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Aerospace Small Parts Manufacturers

BUSINESS CASE: HIGH TECH MANUFACTURING EXPANSION - TUCSON, ARIZONA





EXECUTIVE SUMMARY

RECOMMENDATION: Expand operations to Tucson, Arizona.

This business case analyzes the expansion of an aerospace manufacturing facility to Tucson, Arizona versus Washington State, applying rigorous financial modeling, statistical analysis, and strategic assessment. Arizona offers a compelling Net Present Value advantage of \$27.5 million over 10 years and a 92.8% probability of positive returns. With superior workforce availability, extensive business incentives, and proximity to a robust aerospace cluster, expanding to Arizona positions the organization for sustained growth and competitive advantage.

BUSINESS OVERVIEW

High Tech Manufacturing produces precision-machined components like nozzles, fittings, sensor components, valve components, and actuators for aerospace clients. The work and the equipment on which they are manufactured requires a skilled workforce and a climate-controlled environment.

MARKET OPPORTUNITY AND CONTEXT

INDUSTRY TRENDS AND MARKET DRIVERS

- Space Limitations (WA): Inhibiting order growth and government contract opportunities.
- Workforce Shortage (WA): 35% of manufacturing workers nearing retirement age, contributing to critical labor risks.
- Aerospace Cluster (AZ): Tucson is the 5th-largest U.S. hub, hosting 200+ aerospace firms and an advanced talent pipeline.

COMPETITIVE POSITIONING

- Arizona's aerospace presence enables access to major players and government contracts.
- Washington's ranking dropped from #1 to #7 for aerospace business climate, reinforcing a strategic pivot.

PROBLEM STATEMENT AND OPPORTUNITY ANALYSIS

CONSTRAINTS IN WASHINGTON

- Severe workforce shortages and aging skilled labor.
- Limited facility expansion capability, risking \$3M in annual lost revenue.
- Dependent on costly, tariff-laden aluminum supply chains.

ARIZONA OPPORTUNITY

- Lower costs for engineers (\$5,750 less/year per engineer) and state-of-the-art workforce training programs.
- Business incentives offset labor cost premiums: \$345,000 in annual tax credits/exemptions.
- Resilient supply chains due to proximity to domestic suppliers.

RECOMMENDATION

IMMEDIATE PLANNING AND EXECUTION TO CAPTURE MARKET OPPORTUNITIES

SOLUTION ARCHITECTURE

RECOMMENDED EXPANSION: TUCSON, ARIZONA

Key Components:

1. **Facility and Equipment:** \$4.4M investment, \$500K less vs Washington.
2. **Workforce Development:** Partnerships with Future48 Workforce Accelerator.
3. **Government Contract Readiness:** AS9100 certification and capacity for DOD work.

ALTERNATIVE: Washington expansion—more expensive with greater labor and facility risk.

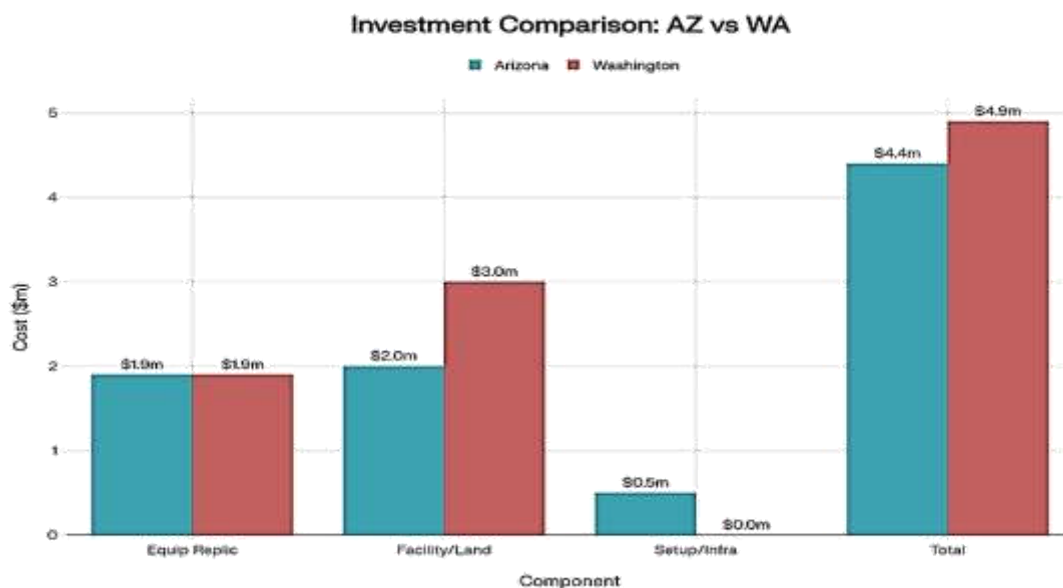
FINANCIAL ANALYSIS AND BUSINESS IMPACT

ARIZONA SAVES \$500,000 IN UPFRONT COSTS

INITIAL INVESTMENT COMPARISON

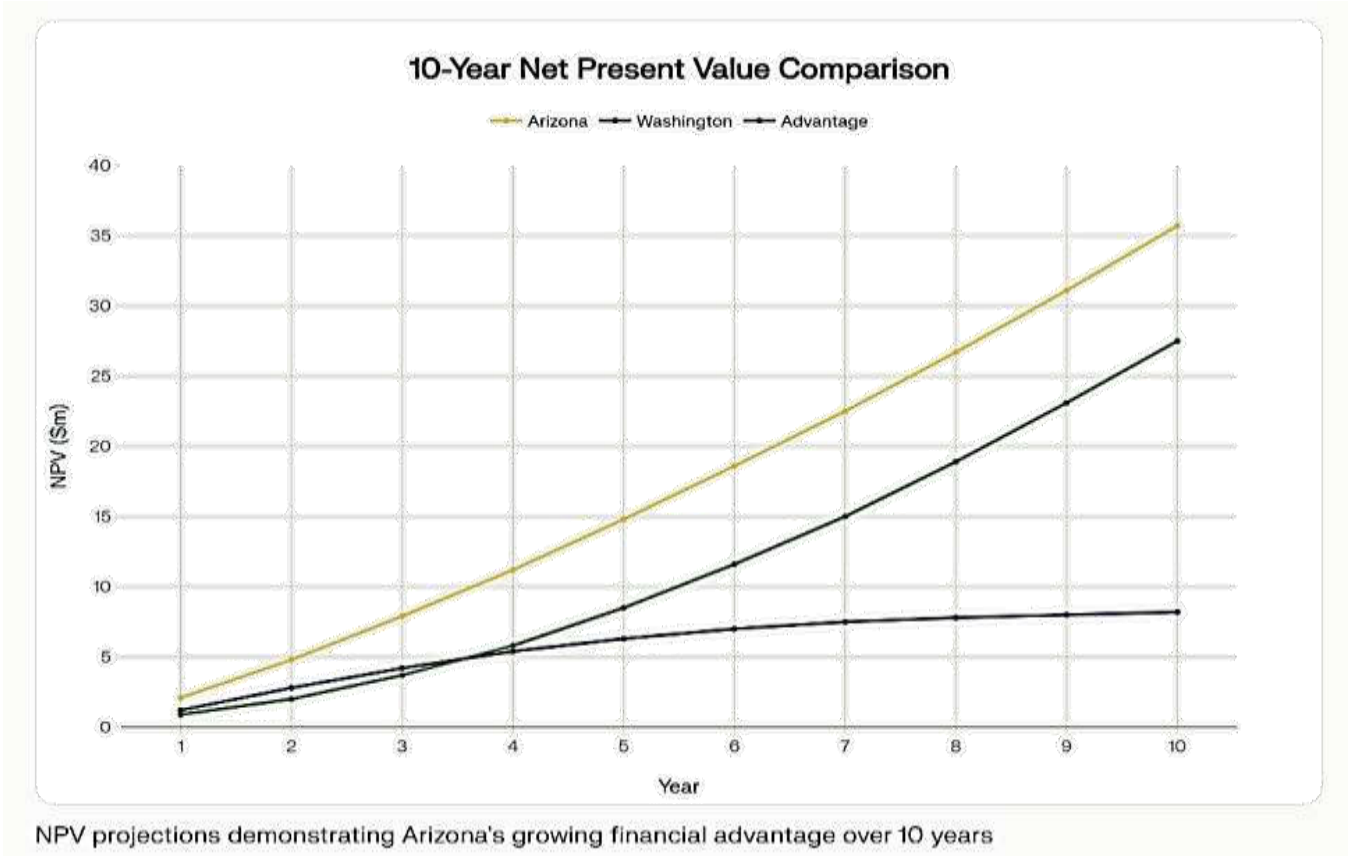
COMPONENT	ARIZONA (\$M)	WASHINGTON (\$M)
Equipment Replication	1.9	1.9
Facility and Land	2.0	3.0
Setup and Infrastructure	0.5	0.0
Total	4.4	4.9

Initial investment comparison showing Arizona's \$500K cost advantage over Washington expansion



10-YEAR NET PRESENT VALUE PROJECTIONS

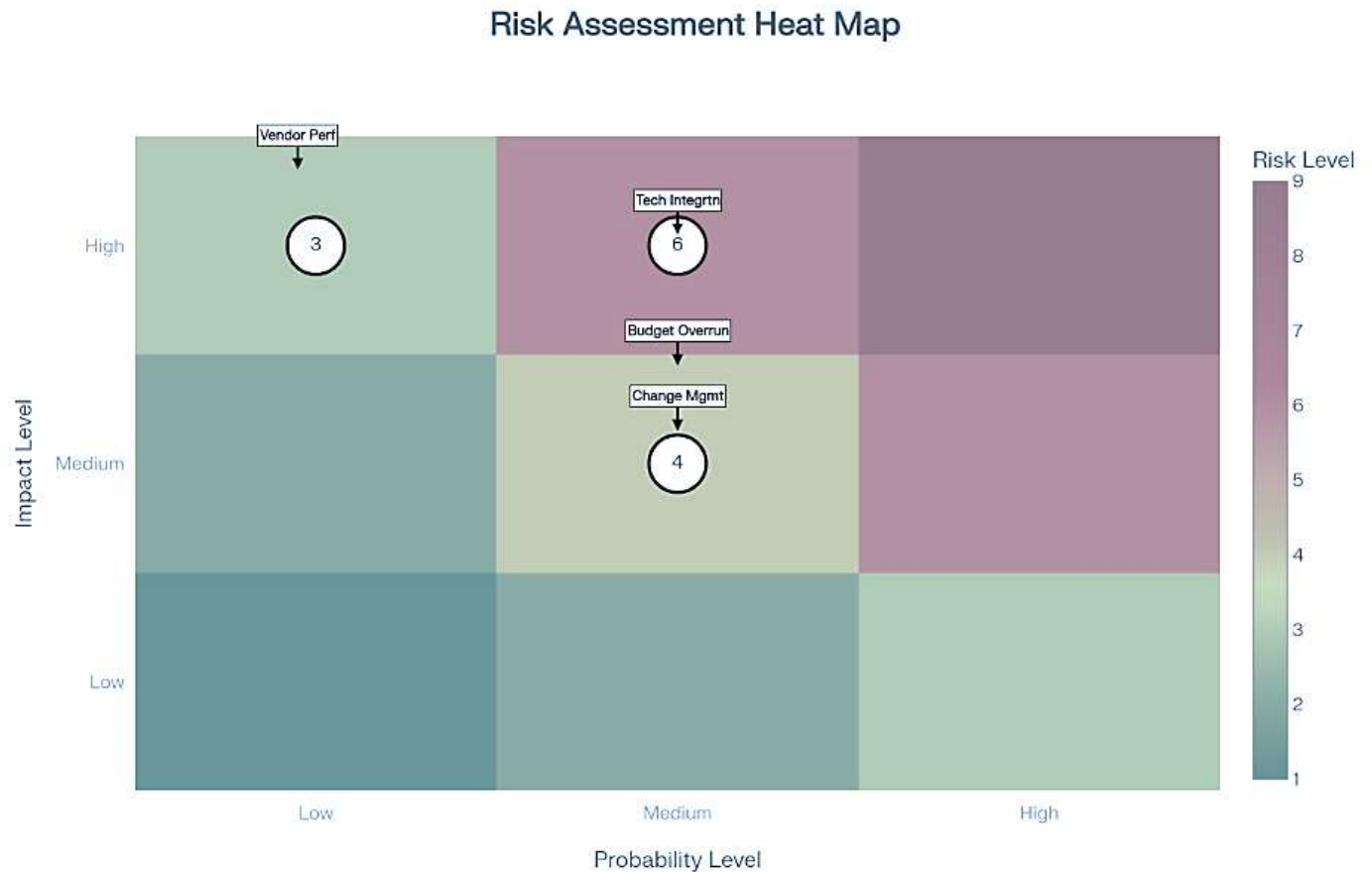
Arizona maintains a steady and widening financial advantage over Washington across a decade.



ANNUAL FINANCIAL IMPACT

CATEGORY	ANNUAL IMPACT (\$)
Manufacturing Worker Cost Premium	+625,914
Engineer Cost Savings	-28,750
Business Incentives and Tax Credits	-200,000
Sales Tax Exemptions	-95,000
Property Tax Reductions	-50,000
Net Annual Arizona Advantage	-345,000

Risk Assessment Matrix



Risk assessment matrix identifying key project risks and mitigation priorities

CONCLUSION AND RECOMMENDATIONS

Arizona Expansion Delivers:

- Superior financial returns (\$27.5M NPV advantage)
- Manageable risks and offset labor costs
- Strategic access to talent and suppliers
- Clear superiority across all weighted decision criteria
- Immediate eligibility for substantial government and industry incentives
- Access to a diversified and expanding customer base, including Department of Defense contracts
- Enhanced operational resilience through geographic and supply-chain diversification
- Opportunity to implement leading-edge technologies (automation, digitalization)
- Greater potential for sustainability initiatives (energy efficiency, green design)

- Scalable facility and modular design that supports future growth phases
- Immediate alignment with state-of-the-art workforce training ecosystems
- Strong community and state government support for advanced manufacturing
- Accelerated readiness for certification and compliance (AS9100, FAA, DOD standards)
- Flexibility to adjust capacity in response to demand fluctuations

TIMELINE

PHASE 1: PLANNING AND PRE-DEVELOPMENT

- Finalize site selection and facility design
- Initiate regulatory and permitting processes
- Secure anchor partnerships with workforce accelerator programs
- Lock in incentives and financing

PHASE 2: FACILITY CONSTRUCTION AND WORKFORCE DEVELOPMENT

- Begin facility construction and infrastructure upgrades
- Recruit and train core staff (production, engineering, quality)
- Deploy modular equipment and scalable systems

PHASE 3: PILOT PRODUCTION AND CERTIFICATION

- Install and validate equipment
- Achieve AS9100 and FAA certifications
- Launch initial production runs (pilot and low-rate manufacturing)
- Onboard initial customer programs and partners

PHASE 4: FULL OPERATIONS LAUNCH

- Ramp up operations to full production capacity
- Pursue and win major government and commercial contracts
- Optimize processes and integrate advanced automation/ERP systems

PHASE 5: GROWTH AND CONTINUOUS IMPROVEMENT

- Expand workforce and capabilities with demand
- Implement sustainability and lean practices
- Evaluate and initiate Phase 2 expansion if market growth warrants