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Abstract. Innovative trajectory concepts have enabled and enhanced a significant number of recent space missions, including robotic science missions, both Earth-focused and interplanetary, as well as the new directions for the human space flight program. The next step is the evolution of a sustainable space-based infrastructure in cis-lunar space to support all such activities. The orbital network is a significant component in creating an environment for a permanent human presence that also enables missions to various translunar destinations. Yet, significant challenges remain to deliver wide-ranging orbit options and to leverage the latest computational capabilities.