# Business Plan (June 2015)

OTCQB:TPAC

During the next fifteen years, China plans to spend a quarter of a trillion dollars building the aerospace industry of the future. The country hosts more than two-thirds of the airports now under construction around the world. It will be the biggest growth market for Boeing and Airbus. Additionally, China is investing heavily in developing home-grown rivals in the hope of dominating the aviation markets of the 21st century.

Aerospace represents the latest frontier for China, but thanks to global integration and rising wages, the country's days as the world's de facto factory are numbered. Like Japan before it, China is shifting from producing consumer goods to manufacturing more sophisticated and higher quality products. With respect to its desire for growth in the aerospace and aviation sector, China is eyeing parts manufacturers, materials producers, leasing businesses, cargo airlines and airport operators to shortcut the growth process by way of eye-opening investments.

With China's breathtaking plans to conquer global aviation markets as a backdrop, Trans-Pacific Aerospace intends to become an integral domestic player and, through incremental export expansion, a viable global competitor.

**Offsets 101**

Offsets are arrangements demanded by a buyer that obligate the seller to perform actions that will "offset" the outflow of money required by the contract for sale. In the case of commercial aircraft which list for as much as $351 million each, such companies as Boeing, Airbus and Bombardier typically meet a country's offset requirements by coproducing structural airframe components with a domestic partner, procuring domestic parts for incorporation or installation into items sold, or working with local companies to establish maintenance, repair and overhaul facilities (MROs).

## The Company

The Company possesses proprietary technologies, approved for transfer/export by the U.S. Department of Commerce, which enables it to manufacture aerospace approved, self-lubricating commercial aircraft consumable component parts known as plain spherical bearings, bushings and rod end bearings, used both in new and existing aircraft.

The Company business model is monopolistic in that the Company will only target for development and expansion, those countries where:

- The resulting Company entity is the sole domestic manufacturer
- The three largest makers of commercial aircraft have significant offset obligations (see sidebar)

## China Opportunity

Airframe manufacturers have significant offset obligations in China, and are currently unable to meet offsets incurred as the total value of aircraft purchases far exceeds the viable options that comply with China's 35% offset sales requirement. Original Equipment Manufacturers (OEMs) like Airbus and Boeing owe China upwards of $17 billion as of this writing.

## Validation of Business Model

The Company has established a manufacturing facility in Dongguan, China to manufacture aerospace quality self-lubricating and standard spherical bearings, rod ends and bushings (collectively, "Bearings"). Over 3,000 of these parts (approximately $500,000 worth) are used in every aircraft and must be replaced regularly.

After rigorous testing that demonstrated bearing performance beyond technical specifications, the Company has passed all qualification requirements for SAE Aerospace Standard SAE-AS81820 and SAE-AS81934 from NAVAIR (U.S. Naval Air Systems Command), the agency responsible for qualifying SAE aerospace bearings, and has been placed on the QPL (Qualified Product Listing) as a supplier. As such, the Company is the FIRST and ONLY manufacturer of SAE-certified Bearings in China and one of only six in the world.

Boeing, whose aircraft comprise 53% of China's collective fleet, has also pledged full technical support for the development of additional bearings in order to support Boeing's demand for bearings and for products manufactured in China. (For an overview on bearings, please see Appendix I, Bearings 101.)

In addition, the Company has been engaged in ongoing dialogue with Aviation Industries of China (AVIC) to form a joint venture for the manufacture and distribution of Bearings. While the Company sees advantages to forming an alliance with AVIC, the Company has sufficient capital to allow it to produce Bearings without such a partnership.

For reference, the contributions of an AVIC related joint venture partners are contemplated as follows: The partner will provide a capital contribution to the joint venture, together with domestic and international marketing, sales and distribution. The Company will supply the manufacturing facility, machinery and equipment, tooling, manufacturing know-how, blueprints for approximately 3,000 parts, and a proprietary liner that is integral to the finished products and is a key component required for qualification approval by NAVAIR. This liner is produced in the United States to a unique specification demanded by the Company and is solely controlled by the Company.

**About AVIC** Based in Beijing, with 17 domestic subsidiaries and over 200 factories of its own, AVIC is a Fortune Global 500 company with an estimated 575,000 employees and $60 billion in annual. AVIC maintains 60 offices in 29 countries, and has ongoing buyer/seller relationships with such commercial aerospace companies as Boeing, Airbus, Embraer, Lockheed Martin, Pratt & Whitney and Rolls- Royce.

AVIC's first foray into making large passenger jets is the C919, a homegrown single-aisle jet seen as a direct competitor to the Airbus A320 and the Boeing 737, the two most successful commercial jet aircraft families in history.

C919 prototype at a recent airshow. Test flights for the C919 are set for 2015 with deliveries scheduled for 2016.

**Proprietary Technology**

The key to the Company's success in China in the near term is a proprietary self-lubricating liner system, which is manufactured in the U.S. at a TPAC approved facility. This liner is an integral component of the Company's finished parts, which are used in aircraft where lubrication is undesirable, difficult to perform or impossible. In practice, the liner system is bonded to race surfaces, and during use, forms a lubricating film on the mating ball surface that is continually replaced throughout the life of the liner material.

Parts with this liner system conform to SAE-AS specifications, operating under dynamic load at temperatures between -65° F and 350° F while being exposed to contaminants that include jet fuel, deicing chemicals, oil and water. (Dynamic loads are defined as light to heavy, unidirectional or alternating loads; intermittent to continuous misalignment; and intermittent to continuous oscillation.) China-based bearing manufacturers have been trying to make these same parts for more than 20 years without success.

**Sales Strategy**

Based on ongoing discussions, initial contract sales will be conducted by AVIC and in-house personnel, including members of the Company's executive management team, to OEMs (e.g., Boeing, Airbus, Embraer), airlines (e.g., Air China, China Southern, China Eastern) and MROs (e.g., Guangzhou, Beijing, Xiamen, Shandong). As of January 1, 2013, there were 1,676 commercial jetliners in operation in China, with Boeing projecting that China will need 5,260 more aircraft worth $670 billion over the next two decades.

**Marketing**

To support sales activities and build the sales pipeline, the Company will implement a strategic brand management initiative that will seek to position its trade name as a global brand with local roots. In addition to primary touch-points (OEMs, airlines and MROs), the Company will also reach out to leading international bearing distributors, the sub-assembly industry and others. The Company intends to sell to the United States military, as these products are not subject to the Buy American provisions of the Federal Acquisition Regulations. Tactical marketing elements will include:

- Participation in major air and aerospace trade shows (e.g., China International Aviation & Aerospace Exhibition; Farnborough/Paris; Dubai)
- Participation in trade fairs (for airlines and MROs) sponsored by Boeing, Airbus and Embraer
- Trade publicity (to create buzz and pre-sell prospects)
- Key market tours to coincide with government-sponsored expositions
- Sponsorship of "best practice" seminars for airlines and MROs
- Website with regular "best practice" webcasts
- Sales support materials for distributors (promotional collateral and thumb drives)

Initial marketing efforts will be targeted towards the captive offset market: OEMs, and China-based airlines and MROs, with a primary focus on pre-selling and filling the sales pipeline.


**Global Market Overview**

Annual sales of standard spherical bearings for commercial aircraft are estimated to be $1.6 billion. There are two major producers of standard spherical bearings made and certified for commercial aircraft: Minebea (TSX:MNBEY; Nikkei 225) and RBC Bearings (NASDAQ:ROLL), headquartered in Tokyo and Oxford, CT, respectively.

Minebea, with 60% market share, is a $3.1 billion company (2012) that makes machined components and electronic devices. It derives roughly 21% of its revenue from standard spherical bearings and related parts with dedicated plants in Karuizawa, Japan, Laconia, New Hampshire and Lincoln, England. RBC, with an estimated 9% market share, is considerably smaller with fiscal year 2012 sales of $397 million. It derives roughly 32% of its revenue from standard spherical bearings and related parts with a dedicated plant in Fairfield, Connecticut. All facilities are running at capacity, with lead times quoted to airframe manufacturers at up to 52 weeks.

**Competition**

The Company is the only manufacturer of SAE-AS certified aircraft component parts in China. Imported parts in China are subject to 24% import tax and duty. The Company's management has excellent and currently ongoing working relationships with Boeing, Airbus and Embraer.

Neither Minebea nor RBC has made inroads into China from a manufacturing perspective for these parts, nor is it likely that they will anytime in the near future. The standoff over the islands known as Senkaku in Japan and Diaoyu in China is tense, with territorial claims escalating on a daily basis. This adds to the already tenuous relationship caused by Japan's refusal to acknowledge its wartime past to the satisfaction of China. Minebea does have plants in Shanghai and Zhuhai, but these facilities produce relatively easy to make ball bearings, DC motors, fan motors and PC keyboard parts. RBC, self-admittedly, has no aspirations to break into China, with recent growth attributed to acquisitions in the U.S. and U.K.

Moreover, neither manufacturer has the incentive to ramp up production to meet market demand, as both Minebea and RBC are satisfied with their respective market shares and are historically disinclined to investing in capital equipment or upgrading facilities. Their logic is simple: it's a gravy train that we haven't changed in 30 years; why do anything when all we have to do is raise prices and extend lead times?

This take-it-or-leave-it attitude leaves the market wide open for an aggressive new player. From the start, the Company will be able to:

- Deliver orders in as short a time as four weeks (versus 32-52)
- Help Boeing, Airbus and Embraer meet offset obligations to China ($17 billion due and payable)
- Sole source to China-based airlines and MROs at price points a minimum of 24% less than what they're paying now
- Do all of the above while maintaining margins of 70%

**Pricing Strategy**

In regards to export sales, the Company plans to build a tiered global pricing model based on prevailing prices that will avoid a price war with Minebea and RBC. This strategy will:

- Allow our competitors to keep current prices at or near what they're charging now
- Permit the Company to charge market prices, with a deep spread to maneuver for large orders
- Maintain the status quo: the Company, in effect, is not taking market share away from Minebea and RBC. Instead, it's taking advantage of de novo business and offset markets in China
- Anticipated average unit selling price: $167

Significantly, this strategy will give the Company the option in three to five years to aggressively carve out global market share, at-will, based on price. By not "rocking the boat" at the onset, the Company will build a sales and manufacturing advantage from which Minebea and RBC will find tough to counter, as both Minebea and RBC are running at full capacity with equipment over two decades old.

**Executive Management & Board of Directors**

**Bill McKay, Chairman & Chief Executive Officer**

Mr. McKay has served as Chairman and Chief Executive Officer since February 2010. Mr. McKay has 25 years' experience in the aerospace/manufacturing industry, holding many senior management positions including General Counsel, General Manager, Manufacturing Manager, COO and CEO of both private and public companies. Mr. McKay was founder and Chief Executive Officer of Harbin Aerospace Company, LLC, an aircraft component part design, engineering and manufacturing company acquired by Trans-Pacific Aerospace in 2010. Prior to forming Harbin, he was an aerospace industry consultant involved in aerospace projects in China and other aspects of the industry (2008 to 2009). From 2006 to 2008, Mr. McKay served as Chief Operating Officer for Acromil Corporation, an aerospace structural component manufacturing company. Within three months of commencing his tenure at Acromil, Mr. McKay turned the company around from monthly losses of $1 million, to profits in excess of $600,000 and changed on-time deliveries from 0% to 90%. Prior to Acromil, Mr. McKay served (from 1986 to 2006) in a variety of senior management roles with Southwest Products Company, a specialized engineering consulting firm and designer and manufacturer of plain spherical bearings used primarily in aerospace, naval and sophisticated commercial applications. He started as General Counsel (1986), and was promoted to Executive Vice President and General Manager (1987) and Chief Executive Offices (1991). As part of the acquisition of Southwest Products Company by Sunbase Asia, Inc., a Hong Kong-based aerospace company, Mr. McKay also took on the role of President-CEO of Sunbase Asia. He received a B.A. in History (Magna Cum Laude and Phi Beta Kappa) as well as a JD and an MBA from the University of Southern California. He is a member of the California State Bar.

**Greg Archer, Director**

Mr. Archer has over 24 years of aerospace industry experience as an executive with Northrop Grumman Corporation. From December 2002 through March 2010, he served as director of procurement/global supply chain for the Aerospace Systems sector of Northrup Grumman. Mr. Archer was responsible for the procurement of goods and services valued in excess of one billion dollars and some thirty million parts across multiple programs and platforms. In his role as the executive for procurement/global supply chain, he developed and deployed a purchasing model that was responsive to program needs across the sector. He was the Chief Procurement Officer for the sector and directed an organization made up of professional buyers responsible for a wide range of products and services. In addition to his procurement responsibilities, he was also responsible for commodity engineering, managing and supplier technical solutions across all programs leading an organization made up of engineering professionals from the disciplines of manufacturing engineering, industrial engineering and electrical engineering. Prior to his position as the director of procurement, Mr. Archer held leadership positions in international procurement and production, business management, subcontracts, program management and government compliance. He spent several years supporting company litigation and dispute resolution and was member of a company executive board of reviewers. He is a graduate of California State Polytechnic State University at Pomona.

**Jason Arnold, Director**

Mr. Arnold has over 25 years of experience in the aerospace manufacturing industry, regularly conducting business with such companies as Airbus, Boeing, Lockheed Martin and Northrop Grumman. At Arnold Engineering, he developed a growth strategy that increased sales from $500k to over $30 million annually, providing customers with world class machined and assembled aero structures for both the commercial and defense markets. Mr. Arnold orchestrated the successful sale of Arnold Engineering in 2009 to a Private Equity firm. He currently is an active Chairman for an aircraft manufacturing organization as well as a Trans- Pacific Board Member.

**Kevin Gould, Director**

Mr. Gould has over 25 year of management experience in aerospace, manufacturing, high tech and law. Currently he is the founder and President of Hwk Aerial, a commercial drone product and service provider. Prior to founding Hawk, Mr. Gould was President of BendixKing, a manufacturer of avionics for General Aviation aircraft. Previously he served as President and CEO of Piper Aircraft, Inc. During his tenure, Piper doubled its market share, outsourced its spare parts distribution, beat its competition to market with the highly successful PiperSport, overhauled and globalized its sales and distribution channel, initiated social networking marketing programs, and re-launched development of its PiperJet aircraft. Earlier, Mr. Gould served as VP of Operations at Piper where he was a member of the executive team that turned around and sold the company. Prior to joining Piper, Mr. Gould was VP of Operations at startup aircraft manufacturer Adam Aircraft where he set up production operations for the company's carbon fiber piston and jet airplanes. Earlier he spent 12 years at Boeing in a variety of leadership roles including manufacturing, supply chain, engineering, program management, finance and facilities expansion. Prior to that, Mr. Gould spent three years as an attorney at a major Los Angeles law firm practicing business and real estate law. He holds an MBA from Harvard University, an MS in management from Stanford Graduate School of Business, a JD from University of Southern California and a BA from Washington State University. He is an instrument rated pilot.

**Clairmont Griffith, Director**

Clairmont Griffith, an aerospace devotee and specifically spherical bearings, is an entrepreneur. He has been engaged with TPAC since early 2010, becoming a member of TPAC's advisory board and now director. Mr. Griffith is also Director of Godfrey China Aerospace. He currently has a minor investment

interests in mining, and oil and gas equipment. Mr. Griffith is a medical doctor and assistant professor who is a diplomat of the American Board of Anesthesiology and National Board of a Medical Examiners. He served in various leadership roles including recent Chairman of Anesthesiology at Howard University Hospital and becoming the first Chief of Perioperative Services there. Mr. Griffith has also served as Chief of Obstetric Anesthesia, Vice Chairman of Anesthesiology, Chief of Clinical Affairs, and Chief of Quality Assurance and Patient Safety. While engaged in medical research and academics, Mr. Griffith has also been team leader on numerous hospital committees and a member of numerous National Medical Associations. Clairmont Griffith has received his BS in chemistry and a Medical Degree from Howard University. He attributes his enlightened entrepreneurial vision to his kids Alex, Quincy and Alison.

**"Kickers"**

1. Innovative business model takes full advantage of sales offsets between China and major air- frame manufacturers
    - OEMs are $17 billion upside down: Manufacturers have significant offset obligations to China, which requires them to buy back aviation goods worth 35% of each aircraft's purchase price.
    - Nothing to buy: Aside from "buy once" structural parts, China does not currently make anything OEMs can buy.
    - Made in China: China needs homegrown aerospace parts, by government mandate, partly to provide OEMs with "razor blades" to buy (so China gets its money back) and partly to satisfy the needs of China's own aviation programs (e.g., ARJ-21 regional jet, C919 commercial jet and Dragon 600 amphibious).
2. The Company is sole source to China, with price points a minimum of 24% less than what airlines and MROs are paying now, and low cost to the global market
3. The Company dramatically changes global marketplace by reducing delivery times from approximately 32-52 weeks to as little as 30 days

| Pro Forma Income Statement ($m) | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 |
|---|---|---|---|---|---|
| Revenue ($m) | $4.20 | $25.40 | $67 | $106 | $149 |
| Direct Labor Cost ($m) | $0.30 | $1.50 | $4 | $6 | $9 |
| Material Cost ($m) | $0.40 | $2.30 | $6 | $9 | $13 |
| Production Overhead $m) | $0.80 | $4.60 | $12 | $19 | $27 |
| Gross Profit ($m) | $2.80 | $17.00 | $45 | $71 | $100 |
| Costs of Sales (% of Revenue) | 25% | 25% | 25% | 25% | 25% |
| Costs of Sales ($m) | $1.10 | $6.30 | $17 | $26 | $37 |
| Corporate Overhead (% of Revenue) | 50% | 30% | 20% | 15% | 10% |
| Corporate Overhead ($m) | $2.10 | $7.60 | $13 | $16 | $15 |
| **Profit Before Tax ($m)** | **($0.30)** | **$3.10** | **$15** | **$29** | **$48** |
| **Profit % of Revenue** | **-8%** | **12%** | **22%** | **27%** | **32%** |

# BY THE NUMBERS

## ONE POINT SIX BILLION DOLLARS

Annual sales of SAE-AS spherical bearings for commercial aircraft.

**6** Number of companies in the world today that make aerospace quality spherical bearings

**110 weeks** Time that Airbus would have to wait to get deliver on bearings ordered today

**0** Number of companies in China today that make aerospace quality spherical bearings

**24 percent** Import taxes and duties on bearings brought into China

**1** Post-funding, the Company will be the sole source in China making aerospace quality spherical bearings

**30 days** Time that Airbus would have to wait to get delivery on bearings ordered from Company

**1,676** Size of China's current fleet

**5,260** Number of new planes China needs over the next 20 years (Boeing forecast, 2012)

**$670 BILLION** Cost for 5,260 planes

**thirty five percent** Effective offset sales rate; OEMs must buy $35 million worth of aviation goods for every $100 million China spends

**351,000,000** *Price in US Dollars of a 747-800*

**3,000** Approximate number of spherical bearings on every aircraft

**ONE** Number of reasons why the Company is in this business: to create and maintain value for its stakeholders

**$50,000** Cost of bearings on every new aircraft; roughly $50,000 worth swapped out each regularly scheduled maintenance

**4x** AVIC, our potential joint venture partner, aims to quadruple its sales to 1 trillion yuan ($157.7 billion) by 2020, planning to inject 80 percent of its business into companies it owns in whole or in part.

## ASSUMPTIONS AND COMPUTATIONS

Assumptions highlighted in yellow

| **Total Market** | **Year 1** | **Year 2** | **Year 3** | **Year 4** | **Year 5** | *Assumptions:* | |
|---|---|---|---|---|---|---|---|
| OEM Units (000) | 3,000 | 3,168 | 3,345 | 3,533 | 3,731 | *5.60%* | *Ann Growth* |
| Aftermarket Units (000) | 6,000 | 6,264 | 6,540 | 6,827 | 7,128 | *4.40%* | *Ann Growth* |
| Total Units (000) | 9,000 | 9,432 | 9,885 | 10,360 | 10,858 | | |
| Ave. Unit Price ($) | $167 | $168 | $169 | $170 | $171 | | |
| **Total Rev. ($m)** | **$1,503** | **$1,585** | **$1,671** | **$1,761** | **$1,857** | | |

| **TPAC Revenue** | **Year 1** | **Year 2** | **Year 3** | **Year 4** | **Year 5** |
|---|---|---|---|---|---|
| Total Market Units (000) | 9,000 | 9,432 | 9,885 | 10,360 | 10,858 |
| TPAC Market Share (%) | 0.3% | 1.6% | 4.0% | 6.0% | 8.0% |
| TPAC Units (000) | 25 | 151 | 395 | 622 | 869 |
| Ave. Unit Price ($) | $167 | $168 | $169 | $170 | $171 |
| **TPAC Revenue ($m)** | **$4** | **$25** | **$67** | **$106** | **$149** |

| **Averages per Unit:** | **$** | **%** | | | | | |
|---|---|---|---|---|---|---|---|
| Revenue | $167 | 100% | | | | | |
| Direct Labor Cost | $10 | 6% | | | | | |
| Material Cost | $15 | 9% | | | | | |
| Production Overhead | $30 | 18% | | | | *300%* | *OH % of labor* |
| **Gross Profit $** | **$112** | **67%** | | | | | |

| **Pro Forma Income Statement ($m)** | **Year 1** | **Year 2** | **Year 3** | **Year 4** | **Year 5** |
|---|---|---|---|---|---|
| Revenue ($m) | $4.2 | $25.4 | $67 | $106 | $149 |
| Direct Labor Cost ($m) | $0.3 | $1.5 | $4 | $6 | $9 |
| Material Cost ($m) | $0.4 | $2.3 | $6 | $9 | $13 |
| Production Overhead $m) | $0.8 | $4.6 | $12 | $19 | $27 |
| Gross Profit ($m) | $2.8 | $17.0 | $45 | $71 | $100 |
| Costs of Sales (% of Revenue) | 25% | 25% | 25% | 25% | 25% |
| Costs of Sales ($m) | $1.1 | $6.3 | $17 | $26 | $37 |
| Corporate Overhead (% of Revenue) | 30% | 30% | 20% | 15% | 10% |
| Corporate Overhead ($m) | $1.3 | $7.6 | $13 | $16 | $15 |
| **Profit Before Tax ($m)** | **$0.5** | **$3.1** | **$15** | **$29** | **$48** |
| **Profit % of Revenue** | **12%** | **12%** | **22%** | **27%** | **32%** |

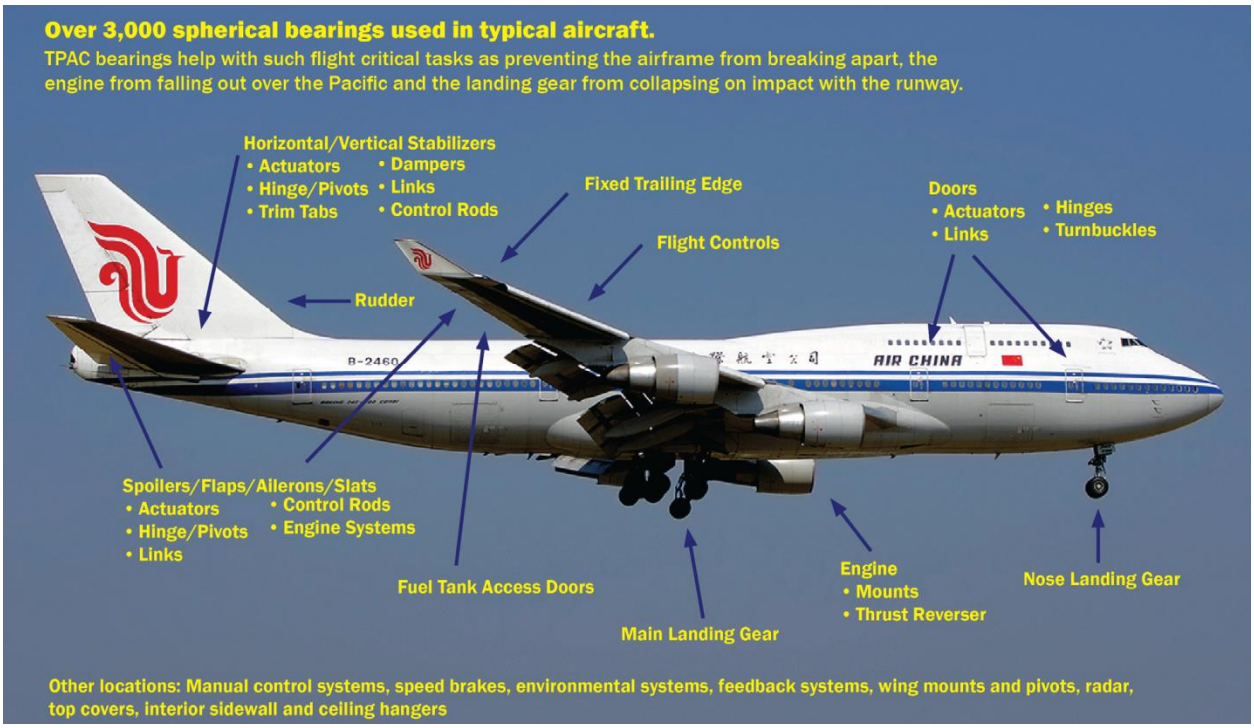
| **Capital Needs ($m)** | **Year 1** | **Year 2** | **Year 2** | **Year 4** | **Year 5** | | |
|---|---|---|---|---|---|---|---|
| Equipment and Tooling | $0.0 | $1.4 | $1.3 | $1.4 | $1.6 | *$33* | *k for each $1m of next year's revenue increase* |
| Inventory Buildup | $0.7 | $3.5 | $6.8 | $6.4 | $7.1 | *6* | *months of COGS increase* |
| Add'l OH expense needed at start of first year | $0.0 | | | | | | *1 year's expense at startup* |
| **Total Capital Requirements** | **$0.7** | **$4.9** | **$8.1** | **$7.8** | **$8.6** | | |

**Appendix I – Bearings 101**

For clarity, the parts we're talking about are aerospace versions of the mundane and ubiquitous bearing, a small yet indispensable component whose purpose is to reduce friction and "bear" loads. While you'd think these parts would be readily available, very simply, they aren't. Each bearing is a military spec, precision-tooled part that can take up to 1,200 man-hours to make.

The Company will manufacture products called plain spherical bearings. In general, a spherical bearing permits angular rotation about a central point in two orthogonal directions within a specified angular limit based on the bearing geometry. Typically these bearings support a rotating shaft in the bore of the inner ring that must move not only rotationally, as most shafts, but also at angle. Spherical bearings permit freedom of rotation on the two axes that are NOT parallel with the shaft axis (although some bearings do permit this also).

Comprised of one ball and one race, the ball is essentially a sphere with a hole bored through the center and the race is a ring that surrounds the ball. The ends of the sphere extend out past the surface of the race. These bearings are NOT used in rotational applications, but are used in misalignment applications or in hinging applications. These bearings act much as an elbow, wrist or knee joint acts; slight rotation and severe misalignment. In aircraft they are used on doors, hatches, landing gears, some flight control surfaces, slats, leading edges and trailing edges and on horizontal and vertical stabilizers. They are also used in engines as engine hangers and to open and close stater vanes, but are not used as engine bearings for rotation of the engines. These bearings have a very high degree of misalignment and only a slight degree of rotation.




Although it is difficult to picture a typical application for a spherical bearing, a good example is on a windsurfer. In these devices, the mast can both rotate and swivel 180 degrees. The mast primarily swivels or misaligns, with only some rotation. This misalignment is done through a spherical bearing. Similarly, two different struts of a landing gear are mated together with a plain spherical bearing. This bearing allows the mating surfaces to move in different directions and still be attached to each other. The bearing allows for the folding of the gear.

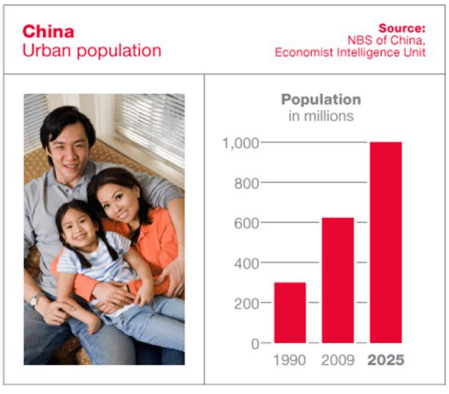
For reference, an exotic blend of aerospace quality raw materials (15-5 ph, 17-4 ph, 13-8 ph and 440C stainless steel; 4130, 4340 and 52100 carbon steel) are used exclusively in the manufacture of all products. The Company is confident that its proprietary production processes, together with state of the art production equipment, will be so precise that scrap rates will be less than 1%, no small feat as specialized processes include heat treating, plating, dry-filming, non-destructive testing, stress relieving, annealing and more.

**Appendix II – Why China?**

The Company's sales offset, exclusivity, pricing and delivery advantages aside, China represents the world's largest market opportunity outside of the United States.

**Unprecedented Urbanization**

Three decades into economic reform, China has marched into an era of unprecedented urbanization. The urban population has doubled from 302 million in 1990 to 622 million in 2009 and is projected to approach one billion by 2025. There were 40 large cities that had more than one million residents in 2000. That

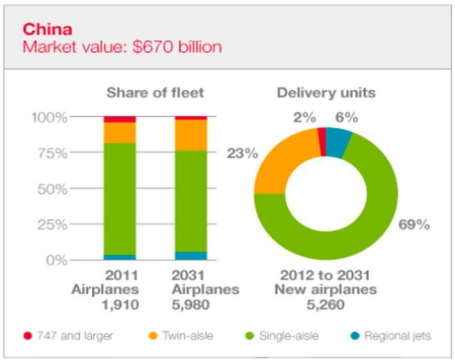


number tripled to 122 in 2008. The Economist Intelligence Unit (EIU) forecasts that there will be more than 200 large cities by 2025.

Rapid urbanization calls for an integrated modern transportation system, and China's government has responded with intense investment in infrastructure. Six new airports inaugurated commercial services in 2009, followed by another eight in 2010. The expansive (13,000-km) high-speed rail network is expected to commence full operation by 2012 and will greatly facilitate connecting large cities that are close to one another.

**Increasing Wealth and Income**

As reform progresses, Chinese people have accumulated substantial wealth. Sales of residential homes have expanded five-fold since 2000, and the number of private cars has grown by eight times. Measured in 2005 US dollars, China's GDP per capita has increased from $1,120 in 2000 to $2,600 in 2009 and is expected to approach the world average of about $10,000 by 2029.




**Great Potential for Air Travel**

Benefiting from urbanization and rising income, tourism is thriving. Domestic tourism has tripled in the last decade, whereas the number of international outbound Chinese visitors has grown five-fold. As the global economy recovers, international air travel has rebounded strongly. Year-to-date (September 2010) international RPKs by mainland carriers have grown 36% over the past year, while domestic traffic grew 19%. The Civil Aviation Administration of China envisions one annual trip per capita, on average, by 2030--five times today's figure.

**The World's Most Dynamic Market**

As the world's fastest growing economy, China's GDP is fore- cast to grow at an average 6.5% per year over the next 20 years. Although high-speed rail is competitive in many short- haul (less than 800-km) markets, efficient integration of rail and air modes of transport can stimulate demand for longer haul air travel. China is forecast to take delivery of 5,260 new airplanes–including those from its own developing airplane programs–valued at $670 billion over the next 20 years. China will remain the largest market for airplanes outside the United States.

**China**
Key indicators and new airplane markets

| Growth measures | |
|---|---|
| Economy (GDP) | 6.5% |
| Traffic (RPK) | 7.0% |
| Cargo (RTK) | 6.2% |
| Airplane fleet | 5.9% |

| Market size | |
|---|---|
| Deliveries | 5,260 |
| Market value | $670B |
| Average value | $130M |

| | New airplanes | Share by size |
|---|---|---|
| Large | 110 | 2% |
| Twin aisle | 1,190 | 23% |
| Single aisle | 3,650 | 69% |
| Regional jets | 310 | 6% |
| Total | 5,260 | |

| | 2011 Fleet | 2031 Fleet |
|---|---|---|
| Large | 80 | 140 |
| Twin aisle | 280 | 1,310 |
| Single aisle | 1,490 | 4,220 |
| Regional jets | 60 | 310 |
| Total | 1,910 | 5,980 |

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