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Apr 28th, 8:00 AM

Panel Session V - X-Prize & Zero-G Briefing to the 4F1 Space Congress

Peter Diamandis
Chairman, X-Prize Foundation

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X PRIZE & ZERO-G Briefing to the 41st Space Congress



Dr. Peter H. Diamandis
Chairman/CEO
peter@xprize.org
Tel: 310-399-1976
Tel: 314-533-2002
www.xprize.org

APRIL 2004



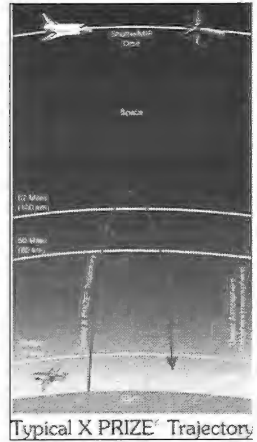
WHAT IS THE X PRIZE?

An international competition that will award a \$10 Million cash prize to the first team to:

- Privately finance, build & launch a ship
- Carry 3 people to 62 miles (100 km)
- Two flights within 2 weeks (same ship)

The X PRIZE is:

- The largest cash prize ever;
- The NASCAR of space;
- Speed, innovation, performance; and,
- A high profile, global event.
- The Ultimate drama...



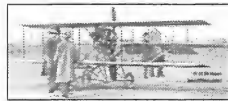
Typical X PRIZE Trajectory



Aviation History

1903 - 1908

- Wright Brothers Flew in 1903
- By 1908 Only ten pilots had flown



1909 - 1912

- Diverse concepts tried, 'nonsense' became 'breakthroughs'
- Entrepreneurs drove development
- Belief, in 1909: "I can do that."
- Thousands of pilots were trained
- Hundreds of aircraft types in 31 countries
- Not risk adverse
 - 35 of first 1000 pilots died in accidents (3.5%)
- 50 MS industry in Europe (nearly a billion yr2003\$)
- More than 40 cash prizes, some for "impossible feats"
- Major Air shows
- Applications, and safety came later

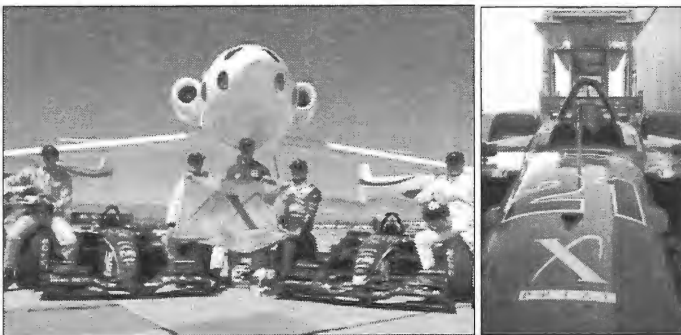


1927 Orteig Prize: New York - Paris

- 1919 Orteig puts up a \$25,000 challenge.
- 9 Teams register to compete
- They spend \$400,000 to win the prize
- Underdog, 25 year old Lindbergh wins!
- 30x increase in passenger traffic
- 4x aircraft... 3x pilots...
- Aviation Stocks skyrocket!



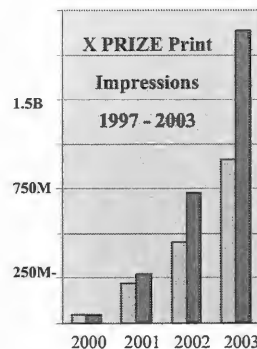
Presented by Champ Car



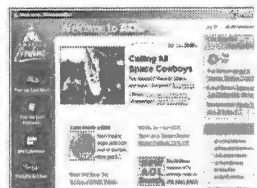
X PRIZE MEDIA REPORT

Total Print Impressions:

May'96 - Jan'04 >2.0 Billion

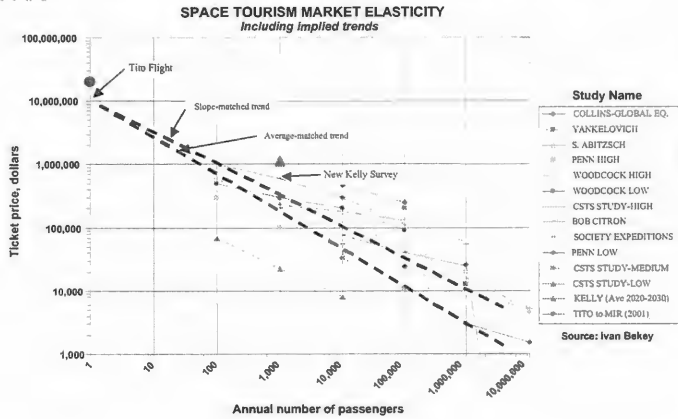


Newspaper articles...	4,000
Radio shows...	300
Magazine articles...	250
TV appearances...	150
Documentaries...	25

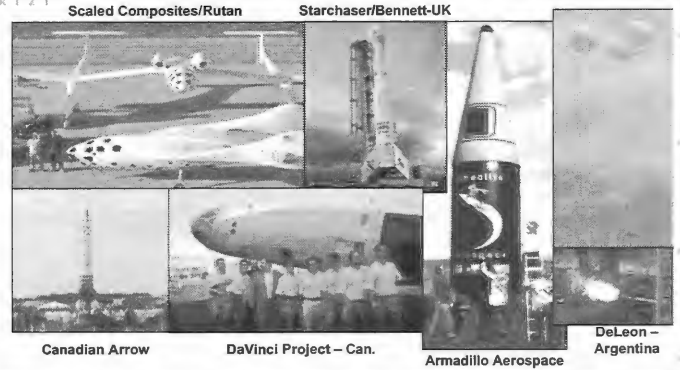




Numerous studies have sought to forecast or measure market demand for space tourism ...



>20 TEAMS FROM 7 COUNTRIES



>20 teams, from 7 countries, have thus far registered to compete. More teams are expected. Each team is spending \$2M - \$20M to win the coveted X PRIZE.

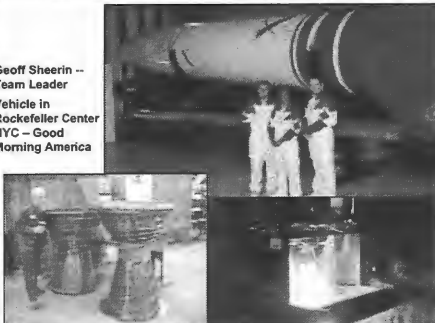


Canadian Arrow
Canada



LAUNCH METHOD: Vertical takeoff from coastal launch site
PROPULSION: First Stage: Alcohol and liquid rocket engine
Second Stage: Solid Rocket Propulsion
LANDING METHOD: Parachute Landing

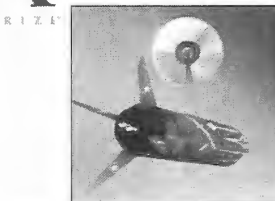
Geoff Sheerin --
Team Leader
Vehicles in
Rockefeller Center
NYC -- Good
Morning America



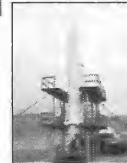
The daVinci Project
Canada



LAUNCH METHOD: Rocket is tethered to a balloon and launched from 80,000 ft altitude
PROPULSION: Liquid oxygen/kerosene rocket system
RECOVERY: High drag re-entry ballute and parachute combined with inflatable airbag



Prototype Completed in Feb 2001.
Team Leader: Brian Feeney



Full-scale mockup and successful rocket motor tests completed in 2002.

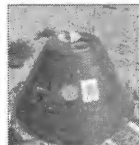


Pablo DeLeon & Associates
Argentina



LAUNCH METHOD: Vertical launch
PROPULSION: Hybrid (Liquid/solid) rockets
LANDING METHOD: Parachute landing system

Half-scale Vehicle Test scheduled for December 2002



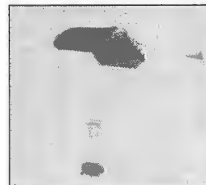
Clean room Ops Testing Space Suit Scale Capsule drop test from 96,000 feet



Starchaser Industries. Ltd.
United Kingdom



LAUNCH METHOD: Rocket Powered Vertical Takeoff
PROPULSION: Hybrid Rocket Motors
LANDING METHOD: Parachute



Bennett's 40 foot tall Nova launched from England in Nov 2001



Team Leader: Steve Bennett
Britain's #1 Rocket Developer



Hot fire rocket engine tests in Oct 2002.



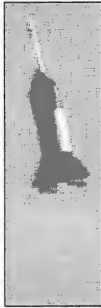
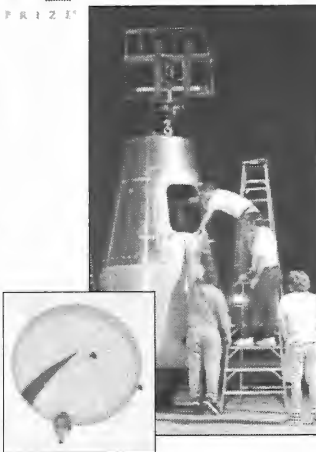
Parafoil pilot training in advance of Nova capsule drop tests in early 2003.



Armadillo Aerospace
Dallas, Texas, USA



LAUNCH METHOD: Vertical Takeoff
PROPULSION: Hydrogen Peroxide Engines
LANDING METHOD: Parachute/Crushable Nose



Leader John Carmack - Software Guru, creator of Quake and Doom leads technical design and funding of Armadillo.

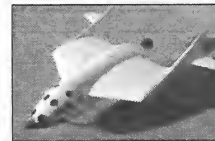


Scaled Composites, Inc.
California, USA



Team Leader Burt Rutan
Designer of Voyager non-stop round-the-world aircraft

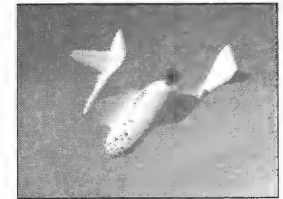
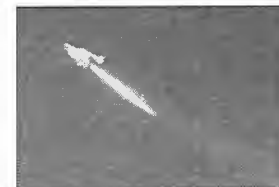
LAUNCH METHOD: Runway & air launch
PROPULSION: Hybrid - N2O2 Engine
LANDING METHOD: Horizontal Runway



Additional SS1 Images



Additional SS1 Images



What is the X PRIZE CUP?



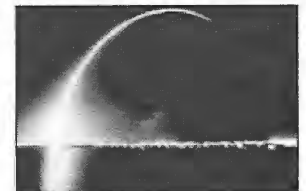
X PRIZE Follow-On: High visibility, high revenue, & high value. Benefiting teams and spaceports, involving the public



What is the X PRIZE CUP?

- After the X PRIZE is won...
- Each year, X PRIZE Teams from around the World are invited to a single location to race and set new records.
- During a 14 day period, teams launch as often as they can...
- Teams are scored in 5 categories:

- Category 1: Turn Around Time
- Category 2: Max PAX
- Category 3: Total PAX
- Category 4: Max Altitude
- Category 5: Fastest Flight Time



- Combined Category Score = **X PRIZE CUP Champion**

X PRIZE CUP VENUE - RFP

- X PRIZE has issued an RFP to U.S. spaceports.
- Four spaceports have provided proposals:
 - California
 - Florida → FLORIDA
 - New Mexico → NEW MEXICO
 - Oklahoma
- One Location will be selected by May'04
- First CUP planned for Summer 2005 (exhibition) & 2006 (competition)



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CUSTOMER BRIEFING
2004

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Weightlessness
The ultimate freedom
Now available to everyone

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2708 3rd Street * Suite No. 5 * Santa Monica, CA 90405
Ph: (310) 359-1976 * Fax: (775) 942-3544 * www.zerogcorp.com



Company Overview

An overnight success after 11 years of hard work...

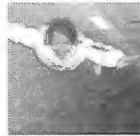
ZERO-G has already obtained Patents (#5,971,319), Trademarks and FAA Supplemental Type Certificates (#ST01051LA) to protect its leadership position.

ZERO-G's goal: Make the excitement and unique environment of space accessible to the general public and the commercial marketplace in a safe and cost-effective fashion.



Executive Management

ZERO-G management includes a world-class team of professionals from NASA, the FAA, and executives from the aerospace, tourism and educational arenas.



Peter H. Diamandis
Chairman/CEO & Founder

B.S., M.S., M.I.T., Aerospace Engineering.
M.D., Harvard Medical School
Founder, Managing Director, Int'l Space University
Chairman & President, X PRIZE Foundation
Co-Founder, Space Adventures.



Byron K. Lichtenberg
President & Founder

B.S., Aerospace Engineering, Brown University
M.S. ScD/Bio/ Mechanical Engineering, M.I.T.
Space Shuttle Astronaut: STS-9; STS-45
3000 hrs in military jets; 8,000+ hrs in 737 type rating
Pilot for major U.S. Airlines
Founder, President, Payload Systems, Inc.



Key Management, Directors & Advisors



McDowell

➤ **Rick Searfoss** – (VP) – NASA Shuttle Commander and Pilot. Airforce test pilot. Motivational speaker.



Rick Searfoss

➤ **Alan Ladwig** – (COO) – Previous NASA Associate Administrator of Policy & Plans.

➤ **Noah McMahon** – Chief Marketing Officer

➤ **Robert Ward** – Director, Aircraft Operations

➤ **Mike McDowell** – (Director) – Co-Founder, Space Adventures; Quark Expeditions. Leading adventure travel entrepreneur.

➤ **Gloria Bohan** - President, Omega World Travel a \$500M/year leisure travel company.

➤ **Ted Ellett** - Hogan & Hartson, FAA General Council under President Reagan & Bush.

➤ **Astronaut Advisors** – ZERO-G has numerous Astronaut Advisors who will fly with the Customers.

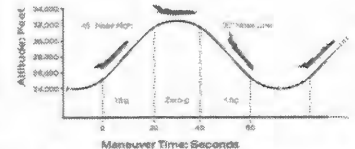


Ladwig



Parabolic (Zero-G) Flight

- Only method to create weightlessness on Earth.
- 25-30 seconds of zero gravity during each parabola.
- NASA has flown over 140,000 parabolas over the past 30 years without incident.
- NASA uses a 45 year old Air Force KC-135 aircraft.
- Before ZERO-G, parabolic experiences were not available to the General Public in the U.S.





ZERO-G's Boeing 727



Successful FAA Test Flight



- ZERO-G uses a specially modified B-727
- Aircraft mods have been approved by FAA
- Same body size as NASA's Parabolic aircraft.
- B-727 offers a better quality parabola than NASA's aircraft.
- Large fleet of 727 and easy access to maintenance facilities offers high assurance of aircraft availability.
- Operated under Part-121 of the Federal Aviation Regulations, the highest standard for aircraft safety.

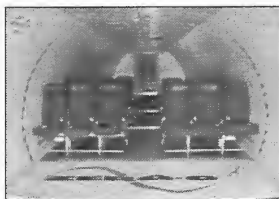
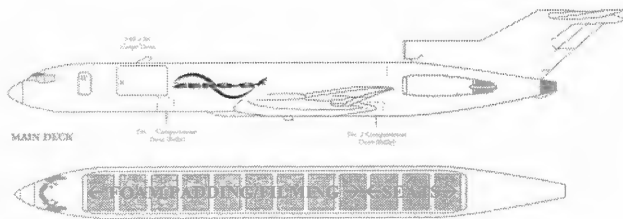


Mechanical STC #ST01051LA

- ZERO-G was required by the FAA to demonstrate the normal operations of every subsystem, or to modify systems for normal ops in parabolic flight.
- ZERO-G conducted extensive engineering and verification work, including the creation of a 60,000 node FEM (Finite Element Model) in conjunction with strain-gauge measurements during flights.
- The following systems were tested in flight and data obtained to demonstrate normal operations:
 - Fuel System and fuel procedures
 - JT8D Engines
 - Constant Speed Drives
 - Air Cycle Machines
 - Structures Analysis
 - Flight Operations Procedures
- The following modifications were made as part of the "Mechanical STC" to allow for safe operations during flight:
 - Avionics/Gauges
 - Hydraulic System
 - Continued Airworthiness Program
 - Approved interior



Interior Configuration



- Pallets and large cargo door allow rapid configuration between 'Cargo' and 'Zero-G' operations.
- Clients can pre-configure their experiments, film sets, etc. on pallets for easy loading onboard.
- 12 Pallets - 3 Pallets holding 30 seats;
9 Pallets for foam padding.



AMERIJET INT'L AIRLINES

ZERO-G has selected Amerijet Int'l Airlines, a Florida-based, Part-121 Boeing 727-200 operators. Amerijet provides:

- **AIRCRAFT:** Access to one or more specially modified Boeing 727-200 cargo aircraft.
- **MAINTENANCE:** In strict adherence of the FAA's Continued Airworthiness Program.
- **CREWS:** Experienced & specially trained Flight & Ground Crews
- **INSURANCE:** Hull, 3rd Party and Liability protection plus \$1M/client.
- **PRICING:** Fixed Charter/ACMI price/Hr



Operations Plan

ZERO-G and its aircraft are based in Miami, Florida. Regular operations will take place from there, but ZERO-G is able to relocate the aircraft anywhere a client wishes to fly with the addition of a ferry charge.

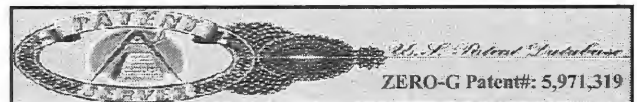
Future plans include using Las Vegas, Nevada as an additional base in order to capture more of the individual adventure market.



Barriers & Competition

Multiple Effective Barriers to Entry

- (1) Patent (#5,971,319)
 - Business Model (the use of a cargo aircraft)
 - Engineering modifications
- (2) Trademarks
 - ZERO-G®
 - Question Gravity™®.
- (3) FAA Approvals -- Supplemental Type Certificate (#ST01051LA).



Competition -- No U.S. competition

- NASA KC-135 -- not allowed to compete with ZERO-G (by law).
- CNES Airbus 300 -- costs >\$150,000 per flight (can not fly public).
- Russian IL-76 -- military aircraft located in Russia/not FAA certified.



Pricing Strategy

Corporate and Individual Pricing:

- Retail Ticket Price \$2,950
- Full Flight Price (27 flyers) \$79,500

Entertainment Flight Price \$65,000

Research/ Education Flight Price \$59,500

Government Flight Price TBD

NOTES: Current price for ZERO-G Flights in Russia is \$7,000 (excluding travel and hotel).



Markets

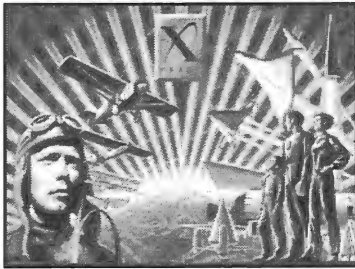
ZERO-G has identified five robust markets for its services:

1. Entertainment / Film Production
2. Individual Adventure Travel
3. Corporate / Incentive
4. Research/ Education
5. Government



THANK YOU!
www.xprize.org

“The best way to predict the future is to create it yourself.”



Dr. Peter H. Diamandis
Chairman/CEO
peter@xprize.org
Tel: 626-379-9000
www.xprize.org