

Lockheed Martin Engineering Word Problem Challenge (LMEWPC)

February 2021

We are going back to the moon, both with robots and humans. Lunar dust is very sharp and electrostatic because there are no wind or water processes to smooth the surfaces. It causes health issues, particularly for the lungs but also allergies, it builds up on surfaces like solar panels and optics, and it gets in moving parts. We need many strategies to effectively deal with it.

Your challenge is to come up with innovative ways to mitigate lunar dust during missions to the surface. This could include an approach that covers one or more of the following aspects:

- mitigating lunar dust in the habitats (any volumes with breathable air),
- mitigating dust on exterior surfaces (for example solar panel arrays, optics, etc.),
- mitigating dust in mechanical parts (keeping dust out of seals, bearings, joints, etc.).

Solutions are due by 3:00pm on Wednesday, February 24. Winners of the challenge will be announced at 3:30pm on Friday, February 26. Good luck!