


TACTAIR
FLUID CONTROLS INC.

AVIATION WEEK
CAM
CIVIL AVIATION
MANUFACTURING

A large commercial airplane is shown in the process of being assembled inside a vast, brightly lit industrial hangar. The aircraft is white with green accents on the nose and tail. Several workers in high-visibility vests are visible around the plane, and a white service vehicle with 'BOEING' written on it is in the foreground. The hangar's structure is complex, with numerous overhead lights and support beams.

**Small Supplier's Survival Guide
In A Global Supply Chain**

Agenda



- Tactair Overview
- Tactair Value Proposition
- Tactair Competitive Strategies
- Challenges and Tactair Response



Tactair Overview



- AS9100C Certified **Designer** and **Manufacturer** of **Proprietary Niche** Control Systems and Components for **Landing Gear, Nose Wheel Steering, Wheel Brake, Flight Control, and Utility Systems**
- Broad **Hydraulic** and **Pneumatic** product lines built through acquisition



- Focused on applications for the **Regional, Business, Helicopter, and Military Transport and Trainer** aviation markets
- **Privately Owned** (Young & Franklin) **small business** located in upstate New York (350 people, \$75M in sales)



Tactair Value Proposition



- Value Proposition
 - One-stop shop for niche subsystems
 - Minimize “total cost of ownership”
 - Acquisition Price
 - Logistics/Delivery
 - Quality & Reliability
 - Life Cycle Support
 - Effective use of new technologies
- Results
 - New Markets: Japan
 - New Customers: Sumitomo: Mitsubishi Regional Jet
 - Landing Gear Extension and Retraction Hydraulic System
 - Nose Wheel Steering Hydraulic Systems
 - New Products: Uplocks



Tactair Competitive Strategies



- Market Focus
- Intellectual Property Development
- Technology Road Map
- Cost Competitiveness & Quality Control



Tactair Competitive Strategies



- Market Focus:
 - Markets: Know what you do well
 - Fixed Wing: Regional, Business, and Military Trainer and Transport aircraft
 - Rotary Wing: Commercial and Military turbine aircraft
 - Technology:
 - Similarly sized pressure and flow requirements allow for a common set of product line building blocks and manufacturing resources
- Intellectual Property Development
- Technology Road Map
- Cost Competitiveness & Quality Control



Tactair Competitive Strategies



- Market Focus
- Intellectual Property Development
 - Historically grown through acquisition of proprietary product lines
 - 5 companies/product lines (Tactair, Phoenix Controls, Teledyne Hydra-Power, Kaiser Fluid Technologies, and York Industries aerospace product lines)
 - Transition to include organic growth into our model, over the past 5 years
 - Increasingly limited attractive acquisition opportunities
 - Introduce new technology to minimize “total cost of ownership”
- Technology Road Map
- Cost Competitiveness & Quality Control



Tactair Competitive Strategies



- Market Focus
- Intellectual Property Development
- Technology Road Map
 - Know where you are and where you want to go

Tactair Technology Road Map



- Cost Competitiveness & Quality Control



Competitive Strategies



- Market Focus
- Intellectual Property Development
- Technology Road Map
- **Cost Competitiveness & Quality Control**
 - Focus on Manufacturing
 - Significant investment in human and capital resources
 - “World Class” manufacturing facility
 - Focus on Process Control
 - Process Certification: AS9100C, NADCAP
 - DFMEA/PFMEA
 - Supplier Development and Quality Management
 - Focus on Design for Manufacturability through Product Realization Process
 - Gate-type Process



Challenges



- Relevance
- Intellectual Property Rights
- Human Resources
- Focus
- Cost Competitiveness



Challenges



- Relevance
 - Small companies must maintain a sufficient size or and unique capabilities and or product technologies to be recognized as a leader in targeted markets with sufficient resources to remain so
 - Tactair has grown through acquisition to a relevant market position and now is focused on the development of unique technologies to remain so
- Intellectual Property Rights
- Human Resources
- Focus
- Cost Competitiveness



Challenges



- Relevance
- Intellectual Property Rights
 - Intellectual Property Rights are the life's blood of a small technology driven company and IP must be protected
 - Customers represent the biggest threat, must be contractually diligent!
 - Tactair has taken a strong position in the protection of intellectual property rights
 - We do not accept non-recurring funding for development work
 - We insist on clear contractual language protecting our IP
 - This position has cost us business in the short term, but will ensure our long term viability as a supplier with sufficient cash flow to invest in new technology
- Human Resources
- Focus
- Cost Competitiveness



Challenges



- Relevance
- Intellectual Property Rights
- Human Resources
 - Skill requirements evolve with changes in technology and market focus
 - Attracting and keeping skilled technical personnel requires a recruitment and retention plan
 - Tactair’s recruitment plan focuses on individuals with ties to Central New York
 - Technical skills and experience are critical; however, specific aerospace industry experience is beneficial, but not critical
- Focus
- Cost Competitiveness



Challenges



- Relevance
- Intellectual Property Rights
- Human Resources
- Focus
 - Very easy to become distracted by random opportunities that consume limited technical, time, and manufacturing resources
 - Develop a market and technology plan and stay focused on it (PRP helpful)
 - Tactair remains focused on its markets and application areas at the expense of the larger Large Transport Category Aircraft market
- Cost Competitiveness



Challenges



- Relevance
- Intellectual Property Rights
- Human Resources
- Focus
- Cost Competitiveness
 - Cost competitiveness is “top of mind” for Customers
 - Understand your Customer’s “total cost of ownership” for your product as they perceive it (may require customer education)
 - Develop a plan to create the maximum value for your Customer (Tactair strategy previously covered)



The Future is Bright



The future is bright for small and medium sized manufacturers in the aviation market; however, to be successful one must:

1. Understand your Customer's Needs
2. Have a relevant Value Proposition that addresses those needs
3. Develop Competitive Strategies to implement that value proposition
4. Understand and Manage the Challenges



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