

R&D GAPS & POSSIBLE COLLABORATORS

UAV DEVELOPMENT	S&T GAPS and CHALLENGES	R&D AREAS	POSSIBLE COLLABORATORS
<p>MATERIALS (LOW COST – HIGH ALTITUDE)</p> <p>Priority 1</p>	<p>Cost of raw materials</p> <p>Use of indigenous composite materials</p>	<p>Standardization and Digitization of UAV design: Military and Commercial</p> <p>Testing Facility</p> <p>Composite fabrication</p>	<p>DOST MIRDC/ITDI</p> <p>DEMS Aerospace, AFRDC</p> <p>FIDA, FEATI</p>
<p>PAYLOAD</p> <p>Priority 8</p>	<p>Cost, and Weight to Space Ratio</p>	<p>Standardization of EMC/RFI on payload</p>	<p>Commercially available</p>

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<p>FLIGHT CHARACTERISTICS</p> <p>Priority 3</p>	<p>No wind tunnel testing facility</p> <p>Flight Controls, Stability & Configuration</p> <p>Design for Long range, long endurance, high altitude and stol vtol</p>	<p>Simulation Software</p>	<p>FEATI</p>
<p>CAMERA OPTIONS</p> <p>Priority 5</p>	<p>Software and Hardware Procedure Manual/Guidelines; Geographical position-wise</p> <p>No designators or eliminators</p> <p>No local manufacturers * ITAR</p>	<p>Software/Algorithm Development, Design and Fabrication of Camera – Low-Cost and Commercially-Competitive</p>	<p>TBD –SME in EO, IR</p>

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<p>DATA TRANSFER / COMMUNICATIONS</p> <p>Priority 2</p>	<p>No BVR, Bandwidth, data encryption, frequency hopping/management</p>	<p>EMC/RFI</p> <p>Improving the range, link reliability</p> <p>Standard for tactical data link (Military)</p> <p>Development of communication modules</p>	<p>EPDC, NTC, DOTC, AFRDC, PARDC, NRTDC, academes</p>

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<p>OPERATING REQUIREMENTS</p> <p>Priority 4</p>	<p>Link Distance</p> <p>Durability of the system</p> <p>System redundancy</p> <p>Power requirements</p> <p>Recovery System</p> <p>Survivability/crashworthiness</p> <p>GPS Monitoring</p> <p>Air tasking order (Military)</p>	<p>Antenna Designing</p> <p>Testing Facility (anechoic chamber)</p> <p>LiPO/LiFe Battery</p> <p>APRS Technology</p>	<p>UP – EEEI, FEATI</p>

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SAFETY FEATURES Priority 6	Parachute Anti-collision ELT System Redundancy	Design of Parachute	TBD
OTHERS Priority 7	Engine/Propulsion system Back-up propulsion Integrated Logistic Support Modularity	Back-up System	Academes, DEMS Aerospace