



S119E009662

## AMMTIAC Success Story

### Advanced Thermal Control Coatings Capability for DoD and Space Applications

<http://ammtiac.alionscience.com>

<b>Customer:</b>	U.S. Air Force Research Lab Nonstructural Materials Branch
<b>Challenge:</b>	Developing processes to facilitate the use of new thermal control materials is critical to the next generation of DoD aerospace systems. One crucial challenge is to find efficient and cost effective ways to protect satellite hardware and critical subsystems (e.g., power supplies, life support systems, sensitive electronics, communications equipment and sensors) from an unforgiving and dynamic environment. In addition, thermal control materials deposition can only be performed in specialized laboratories. AMMTIAC developed the capability to deposit Thermal Control Material Systems (TCMS) on integrated satellite hardware onsite while managing costs associated with shipping sensitive, complex and integrated hardware.
<b>Approach:</b>	AMMTIAC developed a unique capability that allows technicians and scientists to deposit thermal control material coating from any location through a specialized portable container. The specialized portable container was designed to house all the materials and equipment necessary to deposit the coatings and can be easily shipped by truck or airplane anywhere in the world. AMMTIAC had previously used a prototype of this system to coat two separate structures for the aerospace

	<p>community that could not be shipped or de-integrated from the rest of the hardware. This allowed DoD and their agencies the freedom and flexibility to effectively coat their hardware anywhere and at any time. Using the specialized container alleviated some risks associated with transporting hardware such as increased costs, elevated security threats, and a prolonged project schedule.</p>
<p><b>Value:</b></p>	<p>This process reduced time and costs associated with shipping sensitive, costly or integrated hardware and prevented the high costs associated with schedule delays. Savings could potentially amount to \$53K in equipment shipping costs, \$250K per day preventing delays of satellite launching, and additional weeks added to the project schedule.</p>

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