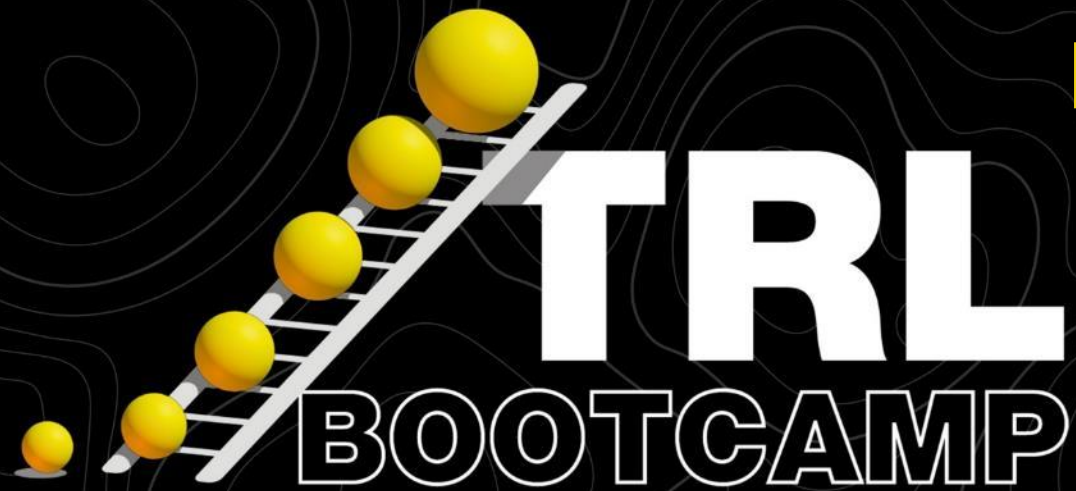

SPACEWERX | AEROSPACE

Bridging the Valley of Death:
TRL Bootcamp for DoD Space Tech

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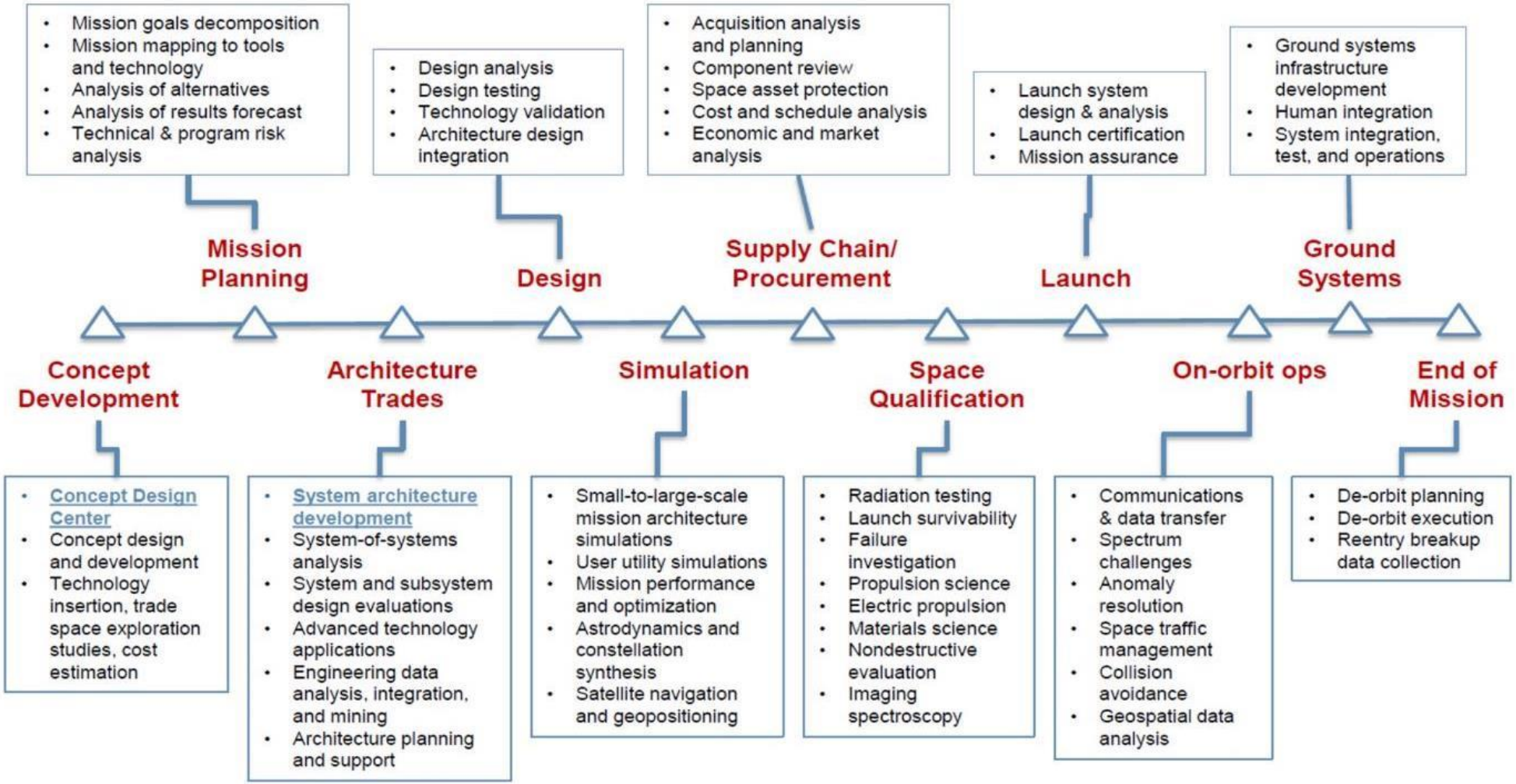
Problem Statement

Adopting non-traditional space technology into DoD

- Acquisition cycles are slow, and government risk aversion limits small business participation.
- DoD struggles to integrate commercial space technology into military programs.
- Small businesses can overrepresent their TRL levels, creating uncertainty about the sector.
- The "Valley of Death" prevents promising startups from reaching operational adoption.

Due to these and other factors, the US is not fully leveraging its commercial space innovation base, creating risks to military mission success

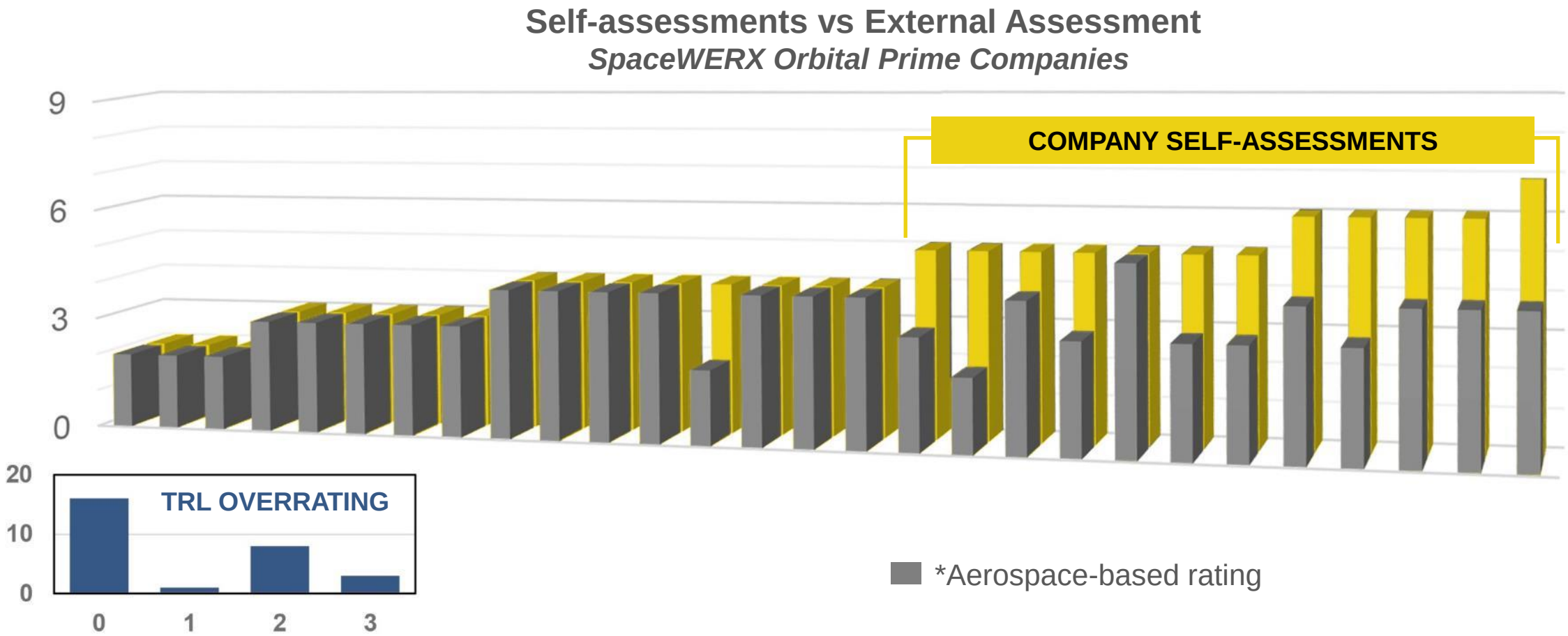
The Space Mission Workflow



Emerging Tech Companies will fall somewhere on this chart, and can benefit from a SpaceWERX/FFRDC partnership

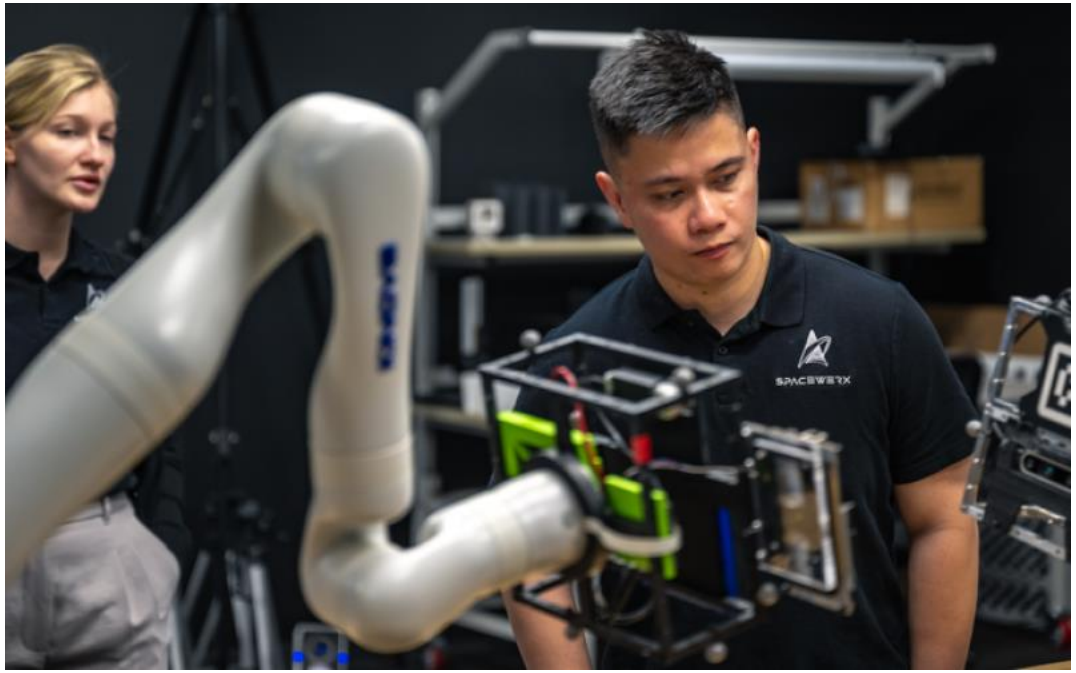
Clarity of Technology Maturity

Loose adherence to TRL guidelines creates uncertainly on time and cost to readiness



40% of Orbital Prime companies assessed their product's readiness 2 or more levels higher than QuickCheck

Introducing TRL Bootcamp

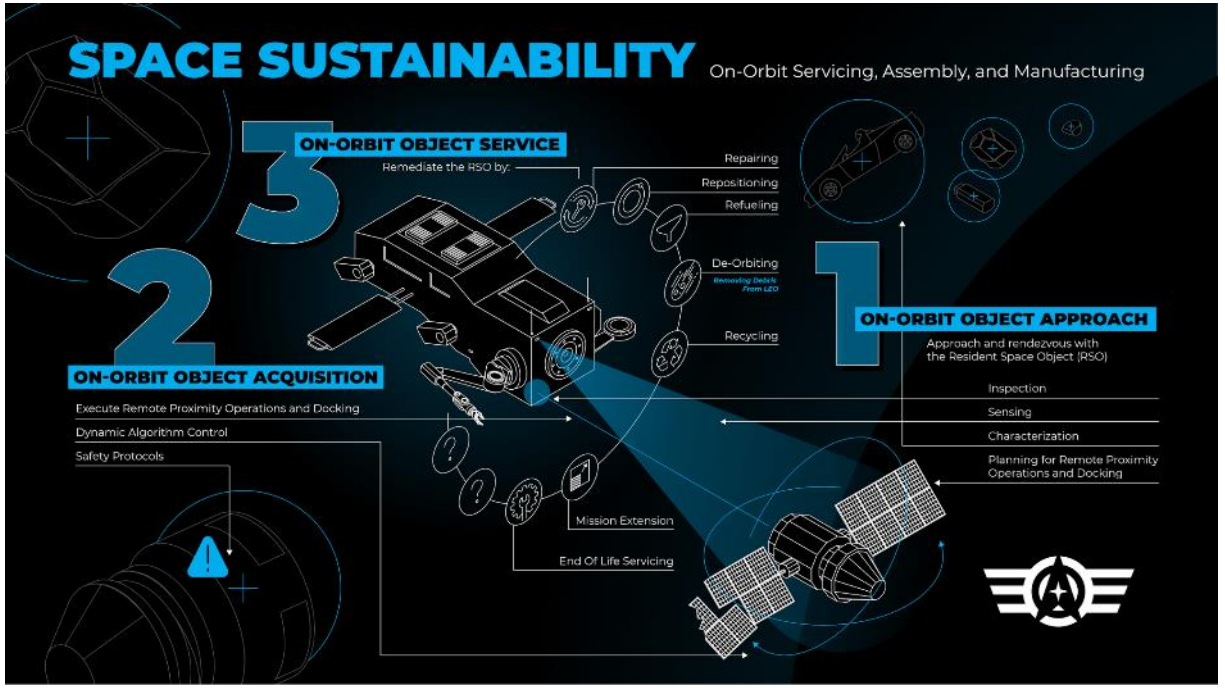


- Sponsored by SpaceWERX and partnered with The Aerospace Corporation.
- Focus on rigorous TRL assessment and targeted maturation strategies.
- Structured as a knowledge-sharing partnership leveraging government and FFRDC SME's and lab resources

The program is structured as a collaborative, knowledge-sharing partnership leveraging government and FFRDC subject matter experts and lab resources

TRL Bootcamp: Inaugural Launch

- The launch of the TRL Bootcamp was introduced as part of the Orbital Prime program
- Orbital Prime is a SpaceWERX sponsored program to rapidly develop and mature in-space servicing, assembly, manufacturing (ISAM) technologies & funded 50 Phase II SBIR/STTR contracts
- The TRL Bootcamp was introduced to meet the need for specialized testing and guidance to rapidly mature ISAM technology



The Orbital Prime program focused on rapidly maturing the ISAM market

Initial TRL Bootcamp launched in 2024 supporting SpaceWERX's Orbital Prime program focused on a subset of emerging ISAM technologies

TRL Bootcamp Process

Partnership between SpaceWERX and The Aerospace Corporation

- **Onboarding TRL Assessment** –
  - Independent, mission-driven TRL evaluation.
- **Tailored Support & Engagement** –
  - SMEs, lab access, testing recommendations.
- **Laboratory Phase** –
  - Hands-on validation and experimentation.
- **Offboarding & Final Assessment** –
  - Validated TRL levels and transition roadmap.

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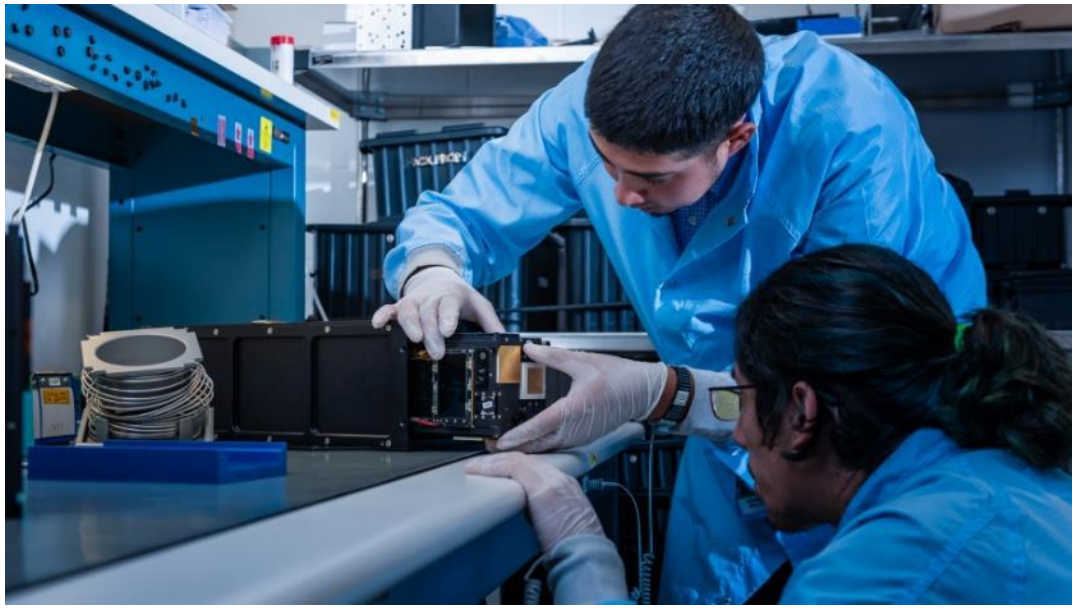
A structured approach designed to efficiently assess TRL, target the appropriate tests for TRL-raising, and then help execute the test plan

Overcoming DoD Risk Aversion

The view from the Government program manager perspective



- Provides program managers with validated TRL data, reducing uncertainty.
- Encourages mission-driven product development.
- Facilitates public-private partnerships for streamlined testing.
- Enhances credibility of small businesses in DoD procurement processes.

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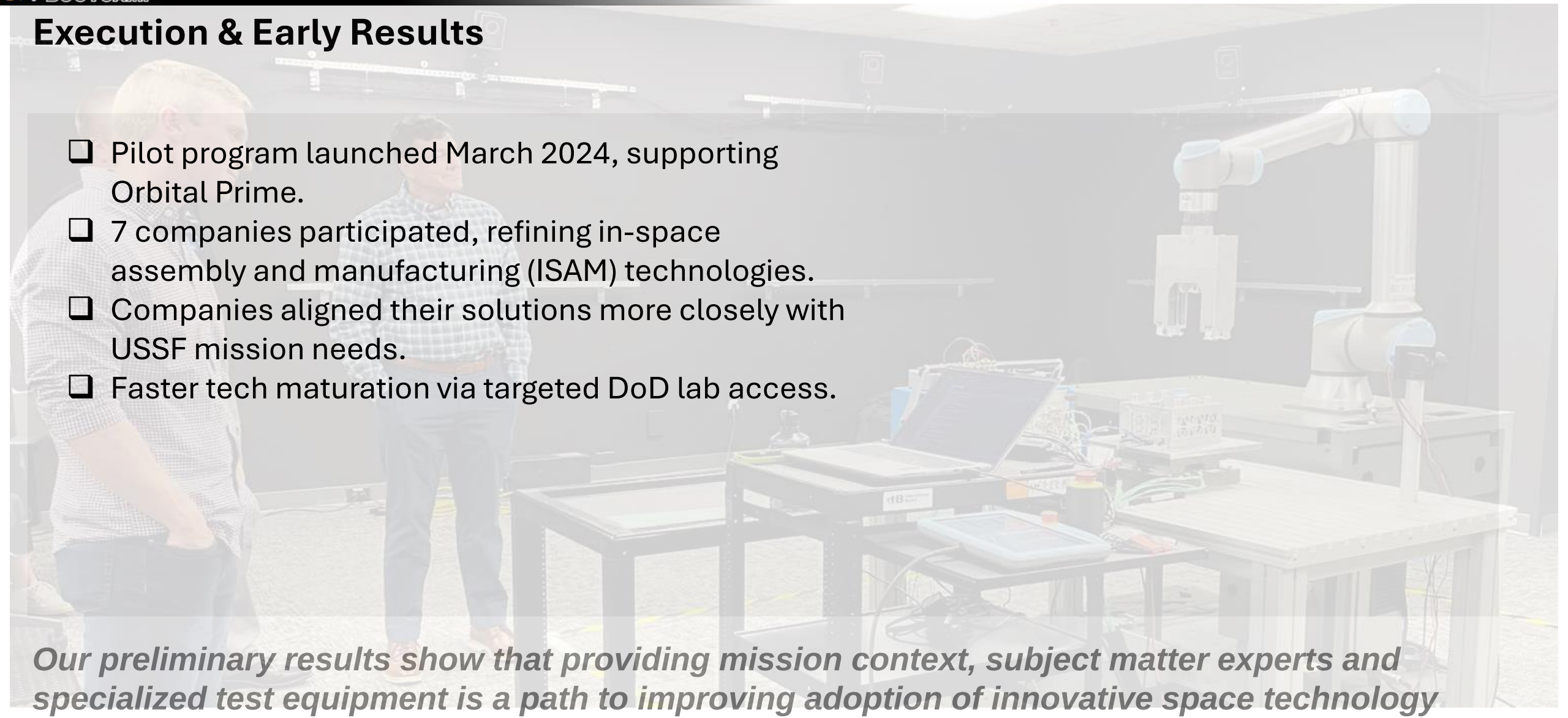
The program has the potential to leverage vast national lab investments to help drive innovation and mission success

Execution & Early Results



- Pilot program launched March 2024, supporting Orbital Prime.
- 7 companies participated, refining in-space assembly and manufacturing (ISAM) technologies.
- Companies aligned their solutions more closely with USSF mission needs.
- Faster tech maturation via targeted DoD lab access.

Our preliminary results show that providing mission context, subject matter experts and specialized test equipment is a path to improving adoption of innovative space technology

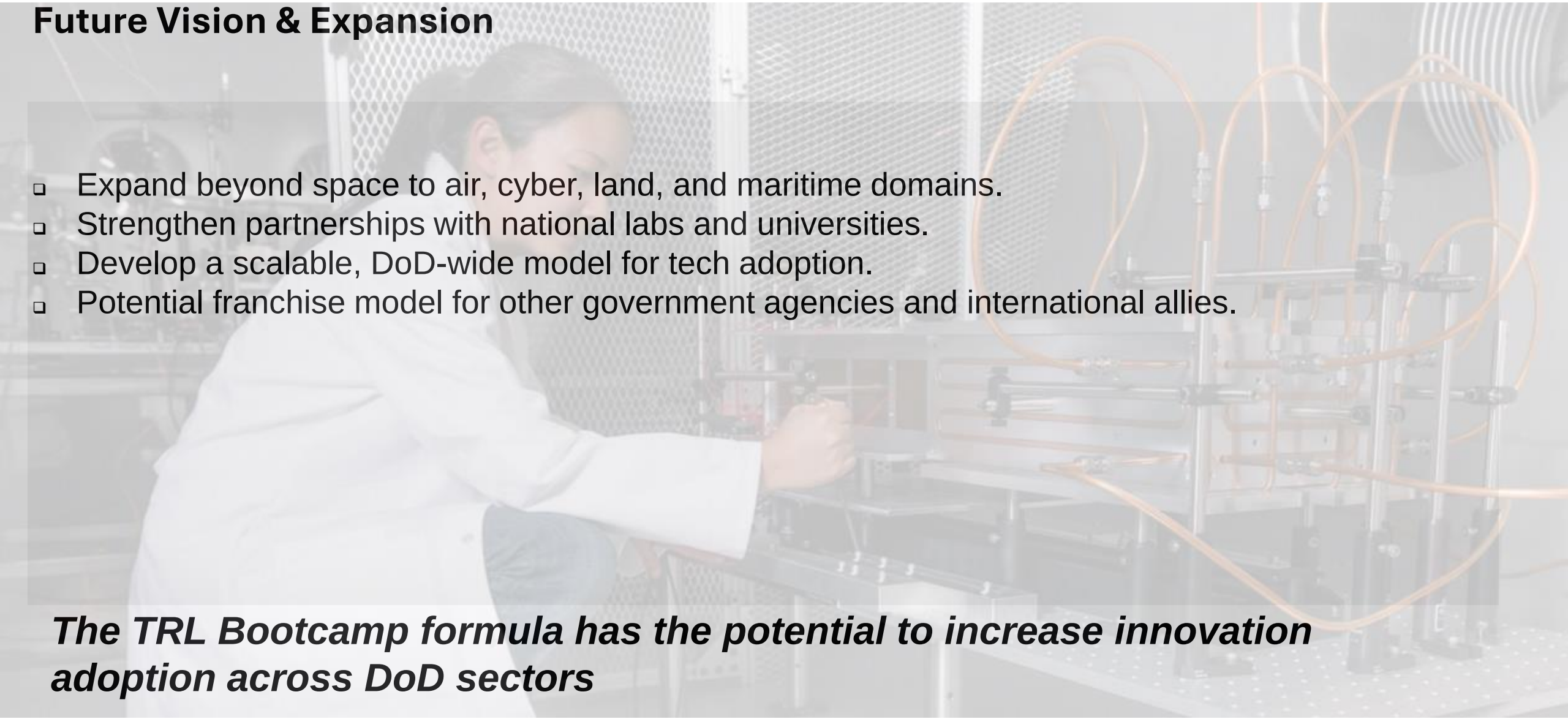
Conclusion

Photo courtesy Rocket Lab Inc.

- TRL Bootcamp is a promising model for accelerating the adoption of defense innovation.
- It enables DoD to better leverage commercial investment for military applications
- Creates a structured path for small businesses to transition tech into military use.
- Is showing early indicators of success with potential for expansion.

- **TRL Bootcamp is showing early signs of success in accelerating the adoption of commercial innovation for military space programs.**

Future Vision & Expansion



- Expand beyond space to air, cyber, land, and maritime domains.
- Strengthen partnerships with national labs and universities.
- Develop a scalable, DoD-wide model for tech adoption.
- Potential franchise model for other government agencies and international allies.

The TRL Bootcamp formula has the potential to increase innovation adoption across DoD sectors

TRL Bootcamp Labs

Q&A