There are a growing number of secondary and tertiary flight opportunities for small spacecraft. These include Dual Payload Attach Fitting (DPAF) for the Delta launch vehicle, the EELV Secondary Payload Adapter (ESPA), as well as tertiary opportunities for spacecraft that are bolted to the upper stage of a booster (as was the case with GeneSat on the Minotaur launch vehicle). The Secondary and Tertiary Launch Technologies subtopic will particularly focus on adaptor and deployment technologies.

We specifically desire low-cost modular DPAF and ESPA solutions, which can be adapted for various nano and small-satellites. Solutions should have minimal impact on cost and schedule, protect the primary payload, and have clear and achievable paths to certification. Topics include, but are not limited to:

- Gentle non-explosive separation mechanisms;
- Autonomous or on demand deployment with build in safety factors;
- Robust, low-weight, and low-cost innovative deployment architectures for large numbers of nano- and small-satellites into predefined orbits.

Phase 1 - Research should demonstrate the technical feasibility and show a path towards a hardware/software demonstration. Plan a demonstration to validate the technologies/tools/processes. Bench or lab-level demonstrations showing concept viability is encouraged. Commercial applicability should be addressed.

Phase 2 - Emphasis should be placed on developing and demonstrating the technology under relevant test conditions. Additionally, a path should be outlined that shows how the technology could be commercialized or further developed into space-worthy systems. When applicable, researchers should deliver a demonstration unit for functional and environmental testing at the completion of the Phase 2 contract.