

Starship One—first private spaceship to carry people into space

# X PRIZE

Sponsoring Breakthroughs for Humanity—One Prize at a Time

In 1919, a rich hotel owner offered a prize of \$25,000 to the first person to fly non-stop between New York and Paris. Eight years later, Charles Lindbergh won the prize and helped jumpstart today's multibillion dollar aerospace industry.

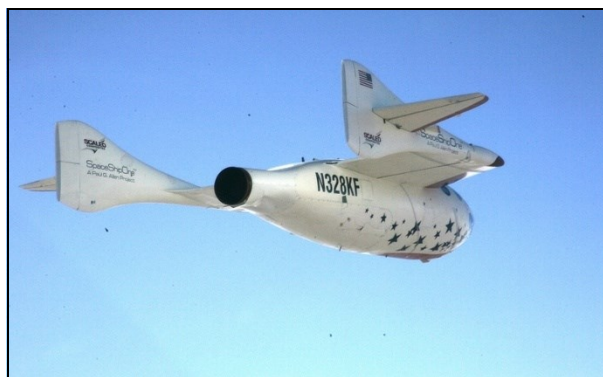


In 2004, Aerospace Ventures, led by aircraft designer Burt Rutan, won the \$10 million Ansari X PRIZE award for building a spacecraft capable of carrying three people to 100 kilometers in space, twice in two weeks. Today, the X PRIZE Foundation is trying to change the world one prize at a time.



**The mission of the X PRIZE is to bring about radical breakthroughs for the benefit of humanity.**

## Revolution Through Competition



In today's world, it takes government or large corporations to accomplish anything big, right? Well, maybe, most of the time. But could there be another quicker, cheaper way to achieve great accomplishments that change the world?. The X Prize Foundation thinks so.

Their big idea is that by making available large financial prizes, they can motivate small groups of highly dedicated people to achieve scientific and engineering breakthroughs that can help all of humanity.

After the success of their first space challenge (Ansari X PRIZE), the X PRIZE Foundation was inspired to create equally challenging competitions. Today, prizes for new competi-

tions amount to more than \$50 million.

Through these competitions, the X PRIZE Foundation hopes to make it possible for you to personally ride into space, walk on the moon, drive an alternative energy car, or talk with your doctor about your own genetic structure and health care options.

## Space Initiatives

### Google Lunar X PRIZE

Purpose: Encourage the development of private rocket and moon exploration technology.

Challenge:

- Safely land a robot on the surface of the Moon
- Travel 500 meters over the lunar surface
- Send images and data back to the Earth

Award: \$20 million for first to accomplish

Status: 13 teams are competing

### Northrop Grumman Lunar Lander Challenge



Purpose: Accelerate development of technologies to support lunar landers that would carry people and materials onto the Moon.

Challenge:

#### Level 1

- Rocket must take off from designated area
- Reach an altitude of 50 meters (150 feet)
- Hover for at least 90 seconds
- Land on a pad 50 meters away
- Reverse flight and land on previous pad
- Must be accomplished within 2.5 hours

#### Level 2

- Rocket must hover for twice as long
- Land on simulated moon surface

Award: \$2 million for first to accomplish

**Pete Conrad Spirit of Innovation Award**



Purpose: Engage high school students in thinking about spaceflight and lunar exploration.

Challenge:

- Personal Spaceflight: "Assume you can go to space. Create an innovative concept and business plan for use in personal spaceflight."
- Lunar Exploration: "Assume you can go to the moon. Create an entrepreneurial venture for lunar exploration."

Award: Over \$20,000 in prize money to winning teams in two categories

Status: Competition is currently open to high school students

## Auto Initiative

### Progressive Automotive X PRIZE

Purpose: To create new effective technologies for powering cars of the future with alternative fuels.



Challenge:

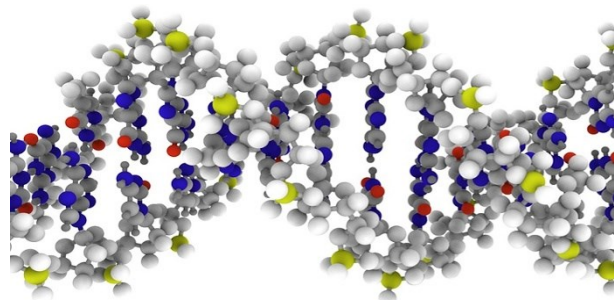
- Auto must meet energy and emissions requirements, including at least 100 mpg
- It must meet safety regulations and have performance similar to a traditional car
- It must be possible to produce at least 10,000 cars per year and be affordable

Award: \$10 million

Status: More than 60 teams have signed up

## Genome Initiative

### Archon X PRIZE



Purpose: Develop new technology to enable low-cost, high speed sequencing of the human genome. This would greatly assist doctors to identify and treat diseases.

Challenge:

- Device must be able to sequence at least 100 human genomes within 10 days
- Device must be extremely accurate
- Send images and data back to the Earth

Award: \$10 million for first to accomplish

Status: Final guidelines under development

## X PRIZE | Key Vocabulary

breakthrough	Making an important discovery.
emissions	Amount of potential pollutants released from an automobile engine.
engage	To gain the attention of. "The geometry teacher brought in a small pool table to engage the students' attention."
entrepreneurial	Willing to take risks in order to make a profit.
lunar	Relating to the Moon.
sequencing	In genetics: To determine the primary structure of human DNA.

## Discussion Points

1. The X PRIZE Foundation thinks that small teams of talented and passionate people can achieve remarkable things if they are given the incentive to do so. Do you think this is true? Examples?
2. The team that won the Ansari X PRIZE is now building a larger rocket to take tourists into space for around \$200,000 for the short trip. Would like to go if money were no object? Why or why not?
3. The Pete Conrad Spirit of Innovation award asks students to imagine that they could go into space using a personal spacecraft. What business ideas can you imagine that would use the spacecraft?
4. The Innovation Award also asks for business ideas if you could go to the moon. Any ideas?