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Jun 5th, 2:30 PM

## Venture Class Launch Services

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*KSC Launch Services Program*

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Ana Rivera

Space Congress June 2019



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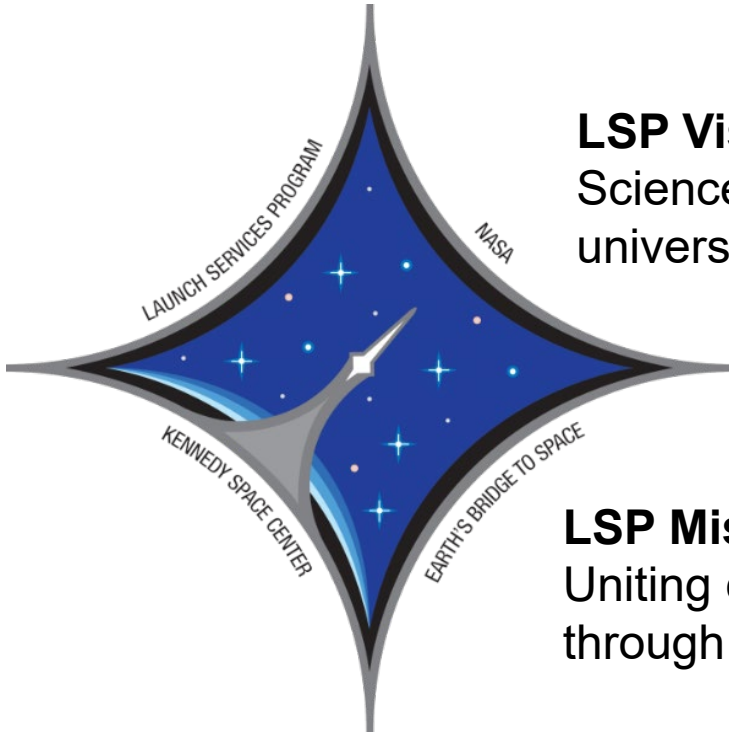
# Venture Class Video

<https://youtu.be/2eZyUuYvBUo>



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# Launch Service Program (LSP)



## **LSP Vision**

Science and discovery through unlimited access to the universe

## **LSP Mission**

Uniting customers, capabilities, and culture to explore space through unparalleled launch services

## **LSP Goals:**

Goal 1: Maximize Mission Success

Goal 2: Assure Long-Term Launch Services

Goal 3: Promote Evolution of a US Commercial Space Launch Market

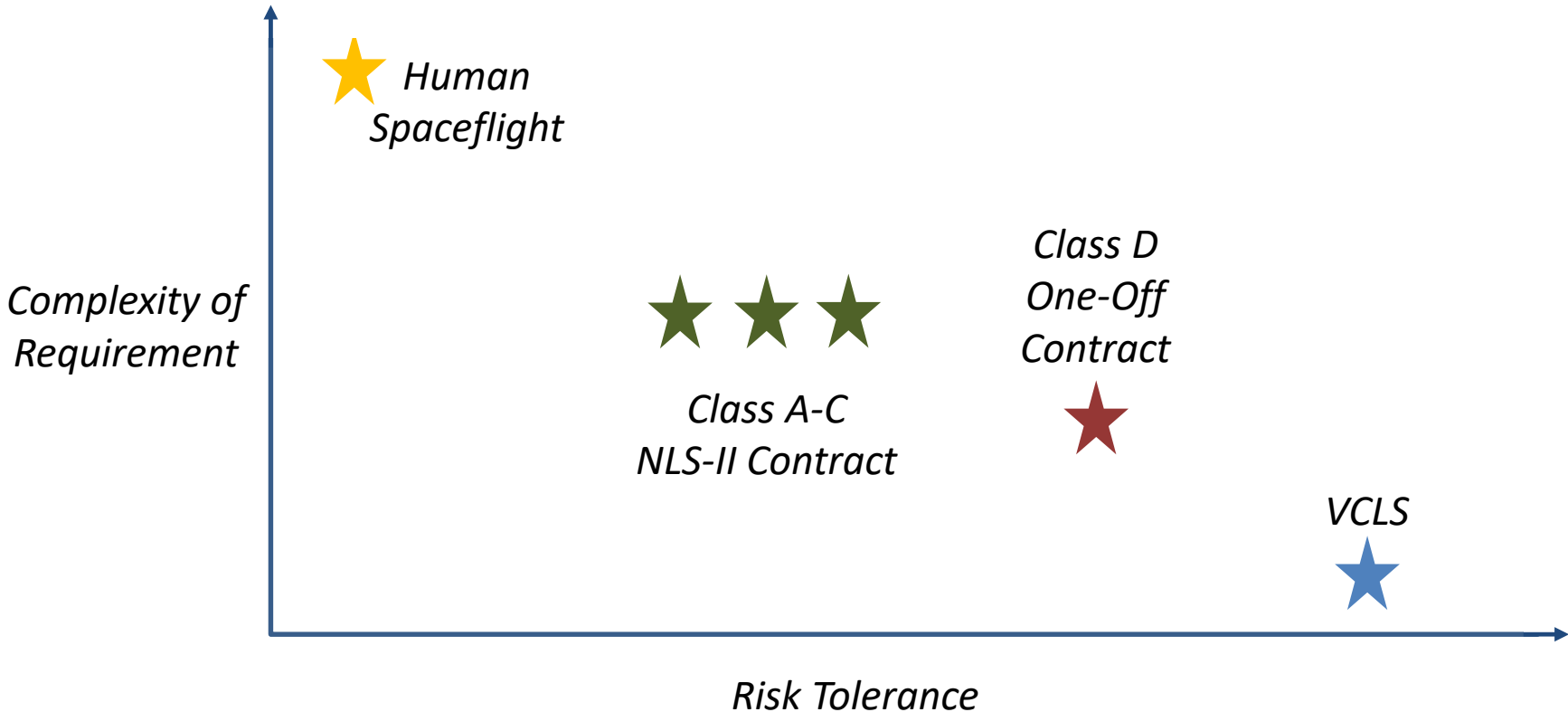
Goal 4: Continually Enhance LSP's Core Capabilities



# Customer Focus



“Customer feedback drove strategy to demonstrate contracting flexibility”





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# Initial Requirements - VCLS



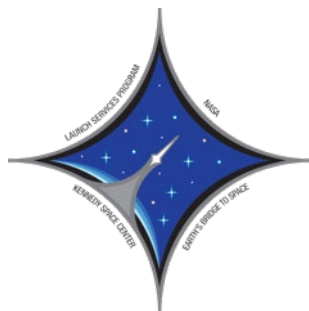
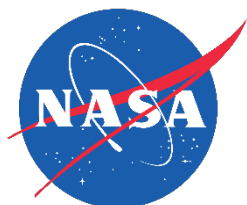
Minimum 60kg to LEO (425km), orbit inclination of providers choosing (within 33 – 98 degrees), original launch date no later than April 15<sup>th</sup>, 2018

Firm-Fixed Price contract of a demonstration flight:

Rocket Lab USA (June 2017)

Virgin Orbit (Q4 2017 – Q1 2018)

Firefly (March 2018)

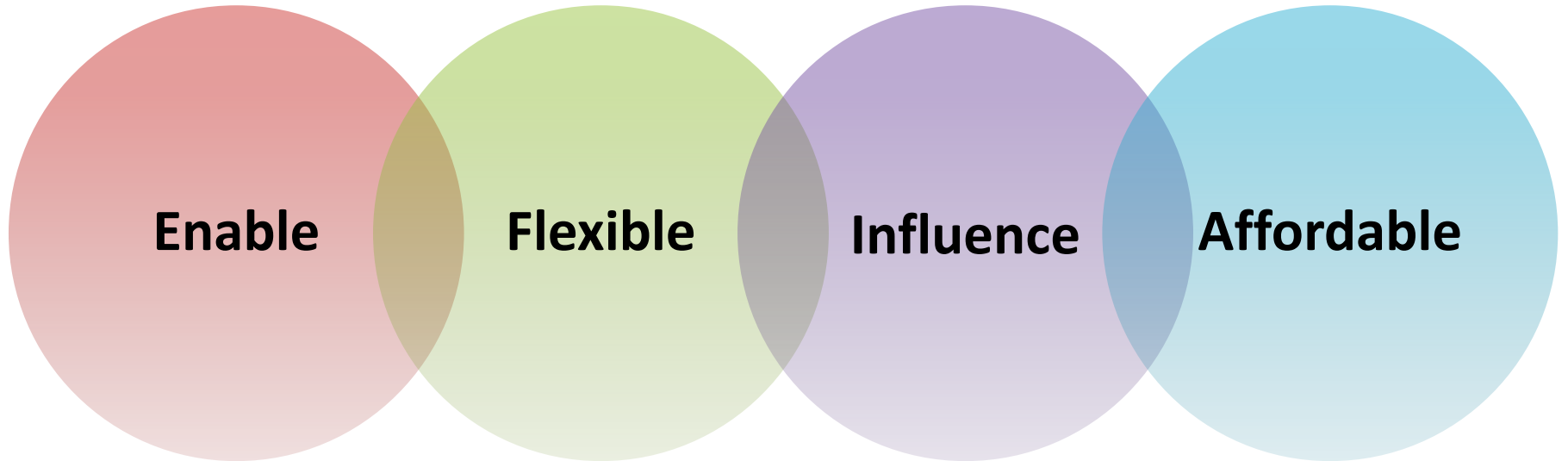


Milestone-based payment structure; limited NASA insight through milestone reviews



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# Benefit of VCLS





# VCLS Goals



Determine the risk (schedule, cost, technical) in selecting new vehicles before they have proven their capability with a first flight prior to launch vehicle selections for future NASA primary missions

LSP assessments are focused on protecting NASA's investment and not traditional assurance (i.e. launch vehicle certification is not required as part of VCLS)

Provides limited insight while enabling LSP influence on new emerging providers







# VCLS Approach



## More Commercial Terms

- FAA Licensed
- Less Insight
- Lower Cost

## Higher Risk Tolerance

- High Risk Tolerant CubeSat Missions
- Very Limited Vehicle Engineering Expertise

## Innovative Management Approach

- Develop Next Generation and Organizational Flexibility
- Launch Vehicle Visibility Via Milestone Review Process

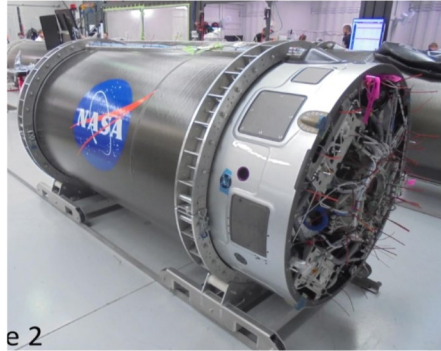
## Influence

- Build Relationships with Emerging Providers
- Learn from Each Other

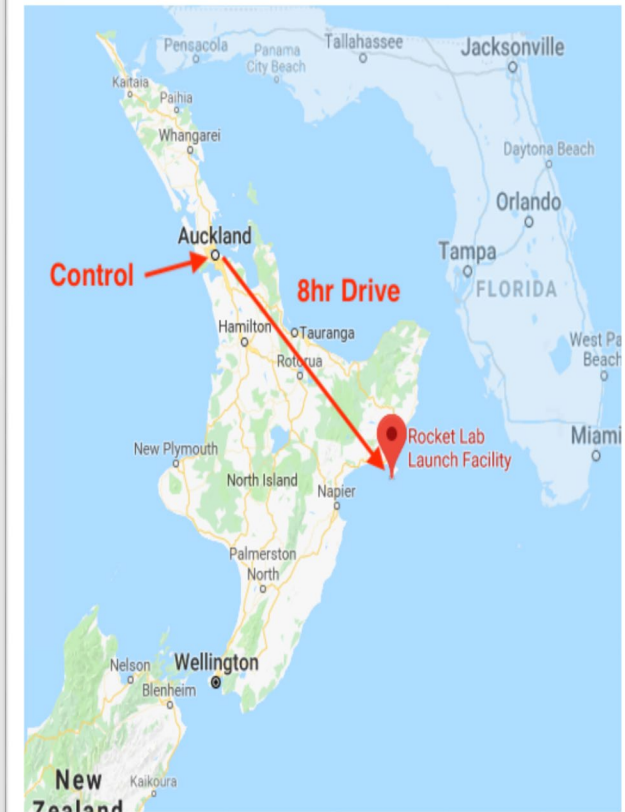
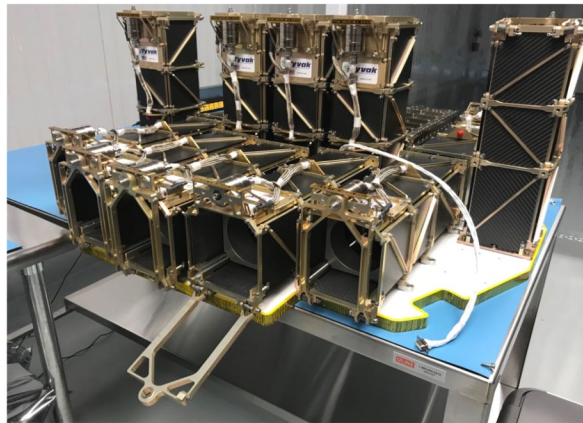


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# VCLS Mission – ELaNa-19 Status



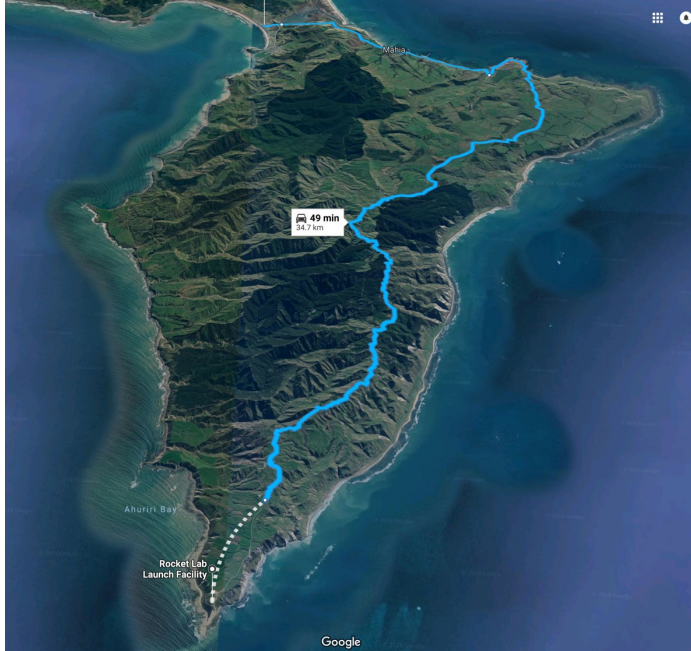
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# Getting to Launch Site

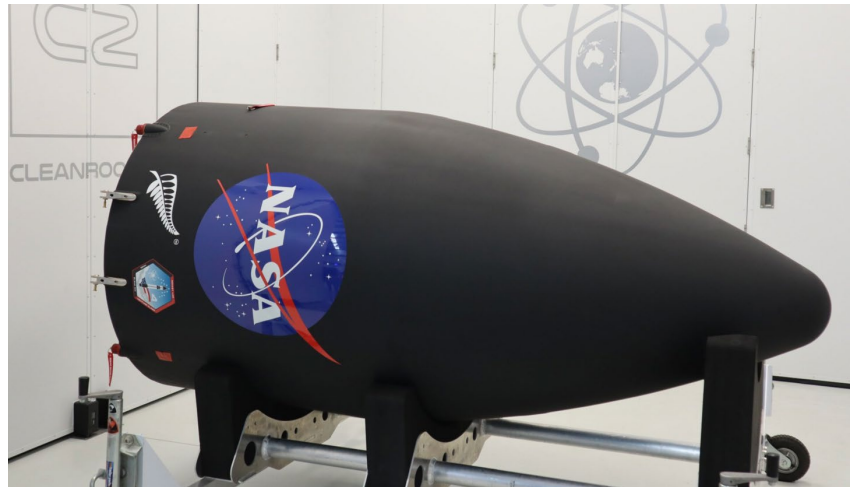


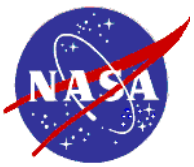




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# Final Vehicle Integration





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# Launch





# Future



Potential solution for primary NASA missions  
1 to 2 years from award to launch

As reliability increases, competition among small class will increase

