

# Understanding the Needs of the CubeSat Community

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# Outline

- Introduction
- Background on the Launch Initiative
- Data Collected from Past, Current, and Future CubeSat's
- Data Collected from the RFI
- Future Trends
- Conclusion

# Initiative and Standardization

## Problem

- Satellites are too big and expensive for the majority of the population to become involved
- Satellite integration is difficult when several groups are using different designs
- Satellites end up retiring to a shelf before flight because they can't find a ride or additional funds

## Solution

- Standardization of the CubeSat
- Development of the P-POD
- Creation of the CubeSat Launch Initiative

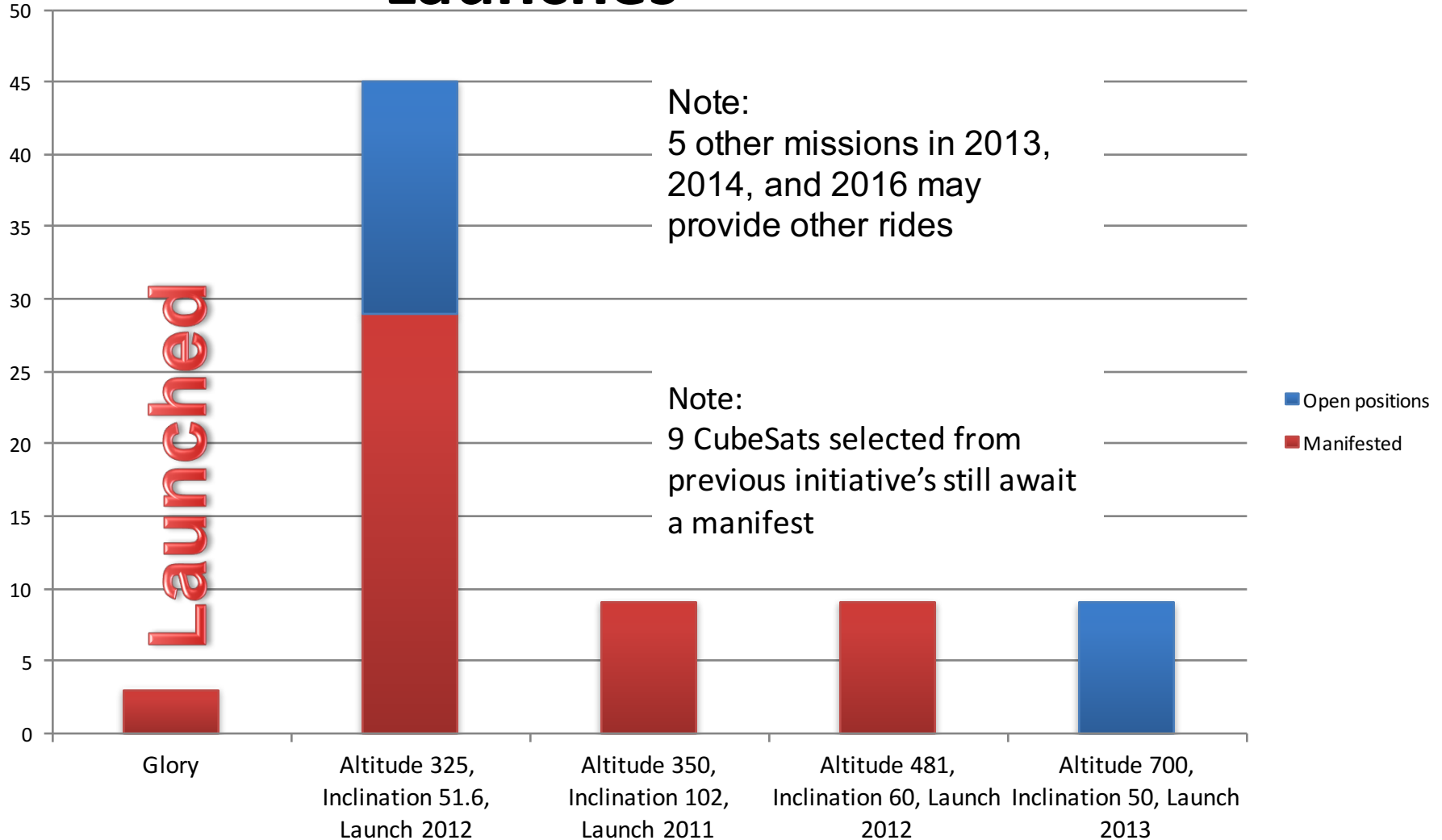
# Introduction

- The capability to develop CubeSat's is becoming common in Universities and many other organizations
- With the increasing number of CubeSat's being developed there is an increasing demand for positions on a launch manifest
- Where are those positions needed?
  - Altitude?
  - Inclination?

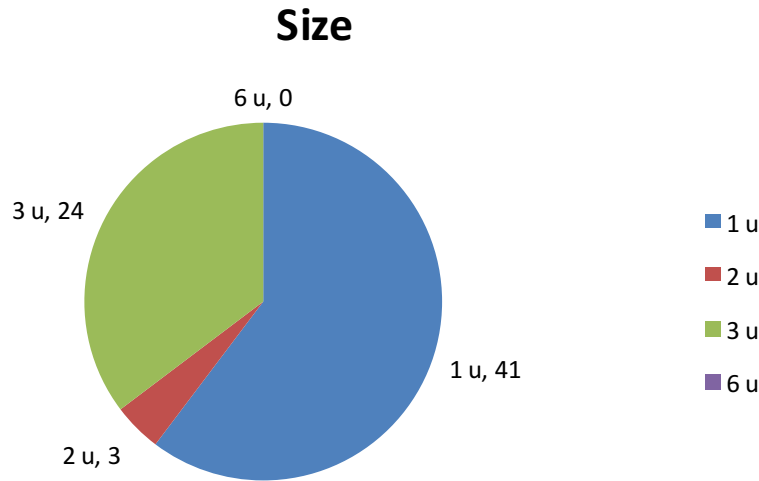
# Background on the Launch Initiative

- Two previous CubeSat Launch Initiatives
  - 32 Payloads from 18 states
    - Alabama, Alaska, California, Colorado, Hawaii, Kentucky, Louisiana, Maryland, Massachusetts, Michigan, Missouri, Montana, New Hampshire, New Mexico, New York, Pennsylvania, Utah and Virginia
  - 3 satellites were already launch aboard the Glory
    - Will be re-launched due to a failure of the rocket
  - Abundant spots at 325 km @ 51.6°

# NASA Sponsored CubeSat Launches



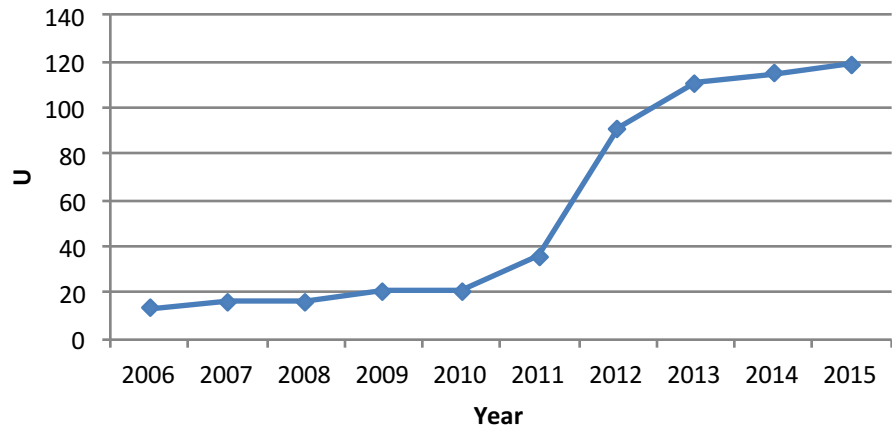
# Number of CubeSats (Past-Future)



Note:  
Dates are availability for  
Launch

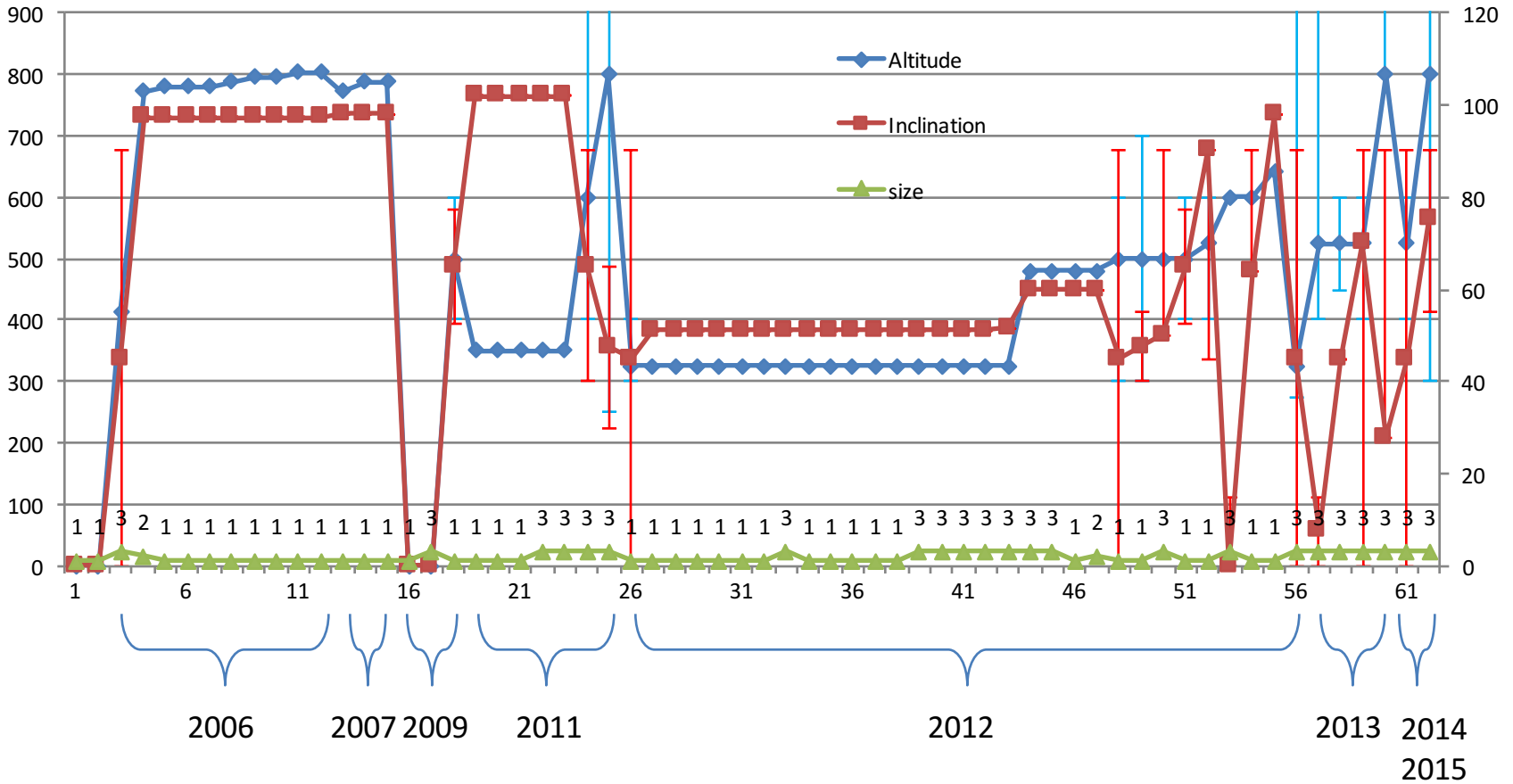
Data only represents U.S.  
academic institutions and U.S.  
not-for-profit organizations

**Total U vs Time**



# Past to Current (2006-2015)

Note:  
Zero altitude implies not specified

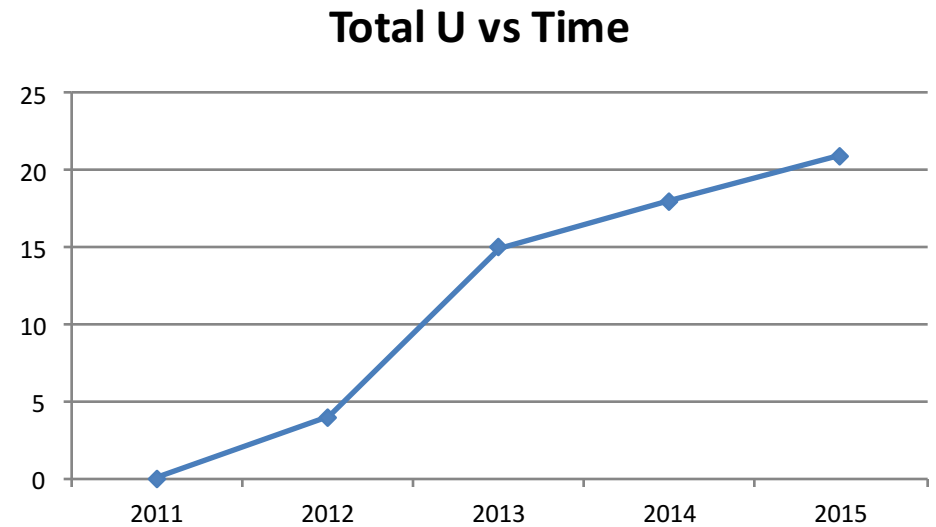
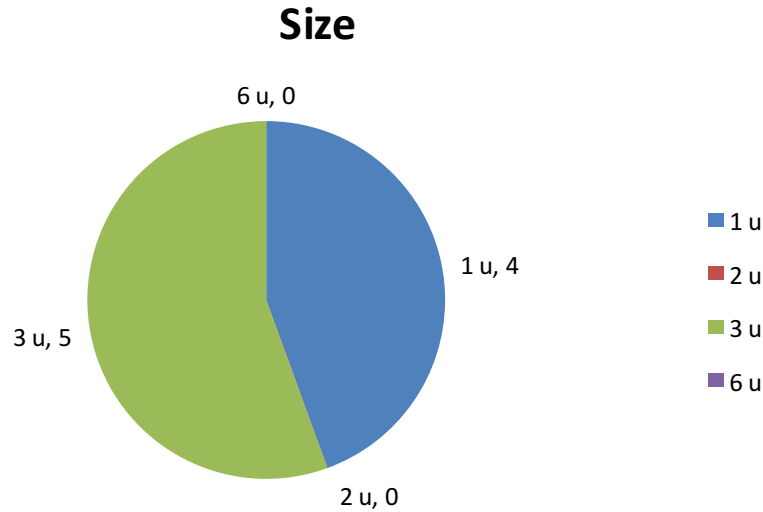




## RFI Results

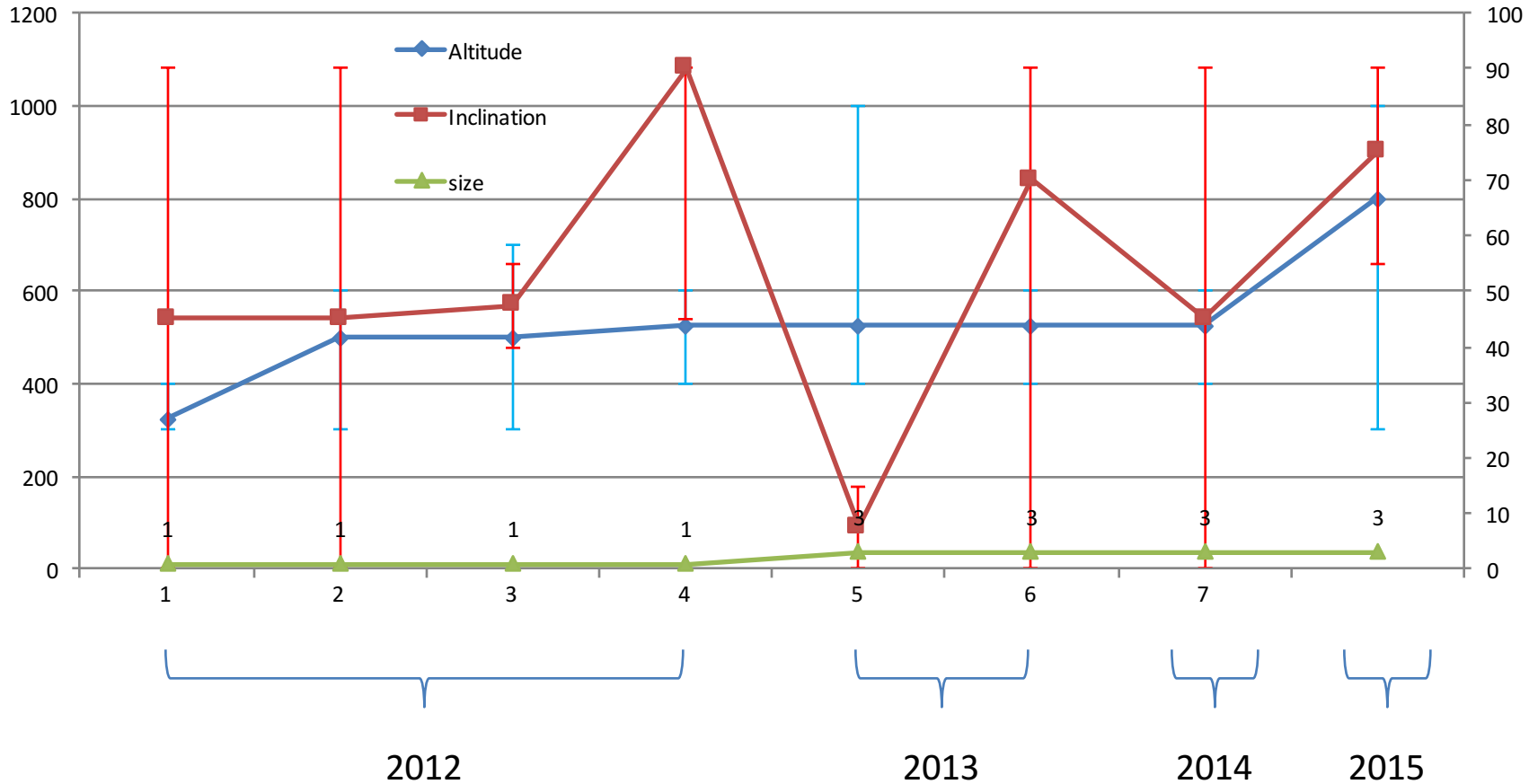
- Request for Information (RFI) issued 27 July 2011 to solicit CubeSat Community plans
- 7 individuals responded within the first three days
  - Data will continue to be added as information becomes available

# Number of CubeSats (Future)



# RFI Responses

Note:  
One response was not incorporated due to a lack of information



# Predictions for the Program

- Demand prediction
  - Following previous growth patterns, we expect to obtain X number of applications
  - Due to the economy and available funding we predict a deviation of 33%
    - 33% of RFI responses voiced a concern of finding available funds
- Supply prediction
  - Increase in demand will justify increasing supply

# Conclusion

- Valuable information was gathered to provide insight to the requirements of upcoming CubeSats
- The RFI stimulated awareness and interest of the CubeSat Launch Initiative.
  - Many individuals have been introduced to an opportunity to enhance the program's growth over time
    - Over 600 individuals and groups were contacted
  - Will help expand scientific research and development and contribute to the future development of an American work force strong in science and technology

You build the satellite

We will fly it

Give us a reason to find more payload positions

# Questions