

LSIC Autonomy Workshop (Extreme Access and Excavation & Construction)

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Presentation Title: Autonomy Technologies for Systems of a Moon Base

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The aim of the workshop is to “explore emerging autonomy technologies that could enable or enhance mission capabilities, reduce mission risk, and reduce mission cost.” Enhancing mission capabilities will depend on how capable and trustworthy the autonomy implemented is. As systems increase in complexity, and also with multiple interdependent/interacting systems, current autonomy capability and trustworthiness is very low. A paradigm and technology from NASA that addresses this shortcoming will be discussed, the NASA Platform for Autonomous Systems (NPAS). NPAS also happens to address reduction of mission risk and cost. NPAS will be discussed as a capability that is reaching readiness for space use, but also serves as a reference to develop technologies suitable for integrated autonomous operations of lunar systems; encompassing autonomous systems, situational awareness, and reasoning and acting.