.2	-$0.06	$1.3	$2.6	$3.8	$5.0	$6.0	$6.9

APPENDIX A: Economic Impacts - 20 Years (In Millions 2012 USD)

Escambia County	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Demand	$51.8	$74.4	$121.6	$188.6	$198.0	$205.9	$211.7	$217.8	$223.7	$229.7	$235.8	$241.9	$248.1	$254.6	$261.2	$268.0	$275.1	$282.0	$289.2	$296.4
GDP	$19.8	$37.7	$65.9	$102.6	$106.8	$110.8	$114.2	$117.4	$120.2	$123.0	$126.0	$129.0	$132.1	$135.5	$139.0	$142.6	$146.4	$150.1	$154.1	$158.0
Employment	373	434	657	1,007	1,038	1,054	1,058	1,059	1,060	1,063	1,066	1,071	1,077	1,085	1,094	1,104	1,115	1,126	1,137	1,149
Florida	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**
Demand	$55.7	$78.5	$127.9	$198.5	$209.4	$218.4	$225.1	$231.6	$238.2	$244.8	$251.5	$258.2	$265.0	$272.3	$279.8	$287.1	$295.2	$303.0	$311.3	$319.1
GDP	$21.7	$39.7	$68.7	$107.1	$111.8	$116.1	$120.0	$123.4	$126.2	$129.4	$132.6	$135.9	$139.3	$142.9	$146.7	$150.6	$154.8	$158.9	$163.2	$167.6
Employment	407	470	711	1,090	1,131	1,154	1,161	1,165	1,167	1,173	1,178	1,185	1,195	1,205	1,218	1,231	1,246	1,260	1,276	1,292

APPENDIX B: Fiscal Impacts - 20 Years (In Millions 2012 USD)

Escambia County	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Revenue	$0.9	$2.2	$4.0	$6.1	$6.3	$6.6	$6.8	$7.1	$7.3	$7.5	$7.7	$7.9	$8.1	$8.3	$8.5	$8.7	$8.9	$9.1	$9.3	$9.4
Expenditures	($0.7)	($0.2)	$0.0	$0.3	$1.6	$2.8	$4.0	$5.0	$5.9	$6.7	$7.4	$8.1	$8.7	$9.2	$9.6	$10.1	$10.5	$10.9	$11.2	$11.5
Florida	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**
Revenue	$1.0	$2.4	$4.2	$6.4	$6.8	$7.1	$7.4	$7.7	$8.0	$8.2	$8.5	$8.8	$9.0	$9.3	$9.5	$9.8	$10.0	$10.2	$10.5	$10.7
Expenditures	($0.8)	($0.4)	($0.2)	($0.1)	$1.3	$2.6	$3.8	$5.0	$6.0	$6.9	$7.8	$8.5	$9.2	$9.8	$10.4	$10.9	$11.3	$11.8	$12.2	$12.6

Just the Facts:

Economic Impact of 100 Jobs

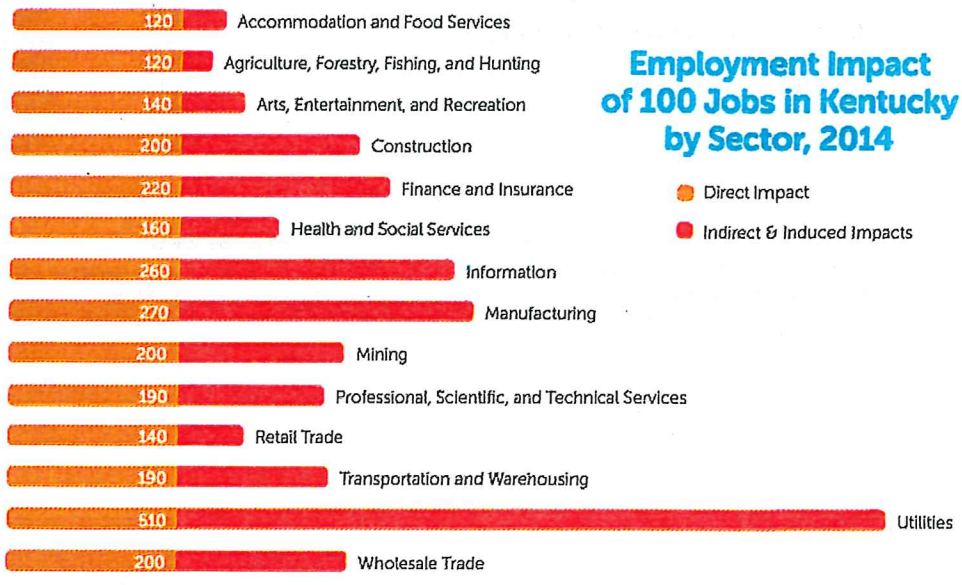
May 2016

When an existing Kentucky business expands or a new business locates in the state, significant economic benefits ensue. With those new jobs come payroll dollars, increased demand for housing, goods and services, greater capital investment and a broader tax base all of which spreads throughout the economy. While each job added brings economic value to the state, that value varies by industry based on wages, skill level required, labor intensity, etc.

After an initial impact occurs, changes ripple through other sectors. For example, if a restaurant expands and adds 100 jobs, it is likely a result of increased sales at the restaurant. The restaurant will buy goods and services it needs from other businesses in order to serve customers. That is an indirect impact; indirect impacts also include the wages of the new employees at the restaurant. Those businesses, depending on the size of the impact, may also hire additional workers. When the employees at the restaurant and the supporting businesses buy goods and services for their households, this creates induced impacts. Combined, the direct, indirect and induced impacts are the total impact and measure the ripple effects of the initial change. Not all of these changes will occur within Kentucky, there will be leakage as goods and services from outside the state will be purchased.

The additional jobs will grow the state economy which is measured as value added, similar to gross domestic product (GDP).

If 100 new jobs are added to the Kentucky economy in the utility sector, the ripple effect is an additional 410 jobs in other sectors resulting in a total impact of 510 jobs. These jobs are located throughout all the other sectors of the state economy. Sectors with the lowest overall employment impact are typically those that are lower paying in service sectors such as retail, restaurants and hotels.



100 jobs

Economic impact modeling captures the direct impact of an employment expenditure on the economy.

The additional jobs will grow the state economy which is measured as value added, similar to gross domestic product (GDP). The table below provides the total value added (by sector) resulting from 100 additional jobs. For example, if 100 jobs were added to Kentucky's manufacturing sector, the total employment impact is 270 jobs (170 jobs added in other sectors). In addition, the overall state economy will grow by $27.1 million.

State and local governments will also benefit from additional jobs in the form of tax revenues, licenses, fees and fines. Major tax revenue streams include corporate income, personal income, property and sales taxes. Licenses include motor vehicles, hunting, fishing, etc. The addition of 100 jobs to the retail sector will support 40 jobs in other parts of the economy and generate $1 million in state and local taxes.

Economic Impact of Adding 100 New Jobs in Kentucky by Sector, 2014

Industrial Sector	Total Jobs	Total Value Added	Total State & Local Taxes*
Accommodation and Food Services	120	$4,357,000	$542,000
Agriculture, Forestry, Fishing and Hunting	120	$3,339,000	$159,000
Arts, Entertainment and Recreation	140	$5,875,000	$438,000
Construction	200	$12,971,000	$1,139,000
Finance and Insurance	220	$17,233,000	$1,420,000
Health and Social Services	160	$9,794,000	$664,000
Information	260	$27,106,000	$3,301,000
Manufacturing	270	$27,117,000	$2,764,000
Mining	200	$45,237,000	$3,525,000
Professional, Scientific and Technical Services	190	$13,584,000	$753,000
Retail Trade	140	$7,393,000	$1,000,000
Transportation and Warehousing	190	$12,825,000	$891,000
Utilities	510	$86,466,000	$12,200,000
Wholesale Trade	200	$22,446,000	$4,009,000

*Tax estimates include corporate, business and household taxes. They do not include local education taxes.

Note: Not comparable with previous years.

Source: The economic impacts estimates and conclusions resulting from this study have been derived from IMPLAN Group LLC 2013 matrixes and databases. Additional input data was provided by the United States Bureau of Labor Statistics, 2014 annual Quarterly Census of Employment and Wages and the United States Bureau of Economic Analysis.

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THINKKENTUCKY

VII. Workforce Development

The following is a listing of the job classifications currently in the VT MAE Mobile MRO facilities and likely to be needed in the Pensacola facility. The starting salary for many of these positions noted below is in excess of $41,000 based on the needed experience levels.

Master APG* Technician	APG Mechanics	IT Support Technician
Aircraft Inspector	Sheet Metal Mechanics	Accounting Specialist
Master Structures Technician	Avionics Technicians	Aviation Training Maintenance Program
APG Technician	NDT** Inspector	

*Airplane general
** Non-destructive testing

Now that the VT MAE project is a reality, the serious work of partnering with educational institutions and developing workforce-training programs that will create opportunities for all Escambia County residents to be ready for these types of jobs must fully launch. It is critical to align education with economic development goals and the following document prepared by FloridaWest outlines an approach to achieving that result.

In addition, it will also be essential to develop metrics that create accountability around key measures, particularly the number of individuals who go through various training programs and become job ready for opportunities that are available. The development of key metrics and the measurement of performance against such measures will assure that the goals of training and employing more of our residents is a reality.

(Prepared by FloridaWest)
VT Mobile Aerospace Engineering, Inc. and Pensacola Educational/Training Partners
Workforce Strategies and Timelines

VT Project Overview and Current Status:

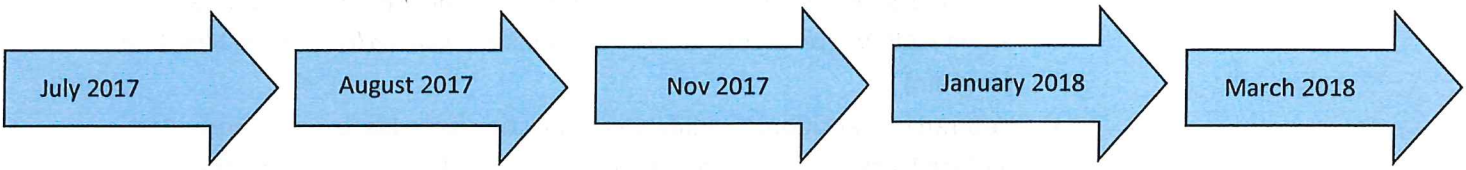
-Facility Completion Date: Estimated for Mid 2018

-Construction Phase to start October 2016

Estimate Starting Workforce Needs: (full employment of phase one will be 400 full time employees)

- 37 APG Mechanics
- 54 Structures
- 17 Avionics
- 15 Interiors
- 15 Inspectors

Hiring Timeline:



Begin recruitment for Leadership

Extend offers for Leadership Team

Leadership Team to hire 150 Workers

Workers begin three month training in Mobile

Facility Opens in Pensacola

Recruitment Strategy:

- Veteran/Military Tactics:
  - Share job postings with southeastern regional military installations -> strategic partner: NAS Whiting & NAS Pensacola
  - Place job postings/ads in military publications: Gosport, Fleet & Family Services social media, newsletters, etc.
  - Have VT MAE leadership speak with base leadership & commands to build grass roots awareness
  - Hold information sessions on base outlining skill sets, competencies desired
  - Develop "transition document" for TAP classes and Fleet & Family Support (detailed referral to training programs)
- Hiring Fair Tactics:
  - "Single Employer Job Fair": strategic partner -> CareerSource Escarosa
  - On Base Job Fair at NAS Whiting (only 35% of fair attendees are active duty military)
- Job Posting Marketing Tactics:

        - 6 hours/day
        - Accepts GI Bill, Tuition Assistance, Pell Grant
    - Aircraft Airframe Mechanics
    - Aircraft Power plant Mechanics
    - Serving Students in the Fall of 2015
    - 20 students enrolled in the general program; capacity to graduate 40
    - per year based on market demand
    - Additional facility space in coming years for further expansion

- **Pensacola State College, Proposed**
    - Phase 1

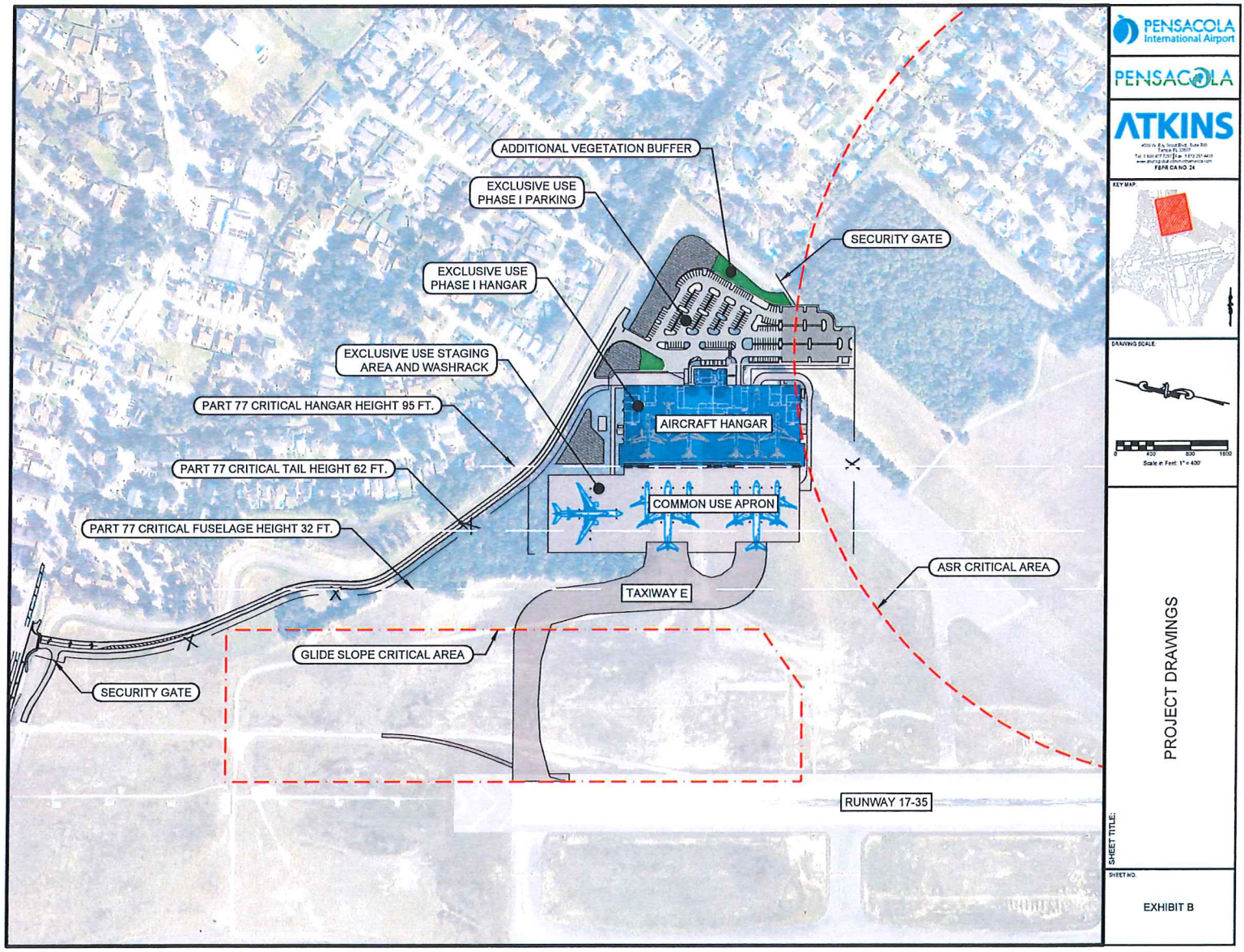
    Associate of Science Degree in Avionics Technology
        - FCC Avionics License

    Advanced Certificates:
        - Aircraft Coating and Corrosion Control Technology
        - Advanced Aircraft Structures
        - Blue Print Reading
        - Composites
        - Technical Writing
        - Cost Control
        - HR Management
        - Design Repair Schemes
        - Project Management
    - Phase 2

    BAS in Aerospace Project Management

    BAS in Aerospace Sciences

- **Recently Separated Military**
    - Part 65 Fast Track Graduates



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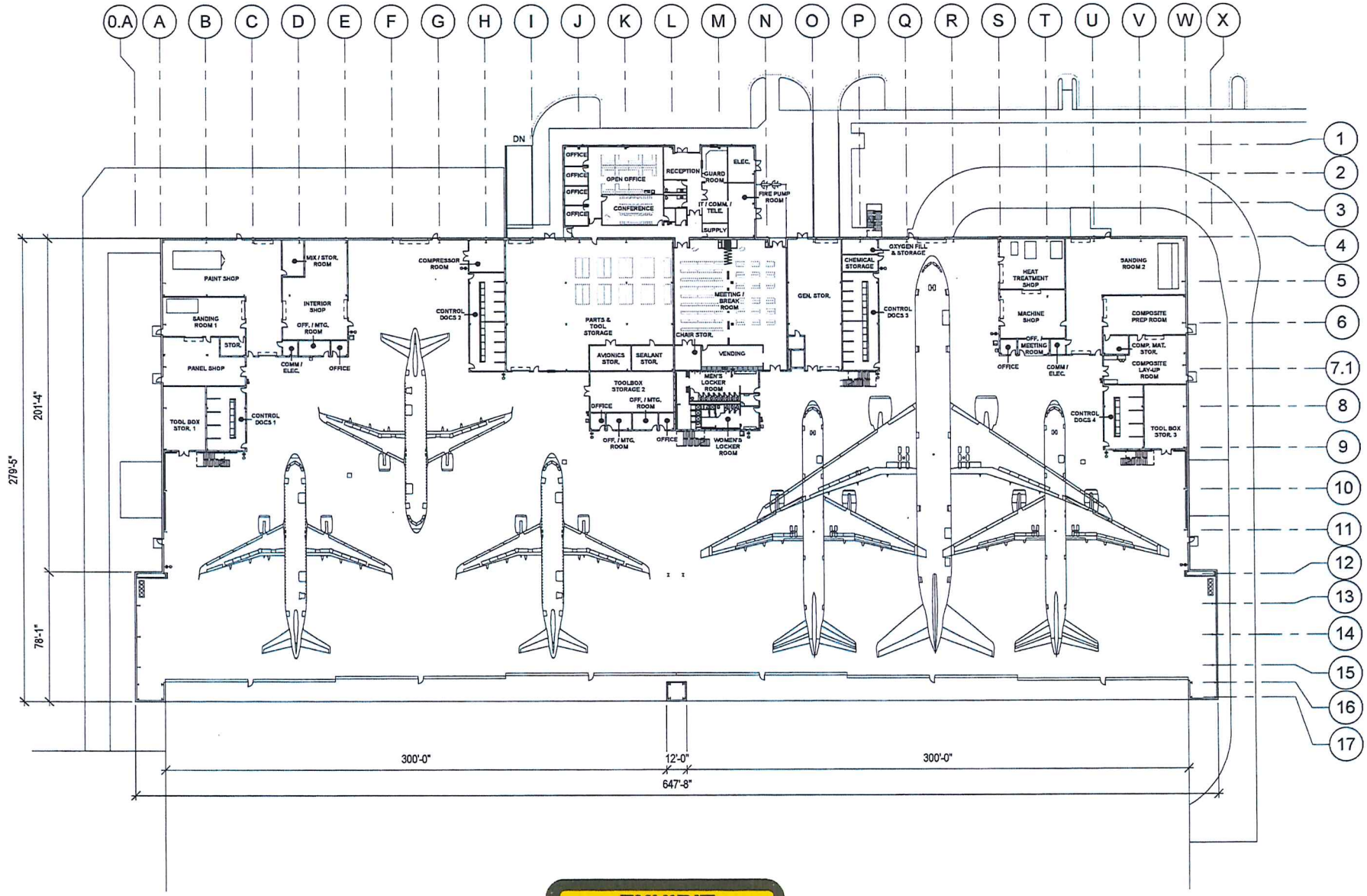

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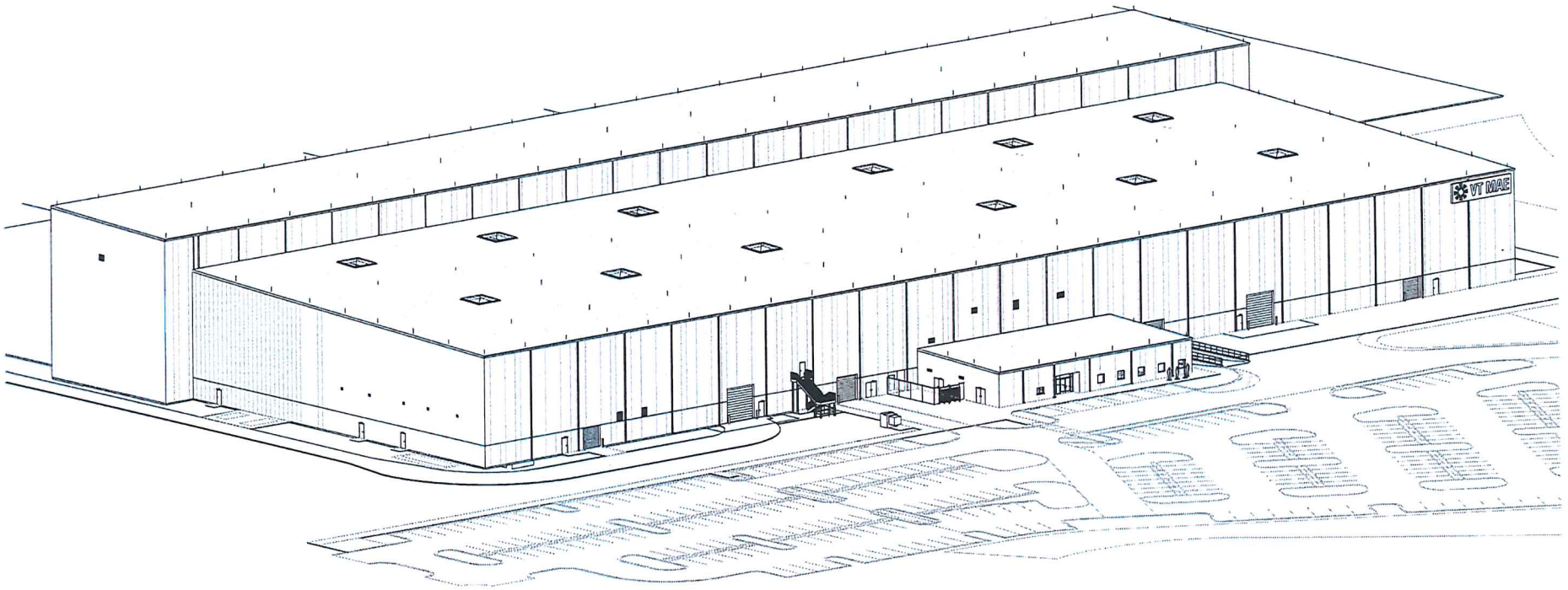

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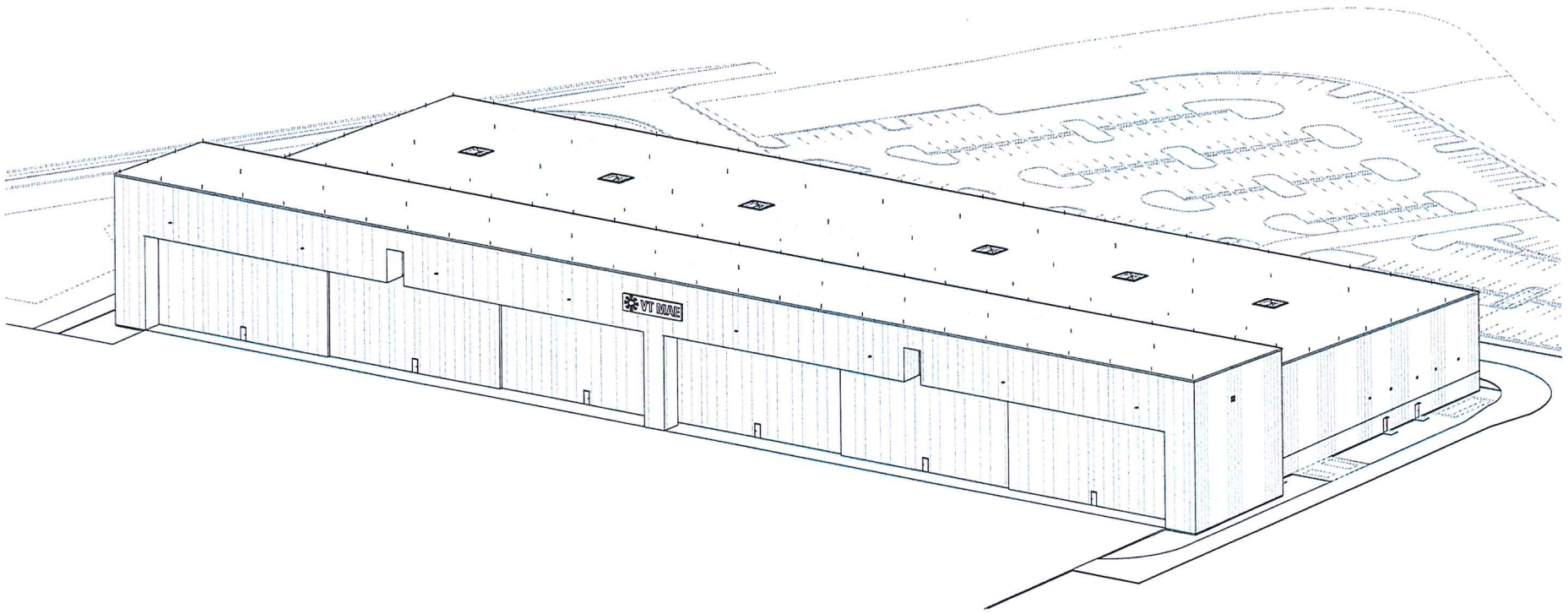

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IX. Who is ST Aerospace?

ST Aerospace is one of four strategic business areas for its parent company, Singapore Technologies Engineering, Ltd., which is listed on the Singapore Exchange. Singapore Technologies Engineering, Ltd. employs over 23,000 people worldwide. They have locations in 46 cities across 24 countries and serve clients in over 100 countries. Singapore Technologies Engineering ,Ltd. has a Triple A (AAA) rating from both Moody's and Standard & Poor's. Global revenue for 2015 was $6.34 Billion and global Net Profit was $529 Million.

The four strategic business areas of the parent company are Aerospace, Electronics, Kinetics and Marine. ST Aerospace is the world's largest third party MRO provider. For total global operations, the Aerospace unit accounts for approximately 25% of total revenue and approximately 30% of total profit.

VT MAE is a subsidiary of ST Aerospace and provides aircraft maintenance and modification services to the world's leading airlines, airfreight and military operators. Since its inception in 1991, VT MAE has re-delivered close to 5,000 aircraft back to their customers after performing MRO services.

ST Engineering

OUR BUSINESS

ST Engineering is a global, integrated, engineering group with capabilities spanning the aerospace, electronics, marine, and land systems sectors. Our multi-sector capabilities enable us to provide integrated engineering solutions for customers in over 100 countries, and we continually enhance and upgrade our range and depth of product offerings through R&D and collaboration with global industry players and the academia.

Leveraging on our multi-sector capabilities to develop advanced solutions for customers across industries, we serve both commercial and defence customers in over 100 countries, through a global network of over 100 subsidiaries and associated companies in 23 countries and 41 cities spanning the US, Europe, Asia and Australasia.

>> Commercial
>> Defence

Aerospace

Aerospace
ST Aerospace is the world's largest third party maintenance , repair and overhaul (MRO) provider with a global customer base that includes many of the world's leading airlines, airfreight operators and military operators.

Electronics

Electronics
ST Electronics is one of the largest InfoComm Technology system houses in the Asia Pacific, serving customers in the commercial, industrial, defence and public services worldwide.

Kinetics

Land Systems
ST Kinetics is one of the region's largest land systems and specialty vehicles companies, with a growing portfolio of products and services for the defence, homeland security and commercial markets.

Marine

Marine
ST Marine is a one-stop turnkey provider of ship building, ship repair and ship conversion services for the navies and commercial operators around the world.

Other Businesses

ST Dynamics
ST Dynamics is the Advanced Engineering Centre of ST Engineering. We aim to bring to our customers *new or enhanced capabilities through the technologies and innovations we create.*

ST Synthesis
ST Synthesis is the integrated services arm of ST Engineering. From logistics and supply chain management, to facilities engineering services, it harnesses a range of integrated managed services to build highly customised solutions.

ST Engineering

AEROSPACE

Singapore Technologies Aerospace Ltd (ST Aerospace) is a leading brand name in the international aircraft MRO industry, ST Aerospace is an integrated service provider that offers a wide spectrum of maintenance and engineering services through its five capability clusters

- Aircraft Maintenance & Modification (AMM)
- Component Total Support (CTS)
- Engine Total Support (ETS)
- Aviation & Training Services (ATS)
- Aerospace Engineering & Manufacturing (AEM)

Operating a global network with facilities and affiliates in the Americas, Asia Pacific and Europe, ST Aerospace's customer base includes the world's leading airlines, airfreight and military operators. Its comprehensive suite of capabilities includes airframe, component and engine MRO; engineering design and technical services; and aviation materials and asset management services, including Total Aviation Support. ST Aerospace offers customers a high quality, timely and reliable maintenance programme which can be fully customised. ST Aerospace is also one of few MRO providers in the world with an in-house aircraft design engineering capability that can offer customers a wide range of customised engineering and design solutions. To meet the demands of fast growth in the aviation industry and the increasing need for professional flying services,

ST Aerospace's training arm strives to provide training services for both pilot and technical vocations. In addition, its air charter entities also have at hand, a fleet of helicopter and business jets for a variety of missions including executive air travel and air ambulance.

ST Aerospace's quality standards are regularly audited and recognised by international airworthiness authorities, including the Civil Aviation Administration of China, the Civil Aviation Authority of Singapore, the European Aviation Safety Agency (EASA), the Japan Civil Aviation Bureau, the UK Civil Aviation Authority and the US Federal Aviation Administration (FAA),. ST Aerospace is the aerospace arm of ST Engineering. Listed on the Singapore Exchange, ST Engineering is a technology-based multi-national conglomerate providing one stop integrated engineering services for the aerospace, electronics, land systems and marine industries.

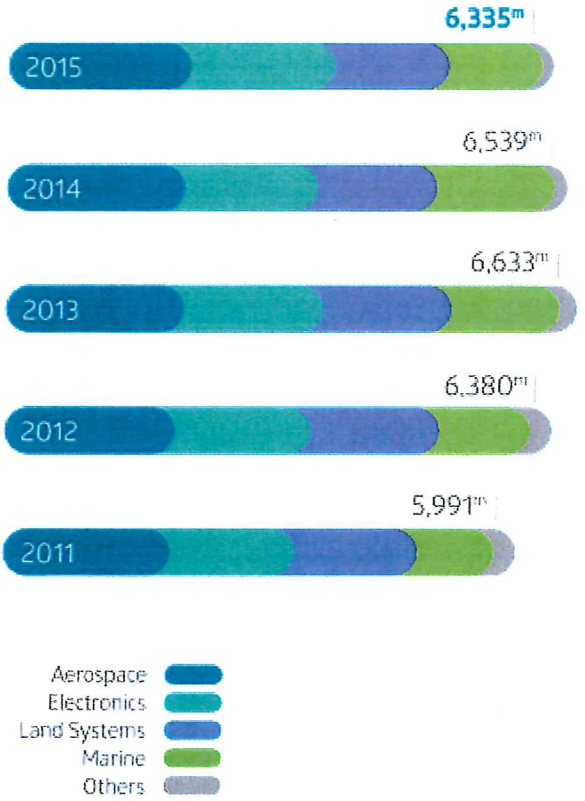
Milestones Organisation Chart Management Team
Products & Solutions EHS Policies Contacts

ST Engineering

5-YEAR FINANCIAL DATA

5-YEAR KEY FINANCIAL DATA	2015 $M	2014 $M	2013 $M	2012 $M	2011 $M
Income statement ($M)					
Revenue	**6,335**	6,539	6,633	6,380	5,991
Profit					
EBITDA	**697.6**	725.5	815.2	795.0	742.7
EBIT	**510.3**	555.0	673.2	658.0	607.7
PBT	**630.3**	650.7	729.7	715.4	655.2
Net Profit	**529.0**	532.0	580.8	576.2	527.5
Balance Sheet ($M)					
Property, plant and equipment, and investment property	**1,709**	1,578	1,520	1,213	1,358
Intangible and other assets	**1,370**	1,311	1,290	1,049	1,027
Inventories and work-in-progress	**1,943**	1,802	1,808	1,922	1,594
Trade receivables, deposits and prepayment	**1,694**	1,916	1,860	1,777	1,659
Bank balances and other liquid funds and funds under management	**1,453**	1,712	2,229	2,070	1,769
Current liabilities	**3,720**	3,716	4,094	3,890	3,479
Non-current liabilities	**2,188**	2,339	2,353	2,128	2,052
Share capital	**896**	889	853	782	723
Treasury shares	**(67)**	(6)	-	-	-
Capital and other reserves	**48**	24	71	(20)	10
Retained earnings	**1,255**	1,225	1,192	1,133	1,033
Non-controlling interests	**129**	132	144	118	110
Financial Indicators					
Earnings per share (cents)	**17.05**	17.06	18.73	18.76	17.28
Net assets value per share (cents)	**68.74**	68.38	68.14	61.51	57.79
Return on sales (%)	**8.4**	8.2	8.9	9.2	9.0
Return on equity (%)	**24.8**	24.9	27.4	30.4	29.9
Return on total assets (%)	**6.5**	6.5	6.8	7.3	7.3
Return on capital employed (%)	**14.6**	14.0	15.4	17.4	19.8
Dividend					
Gross dividend per share (cents)	**15.00**	15.00	15.00	16.80	15.50
Dividend yield (%)	**4.68**	4.08	3.86	5.16	5.07
Dividend cover	**1.13**	1.14	1.25	1.11	1.11
Productivity Data					
Average staff strength (numbers)	**22,388**	22,671	22,837	22,560	22,193
Revenue per employee ($)	**282,965**	288,449	290,456	282,795	269,944
Net profit per employee ($)	**23,630**	23,464	25,434	25,540	23,771
Employment costs ($m)	**1,813.7**	1,745.8	1,789.7	1,760.2	1,633.2
Employment costs per $ of revenue ($)	**0.29**	0.27	0.27	0.28	0.27
Economic Value Added ($m)	**366.2**	344.5	413.8	437.9	405.0
Economic Value Added spread (%)	**9.1**	8.4	10.2	12.1	12.0
Economic Value Added per employee ($)	**16,357**	15,197	18,118	19,411	18,250
Value added ($m)	**2,702.3**	2,651.0	2,731.7	2,710.5	2,494.5
Value added per employee ($)	**120,704**	116,935	119,616	120,149	112,398
Value added per $ of employment costs ($)	**1.49**	1.52	1.53	1.54	1.53
Value added per $ of gross property, plant and equipment ($)	**0.78**	0.83	0.91	1.06	0.90
Value added per $ of revenue ($)	**0.43**	0.41	0.41	0.42	0.42

REVENUE BY SECTOR ($M)



PROFIT BEFORE TAX BY SECTOR ($M)

NET PROFIT BY SECTOR ($M)

10 YEAR ORDER BOOK ($B)

X. Aviation and Aerospace News

In its 2016 survey on Aerospace Manufacturing Attractiveness, the global consulting firm of Price Waterhouse Coopers (PwC) has ranked the state of Florida at number two among all states in attractiveness to the Aerospace manufacturing industry. Interestingly, in 2015 Florida was ranked number one, but due to an increase in wages in the state for this industry, Florida dropped to second in 2016. The survey was based on how well states ranked in four key factors, taxes, operating expenses, industry and education. It is clear that Florida has established itself as an industry leader and in Pensacola, with VT MAE, we have an opportunity to build upon and take advantage of this national trend favoring our state.

2016 Aerospace Manufacturing Attractiveness Rankings

July 2016

Geographic manufacturing attractiveness index and analysis for the commercial aircraft industry

pwc

Welcome to the 2016 Aerospace Manufacturing Attractiveness Rankings. This is the third consecutive year of this analysis. We continue to refine our methodology to provide the most meaningful comparison of states and countries regarding the manufacturing environment for aerospace companies. Our quantitative framework can help provide industry leaders with information to optimize the supply chain, control costs, and plan for future growth.

The 2016 index is based on a weighted average of variables. For the global rankings, the three categories of variables are costs, industry size, and infrastructure/stability/workforce. These categories are unchanged from the prior year. However, while the categories for the US state rankings are also unchanged, the variables have been refined. The tax category now includes unemployment and property tax in addition to corporate tax. The cost category no longer includes employment numbers for all occupations and double weights the average hourly wage for aerospace companies. The industry and education variables have remained the same. Details on the methodology are described in the Appendix as well as complete rankings for countries and US states.

We hope you find this annual aerospace attractiveness analysis informative and useful. We welcome your thoughts on the findings and its potential impact on your strategy.

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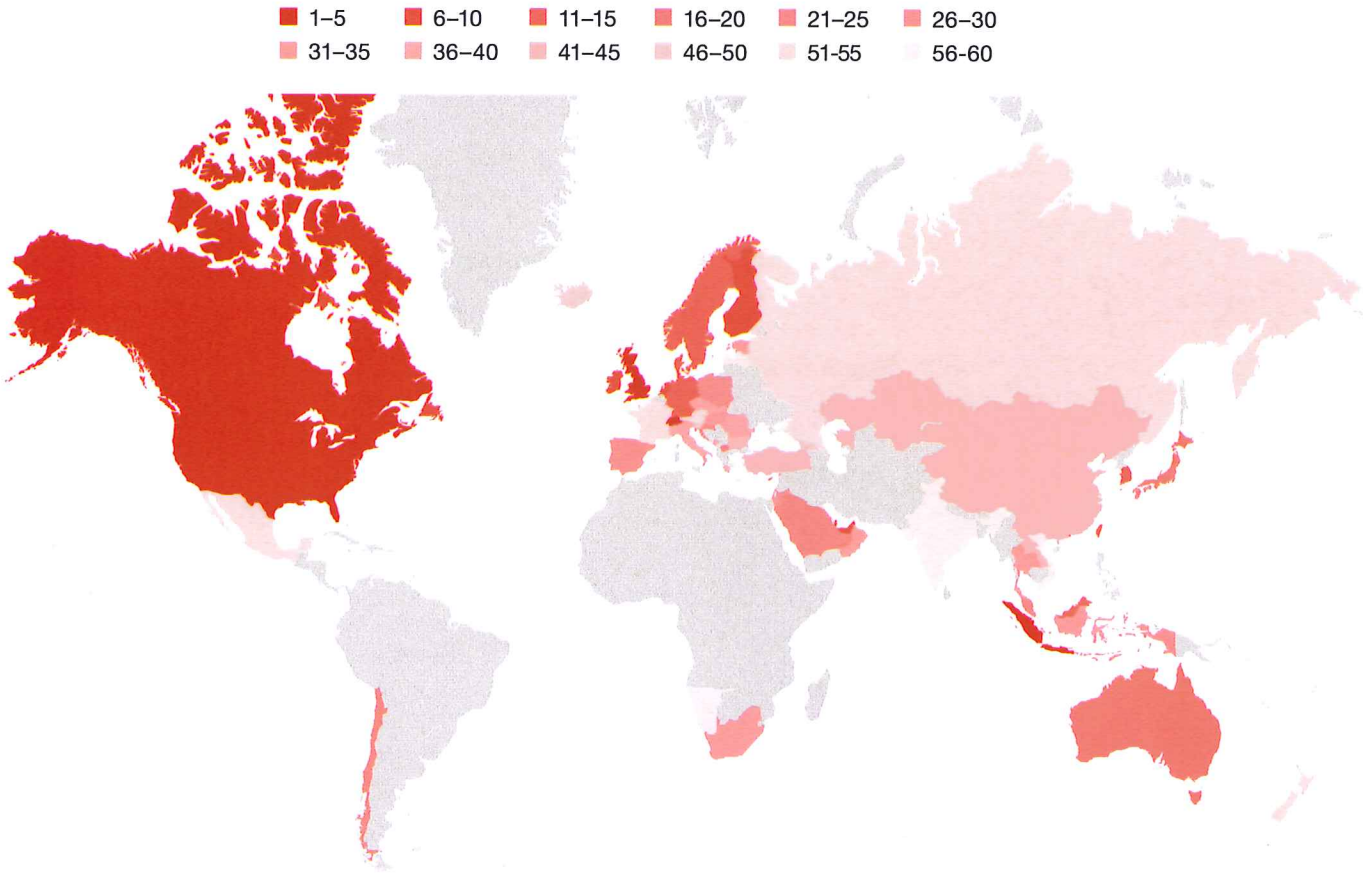
Global rankings and commentary



Top 10 countries by rank for aerospace manufacturing attractiveness

Country	Cost rank	Industry rank	Infrastructure rank	Overall rank
United States	22	1	18	1
Canada	3	6	9	2
United Kingdom	16	2	9	3
Singapore	4	17	3	4
Switzerland	7	20	1	5
Denmark	6	54	6	6
Hong Kong SAR, China	9	31	5	7
Netherlands	18	14	4	8
Ireland	2	40	20	9
Finland	21	31	2	10

Sources: PwC analysis, Oxford Economics; "Capital IQ Company Screening Report", S&P Global Market Intelligence; "The Global Competitiveness Report 2015-2016", World Economic Forum.

Note: Please find complete study results in appendix.

Changes in the 2016 country rankings were primarily driven by the use of Oxford Economics data for pay and productivity rather than self-assessment data from the World Economic Forum Global Competitiveness Report. In 2015, pay and productivity, which along with tax rates comprise the cost category, was calculated largely based on a self-assessment survey, part of the World Economic Forum Global Competitiveness Report. This year, the methodology used productivity data from Oxford Economics, which included unit wage, manufacturing, and nominal costs. Oxford data is an independent source and will allow the rankings to be more consistent going forward.

Countries with relatively high wages and productivity levels moved up in the rankings with the change in pay and productivity data methodology. Specifically, within the top 10 rankings, the UAE, Luxembourg, and Qatar were replaced by Denmark, the Netherlands, and Finland.

The United States maintained its first place ranking for the third year in a row because of the breadth of its aerospace industry, which is seven times greater than the United Kingdom which ranked second in industry size. This past year, Airbus made a major commitment in the US with its jetliner assembly line in Mobile, Alabama, the company's first production site in America. Some additional US manufacturing investments include Boeing's new propulsion engineering and assembly facility in South Carolina and construction of Northrop Grumman's Unmanned Aerial Systems facility in North Dakota.

The US also attracted the most investment in research and development (R&D), including investments made by United Technologies Corporation (UTC), Raytheon, and Lockheed Martin, among others. UTC broke ground on a new R&D facility in Connecticut to expand capabilities in intelligent systems, advanced materials and manufacturing, and revolutionary propulsion and power technologies.[1] Raytheon is expanding its cybersecurity program with a new facility in Virginia [2], and Lockheed Martin's new missile defense technology laboratory opened at its Silicon Valley site.[3]

The US' rankings in the other two categories (cost and infrastructure) were toward the bottom of the top 10 countries, but not low enough to offset its industry rank. The US also scored highly (fourth) for the quality of its scientific research institutions. The UK scored highly in that area as well, coming in second after Switzerland.

Canada moved into the second spot, from sixth place last year, with improved rankings from the prior year in the three major categories. The UK went from fifth to third place, primarily as a result of an improved tax ranking. Singapore (fourth), Switzerland (fifth) and Hong Kong (seventh) had slightly lower rankings this year due to changes in the pay and productivity measurement. On the other hand, the methodology change improved the rankings of Denmark (sixth), the Netherlands (eighth), Ireland (ninth), and Finland (tenth).

Denmark moved up seven places in the rankings to come in sixth due to improvements in costs and aerospace workforce education, research, and training. The forward movement in rankings is likely to be supported in the near term by the involvement

1 "United Technologies Research Center Breaks Ground on State-of-the-Art Research and Development Facility in East Hartford". *United Technologies Research Center.* June 22, 2015. Web.

2 Raytheon Company. (June 3 2015). "Raytheon Opens State-of-the-Art Global Cyber Solutions Center in Washington, D.C. Area" [Press release].

3 Lockheed Martin. (April 30, 2015). "New Missile Defense Seeker Lab Opens at Lockheed Martin's Silicon Valley Site" [Press release].

of the Danish aerospace industry in helping to produce F-35 jets, which will be sold globally as well as in Denmark to replace the country's aging air force fleet.[4] Lockheed Martin estimates that the F-35 order will result in $356M in contracts to 12 Danish companies.[5]

After falling out of the top 10 rankings last year, the Netherlands now ranks eighth as a result of an improvement in the overall cost metric. The positive adjustment in pay and productivity was enough to counter an increase in the total tax rate rankings for the country. Additionally, the improvement in manufacturing attractiveness comes at a beneficial time for Bombardier Commercial Aircraft, as it has recently renewed a strategic alliance with Dutch aircraft manufacturer Fokker Services to provide the ABACUS FLY program to operators of Dash 8/Q Series 100/200/300 aircraft. The renewal extends the alliance by three years and is aimed at improving the availability of components and reducing operator repair and overhaul costs.[6]

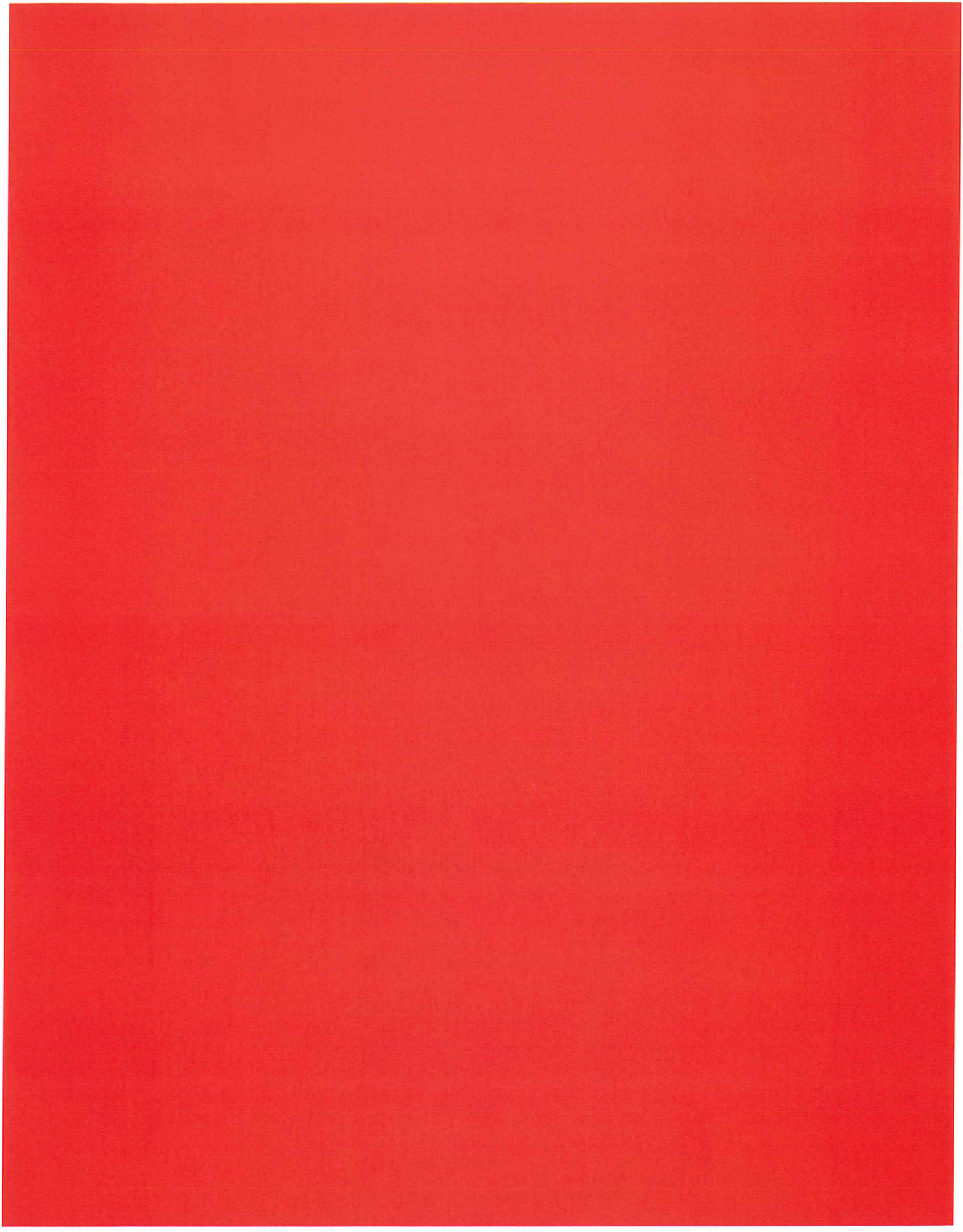
Considerations for your business

Demand for aircraft is strong in most regions of the world, but especially in rapidly growing foreign markets such as China, India, and Brazil. These countries, with burgeoning middle classes and large and increasing populations, offer significant opportunities for US aircraft manufacturers and drive both international and domestic expansion. However, some global markets pose greater risk than others. To mitigate these risks, US companies have to understand each country's specific regulations, tax policies, and intellectual property protection laws. Also, companies have to address human resource issues such as talent recruitment, training, and retention, which can be particularly difficult in some markets and require knowledge of cultural norms and sensitivities. These risks need to be measured against the soundness of offshoring to extend supply chains overseas. In recent years, some companies have moved to re-shore all or part of their supply chain as domestic business conditions have become more competitive. To support this new resurgence in American aerospace manufacturing, companies, educators, and policy makers need to promote the skills and policies that will foster investment growth in the US.

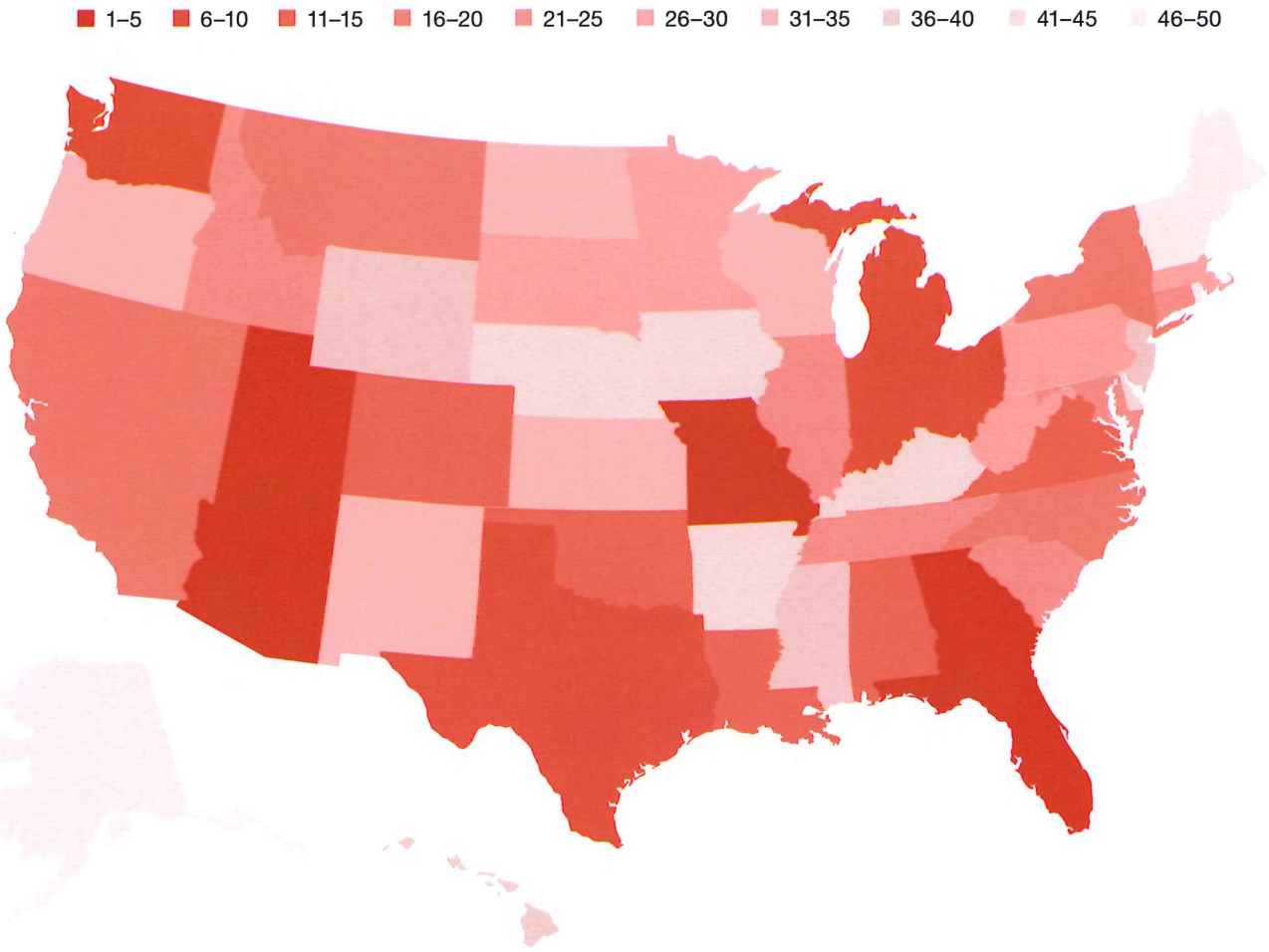
4 "Danish coalition to back $3 billion Lockheed fighter jet deal". *Reuters*. June 9, 2016.

5 "Denmark: Future air power". *Lockheed Martin*. https://www.f35.com/global/participation/denmark.

6 Bombardier. (April 26, 2016). "Bombardier and Fokker Renew Agreement to Support Dash 8/Q Series 100/200/300 Aircraft" [Press release].



State rankings and commentary



Top 10 US states by rank for aerospace manufacturing attractiveness

State	Tax rank	Opex rank	Industry rank	Education rank	Overall rank
Arizona	8	12	6	20	1
Florida	4	29	5	13	2
Georgia	19	19	10	14	3
Utah	3	10	24	25	3
Missouri	2	12	29	21	5
Indiana	6	17	15	28	6
Texas	38	18	2	10	7
Michigan	26	25	2	17	8
Ohio	16	33	4	17	8
Washington	29	24	13	11	10

Sources: PwC analysis; "Capital IQ Company Screening Report", S&P Global Market Intelligence; "State Corporate Income Tax Rates", Tax Foundation; "American Community Survey", United States Census Bureau; "Occupational Employment Statistics", United States Department of Labor: Bureau of Labor Statistics; "Electric Power Monthly", U.S. Energy Information Administration.
Note: Please find complete study results in appendix.

Among state rankings, Arizona jumped to first place. Florida dropped one rank from last year to take second place. Utah, Georgia, Missouri, Texas, Michigan, and Ohio remained in the top 10. Newcomers included Indiana and Washington. Utah and Georgia tied for third and Michigan and Ohio tied for eighth. Several states that were on last year's top 10 list did not make the cut this year including Virginia, North Carolina, and New York.

Below is a closer look at a few notable new industry initiatives among the top 10 states:

Arizona

Arizona jumped into the lead this year, with significant improvement in industry rank and operating costs. It also benefited from the tax methodology changes, with high scores in property tax (sixth) and unemployment tax (third). Its industry rank indicates a growing aerospace industry that includes the manufacture of guided missile systems, space and defense systems, and aviation and aerospace as well as maintenance repair and overhaul (MRO). Several of Arizona's major aerospace and aircraft employers posted strong gains in 2015, boosting employment opportunities.[7] Bombardier Aerospace increased its workforce at the Tucson International Airport by almost 14 percent last year to service commercial and business aircraft.[8]

Florida

Florida moved into second place, primarily because of an increase in aerospace wages. But Florida's Space Coast is booming, with major new initiatives being planning in that area. In 2015, SpaceX said it was leasing launch pads at Cape Canaveral and the Kennedy Space Center.[9] Also last year, Blue Origin announced it is building a production facility for manufacturing its fleet of orbital rockets in Florida and is planning to launch its orbital rockets from Cape Canaveral.[10] Boeing opened a commercial spaceship plant at Cape Canaveral to build spaceships for NASA.[11]

Michigan

Alcoa's Power and Propulsion division announced plans to invest $16.7 million into a coatings facility, which will double the company's capacity for manufacturing coatings for jet engine parts.[12] In addition, Michigan is phasing out personal property tax for most businesses by 2025,[13] which does not affect the 2015 score, but should improve scores in future years as it attracts manufacturers who rely on expensive capital investments in tools and other equipment.

Indiana

Indiana benefited from the tax methodology change because it ranks fifth and seventh in property tax and unemployment tax, respectively. It's also showing good industry growth. In the last two years, industry leaders have announced plans to invest more than $900 million and create more than 1,200 new jobs in Indiana in the coming years. Alcoa opened a new engine parts facility in La Porte, which doubles the current capacity and provides new capabilities for production of large commercial aircraft engines.[14] Rolls-Royce said it will invest almost $600 million to modernize its Indianapolis operation, which includes manufacturing and assembly, and conduct technology research. This is the company's largest US investment since 1995.[15]

Washington

Washington placed tenth in the state rankings. While Boeing has had a large presence in the state since the company was founded in Seattle, in the past year, it invested more than $1 billion in infrastructure to prepare for the manufacture of the next generation of airplanes.[16]

7 "Arizona's Aerospace & Defense Industry. *Arizona Commerce Authority*. June 6, 2016. www.azcommerce.com/industries/aerospace-defense
8 Witcher, David. "Aerospace Lifting off: Aerospace and aircraft employers here report employment gains". *Tuscon.com*. April 24, 2016.
9 Gruss, Mike. "SpaceX Leases Florida Launch Pad for Falcon Landings." *SpaceNews*. Feb. 10, 2016.
10 Chang, Kenneth. "Blue Origin, Jeff Bezos' Rocket Company, to Launch from Florida." *The New York Times*. Sept. 15, 2015.
11 Klotz, Irene. "Boeing opens commercial spaceship plant in Florida." *Reuters*. Sept. 4, 2015.
12 "Alcoa to expand coating production for aircraft engines in US." *Aerospace-Technology.com*. Dec. 12, 2014.
13 "Michigan Personal Property Tax Reform". *Michigan Economic Development Corporation*. March 2016.

Other noteworthy news

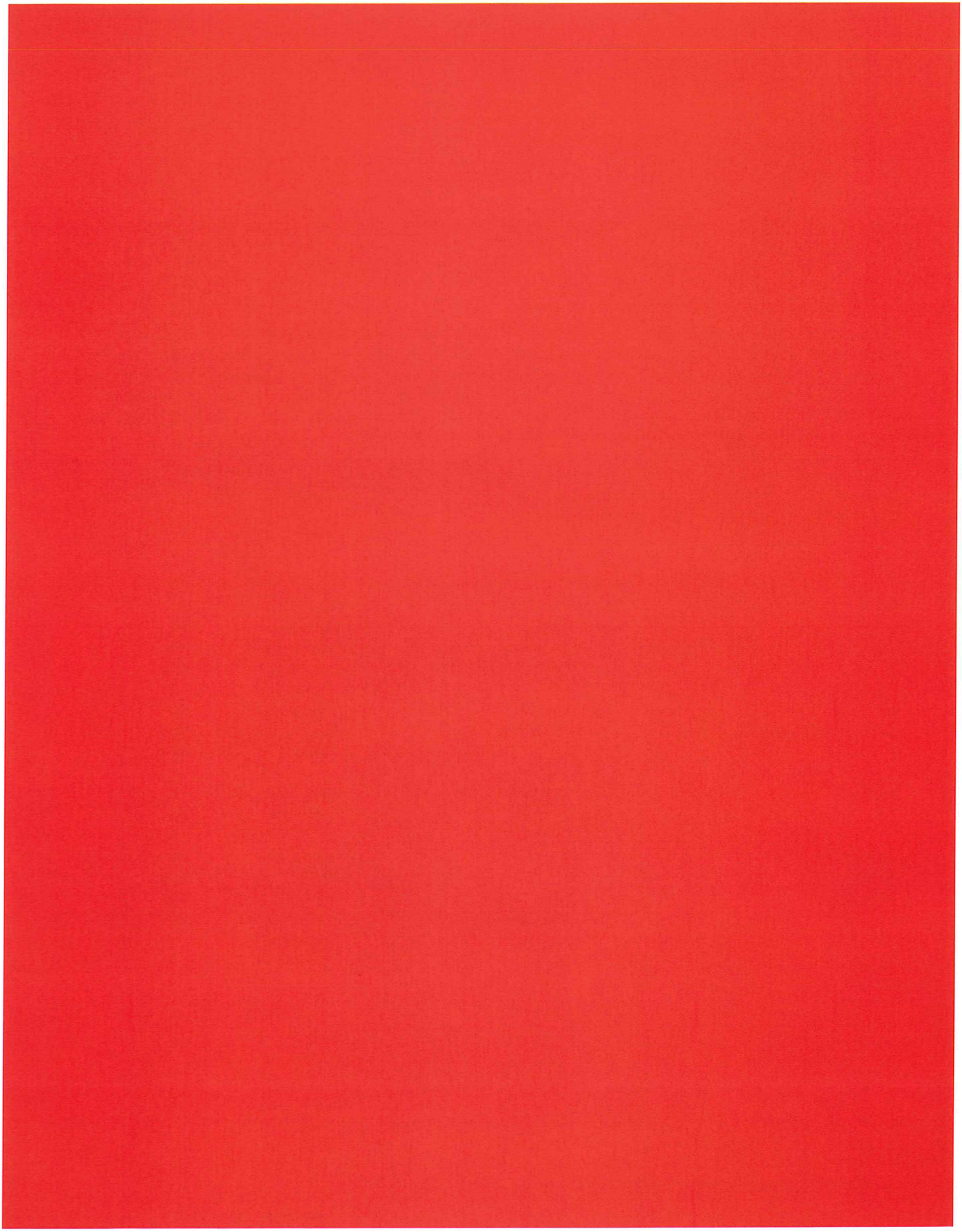
Connecticut ranked first in both the overall industry rank category and industry growth. There is a strong industry presence in the state and an extensive supply chain. This is in part due to the success of Pratt & Whitney's Geared Turbofan engine and the production ramp-up at its two manufacturing plants in Connecticut to deal with the order backlog.[17]

Airbus opened its first production site in 2015 in Mobile, Alabama, announcing it was making a "significant commitment" to the US. The site will be used to assemble the A320 family of aircraft. The first plane, an A321, was delivered to JetBlue in April.[18]

Considerations for your business

There are many criteria for locating a manufacturing plant or R&D facilities in a particular geographical area including the categories contained in this report. The category of education is critical not only for companies trying to meet today's demands, but in ensuring tomorrow's workforce can help build the next generation of more efficient, sustainable aircraft. An educated, technology-savvy, and diversified workforce is essential for maintaining US competitiveness in commercial aviation manufacturing. Some companies are actively participating in the process of preparing the future workforce. For example, Utah recently announced the expansion of Utah Aerospace Pathways program to a second school district. The program provides students in their last year of high school with the opportunity to begin training for an aerospace manufacturing certification. After students earn their certification, they can begin work with one of the programs aerospace partners in Utah. Seven aerospace companies have been involved in developing the program.[19]

14 Alcoa. (Oct. 29, 2015). "Alcoa Opens Advanced Jet Engine Parts Facility in Indiana" [Press release].
15 "Rolls-Royce to invest in Indianapolis facilities." *Aerospace Manufacturing and Design*. Oct. 9, 2015.
16 "Boing in Washington: 2015 impact report". *Boeing*. Jan. 15, 2016.
17 "Pratt & Whitney Shows Off Geared Turbofan Engine." *Aero News Network*. May 20, 2016.
18 "First Alabama-made Airbus A321 'Blues Mobile' goes to JetBlue." *Alabama Department of Commerce*. April 25, 2016.
19 "Utah Aerospace Pathways Program Expanding to Iron County School District." *Utahpolicy.com*. April 27, 2016.



Appendices

PwC 2016 global aerospace manufacturing attractiveness index

Methodology for country rankings

PwC's analysis was based on a weighted average of three major categories: costs (taxes, manufacturing wages, and productivity), industry size ((number of existing suppliers), and infrastructure/stability/workforce (including quality of electrical and transportation infrastructure, regulatory/legal/corruption rankings and enrollments in, and quality of, engineering programs). To increase the accuracy of the pay and productivity sub-category, this year's analysis was based on data from Oxford Economics and included unit wage, manufacturing, and nominal costs rather than self-assessment data from the World Economic Forum Global Competitiveness Report. Oxford data will allow the rankings to be more consistent going forward. Data is only available for the largest countries so anything without a metric in Oxford Economics (e.g., Nigeria) is ranked as tied for last (142).

The following chart provides a view of category breakdowns and weighting percentages:

	2015 Methodology		2014 Methodology	
Overall	Total cost	33%	Total cost	33%
Overall	Total industry	33%	Total industry	33%
Overall	Total infrastructure	33%	Total infrastructure	33%
	Total ranking	100%	Total ranking	100%
Cost	Total tax rate (TTR)	50%	Total tax rate (TTR)	50%
Cost (see methodology above)	Pay and productivity	50%	Pay and productivity	50%
	Total cost	100%	Total cost	100%
Industry	Aerospace suppliers	100%	Aerospace suppliers	100%
	Total industry	100%	Total industry	100%
Infrastructure	Infrastructure*	33%	Infrastructure	33%
Infrastructure	Stability**	33%	Stability	33%
Infrastructure	Workforce***	33%	Workforce	33%
	Total infrastructure	100%	Total infrastructure	100%

*Infrastructure = Quality of railroads and electric supply

**Stability = Regulations, rule of law, and control of corruption

***Workforce = Quality of math and science education, availability of research and training services, and quality of scientific research

Complete raw data

Country	Cost rank	Industry rank	Infrastructure/ stability/ talent rank	Overall rank
Albania	98	54	82	88
Algeria	140	54	106	133
Angola	124	54	141	140
Argentina	77	54	101	85
Armenia	50	54	77	59
Australia	31	13	16	19
Austria	36	15	14	23
Azerbaijan	108	54	83	99
Bahrain	44	54	48	41
Bangladesh	77	54	122	104
Barbados	102	54	121	119
Belgium	48	22	11	29
Bhutan	94	54	91	93
Bolivia	142	54	114	136
Botswana	60	54	69	61
Brazil	69	27	95	75
Bulgaria	11	54	65	37
Burkina Faso	112	54	134	133
Burundi	110	54	132	131
Cambodia	53	54	123	82
Cameroon	125	54	104	125
Canada	3	6	9	2
Chad	134	54	137	142
Chile	13	40	38	25
China	64	3	45	45
Colombia	138	54	81	116
Costa Rica	131	54	40	78
Côte d'Ivoire	128	54	66	101
Croatia	1	54	41	17
Cyprus	58	54	43	47
Czech Republic	30	25	25	27
Denmark	6	54	6	6
Dominican Republic	115	54	124	130
Egypt, Arab Rep.	120	54	115	128
El Salvador	105	40	99	109
Estonia	127	40	23	69
Ethiopia	79	54	97	82
Finland	21	31	2	10
France	38	4	17	21
Gabon	121	54	113	127
Gambia, The	133	54	111	132
Georgia	47	54	54	47
Germany	33	5	7	12
Ghana	83	54	85	77
Greece	27	40	51	38
Guatemala	103	54	100	108
Guinea	137	54	132	141
Guyana	81	54	108	95
Haiti	110	54	138	135
Honduras	119	54	110	125
Hong Kong SAR, China	9	31	5	7
Hungary	34	40	39	33
Iceland	70	54	31	47
India	61	9	60	57
Indonesia	16	54	55	32
Iran, Islamic Rep.	118	54	76	101
Ireland	2	40	20	9
Israel	73	17	29	46
Italy	51	11	33	40
Jamaica	93	54	88	90
Japan	36	8	8	16
Jordan	67	54	46	55
Kazakhstan	66	40	67	62
Kenya	100	54	80	88
Korea, Rep.	15	10	24	13
Kuwait	43	54	93	64
Kyrgyz Republic	65	54	118	92
Lao PDR	61	54	112	80
Latvia	95	54	32	59
Lebanon	72	54	103	81

Complete raw data (continued)

Country	Cost rank	Industry rank	Infrastructure/ stability/ talent rank	Overall rank
Lesotho	46	54	98	67
Libya	84	54	142	122
Lithuania	116	40	26	66
Luxembourg	52	31	12	30
Macedonia, FYR	42	54	57	44
Madagascar	104	54	120	120
Malawi	90	54	116	112
Malaysia	26	23	22	22
Mali	123	54	102	121
Malta	112	54	47	73
Mauritania	139	54	125	138
Mauritius	56	54	56	54
Mexico	29	29	74	51
Moldova	109	54	92	106
Mongolia	58	54	89	68
Montenegro	55	54	58	55
Morocco	126	40	53	86
Mozambique	97	54	117	115
Myanmar	76	54	130	112
Namibia	54	54	63	58
Nepal	67	54	126	100
Netherlands	18	14	4	8
New Zealand	89	36	19	53
Nicaragua	135	54	127	137
Nigeria	88	54	131	116
Norway	24	31	13	14
Oman	57	40	79	63
Pakistan	82	54	105	94
Panama	101	54	52	71
Paraguay	92	54	129	118
Peru	95	54	94	95
Philippines	22	54	75	43
Poland	19	20	36	26
Portugal	20	40	27	20
Qatar	41	54	34	34
Romania	32	28	50	39
Russian Federation	44	7	64	52
Rwanda	86	54	78	76
Saudi Arabia	5	36	44	24
Senegal	122	54	68	97
Serbia	107	40	71	84
Seychelles	71	54	86	72
Sierra Leone	74	54	136	114
Singapore	4	17	3	4
Slovak Republic	39	40	37	36
Slovenia	74	36	28	50
South Africa	14	29	62	35
Spain	28	12	30	28
Sri Lanka	130	54	42	79
Suriname	63	54	135	103
Swaziland	91	54	90	90
Sweden	25	16	15	15
Switzerland	7	20	1	5
Taiwan, China	12	17	21	11
Tajikistan	141	54	96	129
Tanzania	117	54	109	122
Thailand	10	36	60	31
Timor-Leste	40	54	139	87
Trinidad and Tobago	80	54	70	70
Tunisia	132	54	73	110
Turkey	34	23	59	42
Uganda	98	54	107	110
Ukraine	129	25	72	105
United Arab Emirates	8	31	35	18
United Kingdom	16	2	9	3
United States	22	1	18	1
Uruguay	114	54	49	74
Venezuela, RB	136	54	128	138
Vietnam	106	54	84	97
Yemen, Rep.	87	54	140	124
Zambia	49	54	87	64
Zimbabwe	84	40	119	107

PwC 2016 US aerospace manufacturing attractiveness index

Methodology for state rankings

PwC's analysis was based on a weighted average of taxes, operating costs (industry and overall wage rates, business climate, energy costs), industry size (existing suppliers and supply/growth of workforce including available aerospace technicians, engineers, mechanics), and educational attainment.

The tax category was expanded to provide a more rounded picture of tax by including corporate tax (50%), unemployment tax (25%), and property tax (25%) rather than just corporate tax as in last year's report.

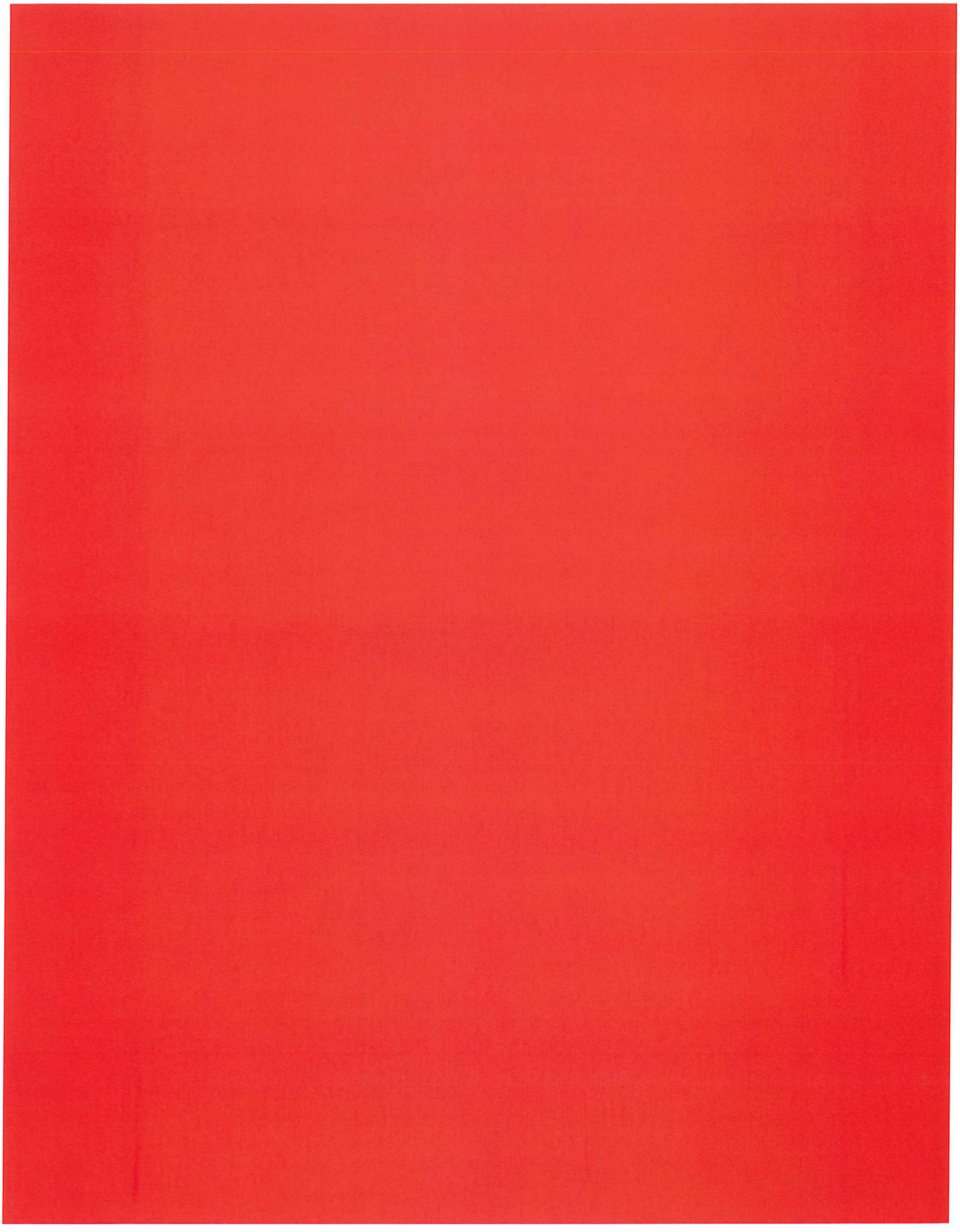
The cost category in this report included electricity (25%), average hourly wage for aerospace (50%), and average hourly wage for all occupations. In a change from the prior year, the analysis excluded employment for all occupations and gave additional weight to the average hourly wage for aerospace in order to highlight the aerospace environment rather than the general economy.

See the chart below for category breakdowns and weighting percentages.

	2015 Methodology		2014 Methodology	
OVERALL	Total tax	25%	Total tax	25%
OVERALL	Total costs	25%	Total costs	25%
OVERALL	Total industry	25%	Total industry	25%
OVERALL	Total education	25%	Total education	25%
	Total ranking	100%	Total ranking	100%
TAX	Corporate tax	50%	Corporate tax	100%
TAX	Unemployment tax	25%	Unemployment tax	0%
TAX	Property tax	25%	Property tax	0%
	Total tax	100%	Total tax	100%
OPEX	Electricity	25%	Electricity	25%
OPEX	Employment - all occupations	0%	Employment - all occupations	25%
OPEX	Average hourly wage - aerospace	50%	Average hourly wage - aerospace	25%
OPEX	Average hourly Wage - all occupations	25%	Average hourly wage - all occupations	25%
	Total costs	100%	Total costs	100%
INDUSTRY	Total aerospace employment	33%	Total aerospace employment	33%
INDUSTRY	Industry growth	33%	Industry growth	33%
INDUSTRY	Aerospace companies	33%	Aerospace companies	33%
	Total industry	100%	Total industry	100%
EDUCATION	Bachelors	20%	Bachelors	20%
EDUCATION	Masters	20%	Masters	20%
EDUCATION	Doctorate	20%	Doctorate	20%
EDUCATION	Bachelor or higher	20%	Bachelor or higher	20%
EDUCATION	Graduate or professional	20%	Graduate or professional	20%
	Total education	100%	Total education	100%

Complete raw data

State	Tax rank	Opex rank	Industry rank	Education rank	Overall rank
Alabama	22	14	12	35	13
Alaska	33	50	45	45	50
Arizona	8	12	6	20	1
Arkansas	40	4	47	44	43
California	28	47	8	2	16
Colorado	17	41	17	8	13
Connecticut	39	47	1	12	25
Delaware	32	34	41	34	45
Florida	4	29	5	13	2
Georgia	19	19	10	14	3
Hawaii	8	38	42	29	37
Idaho	24	3	26	46	25
Illinois	47	30	7	6	21
Indiana	6	17	15	28	6
Iowa	45	2	46	33	42
Kansas	30	36	24	23	32
Kentucky	36	21	26	36	41
Louisiana	15	6	21	39	12
Maine	46	39	49	38	49
Maryland	26	44	16	7	22
Massachusetts	44	46	14	2	29
Michigan	26	25	2	17	8
Minnesota	42	34	11	15	27
Mississippi	12	20	43	43	39
Missouri	2	12	29	21	5
Montana	11	1	32	41	16
Nebraska	31	31	36	37	43
Nevada	5	7	33	42	20
New Hampshire	49	45	37	24	48
New Jersey	43	49	22	4	39
New Mexico	17	22	48	29	36
New York	34	42	9	1	18
North Carolina	23	27	20	16	18
North Dakota	6	26	34	48	33
Ohio	16	33	4	17	8
Oklahoma	1	8	31	40	11
Oregon	34	23	38	19	33
Pennsylvania	50	32	19	9	30
Rhode Island	48	37	26	32	46
South Carolina	21	4	44	27	24
South Dakota	10	8	38	47	28
Tennessee	25	10	34	26	23
Texas	38	18	2	10	7
Utah	3	10	24	25	3
Vermont	41	28	50	29	47
Virginia	14	42	23	4	13
Washington	29	24	13	11	10
West Virginia	19	14	29	48	30
Wisconsin	37	39	17	22	35
Wyoming	13	16	38	50	37



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AEROSPACE NEWSLETTER

Vol. III, Issue I | A bi-monthly update of aerospace activities in the Gulf Coast I-10 region | August 2015

VT MAE has been in Mobile since 1991, and groundbreaking for the "ninth hangar" in Pensacola expected in 2016.

Growth in cards for VT MAE

Groundbreaking for VT MAE's ninth hangar is expected in five months, and it could have 500 workers when fully operational, but there's already talk about an expansion that would double the size of the Pensacola footprint...

Pensacola, Fla.

The president of VT MAE, Bill Hafner, will tell you he's "bullish" about the Gulf Coast I-10 aerospace region, which he sees as primed for growth.

Indeed, his company has had a maintenance, repair and overhaul operation in Mobile, Ala., since 1991, and is in the midst of expanding into Pensacola with a 300-500 worker "ninth hangar." And as if that's not significant enough, Hafner said there's already talk about a "Phase II" that would double the footprint with a second hangar at Pensacola International Airport.

"The region is primed. It really is looking good for growth," said Hafner, who's been president and chief operating officer at VT MAE since June 2014. He points to Airbus, which will be a big employer, and the supply chain it's bringing to the region, as well as VT MAE's growth.

Hafner expects groundbreaking in January 2016 for the 19-acre Pensacola operation. Between now and then, details about the large hangar are being hammered out.

In mid-July an $8 million contract was awarded to Phoenix Construction Services to expand the airport's cargo apron and a $2.5 million contract was awarded to Atkins

(Continued on page 2)

By David Tortorano, Editor

Mighty Singapore

For a relatively small country, Singapore has a large presence in the Gulf Coast thanks to powerhouse Singapore Technologies Engineering (ST Engineering). In addition to the Mobile and planned Pensacola MRO, it has a shipyard in Pascagoula, Miss.

Singapore is among the top 20 foreign investors in the United States. Its direct investment in the United States is some $23.5 billion, third largest from Southeast Asia after Japan and Australia, according to figures from Singapore.

Singapore is an island in Southeast Asia between Malaysia and Indonesia. It's just over 265 square miles, a bit more than 3.5 times the size of Washington, D.C., and had an estimated population of 5.6 million in July 2014, according to the CIA Factbook.

Founded as a British trading colony, it joined the Malaysian Federation in 1963 but became independent two years later. It subsequently became one of the world's most prosperous countries, a free-market economy with a per capita GDP equal to that of the leading nations of Western Europe.

Singapore, which celebrates its independence day Aug. 9, is important enough that in June U.S. Rep. Bradley Byrne, R-Ala., and Rep. Denny Heck, D-Wash., announced the restart of the dormant, bipartisan Singapore Caucus because of the economic and military ties.

North America for architectural and engineering design for the MRO.[1]

Hafner said the two-bay hangar in Pensacola is targeting narrow-body aircraft work. Like Mobile's Hangar 7, it will be able to handle as many as four 757 or possibly six A320s. Informally called Hangar 9, it will be a remote location of the Mobile operation.

Hafner said that when it opens it will have 200 workers, then gear up to 300. With a three-year ramp up, it could have as many as 500 employees when fully operational, he said. The talked about Phase II would double the size of the operation with another two-bay hangar.

There may also more work in the cards for the Mobile operation. ST Aerospace in June signed a deal with Airbus to convert A320 and A321 jetliners into freighters. Airbus sees a need for more than 600 aircraft to be converted in the small freighter range over the next 20 years. The passenger-to-freighter (p2f) conversion work will be done at ST Aerospace's facilities globally, including the United States.

"We have operations in Germany, U.S., China and Singapore. All our facilities will be able to do the A320 p2f," said ST Aerospace President Lim Seth Ghee in a release. The first converted A321 will be delivered in 2018.

Will Mobile do any of that work?

VT MAE at the Mobile Aeroplex has eight hangars and 900,000 square feet of space, and a track record of p2f work going back many years.

"I wish I could tell you with certainty, but it's early on" Hafner said, but added, "We'll campaign for it in a big way."

The Mobile facility is equipped with state-of-the-art CATIA 3D workstations for computer-aided design, and its engineering team partnered with Boeing in the development of the 757-200 passenger-to-freighter conversion Supplemental Type Certificates, according to the VT MAE website.

VT Mobile Aerospace Engineering, part of ST Engineering's aviation division, performs scheduled aircraft maintenance and major aircraft modifications on wide-body and narrow-body aircraft.

Roger Wehner, executive director of the Mobile Airport Authority, said VT MAE is "a huge part of our capabilities set." He said that of late, VT MAE has helped the airport authority compete on several projects.

Jobs at foreign U.S. subsidiaries

state	jobs	jobs rank	per capita rank
Florida	245,800	6	40
Alabama	86,400	23	15
Louisiana	58,300	28	42
Mississippi	34,100	36	39

Source: Organization for International Investment

If statistics are any indication, investments like those of VT MAE, Airbus and suppliers are likely to continue. According to investment tracking service fDi Markets, the United States will remain a target region, particularly in the field of aerospace

Over the past five years, North America has attracted the most aerospace investment of any global region, with the U.S. the leading destination country, according to fDi Markets.

Between January 2009 and March 2015, a total 841 FDI aerospace projects were recorded by fDi Markets, an estimated capital investment of $42 billion with an average investment of $50 million per project.

In an fDi Markets list of the top "states," where the state is a region or province of a country, Florida ranks 9th in the world with 16 aerospace projects between January 2009 and March 2015. It's the only U.S. state in the top 10.

The U.S. subsidiaries of foreign companies employ 5.8 million Americans. With an annual payroll of $456 billion, they pay U.S. workers an average of $78,927, more than 33 percent higher than the economy-wide average, according to the Organization for International Investment.

□□□

[1] Pensacola International Airport, hotel projects moving forward, Pensacola News Journal, Will Isern, July 16, 2015.

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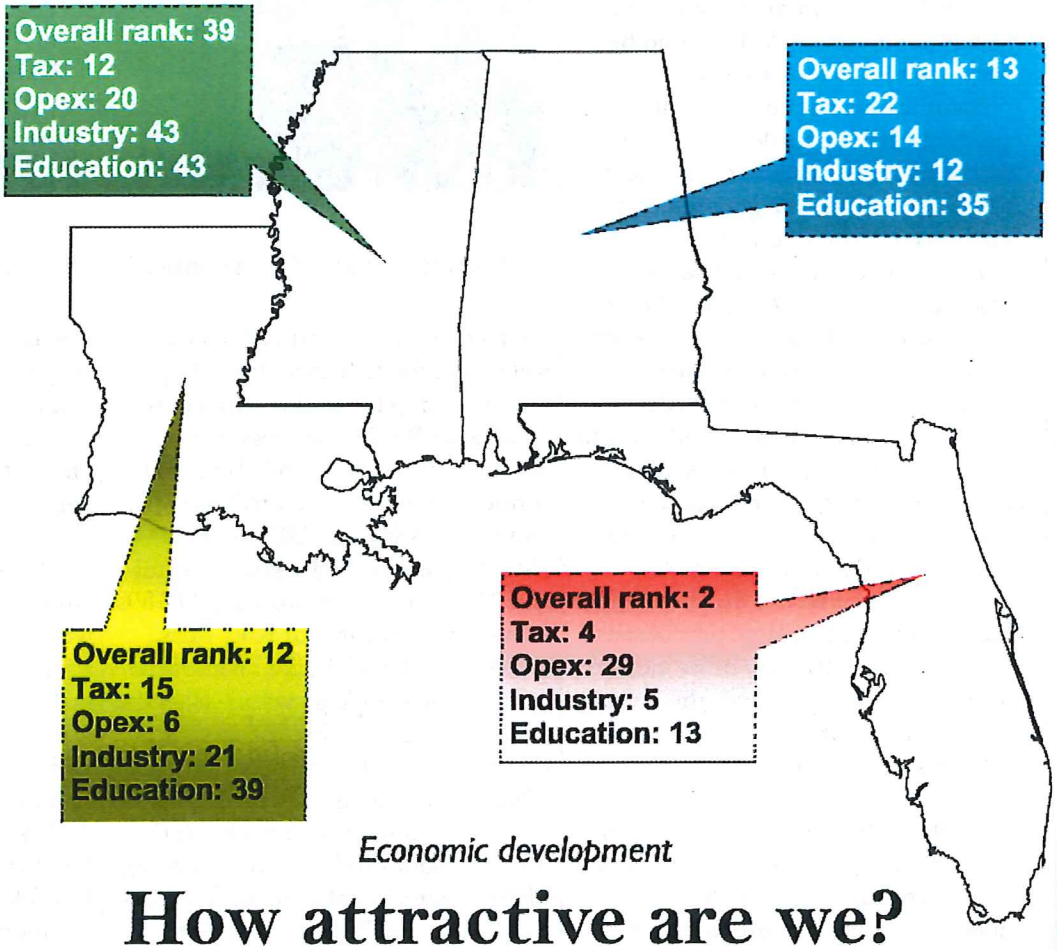

Economic development

How attractive are we?

The U.S. is the No. 1 nation and Florida second among states in their appeal to aerospace manufacturers, but the study sheds no light on the appeal of the Gulf Coast...

Florida is ranked No. 2 in the nation in its appeal to aerospace manufacturers in the most recent PwC Aerospace Manufacturing Attractiveness rankings, while Louisiana is ranked 12, Alabama 13 and Mississippi 39.

By David Tortorano

The latest report, the third year for the ranking, was released July 2016 and shows the United States remains the No. 1 nation as an attractive location for aerospace manufacturers.

According to PwC, part of the reason for the U.S. ranking is the breadth of its aerospace industry - seven times greater than the United Kingdom, which is second in industry size. Nos. 2-5 in the overall ranking is Canada, the United Kingdom, Singapore and Switzerland.

Among the states, Arizona is No. 1 and Georgia No. 3, followed by Utah and Missouri. PwC determines the overall rank

based on a state's tax burden, operating expense, industry size and educational attainment. For Louisiana, Alabama and Mississippi, education dragged down their overall rank.

The PwC ranking does little to show the attractiveness of an economic region like the Gulf Coast I-10 corridor. And because the numbers compiled for the PwC report are for an entire state, they do not reflect the numbers for a specific area of a state.

But if the number of aerospace products that are made in an area is any reflection of its attractiveness, then the Gulf Coast I-10 region would certainly seem to be a contender.

Two years ago the *Gulf Coast Aerospace Corridor 2014-2015*, published by the Gulf Coast Reporters' League, had a chapter on aerospace products from in the region between New Orleans and Northwest Florida, and it's considerable. Satellite propulsion systems, rocket engines, spacecraft, aircraft, aerostructures, high-tech sensors and more are made in the region. And since PwC pointed out that the United States ranks high in large part because of the size and diversity of its industry, it's instructive to point out the diversity in the corridor.

Here's a rundown:

In New Orleans, Michoud Assembly Facility, one of the world's largest manufacturing centers with 43 acres under one roof, is where Boeing is building the 212-foot long core stage of NASA's Space Launch System. It's also where Lockheed Martin builds NASA's Orion Multi-Purpose Crew Vehicle and composite structures for Sierra Nevada's Dream Chaser.

At Stennis Space Center (SSC), Miss., Lockheed Martin Mississippi Space and Technology Center builds the core propulsion system for the A2100 family of satellites, as well as the multi-layer blankets that protect the sensitive equipment..

Also at SSC, Aerojet Rocketdyne assembles and tests the RS-68, used on the Delta IV rocket, and RS-25 that will power the SLS core stage. As part of the buildup for testing, Aerojet is locating its RS-25 low pressure turbopump assembly at SSC. Aerojet also announced in July that it will be assembling and testing the AR1 rocket at SSC. That engine is designed to eliminate U.S. reliance on Russian RD-180s.

GCRL photo by Michelle R. Thomas

Jetliners are just one of the aerospace products made in the Gulf Coast I-10 region.

In the nearby town of Kiln, Miss., Teledyne's Optech builds an airborne bathymetric mapping system called the Coastal Zone Mapping and Imaging Lidar at Stennis International Airport.

Near Hattiesburg, Miss., GE Aviation makes composite parts for GE aircraft engines and systems, including LEAP engine fan platforms, A320neo transcowls, and Passport 20 inlets, used on the business jet engines.

In Moss Point, Miss., Northrop Grumman's Unmanned Systems Center does final assembly work on the Fire Scout unmanned helicopter and central fuselage work on all variants of the Global Hawk surveillance aircraft.

Across the state line in Mobile, Ala., the most high-profile aerospace manufacturer is Airbus and the A320 jetliner plant. Ten have been delivered so far. Mobile is also where Continental Motors has been building small engines for private aircraft since 1929, and where Star Aviation makes structural, electrical, in-flight entertainment installation kits and more, for business and commercial jets. The company also assembles wire harnesses, wire bundles, cable and electrical subassembly, and equipment rack wiring.

Across the bay in Foley, Ala., Baldwin County's largest manufacturing employer is UTC Aerospace Systems, which, in addition to maintenance, repair and overhaul services, is an original equipment manufacturer. It builds nacelle systems for commercial and military aircraft engines, thrust reverser assembly for nacelle systems for the Airbus A320 series aircraft and assembles the engine pod for Mobile's Airbus A320 assembly plant. It also does assembly of inlets and fan cowls for the A320neo and Boeing 737NG, along with pylons and nacelle components for the Air Force C-5M.

AMRO of Fairhope, Ala., is a precision machining and engineering company that recently received its first 3D printer and will use that along with its traditional machining techniques.

In Cantonment, Fla., Marianna Airmotive overhauls, remanufacturers and fabricates parts for the C-5 Galaxy, and to the west in the town of Marianna, CHR International produces the Safari 400 helicopter, which can be bought as a kit or assembled.

In Crestview, Fla., L-3 Aerospace Crestview makes major and minor airframe structures for the commercial and defense industries, including tail booms, cargo sections as well as cabins.

General Dynamics Ordnance and Tactical Systems, Niceville, Fla., does warhead and alternative payload design, development, testing and production for air-to-air, air-to-surface and surface-to-surface weapons, including shaped charge and fragmenting warheads, fragmenting bombs, penetrators and flight termination systems.

Multiple companies in Northwest Florida focus on avionics systems, including transponders, instrument displays and more. In Gulf Breeze, Avalex makes flat panel displays, digital mapping systems, digital video recorders, and other customized systems.

Micro Systems of Fort Walton Beach, Fla., makes tracking transponders, GPS-tracking pods, real-time micro processor-based control systems, unmanned vehicle control stations, IFF products, test sets, scoring systems, and flight termination systems. In the same city, BAE Systems produces instrumentation radar, electro optics, system upgrades and enhancements, and training and launch range instrumentation.

Fort Walton Machining makes custom designed precision machined parts, and in the same city Herco Sheet Metal does sheet metal and machining services to electronic, defense and aerospace industries and Crane Aerospace manufactures low and high voltage power products, TWT amplifier and radar transmitters.

In Holt, Certified Manufacturing produces cables and harnesses, circuit guard assembly, harness over braiding, electro-mechanical assembly, and laser wire marking. In Bonifay, Manown Engineering does machining of shafts and subassemblies.

In Panama City, Maritech Machine Inc. does precision machining and fabrication, and Chenega Manufacturing Services LLC makes electro-mechanical wire harness assembly, craft control units, power panels, instrument panels, and auxiliary power units.

Also in Panama City, Exelis makes mine detection equipment, like the MK-105 Minesweeping System and Airborne Mine Neutralization System, and in Tallahassee, Capital Avionics manufactures test equipment.

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How will world events impact aerospace?

The aerospace summit returns to the Interstate 10 corridor in November when Gulfport hosts the fifth iteration of the event that will focus on the impact of world events on aerospace...

Gulfport, Miss.

This coastal Mississippi city known as the financial and transportation center of South Mississippi will host the fifth summit of the four-state Aerospace Alliance next month.

It's the first time the gathering will be held in Mississippi. Previous summits were in Alabama, Florida and Louisiana.

The summit, a primary outreach for the non-profit, four-state aerospace group, will be held Nov. 3-4 at the

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