

Concept for JCOTS Nanosatellite Committee for a Commonwealth Small Satellite Initiative

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Virginia Space Grant Consortium (VSGC), an existing, established and successful non-profit Consortium, could serve as the lead/administrative agent for a Commonwealth Small Satellite initiative. VSGC has extensive experience in developing and facilitating successful aerospace programs, including flight projects, and in building strong partnerships with NASA, industry and academia.

VSGC and its members already have an established base for building a Small Sat Initiative. We propose evolving the existing proactive VSGC Small Sat working group, which currently includes members from NASA Langley Research Center, NASA Wallops Flight Facility, Virginia Tech, University of Virginia, Old Dominion University, Hampton University, and the College of William and Mary into an expanded initiative embracing all interested Virginia institutions of higher education, industry and aerospace organizations (such as the Mid-Atlantic Regional Spaceport and the National Institute for Aerospace). Funding could be used to foster engagement by initiative partners in Small Sat activities. A steering committee could be selected from among the members. A key goal would be to work with the Mid Atlantic Regional Spaceport to develop routine secondary payload launch opportunities for Small Satellites from Virginia institutions and beyond, as opportunities and capacity permit.

Commonwealth funding could be set aside to support Small Satellite activities over a wide range of opportunities:

- Opportunities that can be created through the Mid Atlantic Regional Spaceport (MARS). MARS should have lead role for development and implementation of a MARS launch mechanism. A VSGC-led Small Sat initiative could provide marketing, selection and support processes.
- NSF, NASA and DoD funded cubesat flight opportunities.
- Continued collaboration with NASA Langley and NASA Wallops for flight programs.
- Foster pipelining activities with K-12 projects and with graduate and undergraduate students providing K-12 mentoring and outreach.
- Supporting and facilitating partnerships for industry Small Sats.
- International Space Station (ISS) opportunities.
- Synergistic opportunities like the current OGMS-SA collaboration with French partners.
- Workshops/professional development/cross training opportunities for faculty and students across institutions.

- Matching funding for federal awards that provide flight opportunities only or funding limited to development. This would support efforts already deemed worthy by federal agencies based on a competitive process.

Working with participating organizations, VSGC would facilitate collaborations that can proceed from preliminary concepts, through the evolution, design and testing of supplemental payloads in support of Commonwealth entities ranging from K-12 schools through large companies. The experience, facilities and resources of more experienced members can be tapped for leadership and for mentoring institutions with less experience and capabilities. Identified needs for Small Sat developers include: seed funding for program development, funding for Small Sat materials and payload development, travel support for launch opportunities, as well as undergraduate and graduate student support for leadership and team roles in small sat laboratories and small sat related internships with NASA and industry.

As VSGC is already actively doing, the initiative could foster cross institutional efforts, build on existing expertise, resources and capabilities across many institutions and organizations, and leverage Commonwealth and VSGC funding. VSGC could advocate for leveraged funding for a State investment through funding proposals to federal agencies and through academic and industry partnerships. VSGC has a strong track record of securing partners and external funding. VSGC funding for student flight projects, scholarships and internships would also be a source for leveraged funding.

VSGC has a line item in the State budget through SCHEV. If there is interest, a full concept proposal can be developed.