



Space Challenge

Overview

Problem

Space exploration is the new economic frontier forecasted to become a \$2.7 trillion market within 30 years. However, there's a shortage of trained talent in aerospace, especially considering the recent boom in the commercial launch vehicle industry, which relies heavily on liquid-fuel rocketry. Not enough universities have embraced and invested in hands-on, industry aligned, project based learning programs as an essential component of their academic programming and funding development strategy. The Base 11 Space Challenge aims to change this.

Solution

The Base 11 Space Challenge will give universities an incentive to bolster their rocketry programs and empower students to learn far more than the theory of liquid propulsion systems by developing expertise in rocket safety, navigating flight regulations, demonstrating the essential skills of teamwork and innovation that are most in demand by forward-looking companies like SpaceX, Blue Origin, Boeing, Google, Virgin Orbit, and Firefly. Teams will be encouraged to conduct outreach and provide mentorship to community college and high school students to better develop the STEM talent pipeline that includes women and ethnicities traditionally underrepresented in STEM.

Challenge Details

The Base 11 Space Challenge features annual competitions and \$1.15 million in prizes for university teams developing liquid-fuel rockets. The biggest purse, \$1 million, goes to the first student-led team to reach space with their rocket. Specifications:

- Liquid-fuel rocket
- Annual competitions and prizes
- Mandatory safety training and thresholds
- Teams must demonstrate diversity & inclusion outreach
- Registration opens June 2018

Supporters

- Base 11 has engaged **HeroX**, a spinoff of the **XPRIZE**, to design and host its challenge.
- **Dassault Systemes** has offered to make their 3D design and simulation software available to university teams without charge, and to waive fees for students to earn their industry recognized SOLIDWORKS and Catia certifications.
- **XPRIZE Co-founder, Dr. Peter Diamandis** will publicly endorse and promote the project to his global network.
- **Spaceport America** in New Mexico has been selected as the site for competition launches.
- **SpaceX** has provided a EHS manager to support the work of the Safety Council, which includes current and former employees of **Boeing, Aerojet Rocketdyne** and **Pratt & Whitney**.

Outcomes by 2021

- A well-trained and fully vetted talent pipeline will be available to aerospace and tech employers
- Student participants will have documented the real-world job skills they gained such as engineering design, 3D imaging, project management and systems integration.
- One or more university team will make it to space.
- The silos between industry, academia, philanthropy and non-profits will be broken down and an integrated, scalable STEM talent development model will be established on a national scale.
- Hundreds of students will be accelerated into the Base 11 [Victory Circle](#)