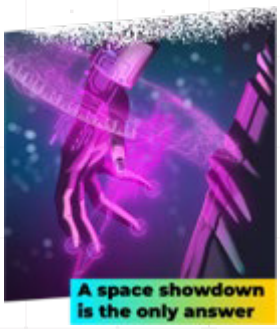
AFRL

HACK-A-SAT

SPACE CYBER RESILIENCE VIA PRIZES FOR ADVANCED TECHNOLOGY ACHIEVEMENTS

WHAT IS HACK-A-SAT?

As our lives become increasingly dependent on technologies that lie deep in space, it is imperative that we do what it takes to secure our universe. The United States Air Force and Space Force jointly present Hack-A-Sat, a Capture the Flag-style hacking competition designed to inspire the world's top cybersecurity talent to develop the skills necessary to help reduce vulnerabilities and build more secure space systems.



WHY IS THE GOVERNMENT INVESTING IN THIS?

When it comes to securing space, the stakes are high. Everything from our GPS systems, to our financial transactions, to air traffic control and more, depends on space systems that can be vulnerable to attack. Hack-A-Sat is building a non-traditional community of security researchers, government, industry and academia working together to inform and improve the cyber resilience of our space systems both on the ground and in orbit.

Overall, the Department of the Air Force aims to be more conscientious during the design and development process of building space-based capabilities by utilizing adversarial thinking throughout the acquisition lifecycle from research and development to operational implementation. By utilizing Prizes for Advanced Technology Achievements the Department of the Air Force will stimulate innovation by applying non-traditional approaches to technology challenges.

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WHAT HAVE WE ACCOMPLISHED?

Together with our partners we've built and hosted the first-ever hacking contest that focuses on space technologies. Over the two years of Hack-A-Sat, we have:

- Strengthened and expanded our alliances with over 100 DoD, academic, industry, international partners
- United the digital expertise among the cyber security and space communities by curating a community of over five thousand global security researchers, contributing to novel approaches to securing the space cyber domain
- Informed the development of more secure and resilient space hardware, software and operational education for the Department of Defense
- Established the development of a novel training curriculum for the next generation of cyber warriors to defend the nation's space assets
- Drew international attention to the Department of Defense's commitment to space cybersecurity and innovative approach with articles in *Wired, Tech Crunch, Bloomberg* and *Air Force Magazine*
- Identified unforeseen research areas in the space security domain
- Established the framework for the development of the first-ever on-orbit cybersecurity satellite designed to enable cyber security competitions, exercises, hackathons, and training opportunities that improve the cyber resilience of space systems

THE HACK-A-SAT TRAJECTORY

DESIGN | BUILD | LAUNCH

Multi-year plan to engage the space and cybersecurity communities in the key phases of a USSF Space Vehicle lifecycle as a means to educate the community and leverage lessons learned in future and current mission system architectures.

Hack-Sat 1
First-ever global Flat-Sat based competition with one indirect on-orbit challenge.

Hack-A-Sat 2
First-ever global attack/defend competition on a Flat-Sat with digital twins to emulate commands for all competitors.

Hack-A-Sat 3
Design and build USSF Moonlighter satellite. Competition hosted on Moonlighter Flat-Sat to inform improvements pre-launch.

Hack-A-Sat 4 & Beyond | Project Moonlighter
The world's first hacking sandbox in space purposely designed and launched to advance the cybersecurity community.

Moonlighter makes possible a future Hack-A-Sat series of events with highly realistic challenges focused on an on-orbit satellite.

LEARN MORE ABOUT HACK-A-SAT

For videos, challenges and more, please visit:

HACKASAT.COM