A Fresh Look at Space Tourism Demand

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Royal Aeronautical Society

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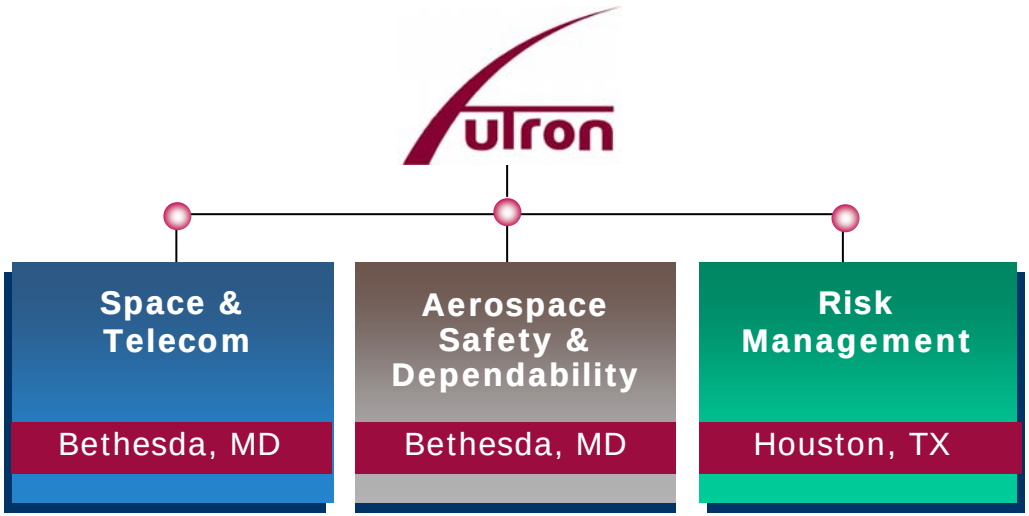
Futron Overview

- Futron is a technology management consulting firm specializing in the aerospace sector.
- NASA, DoD and industry leaders use Futron's knowledge and expertise to help them make critical decisions.
- In business since 1986, Futron has a staff of approximately 100 professionals.

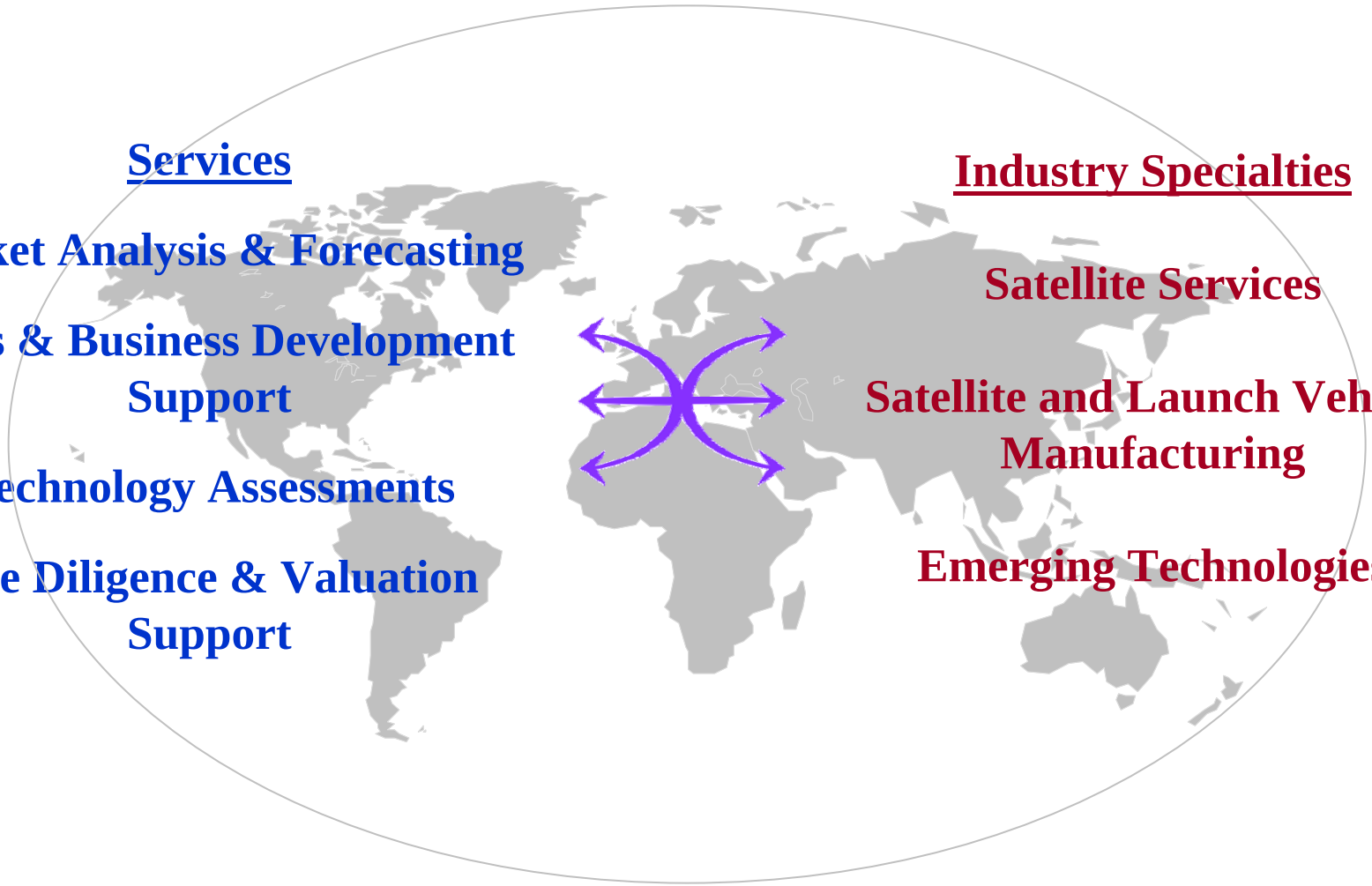


Futron's headquarters are in Bethesda, Maryland (top) with a branch office in Houston, TX.

What We Do

Services

- Market Analysis & Forecasting
- Sales & Business Development Support
- Technology Assessments
- Due Diligence & Valuation Support



Industry Specialties

- Satellite Services
- Satellite and Launch Vehicle Manufacturing
- Emerging Technologies

Why Futron Performed the Study

- Could not solidify results of past surveys enough to generate a quantitative forecast for twenty years
- Past surveys did not include price points that matched market expectations in 2001
  - $20 million for an orbital flight
  - $100-$200k for a suborbital flight
- Respondents were spending money they didn't have
- Futron endeavored to undertake its own study of the market with an objective and current view of flight and price realities

The Futron/Zogby Survey

- Futron contracted Zogby International to perform a major survey to determine the demand for public space travel
- 450 “qualified” individuals were surveyed in January 2002. The margin of error was +/- 4.7%
  - The respondent pool was restricted to individuals with an annual income of at least US$250,000 or a net worth of US$1 million+
- The Futron/Zogby survey’s price and flight assumptions:
  - Futron used a range of realistic price points
    - US$25,000 to US$250,000 for suborbital
  - The description of space travel was vetted by a former Shuttle Commander
  - Used two flight descriptions to test interest when presented with only positive points versus flight realities

The Futron/Zogby Survey

- Surveys included 74 questions and lasted approximately 30 minutes
  - 15 questions on vacation/travel preferences, discretionary income spending, and perceptions of risk
  - 22 questions on suborbital travel
  - 30 questions on orbital travel
  - 7 questions on demographics
- The suborbital and orbital questions were alternated among the respondent pool

Suborbital Flight Descriptions

- First Description:

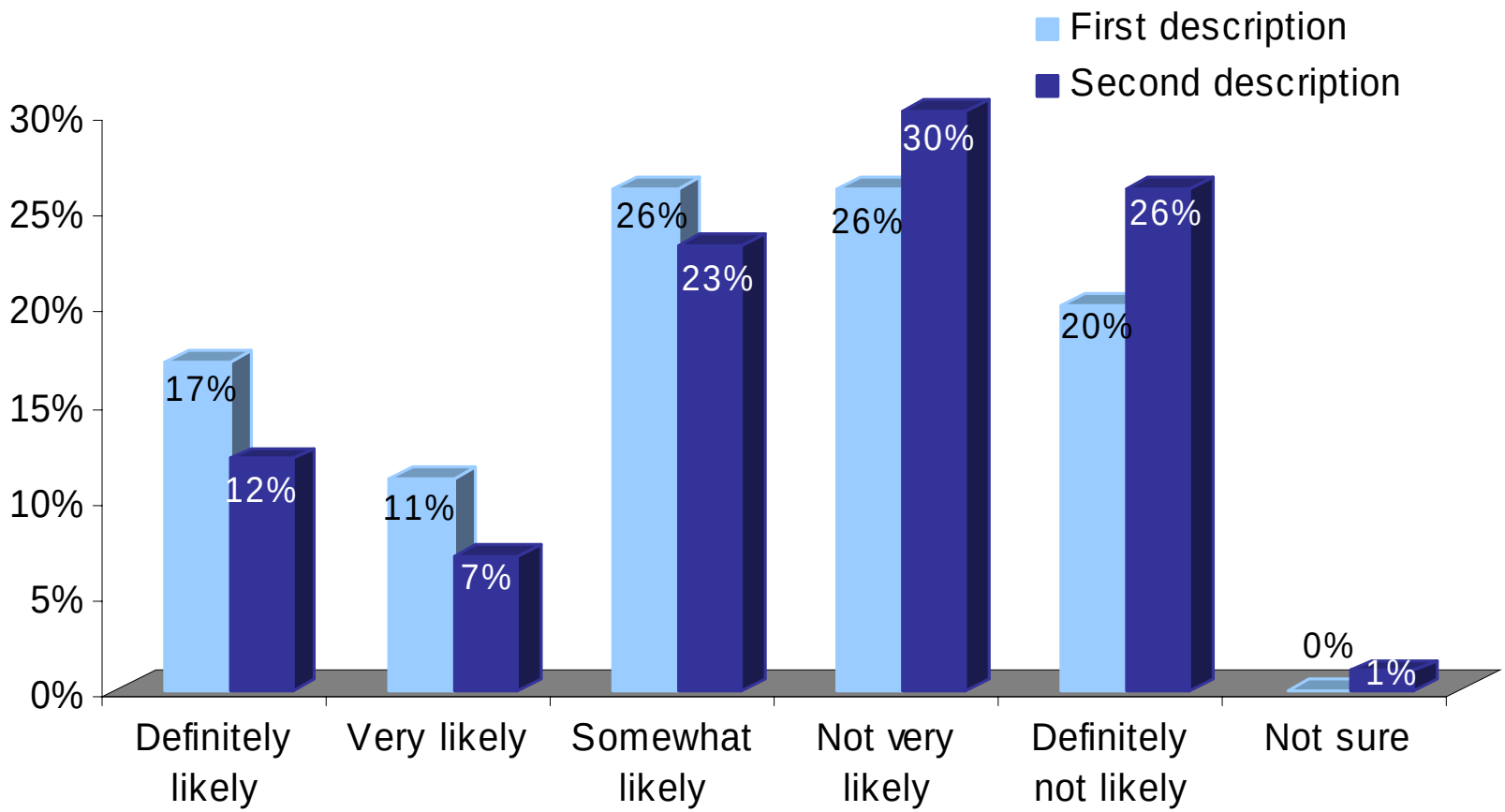
  In a sub-orbital space flight, you would experience what only astronauts and cosmonauts have experienced. During the 15-minute flight on a vehicle that meets government safety regulations, you will go 50 miles into space, and experience the acceleration of a rocket launch. You will also experience a few minutes of weightlessness and have the unique experience of viewing the Earth from space.

Suborbital Flight Descriptions

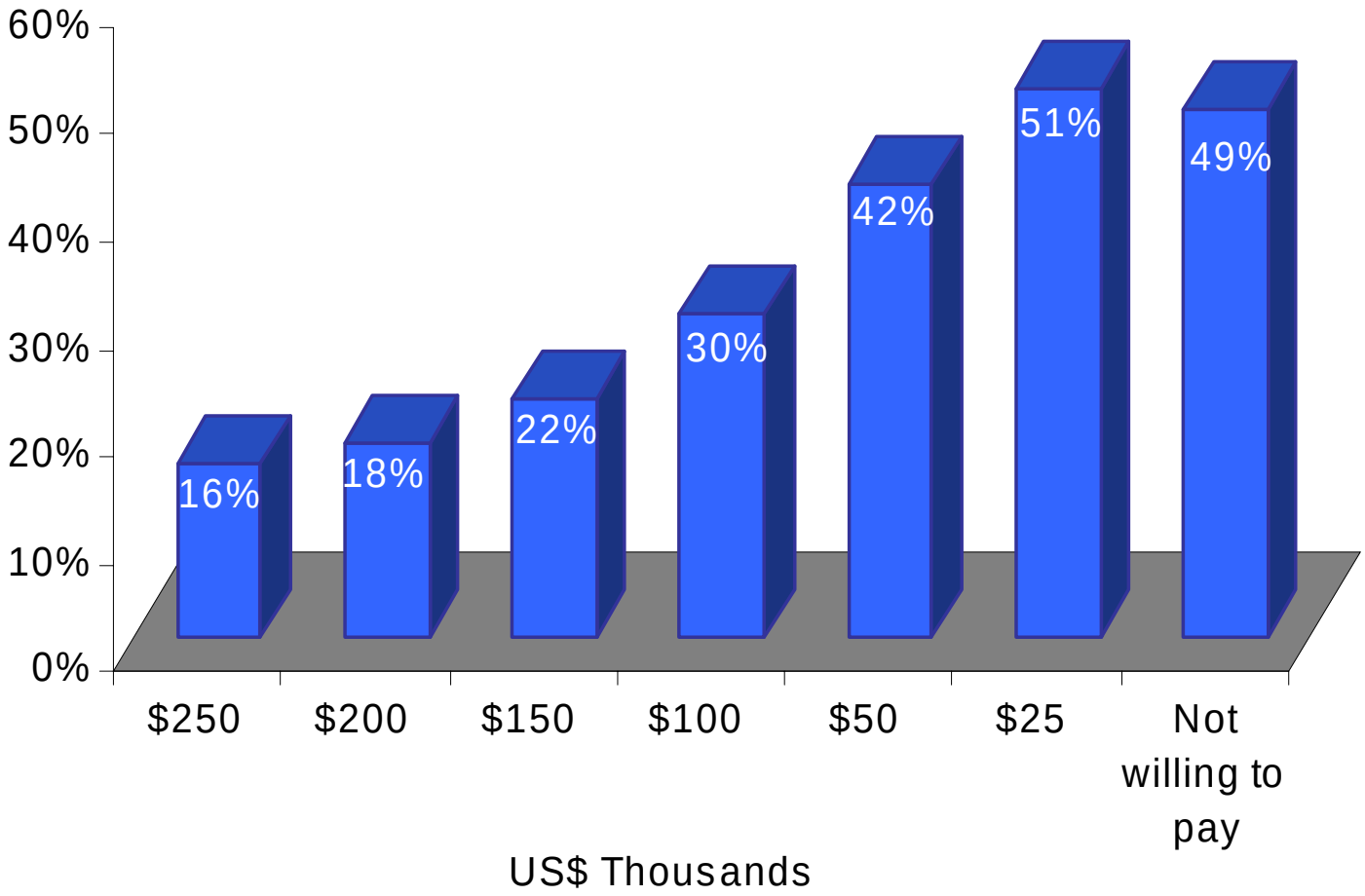
- Second Description:

  Space flight is an inherently risky activity. The vehicle providing these flights will be privately developed with a limited flight history. In order to take the trip, you would have to undergo training for one week prior to the launch. Although you would experience weightlessness, you would be strapped into your seat throughout the trip.

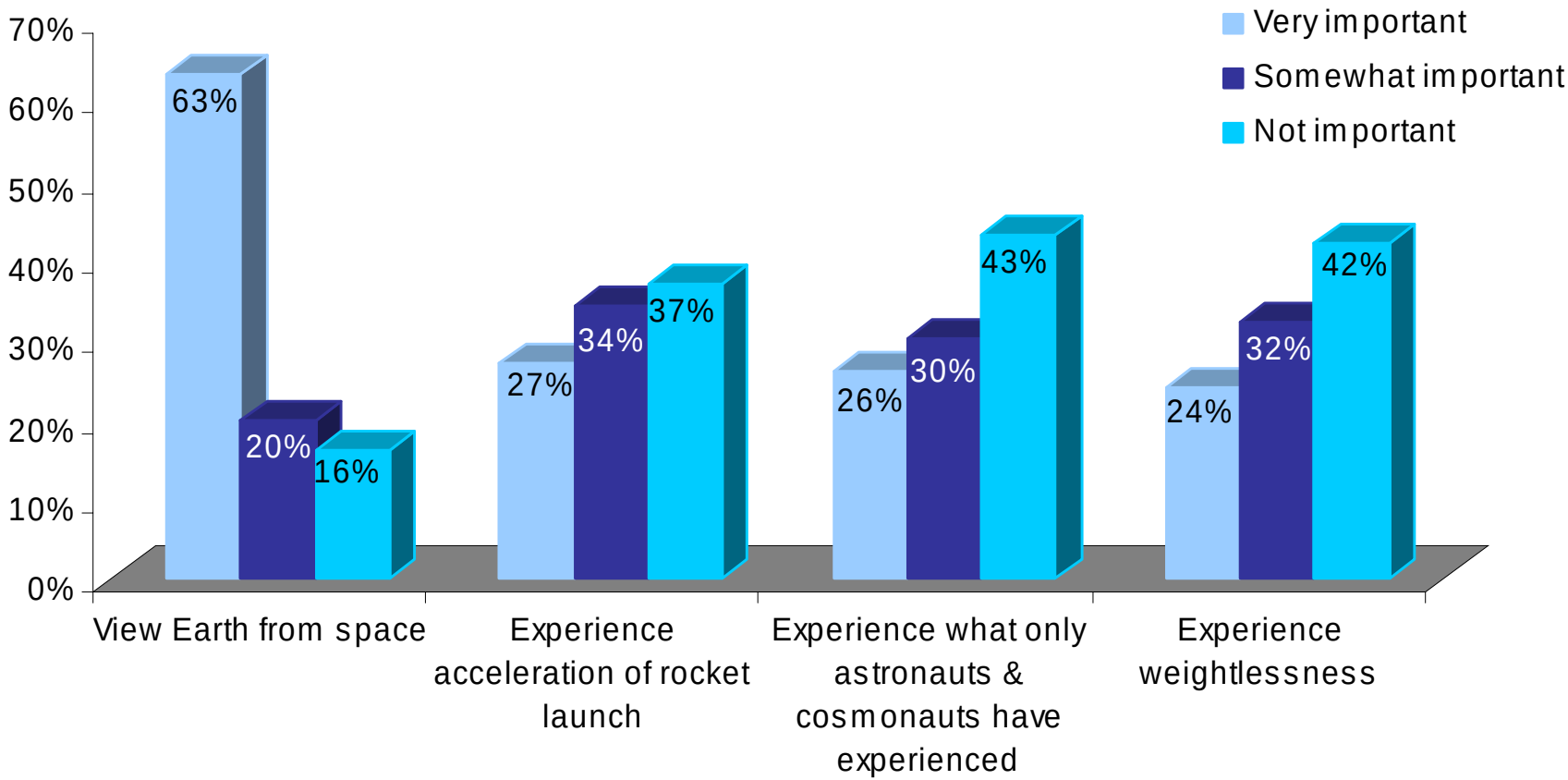
Survey Results: Interest in Suborbital Travel



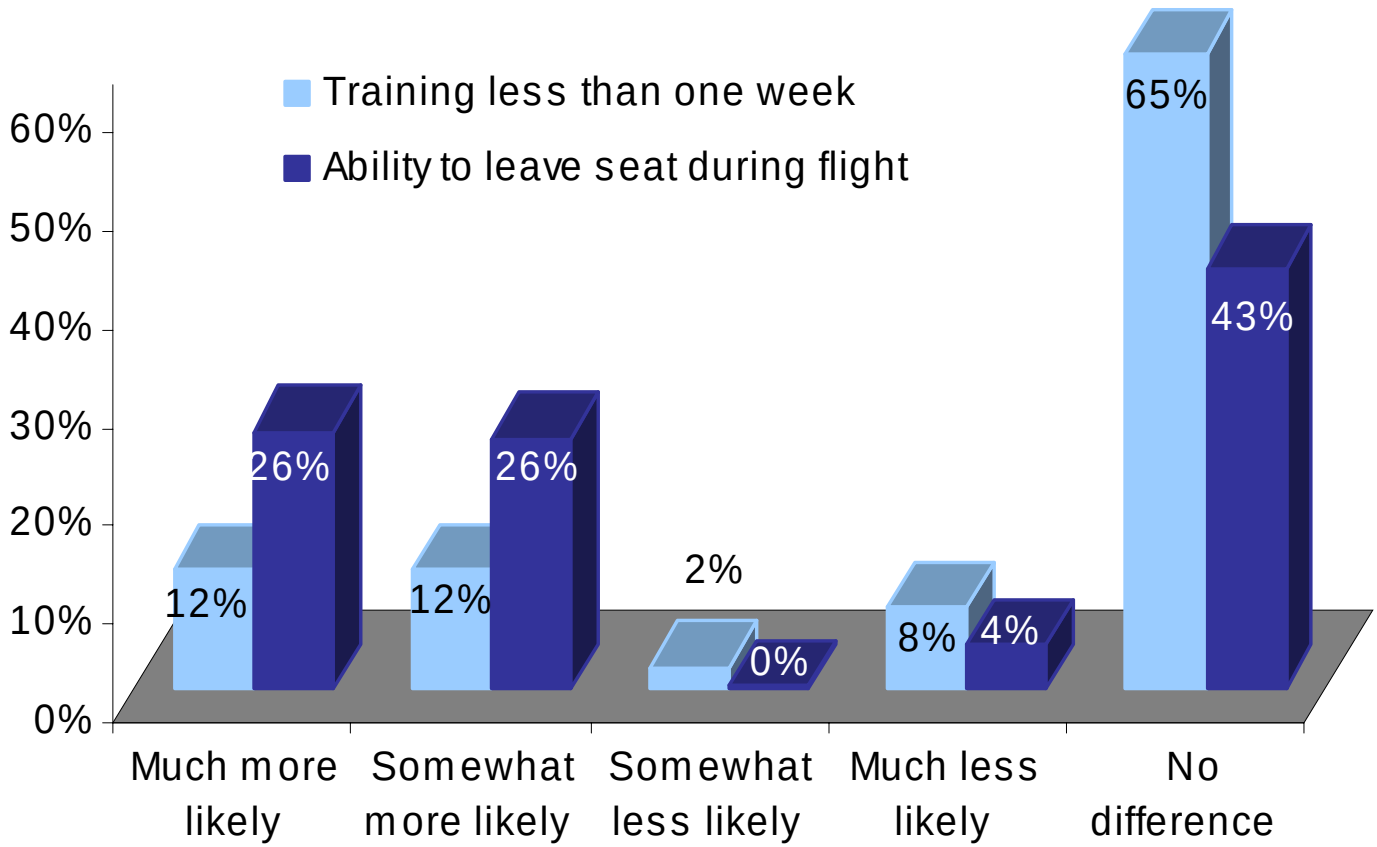
Survey Results: Willingness to Pay by Price Point



Survey Results: Most Interesting Aspects of Flight



Survey Results: Further Impact on Flight Demand



Survey Results: Demographics of the Suborbital Demand Pool

- Average age: 55
- Gender: 72% Male, 28% Female
- Fitness: 46% have above average fitness or better
- Vacations: 48% spend a month or more on vacation annually
- Employment status: 41% work full time, 23% are retired

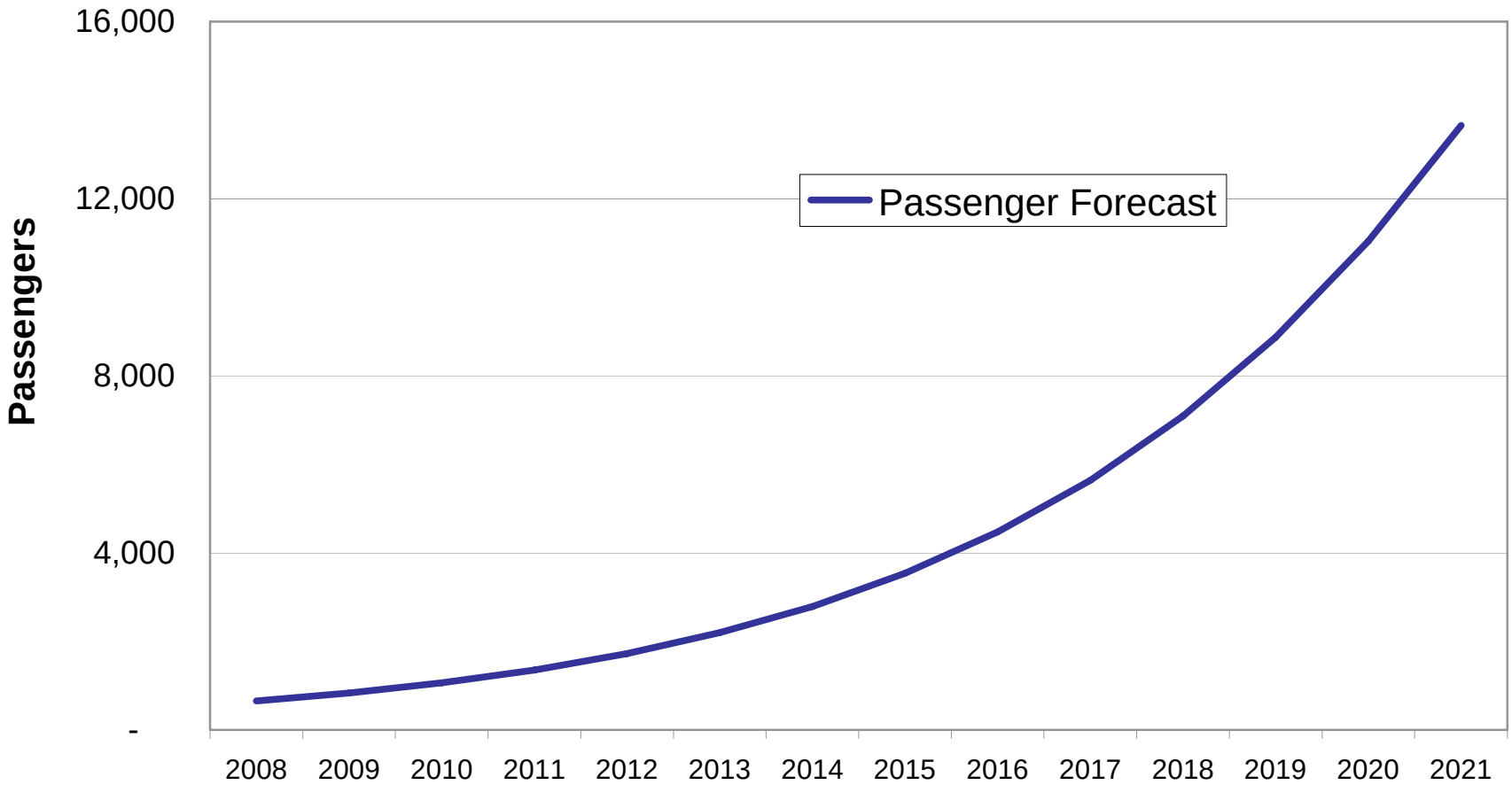
Update to the Forecast

- For the first time since its original release, Futron has updated its forecast of demand for suborbital space travel
- Updated high net wealth population data
- Updated assumptions:
  - Start of commercial service in 2008
  - Starting price of US$200,000
  - Price declines gradually after the first three years, reaching US$50,000 in 2021
- Other study assumptions on interest, health, and affordability remain the same

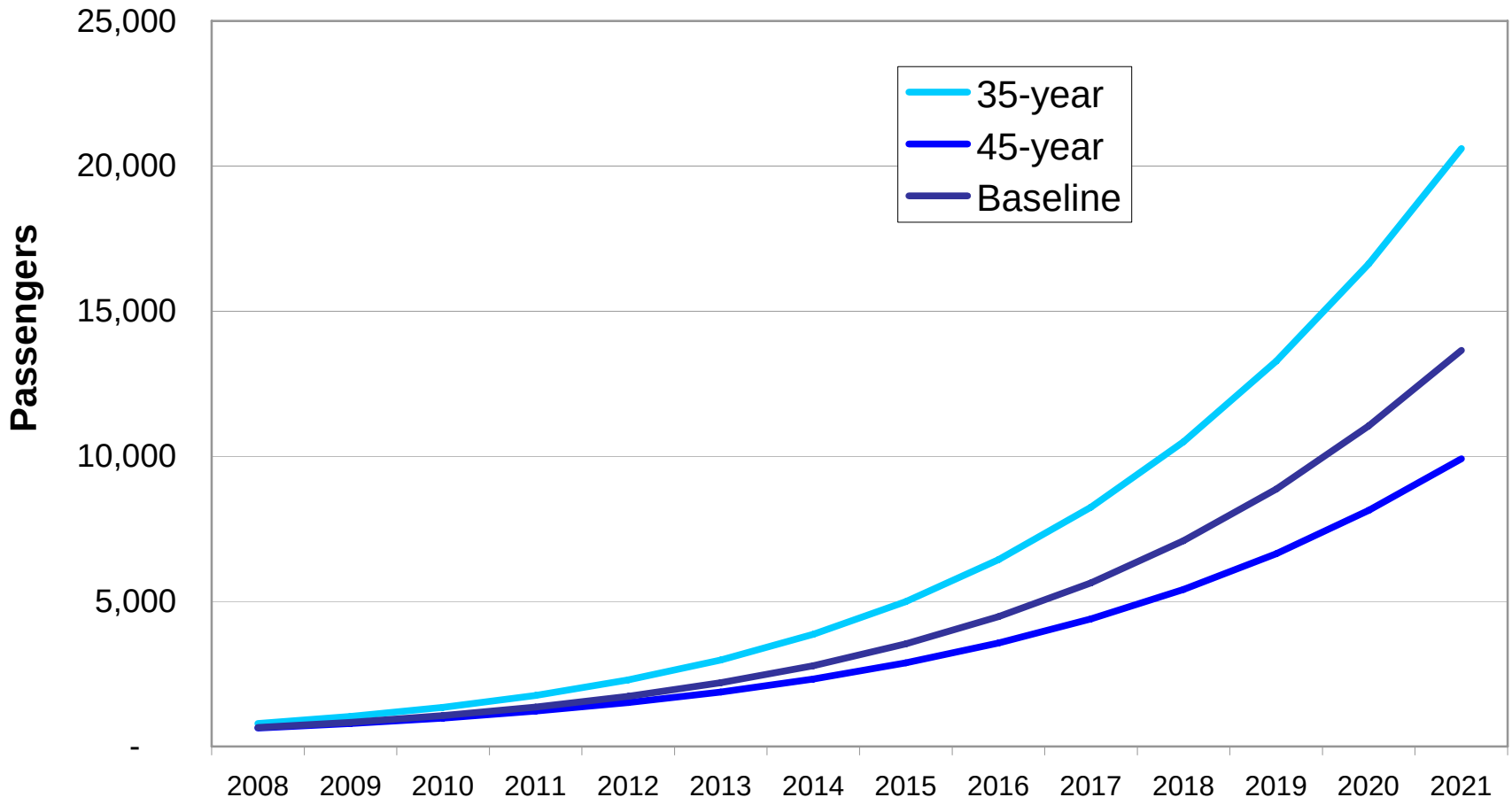
Forecast Methodology

- Establish base population – forecast global households able to afford the forecasted ticket price
- Interest – apply percentage of households interested in space travel (interested and willing to pay)
- Pioneering discount – reduce interest in out-years to remove customer likely to lose interest after the service becomes popular
- Physical fitness – adjust for households likely to be physically fit enough to withstand the flight
- Market diffusion – apply a Fisher-Pry “S-curve” to model service adoption rates

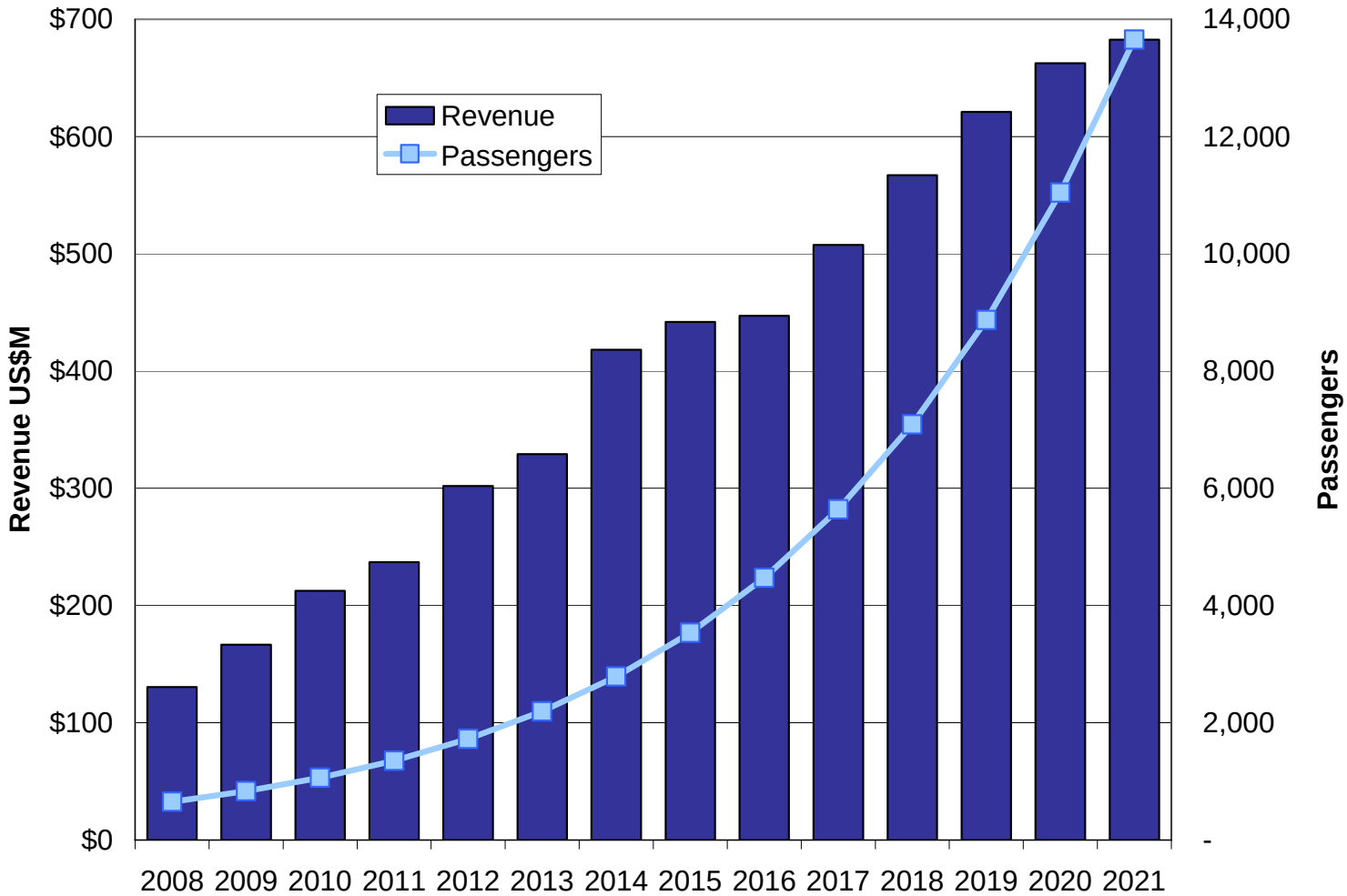
2006 Passenger Forecast



2006 Passenger Forecast Ranges



2006 Passenger and Revenue Forecast



Celebrating 20 Years

Space Tourism Market Study

The original report can be downloaded at
http://www.futron.com/spacetourism

New White Paper and updated analysis to be published in Summer 2006

Results You Can Trust

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