

Expeditionary Surface Materials (ESM)

Purpose: The objective of this effort is to develop materials and tactics, techniques and procedures (TTP) for rapidly upgrading, repairing, or constructing expeditionary or contingency airfields in-theater with a low logistics footprint.

Background: Current engineer equipment is bulky, slow, and Marine engineers will have a difficult time adapting to Expeditionary Maneuver Warfare and attempts to minimize footprint ashore. AM-2 matting is the only airfield-suitable surfacing material in the current inventory. A material is needed to augment or replace AM-2 matting as well as provide much needed Foreign Object Damage reduction and soil and dust abatement/stabilization. Such a material would be light, easily employed, inexpensive, and capable of bearing taxiing and parked aircraft as well as heavy ground vehicle traffic. The Director, Logistics Plans, Policies, & Strategic Mobility Division, Installation & Logistics Department, HQMC has requested that the Lab conduct experimentation to identify solutions for the above deficiencies.



Description: The Lab will conduct technology search for commercial-off-the-shelf items and solicit industry for solutions. Technologies will initially be examined through advanced terrain analysis technologies and performance prediction modeling to optimize contingency airfield site selection, exploit advanced construction technologies to enhance airfield construction productivity, and develop emerging soil stabilization technologies to rapidly construct contingency airfields capable of supporting operating force requirements. The engineer community will evaluate and recommend candidate technologies for further experimentation by the Lab. Selected ESM technologies will be assessed and TTPs will be developed.

Deliverable Products: Prototype surface materials and requirement documentation.

Milestones:



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