

Appendix C

Aerospace Workforce Solutions Forum Matrices

Aerospace High Growth Job Training Initiative Matrices

| Issue: AGING WORKFORCE: Loss of Institutional Memory, Intellectual Capital | | | | |
|---|---|--|---|-------------------------|
| Solution: 1 – Develop a self perpetuating “knowledge management” system | | | | |
| Critical Attributes (What attributes are needed for success?) | Key Stakeholders (Who is needed for success?) | Resources (Financial, Human, and Technology) | Implementation Barriers | Anything Else??? |
| <ul style="list-style-type: none"> • Has to be flexible, not static • Offer an interpersonal feedback mechanism • Capture intellectual intent and process used to create work product • Must be self sustaining | <ul style="list-style-type: none"> • Incumbent and retired workers • Company management • Other Federal agencies (FAA, NASA) | <ul style="list-style-type: none"> • Aerospace society partners • Venders/contractors to build and maintain system • Federal agencies | <ul style="list-style-type: none"> • Difficult to capture process and product • Proprietary information • National security • High cost • Privacy issues • Time needed to identify and document processes | |

Provide funding to industry and/or government to create a media and written archive of lessons learned and history lessons making the library available on the Internet and in regional centers. Utilize aerospace society partners working with online repository applications to preserve national lecture series, researchers, designs and interviews. Document process and problem solving solutions provide new workers access to what worked. Develop a knowledge management system that captures, documents, records unique or specialized knowledge that cannot be easily replicated (videos, web-based tutoring, written documentation).

Aerospace High Growth Job Training Initiative Matrices

| Issue: AGING WORKFORCE: Preparing for Demographic Cliff | | | | |
|---|--|--|---|-------------------------|
| Solution: Develop a model for cross-training workers in employment sectors that are declining – declining due to retirement or decline | | | | |
| Critical Attributes (What attributes are needed for success?) | Key Stakeholders (Who are needed for success?) | Resources (Financial, Human, and Technology) | Implementation Barriers | Anything Else??? |
| <ul style="list-style-type: none"> • After establishing data and a baseline of information that identifies critical shortages in 2A (Develop a self-perpetuating “knowledge management” system), process to: <ol style="list-style-type: none"> 1. Identify those that within aerospace industry that have some of the skills to upgrade to demand occupation 2. Identify other manufacturing sectors/companies in decline 3. Provide incumbent worker system training whenever possible 4. Communicate to education: training organization pending shortages and potential employee sectors to upgrade or refrain information demand sectors • Create a formal communication process to allow education organization to gear-up | <ul style="list-style-type: none"> • Aerospace industry • Labor unions • Education/training orgs • U.S. Department of Labor (DOL) • State/WDC organization • Unions • Industry • Education | <ul style="list-style-type: none"> • Through survey and data identified in 2A • To assess worker’s skills • Federal (WARN) Dislocated works • State data systems • Surveys/structured <u>conversations – \$ for convening</u> • Federal training for incumbent worker • Dislocated worker resource (Federal and state) • State education programs and resources • Company and industry training funds | <ul style="list-style-type: none"> • No formal systems established • Proprietary information issue in industry • No formal system beyond WARN • Tendency for companies to wait until WARN notices are issued • Difficulty or forecasting in unstable workers | |

Aerospace High Growth Job Training Initiative Matrices

| Issue: AGING WORKFORCE: Loss of Institutional Memory, Intelligence Capacity | | | | |
|---|---|---|---|--|
| Solution: Phased retirement program (See below for further descriptions) | | | | |
| Critical Attributes (What attributes are needed for success?) | Key Stakeholders (Who are needed for success?) | Resources (Financial, Human, and Technology) | Implementation Barriers | Anything Else??? |
| <ul style="list-style-type: none"> • Changes in ERISA and social security laws • Electronic letters of support (website) • Partnerships with other groups with stake in changing laws • Enable plan sponsors to develop defined benefit (DB) plan designs that are neutral (win for various stakeholders) and allow employees to reduce active employment while receiving an incrementally longer benefit under DB plan • Affordability • Actuarial neutrality – “trust impact neutrality” = benefits • Hours adjusted incrementally | <ul style="list-style-type: none"> • Congress, staff • Sects of Labor • Employee benefits trade associations • Human resources organizations • Employee organizations (labor, professional societies, etc.) • AARP, retiree organizations • Employers, employers organizations • Social Security Administration | <ul style="list-style-type: none"> • U.S. Department of Labor • Foundations • Unions • Company lobbying arms • Secretary’s task force on phased retirement • Prior legislation (Grassley) • Society of actuaries (funding/design issues) | <ul style="list-style-type: none"> • Social Security’s earning’s limit • Requires change in ERISA, IRC law • Perceived lack of urgency • Employee relations sensitivities | <ul style="list-style-type: none"> • Public awareness campaign to develop support for needed changes in laws • Reenergizing existing work on issue |

Develop and implement a “phased retirement” program that provides retirement eligible employees an opportunity to work on a limited schedule (i.e., part time). True phased retirement provides retirement eligible employees with an option to disengage slowly by working part time and receive partial defined benefits. Work with industry to change labor laws to allow more “flexible” retirement. Develop a pilot project to test the feasibility of using a phased retirement program to retrain older workers with critical knowledge, skills and experience. Revise the policies/procedures, which prohibit retirees from active participation in the industry to allow for part time contractual services. Progressive retirement: 80%-two years; 60%-2years; 40%-two years; 20%- two years; and, on call x years.

Aerospace High Growth Job Training Initiative Matrices

| Issue: AGING WORKFORCE: Protect the Skills Base | | | | |
|--|--|--|---|-------------------------|
| Solution: Develop multiple institutes focused on preserving skills base and key technologies (See below for complete description) | | | | |
| Critical Attributes (What attributes are needed for success?) | Key Stakeholders (Who are needed for success?) | Resources (Financial, Human, and Technology) | Implementation Barriers | Anything Else??? |
| <ul style="list-style-type: none"> • Industry and government have identified skills base and key technologies • Institutes are actively performing research • Education players are actively engages at all levels • Government and industry are funding competitions that encourage industry/education teams to perform real projects and research to maintain key skills • Institutes are recognized as government/industry resources for each skill • All players are connected through “alliance business model” | <ul style="list-style-type: none"> • Government • Industry • Educators • Employees | <ul style="list-style-type: none"> • Department of Labor/Department of Education – <u>initially</u> • Industry/unions/employee associations – <u>sustain</u> | <ul style="list-style-type: none"> • National programs involve massive funds (initial investment of manpower prior to money) • Proprietary rights • International Trade Armament Restrictions • Security of skills base (technology transfer) | |

Take the skills base outside the company gate by developing multiple institutes focused on preserving the skills base and furthering key technologies needed by and supported by government and industry by performing real projects and research (A one-stop for industry-base skills). Establish an ongoing series of funded competitions between industry/university teams focused on key technologies and skill sets as defined by industry and government customers having workforce emerge with emerging technologies. Recognize and support technology transfer, process improvements, material and science by supporting research, education and industry partnerships (research and development).

Aerospace High Growth Job Training Initiative Matrices

| Issue: AGING WORKFORCE: Protect (sustain) the skills base (intellectual capital) | | | | |
|---|---|--|---|--|
| Solution: Establish and improve relevance of aerospace industry in education and other industries | | | | |
| Critical Attributes (What attributes are needed for success?) | Key Stakeholders (Who are needed for success?) | Resources (Financial, Human, and Technology) | Implementation Barriers | Anything Else??? |
| <ul style="list-style-type: none"> Promotion campaign <ol style="list-style-type: none"> Aerospace experts need to promote aerospace in elementary schools (show & tell) Aerospace experts need to promote the industry to local mayors and regional players (workforce boards, local governments, and support organizations) Aerospace need to cross-talk with other industry advocate groups to promote skills required currently and in the future for aerospace industry (Develop common skills matrices across industries [high-tech workers]) End result/MSN? Local/regional player/ elementary students/ and other industries are aware of relevance of aerospace industry/skills base | <ul style="list-style-type: none"> Industry foundations Department of Education (DOEd) DOL NASA Large corporations (Boeing, Lockheed Martin, General Motors, Ford) Industry Associations Unions (teachers, industry) Lobbyists Chambers Industry Unions or employee new union groups DOL One stops | <ul style="list-style-type: none"> Fund right now later | <ul style="list-style-type: none"> No child left behind (NCLB) Budgetary focus Proprietary nature of industry Union turf issues | <p>Focuses on Testing</p> <p>Aerospace industry not integrated in math, science, and reading</p> |

Why is it important and what will I do with it?

Aerospace High Growth Job Training Initiative Matrices

| Issue: AGING WORKFORCE: Protect the skills base | | | | | |
|---|--|---|--|---|-------------------------|
| Solution: Develop a model program around the aerospace industry identified “soft skills” using SCANS as a baseline | | | | | |
| Critical Attributes (What attributes are needed for success?) | Key Stakeholders (Who are needed for success?) | Resources (Financial, Human, and Technology) | | Implementation Barriers | Anything Else??? |
| <ul style="list-style-type: none"> • Programs provide on-going intensive involvement of personnel from aerospace industry • Aerospace industry professionals are involved in the educational framework by providing student performance standards for specific occupations • Education environment matches industry environment • Aerospace investors have been educated with teaching skills | <ul style="list-style-type: none"> • Aerospace industry associations • Industry corporations • Department of Education • Aerospace industry • Other educators (school boards) • Department of Education • Aerospace industry • Department of Education | <p><u>NOW</u></p> <p>Industry</p> <p>Perkins Grant</p> <p>*Industry</p> <p>*Education</p> <p>*“6 to 6” program</p> <p>*Department of Education</p> <p>*Teacher’s unions</p> | <p><u>LATER</u></p> <p>Team of Educators and Industry</p> <p>DOL</p> | <ul style="list-style-type: none"> • NCLB – states must teach hard skills • Department of Education • Lack of universal involvement (buy in) from industry/education players (all) • State education leaders • Lack off awareness • Lack of involvement by industry | |

Aerospace High Growth Job Training Initiative Matrices

| Issue: AGING WORKFORCE: Preparing for the Demographic Cliff | | | | |
|--|--|--|---|---|
| Solution: Establish an annually updated national database of skills/ competency gaps (See below for a complete description) | | | | |
| Critical Attributes (What attributes are needed for success?) | Key Stakeholders (Who are needed for success?) | Resources (Financial, Human, and Technology) | Implementation Barriers | Anything Else??? |
| 1. Develop and implement annual survey w/ year. 1 actual year 5 projected A. Skill gap analysis B. Identify competencies to fill skills gaps 2. Build and maintain database for information 3. Develop programs to help fill gaps A. Scholarships B. Apprenticeships C. Training D. Curriculum development | <ul style="list-style-type: none"> • Aerospace industry manufacturers • Labor unions • Department of Labor • Bureau of labor strategies for historical perspective • Aerospace supply teams ALL ALL | <ul style="list-style-type: none"> • Consulting team (Aerospace industry university, national institutes) • Aerospace industry Associations Workforce committees • Human Resources Aviation consortium • Host site (national institute, university, society partner) • Department of Education • Aerospace and society foundations | <ul style="list-style-type: none"> • Agreement to share information • Commitment to follow through • Money and ongoing resources | 1/B Work with Space TEC (Florida), Boeing, etc to identify competencies that are already established |

Establish annually updated database of skills/competency gaps focusing on training money on one year and five year gaps identified by centers, companies and agencies and managed by them. Promote/expand scholarship programs targeting anticipated high demand positions.

Aerospace High Growth Job Training Initiative Matrices

| Issue: AGING WORKFORCE: Preparing for the demographic cliff. | | | | |
|---|---|---|--|------------------|
| Solution: Validate the demographic cliff as an issue | | | | |
| Critical Attributes (What attributes are needed for success?) | Key Stakeholders (Who are needed for success?) | Resources (Financial, Human, and Technical) | Implementation Barriers | Anything Else??? |
| <ol style="list-style-type: none"> 1) Obtain aerospace industry statistics (age demographics, number of employees that are retirement eligible and who is actually retiring) 2) Determine criticality of skills at risk <ol style="list-style-type: none"> A) Skills forecast B) Skills inventory 3) Determine root cause of attrition <ol style="list-style-type: none"> a. Financial portfolio b. Job satisfaction c. Utilization | <ul style="list-style-type: none"> *Aerospace industry manufacturers *Labor unions *Department of Labor *Aerospace supply teams Other industries | <ul style="list-style-type: none"> Aerospace companies Third party consultants (such as the Saratoga Institute) | <p style="text-align: center;">↑</p> <ol style="list-style-type: none"> 1) Availability of data 2) Reluctance to share data <p style="text-align: center;"> </p> | |

Validate the “demographic cliff” as an issue: 1) What percentage of eligible employees retire? 2) What will motivate or trigger employees to retire or stay? i.e., stock market, 401K, etc; and, 3) What is the timing?

Validate and verify the extent of the “demographic cliff;” 1) Determine the root cause; and, 2) Document and establish to prevent recurrence.

Aerospace High Growth Job Training Initiative Matrices

| Issue: AGING WORKFORCE: Loss of Institutional Memory | | | | |
|--|--|--|---|-------------------------|
| Solution: Retiree Alumni Network (See below for a complete description) | | | | |
| Critical Attributes (What attributes are needed for success?) | Key Stakeholders (Who are needed for success?) | Resources (Financial, Human, and Technology) | Policy Barriers | Anything Else??? |
| <ul style="list-style-type: none"> • Conduits that would allow retirees to prior employment to pay • Retiree centric” • Self nomination • Subject matter experts • Company could identify and contact subject matter experts • Functionality needed companies to select retirees for specific purposes (education and training programs) | <ul style="list-style-type: none"> • Companies • Retirees • Service providers (vendors) | <ul style="list-style-type: none"> • Service providers (system set-up) • Employment and Training Administration (pilot project) • Companies • Human Resources • Hosted internet site • Ongoing maintenance • Contracting mechanism (to facilitate recall) • Contractors to provide expertise in curriculum development | <ul style="list-style-type: none"> • “Retirees are high maintenance” • Potential for mobilization of negative energy • Perceived lack of urgency | |

- I. “Retiree alumni network” –create an environment where retired employees with institutional, product and system knowledge can stay engaged with company activities and be available when critical need arises.
- II. Pay retirees to create a training program for their replacements capturing their class on video and paper working with professional trainers and educators. It could be a lecture series.

Aerospace High Growth Job Training Initiative Matrices

| Issue: LOSS OF TECHNICAL TALENT: Ensuring high-tech skills | | | | |
|---|--|---|---|-------------------------|
| Solution: 1 - Cutting-edge curricula | | | | |
| Critical Attributes (What attributes are needed for success?) | Key Stakeholders (Who are needed for success?) | Resources (Financial, Human, and Technology) | Implementation Barriers | Anything Else??? |
| <ul style="list-style-type: none"> • Curricula needs to be research-based and evaluated • Curriculum needs to be tied to industry requirements • Recognition of state authority for education in curriculum design • Continually updated (process identified to stay cutting edge) • Use schools as test beds for technology and application | <ul style="list-style-type: none"> • Industry • Education • Policy Makers | <ul style="list-style-type: none"> • Up-to-date technology (software, etc.) • Infrastructure and capability issues • Industry experts to loan to schools | <ul style="list-style-type: none"> • Lack of interest • Prohibitions of money for capital investments • Accreditation of faculty to allow experts to teach • School schedules that aren't responsive to industry time constraints | |

Aerospace High Growth Job Training Initiative Matrices

| Issue: LOSS OF TECHNICAL TALENT: Ensuring high-tech skills | | | | |
|--|--|--|--|-------------------------|
| Solution: 2 – Increasing “hands on”/interactive learning in classrooms by increasing technology in classroom, increasing the number of teachers with experience in the field, increasing the number of classes geared toward specific interests, and teaching what the industry needs | | | | |
| Critical Attributes (What attributes are needed for success?) | Key Stakeholders (Who are needed for success?) | Resources (Financial, Human, and Technology) | Implementation Barriers | Anything Else??? |
| <ul style="list-style-type: none"> • “Hands on” materials (kits, equipment) must be available • Comprehensive, systematic improvements (not ad hoc) • Publicize success and replicability • Externships and institutes • Continual process keeping up-to-date with industry needs | <ul style="list-style-type: none"> • Teachers • Industry professionals and retirees • Dislocated workers (e.g. troops to teachers) • Policy makers | <ul style="list-style-type: none"> • Donations from industry • Industry experts • Training time for existing teachers | <ul style="list-style-type: none"> • Accreditation of retired industry • Education recognition of industry accreditation | |

Aerospace High Growth Job Training Initiative Matrices

| Issue: LOSS OF TECHNICAL TALENT: Ensuring high-tech skills | | | | |
|---|---|---|--|-------------------------|
| Solution: 3 - Identify, create, teach, and certify vital baseline core competencies and skills sets as defined by industry, as well as high-tech skills and technical competencies as defined by industry | | | | |
| Critical Attributes (What attributes are needed for success?) | Key Stakeholders (Who are needed for success?) | Resources (Financial, Human, and Technology) | Implementation Barriers | Anything Else??? |
| <ul style="list-style-type: none"> • Look at what already has been developed by industry for core competencies • Standardization of competencies across states • Community colleges must be integrated with 4-year schools • Pilot sites and replication of successful programs | <ul style="list-style-type: none"> • Industry • Academies • Policy makers • State directors of technical education, community college • Workforce development • Supply chain • Contractors providing training for industry | <ul style="list-style-type: none"> • Funds from Department of Education and Department of Labor, industry, workforce development | <ul style="list-style-type: none"> • Interstate commerce issues (state training dollars at WIBs) • Accepting credits across colleges • Implementing standardized competencies at state levels | |

Aerospace High Growth Job Training Initiative Matrices

| Issue: LOSS OF TECHNICAL TALENT: Image | | | | |
|--|--|---|---|-------------------------|
| Solution: National public image campaign that focuses on the positive impact of the aerospace industry | | | | |
| Critical Attributes (What attributes are needed for success?) | Key Stakeholders (Who are needed for success?) | Resources (Financial, Human, and Technology) | Implementation Barriers | Anything Else??? |
| <ul style="list-style-type: none"> • Can't "look" like a government ad • Put a real face on aerospace • Connect the dots from airplane mechanics to shuttle astronauts • Connect space to cell phones, cable, everyday technologies and answer the John Q. Public "So what?" | <ul style="list-style-type: none"> • Industry, media, education, popular magazines • Private associations (industry group with promotion money) <ul style="list-style-type: none"> • PAMA • EAA • AOPA • NBAA | <ul style="list-style-type: none"> • Money | <ul style="list-style-type: none"> • Allowing access (Department of Defense), federal regulations) | |

- Celebrate successes (i.e., Hubble telescope – knowledge of the universe, aviation records)
- Stop dwelling on negatives only in the media, i.e. accidents or near accidents in aviation and space
- Have all the pertinent government agency stakeholders agree to a new public image campaign for the industry
- Ensure that aerospace promotional materials include broad representation of population
- Develop ad campaigns to show the positive impacts of aerospace programs in our daily lives
- Develop a marketing video featuring successful employees in current jobs who can passionately talk about what they do.
- Feature non-traditional employees

Aerospace High Growth Job Training Initiative Matrices

| Issue: LOSS OF TECHNICAL TALENT: Image | | | | |
|---|--|--|--|-------------------------|
| Solution: National media campaign through video games, mainstream media, pop culture, merchandise, young executive promoting the industry, creating an aerospace personality | | | | |
| Critical Attributes (What attributes are needed for success?) | Key Stakeholders (Who are needed for success?) | Resources (Financial, Human, and Technology) | Implementation Barriers | Anything Else??? |
| <ul style="list-style-type: none"> • “Aerospace Idol,” “American Astronaut” reality show that would allow students to compete for a chance to go into space • Better publicity for FIRST, TARC, other competitors and tie them to job opportunities • Go mass media, not PSA • Competition among common people • Age appropriate • Bionic woman | <ul style="list-style-type: none"> • John Travolta, Tom Hanks, Tom Cruise, Moby • A real aerospace figure, a “Crocodile Hunter” for this industry • Hollywood production companies that work with Discovery, networks • Private associations – National Business Aircraft Association (NBAA), fractional owners | <ul style="list-style-type: none"> • Agreement from industry to open up with information, facilities, technologies • Cooperation among industry leaders • Money | <ul style="list-style-type: none"> • Access | |

Develop video games abased on aviation and space that teach fundamental STEM (Science, Technology, Engineering, and Math) concepts, excite kids in the realities of aerospace, and not force them to stray from what they really love. Several aerospace analysis software companies already have the tools and desire to do this. Games can be distributed through normal channels. The gaming industry in some fashion exists in and is influential across races and genders, allowing all kids to learn about aerospace in a fun and engaging way outside the classroom and realize that aerospace really can be cool.

Stakeholders develop a campaign to attract youth at several age-appropriate levels through mainstream media, pop culture and merchandise.

Identify female/male young aerospace e executives(s) and ask their assistance in promoting aerospace. Create a MTV-Type buzz through the media, i.e. Calvin Klein commercials.

Find and/or develop an “in-house” personality to be a new and different voice in aerospace. Not a celebrity, but a real-life aerospace personality who speaks out to others on the virtues of the present and further of aerospace. Think “Crocodile Hunter” for space. The idea is to create a space-educated society by creating a targeted and sustainable campaign through several traditional and non-traditional media. Starting small with public service announcements and working our way up through radio and print ads through full-length TV shows, our hero will be the identify, the advocate, the role model, the champion for space that we haven’t had since we left the moon.

Aerospace High Growth Job Training Initiative Matrices

| Issue: LOSS OF TECHNICAL TALENT: Image | | | | |
|--|--|--|--|-------------------------|
| Solution: Modify career clusters and pathways for adult learners – a component of adult education | | | | |
| Critical Attributes (What attributes are needed for success?) | Key Stakeholders (Who are needed for success?) | Resources (Financial, Human, and Technology) | Implementation Barriers | Anything Else??? |
| <ul style="list-style-type: none"> • Breakdown communication barriers • Identify sub-categories of aerospace • Applied technology skills terms academic/theoretical | <ul style="list-style-type: none"> • Functional representations (not just the people who do the job, not human resources, or the program manager • Academies and administrators • HR and recruiting • Dept. of Labor • Policy makers at state level (regents, Board of Education, etc.) | <ul style="list-style-type: none"> • Materials to train with • Equipment • Current process maps (e.g., no ordering) | <ul style="list-style-type: none"> • Export control considerations • State control of education policy | |

Aerospace High Growth Job Training Initiative Matrices

| Issue: LOSS OF TECHNICAL TALENT: Non-traditional labor pools | | | | |
|---|---|--|--|-------------------------|
| Solution: Publicize aerospace career options via career days, career clusters, career pathways, academic tracks (dual enrollments), websites, career packages, guidance counselors, etc. | | | | |
| Critical Attributes (What attributes are needed for success?) | Key Stakeholders (Who are needed for success?) | Resources (Financial, Human, and Technology) | Implementation Barriers | Anything Else??? |
| <ul style="list-style-type: none"> • Have an allegiance between all the “key” players(K-12, higher education, industry) <ul style="list-style-type: none"> • Voice of private sector has to be presented • Right person to coordinate between different groups, includes associations and states • States sharing best information – “domino effect” | <ul style="list-style-type: none"> • State directors/association • AIA • Industry • Schools • Labor • Workforce investment • Guidance counselors | <ul style="list-style-type: none"> • Industry-based scholarships • Web-based coordination • Funding for a state-based program | <ul style="list-style-type: none"> • Unfamiliar with grant writing, need multi-year funding | |

Aerospace High Growth Job Training Initiative Matrices

| Issue: LOSS OF TECHNICAL TALENT: Non-Traditional Labor Pools | | | | |
|---|---|---|--|--|
| Solution: Develop industry and post-secondary partnerships that focus on internships/cooperatives and curriculum development, mentorships, scholarships, etc... | | | | |
| Critical Attributes (What attributes are needed for success?) | Key Stakeholders (Who are needed for success?) | Resources (Financial, Human, and Technology) | Implementation Barriers | Anything Else??? |
| <ul style="list-style-type: none"> • Ongoing partnerships with all stakeholders • Publicizing opportunities of internships and opportunities (teachers) | <ul style="list-style-type: none"> • Industry • Education • Associations • Workforce Investment Boards (WIBs) | <ul style="list-style-type: none"> • Association grants any used by states • Web-based coordination • Grants | <ul style="list-style-type: none"> • Competition between resources • WIBs specific to aerospace industry | <p>Instead of student to industry – bring industry to students</p> |

Aerospace High Growth Job Training Initiative Matrices

| Issue: LOSS OF TECHNICAL TALENT: Reducing turnover | | | | |
|--|--|--|--|-------------------------|
| Solution: 1 - Educational assistance/support for student loan forgiveness and industry-sponsored scholarships/loans in return for work commitment | | | | |
| Critical Attributes (What attributes are needed for success?) | Key Stakeholders (Who are needed for success?) | Resources (Financial, Human, and Technology) | Implementation Barriers | Anything Else??? |
| <ul style="list-style-type: none"> • Student-loan forgiveness with time and finance limitations • Guaranteed job and paid education (subsidized) • Pay-off loans working • Scholarships for non-college “vocational” classes (ACTE) • Association coordination on scholarships aligned with aerospace curriculum, including AIA | <ul style="list-style-type: none"> • Industry • Government • Associations | <ul style="list-style-type: none"> • Financial investment by industry/government to subsidize education • Tool reimbursement | <ul style="list-style-type: none"> • Labor rules, union limits • Funding investment • Tax treatment for company loan forgiveness (make tax credit) | |

Aerospace High Growth Job Training Initiative Matrices

| Issue: LOSS OF TECHNICAL TALENT: Reducing turnover | | | | |
|---|--|--|--|-------------------------|
| Solution: Create internship/fellowships to offset cyclical nature of the industry and study financial benefits of retention vs. layoffs/retraining | | | | |
| Critical Attributes (What attributes are needed for success?) | Key Stakeholders (Who are needed for success?) | Resources (Financial, Human, and Technology) | Implementation Barriers | Anything Else??? |
| <ul style="list-style-type: none"> • Work continuity than cycles • Executive education of long-term implications (cost factors) of layoffs and hiring cost vs. retention and retraining • Government program to accept employees while new work is created – return to pipeline (intern/fellow-type opportunities) | <ul style="list-style-type: none"> • Industry executives • DOL investment • Industry associations | <ul style="list-style-type: none"> • Long-term financial savings and retention of technological expertise | <ul style="list-style-type: none"> • Information sharing of best practices within industry • Corporate buy-in • Law change for benefits | |

Aerospace High Growth Job Training Initiative Matrices

| Issue: LOSS OF TECHICAL TALENT: REDUCING TURNOVER | | | | |
|--|---|--|---|-------------------------|
| Solution: 3 – Provide industry supported cooperatives, professional and trained mentors, internships | | | | |
| Critical Attributes (What attributes are needed for success?) | Key Stakeholders (Who are needed for success?) | Resources (Financial, Human, and Technology) | Policy Barriers | Anything Else??? |
| <ul style="list-style-type: none"> • Mentors mentor during 8-hour day • Mentoring within company: company 1 encourage company 2 to mentor • Cooperatives not employed • Internships employed • Relationship developed with educational institution • Educate individuals about one industry (peer to peer counseling) • Inter-company (company 1 and company 2) have networking opportunities • Intra-company networking opportunities | <ul style="list-style-type: none"> • Industry • Educational Institutions • Employee • Unions, where applicable (maybe conduit success) • Affinity groups • Local industry clusters <ul style="list-style-type: none"> • Dallas cluster-contact Judy Northrop at VOUGHT (Carlisle Group) | <ul style="list-style-type: none"> • Educational Institutions • Affinity groups • Local industry clusters <ul style="list-style-type: none"> • Judy Northrop at VOUGHT (Carlisle Group) • AFL • Association of Professional Employees | <ul style="list-style-type: none"> • Affinity groups tend to be national – do not typically reach out to students • Competitive issues, drinking age • Stone pipe (narrow), job description arranged by union of employees, collective bargaining agreements | |

Peer buddies within corporations to improve student/young professional retention in the aerospace industry